

AEC
B.D.
7/9/74

PLANT LOCATION & PROJECT

OPERATOR
ASSIGNED

PROJECT STATUS & REMARKS

January Report
February 11, 1974

AL-ATC

Building C Safety Committee

The monthly meeting included inspection of half the basement. No items of special interest to EHL were noted.

LWO

Scrap Recovery

Ingot Casting Division

Equipment was assembled for Paul Hess, who will submit emissions samples for determination of chlorides in fume and gas.

LWO

Delacquering Furnace

Following discussions with Dr. Atkins and Paul Hess, a program was developed for testing waste gas emissions vs. operating temperatures of Delacquering Furnaces. Mr. Geiger assembled equipment and carried out experiments in delacquering beverage can scrap and pyrolyzing the products.

GHF
RCG

Insulated Extrusions

Several discussions have been held with Drs. Brandt and Minford (Chemical Metallurgy Division) concerning toxicity of pyrolysis products from polyurethane insulation if scrap recovery is attempted. Miss Steffen is searching the literature for reports.

GHF
ES

GHF

A report on MDI exposures during fabrication of Insulated Extrusion was prepared and presented at a meeting in Pittsburgh Office. Copies were also sent to Dr. Minford and to Lewis Haisch, Vancouver. Tests had been made by Robert Geiger, with advice from John Plunkett, as previously reported (December activities)

Lead Exposures

Physical Metallurgy Division

John Vrugink, Physical Metallurgy Division, discussed a new molten lead heat treatment bath and requested evaluation of lead fume/dust exposures. Mr. Ortlip inspected the completed ventilation system, received two pre-exposure urine specimens, and arranged to monitor the operators' exposures.

GHF
LWO

Radiation Control

A request was sent to AEC for amendment of Byproduct Material License 37-07653-02 to permit leak testing of two gauges (Davenport and Logans Ferry) at intervals of two years instead of every six months.

RCG

PLAINTIFF'S
EXHIBIT
AL-1420

AEC license bills were received and sent to the Accounting Department.

RCG

Dr. Gordon Bell was informed that wipe tests of his Fluorine Activation Analyzers are due.

RCG

Considerable time was spent on the proposed Alcoa Laser Standard.

JMP

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2.

AL-ATC (continued)		
Environmental Health Laboratory Equipment	GHF	The Bahco Micro Particle Classifier was received and set up for operation. Analysis of samples by this instrument was made the responsibility of Robert Geiger, with Will Ortlip serving as back-up.
Manpower and Space Requirements	GHF	The hiring of an additional Sampling Technologist was discussed with T. B. Bonney, D. L. Backenstose, and Val Cummings (Personnel), and Dr. Colwell. Our needs for additional offices and storage space were also discussed with Dr. Colwell, T. B. Bonney and Dr. Atkins. + <i>Monro</i>
Laboratory Accreditation	GHF	An application, accompanied by a \$25.00 application fee, was sent to Mr. Newton Whitman, Coordinator of Laboratory Accreditation, AIHA. The application forms (5 copies, 26 pages each) have been received.
Coal Tar Pitch Volatiles	GHF	Use of petroleum pitch in pre-bake and Soderberg electrodes was discussed with S. C. Jacobs, Process Metallurgy Division. He had no information on Koppers low volatility coal tar pitch, but will inquire.
Process Metallurgy Division High Pressure CO System	GHF	Our lack of progress on the Task Force round robin CTPV samples was discussed with Dr. Jerry Seim, Kaiser Aluminum and Chemical Company
Asbestos Dust Exposure	GHF	This proposed system, to be tried at Process Metallurgy Division for possible use in the Alcoa Smelting Process, was discussed with Gordon Templin and S. C. Jacobs. A meeting for full exploration of hazards and precautions was set up.
Surface Chemistry and Coatings Division Substitute Organic Solvents	GHF	A complaint, concerning dust exposures in cutting asbestos materials with a bandsaw, was received from Ray Kastelic and referred to Robert Geiger for sampling and counting.
	GHF	The shortage of petroleum products requires the investigation of substitutes for certain organic solvents. James Stillwagon inquired concerning the use of methyl n-butyl ketone in place of methyl ethyl ketone, and was warned against its use.

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BADIN WORKS

Carbon Plant Stack Emissions

James Colpitts called to discuss the proposed testing by State of North Carolina environmental engineers. The State has agreed to delay testing until the last week of March.

GHF

CHILLICOTHE WORKS

Carbon Monoxide Exposures

Robert Carter called to discuss the results of an OSHA inspection which showed excessive exposure of a truck driver. Mr. Carter asked for recommendations for long-term sampling. He was referred to a paper on that subject; use of our Bendix C115 pump (as adapted for low-rate sampling) and Kitagawa CO detector tubes were recommended.

GHF

Trichloroethylene Vapor Exposures

Twenty-five samples, taken on charcoal tubes, were analyzed by gas chromatography. EHL-type charcoal tubes were prepared, and sampling pumps calibrated, by Robert Geiger. Samples were analyzed by Will Ortlip, with advice from John Plunkett, and calculated by Joseph Gibb. Results, in all cases, were low - 40 ppm or less.

LWO
JEG
RCGCLEVELAND WORKS

Stack Emissions Testing

Chemical analyses of NO_x emission samples were completed and a report was sent to Rick Millard.

RWL

A report on particulate emissions from titanium grit blasting operation was sent to Rick Millard.

JEG

A report on particulate emissions from the die cleaning booth was sent to Rick Millard. No emissions were visible and only 0.066 lbs/hr were found.

JEG

Radiation Control

A report to Mr. E. Martin, Cleveland, stated that radiation dosimetry showed no scattered radiation from the Medical x-ray instrument.

RCG

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<u>CORONA WORKS</u>		
Industrial Hygiene Survey	JMP	A report on this survey was sent to R. P. Carter for his comments. Respirable dust concentrations were not included.
	RCG	Five beryllium samples were analyzed and found to be of low concentration.
<u>DAVENPORT WORKS</u>		
Substitute Organic Solvents	GHF	Mr. Andy Spitznas called to discuss a replacement for MEK as clean-up solvent on their paint line, because James Stillwagon had warned him against use of Mn-BK. I suggested that VMP-120 (high boiling naphtha) would be preferred over Xylene or diacetone alcohol.
Radiation Control	RCG	Mr. P. B. Mathenson was notified that wipe tests of two nuclear gauges are due.
<u>LAFAYETTE WORKS</u>		
Boiler (#5) Stack Tests	RWL JEG	A report was issued to H. R. Porter giving results for particulates and sulfur dioxide. Velocity dual temperature surveys of Boiler #4 stack were also reported.
<u>LEBANON WORKS</u>		
Solvent Vapor and Mist Emissions	JEG RWL & JEG DLB	Two trips were made to Lebanon Works for determination of particulate and vapor emissions, and to measure mist size distribution. Mr. Gibb prepared reports of these tests.
	GHF LWO	Results of gas chromatographic analyses of 25 samples were reviewed and corrected.
<u>LOGANS FERRY WORKS</u>		
Atomizing Furnace Survey	JEG RWL	Mass emissions data were obtained for one operating condition of the furnace. Results for particle size and weight were reported to W. D. Helmick and J.J.Hicks.

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5.

MASSENA OPERATIONS

Industrial Hygiene Instrumentation

Walter Barr called for information on CO meters (for possible use at Carbon Plant Tunnel Kiln) and MSA's O₂-CGI instrument.

Boiler Stack Tests

The Dynascience NO_x analyzer was checked over, and other material prepared for stack tests.

POINT COMFORT OPERATIONS

Air Pollution Monitoring

Rudy Podhora called to ask for methods of sampling and analyzing for hexachlorobenzene in ambient air, as proposed by Texas State Air Control Board.

RWL

Monthly reports for October, November and December 1973 were summarized and added to our summary sheet.

POINT HENRY (AUSTRALIA)

Pot Fume Survey

Two samples of pot fume, for determination of vanadium, were received.

RICHMOND WORKS

Solvent Vapor Survey

Twelve samples of solvent vapor-in-air were collected by R.P.Carter. These were analyzed by use of gas chromatography.

Solvent 633, New and Reclaimed

New and Reclaimed specimens were compared, by means of gas chromatography, in an attempt to find irritating components. The same major components were found in both, but with a four-fold increase in MIBK concentration in the Reclaimed solvent.

TENNESSEE OPERATIONS

Radiation Control

Mr. J.C.Vergho was informed that a wipe test of a Nuclear gauge is now due.

SPDL

Mr. Don Konosz has asked that we check on response of detector tubes to H₂S, SO₂, CS₂, and COS, for use in monitoring SPDL gas streams. I have indicated that we could do this as time may permit.

huh? An

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PROJECT STATUS & REMARKS

6.

VANCOUVER OPERATIONS

Monitoring of A-398 Process

Mr. Lewis Haisch called to discuss details of our Double Thimble Sampling Method. He will use this sampling train and send copies of the results.

GHF

Coal Tar Pitch Volatiles

Twelve personal monitor samples were sent from the Carbon Plant. This completes the current set of Vancouver samples.

GHF

WARRICK OPERATIONS

Carbon Monoxide Exposures

A copy of the paper on long-term monitoring of CO by means of detector tubes was sent to R. L. Parsons, along with recommendations of sampling pumps.

GHF

Boiler Stack Sampling

Proposed tests of the precipitator, boiler #4, were postponed because of abnormal operation of the boiler. This resulted in three days' loss by the Environmental Technologists team.

JEG
RWL

Radiation Control

A request for survey of gauging devices was received from Donald Sowuder.

RCG

MISCELLANEOUS

Engineering Foundation Conference

An abstract of my proposed paper, on Fluoride Source Sampling, was prepared and sent to Mr. C. Doyce Hester, Reynolds Metals Company.

GHF

Unified A-398 Test Method

The first half of this method (sampling) has been completed, and work started on the analytical section. This unified procedure has been requested for transmittal to Japanese licensees of the A-398 Process.

GHF

Fluoride-Recovery Research in the U.S.

Another call was received from Mr. Lars Lindhoff, Royal Swedish Embassy, Washington, D.C., following up his original request for information on this subject. His request was discussed with Mr. James Demmler, Pittsburgh Office, who agreed to handle the matter.

GHF

Heat Stress

The OSHA Advisory Committee meeting, held in Washington, D.C., Jan. 8-10, was attended.

JMP

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7.

MISCELLANEOUS (continued)

Retirement of Dr. Cralley

ASTM Project Threshold

GHF
JMP
ES
LWO

GHF

A farewell "coffee hour", held in Pittsburgh Office in honor of Dr. Cralley, was attended by those members of the EHL staff who had had long association with him.

Phase Three of D-22 Committees' Project Threshold is in the formative stage. Phase Three includes the validation of Dual Paper Tape Sampler and Semiautomated Analyzer (Technicon) methods for ambient fluorides. I have sent a letter to Dr. Colwell explaining why EHL cannot participate, but have also called James Thompson, Wenatchee Works, to explore the possibility of their participation.

ARCH 18327

October Report
December 6, 1973

MAC
PDS
AFC

PROJECT STATUS & REMARKS

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1/1/73

AL-ATC

Building C Safety Committee

Coal Tar Pitch Volatile
Gas Chromatographic Work

Task Force Meeting

Radiation Control

Ultraviolet Radiation

Laser Protection Standard

LWO

LWO

GHF

RCG

RCG

RCG

GHF

JMP

A walk-through inspection was made of the third floor of this building.

New retention times and peak heights were determined for 3, 4, and 5-ring standard compounds under isothermal conditions. It appears Dr. Seim's Mixed Standards Solution may not be stable. Benzene extracts of pitch fume have been successfully converted to carbon disulfide solutions.

I attended a one-day meeting at Chicago which was chaired by Dr. Seim (Kaiser); with representatives of Reynolds Metals, Anaconda, and Alcan. Mr. Si Epstein of Aluminum Association also attended. It was decided to prepare extracts of "pitch fumes" taken in Soderberg VS, Soderberg HS, and Prebake operations. Portions of the extracts would be sent out for round robin analysis by all participating companies.

Mr. Charles Stearns, ABC, made in inspection at ATC, and reviewed the radiation program. No items of non-compliance or unsafe conditions were found.

A survey was made of the lathe and associated equipment used in radioactive tool-wear tests in Bldg. A.

A copy of Alcoa's current by-product material license was sent to Union Carbide, Tuxedo, N.Y., as required by their position as supplier of services to Alcoa.

Information was gathered for Dr. Manhart, Surface Chemistry and Coatings Division, regarding suitable eye protection for workers in the UV-curing ink line.

Additional work was done on the first draft of Alcoa Laser Protection Standard.

AL-ATC (continued)

Dawsonite-Saphibers Tests

GHF

A final report on our solubility tests was prepared and discussed with Drs. Colwell and Dinman, and Messrs. Bonney and Dykhutzen at Pittsburgh Office.

Northwest Alloys

RWL

Determinations were made of ignition losses and water solubility of two specimens of decrepitated slag.

GHF

Results of tests (see above, as well as determinations of particle size distribution) were discussed with Warren Wentzel, Jr., Environmental Engineering, Pittsburgh.

Urinary Mercury Surveillance

RWL

A final memorandum, including a list of available mercury monitoring systems, was prepared.

Infrared Analyzer Demonstration

GHF

A sales representative demonstrated the Wilks Miran portable IR analyzer at Analytical Chemistry Division. It proved to be quite sensitive for certain inorganic gases (SO_2 , HCl , SiCl_4 , and COCl_2) as well as several organic vapors. It appeared to be a very useful instrument. Current price is \$4200.00.

Micro-wave Oven Leakage

GHF

The problem of monitoring leakage of radiation from their micro-wave oven was discussed with Mr. Walt Zellely of Surface Chemistry and Coatings Division. This has been a recurring matter and probably will continue until a survey meter becomes available to us.

Office Space

GHF

Application has been made for an additional office, adjacent to our present offices, for use by Joe Gibb and Roger Lory. The space requested will not become available until completion of Bldg. D (Engineering) next Spring.

1974 Budget Estimates

GHF

With the help of Miss Steffen, figures were gathered for estimation of certain items to be included in EHL's budget estimates for next year.

Fumes in Bldg. B

GHF

Complaints of fumes, arising from operation of a press, were followed up. The operator was warned of the potential hazards of using lead-containing press lubricants without adequate ventilation. *Operation discontinued. GHF asked to be notified if started again so that they could evaluate this.*

Asbestos Surveillance

RCG

Reports of asbestos surveys, taken in the Interim Machine Shop, Bldg. B, were brought up to date. No machining of Molten Metal Marinite is currently being done.

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PROJECT STATUS & REMARKS

July Report, 1973
August 10, 1973

ATG; AL & EHL

Bldg. C. Safety Committee

Staff Meeting

Noise Control

Lead Surveillance - Finishes Div., Bldg. A

Solvent Vapors, Bldg. C

Coal Tar Pitch Volatiles

This has been a tremendous effort but it looks as though we've finally gotten a breakthrough. Anticipate that work in the near future will produce good characterization of the compounds of our "coal tar pitch volatiles".
T.B.B.

This month's session was devoted to the subject of Fire Safety.

Purchasing informed me of the request by Bldg. C Safety Committee Chairman, Ken Beer, for a microwave survey meter. I suggested that this might be unnecessary since N. L. Brouwer is purchasing a meter of this kind.

The monthly staff meeting was attended by all members.

Octave band analyses were taken at six locations around the Stolle Press, in Bldg. A. The newly installed stop blocks lowered noise levels by 5 DB (A scale)

Mr. W. McAninch discussed progress of his noise control program for Production Control Quantometers. He asked for follow-up noise analysis.

Mr. F. W. Baker requested tests covering lead exposure at Sputtering and Grinding operations. Two air samples showed concentrations above TLV (0.15 mg/m³): hi vol. 2.6, personal sampler 1.4 mg/m³. Two urine specimens (pre- and post exposure) were normal, as expected, since the operation is well vented and the operator wears a respirator. *a very important operation.* T.B.B.

Several complaints were received because of odors from Coater Line operation. Two samples were taken for GC analysis.

Two cylinder gas regulators were purchased for our gas chromatograph; a Hz regulator to replace a borrowed one, and an inert gas regulator because of the higher He pressure required by the new Dexsil 300 column. A series of PNA compounds, for use as references and standards, was selected and ordered.

Mr. Gibb was able to fabricate a replacement quartz burner tip and special aluminum gasket for the Flame Ionization Detector of our GC to replace the broken one.

Operating conditions for the GC have been modified (injection port and column temperatures, carrier gas flow, and injection volume) to improve response and resolution of PNA peaks.

(continued)

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PROJECT STATUS & REMARKS

2.

ATC: AL & EHL

Coal Tar Pitch Volatiles (continued)

Equipment R & M
- Samplers

JEG

Extracts of laboratory-generated, as well as Vancouver Works samples, have shown many peaks. These extracts were also measured for fluorescence and weight of total solute.

A sales representative of Varian Techtron visited this office to discuss applicability of an electronic integrator to the determination of GC peak areas.

The General Metals hi vol sampler was calibrated for use in the lead fume sampling (Finishes Div., Bldg. A, see above).

The Gelman Dual Speed Hurricane Sampler, which failed during a sampling trip to Tennessee Works, was repaired.

Special shipping crates have been built for the RAC Stak Sampler kit. Permanent, form-fitting packing was prepared for all glassware. The kit, itself, was cleaned and repaired.

Equipment for Heat Stress Studies was cleaned, repaired, replaced, and packed for shipment.

Various other pieces of equipment have been repaired, and a reorganization of laboratory equipment and storage space was undertaken.

- Detector Tube Inventory

RWL

Our stock of detector tubes was checked, replacements ordered, and an up-to-date list prepared.

- Activated Charcoal

LWO
RWL

A new supply of activated charcoal for the sampling of organic vapors was prepared by grinding, washing, and reactivating the commercially available material.

- Aerosol Sampler

RWL

The BGI aerosol sampling head was received. One of our Dell ESP power supply units was checked out for use with this sampling head and electrical leads prepared.

- UV Mercury Meter

RWL

Our K-23 Mercury Meter was taken apart, cleaned, reassembled, and calibrated. *very high will not a new one* Performance was not substantially improved.

Mercury Vapor - Chemical Metallurgy Div.

LWO
RWL

At the request of Chem. Met. Div., mercury vapor measurements were made, using our K-23 mercury meter. Concentrations were below the range of this instrument.

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PROJECT STATUS & REMARKS

3.

Mercury in Community Air, Chicago	GHF	Chemical Metallurgy Division requested information on levels of mercury in ambient air in- and around Chicago, and several reports were found. This request was prompted by corrosion of architectural aluminum in Chicago. <i>Scans</i>
Detectors for Hydrogen Fluoride	GHF	Mr. Edward Seger, Process Metallurgy Division, called for suggestions of simple detection devices for HF in cell gas resulting from Remcoa's production of Misch-metal. Dräger HF detector tubes were suggested for trial.
Dawsonite-Saphibers Testing	RCG <i>GHF</i>	Several photomicrographs were taken of Dawsonite to complete this project.
	GHF	Results for the 168 specimens involved in this study were evaluated and a report drafted.
<u>BADIN WORKS</u>		
EPA Tests of A-398 Process	GHF	Mr. James Colpitts, Badin Works, confirmed that no report has been issued by EPA people for their tests conducted at Badin Works in March, 1972.
Dust Sampling	GHF	Mr. Earl Morgan, Badin Works, called to discuss sampling for nuisance dusts including carbon, alumina, concrete, and dust from the digging of pot lining (but not asbestos insulation). They seem to have the asbestos dust surveillance under reasonably good control. They should be able to monitor nuisance dust with present equipment.
Pot Digging Operation	LWO	Field Monitors were weighed, personal monitoring pumps calibrated, and detector tubes supplied for R. P. Carter's trip to Badin. Total dust samples (2) were found to be slightly above the TLV for nuisance dusts.
<u>BAUXITE WORKS</u>		
Radiation Control	RCG	Copies of application Form RF-4 were sent to amend Radioactive Material License No. ARK-069-BP-8-73 for renewal.

ARCH 18333

PLANT LOCATION & PROJECT

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PROJECT STATUS & REMARKS

4.

CLEVELAND WORKS

Lead Surveillance

*EP. additive to forging lubricants
(Lead naphthylsulfonate)*

LWO
RWL

Seventeen urine specimens were analyzed for lead. All results were within the normal range.

GHF

In reporting the samples mentioned above, it was suggested that our determinations of lead be confined to specimens showing high ALA values, as measured by Cleveland Medical Department.

DAVENPORT WORKS

Sampling Equipment

RWL

A dry gas meter was calibrated and 4 standard impingers packed for Davenport's use.

Radiation Control

RCG

Installation of two nuclear gauges and standardization of gauge and testing procedures were discussed with Donald Stephens, Manager, Radiological Operations, Industrial Nucleonics Corp.

LAFAYETTE WORKS

Solvent Vapors

LWO

Three air samples, for solvent vapor determinations, were received, analyzed, and reported. The vapor was Stoddard Solvent from degreasing operation. Concentrations ranged from 25 to 500 ppm and supported results of previous samples.

LANCASTER WORKS

Noise Survey

LWO

The DuPont Audio Dosimeter was calibrated and sent to the attention of O. R. Smay, who soon reported that the Dosimeter was not operating. At our concurrence, it was returned to DuPont for repairs.

LEBANON WORKS

Solvent Vapors

GHF

The TLV's and effects of hexane and toluene vapors were discussed with Mr. K. L. Fair, Pittsburgh Personnel, and Dr. W. N. Dawson, with reference to a complaint by a texture shear operator at Lebanon Works.

APCH 18334

<u>MASSENA OPERATIONS</u> Emissions from Power Plant	GHF	Mr. Walter Barr discussed the need for an emissions report at the Power Plant under 80% load, as requested by N. Y. State. This load will not be reached until October or November. I suggested that he make a written request to Dr. Atkins.	5.
<u>MOBILE WORKS</u> Sampling Equipment	GHF	During a discussion of sampling equipment, Warren Boutreis, Mobile Works, mentioned that they are prepared to order an EPA-type sampling train, and liked the RAC Stak Samplr, but are awaiting a written recommendation from Pittsburgh. <i>Das is drafting a letter for MWH</i>	
<u>POINT COMFORT OPERATIONS</u> Asbestos Dust Control Ambient Air Monitoring	GHF	Mr. Tom Flores, called to discuss calculation of time weighted averages of asbestos exposures. He also has ordered a special illuminator (AO #603V) for his phase contrast microscope.	
	RWL	The monthly report of fluoride in ambient air was summarized.	
	GHF	High results for fluoride in ambient air, and D. L. Backenstose's recommendations for changes in sampling procedures were discussed with T. B. Bonney. <i>pt. Comfort</i>	
	JMP	A table was prepared for T. B. Bonney comparing results of the latest survey with those obtained in 1971.	
<u>POINT HENRY WORKS</u> Pot Room Dust Survey Vanadium in Pot Fume	RCG GHF	Two samples of dust and fume, collected over open smelting pots with ventilation turned off, were analyzed for vanadium. The pure ore pot showed 0.008 mg V/m ³ , the reacted ore pot showed 0.027 mg V/m ³ . These results have been reported to all interested parties.	
	JMP	A reply was sent to J. H. J. Erkins' letter regarding selection and use of protective creams and powders by pitch workers.	

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PROJECT STATUS & REMARKS

6.

ROCKDALE WORKS

Coal Tar Pitch Volatiles

GHF
Allan Clayton called to discuss the advisability of sampling for CTPV - I referred him to T. B. Bonney for a statement of policy. Mr. Clayton mentioned the addition of an Industrial Hygiene Technician to the Laboratory staff, to assist Charley Ross.

*Letter to go out to all
engineers: week of 8/20. 28/28*

TENNESSEE OPERATIONS

Infrared Exposures

GHF
Because of a complaint by Carbon Plant Firemen (Furnace Tenders) concerning possible eye damage by IR radiation, pertinent literature was reviewed and the matter was discussed with C. N. Cochran, Physical Chemistry Division. The collected information was reported, by letter, to T. B. Bonney. *Dr. Dawson put info. to our consultant ophthalmologist for his interpretation. 7/27/73*

Coal Tar Pitch Volatiles

RWL
All samples collected during the May sampling visit have been desiccated and net weights determined.

Heat Stress Study

JMP
Plans were made, equipment prepared, and a preparatory plant visit made to instruct technicians. Actual measurements were started July 26. Mr. Richard Guild, a local representative for Bendix equipment, visited EHL to deliver a heat stress instrument and discuss its use.

WARRICK OPERATIONS

Heat Stress Study

JMP
A one-day visit was made, together with Dr. Dinman, to plan for the heat study to be made during August.

WENATCHEE WORKS

Beryllium Emissions

RCG
One three-hour sample, representing emissions from Furnace #1 during preparation and casting of a Be-containing alloy, was found to contain only 0.0025 mg Be/m³.

ARCH 18336

PLANT LOCATION & PROJECT	ENGR. ASSIGNED	PROJECT STATUS & REMARKS
<u>MISCELLANEOUS</u>		
Intersociety Committee	GHF	Comments on a proposed automated method for free chlorine in air were sent to Dr. Leonard Weinstein, Boyce Thompson Institute. He agreed with my objections and has sent them on to the authors (Technicon Corp.).
Northwest Alloys	GHF RCG RWL	A new specimen of decrepitated ore was received from the Magnetherm operation. This was compared with the original specimen by microscopic examination, sieve analysis, loss on ignition, and water solubility. These results were reported to Environmental Engineering.
Aluminum Piping	GHF	A statement, from outside Alcoa, alleging that used aluminum piping in swimming pool applications is prohibited, was referred to the Technical Information Dept. of A.L. They made further inquiry of Carnegie Library, Pittsburgh, and were to report findings directly to T. B. Bonney. <i>NSF standard doesn't limit Al on the approved list.</i>
EPA Proposed Method #13	RWL	A draft of EPA's proposed method of testing for emission of fluorides was examined to determine equipment needs for comparative testing against Alcoa's routine testing procedure for A-398 emissions.

7313 PROJECT STATUS & REMARKS
 June Report, 1973
 July 9, 1973
 Leths discuss items under review

ENGR.
 ASSIGNED

PLANT LOCATION & PROJECT

A T C: AL and EHL	LWO	K. W. Beer, Surface Chemistry and Coatings Division, has replaced J. R. Ryan, Analytical Chemistry Division, as chairman. Principal subject of the monthly meeting was <u>Solvents</u> ; storage, containers, OSHA standards, additional surveillance by EHL.
Bldg. C Safety Committee	OSHA	
Noise Surveys, General	LWO	Responsibility for ATC's compliance with OSHA noise standards has been given to C. D. Hettrick of Facilities Engineering Department. Mr. Ortlip prepared a list of operations surveyed during the past 3 years, with noise readings, to show that EHL has responded to all requests for noise surveys and also indicated our willingness to continue this service.
" " " , Can Line	LWO	Octave band readings were obtained for S. Roth's evaluation of a lead curtain separating the Stolle Press from the Can Line operation.
" " " , Dosimeter Evaluation	LWO	The duPont Noise Dosimeter was calibrated and found to operate on the low end of the permissible range. An intermittent failure to respond to noise was traced to unsatisfactory battery contacts.
APDL-Solvent Vapors	LWO	Results of three solvent vapor samples, collected at the Can Line, were reported. Values were well below the levels of concern.
Radiation Control	RCG	A final draft of "Radiation Safety Standards" was prepared and sent to T. B. Bonney.
	RCG	Checks were made of radiation gauge, used in AEED to measure level of tar. As changes were made in the system, assistance was given in calibration of the gauge.
	RCG	Some time was spent in seeking vendors of radiation warning signs.
	RCG	A wipe test of Fluorine Activation Analysis System (containing a plutonium source) was performed for the Geological and Raw Materials Research Division at the Freeport Road location of AL.

PROJECT STATUS & REMARKS

ENGR.
ASSIGNED

PLANT LOCATION & PROJECT

A T C: AL and EHL (continued)		
Calibration of Personal Monitor Pumps	RWL LWO	Two MSA pumps (EHL) were calibrated and three sets of Metrical filters were weighed in preparation for R. P. Carter's trip to Badin Works. Pump calibration curves were prepared by Mr. Ortlip.
" " " "	RWL	Two MSA pumps were calibrated for use with charcoal tubes, prepared at request of Clair Artz, Cressona Works. Performance was considered only marginal for both pumps.
Coal Tar Pitch Volatiles	GHF	I have accepted the invitation of Dr. Gerald Kaine, Alcan, to serve on a task force to develop an analytical method for "coal tar pitch volatiles".
" " " "	LWO JEG	A new GC column ("Dexsil 300") has been purchased for the separation of polycyclic organic matter. Performance to date has been disappointing, even after switching from nitrogen to helium as carrier gas.
" " " "	LWO	Information was gathered on integrators for use with the GC. The Varian 485 was considered best for this work.
Dawsonite-Saphibers Testing	JEG RCG	Tests to determine reactivity of these fibers to human blood serum and to Ringer's Buffered Saline Solution have been completed. A preliminary scan of results shows no obvious net increase in solubility with time for either fiber in either medium.
Heat Stress	JMP	Arranged with Environmental Compliance Corp., Valencia, Pa., for a four-month's loan of Bendix WGBT instrument for evaluation in smelting plant operations.
" " " "	RCG	Equipment used in heat studies was repaired and repacked for shipment.
Corrosion Control	GHF	Sources of supply and toxicity of benzotriazole, used as complexing agent for copper in air conditioning systems, was investigated and reported by letter to S. C. Byrne and E. H. Hollingsworth, Chemical Metallurgy Division, and J. L. Evankovich, Maintenance. There does not appear to be sufficient evidence to prohibit its use.

A T C: AL and EHL (continued)

ARCH 18340

Equipment NeedsGHF
JMP
LWO

A list of equipment needed for stack- and in-plant sampling and evaluation, was prepared.

Staff Meeting

The monthly staff meeting was held, with one member absent because of illness.

Asbestos Dust Control

GHF

I attended a 3-day course: "Sampling and Evaluating Airborne Asbestos Dust", presented by NIOSH at Cincinnati, Ohio. My counts of standard asbestos slides, by use of EHL's AO microscope, agreed with those obtained by others using much more expensive microscopes (Leitz, Zeiss, Nikon, Wild, B & L, etc.)

" "

GHF

Vern Parkhill, Process Metallurgy Division, inquired as to acceptability of 3M's No. 8710 dust mask for occasional use by people handling asbestos materials. According to J. M. Plunkett's file, this mask has approval for such use.

Urinary Mercury Surveillance

RWL

Twelve split-specimens of urine were received from Pt. Comfort Chlor-Alkali Plant. The mercury analysis apparatus was cleaned and new standard solutions prepared by the new standard curve was inconsistent with previous results. The Mast recorder was modified to match the K-23 mercury meter and permit the recording of response.

Anti-fog for Safety Glasses

GHF

A response was finally received from the manufacturer of Everclear and relayed to Val Cummings, Personnel. There appears to be little hazard if the product is used as directed.

CLEVELAND WORKSIngestion of Hydraulic Fluid

GHF

Lee Grubb called to inquire as to toxicity of ML 585-water mixture used as hydraulic fluid. A worker was sprayed with this mixture and swallowed a small amount - estimated as a teaspoonful or less. This matter was discussed with Dr. Dawson who felt that, because of low toxicity and small amount ingested, no special treatment was indicated.

PLANT LOCATION & PROJECT

ENGR.
ASSIGNED

PROJECT STATUS & REMARKS

4

CLEVELAND WORKS (continued)

Titanium Grinding Operations

! Any symptoms?

Results were reported for vanadium pentoxide in six air samples taken at the titanium grinding and cut-off areas. Results varied from 0.01 to 2.3 mg/m³.

CRESSONA WORKS

Paint Line Complaints

Follow-up on complaints of last December showed no recurrence since modification of the oven to reduce or prevent escape of fumes. On checking with Ken Martin, Surface Chemistry and Coatings Division, I learned that the anti-skid pellets added to the paint are polypropylene and, therefore, should not cause "polymer fume fever".

LANCASTER WORKS

Noise Evaluation

The duPont Audio Dosimeter and Readout units were calibrated and sent to Mr. O. R. Smay, LancasterWorks.

Solvent Vapor Emissions

A final report of solvent emissions from stacks was prepared and sent to Dr. P. R. Atkins. Emissions rates varied from 0.5 to 128 lbs./hr.

LEBANON WORKS

Solvent Vapor Emissions

GC analyses of ten samples were completed and a report sent to Dr. Atkins. There were several high results.

LOGANS FERRY WORKS

Aluminum Powder Emissions

Parts of three days were spent measuring particulate emissions from the cyclone collection system, to evaluate various operating conditions. Results, which were found to be quite high, were reported to Dr. Atkins.

ARCH 18341

PROJECT STATUS & REMARKS

ENGR.
ASSIGNED

PLANT LOCATION & PROJECT

MOBILE WORKS

Boiler Flue Dust

A report was sent to Mr. R. H. Brown, Mobile, verifying his figure of pH 1.3 on flue dust, which is attributable to sulfuric acid (32.6% SO_4 found); vanadium equivalent to 3.5% V_2O_5 was also found in this sample.

? Give them
concentrations
in table

NEW KENSINGTON (CENTRAL MACHINE DIV.)

Noise Measurements

Mr. Charles Joswig reported several excessive noise levels, as measured with EHL's duPont Audio Dosimeter.

POINT COMFORT OPERATIONS

Air Monitoring Instruments

GHF

Status of CO and NO_x monitors was discussed with Mr. Alex Rambikur. The CO instrument was returned to MSA for repairs (new IR-source, recharging of sensitizing gas in reference cell, etc.) and installation of a Hankison "Refrigerator" to remove interference by humidity.

The NO_x instrument has received no attention. I suggested he reactivate it, since Reynolds Metals, Corpus Christi, is still able to obtain replacement parts from the manufacturer.

Asbestos Surveillance

GHF

Mr. Tom Flores, Point Comfort, had sent a group of 8 color photomicrographs of asbestos fibers which he had sampled. We discussed these with respect to NIOSH criteria. Mr. Flores attended the June 26-28 NIOSH Asbestos Dust Evaluation Course at Cincinnati, along with Mr. C. J. Feeli, also of Point Comfort.

RICHMOND WORKS

Heat Stress

GHF

Mr. Jaye Gibbs called to discuss a heat problem in the beverage closure line - his supervisor suspects an oxygen deficiency and he planned to make oxygen measurements. He also requested a heat study of their operation, which request, I suggested, be directed to Mr. T. B. Bonney.

What
operation regarding heating happened
(by gas flames) of closures. Employees complained
of heat and fatigue. No indication of any
head strain.

PLANT LOCATION & PROJECT

ENGR.
ASSIGNED

PROJECT STATUS & REMARKS

6.

ROCKDALE WORKS

Heat Stress

Mr. Allan Clayton was advised by phone, as to the equipment required for collection of environmental data needed for evaluation of heat stress.

TENNESSEE OPERATIONS

Pot Room Scrubber Testing

GHF

Mr. Steve McGhee called to discuss the sampling of waste gas from Soderberg pots: at inlet to lime-water scrubbers, outlet of scrubber, and outlet of electrostatic precipitators; to determine Total Solids, Hydrocarbons, Fluorides, and Sulfur.

Asbestos Surveillance

Mr. McGhee attended the June 26-28 NIOSH Asbestos Dust Evaluation course at Cincinnati.

Infrared Exposures

GHF

Intensity of IR radiation from carbon baking furnace flues was discussed with Mr. C. N. Cochran, Physical Chemistry Division. He knew of no radiation measurements of that source, but Dr. Robl (Physical Chemistry Division) made an approximate calculation of 0.5 g-cal/cm²/min. at the assumed maximum temperature of 1300°C.

WENATCHEE OPERATIONS

Air Monitoring Instruments

GHF

Mr. James Thompson called to discuss his continuing disagreement with Washington State Dept. of Ecology over his low results by Dual Tape Fluoride Sampler, as compared with the Coated Tube method established by the State of Washington.

I suggested he place the Dual Tape Sampler outside the shelter, remove the plastic sampling line, and place a Coated Tube sampler as close as possible. Thompson later reported that these changes had given the best agreement they had yet seen and he is hopeful that the State may approve the Dual Tape Sampler.

ARCH 18343

PROJECT STATUS & REMARKS

ENGR.
ASSIGNED

PLANT LOCATION & PROJECT

MISCELLANEOUS ITEMS

Alcoa Respiratory Protective Devices

Heat Surveys

Intersociety, Subcommittee on Halogens

Relationship of EHL to AL

JMP A second draft of this proposed standard was written to include suggestions by T. B. Bonney and R. H. Watson.

JMP Two meetings were attended at Pittsburgh office: planning for 1973 Heat Surveys, and discussion of Alcoa's Heat Stress Studies for the benefit of Dr. R. Ola. Ojikutu.

GHF Dr. C. Ray Thompson, University of California (Riverside) called to ask for assistance in preparing a "Fluoride Position Paper" for aluminum smelting, iron and steel, and the phosphate fertilizer industries. This work is being done under contract with NIOSH. I was unable to meet with Dr. Thompson and other members of the Subcommittee in Chicago, because of the NIOSH asbestos course in Cincinnati. However, he agreed to send a draft for comments.

GHF A meeting was held in Pittsburgh office to discuss this matter. In attendance were Dr. M. O. Colwell, Mr. J. H. Dunn, Mr. T. B. Bonney, Dr. Allan Russell, Mr. C. M. Marstiller, and myself. No decision was reached.

PLANT LOCATION & PROJECT

ENGR.
ASSIGNED

PROJECT STATUS & REMARKS

May Report, 1973
June 15, 1973

A T C			
Bldg. C Safety Committee	LWO		L. W. Ortlip participated in an inspection of Bldg. E. He was especially impressed with solvent storage facilities and practices.
Radiation leakage from Microwave Ovens	GHF		Several conversations were held with Mr. H. W. Speicher, Westinghouse Electric Corp., regarding suitable instruments for measurement of microwave leakage. The available information was passed on to N. L. Brouwer, AEDD, who agreed to purchase of the Hewlett-Packard instrument.
Architectural Panel Testing	GHF		L. W. Hovland, APDD, asked for help in devising a test for integrity of gasketing of siding panels being applied to a building in New Jersey. Various methods were discussed and, after being warned of the hazards, he was given several smoke bombs for trial.
Oil Mist Sampling, AEDD	GHF		Several additional sessions were spent with Kurt Landsberg and Tom Carter in discussion of oil mist sampling.
Dawsonite-Saphibers Testing	GHF		Arrangements were made to obtain human blood serum from Citizens General- and Allegheny Valley Hospitals, and for use of a controlled temperature chamber (Surface Chemistry & Coatings Div.) for these tests. Details of specimen preparation and testing procedures were established.
" " "	JEG RCG		J. E. Gibb prepared aluminum standards in blood serum and in Ringer's buffer solution for calibration of the atomic absorption spectrophotometer. Mr. Gibb, with the help of R. C. Geiger, prepared 168 specimens for these tests. The program was begun May 25, will end June 22.
Radiation Control	RCG		R. C. Geiger installed a "Co-Lo" radiation level gauge in AEDD, Bldg. B, and performed the initial survey. Film badges were distributed to the operators. The operation has been kept under observation periodically.
Urinary Mercury Surveillance	RWL		Problems of poor precision have delayed application of the flameless atomic absorption method. Reasons for this are being investigated.

1) ~~NO~~ 224
 2) T.B. Barney - 7

PLANT LOCATION & PROJECT

ENGR.
ASSIGNED

PROJECT STATUS & REMARKS

2.

A T C (continued)

APDL - Finishes
Lead Exposures

Frank Baker, APDL, requested investigation of operator exposure during the spraying ("sputtering") of metallic lead onto aluminum sheet, and subsequent grinding. The present program calls for about a month's continuous testing of the sputtering process. Exhaust facilities appear to be adequate. Use of a metal fume respirator was suggested and has been ordered. Air samples, as well as pre- and post exposure urine samples, will be analyzed.

Coal Tar Pitch Volatiles

See "Tennessee Operations" and "Vancouver Operations"

Solvent Vapor Collection

Tests were made to find a moisture adsorbent that would not also adsorb solvent vapor. Calcium chloride proved to be the best, but not acceptable.

CLEVELAND WORKS

Lead in Urine

LWO

Sixteen urine specimens were received for lead determination, as continuation of Pb-lubricant surveillance program.

Titanium Grinding

RWL
RCG

R. W. Lory and D. L. Backenstose spent four days sampling dust and fume exposures in the titanium grinding and cut-off operations, and the R-189 furnace treatment areas. R. C. Geiger analyzed several of these samples for vanadium. Several other samples have been sent to Physical Metallurgy Division for electron photomicrographs. Preliminary to this, it was determined that Nucleopore membrane filters are opaque to the electron beam.

DAVENPORT WORKS

Asbestos Surveillance

GHF

Mr. Ken Williams, Davenport, visited EHL to discuss asbestos control program and to examine asbestos fibers by phase contrast illumination. The microscope ordered for this purpose has not been delivered to Davenport.

Solvent Vapor Emissions

GHF

Mr. Williams called to discuss solvent vapor sampling and measurement. He will be interested in our results for Lebanon's emissions, since the two plants are similar.

APRCH 18346

PLANT LOCATION & PROJECT

ENGR.
ASSIGNED

PROJECT STATUS & REMARKS

3.

ARCH 18347

DAVENPORT WORKS (continued)

Radiation Control

RCG

Arrangements were made with R. S. Landauer, Jr. and Co. for film badges to be sent to Medical personnel at Davenport Works on a regular basis, as requested by Marian Wenn, R.N.

LANCASTER WORKS

Solvent Vapor Emissions

LWO
JEG

A survey was made of solvent vapor emissions, using adsorption on charcoal and gas-liquid chromatography. Results for various stacks ranged from low (0.5 lbs/hr) to high (128 lbs/hr). Twelve samples were evaluated.

LEBANON WORKS

Solvent Vapor Emissions

LWO
JEG

A survey, similar in purpose and procedure to that for Lancaster Works, was made of Lebanon Works. Eleven samples were involved and evaluation is nearly complete. There appear to be some excessive emissions.

MASSENA OPERATIONS

Remelt Emissions Testing

GHF

Mr. Dean Fisher, Massena, called to discuss a change in the sampling train. Specifically, he wishes to place the pump ahead of the gas meter. Since this is the EPA configuration, I referred him to the Federal Register which provides a sketch of the approved train.

Proposed Alcoa Training Course

GHF

Mr. R. W. Knapp, Massena, asked to be notified of dates of the proposed course in air sampling and analysis. He expects to send one trainee.

MOBILE WORKS

Boiler Flue Dust

GHF
RCG

A sample of dust from first flue gas pass of boiler no.1 was analyzed and found to be highly acidic (pH 1.3), high in water-soluble sulfate (32.6%), and moderately high in vanadium (3.5% V_2O_5).

PLANT LOCATION & PROJECT

ENGR.
ASSIGNED

PROJECT STATUS & REMARKS

4.

NEW KENSINGTON (Central Machine Div.)

Noise Exposures

GHF
LWO

Mr. C. R. Joswig, CMD, borrowed our DuPont Noise Dosimeter. He called to discuss interpretation of the readings, some of which were high.

POINT COMFORT OPERATIONS

Heat Studies

JMP

J. M. Plunkett spent four days at Point Comfort observing the work of consultants (George D. Clayton & Associates) in attempting to correlate temperatures inside a potroom with outside temperatures and weather conditions.

Air Monitoring Instruments

RWL

The latest group of results (F-, only) were examined and added to our continuing summary.

ROCKDALE WORKS

Cooling Garments

GHF

Mr. Nelson Miller, Rockdale, asked for information on hard hats with cooling capabilities. The MSA "Cool-Top" was suggested to him, but with cautions as to properties of the compressed air supply.

Potroom Survey

JMP

A report was submitted on a survey performed April 3-12, 1973, prompted by high levels of urinary fluoride among potroom workers.

TENNESSEE OPERATIONS

Coal Tar Pitch Volatiles

JMP
RWL

J. M. Plunkett and R. W. Lory spent a week collecting dust and fume samples in Smelting and Carbon Plants, for use in our coal tar pitch volatiles testing program.

An additional group of 16 glass fiber filters was benzene-extracted, weighed and sent to J. M. Plunkett for use in this sampling program.

Infrared Exposures

GHF

Information was sought on effects of exposure to infrared radiation. This was prompted by the Union's concern for workers who check firing conditions in Carbon Plant ring furnace. Information is still incomplete.

ARCH 18348

PLANT LOCATION & PROJECT

ENGR.
ASSIGNED

PROJECT STATUS & REMARKS

5.

VANCOUVER OPERATIONS

Coal Tar Pitch Volatiles

Mr. Lewis Haisch, Vancouver, called to discuss his collection of personal exposure samples in the Carbon Plant. He has sent an additional 21 samples for possible use in our coal tar pitch volatiles testing.

WARRICK OPERATIONS

Sulfur Hexafluoride

Mr. Gerry Hicks, Warrick, called for information on toxicity of sulfur hexafluoride which is used in an x-ray gauge. This is used as dielectric in a sealed high voltage system and should not present a toxicity hazard.

Solvent Vapor Exposures

Mr. Steve Nance, Warrick, asked for recommendations in sampling and analysis of solvent vapors at the Paint Line. The usual charcoal sampling-GC analysis was recommended.

WENATCHEE WORKS

Pot Fume

A sample of pot fume, collected from an unventilated pot, was analyzed for vanadium and found to contain 4x the ceiling TLV for V₂O₅ fume.

Air Monitoring Instruments

Wenatchee's timer problem has at last been solved and the Dual Tape Fluoride Sampler is operating in the field. This required several phone calls to Research Appliances Co., Allison Park, Pa.

Beryllium Emissions

Five stack samples were analyzed for beryllium to establish compliance with the new EPA standard. The reported values were well below the permissible levels.

MISCELLANEOUS

Noise Conference

J. M. Plunkett and L. W. Ortlip attended an Alcoa Noise Control Conference at which Mr. Plunkett presented a discussion of instruments and their use, and OSHA regulations. He also participated in a discussion of noise dosimeters.

APCH 18349

MISCELLANEOUS (continued)		
American Industrial Hygiene Conference - Boston	JMP	J. M. Plunkett and R. P. Carter prepared a paper: "Quo Vadis, WBG?" presented by Mr. Plunkett at the Conference.
	GHF	During the Conference I attended Refresher Courses: "Atomic Absorption Spectroscopy" and "Quality Control in the I. H. Laboratory". A luncheon meeting was also attended by representatives of NIOSH (Cincinnati) and the Aluminum Association at which work on coal tar pitch volatiles was discussed. At another meeting, there was discussion of a proposed study of lung diseases among workers in aluminum plants in the state of Washington - as proposed by representatives of the University of Washington.
Water Analysis Methods	GHF	A collection of methods for determination of molybdenum in natural waters was prepared and sent to Dr. P. R. Atkins.
Visit by G. C. Heise	GHF	George C. Heise, Pittsburgh Safety, spent most of a day at EHL reviewing our activities and services. He will be responsible for Safety, Industrial Hygiene, and Environmental Control problems at Alcoa subsidiary companies.

PLANT LOCATION & PROJECT

ENGR.
ASSIGNED

PROJECT STATUS & REMARKS

April Report, 1973
May 10, 1973

ARL-ATC

Noise - Analytical Chemistry Division

LWO
GHF

Three series of octave band measurements were made at operator's position in a Quantometer laboratory, after sound control materials had been installed.

- APDL

LWO

A memorandum was written on noise readings comparing the AEDD unit to the Bronson solder pot at the 571 Ultrasonic Process. No levels of concern were found.

Beryllium Exposures

LWO
RCG
GHF

No significant exposure to beryllium fume was found in a welding test of hi-Mg (LNG) plate at APDL, Joining.

Waste Disposal

GHF

Vernon E. Parkhill, Process Metallurgy, ARL, called for information on disposal of a 25-pound lot of magnesium saw cuttings. It was recommended that the material be packaged and buried at ATC.

GHF

The need for analyses of sludge from the waste treatment plant was discussed with C. M. Marstiller. The "Scavenger" asked for an analysis before removal of sludge from the lagoon. It was decided that determination of only oil in sludge should suffice.

Bldg. C Safety Committee

JEG

In the absence of L. W. Ortlip, J. E. Gibb attended the monthly meeting. A request was made that EHL check on radiation leakage from microwave ovens at ATC. L. W. Ortlip and G. H. Farrar tested the oven in Surface Chemistry and Coatings Division and found no leakage. The matter was also discussed with N. L. Brouwer, AEDD, who felt that his division should acquire an instrument for monitoring radiation of that kind. *Ask GHF to inquire of Washington what agency is right to light up bulbs.*

Radiation Control

RCG

R. C. Geiger sent an application form to the U. S. Atomic Energy Commission, Washington, D.C. for renewal of Source Material License for ATC and Alcoa plants. A By-Product Material license for ATC has also been received from AEC. A more flexible gauging program was discussed with R. E. Brinkman of AEC.

RCG

Discussions were held with J. R. Auhl, AEDD, for laboratory tests of a radioactive level gauge, now in storage at ATC, before purchase of a similar device for use at Warrick Operations.

ARCH 18351

PLANT LOCATION & PROJECT

ENGR.
ASSIGNED

PROJECT STATUS & REMARKS

2.

ARL-ATC (continued)

Radiation Control (continued)

A radioactive gauge, for determination of surface moisture and density, has been received from Massena Construction Group and placed in storage.

Dip Tank Ventilation

Ventilation requirements for nitric acid and caustic dip tanks in Bldg. B were calculated in accordance with OSHA requirements (Fed. Register, May 29, 1971). This was done at the request of M. A. Klingensmith, Facilities Engineering.

Asbestos Surveillance

Copies of the memorandum "Photographs of Asbestos Fibers", originally sent to selected Alcoa plants currently working on this project, were sent to all Industrial Hygienists who might, in the future, have need for this information.

Dawsonite and Saphibers

Some time has been spent in working out details of the testing procedure and in assembling equipment for solubility and reactivity tests.

"Coal Tar Pitch Volatiles"

- HF Exposures of Collection Filters

JEG

Glass fiber and silver membrane filters were exposed to 37 ppm F⁻ in air for 3 hours at 2 lpm. There was no weight change in the silver filter; the glass fiber filter lost 6 mg. Extraction with benzene produced a further weight loss of 1 mg in the glass fiber filter.

$$0.00071 \times 15 \text{ mg/m}^3 = 0.0105 \text{ mg/m}^3 \text{ benzene HCL}$$

- Extractibles in Packing Coke

JEG

Two samples of packing coke, green- and baked, were received from Tennessee Operations and extracted with benzene. The specimen of green coke lost 0.071% by weight on extraction, the baked coke lost 0.028%. Benzene extract of green coke also showed about 125x the fluorescence intensity shown by extract of baked coke.

- Preparation for Sampling at Tennessee Operations

RWL

A hi volume sampler was calibrated, and glass fiber filters washed with benzene and weighed.

- Gas Chromatographic Method

LWO

A few tests have been made, using SE 30 chromatographic column, but results were not conclusive.

PLANT LOCATION & PROJECT

ENGR.
ASSIGNED

PROJECT STATUS & REMARKS

3.

ARL-ATC (continued)

- ASTM Meeting

GHF

G. Farrah attended the ASTM meeting in New Orleans as Alcoa representative to the D-22 Main Committee. Adoption of a benzene extraction method (NIOGH-Parma procedure) for determination of coal tar pitch volatiles, was successfully delayed as a result of data presented by Mr. Richard Mansur, Reynolds Metals Co., and from EHL.

BADIN WORKS

Oil in Waste Water

GHF
RWL

Badin has had unsatisfactory determinations of oil in the waste water lagoon because the APHA method was designed for petroleum oils, while Badin's waste contains castor oil. As a result of R. W. Lory's literature search, extraction by benzene or chloroform will be tried in place of petroleum ether.

Air Monitoring Instruments

GHF

Mr. Dick Curphey has replaced Zero and Span gas cylinders, used with the CO monitor. He was advised to return the empty cylinders (charged to EHL) to the supplier for credit. Mr. Curphey reports good performance by both Leigh F- Analyzers but now is seeing lower F- values by Dual Tape Sampler than by the Leigh instrument, a referral of previous results.

CLEVELAND WORKS

Calibration of Sampler

RWL

Cleveland's Hurricane Hi-volume sampler was calibrated at both high and low speed, using both glass fiber- and Metrical filters.

Lead in Urine

LWO
RWL

Results of 36 lead-in-urine samples were reported to Dr. M. F. Jones. No levels of concern were found. Another lot of 25 specimen bottles was prepared and sent to Dr. Jones.

DAVENPORT WORKS

Flame-retardant Fabrics

GHF

Ken Williams called to discuss tests for cotton in a shirt worn by a worker burned as result of a molten metal explosion at a DC casting unit. He was advised to check with R. H. Watson, Pittsburgh, regarding safety garments.

ARCH 18353

PLANT LOCATION & PROJECT

ENGR.
ASSIGNED

PROJECT STATUS & REMARKS

4.

<u>LANCASTER WORKS</u>	GHF	Sampling conditions and requirements were discussed with Dr. P. R. Atkins, for both Lancaster and Lebanon Works.
<u>LOGANS FERRY WORKS</u>		
Solvent Vapors	LWO RCG JEG RWL	Two sets of solvent vapor emissions tests were taken from stacks which vent Mill- and Screen Tanks. Because of variations in damper settings, another sampling should be taken after final adjustments have been made.
<u>MISCELLANEOUS</u>		
Pittsburgh Noise Conference	JMP LWO	Notes were prepared and rehearsed, and equipment assembled for demonstration at a company noise conference.
Stack Sampling Course	RWL JEG	R. W. Lory and J. E. Gibb attended a two-day Stack Sampling Course sponsored by Research Appliance Co. in the Pittsburgh district.
Heat Stress Paper	JMP	J. M. Plunkett spent two days in Pittsburgh office working with R. P. Carter on a paper to be presented at the AIHA meeting.
Staff Meeting	GHF	EHL staff meeting was held April 9, with all staff members in attendance.
Equipment	JEG RCG	Two inoperative sampling pumps were cleaned and repaired. Our two Willson pumps have also been remodeled.
Vapor Pressure Calculations	GHF	Vapor pressures were calculated for alpha-methyl naphthalene at several temperatures.
Vanadium in Pot Fume	GHF	Air sampling requirements, for determination of vanadium exposures to pot fume, were calculated on the basis of sensitivity of the method and previous analyses of pot fume.

ARCH 18354

PLANT LOCATION & PROJECT

ENGR.
ASSIGNED

PROJECT STATUS & REMARKS

5.

<u>MISCELLANEOUS (continued)</u> Scientific Research Society of America Vacation	GHF LWO	I have accepted membership in RESA. L. W. Ortlip took six days' vacation during April.
<u>POINT COMFORT</u> Mercury in Air Heat Stress	RWL JMP	R. W. Lory prepared a cost estimate for equipment needed to sample and analyze atmospheric mercury in the Chlor-Alkali Plant. Contact was made by J. M. Plunkett with J. Badgett to plan a visit to Point Comfort Works. An attempt will be made to correlate indoor- with outdoor temperatures.
<u>POINT HENRY, AUSTRALIA</u> Visitor Potroom Survey Procedure	GHF JMP LWO	Dr. Robert Oliphant spent one-half day at EHL. A copy of the book "Fluorides; Biologic Effects of Atmospheric Pollutants", published by National Academy of Sciences, was purchased and sent to him at his request. A memorandum was prepared for Dr. L. V. Cralley, covering a method for potroom dust survey.
<u>ROCKDALE WORKS</u> Fluoride Survey	JMP	Two weeks were spent at Rockdale conducting a survey of F-exposure in potrooms. A report has been submitted to T. B. Bonney, and an oral report was also given.
<u>VANCOUVER OPERATIONS</u> Coal Tar Pitch Volatiles	GHF	We have received 13 hi-volume samples and 25 personal samples, all taken in the Carbon Plant.

ARCH 18355

ARCH 18356

PROJECT STATUS & REMARKS

ENGR.
ASSIGNED

PLANT LOCATION & PROJECT

WARRICK OPERATIONS

Solvent Vapor Emissions

Oil Mist Recovery System

WENATCHEE WORKS

Air Monitoring Instruments

Mr. R. L. Parsons inquired for references to solvent vapor sampling methods. Has interest was in emissions from the Warrick paint line. ASTM method D-1605 was cited as a general discussion of sampling for organic vapors.

Kurt Landsberg, AEDD, discussed methods and results of his latest efficiency tests of the electrostatic precipitator device installed on the Warrick sheet mill.

The Dual Tape Fluoride Sampler has been inoperable because of a broken timer. Several unusable replacements have been received from RAC. By call to RAC I was able to have an analysis of the problem and a wiring diagram of the timer sent to Wenatchee.

GHF

GHF

GHF

PLANT LOCATION & PROJECT

ENGR.
ASSIGNED

PROJECT STATUS & REMARKS

March Report, 1973
April 12, 1973

ARL-ATC

Bldg. C Safety Committee

LWO

Electrical grounding and housekeeping were the prime topics as a result of recent injuries. Other items discussed were OSHA standard for safety glasses and the Alcoa Engineering Standards Manual. A report was given on the progress of the Mast Analyzer to be used for measurement of ozone exposures in the basement.

Bldg. B Safety Committee

GHF

C. P. Furney, Fabricating Metallurgy Division, inquired as to hazard to the eyes when using a 3M copier without the cover. Precautionary measures were suggested (closing the eyes, looking away from the discharge-lamp, etc.)

Solvent Vapors

LWO

Three air samples were taken at the Can Line, APDL Packaging, using the new MSA activated charcoal tubes. Analysis by gas chromatography showed trace amounts of MEK, Toluene, Butyl Alcohol and, possibly, Isophorone.

LWO

Known concentrations of hexane, Stoddard Solvent, and methyl chloroform were prepared and sampled by use of commercially prepared charcoal tubes. First experience indicates low capacity of the sampling tubes.

Tests were made to show that the Flame Ionization Detector responds to chlorinated hydrocarbons and, therefore, gas chromatographic determination is possible.

Beryllium

LWO
RCG
JEG

Our Unico H1 Vol Sampler was calibrated for use in Be sampling. Two samples were taken at the MIG welding process, Joining Division, during the welding of high-Mg LNG plate. Results on both were less than .0001 mg Be/m³.

LWO
RCG
JEG

Two samples, representing maximum output and worker exposure, were taken at the Ultrasonic 571 process, Joining Division. Results were less than .0001 mg Be/m³. Recalculation and calibration corrections of the original value brought it into agreement with this latest figure.

"Coal Tar Pitch Volatiles" Method

JEG

(See report for Bauxite Works)

JEG

The HF-in-air generator was reactivated and operating conditions for generation of about 50 ppm F⁻ established. This will be used to determine the effects of HF on glass fiber- and silver membrane filters when used in Potrooms for determination of "CTPV's" by the benzene extraction method.

ARCH 18357

PLANT LOCATION & PROJECT	ENGR. ASSIGNED	PROJECT STATUS & REMARKS	2.
ARL-ATC (continued)			
"Coal Tar Pitch Volatiles" Methods (continued)	LWO	A Dexsil 300 column was obtained from Analytical Chemistry Division and tested for separation of CTPV's by gas chromatography. Results to date have not been satisfactory.	
	GHF	A Mettler semi-microbalance (capacity 160 g., sensitivity 0.01 mg) has been purchased and received. This will permit the weighing of personal monitor samples as specified by the present OSHA compliance testing procedure.	
Noise and other OSHA requests	LWO	R. Wodehouse, APDL Finishes, is using the Noise Dosimeter and has requested that air samples be taken at the dip tanks for determination of acid and caustic mists.	
	LWO JEG	Octave band analyses were made at several locations at the Can Line, APDL Packaging, at the request of George Blake. There was no indication of high frequency noise as the cause of their light bulb problem. All locations tested showed high noise levels, 90-97 dBA.	
	JMP	Information on noise dosimeters is being collected, at the request of T. B. Bonney.	
	LWO	An octave band analysis was made at the AEDD Ultrasonic Soldering operation (571 Process) and showed no level of concern; the highest reading was 87 dBA - the TLV for 8 hours is 90 dBA.	
Fluoride Study	GHF	R. Danchik, Analytical Chemistry Division, sent results to Dr. Jacobson of fluoride analyses of 12 vegetation samples. These were part of a collaborative study using the fluoride selective electrode. Boyce Thompson Institute has not yet released a report of the study.	
Mercury Surveillance	RWL	The direct evolution/cold atomic absorption method for mercury has been further investigated. A standard curve was established and a series of spiked samples was also run and a satisfactory curve plotted. Arrangements have been made with Dr. Victor H. Barbour at Point Comfort Operations to send selected split samples of urine in order to compare results with those reported by Environmental Health Laboratory, Farmington, Mich. by this method.	

3.

PROJECT STATUS & REMARKS

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ARL-ATC (continued)		
Filter Thimbles	JEG	Measurements were made of pressure drop through S & S glass fiber thimbles. These appear to be similar to the Whatman thimbles previously used and which are currently out of stock in the U. S.
Oil Mist Sampling, AEDD	GHF	Kurt Landsberg, AEDD, has made two visits to this office to discuss sampling procedures and problems in connection with development of a sheet oiler, sheet waxer device for Warrick Operations. The lubrication system apparently works quite well, but the electrostatic precipitator for collection of excess oil mist has shown poor efficiency.
Staff Meeting		Our monthly meeting was held on March 5, with all staff members in attendance.
Visitation by Pittsburgh Office Personnel		A half-day visit by M. O. Colwell, L. V. Cralley, T. B. Bonney and P. R. Atkins was spent in inspection of EHL facilities and in discussion of space requirements, training programs, and current and anticipated activities.
Respirable Fibers Asbestos	GHF	A Memorandum on asbestos counting, with four illustrative photomicrographs, has been sent to nine plant locations from which questions have been received.
Dawsonite	RCG	Several photomicrographs of Dawsonite, taken by phase contrast illumination, have been prepared.
Radiation Control	RCG	The second draft of "Alcoa Radiation Protection Standards" was prepared and sent to T. B. Bonney.
	RCG	D. W. Ferguson, Pittsburgh Purchasing, inquired concerning renewal of AEC license for source material. This matter was previously handled by his department. (Source materials include chemical reagents containing uranium and thorium.)
	RCG	A request to the local OSHA office brought a copy of their regulations concerning the use of industrial x-ray equipment.
	RCG	An application for renewal of our By-product Material License was prepared and sent to AEC.

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PROJECT STATUS & REMARKS

4.

<u>ARL-ATC (continued)</u>			
Solvent Analysis	LWO	L. W. Ortlip sent a memorandum to F. W. Young, APDL Metal Working, reporting the analysis of Super Agitene, a parts cleaning fluid. It contained no benzene. This test was prompted by a report on a man who has been working with this material for many years. When he developed a rash and fever, the Agitene was suspected. It later developed that he had a form of "flu".	
Corrosion Control	JMP GHF	J. L. Evankovich, ARL Maintenance, called for information on a copper complexing agent, benzotriazole. This is used in cooling towers of air conditioning systems. Eastman Kodak is no longer supplying this compound because it is suspected of being carcinogenic. Dr. E. H. Hollingsworth, ARL Chemical Metallurgy Division, has suggested a substitute material.	
<u>BADIN</u>			
Asbestos Exposures	GHF	Badin Works has received a phase contrast microscope, but not the Porten graticule. A spare graticule was sent to Dick Curphey. A detailed description was given, via telephone, for calibration and use of the graticule, counting of fibers, and calculation of results.	
<u>BAUXITE</u>			
Coal Tar Pitch Methods	JEG	Seven high volume air samples plus two blanks, taken by Dan Backenstose at Bauxite, were extracted with benzene in Soxhlet extractors and fluorescence of the extracts vs. quinine sulfate were determined. These were used as "background" determinations in evaluating the Coal Tar Pitch Volatiles Method. Samples from Kiln Operator Floor averaged 0.013 mg/m ³ benzene soluble (B.S.) and 24.3% fluorescence; samples from Shaker Screen Floor averaged 0.021 mg/m ³ B.S. and 8.2% fluorescence vs. 0.1 ppm quinine sulfate.	
<u>CHICAGO SALES OFFICE</u>			
Aluminum Standards	GHF	A request from Mrs. Jessie Conn, Chicago Sales, for a copy of the booklet "Alcoa Spectrochemical Standards" was directed to Earl Vestrand, ARL Analytical Chemistry Division.	

<u>CLEVELAND</u>	Lead in Urine	LWO	We have received 19 more urinary leads and a request for 24 specimen bottles. The present count of samples to be analyzed is 36.
	Ultraviolet Meter	LWO	Our germicidal ultraviolet meter was borrowed by C. P. Furney of ATC Fabricating Metallurgy Division to check emission from "blue surf" burners being installed at Cleveland. Mr. Furney reported "no response" by the meter.
<u>CRESSONA</u>	Solvent Vapors	LWO	Results were sent to C. A. Artz on four solvent vapor samples collected at the Paint Line Curing ovens; all of the samples showed only trace amounts except for sample #2 - 10 ppm Diacetone alcohol and 20 ppm SC-150 Solvent. TLV for Diacetone alcohol is 50 ppm, and for SC-150 Solvent 200 ppm.
	Lead Exposure	GHF	Clair Artz called to discuss a method of sampling for lead exposure of operators at paint spray booth. It was suggested that he use a Metacel filter to collect the breathing zone samples over a period repeatedly several cycles of the operation (15 min. should be adequate).
<u>LAFAYETTE</u>	Lead Fume	LWO	Results were reported on 2 samples of fume from D. C. Mold lubricant. They were found to contain <0.01 and 0.02 mg Pb/m ³ ; TLV for Pb is 0.15 mg/m ³ . It is suspected that irritation from the fume is caused by breakdown products of the lard oil used in the lubricant. We have asked them to collect a sample on activated charcoal and an attempt will be made to confirm this.
	Solvent Vapors	GHF	Michael Nelson discussed the determination of vapor losses from a spray cleaning operation, vented out of doors. The solvent is a 1:1 mixture of mineral spirits and "chlorinated hydrocarbons". The procedure for sampling and shipping samples were outlined for him.
<u>LEBANON</u>	Solvent Vapors	LWO	Three air samples, collected by R. P. Carter, were analyzed for solvent vapors. All contained small concentrations, with one showing 20 ppm MEK, another showing 60 ppm kerosene.

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<u>LOGANS FERRY</u>	LWO	Tests were made at the guardhouse as the result of complaints. No CO was found; mineral spirits measured 160 ppm. The complaint was eliminated by replacing a corroded sink drain, but a question remains as to the source of the mineral spirits.	
<u>MASSENA</u>	RCG	Arrangements were made with the Landauer Company to restart film badge service for Construction personnel.	
<u>MOBILE</u>	JEG RWL	One week was spent at Mobile with Dan Backenstose measuring dust emissions from stacks by use of the RAC-EPA train. Of the three units sampled, two were well within the limits and one was five pounds per hour over the limit. Further studies and tests by Mobile personnel are planned with remedial action as needed to meet the specifications set down by the state of Alabama.	
<u>POINT COMFORT</u>	RCG	Asbestos fibers from sawing of Skamol N-4 were examined and found to resemble fibers from Molten Metal Marinite (Amosite). Skamol is a high temperature insulation block, manufactured in Denmark, and is presently under test in smelting pot shells.	
<u>POINT HENRY, AUSTRALIA</u>	JP	At the request of T. B. Bonney, information was sent to John H. J. Erkins concerning a medicated powder (Ammens) which should offer protection against photosensitization of the skin due to pitch fumes.	
Skin Protection, Pitch Fumes			

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PROJECT STATUS & REMARKS

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<u>ROCKDALE</u>	LWO	Our Brink Dust and Mist Sampling Kit was packed and sent to A. G. Clayton, Rockdale Works.
	LWO JMP	Equipment was prepared for use in a fluoride survey. Monitaire pumps and other sampling systems were calibrated.
<u>TENNESSEE OPERATIONS</u>	LWO	A fluoride specific ion electrode was tested and sent to Steve McGhee for use in the urinary fluoride survey.
	GHF	At the request of J. C. Vergho, copies of brochures from Bendix and MSA on personal monitoring pumps were sent.
	GHF	J. C. Vergho called to discuss a proposed cooperative venture between Tennessee Operations and Forney Engineering Company for development and testing of a smoke opacity meter. The device employs a He-Ne gas laser (1 mm diameter, 1 milliwatt power). Estimated cost will be about \$2500.00. Test applications would be on Carbon Plant baking furnaces and North Ingot Plant stacks.
	LWO	L. W. Ortlip received a call from Steve Bryne, S Plant. They had 25,000-30,000 gal. of material for disposal: 1.2% sodium formate and 1.1% maximum sodium acetate. After consulting with F. Mark Sittig, Environmental Engineering, Pittsburgh, it was decided that disposal presented no problem. They diluted the solution to half-concentration and pumped it into a creek at a rate of 40,000 gal./hr.
Waste Disposal	GHF	The matter described above was called to the attention of J. C. Vergho, who was unaware of this disposal action, as was I. Steve Bryne is a new employee and was not informed of Mr. Vergho's concern with such matters.
	GHF	A sample of offpot fume, taken from the pot exhaust system (inlet to A-398) of line 1, was analyzed quantitatively, by Analytical Chemistry Division. The report, covering 15 elements, was sent to Dr. Cralley.

<u>VANCOUVER</u>		GHF	
Coal Tar Pitch Volatiles			Sampling locations and procedures for "Coal Tar Pitch Volatiles" were discussed with Lewis Haisch, Vancouver. He plans to collect about 30 BZ samples with personal monitors and 6 area samples with hi-vol samplers. All will be taken in the Carbon Plant.
<u>WENATCHEE</u>			
Beryllium	RCG		Beryllium results were reported on 4 stack samples from Ingot Plant Furnace No. 1 during processing of Alloy B358.2; results ranged from 0.0023-0.0754 mg/m ³ .
Asbestos	RCG		Two slides containing asbestos fibers were received for checking of fiber counts. Our results were 10x higher than theirs. After discovering their error in calibration of the microscope field, agreement of counts was achieved.
Pot Fume	GHF		Two samples of pot fume - Precipitator catch, line 3, and Pot Exhaust, line 5, inlet to CN3 - were analyzed quantitatively by Analytical Chemistry Division. The report, covering 15 elements, was sent to Dr. Cralley.
<u>MISCELLANEOUS</u>			
Heat Stress Report Meeting	JMP GHF		A day was given to detailed discussion by Drs. Horvath and Raven of their report on last summer's heat stress studies conducted at Alcoa smelters.
Respiratory Protection	JMP		Information is being collected from OSHA, ANSI, AIHA Manual, etc. for use in an Alcoa Standard for Respiratory Protection Devices.
Pittsburgh Office	GHF		T. B. Bonney and I spent several hours discussing Industrial Hygiene practice with Dr. Johansson of the Stockholm telephone company.
Pittsburgh Conference	GHF		Four days were spent at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy in Cleveland. During the Conference I took part in a private meeting to discuss Coal Tar Pitch Volatiles methods with Dr. Jerry Seim (Kaiser Aluminum Co.), Mr. William Pilgrim (Reynolds Metals Co.), Mr. Allan Clayton and Mr. Russell Obbink (Alcoa).

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9.

NIOSH-Aluminum Association

GHF

I attended a two-day meeting in Cincinnati, March 28-29, with T. B. Bonney. The first day's meeting was an exchange of information and drafting of an agenda for the next day's meeting with NIOSH people. At the meeting with NIOSH, shortcomings of the present method for evaluation of coal tar pitch volatiles in work-place atmospheres were discussed and supporting data presented. Possible alternative methods were explored.

ASTM Fluoride Methods

GHF

Mr. William Eastman, Kaiser, Oakland, Calif., called to discuss negative votes on our Method for Sampling and Analysis of Fluoride in Ambient Air, Dual Tape Sampler Procedure (tentative).

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PROJECT STATUS & REMARKS

February Report, 1973
March 6, 1973

ARL-ATC

Bldg. C Safety Committee

LWO

Ventilation equipment is being installed to control ozone emissions from a coating line at which UV-curing inks are applied. Return of our Mast Oxidant Meter has been requested of Warrick operations so that we may monitor the coating line.

Noise Control
Tube Mill (AEDD)

LWO

Mr. S. I. Roth, Environmental Engineering, requested follow-up data on the Tube Mill following the installation of noise control equipment. Scheduling of these tests was discussed with Mr. Eric Arndt.

Radiation Control

RCG

Considerable time was spent on writing of a Radiation Safety Standards Manual for Alcoa.

RCG

An inspection of radiation equipment at AEDD, Bldg. B, was made at the request of Mr. Paul Messich; conditions were found to be satisfactory.

Carbon Monoxide Survey, Bldgs. C and D

LWO

Complaints of odors in Bldg. C led to the investigation of CO in basements of this building and of Bldg. D, and in the underground service tunnel which connects the two buildings. Tests in Bldg. D were made only after clearance with Mr. E. S. Howarth since that building is under construction. Concentrations of 25 ppm CO were found in Bldg. C and 15 ppm in Bldg. D. The source was direct-fired gas space heaters.

Coal Tar Pitch Volatiles

JBG
RCG

A new 6-unit bank of Soxhlet extractors was cleaned and assembled. The absorption of moisture, as possible cause of weight loss on benzene extraction of potroom air samples, was investigated. Solubility of 110° Coal Tar Pitch, and fluorescence of the extracts vs. quinine sulfate, were determined. This is the beginning of an extensive investigation. (See also under "Vancouver Operations")

ARCH 18366

ARL-ATC (continued)

EHL - Safety Equipment

LWO As requested at the last Staff Meeting, Mr. Ortlip checked on our needs for safety equipment and obtained face-shields and a safety can for disposal of waste organic solvents.

- Insurance Inventory

LWO An inventory, giving the probable value of all non-capital equipment and supplies, was prepared for the Accounting Department. A total value of approximately \$8900 was found.

- New Personnel

GHF The addition of two new members (Mr. Joseph E. Gibb and Mr. Roger W. Lory, both of Exempt status) to the EHL staff, has augmented our capabilities. Desks for these men have been provided within our allotted office-laboratory space, but for the longer term additional office space would be desirable.

Welding Fume - Beryllium

GHF As requested by Mr. Bonney, I have checked with Mr. Wayne Binger on scheduling of welding tests on high-magnesium LNG plate. We are prepared to evaluate beryllium exposures of welders as this program is initiated.

Medical Department Inquiries

GHF Mrs. Stoneburner, nurse at ARL, called to request information on cyanoacrylate adhesive. A technician at the Freeport Road lab. was ill and concurred that his exposure to the adhesive might be a causative factor. Several references describing properties of the adhesive were supplied for use by Dr. Dawson.

GHF
LWO

Samples of "Super-Agitene", a degreasing solvent, were submitted by APDL Metal Working Division. This material was suspected of contributing to the illness of a workman in that Division. Examination by gas chromatography eliminated benzene as a contaminant. The man's illness was subsequently diagnosed as "flu".

Urinary Mercury Surveillance

RWL Methods were reviewed, special glassware procured, and initial tests were run on the determination of mercury by cold atomic absorption. This method is under investigation for possible use by Point Comfort Operations personnel in monitoring the Chlor-Alkali Plant.

Contamination of Water Supply

LWO Water from several drinking fountains in Bldg. C was found to be turbid and of blue color. Mr. Ortlip's tests showed contamination with copper, which was reported to Mr. Whitehead of Building Maintenance Department.

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3.

<u>BADIN WORKS</u> Air Monitoring Instruments	GHF	Brand names and approximate costs of High Volume Air Samplers and Sulfur Dioxide Monitors were given to Mr. James Colpitts in response to his telephoned request.
	RWL	Air monitor reports, to date, were summarized for pollution levels and for instrument performance.
<u>CLEVELAND WORKS</u> Special Alloy Forging	GHF RCG	Sampling techniques and precautions were discussed with Mr. Lee Grubb in preparation for monitoring the forging of copper billets containing 2.5% cobalt and 0.5% beryllium. Three samples, taken during processing of copper billets, were analyzed for beryllium with negative results.
	LWO	Seventeen urine specimens, for determination of lead, have been received as part of the continuing lead surveillance program.
<u>CRESSONA WORKS</u> Solvent Vapor Exposures	LWO	Six activated charcoal sampling tubes were prepared and calibrated for use by Mr. Clair Artz. The returned samples were examined for solvent vapors by means of gas chromatography with all results well below the TLV's.
	GHF	Mr. Clair Artz called to discuss some problems of identification of asbestos fibers from sawing of Transite.
<u>DAVENPORT WORKS</u> Radiation Control	RCG	Arrangements were made with Landauer Company for addition of two maintenance men to the film badge monitoring program.
	RCG	A letter was sent to Mr. T. B. Bonney reporting results of the radiation survey.

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4.

APCH 18369

<u>LAFAYETTE WORKS</u> Fumes from DC Casting	GHF LWO	Complaints of throat irritation, associated with lubricant fumes, was discussed with Mr. Bill Dalton, Lafayette. He will attempt to collect an integrated sample for our analysis. Mr. Charles Petit, Jr. of Lafayette had previously discussed the problem with Mr. Ortlip. Acrolein, suspected to be a decomposition product of greases, will be sought in the fume sample.
Solvent Vapor Exposure	LWO	Three solvent vapor samples were analyzed and found to contain Stoddard Solvent, but below levels of concern. In these tests a new column ("Bentone 34") was employed in the gas chromatograph and appeared to resolve some of the previous interference problems.
<u>LEBANON WORKS</u> Solvent Vapor Exposures	LWO	Charcoal sampling tubes were prepared and calibrated, and other equipment was assembled for use by Mr. R. P. Carter in his plant survey. Three solvent vapor samples were returned for analysis.
<u>LOGANS FERRY PLANT</u> Solvent Vapor Exposure	LWO	An air sample, taken in the Watchman's Gatehouse, in response to complaints of eye irritation, showed a concentration of 160 ppm Mineral Spirits. The source of vapor has not been discovered.
Asbestos Exposures	GHF	Messrs. John Hicks and Dave Helmick were asked to list all uses of asbestos, in order to decide on the need for asbestos dust sampling. Only one (non-routine) laboratory test, and a once-a-year sealing of furnace doors was mentioned.
<u>NEW KENSINGTON (Central Machine Division)</u> Asbestos Exposures	GHF	Jobs involving the handling of dry asbestos were discussed with Mr. C. R. Joswig. He reported that Johns-Manville "Superex" insulating block (8% asbestos) is being replaced with J-M "Superex 2000 AF" (asbestos-free) and that they have no other asbestos exposures.

POINT COMFORT WORKS

Air Monitoring Instruments

A letter was sent to Mr. A. A. Rambikur asking for information on the new NO_x monitor, proposed as a replacement for their Atlas NO_x Monitor. The Atlas instrument has been redesigned and is now built and sold by Freeman Laboratories.

GHF

Smelting Plant Emissions

Data from the CO, NO_x, and F monitors covering the period of August 1969 to January 1973, has been summarized for pollution levels and for instrument performance.

RWL

Smelting Plant Emissions

Procedures for collecting Coal Tar Pitch Volatiles samples in the potroom monitors were discussed with Mr. Brad Benton, Point Comfort. He is attempting to reduce pitch emissions by changes in materials and operating procedures.

GHF

Mr. Benton also expressed his desire to change the basis of reporting F emissions, so that no distinction would be made between solids and gases and only a "Total F Emission" figure would be used. I suggested that he check with Dr. Cralley before making any change of this kind.

Asbestos Exposures

Mr. "Skip" Clark, Point Comfort, called to discuss his problems in counting asbestos fibers. It was decided that he should send a specimen to EHL for confirmation.

GHF

TENNESSEE OPERATIONS

Asbestos Exposures

Mr. Steve McGee discussed his concern for evaluating dust exposures from "Skamole", an insulating block proposed for use in smelting pots. Skamole contains 10% asbestos. He requested copies of our photomicrographs of asbestos fibers.

GHF

Detector Tubes for Use in SPDL

Mr. Don Kinosz requested information on interferences in using detector tubes for "off-gases" (Cl₂, COCl₂, HCl, and CO) from the R-190 Process. Some information was obtained from MSA and relayed to Mr. Kinosz.

GHF

TIFTON ALUMINUM COMPANY

Stack Emissions

Mr. D. L. Backenstose visited this office to discuss sampling and analytical procedures, in preparation for a survey of emissions from bright dip and anodizing tanks. A procedure was outlined that should be checked in our laboratory and on similar stack emissions at Bldg. A, ATC, before field use.

GHF

VANCOUVER OPERATIONS

Coal Tar Pitch Volatiles

Eight medium and high volume air samples were taken in the Smelting Plant and Green Carbon Mill. Four samples were sent to Analytical Chemistry Division for Infrared and Qualitative Spectrographic analyses, determinations of benzene soluble material, and specific determination of moisture.

GHF
JEG

EHL examined the other four samples for cyclohexane and benzene solubility, and fluorescent compounds in the extracts. There was no reliable correlation, indicating that weight loss on benzene extraction is not a good measure of Coal Tar Pitch Volatiles.

WARRICK OPERATIONS

Coal Tar Pitch Volatiles

Mr. Steve Nance called to discuss sources of materials and sampling procedures for this material. A copy of the proposed NIOSH method was also sent to him. Warrick has ordered the necessary filters as well as a 5-place Mettler balance.

GHF

MISCELLANEOUS

Suriname Urinary Survey

Delivery of equipment (F⁻ Specific Electrode, Specific Ion Meter, buffer and reference solutions) has been delayed for reasons which are not clear. Calls were made to the supplier, to Pittsburgh Purchasing, and to the Alcoa Export Office (New Orleans). Pittsburgh Purchasing has been asked to send an Expediter to the supplier to remedy this situation.

GHF

ARCH 18371

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PROJECT STATUS & REMARKS

7.

MISCELLANEOUS (continued)

Westinghouse, East Pittsburgh

Mr. Wilbur Speicher, Manager of Industrial Hygiene, Westinghouse Corp., called to discuss solders and fluxes for use on aluminum. Samples were obtained from APDL-Joining and sent to Mr. Speicher. His request for information on techniques for repair of air conditioner heat exchangers was directed to Mr. S. A. Earnest, AAED.

GHF

Heat Stress Report Meetings

Mr. Plunkett and I attended a two-day Heat Stress Symposium, sponsored by Industrial Health Foundation and held at William Penn Hotel, Pittsburgh.

JMP
GHF

ARCH 18372

PLANT LOCATION & PROJECT

ENGR.
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PROJECT STATUS & REMARKS

January Report, 1973
February 8, 1973ARL-ATC

Bldg. C Safety Committee

At the monthly meeting, a potential ozone problem, resulting from Finishes Division's use of Direct Coating Cure by Ultraviolet Radiation, was discussed. EHL is waiting resumption of this operation in order to measure ozone levels. There has been one complaint of ozone odor in that laboratory.

Noise Control

Quantometer Source Unit

At request of Mr. W. McAninch, Analytical Chemistry Division, an octave band analysis was made of effectiveness of enclosure of the rotary gap. A reduction of 10 dBA resulted, however this was not an area of serious concern.

Fatigue Tester

At request of Mr. D. A. Mauney, Mechanical Testing Division, an octave band analysis was made on this new piece of equipment. Results were below the levels of serious concern.

Lasco Press

Mr. M. A. Klingensmith, Building Services, requested a noise analysis of this new press, under test in Bldg. B. Noise levels were only 75-81 dBA.

Radiation Control

Annual fees, charged by the Atomic Energy Commission (AEC), for possession and use of radioactive material, have been circulated to the departments involved.

A new Radiation Survey Meter and Probe has been received; cost, \$295.00.

RCG

Mr. Lauer, AEC, requested information on the plutonium source contained in the Fluorine Activation Analyzer used by the Raw Materials Division.

Extrusion Run-out Blocks

Mr. Paul Traenkner, Fabricating Metallurgy Division, is continuing his investigation of materials to replace graphite. A meeting was held with Messrs. Traenkner, Coker, Couchman, and Gray to discuss handling, dust control, and waste disposal in connection with this program.

ARCH 18373

PROJECT STATUS & REMARKS

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PLANT LOCATION & PROJECT

<u>ARL-ATC (continued)</u>			A solvent vapor sample, taken in response to a complaint by Mr. T. F. Drumwright, Jr., showed traces of toluene and xylene, but well below the TLVs.
Solvent Vapor Exposures		LWO	
Non-Destructive Testing Laboratory			
Non-Destructive Testing Laboratory and Bldg. C Machine Shop		GHF	Complaints from these two groups were investigated and found to result from operation of the Coating Line, Finishes Division. Because of noxious fumes, the coating formulation was considered unsatisfactory and use of it was discontinued.
Fluoride Exposures		LWO	Fluoride was determined in one set of pre- and post exposure urine samples, received from AEDD via ATC Medical Department. Process material of concern was fluoridated alumina. Urinary fluoride levels showed no significant difference (1.4 ppm in both specimens).
Asbestos Exposures		RCG	The semi-annual survey of asbestos exposures in the Interim Shop, Bldg.B, has been made. Only one very brief operation showed an exposure of concern: 10.7 fibers/cc for 7 minutes.
		RCG	A series of photomicrographs of asbestos (amosite and chrysotile), glass and quartz fibers were prepared. Of these, four were selected and copies obtained for distribution to plant laboratories engaged in asbestos surveillance.
Vacuum Brazing, APDL		LWO RCG	A second sampling of furnace atmosphere, taken from the Vacuum Brazing operation and analyzed for beryllium fume, confirmed the original result that, at most, only a trace of beryllium fume was generated.
Tests of Coal Tar Pitch Volatiles, NIOSH Method		LWO GHF	Considerable time was spent in checking weight losses on drying and extracting filter media, effects of moisture and HF exposures of glass fiber and silver membrane filters, and extraction losses of baked anode material and coke. A bank of six extractors was purchased to aid in the continuing test program.

<u>ARL-ATC (continued)</u> Automatic Bath Analyzer, Analytical Chemistry Division	GHF	Mr. M. A. Klingensmith called to discuss ventilation of two small crucible furnaces to be used to melt smelting pot bath for use in development of an automatic bath analyzer. His proposal appears to be adequate.
Zinc Dust Exposure, Process Metallurgy Division	GHF	Mr. M. J. Bruno inquired about respiratory protection for people removing zinc dust from a pilot unit designed for vacuum distillation of zinc from aluminum. His respirators (MSA "Comfo") and filter cartridges (both Types S and H are available) should be adequate if facepieces are properly fitted.
<u>BADIN WORKS</u> Acetic Acid Exposure	GHF	Mr. Earl Morgan asked for protective procedures for workmen sealing filter bags to baseplate in A-398 Baghouse. Sealant is RTV Silicone Construction Sealer which releases acetic acid vapors, while curing. Workmen have complained of eye and throat irritation. A procedure was suggested, and acetic acid detector tubes were sent for use in checking on the effectiveness of the control measures.
Aluminum Holders for Paper Thimbles	GHF	Two thimble holders, fabricated according to our design, have been received from the Badin Machine Shop at a cost of \$50 each. Workmanship on the entry nozzles was unsatisfactory.
<u>CLEVELAND WORKS</u> Lead Exposures	LWO	Nineteen urine specimens were analyzed and reported (.01-.04 mg/liter). Eighteen air samples were analyzed for lead and reported (.001-.040 mg/m³). All samples were related to exposures to lead lubricant in the press areas.
<u>CRESSONA WORKS</u> Solvent Vapor Exposures	LWO	Two air samples, taken near the paint line furnace, showed only traces of toluene and xylene. Sampling had been done in response to complaint by a crane operator. Four additional samples were received from the same location.

PLANT LOCATION & PROJECT

ENGR. ASSIGNED

PROJECT STATUS & REMARKS

4.

<u>CRESSONA WORKS (continued)</u>	GHF	Mr. Clair Artz, Cressona, called to discuss calibration of his phase contrast microscope. It was necessary to have the Porton graticule disc ground to fit the eyepiece tube. He is now ready to begin surveillance of asbestos exposures.
	GHF	Mr. Ken Williams, Davenport, called to discuss detector tubes for ozone, and instruments for measurement of oxygen and combustible gas concentrations. He proposes the purchase of two MSA O ₂ -CGI instruments.
<u>DAVENPORT WORKS</u>	RCG	Four samples, representing background levels of beryllium in the Ingot Plant, were analyzed and reported.
Industrial Hygiene Equipment	GHF	Low concentrations of Be found in these samples prompted a letter to Messrs. T. B. Bonney and R. P. Carter regarding detection limits vs. reporting limits.
Beryllium Background Levels	RCG	Mr. Geiger spent four days at Davenport inspecting and surveying 36 x-ray thickness gauges. Three gauges were surveyed by use of film badges - results have not been received, but all other results were satisfactory. Two additional gauges, containing radioactive sealed sources, have been purchased for later installation and inspection.
<u>LAFAYETTE WORKS</u>	GHF	Mr. D. L. Backenstose spent a half-day at EHL discussing sampling techniques and preparing equipment for evaluation of particle size distribution and total concentration of lubricant mist in air.
Lubricant Mist Evaluation	LWO	Activated charcoal sampling tubes were prepared and sent to Mr. Charles Peit, Jr. Mr. Petit's MSA Monitaire Pump was calibrated for use with these tubes. Later, three samples were received representing exposures to Stoddard Solvent vapors at a dip-cleaning operation.
Solvent Vapor Exposures		

<u>LANCASTER WORKS</u>	Industrial Hygiene Control	GHF	Mr. Lou Crivaro called to discuss detector tubes and techniques for evaluating organic vapor exposures, as well as measurement of acid and alkali mists at anodizing tanks. Mr. Crivaro will require step-by-step guidance for these tests.
<u>LOGANS FERRY PLANT</u>	Inert Gas Testing	GHF	Mr. John Hicks called to discuss Mr. McCracken's proposal to use flue gas from atomizing furnace as "inert gas". Mr. Hersam requires extended monitoring (recording) of oxygen content of flue gas before this procedure can be approved. Calls were made to find the necessary equipment and ATC Building Service agreed to provide a water-cooled probe and strip chart recorder for attachment to an oxygen meter.
<u>LOGANS FERRY PLANT</u>	Solvent Vapor Exposure	LWO	In answer to a complaint by the Logans Ferry watchman, air samples were taken in the Gatehouse where fumes were causing eye irritation. A test for carbon monoxide was negative.
<u>MASSENA OPERATIONS</u>	Silica Dust Exposure	GHF	Mr. Walter Barr called to discuss sampling for silica dust in the Foundry. Our high volume respirable dust sampler had been received from Davenport Works.
<u>NEW KENSINGTON (CONTROL MACHINE DIV.)</u>	OSHA Compliance	LWO	Mr. Charles Joswig of CMD Personnel requested that a noise survey be made to determine compliance with the law. He also asked for a check on welding fumes which evoked a complaint from a crane man.
<u>PARANAM OPERATIONS</u>	Radiation Control	RCG	At the request of Mr. David B. Keene, Pittsburgh Office, Mr. Geiger sent information to Mr. J. C. Lanier, Chief Electrical Engineer, Paranam Operations, on the procedure for handling, installing, and maintaining devices containing radioactive sealed sources.

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PROJECT STATUS & REMARKS

6.

<u>POINT HENRY (AUSTRALIA)</u>		
Infra Red Analyzer	GHF	Mr. John Erkins, Point Henry Works, requested information on the Miran Infra Red Analyzer. Mr. T. I. S. Boak, Jr., International Department, Pittsburgh, called to discuss Mr. Erkins' request and ask that I reply. Copies of the information in our files were sent.
<u>SEEBREE, KY., PLANT W</u>		
Stack Sampling Kit	GHF	A series of calls was made to determine that the RAC "Stacksampler Kit" (EPA type) and all accessory parts, ordered for Plant W, have been received. Mr. Orlo Proctor, ATC Purchasing, was notified so that payment could be made.
<u>VERACRUZ WORKS (MEXICO)</u>		
Filter Thimble Holder	GHF	A copy of the sketch of our aluminum holder for paper filter thimbles was sent to Mr. N. C. Cook, as he requested.
<u>WARRICK OPERATIONS</u>		
Air Pollution Monitors	GHF	Mr. Steve Nance called to discuss operational problems with the Leigh Fluoride Analyzer; remedial measures were suggested. A Philips SO ₂ Monitor was hastily removed from an air sampling station on the banks of the Ohio river to avoid flood damage. Mr. Nance plans to install the Beckman SO ₂ Acralyzer alongside one of the Philips instruments to compare results.
OSHA Compliance	GHF	Mr. Nance also reported a visit from Mr. Al Edwards, Industrial Hygienist for OSHA, State of Indiana. Mr. Edward took air samples for asbestos fibers and for coal tar pitch volatiles and suggested that Mr. Nance take additional samples for both materials.
Exposure to Antifreeze Solutions	LWO	Mr. G. Hicks called to discuss the proposed use of ethylene glycol mist in a pneumatic system actuating a car loading/dumping operation. Freezing occurs in a 14-ft. deep, unmanned pit. Since the pit is hooded and vented, there appeared to be little danger of excessive exposure.

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PROJECT STATUS & REMARKS

7.

WENATCHEE WORKS

Air Pollution Monitors

GHF

Mr. D. L. Backenstose discussed discrepancies between results for ambient fluorides as sampled by Carbonate Tubes and Dual Tape Samplers. Since Wenatchee agreed with the Washington State results on Carbonate Tube samples, the differences appear to result from the collection devices, not the analytical methods. Washington State alleges that solids collected on the particulate filter adsorb HF.

MISCELLANEOUS

Visit to U. S. Steel Laboratories,
Monroeville

GHF

The problem of determining coal tar pitch volatiles in air was discussed by Mr. Howard Bumsted, U. S. Steel, Mr. T. B. Bonney and the writer.

ASTM, Committee D-22

GHF

Methods submitted for letter ballots were reviewed and approved. Two photographic prints (Apparatus for Distillation of Fluoride, and Alcoa Photometric Titrator) were supplied at request of ASTM's Mr. Walter V. Cropper.

Intersociety Committee, Halogens
Subcommittee

GHF

Dr. C. Ray Thompson, University of California, Chairman of the Subcommittee, called to request my attendance at a meeting to be held February 21 at St. Petersburg, Florida. He has also asked for copies of Alcoa's stack sampling methods for fluorides, this being NIOSH's current assignment to the Halogens Subcommittee.

Industrial Health Foundation,
Engineering Discussional

GHF

I participated in a panel discussion on "Practical Aspects of Evaluation of the Work Environment", held at the William Penn Hotel, Pittsburgh.

Northwest Alloys

GHF

Air pollutants found in the Magnetherm process were discussed, item by item, with Mr. Rudy Guilloud prior to his completion of the application to Washington State for license to construct the Northwest Alloys plant.

ARCH 18379

PROJECT STATUS & REMARKS

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PLANT LOCATION & PROJECT

MISCELLANEOUS (continued)

Pittsburgh Office Meeting, Jan. 11

EHL Visitors

GHF

GHF
LWO

A discussion of asbestos fiber monitoring techniques was held with Mr. Earl Morgan, Badin Works, and Mr. Ken Paxton, Tennessee Operations. Color photomicrographs of asbestos fibers were used in the discussion.

Mr. Ortlip and I presented an afternoon's program on career aspects of industrial hygiene for a group of eleven Explorer Scouts, sponsored by Alcoa Pittsburgh Office. The group was accompanied by Messrs. Steve Roth, Jim Hupy and Mark Sittig.

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PROJECT STATUS & REMARKS

December Report, 1972
January 8, 1973

ARL-ATC	Noise Control	LWO	The repaired gooseneck microphone was received and the calibration checked.
AEDD		LWO	Octave band noise analysis was made of a pneumatic jack motor at AEDD. Noise level of 86 dBA was found and reported to Mr. K. E. Buse. These jacks were developed for use in smelting plant potrooms.
Analytical Chemistry Division Quantometer		LWO	Noise levels at a desk behind a Quantometer Source Unit were measured at 92 dBA. During sample sparking, levels of 94-95 dBA were found at the operator's position.
Sample Fusion Device		LWO	At request of Mr. C. K. Matocha, noise levels at an automatic fusion device ("PUFF") were measured. The main noise source proved to be the exhaust hood but combined sources totalled only 79 dBA.
Fluoride Exposures		LWO	Fluoride was determined in one set of pre- and post exposure urine samples, received from AEDD via ATC Medical Department. Process material was fluoridated ore, and urinary fluoride level increased from 0.87 to 1.06 ppm (corrected to sp.gr. 1.024). Another similar pair of samples was received during December.
Fluoride Exposure		GHF LWO	At Dr. Cralley's request, as many different brands (5) of instant teas as could be found in local stores were purchased, analyzed for fluoride, and results reported.
EHL Staff Meeting		GHF	A regular program of monthly staff meetings was inaugurated.
Laser Registration		GHF	Mr. E. D. Quade, AEDD, reported that, through oversight, a low-power laser was not registered with the Pennsylvania Department of Health. The instrument is now at Warrick Operations and will be properly registered when returned to AEDD.
Safety and Health Survey		GHF	Mr. R. A. Wodehouse, who has responsibility for OSHA compliance by APDL, has asked for assistance in setting up a regular inspection and testing schedule.

ARL-ATC (continued)

Sampling Team

GHF Mr. T. B. Bonney, Dr. P. R. Atkins and I interviewed six potential candidates for two positions as Sampling Technicians. Four of these are now employed at ARL, the others are not Alcoa employees. Later, I talked with two additional applicants; one an ARL technician, the other an employee of Westinghouse. No decision has been reached nor offer of employment made.

Radiation Control

RCG A leak test was made on Fluorine Activation Analysis system at ARL Raw Materials Division. Conditions were found to be satisfactory.

Solvent Vapor Evaluation

GHF LWO Tests were made on stability of solvent vapor samples collected on activated charcoal. After 6 1/2-months storage, the group stored at room temperature showed no loss of toluene but some loss of MEK. The group stored under refrigeration, again, showed no loss of toluene but a slight loss of MEK.

APDL-Joining: Ultrasonic Soldering

LWO RCG This operation was resampled in September, with all ventilation controls off. The results - 0.0016 mg Be/m^3 ($0.8 \times \text{TLV}$) and 0.5 mg ZnO/m^3 ($0.1 \times \text{TLV}$), have been reported to Mr. J. R. Terrill.

CLEVELAND WORKS

Lead Exposures

LWO Results of 24 lead-in-urine samples were sent to Dr. M. F. Jones. No excessive exposures were indicated. Twenty-four bottles for shipment of urine specimens were prepared and sent to Dr. Jones. Nineteen urine specimens, for determination of lead, were also received.

Radiation Control

RCG Installation of medical x-ray equipment was discussed with Mr. Ed Martin and a recommendation was made that the height of lead-lined walls be increased.

<u>CRESSONA WORKS</u>	RCG	A Mine Safety Appliances Company personal sampling pump was calibrated for air sampling rate and returned to Mr. Clair Artz.
	LWO	Two samples of solvent vapors, collected near the paint line, were received for evaluation of the crane operator's exposure. Only trace amounts of solvent vapors were found.
<u>DAVENPORT WORKS</u>	GHF	Results for beryllium emissions, previously reported, were recalculated on the basis of corrected sample volumes as reported by D. L. Backenstose. Percentages of Be in dust samples were also calculated at the request of Mr. Backenstose.
	RCG	Four samples were received for determination of beryllium in ambient air.
<u>LAFAYETTE WORKS</u>	GHF	Mr. Charles Petit, Jr. called to discuss his problem of mis-matching of eyepiece reticle and microscope eyepiece. Other suppliers of eyepieces were suggested to him.
	LWO RCG	Four stack samples were taken for determination of daily emissions of mineral spirits vapor. Only an oral report has been made to Logans Ferry because of questions concerning moisture interference and total stack flows. However, values obtained were 317 lbs./day for Screen Tanks and 377 lbs./day for Mill Tanks.
<u>LOGANS FERRY PLANT</u>		
Solvent Vapor Emissions		

<u>MASSENA OPERATIONS</u> Boiler House Stack Emissions	GHF	Mr. Walter Barr asked for information on NO_x monitors, as required by New York State for measurement of NO_x emissions. It was decided that he would ask New York State for its list of acceptable instruments.
<u>MOBILE WORKS</u> Particulate Emissions	GHF	At request of D. L. Backenstose, one box of 25 glass fiber thimble filters was sent to Mr. Warren Boutreils for continuation of his stack sampling program.
<u>RICHMOND WORKS</u> Radiation Control	RCG	A letter was sent to Mr. Burt Beebe concerning the registration of x-ray equipment with the State of Indiana.
<u>TENNESSEE OPERATIONS</u> Oil Mist Emissions	GHF	Mr. Steve McGee called to discuss sampling equipment for collection of rolling oil mist in stacks, downstream of the "mist eliminators". Use of a glass probe and glass fiber filters was recommended for gravimetric determination.
Fluoride Sampling Methods	GHF	Mr. J. C. Vergho asked for recommendations of methods suitable to stack and ambient fluoride sampling, as requested by an official of the State of South Carolina. ASTM and Intersociety methods were suggested.
<u>WARRICK OPERATIONS</u> Chlorine Monitor	RCG	The Mast Oxidant Analyzer and Recorder were repaired and sent to R. L. Parsons, at his request. Corrosion of electrical equipment, suspected of resulting from Cl₂ fluxing, will be studied.

<u>MISCELLANEOUS</u> Northwest Alloys Instrument Repairs EHL Visitor	GHF RCG LWO	A memorandum was written and circulated, covering inspection of the Magnetherm Process as carried out at Marignac, France. No excessively difficult industrial hygiene problems were found. Two hygrothermographs and three rotating vane anemometers, damaged during the Summer's heat stress studies, have been returned to their suppliers for repair. At Mr. W. W. Binger's request, approximately an hour was spent explaining the nature of our activities to Mr. Binger's son-in-law, Mr. David Palmer. Mr. Palmer holds a M.P.H. degree from University of Pittsburgh and is employed by U.S.P.H.S. in Alaska. His work involves sanitation and stream pollution control.
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PROJECT STATUS & REMARKS ✓ November Report, 1972
December 15, 1972

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ARL-ATC		
ARL Safety Committee	LWO	L.W.Ortlip presented a talk on our Industrial Hygiene program for benefit of new members of the Committee at Freeport Read ARL.
Bldg. C Safety Committee	LWO	L.W.Ortlip attended the monthly meeting and reported on surveillance of solvent vapor problems in Bldg. C.
Noise Control	LWO	Several requests for noise surveys have been received; none was of an urgent nature and all can wait until our Calibrator is returned by the factory.
Radiation Control	RCG	A radiation survey instrument (IGM, portable) has been ordered from Victoreen Company.
	RCG	Several telephone calls were made to Landauer Company for the updating of film-badge service which they provide.
Fabricating Metallurgy Division Extrusion Run-out Blocks	JMP	Mr. Paul Traenkner is seeking a replacement for graphite in this application and consulted with J. M. Plunkett on precautions in handling some 60 materials which will be tested.
Copper-coating of aluminum	GHF	Mr. Paul Traenkner called to discuss physical and chemical properties of a number of copper compounds which he proposed to test as coating agents for aluminum. Most of the materials on his list were eliminated by inspection.
ATC Building Service	GHF	Mr. Marshall Klingensmith, Building Service Department, asked for information on toxicity of vapor of "Houghto-Safe 120" (aryl-phosphate ester), additive to petroleum oil used in elevator hydraulic systems. He also requested measurements of total oil vapor in the air of the elevator equipment rooms (2) in Bldg. C.
Process Metallurgy Division Dust Exposure	JMP	Mr. Ken Able inquired concerning precautions in handling "Fiberfrax" (50% silica, 50% alumina). Although a dusty material, it is handled only intermittently (1 hour per week) and so the wearing of a respirator was recommended.

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PROJECT STATUS & REMARKS

2.

ARL-ATC (continued)

Mercury in Urine

LWO

Urine specimens, spiked with mercury, were sent to Environmental Health Laboratory, Inc., Farmington, Mich., as mentioned in last month's EHL Activities Report. Results have been received and were in very good agreement with the amounts added. Despite randomization of concentrations, Mr. Cecil Smith of EHL, Inc., correctly diagnosed the situation, but did not appear to resent our checking on their reliability.

Coal Tar Pitch Volatiles

LWO

Tests with a silver membrane filter indicated that pitch fume can be quickly and completely removed by benzene extraction. Application of melted pitch left a residue that was not removed, even by extraction with hot benzene. This work was requested by T. B. Bonney.

APDL-Joining: Vacuum Brazing

LWO
RCG

Furnace atmosphere, sampled after pressurization of the vacuum furnace in which brazing had been carried out, showed no detectable beryllium fume. This result was reported to Messrs. E. P. Patrick and T. B. Bonney.

CLEVELAND WORKS

Lead Exposures

JMP

Mr. Lee Grubb discussed the lead sampling program. The forging operation now uses lead-based lubricants exclusively and the next group of Pb-in-air samples should be the last, except for an occasional check.

Titanium Forging

JMP

Mr. Grubb also discussed the need for determination of particle size distribution of fume and dust entering and leaving the Rotoclone during grinding of Ti-V-Al forgings. Mr. Grubb was also concerned for toxicity of calcium molybdate in a forging lubricant and had discussed this with T. B. Bonney and J. H. Dudas of Fabricating Metallurgy Division.

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PROJECT STATUS & REMARKS

3.

DAVENPORT WORKS

Emissions Survey, Alloy 2021

Five stack emission samples and four BZ samples (IH 2489, 1-9) were analyzed and reported. Ranges of results were: Cl^- , 125-740 mg/m^3 ; Cd, 40-230 mg/m^3 ; Total Particulate (as P_2O_5) 1600-3200 mg/m^3 . For the BZ samples, results for CdO ranged from 0.002 to 0.132 mg/m^3 (TLV = 0.1 mg/m^3)

Beryllium Emissions

Sixteen samples of Rotary Barrel, Skim House Stack emissions (IH 2506-1 to -16), were analyzed and reported. Results ranged from 0.0006 to 0.071 mg/m^3 .

Six samples, taken in parallel with the preceding samples by use of the Brik Sampler were also analyzed and reported. These showed a lower Be concentration in the smaller size fraction, a result not previously seen.

Beryllium Emissions

Beryllium results for eight stack emission samples (IH 2507-1 to -8), were reported on November 1.

NOTE: All Be samples received to date (12-14-72) have been analyzed and reported.

GEELONG, AUSTRALIA

Dr. Dawson discussed potential exposures of Alcoa personnel to vapor of methyl bromide, used to fumigate ships of other carriers. Fumigation is carried out while these vessels are berthed at Alcoa docks. The use of methyl bromide detector tubes was suggested.

LAFAYETTE WORKS

Asbestos Exposure

Mr. J. B. Dolan, Lafayette Works, reported a local union official's threat to call in an OSHA inspector because of alleged excessive exposures to asbestos fibers. Mr. L. S. Chambers called on the same matter and requested that we count their asbestos fiber sample (1) and calibrate their personal samplers (2 MSA Monitaire pumps). R. C. Geiger reported finding 0.3 fibers per cc of air [current standard is 5 fibers (5 μ in length) per cc of air]. He also calibrated the sampling pumps and returned them, together with a bottle of filter-mounting medium, and stage micrometer.

ARCH 18388

LAFAYETTE WORKS (continued)Solvent Vapors

Mr. C. E. Petit, Jr. called for instructions on methods of determining vapors of Stoddard Solvent presently used for dip degreasing of metal sheets. Engineers are considering a change to vapor degreasing with chlorinated solvent. Mr. Alan Bartell later called to discuss the same matter. At L. W. Ortlip's suggestion, a combustible gas indicator was used and concentrations of 1.6 to 3% LEL were reported for Stoddard Solvent. These values were interpreted as approximately 300 to 660 ppm (TLV = 200 ppm).

LWO

Lead Exposures

Mr. C. E. Petit, Jr. asked for directions in sampling for lead exposures, and for an "irritant", in ingot casting lubricant containing lead soap and tallow. Two samples were taken in the usual manner for lead exposures. The irritant is suspected of resulting from partial oxidation and decomposition of soap and tallow, probably with formation of acrolein.

LWO

LANCASTER WORKSCarbon Monoxide Exposure

Mr. Lou Crivaro asked for brand names of carbon monoxide detector tubes to evaluate exposures to exhaust gas from lift trucks, as suggested by R. P. Carter.

JMP

LEBANON WORKSCarbon Monoxide Exposure

At request of T. B. Bonney a carbon monoxide detection kit (consisting of MSA Universal Pump, 1 box of length-of-stain and 1 box of color-match detector tubes) were sent to Mr. E. R. Youngblut.

LWO
JMPLOGANS FERRY PLANTSolvent Vapor Emissions

Four samples taken from mill stacks were considered invalid because of condensation of liquid in the filter holders. Four insulated, heated enclosures for Petrey filter holders were made in preparation for repeat sampling.

LWO
RCG

APRCH 18389

PLANT LOCATION & PROJECT

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PROJECT STATUS & REMARKS

5.

MARSHALL WORKS

Cleaning Solvent

Mr. D. W. Sawyer, Lubricants Division, ARL, asked for comments on comparative toxicities of 1,1,1- and 1,1,2-trichloroethane. The latter had been purchased for occasional use in cleaning electrical contacts and removing mis-labels from cable. As a result of objections from several other people, Marshall Works is going back to use of the 1,1,1- compound (methyl chloroform).

ARCH 18390

JMP

MASSENA OPERATIONS

Radiation Control

Use of a recently purchased Surface Density Gauge (radioactive source) was discussed with Mr. Alex Poncek, Alcoa Construction. A similar gauge, received from the Alcoa Construction group at Plant W, will be transferred to Rockdale.

RCG

POINT COMFORT OPERATIONS

Potroom Monitor Testing

Mr. A. A. Rambikur called to discuss sampling of particulate material in the potroom monitors. Precautions in use of paper thimbles were pointed out.

JMP

POINT HENRY WORKS (AUSTRALIA)

Industrial Hygiene Survey

J. M. Plunkett attended a meeting in Pittsburgh at which results of the Point Henry Works survey were presented to Dr. Gandevia, of Australia.

JMP

VERNON WORKS

Forging Lubricant Exposures

A report was sent to Mr. D. P. Hooghkirk, Vernon Works, on five Pb-in-air and one F-in-air samples collected in the Forge Plant. Only one Pb sample exceeded the TLV (by 3.5-fold). The F sample gave a result of 1/10 TLV.

LWO

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PROJECT STATUS & REMARKS

6.

MISCELLANEOUS

Plant W, Sebree, Ky.

A stack sampler (EPA-type) has been ordered from Research Appliances Company, for use by Anaconda. The new sampler will replace one originally ordered for Anaconda, but used by us at Badin and Mobile. We will keep the "used" sampler kit.

Heat Stress Meeting

J. M. Plunkett attended a meeting at Pittsburgh Office at which results of the summer's study of potroom heat stress were discussed.

Vacation

I was away on vacation for 3-1/2 weeks during November.

JMP

JMP

GHF

ARCH 18391