PLAINTIFF'S
EXHIBIT
DUP-1894
PLAINTIFF'S

ACIDS TECHNICAL DIVISION
VICTORIA PLANT

cc: T. L. Eichstadt
C. H. Babowicz
W. A. Schurtz
A. H. Nickolaus
Acid I/H File 507.048

November 30, 1984

TO: M. F. HAUSMAN

FROM: J. C. WARREN JCW

ASBESTOS PERIPHERY MONITORING - OP 5/5A

SUMMARY

Four periphery samples were taken in the Acid Powerhouse Area while removing old asbestos insulation from three equipment pieces (desuperheater storage tank, deaerator heater and deaerator storage tank) on the 4th floor. All four samples were less than the 8 hr. TWA and the maximum asbestos exposure limits, thereby indicating the selected rope-off area was satisfactory.

The samples were obtained using the NIOSH analytical Method P&CAM 239. The fiber counting analyses were performed by Clayton Environmental Consultants, Inc. of Southfield, Michigan.

DOCUMENTATION

This memo with the attached tables and figure must be incorporated in the Area I/H notebook. We suggest that the data be reviewed with personnel working in the area.

MONITORING RESULTS

The monitoring data are summarized in Table I, the weather conditions in Table II and the sampling locations in Figure 1. The sampling was taken at a fixed location at the periphery of the work area for the entire time the job was being conducted. Samples #2 & #3 were downwind of the work area and would be expected to contain a higher asbestos loading. Sample #3 was the highest of the 4 samples at 0.16 fibers/cc for the equiv. 8 hr. exposure vs. 0.5 fibers/cc 8 hr. TWA limit.

JCW/ms
Attachments

DV1

DUP 0814644

TABLE I

ASBESTOS REMOVAL - PERIPHERY MONITORING
OF APH DEAERATOR AREA IN OCT., 1984

Pump No.	Date	Sample No. & Location	Analy.* Method	Start Time	Stop Time	Time Min.	Liters Min.	Total Liters	Clayton Reslts Fibers/Filter	Results as Measured	Results corrected to 8-hr. TWA
2	10/6/84 10/7/84	Cassette #AS1 South of Work	NIOSH P&CAM 239	1847	0043	356	.53	189	3,000	<0.02 fibers/cc	<0.02 fibers/cc
1	10/6/84 10/7/84	Cassette #AS2 North of Work	"	1825	0048	383	1.5	559.5	3,000	<0.01 fibers/cc	<0.01 fibers/cc
3	10/6/84 10/7/84	Cassette #AS3 West of Work	"	1845	0042	357	1.5	535.5	110,000	0.21 fibers/cc	0.16 fibers/cc
4	10/6/84 10/7/84	Cassette #AS4 East of Work	"	1820	0048	388	3.68	1,428	40,000	0.03 fibers/cc	0.02 fibers/cc

* Analyses conducted by Clayton Environmental Consultants, Inc.
8 hr. TWA - 0.5 fibers longer than 5 micrometers, per cc of air
Max. STEL - 10 fibers longer than 5 micrometers, per cc of air

TABLE II

DATE	TIME	WIND DIR.	MPH	TEMP	REL HUMID.
10/6/84	1800	180°	16	82	67
"	1830	170°	14	82	69
"	1900	170°	10	81	72
"	1930	172°	10	80	74
"	2000	170°	9	80	80
"	2030	170°	9	80	85
"	2100	170°	8	80	86
"	2130	170°	9	78	88
"	2200	168°	8	77	88
"	2230	166°	8	77	90
"	2300	160°	8	76	92
"	2330	158°	8	76	93
"	2400	148°	8	75	93
10/7/84	0030	150°	8	75	93
"	0100	150°	8	75	93

DV1

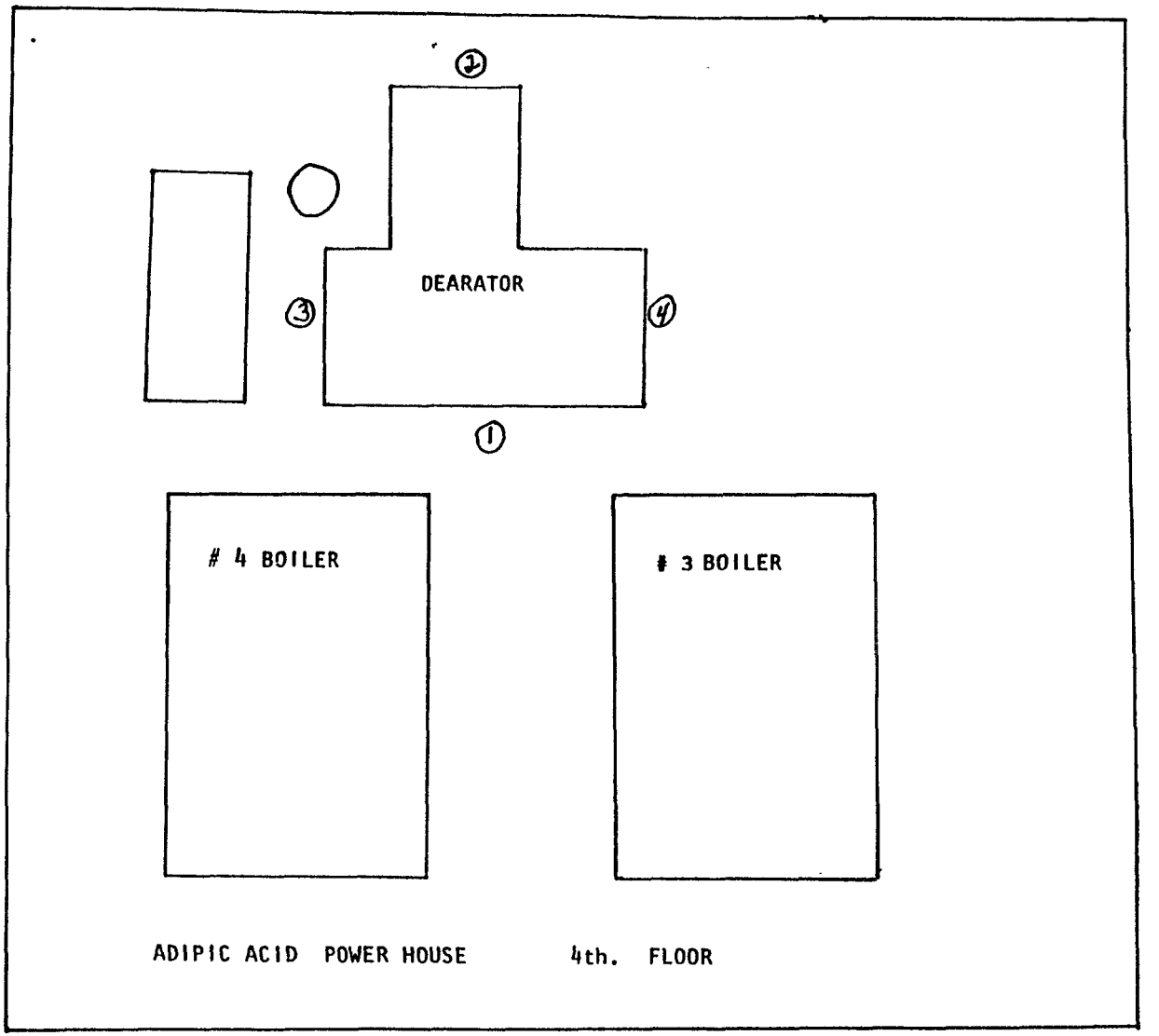
DUP 0814646

DU 009930

DUP 0814647

:GURE 1

LOCATION OF APH ASBESTOS SAMPLING - OCT. 1984



SAMPLES #①②③④ WERE LOCATED AS SHOWN IN ABOVE DIAGRAM, APPROX. 15 INCHES FROM THE DEARATOR, AND APPROX. 5 FEET FROM THE FLOOR.

DU 009931

CC: J. F. Hignite

November 7, 1977

TO: W. P. LEDET
A. H. NICKOLAUS
L. F. GETZ - 13

FROM: L. T. FREELAND

INDUSTRIAL HYGIENE FOR SHOPS & SERVICES

The program was developed with Andy Nickolaus and Lionel Getz and should cover the various aspects required to monitor personnel exposure. The programs will run concurrently and should be complete by the third quarter '78.

The programs include --

1) ORGANIC VAPORS

a) Varsol® and Kerosene Vapors

Both solvents required because of solvent properties. Initial survey will be an area survey using the Century Portable G.C. Areas will include Central Shops, Transportation, Garage, and HMD, "Alathon", Acids Shops - time permitting. The results of survey will dictate if personnel monitoring is required.

b) Methylene Chloride

Use Century G.C. for an area monitor to determine preliminary exposure. May want to use Drager Tubes but must be careful with interferences.

c) Paint Solvents

The present practice is to use a respirator to protect from Imron® and/or zinc chromate. This is adequate but may need data if solvent exposure levels change (TDI and others).

DUP 0814650

2) ASBESTOS

No data currently exists on exposure or background levels. Must carefully review sampling method. Select outside contact laboratory for analysis - consult with Haskell and ESD prior to selection. Program includes both area and personnel monitoring -- including Arthur Bros. Area monitoring for asbestos to include the following -- Acids, Alathon®, Nylon Plant Shops and construction sites.

3) METALS

a) Zinc

The fume study is complete and Mechanical is aware of results further monitoring not required for at least a year.

b) Nickel

No data available but will use same type sampling program as used with zinc. Will not separate nickel dust, oxide, or salts in first sampling but rather establish total nickel level when working with nickel. If exposure is low, no further sampling will be required.

c) Silica

Used in sandblasting and filter aid. Suggest a few area samples when unloading filter and may be sufficient. This represents a very low priority item.

d) Silver and Cadmium

Lionel is following this to find the Cadmium content of silver solder. A few samples may be sufficient to show if levels are acceptably low.

e) General Programs

If any metals are detected in significant quantities, a general area sampling program would be started. The analysis could be conducted by Columbia Scientific Industries (CSI), Austin, using neutron activation analysis. This service will provide good information on typical metal exposure levels. Measurement of respirable versus non-respirable particulates may be helpful. Would not conduct any of the general program items unless required by previous sampling information.

DUP 0814651