DOW CHEMICAL U.S.A.

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REV 8(E)

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POLY A INDUSTRIAL HYGIENE SURVEY

Introduction:

This is a report of the quantities of noise, SiO_2, and Isopar M that plant operators were potentially exposed to in 1983. Also included are the plant area noise surveys and the results of the area welding fume samples that were taken in the maintenance shop.

Conclusions:

1. The area noise surveys confirm that designated "ear protection" areas of the plant are adequate to warn operators of noise levels exceeding 85db(a).

2. One job classification had an average potential noise dose greater than the permissible noise limit of 90 db(a) for 8 hours. This was the O.S. compressor job and the potential dose was 169% of the permissible noise limit.

3. No SiO_2 was detected in the breathing zone samples of extrusion area O.T's mixing superfloss. Since superfloss is manually handled in bags, the dust mask requirement is still needed to prevent possible overexposure to SiO_2.

4. The concentrations of Isopar M that were detected in the breathing zone samples of millwrights when cleaning parts were below the Exxon Exposure limit of 300 ppm.

5. The limited welding fume sampling did not reveal any excessive amounts of welding fume metals in the Maintenance shop. However, from a comfort standpoint, extra ventilation will be needed to prevent smoke build up during welding operations. Specific recommendations have already been made to the appropriate Poly A personnel.

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NOISE DOSIMETER SAMPLES

The OSHA permissable exposure limit is 90 db(a) for 8 hours. The noise dosimeter integrates the noise levels over time to give a percentage of allowable noise exposure. For example, 90 db for 8 hours would equal 100%.

9078-8508

Job	Number of Samples		Avg. Noise Dose	Highest Noise Dose
Extrusion O.T. 02	5	3	67%	104%
Extrusion S.O.T. 03	5	3	86%	138%
Compressor S.O.T. 03	5	3	92%	197%
Compressor O.S. 04	5	3	169%	378%
EDO 06	5	3	36%	40%

BREATHING ZONE SAMPLES FOR SiO_2

0006-2373
~~9999-0102~~

The threshhold limit value for SiO_2 is .1 mg/m^3 respirable dust and .3 mg/m^3 non-respirable dust. The samples were taken on a day when the extrusion O.T. was mixing superfloss. No SiO_2 was detected in the samples when analyzed by X-ray diffraction.

Job	# (3)	Duration of Sample	Respirable Dust	Non-Respirable Dust
Extrusion O.T. 02		400 Min.	<.2 mg/m^3	<.2 mg/m^3
Extrusion O.T.		400 Min.	.1 mg/m^3	<.1 mg/m^3
Extrusion O.T.		400 Min. 06 40	<.1 mg/m^3 <.13	<.1 mg/m^3 <.13

BREATHING ZONE SAMPLES FOR ISOPAR M

9999-0100

The Exxon exposure limit for Isopar M is 300 ppm. The excursion samples were taken while parts were being cleaned using Isopar M.

Job	#	Duration of Sample	Concentration Detected
Millwright		120 Minutes	68 ppm — kgl
Millwright 13	2	120 Minutes 0200	~~4.70 ppm~~ 36.3 ave.

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AREA WELDING FUME SAMPLES

Three samples were taken in the maintenance shop on days when welding was being done. These are the metals that were analyzed for and their threshold limit values.

Nickel metal	1.0 mg/m3
Iron Oxide fume	5.0 mg/m3
Lead (Dust & Fumes)	0.15 mg/m3
Chromium	0.5 mg/m3
Zinc	5.0 mg/m3
TOTAL PARTICULATE	5.0 mg/m3

	Sample # 1	Sample # 2	Sample #3	ave.
Total Particulate	<1.6 mg/m3	0.4 mg/m3	<1.2 mg/m3	< 1.1
Nickel	0.002 mg/m3	0.001 mg/m3	<0.1 mg/m3	< 0.03
Iron Oxide	0.9 mg/m3	0.333 mg/m3	0.12 mg/m3	0.45
Lead	<0.002 mg/m3	0.006 mg/m3	<0.01 mg/m3	< .006
Chromium	0.002 mg/m3	0.003 mg/m3	<0.01 mg/m3	< .005
Zinc	0.67 mg/m3	0.080 mg/m3	0.01 mg/m3	0.25

9999-0113

9999-0114

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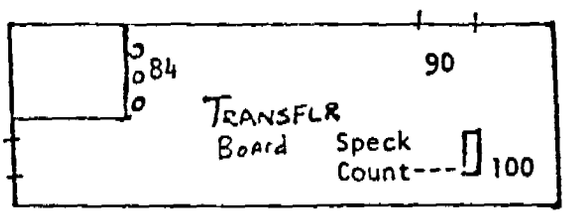
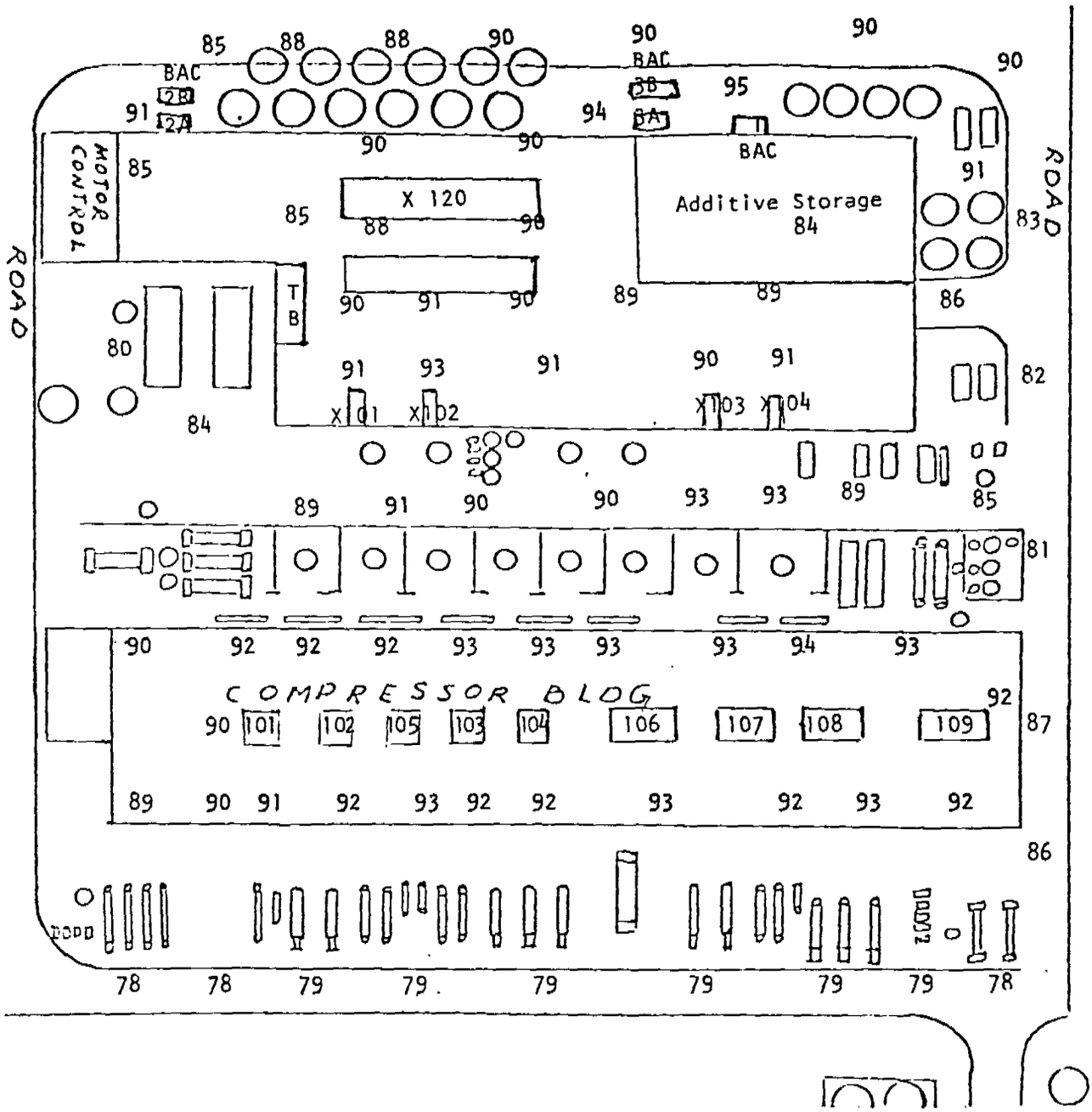
EXTRUSION & COMPRESSOR BLOGS - 203





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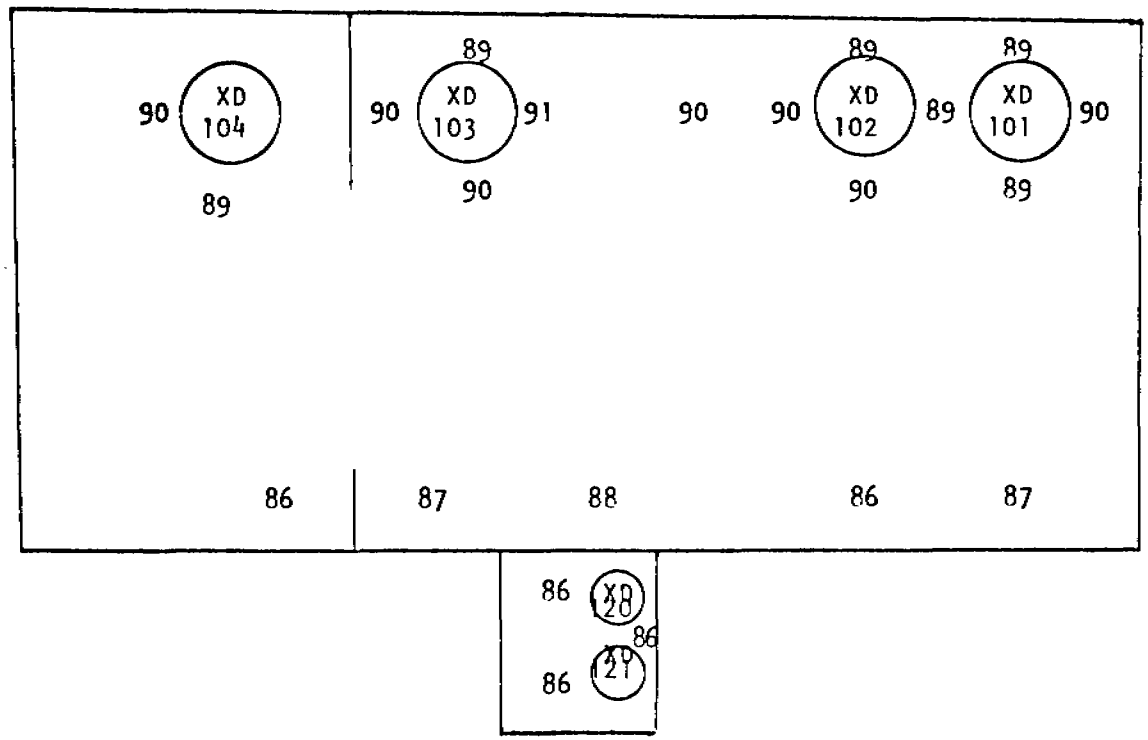
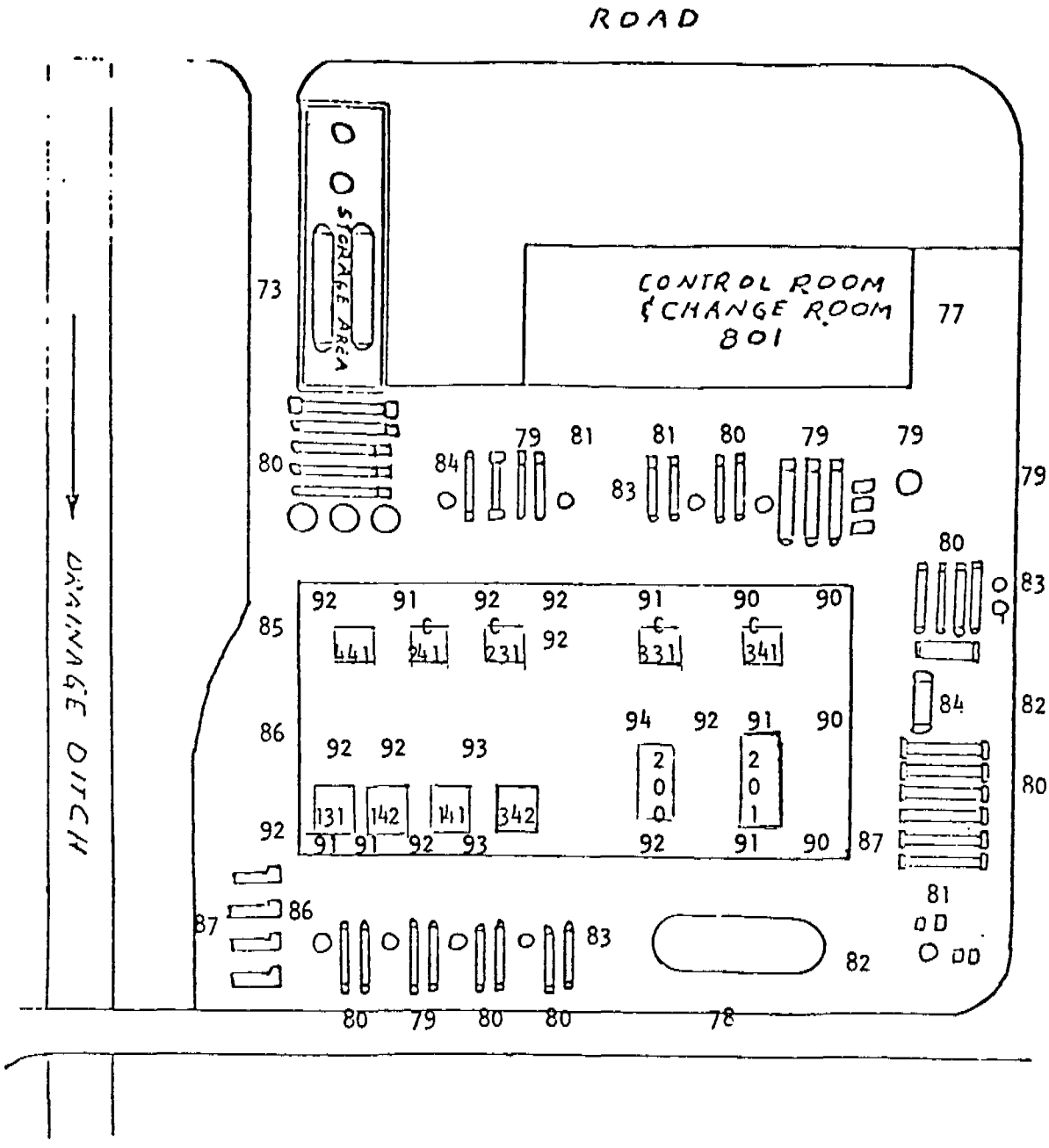
CLASSIFIER SCREEN AREA



PRIMARY COMPRESSOR BLDGS



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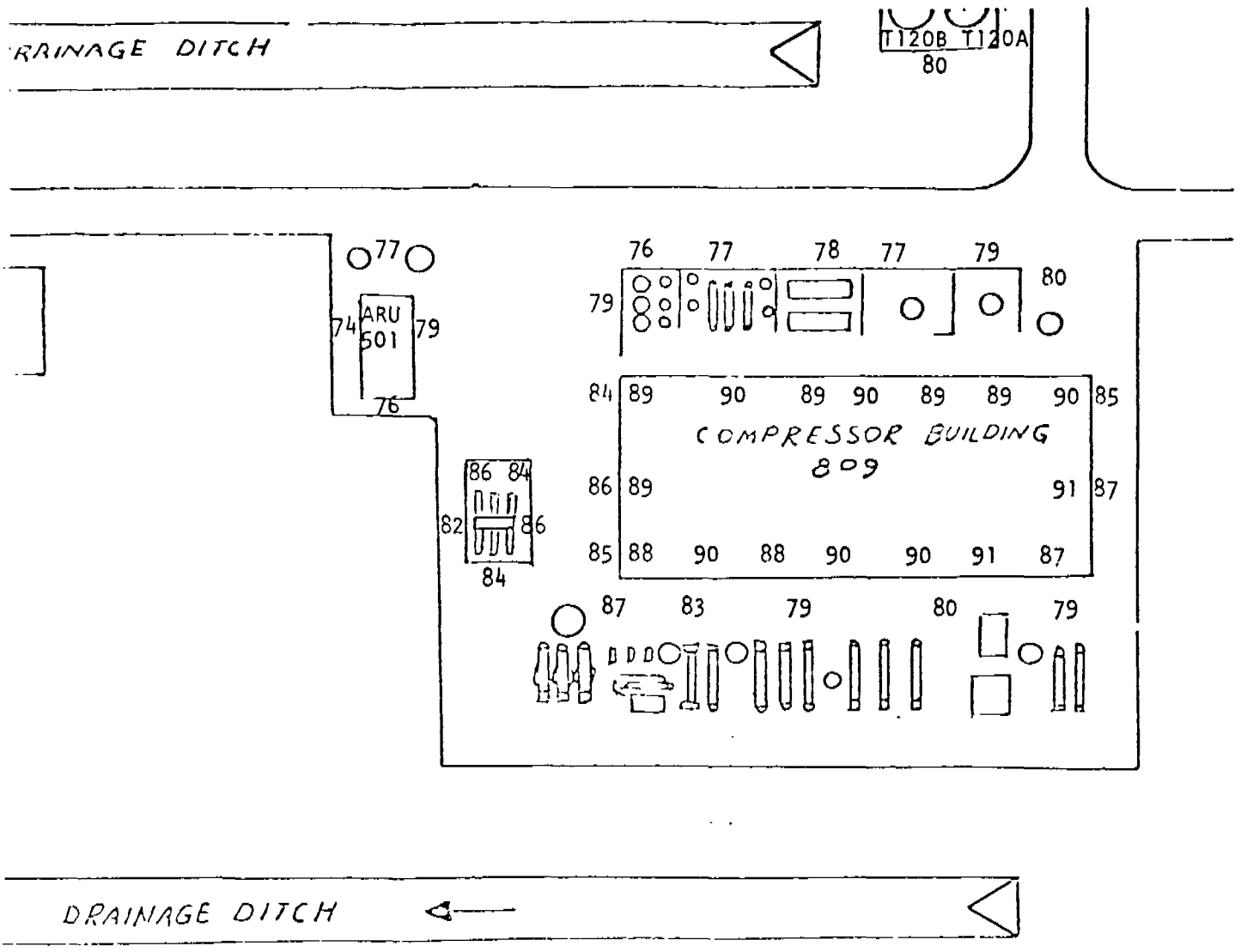

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