

APPENDIX B
WATER QUALITY AND DISCHARGE RECORDS

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1.0 General

To determine the actual load on the receiving streams from each source, it is necessary to establish a relationship between the quantity of each parameter present and the discharge. This was done by converting mg/L to pounds per day according to the following relationship:

$$L = 8.345 a f.$$

Where L = load in pounds per day

a = quantity of parameter in mg/l

f = flow in million gallons per day

8.345 = a factor derived from conversion factors listed
in the Chemical Rubber Co. Handbook 50 ed. 1969-1971

Results of these calculations for each source are found in Table B-2.

By evaluating each source in terms of pounds per day of each parameter it is possible to determine the effect of each source in relation to other sources on the receiving streams. This loading information is also used in the cost benefit analyses to set priorities in the abatement plan (Table B-3).

Theoretically, it is possible to determine the load on the Youghiogheny River from the study area by algebraic addition of parameters. However, this method neglects several important factors such as surface runoff, additional AMD sources, possible contribution by industrial and residential areas, and the ability of the streams to neutralize and eliminate a certain amount of the AMD.

In actual practice, the best method to determine the total effective load appears to be a sampling point located such as current meter gaging station No. 3, which receives the net load from all sources in the study area except M63, M62A, M62B, M62C, M101, M103, and M100.

M100 discharges into Shupe Run, while M63, M62A, M62B, M62C, M101, and M103 discharge into Stauffer Run, both tributaries of Jacobs Creek flowing to the Youghiogheny River.

Minimum detectable amounts for the chemical parameters reported in Table B-1 as supplied by the Buchart-Horn Laboratory are as follows:

<u>PARAMETER</u>	<u>MINIMUM DETECTABLE AMOUNT</u>
Acidity	0.0 mg/L
Alkalinity	0.0 mg/L
Ferrous Iron	0.0 mg/L
Total Iron	0.0001 mg/L
Sulfate	0.0 mg/L