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MONTHLY PROGRESS REPORT FOR MARCH. HYDROLOGIC AND WATER QUALITY EFFECTS AND CONTROLS OF COAL MINING

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April 13, 1981

TO: Michal Harthill

FROM: Mathilde Kland

RE: Monthly Progress Report for March
Hydrologic and Water Quality Effects and Controls of Coal Mining
LBID-386

Alkaline Mine Drainage (Alk. MD)

The draft of an expanded alkaline mine drainage study proposal was submitted. This includes a more detailed experimental protocol and a tentative work schedule. The kinetics of leaching of coal and solid mine wastes (spoil, backfill) will be studied, and the composition of leachates characterized and compared to the mineralogic composition of the solids prior to leaching. Groundwaters from mines with disturbed overburden will be analyzed and the compositions compared with those of related groundwaters outside the mine.

These studies will be carried out on two selected western mines. Results obtained from the preliminary kinetic and characterization studies will be used as a guide in the design of suitable laboratory studies intended to further clarify the mechanism(s) of alkaline mine drainage formation.

Literature research in Alk. MD was continued.

Useful mine and coal analysis information for Arizona, Wyoming, and Montana were obtained from the Keystone Coal Industry Manual (1978 ed) and from the August, 1980 issue of Environmental Geology Notes.

Agency and commercial mine contacts were developed. Of the agency contacts, Dennis C. Ruddy, project officer for the EPA Development Document for Coal Mining Point Source Categories was the most productive.

The potentially most useful commercial mine contact is Charlie Drevna, Environmental Specialist for the National Coal Association (NCA), who offered to plug my request for samples with the individual mine operators, and furnish us with names if necessary.

Details of my Rosebud Mine (Colstrip, Montana) contacts are provided in a separate memo (3/13/81). My inquiries here also elicited friendly responses from Rick Dale, the Mine Manager, and Mike Shea, permit
coordinator. We should have no problem arranging for field samples from
two selected mines.

A number of analytical and instrument application research laboratories
were contacted for cost estimates and technical information.

REFERENCES

U.S.-EPA, Development Document for Effluent Limitations Guidelines and
Standards for the Coal Mining Point Source Category (January 1981), EPA-
440/1-81/067b. See also Federal Register, 3136, Tuesday, Jan. 13, 1981.


J. K. Kuhn, et al., "Abundance of Trace and Minor Elements in Organic

R. M. Smith, E. Grube, Jr., T. Arkle, Jr., and A. Sobek, "Mine Spoil
(October 1974).
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