

Lawrence Berkeley National Laboratory

Recent Work

Title

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

Permalink

<https://escholarship.org/uc/item/10s9k6th>

Author

Kland, Mathilde.

Publication Date

1981-04-01



Lawrence Berkeley Laboratory

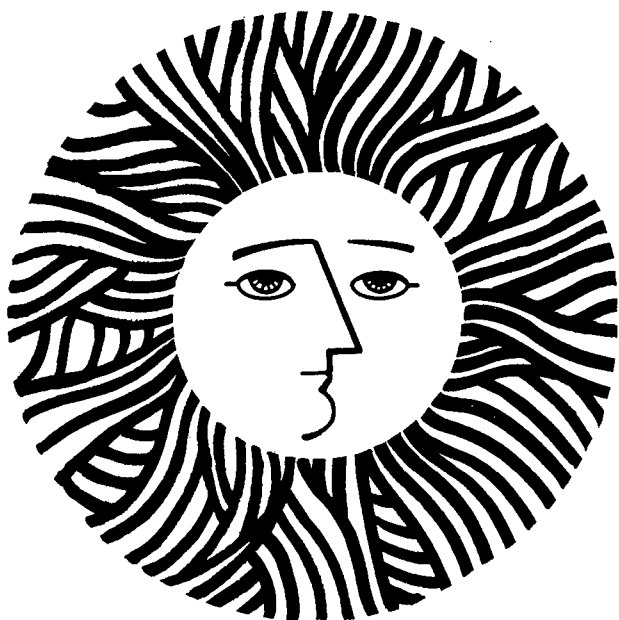
UNIVERSITY OF CALIFORNIA

ENERGY & ENVIRONMENT DIVISION

RECEIVED
LAWRENCE
BERKELEY LABORATORY

JUL 2 1981

LIBRARY AND
DOCUMENTS SECTION



For Reference

Not to be taken from this room

LBID-386
c.1

DISCLAIMER

This document was prepared as an account of work sponsored by the United States Government. While this document is believed to contain correct information, neither the United States Government nor any agency thereof, nor the Regents of the University of California, nor any of their employees, makes any warranty, express or implied, or assumes any legal responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by its trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof, or the Regents of the University of California. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof or the Regents of the University of California.

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.

Keystone Coal Industry Manual, "Arizona," 456-7 incl.; "Montana," 512-519 incl.; "Wyoming," 595-619 incl., McGraw-Hill (1978).

J. K. Kuhn, et al., "Abundance of Trace and Minor Elements in Organic and Mineral Fractions of Coal," Environ. Geol. Notes 88, Illinois State Geol. Survey, 66 + V pp. (August 1980).

R. M. Smith, E. Grube, Jr., T. Arkle, Jr., and A. Sobek, "Mine Spoil Potentials for Soil and Water Quality, EPA-670/2-74-070, 301 + XVI pp. (October 1974).

This report was done with support from the Department of Energy. Any conclusions or opinions expressed in this report represent solely those of the author(s) and not necessarily those of The Regents of the University of California, the Lawrence Berkeley Laboratory or the Department of Energy.

Reference to a company or product name does not imply approval or recommendation of the product by the University of California or the U.S. Department of Energy to the exclusion of others that may be suitable.

TECHNICAL INFORMATION DEPARTMENT
LAWRENCE BERKELEY LABORATORY
UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA 94720