Lawrence Berkeley National Laboratory
Recent Work

Title
MONTHLY PROGRESS REPORT FOR MAY. ENVIRONMENTAL EFFECTS AND CONTROLS FOR COAL-WATER SYSTEMS

Permalink
https://escholarship.org/uc/item/6sz5209w

Author
Newton, A.

Publication Date
1981-06-01
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.
June 22, 1981

TO: Charles Grua

FROM: Amos Newton

RE: Monthly Progress Report for May
  Environmental Effects and Controls for Coal-Water Systems
  LBID-409

**GC/MS Operations**

Much of our time this past month was taken up with two failures in our Finnigan Model 4023 GC/MS system. The Finnigan service personnel were of little help in either of these. First was a data system failure characterized by the data system performing an operation completely unrelated to the command entered. This was finally traced to a cold solder connection in the 70 wire cable from the disk control board to the disk drives. The second failure followed immediately and was characterized by a sudden crash of the computer during data acquisition. Over a period of two weeks this got progressively worse until for two days nothing could be done because the computer could not be booted. The third day of this, when the disk drives were turned on, the computer accepted a boot and has operated normally since. We, nor Finnigan personnel, have any explanation for the failure or the recovery.

Such episodes are a price in time and frustration paid for the use of a complex and sensitive instrument.

**Coal Slurry Water**

The laboratory has obtained from the Mohave Generation Station some coal slurry water, centrifuge water (called centrate), and underflow and overflow samples from the clariflocculator. The centrate and the overflow are of interest in checking for the presence of organic impurities and comparison of our results on slurry water from Black Mesa Coal. The amount of water on hand from the Mohave Generating Station is limited.

**Humic Acids**

At the Mass Spectrometry Society Meeting in Minneapolis, May 24-29, 1981, some information was obtained on the characterization of humic and fulvic acids
in natural water by GC/MS scanning of the permanganate oxidation products. These are phenols and carboxylic acids which were extracted from the oxidized solution. The authors did not methylate the products which would have given a more consistent yield of the extract. This process is currently under investigation.
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.