BIOCHEMICAL REMOVAL OF HAP PRECURSORS FROM COAL

QUARTERLY TECHNICAL REPORT

07/01/97 TO 09/30/97

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REPORT ISSUE DATE: 12/12/1997

DE-AC22-95PC95155

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Table of Contents

	Page
Abstract	3
Executive Summary	3
Introduction	3
Results	3
Conclusions	4

Abstract

During the eighth quarter, the draft phase 1 final report and phase 2 downselection proposals were completed and submitted to DOE. Manuscripts were prepared, and a poster and a talk were presented at DOE contractor conferences in Pittsburgh during the quarter.

Executive Summary

The phase 1 portion of the project (Tasks 1 through 5) was completed in a timely manner. Activities in the eighth quarter were directed toward completing task 5 (reporting). To this end, the draft phase 1 final report, manuscripts for two contractor conferences, a poster, and an oral presentation were delivered describing phase 1 project results.

Introduction

This is the eighth and final phase 1 quarterly technical progress report on this project which is investigating the microbiological removal of 13 inorganic hazardous air pollutant (HAP) precursors and pyrite from four U.S. coals. Since most of the HAP precursors are associated with sulfides, at least in part, pyrite-oxidizing bacteria are being tested for their ability to remove HAP precursors from coal. This report documents the completion of the final (reporting) task.

Results

All of the project experimental test work on phase 1 was completed by the end of the seventh quarter. The eighth and final quarter of phase 1 was spent on the reporting task (Task 5) as follows.

The phase 1 draft final report was completed and submitted on time to FETC at the end of July, 1997. Upon review of the report, FETC's technical project monitor, Dr. Mike Nowak, indicated the report was accepted without modification.

The phase 2 downselection proposal was completed and submitted to FETC at the end of July, 1997.

Also during the first part of the quarter, a manuscript was prepared and a poster describing project results was presented at the Advanced Coal-Based Power and Environmental Systems Conference in Pittsburgh on July 22-24, 1997.

During August, a manuscript was completed and an oral presentation was prepared for presentation at the Coal Liquefaction and Solid Fuels '97 Conference in Pittsburgh in September. Work was begun on a manuscript describing project results for submission to a scientific journal.

During September, a paper describing project results was presented at the Coal Liquefaction and Solid Fuels '97 Conference in Pittsburgh. Additional work was done on a manuscript describing project results for submission to a scientific journal. The journal Fuel is an appropriate place for submission of the work.

Conclusions

All phase 1 project work through the reporting task has been completed in a timely manner. The phase 1 final report and contractor conference manuscripts and presentations were delivered. The project results will likely be submitted for publication in the form of one or more papers to a scientific journal.