ADVANCED DIRECT LIQUEFACTION CONCEPTS
for PETC GENERIC UNITS
Phase II

Quarterly Technical Progress Report
for Period April through June 1999

by

University of Kentucky
Center for Applied Energy Research

CONSOL Inc.

Hydrocarbon Technologies, Inc.

LDP Associates

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ABSTRACT

The results of Laboratory and Bench-Scale experiments and supporting technical and economic assessments conducted under DOE Contract No. DE-AC22-91PC91040 is reported for the period April 1, 1999 to June 30, 1999. This contract is with the University of Kentucky Research Foundation, which supports work with the University of Kentucky Center for Applied Energy Research, CONSOL, Inc., LDP Associates, and Hydrocarbon Technologies, Inc. This work involves the introduction into the basic two-stage liquefaction process several novel concepts, which include dispersed lower-cost catalysts, coal cleaning by oil agglomeration, and distillate hydrotreating and dewaxing. This project has been modified to include an investigation into the production of value added materials from coal using liquefaction based technologies.
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EXECUTIVE SUMMARY

The main effort during this quarter involved the preparation and submission of the revised work outline following discussion and submissions from each party. Work also commenced on the modification, procurement and construction of laboratory apparatus for the extraction of pitch from coal to be evaluated for the production of advanced carbon materials.
2. SECTION ONE

UNIVERSITY OF KENTUCKY
CENTER FOR APPLIED ENERGY RESEARCH
TASK 2. LABORATORY SUPPORT (UKCAER)

The main effort during this quarter involved the preparation and submission of the revised work outline following discussion and submissions from each party. Work also commenced on the modification, procurement and construction of laboratory apparatus for the extraction of pitch from coal to be evaluated for the production of advanced carbon materials.

Work commenced in June 1999 at CAER involving the installation of a building wide air-conditioning system, along with the renovation of the air handling system. These renovations are forecast to last until November 1999 will severely disrupt laboratory studies at the CAER. Work will continue around the construction where possible.

Samples of coal, representing Western Kentucky deposits and Pennsylvanian bituminous coal seams have also been solicited to augment the Black Thunder sub-bituminous coal used in the earlier phases of this project. Samples of the coals will be crushed and screened upon arrival prior to distribution to CONSOL Inc. and HTI staff.