

Exhibit 01

Application for GOES

1: Description of Application:

Funding Agency:

Department of Energy
Office of Energy Research
Chicago Operations Office
9800 S. Cass Ave.
Argonne, Ill 60439

Principal Investigators:

Dr. Donald I. Siegel, Professor of Geology
Heroy Geology Laboratory
Syracuse University
Syracuse, NY 13244-1070
(315) 443-3607 or (315) 443-2672

Dr. Paul Glaser, Research Associate
Limnological Research Center
Pillsbury Hall
University of Minnesota
Minneapolis, MN 55455
(612) 624-5828

Starting and Ending Dates:

May 1, 1994 - May 1, 1995

Purpose of Data:

This is an experimental project to monitor temporal changes in concentrations of dissolved methane and vertical hydraulic head gradients in peat pore-water in a bog/fen complex in the Lake Agassiz Peatlands, northern Minnesota. Results to date suggest that deep methane (to 3 meters depth) is very mobile and is maybe transported to the unsaturated zone seasonally. This project is to determine how quickly deep methane concentrations change and how quickly the methane is mobilized to the atmosphere. Results of previous work suggest that increases in partial pressure of methane increase the hydraulic head of the peat pore-water. We plan to continuously monitor hydraulic heads with pressure transducers connected to digital data loggers, then sample peat pore-water periodically for methane concentrations during periods of high hydraulic heads.

Final User of Data:

The final users of the data will be researchers at Syracuse University and the University of Minnesota. Results will be published in peer reviewed journals and Department of Energy publications.

2: Type of System:

Hybrid S/R (Self-timed and random)

3: Number of Platforms:

Two S/R platforms will be employed for one year, each with Emergency Alarm capability.

4: Location of Platforms by Type:

Each platform will be located at the northern end of Beltrami County, Minnesota. Approximate latitude/longitude for the two platforms is N 48°15' by 94°50' W.

5: Data:

Modified 3 bit ASCII

6: Desired Reporting Time:

4 hours

7: Data Delivery:

Dial-in 2400 BAUD

8: Explain why commercial services can not meet our program needs:

The nature of the project requires that we are able to down load data frequently to find times of high hydraulic heads. The nearest phone line is about 20 miles from the study area. The only other option for data communications is a cellular phone network, scheduled to be in operation on August 18, 1993 with a transmitter 5 miles west of Baudette, MN. Our site is located in the fringe of the transmission range (25 miles) and consequently communication is uncertain.

9: Agency to Install and Maintain Platform Equipment:

Agency submitting application.

10: Name:

Dr. Donald I. Siegel, Professor of Geology
Heroy Geology Laboratory
Syracuse University
Syracuse, NY 13244-1070
(315) 443-3607 or (315) 443-2672

11: Any Other Information:

Success of this project depends on our ability to sample peat pore-water during periods of high hydraulic heads. The temporal extent of the variations in hydraulic heads is uncertain, consequently continuous monitoring and timely access to data is necessary.