

Public-data File 86-71

PROPOSAL FOR ENTRY OF ALASKA COAL DATA INTO THE  
NATIONAL COAL RESOURCES DATA SYSTEM OF U.S. GEOLOGICAL SURVEY

By

Roy D. Merritt

Alaska Division of  
Geological and Geophysical Surveys

August 1986

THIS REPORT HAS NOT BEEN REVIEWED FOR  
TECHNICAL CONTENT (EXCEPT AS NOTED IN  
TEXT) OR FOR CONFORMITY TO THE  
EDITORIAL STANDARDS OF DGGS.

794 University Avenue, Basement  
Fairbanks, Alaska 99709

36 -  
35 -  
34 -  
33 -  
32 -  
31 -  
30 -  
29 -  
28 -  
27 -  
26 -  
25 -  
24 -  
23 -  
22 -  
21 -  
20 -  
19 -  
18 -  
17 -  
16 -  
15 -  
14 -  
13 -  
12 -  
11 -  
10 -  
9 -  
8 -  
7 -  
6 -  
5 -  
4 -  
3 -  
2 -  
1 -

PROPOSAL FOR ENTRY OF ALASKA COAL DATA INTO THE  
NATIONAL COAL RESOURCES DATA SYSTEM OF U.S. GEOLOGICAL  
SURVEY

By

Alaska Division of Geological and Geophysical Surveys (DGGs)  
Ross G. Schaff, State Geologist  
3601 C Street (10th Floor)  
Anchorage, Alaska 99503

Principal Investigator

Roy D. Merritt  
Coal Geologist  
234-82-1843

Co-Principal Investigator

Gilbert R. Eakins  
Chief, Coal & Peat  
Invest. Section  
233-28-1750

Co-Principal Investigator

Kurt J. Johnson  
Computer Programmer  
352-58-6991

---

State of Alaska Department of Natural Resources DGGs  
794 University Avenue, Basement  
Fairbanks, Alaska 99709  
Phone: (907) 474-7147  
Date: April 7, 1986

New Request

Proposed starting date: October 1, 1986  
Proposed duration in months: 36 months

Authorized Negotiator: Roy D. Merritt

Legally Authorized Representative: Ross G. Schaff, State Geologist

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

PROPOSAL FOR ENTRY OF ALASKA COAL DATA INTO THE  
NATIONAL COAL RESOURCES DATA SYSTEM OF THE U.S. GEOLOGICAL  
SURVEY

CONTENTS

	<u>Page</u>
I. INTRODUCTION.....	
IIA. STATEMENT OF WORK TO BE PERFORMED.....	
IIB. DESCRIPTION OF EXISTING DATA TO BE ENTERED.....	
IIC. JUSTIFICATION AND NEED FOR NEW SAMPLING/ANALYSIS PROGRAM.....	
III. RESUMES OF PRINCIPAL PERSONNEL.....	
IV. PROGRAM COST BREAKDOWN.....	
V. DISCLOSURE SUBMISSION CONDITIONS.....	

## I. INTRODUCTION

The Alaska Department of Natural Resources Division of Geological and Geophysical Surveys (DGGS) has been collecting large data bases relating to Alaska's coal resources since 1980. This proposal for the entry of Alaska coal data into the National Coal Resources Data System (NCRDS) of the U.S. Geological Survey addresses the long-term permanent storage and management of this information. Upon acceptance into the NCRDS program, and after acquiring all computer hardware and software equipment, the processing of Alaska coal data will begin in a manner consistent with USGS-NCRDS program objectives. Making this coal information available to a broad audience in a useful format should ultimately serve to increase interest in the prudent development and utilization of Alaska's vast coal resources.

## IIA. STATEMENT OF WORK TO BE PERFORMED

The primary objectives of this proposal for the entry of Alaska coal data into the National Coal Resources Data System (NCRDS) of the U.S. Geological Survey are: (1) to consolidate all Alaska coal data in a single storage system; (2) to make this information available to a broad audience in a useful format that can be easily understood and interpreted; (3) to increase the ability of DGGs to provide coal data to other State and Federal agencies and industry; (4) to allow the permanent, safe, and recoverable storage of the large data bases collected by DGGs over the past five years; (5) to allow for more complete synthesis and interpretation of data including increased statistics and graphics capabilities; and (6) to permit more accurate and timely reporting of information to others.

The methods chosen to accomplish these objectives include: (1) employment of a computer programmer with sufficient training to handle coal-data compilation and management for the NCRDS; (2) acquisition of the required computer hardware and software as soon as possible; (3) analyzing and storing the in-house data backlog; (4) cooperation with the U.S. Geological Survey to assure that the data are processed in a manner consistent with the NCRDS program goals; (5) planning a long-term, sustained effort at coal-data compilation and management; (6) provision for adequate training of the computer programmer, and subsequent training of all staff who are directly involved in the NCRDS program; and (7) continuation of new data collection through selected field sampling and analysis projects.

Facilities for carrying out the proposed program will be provided throughout its duration by the Alaska Division of Geological and Geophysical Surveys, Fairbanks, Alaska. DGGGS has considerable in-house computer data-management expertise within the Computer Services and Mineral Investigations Sections which can be tapped for consultation in relation to this project. A work station for the computer programmer will be established in our existing office complex. A minicomputer and all ancillary equipment will have to be purchased through NCRDS program funding. The suggested hardware layout is illustrated in Figure 1. To expedite NCRDS program work, USGS should consider extending an advance payment to DGGGS for the purchase of required computer equipment before the proposed starting date.

A part-time (80-100 hrs/mth spring and fall; 150 hrs/mth summer) computer programmer (second co-principal investigator; Kurt Johnson, see section III) has been hired by DGGGS. This programmer handles the day-to-day operations of coal-data compilation and management, and his time at DGGGS is devoted entirely to this project. The principal investigator (Roy Merritt) and first co-principal investigator (Gil Eakins) will supervise and manage the coal-data program. The principal investigator will devote up to 25 percent of his time to this task, and the first co-principal investigator will allot up to 10 percent of his time to the program. Another DGGGS geologist (Kathy Goff) will be trained concurrently with the computer programmer, will work closely with him in all phases of the NCRDS program, and will commit 100 percent of her time to the project. Other coal section staff members (Larry Lueck, James Clough, Milt Wiltse, and a graduate intern) will apply up to 10 percent of their job time to the NCRDS program. Salaries for all time committed to the

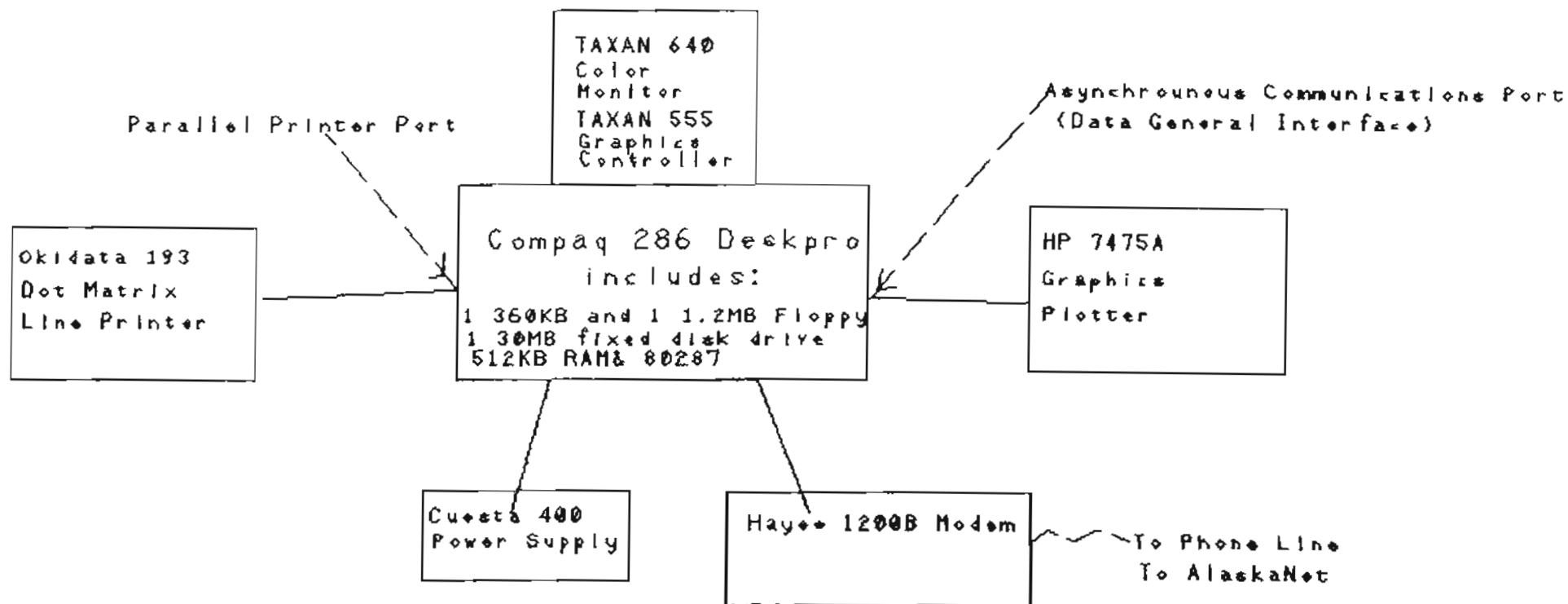


Figure 1. Hardware configuration.

program other than for the assistant data programmer (Ms. Goff) will be paid by DGGs and shall be understood to constitute the agency's fair share of overall program costs. In total, this portion accounts for 52 percent of the total program budget. The DGGs commitment to the USGS-NCRDS program is estimated at 4000 man-hours per year.

This proposal is designed to be accomplished over a three-year period beginning October 1, 1986, with possible extensions if needed. The program budget is based on this 36-month schedule. Any unspent funds at the end of each fiscal year will be carried over into the next fiscal year. An annual progress report will be completed that will detail accomplishments. Yearly training and progress review sessions will be held in Reston. Quarterly billings to the USGS-NCRDS program will be made by the State of Alaska.



## IIB. DESCRIPTION OF EXISTING DATA TO BE ENTERED

Although initial data to be entered into the USGS-NCRDS will be DGGS data collected since 1980 (pre-1980 data is very sparse but will be added in due course), contributed data from other sources can subsequently be entered into the system. Particularly important in this regard would be data that have been generated by the University of Alaska Mineral Industry Research Laboratory (MIRL) over the past 15 years.

DGGS has conducted major field investigations in several regions including northwestern Alaska, the Seward Peninsula, the Susitna lowland, the Nenana basin, the Matanuska Valley, and the Alaska Peninsula. (DGGS has also initiated a COGEMAP project on the southern Kenai Peninsula to begin in June 1986). These projects have collected extensive analytical data on both subsurface and surface samples. Drill-sample analyses are mainly from northwestern Alaska and the Seward Peninsula. Outcrop-sample data constitute the bulk of existing data from other areas. However, some drill-sample data for these areas can probably be obtained from other sources (e.g., MIRL or industry) and can be entered into the system at a later date.

The types of available coal-sample data (Figure 2) include proximate and ultimate analyses, calorific value, and sulfur forms for most fields and locations. Ash geochemistry and trace-element analyses, ash-fusibility temperatures, slagging and fouling factors, free-swelling indices, Hardgrove grindability, and washability data are available for selected fields and locations. In addition, general suites of overburden-characterization analyses exist for certain coal fields.

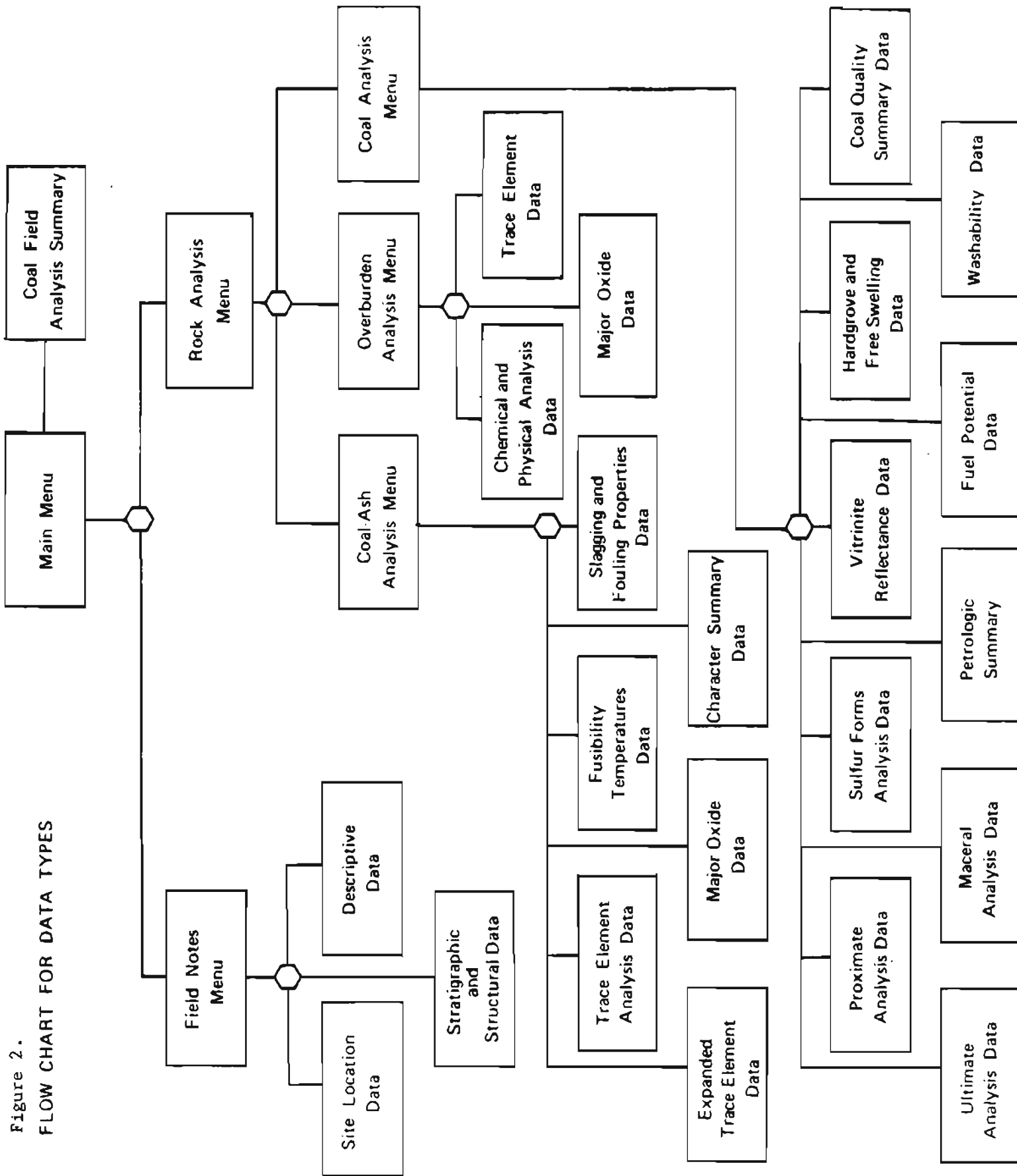


Figure 2.  
FLOW CHART FOR DATA TYPES

Future coal data collection by DGGS from other active or newly developed projects will be tailored to NCRDS requirements and entered into NCRDS in the course of the normal program.

## IIC. JUSTIFICATION AND NEED FOR NEW SAMPLING/ANALYSIS PROGRAM

Alaska contains huge deposits of coal that are probably equal to all the coal in the 'Lower 48.' Most of Alaska's coal is bituminous (55 percent), much is subbituminous (40 percent), some is lignite (five percent), and a minor amount is anthracite (less than one percent).

Although Alaska contains vast resources of coal and is likely to be an important coal mining and export center of the 21st century, unique conditions in the state have prevented the accumulation of an adequate data base in many areas. Certain coal fields and many known isolated coal occurrences have not been recently sampled, if at all. Much available data are so old and unreliable that they are essentially useless. Hence, there is a clear need for a new sampling and analysis program to fill some of the many gaps in the statewide coal data base. For purposes of the NCRDS program, DGGS has identified this need as a basic priority above other possible data collection or management endeavors. DGGS chooses to contribute a percentage of affected staff salaries in lieu of direct funds for this sampling/analysis program (see section IV).

The sampling/analysis program entails relatively low-cost (compared to normal Alaskan exploration projects) reconnaissance surveys at several locations in southwestern, south-central, and interior Alaska to be completed over the 3-year anticipated life of the program. The proposed field sampling program accounts for 7 percent of total Year One USGS-NCRDS costs, about 29 percent of Year Two costs, 31 percent of Year Three costs, and about 23 percent of the total program budget. Samples will be collected according to USGS guidelines

and will be shipped to the USGS for standard analyses. Resulting data will be entered into the NCRDS after the completion of the routine suite of laboratory analyses. In this manner, a substantially more complete coal data base for the State of Alaska can be built.

## III. RESUMES OF PERSONNEL

## Roy D. Merritt, Principal Investigator

Roy D. Merritt is a coal geologist and manager of the Coal Field Investigations Program of the State of Alaska Department of Natural Resources Division of Geological and Geophysical Surveys (DGGs). He has worked exclusively in the evaluation of Alaska's coal resources for the past five years. Prior to joining DGGs, he spent two years doing consulting work for major coal companies in Powder River Basin of Wyoming (Great Plains Resources and Development Company, Laramie, Wyoming), one year working for AMAX Coal Company (Environmental Engineering Department's Soils/Overburden Analysis Program), Indianapolis, Indiana, and three years research on coals/overburdens of Pocahontas Basin of eastern Kentucky (Eastern Kentucky University, Argonne National Laboratory).

Recent Publications ListDGGs Publications

1985	Public Data File 85-19	Field-trip guidebook: Lignite Creek and Healy Creek fields, Nenana basin, Alaska
1983	Public Data File 83-6	Alaska's coal provinces and resources [with R.G. Schaff]
1985	Public Data File 85-20	Coal resources, exploration, and development in Alaska
1985	Public Data File 85-21	Alaska coal summary - 1983
1985	Public Data File 85-22	Alaska coal data base; explanation guide to accompany map of Alaska's coal resources
1985	Public Data File 85-41	Coal atlas of the Nenana basin, Alaska

1985	Public Data File 85-45	Coal atlas of the Matanuska Valley, Alaska
1985	Public Data File 85-43	Selected Alaska coal references by quadrangle
1983	Information Circular 17 (rev. 1984)	Coal resources of Alaska [with R.G. Schaff]
1982	Open-file Report 142	Coal investigation of the Susitna lowland, Alaska [with G.R. Eakins & J.G. Clough]
1984	Report of Investigations 84-24	Coal geology and resources of the Matanuska Valley, Alaska [with M.A. Belowich]
1986	Information Circular (in press)	Coal and peat resource programs for Alaska [with G.R. Eakins and S.E. Rawlinson]

#### DGGS and In-house Publications

1984	Special Report 36	Coal resources of Alaska, <u>in</u> Alaska's resource inventory 1984 [with G.R. Eakins]
1986	Special Report (in press)	Map of Alaska's coal resources, scale 1:2,500,000, 1 sheet
1982	Mines and Geology Bulletin	Alaska's fifth coal-lease sale on May 17; a modest new beginning after 11-year hiatus
1986	Professional Report 82 (in press)	Coal atlas of the Susitna lowland

#### Outside Publications

1983	Noyes Data Corporation	Coal overburden; geological characterization and premine planning, 343 p.
1986	Noyes Data Corporation (in press)	Coal exploration, mine planning, and development, 464 p.
1986	Geological Society of America Special Symposium Paper (in press)	Paleoenvironmental and tectonic controls in major coal basins of Alaska

1985	International Journal of Coal Geology	Review of coking phenomena in relation to an occurrence of prismatic- fractured natural coke from the Castle Mountain mine, Matanuska coal field, Alaska
1984	Keystone Coal Industry Manual	Alaska: coal fields and seams section {with C.N. Conwell}
1985	Keystone Coal Industry Manual	Alaska: coal fields and seams section
1986	Keystone Coal Industry Manual (in press)	Alaska: coal fields and seams section
1982	University of Alaska SMI Portal	Framboidal pyrites in Tertiary continental fluvial coals of south- central Alaska
1984	Journal of Commerce and Pacific-rim Reporter	Coal mine activity listed; ongoing development
1985	<u>in</u> Alaska's energy resources by Gene Rutledge	(Reprint of above article)
1983	Resource Development Coun- cil's Proceedings of International Conference on Coal, Minerals, and Petroleum	Alaska's coal provinces and resources
1986	Sedimentary Geology (in press)	Depositional environments and resource potential of Cretaceous coal-bearing strata at Chignik and Herendeen Bay, Alaska Peninsula

Journal Submissions (in publ.)

- Coal resources of the Miocene-aged Unga Conglomerate Member, Bear Lake Formation, Unga Island, Alaska
- Coal geology and resources of the Matanuska Valley, Alaska
- Coal geology and resources of the Nenana Basin, Alaska
- Coal geology and resources of the Susitna Lowland, Alaska



- Chronicle of Alaska coal-mining history
- Petrology of Cretaceous and Tertiary coals of southern Alaska
- Characterization of Alaska coal overburden

Gilbert R. Eakins,  
First Co-Principal Investigator

Gilbert R. Eakins is currently Chief of the Coal and Peat Investigations Section of the State of Alaska Department of Natural Resources Division of Geological and Geophysical Surveys (DGGs). He has served as a geologist/administrator at DGGs since 1967, and has held various titles including Chief Mining Geologist, Regional Manager, and Chief of the Minerals and Energy Section. Prior to joining DGGs, he worked as a petroleum geologist for Texas Eastern Transmission Corporation (1957-1967) and Shell Oil Company (1953-1957) and as a mining geologist for Hecla Mining Company (1950-1953).

Recent Publications List

DGGs Publications

1982	Open-file Report 142	Coal investigation of the Susitna lowland, Alaska [coauthored]
1983	Public Data File 83-1	Northwest coal transportation study [coauthored]
1983	Public Data File 83-3	Preliminary report on the Hockley Hills-Singauruk River area coal occurrences [coauthored]
1984	Public Data File 83-4	Preliminary report on the Kallarichuk River coal occurrences [coauthored]
1985	Public Data File 85-1	Minerals activity summary [coauthored]
1985	Public Data File 85-5	Problems and solutions in Alaskan mining (as seen by the Alaskan mining community) [coauthored]
1983	Special Report 31	Alaska's mineral industry 1982 [coauthored]

DGGS Publications (cont'd)

1984	Special Report 33	Alaska's mineral industry 1983 [coauthored]
1985	Special Report 38	Alaska's mineral industry 1984 [coauthored]
1984	Special Report 36	Coal resources of Alaska, <u>in</u> Alaska's resource inventory 1984 [coauthored]
1986	Information Circular (in press)	Coal and peat resource programs for Alaska [coauthored]

Outside Publications

1981	Northwest Mining Association 87th Annual Convention	Mineral activity in Alaska 1981
1983	Mining Engineering	Alaska (annual report)
1984	Mining Engineering	Alaska (annual report)
1981	<u>in</u> Focus on Alaska's Coal 1980	Coal programs of the Alaska Division of Geological and Geophysical Surveys [coauthored]
1985	American Association of Petroleum Geologists Bulletin, v. 69, no. 4, p. 663	Coal resources of northwest Alaska [abstract, coauthored]

Kurt J. Johnson,

Second Co-Principal Investigator

Kurt J. Johnson, an M.S. candidate in geology at the University of Alaska (Fairbanks), joined the Coal Section of the State of Alaska DNR-DGGS as a computer programmer in December 1985. Prior to his employment with DGGS, he worked for the North Slope Borough based at Barrow, Alaska, and for the U.S. Geological Survey Water Resources Division, Fairbanks, Alaska. His broad background in computer programming and data-base management includes Dbase III, Fortran, Minitab, SAS, SPSS, BMDP, advanced graphics, non-parametrics, and geostatistical multivariate analysis. He will be chiefly responsible for carrying out the day-to-day operations of coal-data compilation and management for DGGS. He will be the designee for USGS-NCRDS training sessions in Reston, and will work under the direct supervision of the Principal Investigator and First Co-Principal Investigator.

Kathleen M. Goff,  
Assistant Data Programmer

Kathleen M. Goff is currently serving as a geological assistant for the State of Alaska Department of Natural Resources Division of Geological and Geophysical Surveys (DGGs) Coal Field Investigations Program. She has worked for DGGs in various capacities for four years, including as an intern and on a contractual basis. Prior to joining DGGs, she worked for five years as an assistant in the University of Alaska Mineral Industry Research Laboratory, two field seasons as a geologist for Canadian Superior Exploration Co. (now McIntyre Mines), and on a part-time consulting basis for Doyon Ltd. Native Corporation and Robert B. Sanders & Associates. She is designated as the chief assistant to the computer programmer (second co-principal investigator) for the USGS-NCRDS project, and will work under the direct supervision of the Principal Investigator and First Co-Principal Investigator.

RECENT PUBLICATIONS LISTDGGS

- 1983 Public-data File 83-1 Northwest Alaska coal resources and transportation alternatives, maps and user guide (with G.R. Eakins).
- 1985 Information Circular  
(in preparation) Cretaceous sedimentary rock units, faulting, and coal deposits in Dalton Highway mineral appraisal and prediction using the Rockval Method, (with J.T. Dillon and R.D. Merritt).
- 1985 Unpublished preliminary report The Cretaceous coal occurrence near Tramway Bar on the middle fork of the Koyukuk River, Wiseman Quadrangle, Alaska.
- 1985 Unpublished preliminary report Field investigation and sampling of Tertiary and Cretaceous coal beds along the Yukon River from Loudon site to below Kaltag, in the Nulato Quadrangle, Alaska.
- 1985 Unpublished preliminary report Field investigation of a petrified forest-remnant preserved in the coal-bearing Beluga Formation near Anchor Point, Kenai Peninsula, Alaska.
- 1985 Unpublished preliminary report A brief field investigation of the coal occurrences near Chicken, Alaska.
- 1986 Public-data File 85-42-D Evaluation of the coal resource potential of the northwest Alaska resource management area (with others).
- 1986 Alaska Geology Subbituminous coal in the White Mountains, interior Alaska (with J.C. Barker).

Non-DGGS

- 1981 Report (unpublished) The Little Tonzona coal deposit, it's structural relationship to the Farewell segment of the Denali fault system.

- |      |   |  |
|------|---|--|
| 1982 | SMI Portal,<br>University of Alaska,<br>Fairbanks, Alaska                   | Coal in Alaska's future  |
| 1983 | Doyon Ltd. Native Corporation<br>(internal report)                          | Coal resources of the Doyon region   |
| 1984 | Doyon Ltd. Native Corporation<br>(internal report)                          | Report on coal resources on or<br>proximal to Doyon Ltd. and village<br>selected lands.      |
| 1984 | Paleozoic Geology of Alaska<br>and Northwestern Canada<br>Newsletter No. 1. | Investigation of the Mississippian<br>coal-bearing formation, Lisburne<br>Peninsula, Alaska. |

## IV. PROGRAM COST BREAKDOWN

<u>Year 1 (1987 fiscal)</u>	<u>Recipient Funded</u>	<u>USGS Funded</u>
I. Salaries		
A. Computer Programmer (Part time) (Second Co-Principal Investigator) Kurt Johnson	\$14,000	
B. Assistant Data Programmer (100%) Kathleen Goff		\$36,000
C. First Principal Investigator (25%) Roy Merritt	\$16,250	
D. First Co-Principal Investigator (10%) Gil Eakins	\$10,000	
E. Other Staff (10% each)  Milt Wiltse Larry Lueck James Clough Intern	\$23,000	
Subtotal	\$63,250	\$36,000
II. Equipment		
A. Computer Hardware		
1. Compaq 286 Deskpro with 30 megabit hard drive, 512 memory, 1 320kb floppy, and 1 1.2mb floppy		\$ 5,450
2. 80287 Coprocessor (Speeds processing times)		\$ 300
3. Smart Term 400 Persoft emulation card (allows communication with DGGS Data General)		\$ 150
4. Hayes 1200b Phone Modem (over the phone lines communication)		\$ 430
5. Taxan 640 color screen		\$ 600
6. Taxan 555 Graphics Controller Card		\$ 275
7. Cuesta 400 watt Datasaver (power outage and surge protection for hard drive)		\$ 460
8. Okidata 193 Dot Matrix Line Printer		\$ 650



Year 1 (1987 fiscal cont'd)

9. HP 7475a Graphics Plotter	\$ 1,460
Subtotal	\$ 9,775
B. Computer Software	
1. Microsoft Word, word processing	\$ 340
2. Lotus 2, numeric spread sheet for data manipulation	\$ 390
3. Dbase III plus, data base storage and indexed data searches	\$ 560
4. Refil, coal bibliography storage and indexed searches	\$ 200
5. Xtree, computer directory organization and file protection	\$ 50
6. Minitab, statistics package	\$ 1,000
Subtotal	\$ 2,540
III. Supplies	
A. Work Station - computer desk, shelves, files	\$ 1,000
B. Cartridges, paper, floppy discs, pens, other expendables	\$ 500
C. Computer manuals, how-to-books for SAS, Dbase III, etc.	\$ 150
Subtotal	\$ 1,650
IV. Travel - training session in Reston	
A. Round-trip airline ticket (1)	\$ 1,200
B. Per diem	\$ 500
C. Taxi fares or rental	\$ 200
Subtotal	\$ 1,900
V. Publication Costs	
A. Manuscript preparation	\$ 400
B. Editing	\$ 625

Year 1 (1987 fiscal cont'd)

C. Cartography	\$ 500
D. Printing	\$ 1,000
Subtotal	\$ 2,525

## VI. Coal Sampling/Analysis Projects (analysis USGS lab)

## A. Southwestern Alaska: Nunivak - Nelson Islands

1. Commercial airline to Bethel (2)	\$ 1,500
2. Charter fixed wing to Nelson Island	\$ 750
3. Rent boat to Nunivak Island	\$ 750
4. Rent local 4W drive or 2 ATVs	\$ 500
5. Per diem	\$ 500
Subtotal	\$ 4,000

TOTAL YEAR 1	(1987 fiscal) COSTS	<u>Recipient Funded</u>	<u>USGS Funded</u>
	\$121,640	\$63,250	\$58,390

<u>Year 2 (1988 fiscal)</u>	<u>Recipient Funded</u>	<u>USGS Funded</u>
<b>I. Salaries</b>		
A. Computer Programmer (Part time) (Second Co-Principal Investigator) Kurt Johnson	\$14,500	
B. Assistant Data Programmer (100%) Kathleen Goff		\$37,500
C. Principal Investigator (25%) Roy Merritt	\$16,900	
D. First Co-Principal Investigator (10%) Gil Eakins	\$10,500	
E. Other Staff (10% each)  Milt Wiltse Larry Lueck James Clough Intern	\$23,900	
	Subtotal	\$65,800
		\$37,500
<b>II. Equipment</b>		
A. Hardware		\$ 0
B. Software		\$ 0
<b>III. Supplies</b>		
A. Cartridges, paper, floppy discs, pens, other expendables		\$ 500
B. Computer manuals, how-to-books		\$ 150
	Subtotal	\$ 650
<b>IV. Travel--</b>		
Follow up training/annual progress report in Reston		
A. Round-trip airline ticket (1)		\$ 1,200
B. Per diem		\$ 500
C. Taxi fares or rental		\$ 200
	Subtotal	\$ 1,900

Year 2 (1988 fiscal cont'd)

## V. Publication Costs

A. Manuscript preparation	\$ 400
B. Editing	\$ 625
C. Cartography	\$ 500
D. Printing	\$ 1,000
	Subtotal
	\$ 2,525

 VI. Coal Sampling/Analysis (analysis USGS lab)  
 - South-central and interior Alaska

## A. South-central Alaska: Sitkinak Island

1. Commercial airline to Kodiak (2)	\$ 1,300
2. Charter boat	\$ 3,000
3. Per diem	\$ 500
	Subtotal
	\$ 4,800

## B. Interior Alaska:

## 1. Louden

a. Commercial airline to Galena (2)	\$ 600
b. Charter boat Galena to Fish Island	\$ 500
c. Room/board	\$ 900
	Subtotal
	\$ 2,000

## 2. Rampart field (Drew Mine, Hess Creek)

a. Helicopter 12 hrs @ \$600/hr	\$ 7,200
b. Per diem	\$ 400
	Subtotal
	\$ 7,600

## 3. Chicken

a. Helicopter 4 hrs @ \$600/hr	\$ 2,400
b. Rent backhoe for trenching	\$ 700
c. Per diem	\$ 200
Subtotal	\$ 3,300

TOTAL YEAR 2	(1988 fiscal) COSTS	<u>Recipient Funded</u>	<u>USGS Funded</u>
	\$126,075	\$65,800	\$60,275

<u>Year 3 (1989 fiscal)</u>	<u>Recipient Funded</u>	<u>USGS Funded</u>
<b>I. Salaries</b>		
A. Computer Programmer (Part time) (Second Co-Principal Investigator) Kurt Johnson	\$15,500	
B. Assistant Data Programmer (100%) Kathleen Goff		\$39,000
C. Principal Investigator (25%) Roy Merritt	\$17,600	
D. First Co-Principal Investigator (10%) Gil Eakins	\$11,000	
E. Other Staff (10% each)  Milt Wiltse Larry Lueck James Clough Intern	\$25,000	
Subtotal	\$68,600	\$39,000
<b>II. Equipment</b>		
A. Hardware		\$ 0
B. Software		\$ 0
<b>III. Supplies</b>		
A. Cartridges, paper, floppy discs, pens, other expendables		\$ 500
B. Computer manuals, how-to-books		\$ 150
Subtotal		\$ 650
<b>IV. Travel--</b>		
Annual review and progress report in Reston		
A. Round-trip airline ticket (1)		\$ 1,200
B. Per diem		\$ 500
C. Taxi fares or rental		\$ 200
Subtotal		\$ 1,900

Year 3 (1989 fiscal cont'd)

## V. Publication Costs

A. Manuscript preparation	\$ 400
B. Editing	\$ 625
C. Cartography	\$ 500
D. Printing	\$ 1,000
Subtotal	\$ 2,525

## VI. Coal Sampling/Analysis Projects (analysis USGS lab)

## A. Interior Alaska

## 1. Flat

a. Fixed wing charter	\$ 2,500
b. 4W drive or 2 ATVs, rental	\$ 500
c. Per diem	\$ 400
Subtotal	\$ 3,400

## 2. Cheeneetnuk River

a. Helicopter 12 hrs @ \$600/hr	\$ 7,200
b. Per diem	\$ 400
Subtotal	\$ 7,600

## B. South-central Alaska: Robinson Mountains (Duktoth River)

1. Commercial airline to Cordova (2)	\$ 1,500
2. Helicopter 12 hrs @ \$600/hr	\$ 7,200
3. Per diem	\$ 500
Subtotal	\$ 9,200

TOTAL YEAR 3	(1989 fiscal) COSTS	<u>Recipient Funded</u>	<u>USGS Funded</u>
	\$132,875	\$ 68,600	\$ 64,275
TOTAL COSTS	\$380,590	\$197,650	\$182,940
AVERAGE ANNUAL COSTS	\$126,865	\$ 65,885	\$ 60,980



## V. DISCLOSURE SUBMISSION CONDITIONS

The Department of the Interior is eager to take every opportunity to cooperate with private parties in exploring fields of technology of particular interest to the Government. However, for the mutual benefit of all concerned, it has found certain precautions necessary in accepting unsolicited disclosures. Scientific and engineering research and development sponsored by the Department have given rise to numerous ideas which are being or have been worked on by the Government or its contractors. It is quite possible that some of the ideas and the results of such efforts might be similar to your proposal. Hence, in order to avoid any possible future confusion between your ideas and Government ideas and to prevent any misunderstanding as to what rights and obligations are undertaken in this matter, the Department policy as to considering your disclosure is set forth below:

1. The Department will not disclose your idea to others without your permission, except to the extent necessary for purposes of evaluation. Any such disclosure will contain the requirement that it not be revealed to others. However, the Government cannot be held liable for any unauthorized disclosure.

2. A full written disclosure, and a sketch or drawing (which need not be anything but a rough one, provided it illustrates the idea so one skilled in the art can understand it), must be furnished to the Department so that it may determine whether or not it will be interested therein. If available, a patent application and drawing are preferred.

3. The Department cannot ordinarily return any descriptions, drawings, or other disclosures sent to it. Accordingly, you should keep a duplicate of any disclosure sent to the Department.

4. The Department is not under any obligation to reveal to you information of its own not generally available to the public in the general or specific field to which the disclosure relates.

5. To safeguard your interests, you should have the copy of your drawings and disclosures which you retain signed, dated and witnessed. Filing a patent application is strongly urged.

6. Any disclosure to the Department is made on the understanding (a) that it assumes no obligation to do more than consider the disclosure to the extent, in its judgment, the disclosure merits, (b) to indicate whether or not it is interested, and (c) that you reply only on your rights under the patent laws and that no agreement to compensate you is entered into by reason of the Department considering your disclosure.

Accepted \_\_\_\_\_

(Signature)

\_\_\_\_\_  
(Organization)

\_\_\_\_\_  
(Date)