Proposal for

ALASKA INVENTORY, METADATA, AND ARCHIVING INFRASTRUCTURE FOR GEOLOGIC FIELD PHOTO COLLECTIONS, PART II

Submitted to

U.S. GEOLOGICAL SURVEY
National Geological and Geophysical Data Preservation Program
Betty Adrian, NGGDPP Program Coordinator
Box 25046, Mail Stop 975
Denver, CO 80225
badrian@usgs.gov

by

State of Alaska
Department of Natural Resources
DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS
3354 College Road, Fairbanks, Alaska 99709-3707
Phone: 907-451-5007; Fax: 907-451-5223
Email: steve.masterman@alaska.gov

Total Federal Funds Requested:	$ 44,440
Total State Matching Funds:	44,511
Total	**$ 88,951**

Endorsements:

Jennifer E. Athey, Geologist IV
Principal Investigator
907-451-5028; jennifer.athey@alaska.gov

Steve Masterman, State Geologist & Director
Division of Geological & Geophysical Surveys
907-451-5007; steve.masterman@alaska.gov

FY 2016 NGGDPP Proposal Information Summary

Name of the State Geological Survey: Alaska Division of Geological & Geophysical Surveys

Project Title: ALASKA INVENTORY, METADATA, AND ARCHIVING INFRASTRUCTURE FOR GEOLOGIC FIELD PHOTO COLLECTIONS, PART II

Principal Investigator(s): Jennifer Athey, Geologist IV
Alaska Division of Geological & Geophysical Surveys
3354 College Road
Fairbanks, Alaska 99709-3707
907-451-5028, jennifer.athey@alaska.gov

Authorized Institutional Representative: Steve Masterman, Director & State Geologist
Alaska Division of Geological & Geophysical Surveys
3354 College Road
Fairbanks, Alaska 99709-3707
907-451-5007, steve.masterman@alaska.gov

Amount Requested:

Salaries	$18,777
Fringe Benefits	$10,574
Travel Expenses	$4,534
Other Direct Costs	$5,568
Indirect Costs	$4,987
Grand Total	**$44,440**

Proposed Start Date: July 1, 2016

Proposed Duration: 12 months from Proposed Start Date

Has this proposal been submitted to any other agency for funding? No

Active NGGDPP-related grants: ALASKA INVENTORY AND DIGITAL INFRASTRUCTURE FOR ENERGY-RELATED GEOLOGIC FIELD NOTES AND MAPS, funded by FY15 NGGDPP and Alaska State General Fund

END OF PROPOSAL INFORMATION SUMMARY

ABSTRACT

The Alaska Division of Geological & Geophysical Surveys (DGGS) requests funds from the National Geological and Geophysical Data Preservation Program (NGGDPP) to conduct a two-part project to further field photograph archiving at DGGS, including (1) the rescue of field photographs by former DGGS geologist Gil Mull, and (2) the development of a production version of DGGS's field photograph database and archiving application. The ultimate goals of this project will be documented, staff-tested workflows and a tool to archive field photos as a routine part of DGGS legacy and field excursion data management, as well as the creation of about 7,500 site-specific metadata records to be submitted to the National Digital Catalog (NDC).

The creation of site-specific metadata for about 7,000 of geologist Gil Mull's photographs, Part 1 of this proposal, complements the FY15 NGGDPP-funded project to archive Mull's high-value collections of energy-resources-related field notes and maps of seminal work in remote northern Alaska, some of which directly led to the exploration of, and subsequent discovery of, the Prudhoe Bay oil field and is still relevant to modern regional oil and gas exploration. Mull, who is now more than 80 years old with decreased mobility, has donated to DGGS 27 collections of 35-mm slides from various geologic field programs. DGGS proposes to scan the slides at 4,800 dpi, attribute them with metadata using DGGS's photo-archiving application, and make the images available to the public and the NDC. The unique slides were photographed from about 1963 to 2004 during Mull's employment with industry, U.S. Geological Survey, DGGS, and Alaska Division of Oil & Gas. After capturing notes written on the slides, DGGS staff will visit Mull in New Mexico for two one-week trips to fill in missing photograph locations and other information. Where possible, the photographer and agency or organization will receive photo credit.

The development of a production version of DGGS's field photograph database and archiving application, Part 2 of this proposal, completes a portion of the FY14 NGGDPP-funded project to develop an open source, web-based application to upload field photos, harvest embedded georeference information in the photos, and gather metadata elements. The application is currently in the early alpha stage of development and has been partially tested through the data entry of the Reifenstuhl image collection. DGGS proposes to bring the application to production capability through the additional programming of a publicly accessible front end with map- and text-based search functionality, additional database fields and editing ability, and a user-friendly look and feel similar to other DGGS applications (http://maps.dggs.alaska.gov/). DGGS will make these improvements and then conduct a soft launch with five DGGS field geologists to upload and document at least 100 photos each at the end of the 2016 field season. The identified geologists use different strategies in the field to capture photos. They will document their procedures and report any necessary bug fixes or missing functionality in the application to the development team. The uploading and data entry of Mull's images (Part 1 of the proposal) will also test the capability of the application to easily catalog legacy collections.

DGGS will release the photo archiving tool to the whole survey once final changes are made to the application, prior to the 2017 field season. DGGS anticipates that a minimum of 500 site-specific metadata records from application testing will be submitted to the NDC; however, DGGS intends to routinely, likely yearly, submit to the NDC all publicly available photographs with locations that have been loaded into the photograph database. The application will be made available for additional development through a public source code repository.

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PROPOSAL TECHNICAL SECTION

INTRODUCTION

The Alaska Department of Natural Resources, Division of Geological & Geophysical Surveys (DGGS) has as its statutory mission the responsibility for collecting, archiving, managing, and disseminating geological and geophysical data on the subsurface energy resources, mineral resources, and geologic hazards of the state. DGGS maintains its own statewide databases of about 165 terabytes of information on servers at its office in Fairbanks, and manages a collection of rock samples and archive materials at the Alaska Geologic Materials Center (GMC) in Anchorage that represents more than 12 million linear feet of exploration and production drilling. Samples from collections are examined frequently by private exploration companies, universities, and state agencies as a critical step in resource development and management. In FY15 our audiences of tourists, private citizens, artists, teachers, rockhounds, miners, exploration companies, researchers, and agencies requested 385,336 hardcopy maps and reports, online PDFs, and digital datasets, and DGGS's website received almost 11 million page views.

DGGS's mission to build the premier disciplinary repository focused on Alaska Geology hinges on our long-term data preservation plan to provide the three essential functions of a repository: Preservation of the materials, assurance of the quality of the materials, and public access to the materials. The NGGDPP program is an important funding vehicle for data preservation projects. DGGS proposes a single two-part project for FY16 NGGDPP funding consisting of (1) the scanning of and site-specific metadata creation for an estimated 7,000 geologically relevant 35-mm slides donated to DGGS by former DGGS geologist Gil Mull, and (2) the development of a production version of DGGS's photograph database with the major addition of publicly accessible map- and text-search capability and minor additions of new database fields and editing functionality. Test metadata generated from soft rollout of the photograph archiving tool and metadata from the Mull collection will be served to the National Digital Catalog (NDC) in XML format within one year of the requested project start date of July 1, 2016. This project satisfies DGGS's mission to collect and disseminate geologic information, and DGGS's long-term data preservation plan to maintain the integrity, authority, and accessibility of our collections.

DGGS photographs are of keen interest to a wide variety of audiences, as attached letters of support from a researcher, an outreach specialist, journalists, and a historically minded private individual document. DGGS collects thousands of photographs each field season. In addition, through FY14 NGGDPP-funded photo collection cataloging, DGGS identified 220,038 legacy photographs in the possession of present and former DGGS geologists. Mull's 35-mm slide donation to DGGS, a portion of a high-value collection by a renowned geologist and prolific photographer, has yet to be fully documented. DGGS's photograph collection as a whole depicts field sites and geomorphology statewide, usually in remote locations that are often impossible or prohibitively expensive to revisit; photographs specifically from Mull's donation cover northern Alaska and were taken during energy-related field projects. Through this proposed project, we will actively foster the use of the photo archiving tool to preserve and document incoming annual and languishing photo collections, and provide an agency-wide solution to ensure image preservation and accessibility over the long term.

PURPOSE AND JUSTIFICATION

DGGS collects thousands of digital photographs as part of its fieldwork each year, and has identified more than 220,038 legacy photographs in need of archiving though FY14 NGGDPP-funded inventory of collections belonging to current and former DGGS geologists. Many of the incoming project images and legacy photos are not directly associated with locations or supporting information, and field photos without accompanying metadata have very little geologic value. While some information can be gathered from

field notes and newer digital images may have metadata embedded in their file headers, original institutional knowledge, such as location, project, subject, and year of the photos, is quickly becoming in danger of being lost as geologists move on to different projects, age, and retire.

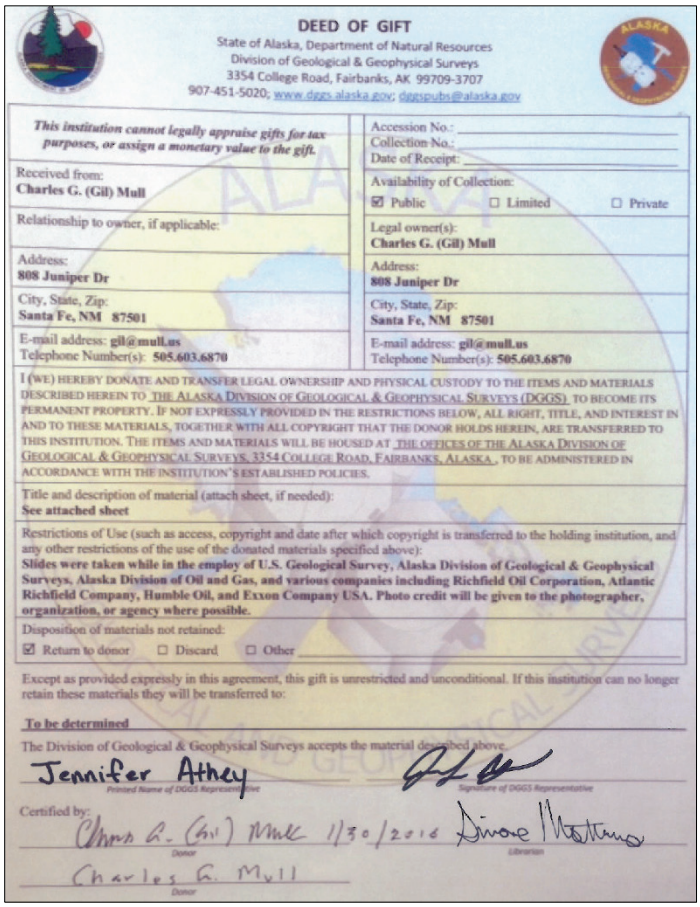
Field photographs document geologic features, landscapes, and landforms statewide that are often impossible or prohibitively expensive to revisit given the often remote nature of Alaska field work. Alaska geologists still have much virgin ground to study; currently only about 16 percent of the state's bedrock geology has been mapped at a scale better than 1:250,000. Expensive remote camps and helicopter-facilitated field projects limit the time available to study an area. Further, photos capture a moment in time, and this format allows information about ephemeral features such as stream locations, unstable outcrops, landslides, and other transient ground conditions to be easily captured with significant future usability. It is virtually impossible to identify in advance which photos will be the most valuable over time. For example, landscape photos taken since the late 1800s are now successfully being used to estimate glacier retreat.

DGGS proposes to advance work on our image collection through a two-part project. First, DGGS will scan and create site-specific metadata for an at-risk collection of about 7,000 slides donated to DGGS by geologist Gil Mull. The importance of Gil Mull's four decades of contributions to the framework geology of northern Alaska is difficult to overstate (see letters of support by David Houseknecht [USGS] and Richard Emanuel). Perhaps the best example was his role in the exploration and discovery of the Prudhoe Bay oil field, including serving as wellsite geologist on the discovery well. Prudhoe Bay remains the largest conventional accumulation yet found in North America and utterly changed the course of history in Alaska. Mull also pioneered the application of new plate tectonic concepts to northern Alaska, including the recognition of an allochthonous partial ophiolite in the western Brooks Range. His distinguished career as a field geologist and project manager led him from a start in industry to a track with the USGS, DGGS, and Alaska Division of Oil & Gas, as well as adjunct faculty at the University of Alaska Fairbanks. His work in the National Petroleum Reserve–Alaska (NPRA), Arctic National Wildlife Refuge (ANWR), and Gates of the Arctic National Park represents some of the most valuable northern Alaska collections available, especially considering the difficulty in obtaining access to some of those areas. DGGS received FY15 NGGDPP funding to inventory and archive Mull's field and station maps, project files, and notebooks; the project is in progress.

Gil Mull reviewing slides, May 2015

Mull is known as an avid and talented photographer, and has contributed professional-quality images to books and journals (see letter of support by Richard Emanuel; http://www.petroleumnews.com/products/Prudhoe40yrs.pdf, page 7). His image collection has not been fully documented, but his slides and digital pictures number in the tens of thousands. In 2015, DGGS geologist Trystan Herriott visited Mull to gain a better understanding of his collection. Herriott identified 27 folders and boxes of slides that were geologically relevant, spanning much of Mull's career from 1963 to 2004.

Although Mull was employed by multiple petroleum companies and government agencies, including the USGS, during this time, no agency or organization retained copies of his slides (see letter of support by David Houseknecht, USGS). Mull's collection is unique, valuable for geologic framework and oil and gas research, and important to the history of Alaska. Mull subsequently donated the 27 individual collections of about 7,000 slides total to DGGS for preservation and documentation. DGGS's active relationship with Mull, knowledge of northern Alaska geology, and ownership of the slides make DGGS the obvious candidate to arrange and conduct their preservation. The timing of this proposed data preservation project is ideal. At 80+ years of age, Mull is still engaged in the geologic community and willing to help.



DEED OF GIFT
State of Alaska, Department of Natural Resources
Division of Geological & Geophysical Surveys
3354 College Road, Fairbanks, AK 99709-3707
907-451-5020; www.dggs.alaska.gov; dggspubs@alaska.gov

This institution cannot legally appraise gifts for tax purposes, or assign a monetary value to the gift.

Accession No.:
Collection No.:
Date of Receipt:

Received from:
Charles G. (Gil) Mull

Availability of Collection:
☑ Public ☐ Limited ☐ Private

Relationship to owner, if applicable:

Legal owner(s):
Charles G. (Gil) Mull

Address:
808 Juniper Dr

Address:
808 Juniper Dr

City, State, Zip:
Santa Fe, NM 87501

City, State, Zip:
Santa Fe, NM 87501

E-mail address: **gil@mull.us**
Telephone Number(s): **505.603.6870**

E-mail address: **gil@mull.us**
Telephone Number(s): **505.603.6870**

I (WE) HEREBY DONATE AND TRANSFER LEGAL OWNERSHIP AND PHYSICAL CUSTODY TO THE ITEMS AND MATERIALS DESCRIBED HEREIN TO THE ALASKA DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS (DGGS) TO BECOME ITS PERMANENT PROPERTY. IF NOT EXPRESSLY PROVIDED IN THE RESTRICTIONS BELOW, ALL RIGHT, TITLE, AND INTEREST IN AND TO THESE MATERIALS, TOGETHER WITH ALL COPYRIGHT THAT THE DONOR HOLDS HEREIN, ARE TRANSFERRED TO THIS INSTITUTION. THE ITEMS AND MATERIALS WILL BE HOUSED AT THE OFFICES OF THE ALASKA DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS, 3354 COLLEGE ROAD, FAIRBANKS, ALASKA, TO BE ADMINISTERED IN ACCORDANCE WITH THE INSTITUTION'S ESTABLISHED POLICIES.

Title and description of material (attach sheet, if needed):
See attached sheet

Restrictions of Use (such as access, copyright and date after which copyright is transferred to the holding institution, and any other restrictions of the use of the donated materials specified above):
Slides were taken while in the employ of U.S. Geological Survey, Alaska Division of Geological & Geophysical Surveys, Alaska Division of Oil and Gas, and various companies including Richfield Oil Corporation, Atlantic Richfield Company, Humble Oil, and Exxon Company USA. Photo credit will be given to the photographer, organization, or agency where possible.

Disposition of materials not retained:
☑ Return to donor ☐ Discard ☐ Other

Except as provided expressly in this agreement, this gift is unrestricted and unconditional. If this institution can no longer retain these materials they will be transferred to:

To be determined

The Division of Geological & Geophysical Surveys accepts the material described above.

Jennifer Athey
Printed Name of DGGS Representative
Signature of DGGS Representative

Certified by:
Chas G. (Gil) Mull 1/30/2016
Donor
Librarian
Charles G. Mull
Donor

Documentation of slide donation for proposed project

Second, DGGS proposes to develop a public facing, user-friendly front end and additional functionality for the photo archiving tool that was created with NGGDPP FY14 funds to preserve the Reifenstuhl image collection. The application is currently in the early alpha stage of development and is not ready for deployment among the staff. Given DGGS's vast and growing collection of undocumented images, it is crucial to have a fully functional tool that both field geologists and data preservation projects can use to archive, describe, and georeference their most valuable field photos for future use and dissemination to the public.

Primary Customers

Chief users of DGGS's traditional services are the oil and gas industry, minerals industry, government agencies, Native corporations, engineering firms, academic institutions, and the general public. However, photographs have broader appeal than geologic research developed for the scientific community. With the photographs displayed and searchable online, we anticipate increased volumes of traffic from incidental users such as tourists, teachers, historians, outreach specialists (see letter of support from Vanessa Raymond), journalists (see letter of support from Shane Lasley and Kay Cashman), digital media designers, and casual internet browsing.

Use of Collections

DGGS recorded almost 11 million page views on its website in FY15. Eight of the top ten pages viewed were interactive maps and the interactive map homepage. Of 385,336 publications and digital files distributed to the public, 31 percent were traditional publication series formatted for print and 69 percent were online digital datasets. Although DGGS has recorded a steady distribution of hardcopy printed publications over the last 5 years, the demand for digital products, datasets, and GIS data has increased every year.

Societal Benefits

Alaska, home to world-class known and undiscovered geologic resources, continues to attract new multi-national company investment in oil, gas, and mineral exploration and development. Alaska is also subject to major geologic and climate-related hazards such as earthquakes, active faults, volcanoes, tsunamis, coastal erosion, flooding, and melting permafrost. DGGS's ability to provide photos with critical metadata, along with our other timely publications and topical reports, supports the responsible development of infrastructure to access the state's geologic resources, the development and production of those resources, and the mitigation of hazardous geologic processes that affect the health and safety of all Alaskans.

STRATEGY FOR DATA PRESERVATION

DGGS is a repository for Alaska's geological and geophysical information; its vision for data preservation is based on public accessibility and a commitment to ongoing maintenance of a growing and comprehensive dataset. Adherence to DGGS's long-range data-preservation plan will help ensure that DGGS continues to permanently archive, index, protect, and make available for public inspection geologic materials and related data to help reduce energy resources exploration risk, spur exploration investment, and increase exploration success in Alaska's unexplored or underexplored areas. DGGS's data preservation strategy has three main components:

1. Release published geological and geophysical data and peer-reviewed, preliminary, and final interpretations on a regular and timely basis;
2. Build a reputable digital geologic database that incorporates all aspects of DGGS science behind these publications; and
3. Acquire and preserve geologic materials (paper documents and maps, digital media, physical samples) that are the basis of the state's geologic analyses and geologic knowledge, as well as nonproprietary geologic materials contributed for archiving by private industry, government, and academia.

In all three respects, the preservation of field photos such as the Mull collection is a perfect example of the type of data DGGS should permanently archive, index, protect, and make available for public inspection to help advance exploration and knowledge of Alaska's natural resources and mitigate the possible risks of geologic hazards. (1) Access to photos and metadata will increase efficiency for research and in DGGS's publication process. Public access to photos will be beneficial to a variety of users and disciplines. (2) The photos are recognized as an important dataset supporting DGGS's scientific studies, and the production-ready photo archiving application and database will be the ideal vehicle for management of the image files and their metadata. (3) The field photos preserve a wide range of information such as difficult-to-describe textures and structures, transient outcrops and surficial processes, and project histories that are the underpinning of DGGS's scientific work. Preserving and making accessible this supporting information directly speaks to our third data preservation goal.

Additionally, the photo archiving tool is an important piece in the puzzle of overall data management at DGGS. As our geologists move on to other projects from one year to the next, finding time to appropriately document their field photos becomes increasingly difficult. As a result, images are largely unmanaged. Undocumented and duplicated photos take up more than a terabyte of space on DGGS's servers, while funding for additional data storage is scarce and server space is almost 95 percent used. To date, DGGS has no viable mechanism for large-scale photo archiving, leaving DGGS's unique and vast collection of one-of-a-kind photography at risk of being lost. Further, we have no way to search for specific photos for research or publication. Creating a new business process to alleviate the image management problem, preserve the photos, and make them available to the public is directly in line with DGGS's long-term data

preservation plan to build a geologic data repository. Moreover, a photo archiving tool will increase the efficient use of staff time and physical resources, ultimately leading to cost savings.

In 2015 DGGS requested that the Alaska Geologic Mapping Advisory Board (GMAB) review the organization's archiving needs and present their priorities as part of GMAB's general oversight of DGGS's programs. Alaska's advisory board comprises a balanced group of representatives encompassing State, Federal, engineering geology, geologic hazards, energy, minerals, academia, and Alaska Native issues. The Board meets with DGGS three times each year, twice to specifically review USGS STATEMAP projects and once in a full-day meeting to review our entire program, discuss strategic and legislative issues, and advise us on future directions. The Board was presented with DGGS's working data preservation priorities and plan at the annual full-day meeting on February 2, 2016; however, this meeting was too close to the deadline of the NGGDPP FY16 proposal cycle to receive formal feedback on the proposal topic. Future archiving projects will be undertaken with consideration for the Board's suggested archiving activities.

PRELIMINARY RESULTS AND PRIOR WORK

Appendix B provides a summary of DGGS data preservation activities.

PRODUCTS/REPORTS

After a brief inspection by Trystan Herriott of a portion of Mull's collection in May 2015, 27 binders and boxes of 35-mm slides were identified to be geologic-related and from fieldwork in northern Alaska. The binders and boxes surveyed were one-half to three-quarters full of slides, and the total collection was estimated at 7,000 slides. Based on this estimate, anticipated results and products include:

Slide collection currently in Santa Fe

1. High-resolution scanned images of about 7,000 slides by Mull. Slides will be scanned at 4,800 dpi, which will allow the images to be printed clearly at 600 dpi at a size of 8" x 10". Image formats will be high-resolution tiff and jpg for display.
2. Scans at 600 dpi of the 7,000 front slide faces to preserve handwritten notes by Mull. Slide faces often contain notes including PLSS township and range locations, outcrop and formation descriptions, and occasional cross sections.
3. Site-specific metadata corresponding to the 7,000 photographs by Mull.
4. Photo archiving tool with publicly accessible map- and text-based search functionality. The application will be made available for additional development through a public source code repository.
5. Documentation of application functionality and data dictionary.
6. Site-specific metadata from five geologists to test the photo archiving tool, minimum of 100 records each for a total of 500 records.
7. Documentation of geologists' workflows for transfer of images from various cameras and field devices to photo archiving tool.

PROJECT PERSONNEL

Part 1: Mull Slide Archiving

Jennifer Athey, Principal Investigator

Ms. Athey will serve as principal investigator for the project, conducting project planning and management and ensuring that all deliverables are completed. Athey will help perform the metadata tasks by managing the scanning contract for Mull's slides and performing quality control of the scanned images. She will also oversee the testing of the photo archiving tool by the five geologists, making sure that methodology is documented and ensuring that the development team receives constructive feedback. Athey will also assist with documentation of the photo archiving tool and data dictionary, and give a presentation to DGGS staff on photo archiving when the tool is ready for production.

Ms. Athey is a geologist and lead data manager for DGGS with 24 years of experience in database management, GIS, and bedrock geologic mapping and mineral exploration. She is involved in multiple data management projects, from digital field data collection to data compilation projects to construction of online data delivery applications. Prior to her current position, she was the data manager for the DGGS Mineral Resource Section's geologic mapping projects and project lead for four of DGGS's STATEMAP geologic mapping projects. Her institutional and data preservation knowledge will help facilitate the success of this program. See CV in Appendix C.

Trystan Herriott, Geologist

Mr. Herriott's working relationship with Mull and institutional knowledge of the DGGS Energy Section and northern Alaska project areas will enable him to accurately interpret Mull's notes on the slide faces and enter the information into the photo archiving tool. Herriott is already familiar with the alpha-tested version of the photo archiving tool through FY14 NGGDPP-funded preservation of the Reifenstuhl collection. Herriott is experienced with image preservation, and he is able to quickly determine which photos should be retained for archiving and attach the correct metadata to each photo. Herriott will interface with other DGGS geologists to obtain metadata as necessary to complete the collection, and he will make two one-week trips to Santa Fe, New Mexico to work in person with Mull to fill in missing metadata.

Mr. Herriott, a DGGS field geologist in the Energy Section, has spent the past six years working on field projects throughout Alaska. He manages his own database of more than 15,000 field photographs that he has cataloged since 2003. See CV in Appendix C.

Nina Harun, Geologist

Ms. Harun's experience working with northern Alaska energy-resources data in the office and participating in Energy Section fieldwork will provide her with context to accurately interpret Mull's notes on the 35-mm slide faces and enter the information into the photo archiving tool. Harun is an efficient, detail-oriented worker and will be able to successfully archive the images and metadata in a timely and accurate manner. Harun will interface with other DGGS geologists to obtain metadata as necessary to complete the collection.

Ms. Harun joined DGGS's Energy Section in a permanent position in July 2014. She participates in mapping projects and is tasked with developing a comprehensive Energy Section analytical database and furthering the use of GIS technology in the section. See CV in Appendix C.

Part 2, Photo Database Application Development

Chris Ramey, Analyst/Programmer

Mr. Ramey developed the alpha-tested version of the photo archiving data and application as part of the FY14 NGGDPP-funded Reifenstuhl collection archiving project. In a collaborative development environment, Ramey will create a beta version of the database and application for testing by five DGGS geologists. With feedback from the testing, Ramey will develop the production version of the photo archiving tool for use by DGGS staff and the public. Ramey will also maintain the scripting that generates the XML-format photo metadata for submission to the NDC.

Mr. Ramey is an analyst/programmer with 27 years of programming experience in a vast array of languages, platforms, and industries. Ramey works successfully with interdisciplinary teams of scientists and IT staff to develop databases and major web applications with text- and map-based search interfaces. Ramey helps achieve DGGS's major objective of distributing geologic data online to the public. His work is available online at http://maps.dggs.alaska.gov/. See CV in Appendix C.

Ken Woods, Micro/Network Specialist

Mr. Woods will provide expertise in hardware configuration and image data storage, and help with database design, application testing, and quality assurance.

Mr. Woods is DGGS's systems administrator and architect, with 27 years of UNIX system admin experience and a background in web hosting and large-scale storage systems.

Susan Seitz, Analyst/Programmer

Ms. Seitz will provide feedback during database and application development, and training on the beta version of the tool and support as needed to five DGGS geologists who will test the application. Ms. Seitz is familiar with NGGDPP metadata requirements and will work with data-entry personnel and Mr. Ramey to provide the correct metadata content and formatted XML to the NDC.

Ms. Seitz graduated from Boston College in 1997 with a Bachelor's degree in Communications and Computer Science. She has almost 20 years of programming experience, which began with the dot com boom of the late 1990s in various industries of financial services, technology, medical, and insurance. She has worked as an Analyst/Programmer for DGGS for 13 years. Whether in the role of developer, quality assurance, or technical support, she helps support the publications interface, geochemistry and geochronology analytical data, DGGS website, and various other applications.

Field Data Application Testing

The following representative DGGS geologists have agreed to test the beta version photo archiving tool and provide feedback to the development team. They will each enter at least 100 photos into the application and document their methodologies.

Alicja Wypych

Ms. Wypych is a petrologist in the Mineral Resources Section. She is the staff member who has primary responsibility for maintaining the section's Trimble Juno T41 handheld computers that capture field photos.

Evan Twelker

Mr. Twelker is a geologist in the Mineral Resources Section. He collects field photos with a non-GPS camera and locates them through a GPS timestamp matching routine in ESRI ArcGIS.

Trent Hubbard

Mr. Hubbard is a Quaternary geologist in the Engineering Geology Section. He collects field photos with a GPS-enabled Garmin VIRB Action Camera.

Ronald Daanen

Dr. Daanen is a hydrogeologist in the Engineering Geology Section. He collects field photos on his iPhone and Garmin GPSMAP 62st, which has a camera.

Nina Harun

Ms. Harun, representing the Energy Section's methodology, collects field photos with a non-GPS camera and records location and field information in a traditional field notebook.

METADATA CREATION

Methodology

DGGS will create about 7,500 site-specific metadata records, comprising 7,000 records from the Mull photo collection and 500 records through testing of the photo archiving application. To conduct the project in the 1-year timeframe and be able to use the archiving tool to create the Mull metadata, both parts of the project will be performed simultaneously beginning July 1, 2016.

	2016						2017					
	7	8	9	10	11	12	1	2	3	4	5	6
Part 1.												
1	x											
2	x	x										
3			x	x	x	x						
4							x	x				
Part 2.												
1	x	x										
2			x	x								
3					x	x						
4											x	x

Project Timeline

Mull Slide Archiving, Part 1 of the project:

1. Establish scanning contract with State procurement office. DGGS identified a local Albuquerque, New Mexico, business that can perform the required high-quality scanning (quote on page D-2, Appendix D). Scanning contractor will obtain the slides from Mull's residence.
2. Slides will be scanned at 4,800 dpi, which is the optical resolution of the Epson Perfect v750 Pro. Images will contain at least 5,000–6,000 pixels on the long side of the slide, which is consistent with slide-scanning resolution recommended by the Federal Agencies Digitization Guidelines Initiative, the Smithsonian Institute, University of Illinois library, and University of Utah library.

   Slide faces will be scanned at 600 dpi and placed in file order with scans of the images so that when viewing the images to record their metadata, the images will not become separated from their context. Slides will be organized in file folders according to their binder or box, which generally represent specific field projects or areas.

   DGGS will request an initial sample of scanned images and slide faces for review. A complete set of images will be mailed to DGGS on a Seagate portable hard drive. Images will be delivered in tiff and jpg format; slide faces will be delivered as jpg. Ms. Athey will conduct a spot checks on the quality of the delivered images.
3. Mr. Herriott and Ms. Harun will upload images through the photo archiving tool interface and enter as much metadata as possible for each image from the scans of the slide faces and notes on the binders and boxes. Duplicate images will not be archived.
4. Mr. Herriott will travel to Santa Fe, New Mexico, for two one-week trips to inspect the images with Mull and fill in any gaps in the metadata, concentrating on locations and then outcrop descriptions.

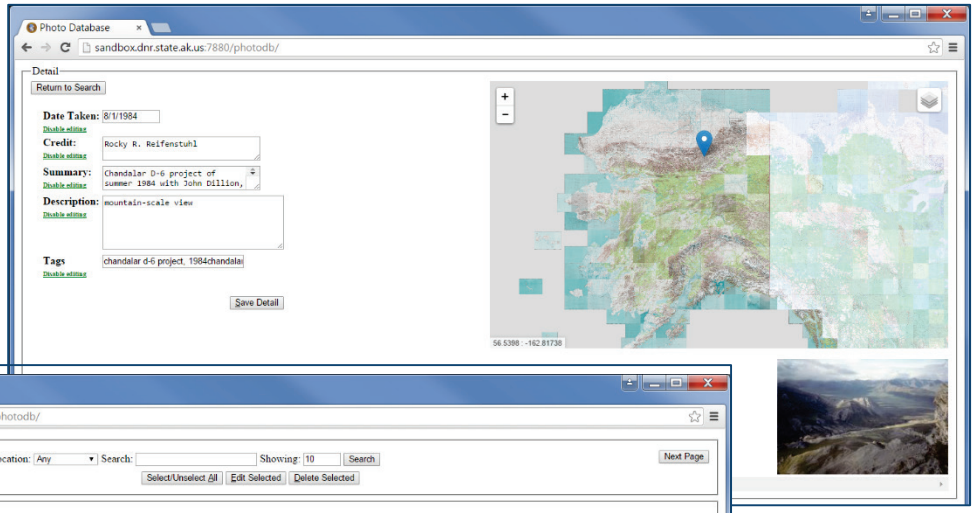
Due to health concerns, Mr. Mull is unable to work for long stretches at a time. Mr. Herriott will spend any unallocated time in Santa Fe cataloging Mull's other slide collections, which likely number in the tens of thousands of slides.

Metadata will be formatted and uploaded to the NDC in Part 2 of the project.

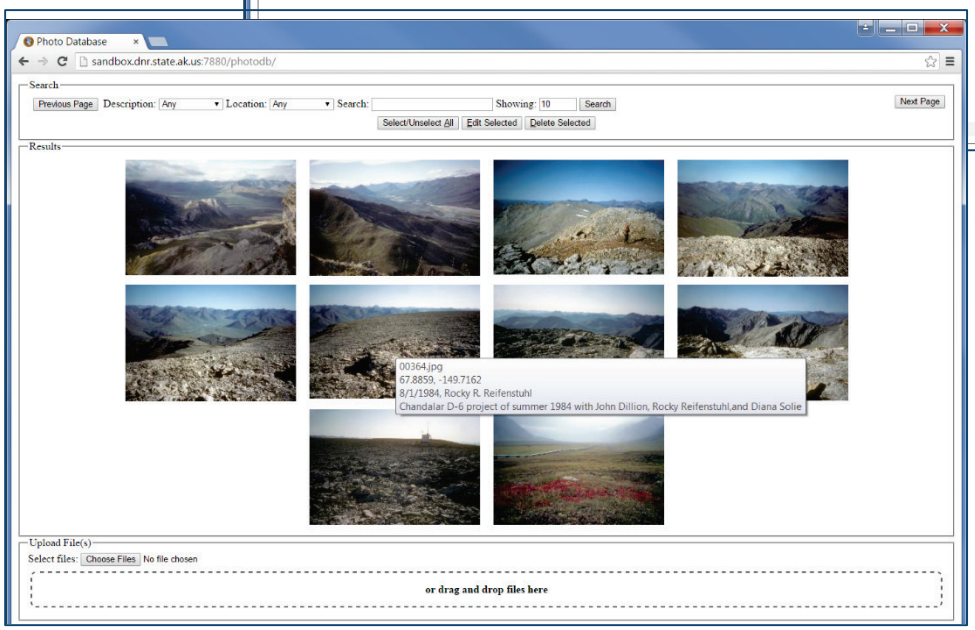
Photo Database Application Development, Part 2 of the project:

1. Mr. Ramey, with input from the rest of the development team, will create a map-and text-based search for the public interface of the photo archiving tool. Other specific new functionality will include a "detail page" to display an individual photo and its metadata, bulk editing of image metadata already in the system, a defined keyword list for Tags, flag to show whether photo can be made available to the public, a field for location accuracy, and a field to define allowable use of photos. With these upgrades, the application will be considered beta status.

The alpha version photo archiving tool produced as part of the FY14 NGGDPP-funded Reifenstuhl archiving project is a Java-based application created to display pictures, collect metadata, attach the metadata to the images, and store both in a PostgreSQL database. The application contains rudimentary image text-search functionality and the ability to upload new images for archiving. Its upload ability is as yet untested by users.



Metadata editing page of alpha-stage photo archiving tool



Internal homepage of alpha-stage photo archiving tool

The application retrieves EXIF data from incoming images and automatically populates the latitude, longitude, and date fields, although this functionality has not yet been tested by users. Information can also be keyed in or edited manually, and the same information can be attached to multiple images.

Locations for images without embedded location information can be captured through the selection of a point on the interactive map. The early alpha-stage application is available at https://binarythought.com/fossils/photodb/home.

2. Soft launch: Upon return from the field, the five geologists noted in the Personnel section "Field Data Application Testing" will receive training on the application, upload at least 100 digital photos, and record their metadata. The geologists will provide feedback to the development team and record their methodologies. These particular geologists were recruited because they each use different devices and techniques to take photos and record their metadata, and they are from different organizational sections in DGGS.
3. Mr. Ramey and the development team will respond to the geologists' feedback and make changes to the database and application as appropriate. Once final changes have been made, the production version of the photo archiving application tool will be launched on DGGS's website, and Ms. Athey will give a presentation to staff on its use.
4. Mr. Ramey and Ms. Seitz will ensure that all new or updated metadata in the photo database is correctly generated into an XML file and uploaded to the NDC catalog via the Data Provider Dashboard. The XML file will contain about 7,500 records from this project.

Metadata Submission

The existing infrastructure of the photo archiving tool will serve new field photo metadata records to the NDC via Data Provider Dashboard for the near future. A Java-based script dynamically queries the PostgreSQL field photo database for any new or existing records to create an XML document according to the NGGDPP metadata requirements.

DGGS will provide, at a minimum, the required metadata elements: CollectionID, Title (with project name and photo subject), Abstract (geologist's annotation from field notes and photographer's name), DataType (digital, print, or slide photo), SupplementalInformation (a URL specific to the digitized photo on the DGGS website), Coordinates (either specific GPS coordinates from field notes or camera EXIF data or general coordinates based on place name), Date (exact date, year, or decade the photo was taken) and DatasetReferenceDate (date of entry into the system). The other metadata elements will be provided if known upon creation of the record.

Upon further collaboration with NGGDPP programmers, DGGS is interested in exploring other options for the Data Preservation Program to harvest the metadata details of the field photos, in addition to any other applicable metadata records in the DGGS division-wide database. DGGS programming and IT staff have experience with a variety of OGC-compliant data formats and data serving methodologies, which enables us to be flexible when planning future tools to serve DGGS data.

Quality Assurance/Quality Control Processes

Ms. Seitz will review the XML-format metadata for consistency and content prior to upload to the NDC. If any of the required metadata elements are not available for an item, the record will not be included for submission into the NDC. The photo database provides structure that enforces referential integrity and quality control of the data. During data entry into the photo archiving tool, metadata will be monitored for conformity to expected values.

Scanned images will also be spot checked for quality concerns such as dust and file errors.

Long-term Maintenance and Updating of Catalog Records

The production-version photo archiving application will facilitate the data entry, organization, and security of photos over the long term. DGGS will adopt new business processes, such as those piloted in this project by the five test users, to strongly encourage all of the staff to use the application. We intend the five test users to be emissaries to the rest of the survey, encouraging the use of the application. Several years will likely be needed before all images are routinely managed through the photo archiving tool, given the variety of technology involved in image capture and different field methodologies employed by geologists.

DGGS intends to update the NDC with new field and legacy photos and revised metadata as the photo database is populated. The timing of the updates to the NDC catalog will be based on the entry of new field photos into the application at the end of the geologists' field season or as legacy photo archive initiatives are completed. Upload files will be autogenerated by a script that creates an archival date, an auto-populated date and time stamp for each record when the photo is archived. The archival date establishes the currency of the data.

NATIONAL GEOLOGICAL AND GEOPHYSICAL DATA PRESERVATION PROGRAM (NGGDPP)

FY 2016 DETAILED BUDGET

State: Alaska

Proposal Short Title: Field Photo Collections, Part II

BUDGET CATEGORY			Federal Funds Requested	State Funds Proposed
SALARIES:	*Time (hours)*	*Salary (hourly)*		
Part 1: Mull Slide Archiving				
Jennifer Athey: Principal Investigator, Geologist IV; *Project management, contracting*	37.50	$50.47	$ 946	$ 946
Trystan Herriott, Geologist III; *Create metadata for slides, legacy data application testing*	375.00	$44.41	$ 8,327	$ 8,327
Nina Harun, Geologist II; *Create metadata for slides, legacy data application testing*	225.00	$30.82	$ 3,467	$ 3,467
Part 2: Photo Database Application Development				
Chris Ramey, Analyst/Programmer IV; *Application development*	225.00	$46.00	$ 5,175	$ 5,175
Ken Woods, Microcomputer/Network Specialist II; *Systems administration*	37.50	$44.13	$ 0	$ 1,655
Susan Seitz, Analyst/Programmer IV; *Application training, data management*	37.50	$46.00	$ 862	$ 862
Field Data Application Testing				
Alicja Wypych, Geologist III; *Minerals Section*	27.75	$44.41	$ 0	$ 1,232
Evan Twelker, Geologist IV; *Minerals Section*	27.25	$50.47	$ 0	$ 1,375
Trent Hubbard, Geologist IV; *Engineering Geology*	27.25	$50.47	$ 0	$ 1,375
Ronald Daanen, Geologist IV; *Engineering Geology*	27.25	$50.47	$ 0	$ 1,375
Nina Harun, Geologist II; *Energy Section*	27.25	$30.82	$ 0	$ 840
Total Salaries:			**$ 18,777**	**$ 26,629**
FRINGE BENEFITS:	*Time (hours)*	*Benefits (hourly)*		
Part 1: Mull Slide Archiving				
Jennifer Athey: Principal Investigator, Geologist IV	37.50	$26.59	$ 499	$ 499
Trystan Herriott, Geologist III	375.00	$24.44	$ 4,582	$ 4,582
Nina Harun, Geologist II	225.00	$19.65	$ 2,211	$ 2,211
Part 2: Photo Database Application Development				
Chris Ramey, Analyst/Programmer IV	225.00	$25.00	$ 2,813	$ 2,813
Ken Woods, Microcomputer/Network Specialist II	37.50	$24.34	$ 0	$ 913
Susan Seitz, Analyst/Programmer IV	37.50	$25.00	$ 469	$ 469
Field Data Application Testing				
Alicja Wypych, Geologist III	27.75	$24.44	$ 0	$ 678
Evan Twelker, Geologist IV	27.25	$26.59	$ 0	$ 725
Trent Hubbard, Geologist IV	27.25	$26.59	$ 0	$ 725
Ronald Daanen, Geologist IV	27.25	$26.59	$ 0	$ 725
Nina Harun, Geologist II	27.25	$19.65	$ 0	$ 535
Total Fringe Benefits:			**$ 10,574**	**$ 14,875**

NATIONAL GEOLOGICAL AND GEOPHYSICAL DATA PRESERVATION PROGRAM (NGGDPP)

FY 2016 DETAILED BUDGET, CONTINUED

State: Alaska

Proposal Short Title: Field Photo Collections, Part II

BUDGET CATEGORY		Federal Funds Requested	State Funds Proposed
TRAVEL EXPENSES			
Travel 1: Airfare, round trip	Fairbanks, AK – Santa Fe, NM	$ 1,000	$ 0
Travel 1: Per diem	3 meals, 1 person x 7 days @ $64	$ 448	$ 0
Travel 1: Lodging	1 person x 6 nights @ $99/night (plus taxes)	$ 594	$ 0
Travel 1: Rental car	1 vehicle x 1 week @$225/week	$ 225	$ 0
Travel 2: Airfare, round trip	Fairbanks, AK – Santa Fe, NM	$ 1,000	$ 0
Travel 2: Per diem	3 meals, 1 person x 7 days @ $64	$ 448	$ 0
Travel 2: Lodging	1 person x 6 nights x $99/night (plus taxes)	$ 594	$ 0
Travel 2: Rental car	1 vehicle x 1 week @$225/week	$ 225	$ 0
Total Travel Expenses		**$ 4,534**	**$ 0**
OTHER DIRECT COSTS			
Contractual Services: 35-mm Archival Slide Scanning			
Slide image	7,000 slides (est.) @ $.50 (4,800 dpi)	$ 3,500	$ 0
Slide face with notes	7,000 slides (est.) @ $.20 (600 dpi)	$ 1,400	$ 0
Dust removal	3,500 slides (est.) @ $.06	$ 210	$ 0
Hard drive for image delivery	1 TB Seagate portable hard drive	$ 85	$ 0
New Mexico gross receipts	State and local sales tax of 7.1875%	$ 373	$ 0
Non-Personal Services Costs Per Position			
($2.80 per hour per person; see details in table on following page)			
Part 1: Mull Slide Archiving			
Jennifer Athey	*PI; Project management, contracting*	$ 0	$ 105
Trystan Herriott	*Metadata for slides, legacy data app testing*	$ 0	$ 1,050
Nina Harun	*Metadata for slides, legacy data app testing*	$ 0	$ 630
Part 2: Photo Database Application			
Chris Ramey	*Application development*	$ 0	$ 630
Ken Woods	*Systems administration*	$ 0	$ 105
Susan Seitz	*Application training, data management*	$ 0	$ 105
Field Data Application Testing			
Alicja Wypych, Geologist III	*Minerals Section*	$ 0	$ 78
Evan Twelker, Geologist IV	*Minerals Section*	$ 0	$ 76
Trent Hubbard, Geologist IV	*Engineering Geology Section*	$ 0	$ 76
Ronald Daanen, Geologist IV	*Engineering Geology Section*	$ 0	$ 76
Nina Harun, Geologist II	*Energy Section*	$ 0	$ 76
Total Other Direct Costs		**$ 5,568**	**$ 3,007**
Total Direct Costs		**$ 39,453**	**$ 44,511**
Total Indirect Cost	16.99% of salaries + benefits	$ 4,987	$ 0
GRAND TOTAL(include salaries, fringe benefits, travel expenses, other direct costs, and indirect costs):		**$ 44,440**	**$ 44,511**

STATE OF ALASKA

FY15 Projection – Additional Non-Personal Services Costs Associated with a Position

Item	*Annual Rate*
Basic phone service estimate	$ 419.64
Office space	$ 2,628.00
DOA/ETS Telecom–EPR (Telecommunications Enterprise Productivity Rate)	$ 918.78
DOA/ETS Computer Services EPR (Computer Services Enterprise Productivity Rate)	$ 586.48
Other Allocated Core Services Estimate	$ 900.00
Mandatory Cost Per Position, Annual	$ 5,452.90
Cost Per Hour	**$ 2.80**

END OF FY2016 DETAILED BUDGET

APPENDIX A

LETTERS OF SUPPORT

United States Department of the Interior

U.S. GEOLOGICAL SURVEY

12201 Sunrise Valley Drive
MS 956
Reston, VA 20192

February 2, 2016

Jennifer Athey
Alaska Division of Geological and Geophysical Surveys
3354 College Road
Fairbanks, Alaska 99709-3707

Dear Jennifer:

I am pleased to write this letter of support for a DGGS proposal to scan, produce metadata for, and archive about 5,000 35-mm slides of the Alaska Brooks Range and North Slope taken by Gil Mull.

Gil Mull dedicated nearly a half-century of research to deciphering the geological mysteries of Arctic Alaska, including the Brooks Range and North Slope extending from the Chukchi Sea coast on the west to the U.S. – Canada border on the east. No geologist every covered as much ground, mapped as many square miles, or made as many fundamental contributions to understanding the tectonic, structural, and stratigraphic history of Arctic Alaska! Hundreds of geologists have used Gil's published maps and papers, and even photocopies of his unpublished maps, to orient themselves to the Brooks Range and North Slope. Beyond that, Gil has invested innumerable hours, days, months, and years tutoring successive generations of geologists from the oil and minerals industries, academic institutions, and federal and state agencies. His knowledge of the region is encyclopedic and his slide collection represents an invaluable resource that – if properly archived – will ensure the timelessness of his contributions.

I have the privilege of having known and worked with Gil since 1995, and I have personally benefitted enormously from his mentorship. Before each field season, and when I have vexing questions about specific topics, I email or call Gil. His response invariably includes scanned copies of his field notes and slides from multiple years dating back to 1963. These digital files invariably provide a framework within which I can tackle the problem at hand – they truly are benchmarks that represent plateaus of knowledge from which new generations of geologists can make further contributions to the science.

Neither the USGS nor any other organization has copies of Gil's slides, so this project would be unique and would not represent any duplication of effort. Moreover, the USGS has no plans to scan and archive any of Gil's slides in the future. So, this project is the sole venue for preserving a professional lifetime of effort, and is a project more than worthy of support. I give it my strongest recommendation as a project that will pay huge dividends for decades to come.

Sincerely,

David W. Houseknecht
Senior Research Geologist

Richard P. Emanuel
12501 Alpine Drive
Anchorage, AK 99516

Natalie Latysh, Grants Program Manager
National Geological & Geophysical Data Preservation Program
USGS, Denver Federal Center
PO Box 25046, MS 975
Denver, CO 80225

February 1, 2016

Dear Ms. Latysh,

I am writing to express my strongest support of a grant proposal by the Alaska Division of Geological and Geophysical Surveys to scan, document and archive photographic slides taken in Alaska over four decades by geologist and photographer C. G. "Gil" Mull.

Gil Mull came to Alaska in 1961, as a geologist with Atlantic Richfield Corporation. Over the ensuing 42 years, in addition to the oil industry, Mull worked as a field geologist and petroleum expert for the USGS and the State of Alaska, finally retiring in 2003, to Santa Fe, New Mexico. Among the current generation of Alaskan geologists, Mull is a near-legendary figure of great stature, respect and fondness. I know of no one living who has seen and documented more Alaskan geology, particularly in northern Alaska, than Mull. Besides a deep familiarity with Alaskan geology, Mull is an accomplished photographer whose images have appeared widely in professional and popular publications. Thus, Mull's thousands of photographs constitute a unique and irreproducible resource of historic and aesthetic value as well as enduring geologic significance.

I met Gil Mull in 1981, when we were both working for the USGS. I was with the Water Resources Division in Anchorage, while my wife, Julie Dumoulin, was with the Geologic Division and shared office space with Mull. After eight years with the USGS, I returned to graduate school at UC Santa Cruz to study Science Communication and journalism. When I returned to Alaska, I wrote frequently for **Alaska Geographic**, a quarterly that featured high-quality photography, often including images shot by Gil Mull. A decade later, while helping the Anchorage Museum develop exhibits for new science galleries, I learned that Mull had been one of the well-site geologists working on the Prudhoe Bay Discovery Well, drilled by ARCO and Humble Oil (now Exxon) during the winter of 1967-1968. Mull had field notes, photos and other artifacts from that important milestone in Alaskan geology. Recently, I have been working with Mull to find an appropriate repository where his collections, including his photos, can be curated and preserved for future use by scientists and scholars. The Alaska DGGS proposal to scan and document a selection of Mull's slides would be a tremendous contribution toward this effort. It would be possible for DGGS to work with Mull and the University of Alaska-Anchorage Archives and Special Collections to preserve Mull's original material in the Archive's climate-controlled vault after scanning, while listing the material in online data bases thereby making it accessible to interested geologists and other researchers. DGGS and UAA Archives could coordinate the posting of key images and attendant notes for immediate online access. It seems to

me that these efforts present important win-win opportunities for all concerned, including your own National Geological and Geophysical Data Preservation Program.

Gil Mull is now 80 years old. The time is ripe to document, preserve and make accessible to future researchers the valuable photographs acquired by Mull over more than four decades in the field in Alaska. If I can answer any questions or assist you in any way, I hope you will contact me, Ms. Latysh. Thank you most sincerely for your consideration.

Regards,

Richard P. Emanuel
remanuelak@gmail.com
tel 907-345-2204
Member: National Association of Science Writers

Natalie Latysh
Associate Program Coordinator
National Geological and Geophysical Data Preservation and National Capabilities

February 1, 2015

Dear Natalie,
I am a project manager at the Geographic Information Network of Alaska, a department of the Geophysical Institute at the University of Alaska Fairbanks. We manage a web portal for community-based observing and data discovery about climate change, resiliency efforts, and the Arctic called the Arctic Adaptation Exchange. The Arctic Adaptation Exchange (AAE) project is supported by Alaska NSF EPSCoR and project partners under the Arctic Council's Sustainable Development Working Group include the US Department of State, Canadian Government of Yukon, Gwich'in Council International, and Aleut International Association.

I am writing in support of the Alaska DGGS proposal to the USGS National Geological and Geophysical Data Preservation Program (NGGDPP) to create a digital archive of footage of the North Slope. As a curator and portal manager, I am eager to share online multimedia archives from Alaska DGGS through the Arctic Adaptation Exchange portal to our circumpolar user community. DGGS's work in photographing, as well as interactive mapping, interviewing and videoing the state of Alaska will be of interest and use to community members who come to our site to discuss climate change in their communities. Making these resources discoverable and accessible online for users who may not think to visit the AK DGGS site directly will expand the reach of this important work to the benefit of Alaskan and Arctic online user communities.

Thank you,

Vanessa Raymond
vlraymond@alaska.edu

P.O. BOX 231651, ANCHORAGE, AK 99523
PH 907-522-9469 | FX 907-5229583
PETROLEUMNEWS.COM | MININGNEWSNORTH.COM

Feb. 1, 2016

Ms. Natalie Latysh
Associate Program Coordinator
National Geological and Geophysical
Data Preservation and National Capabilities
nlatysh@usgs.gov

Dear Ms. Latysh,

As journalists, researchers and Alaskans, North of 60 Mining News and Petroleum News are honored to offer our support for Alaska Division of Geological & Geophysical Surveys' proposal to develop a publicly accessible database of photographs depicting Alaska's rich geology and the geoscience being employed to understand it.

Beyond clichés that understate the word-count value of most photographs, the visual references, historical context and other subtle data captured by a photograph can provide researchers a greater understanding of the geologic, geophysical and other underlying data being described.

By stitching photographs to the maps and other available geoscience data, the photo database initiative being proposed by Alaska DGGS would be a great service to us and other researchers. This program would also enhance the value of the geologic and geophysical data that has been collected as part of the publically funded geoscience programs carried out across this vast and geologically diverse state.

Given the research implications and value of this work, we offer our professional and personal support of Alaska DGGS's proposal to archive Alaska geoscience photographs and make them publically available via the Internet.

Shane Lasley

Publisher & News Editor
North of 60 Mining News
P.O. Box 231647
Anchorage, AK 99523
publisher@miningnewsnorth.com

Kay Cashman

Publisher & Executive Editor
Petroleum News
P.O. Box 231647
Anchorage, AK 99523
publisher@petroleumnews.com

APPENDIX B

PRELIMINARY RESULTS AND PRIOR WORK

DGGS's Geologic Communications Section creates, preserves, and provides access to the state's geologic data repository from which the Section develops and serves all DGGS geologic data products to the public to answer questions about land management, resources, and natural hazards. The repository is continuously growing and evolving. Most of the data management projects listed below are designed to accommodate future data collection, for which DGGS is committed over the long term to providing resources such as staff time for maintenance and IT infrastructure. DGGS strives to appropriately apportion available resources among rescuing legacy data, preserving new data, and maintaining current archiving systems. Listed below are only the NGGDPP-funded projects.

FY 2007: DGGS requested and received funding to provide collection-level information on its data holdings. DGGS completed evaluations for 12 of its geologic data and sample collections, and entered detailed information about each one into the NGGDPP online inventory system. (See the updated summary table of DGGS collections below.) DGGS also received funding to participate in the design and testing of the National Digital Catalog. DGGS helped establish standards for the content, quality, and consistency of metadata describing digital data and physical samples; protocols for searching, transferring, and presenting metadata; clear and consistent ways to explain how users can request access to physical materials; and the extent to which the user interfaces convey branding or meet other organizational needs.

FY 2008: DGGS received funding to implement a Web Feature Service (WFS) interface to deliver site-specific metadata files to the National Digital Catalog for six of its geologic data collections: (1) core samples and drill cuttings stored at the Alaska Geologic Materials Center (GMC), (2) glass slide collection of processed samples at the GMC, (3) data reports on core samples that have been borrowed from the GMC for analysis, (4) geochemical analyses of rock, soil, and stream-sediment samples collected during projects involving DGGS geologists, (5) geochronology analyses of samples collected during projects involving DGGS geologists, and (6) hard-rock surface samples collected by DGGS staff. As DGGS and NDC technologies have evolved, the WFS is no longer generated or harvested in this manner. The services to repopulate these collections could be recreated in the future.

FY 2010: DGGS received funding to create site-specific metadata for two geologic data collections: (1) organic geochemistry analyses published by DGGS, and (2) valuable hard-rock mineral core and coalbed methane core samples stored in deteriorating boxes at the Alaska Geologic Materials Center (GMC). In addition, decaying core samples were re-boxed into new core boxes and relocated to an environmentally controlled area in the GMC. To serve the metadata records to the National Digital Catalog, DGGS created a Web Feature Service and SiteMap for each dataset. The WFSs are no longer available due to DGGS's evolving IT infrastructure but could be recreated in the future.

FY 2013: GMC staff and the DGGS database development team created site-specific metadata for two DGGS geologic data collections: (1) U.S. Bureau of Land Management (BLM) surface pulp samples and (2) valuable U.S. Bureau of Mines (BOM) hard-rock mineral core samples. All BOM core samples were reboxed into new core boxes. In addition, more than 14,000 BLM pulp samples were reboxed. Both collections of samples are now relocated to an environmentally controlled area in the new GMC facility. Inventory of surface pulps has progressed through more than 94,000 of an estimated 104,000 potential samples. Slightly over 8,000 of the inventoried surface pulps were

tied to specific locations in Alaska, and in total, 8,831 metadata records for the BOM and BLM collections were submitted to the National Data Catalog as XML files.

FY 2014: DGGS received funds to conduct a collection-level inventory of the vast number of legacy field photographs taken by current and former DGGS geologists, and to create metadata for a scientifically valuable collection of digitized legacy field photos taken by deceased DGGS geologist Rocky Reifenstuhl. As a result of this project, 2,231 metadata records for individual Reifenstuhl photographs were submitted to the National Digital Catalog and three collections of an estimated total of 220,038 photographs were identified and inventoried through interviews of present and former DGGS geologists. DGGS created a tool that programmatically associates and archives photos with locations and other pertinent data to facilitate the creation of metadata for field photographs for this project. The tool, in the early alpha stage of development, is available via a public source code repository.

FY 2015: In Progress, DGGS received funds to facilitate the rescue of energy-related project archive materials produced by former DGGS geologists Gil Mull and Ellen Harris. The energy resources-related studies of Mull and Harris represent a cumulative 60 years of seminal work in remote northern Alaska. DGGS is inventorying the project materials and will produce metadata at either the collection level or individual-item level, depending on the item. In addition, scanned station location maps will be georegistered and the field station points digitized and recorded in a GIS database. Individual site-specific metadata will be created for these maps and field stations to preserve the information, increase its accessibility, and provide content to the National Digital Catalog.

Summary of DGGS data preservation progress and needs as of 1/29/2016

Shaded collections have received funding from the USGS National Geological and Geophysical Data Preservation Program (NGGDPP) in the past to briefly assess or preserve part or all of the collection. Completeness is defined in terms of physical preservation, available contextual metadata including location of sample, and public accessibility. Status describes the current state of work and maintenance being performed on the collection.

Publication collections	*Media*	*Completeness*	*Status*
DGGS publications	Paper, digital	Complete	Active
GMC data reports	Digital	Complete	Active
USGS Alaska publications	Paper, digital	Complete	Active
U.S. BLM/BOM Alaska publications	Paper, digital	70% complete	Active
UAF MIRL publications	Paper, digital	99% complete	Active
Bibliography of Alaska volcanism (AVO)	Paper, digital	Complete	Active
Alaska theses	Paper, digital	Complete	Passive
Map Index outlines	Paper, digital	Complete	Active
Published GIS files	Digital	Complete	Active
Legacy GIS files	Digital	Not funded	None
Reference Library	Paper, digital	90% complete	Active

Published and unpublished data collections	***Media***	***Completeness***	***Status***
Minerals-related inorganic geochemical data	Paper, digital	Complete	Active
Energy-related inorganic geochemistry	Paper, digital	Not funded	None
Alaska Quaternary volcanic whole rock geochemical data (AVO)	Paper, digital	Complete	Active
DGGS Tephra analyses	Paper, digital	Not funded	None
AVO Tephra/glass analyses	Paper, digital	10% complete	Active
Organic geochemical data	Paper, digital	98% complete	Inactive
Geochronology (Ar-Ar, K-Ar, conventional U-Pb)	Paper, digital	80% complete	Inactive
U-Pb detrital zircon analyses	Paper, digital	Not funded	None
Apatite fission track analyses	Paper, digital	Not funded	None
Porosity and permeability data	Paper	Not funded	None
Sandstone composition reports	Paper	Not funded	None
Sediment grain-size analyses	Paper, digital	Not funded	None
Pebble counts	Paper, digital	Not funded	None
Measured stratigraphic sections	Paper, digital	Not funded	None
Petrographic analyses	Paper, digital	Not funded	None
Paleontology reports	Paper, digital	20% complete	Inactive
Microfossil reports	Paper, digital	Not funded	None
Seal capacity analyses (MICP)	Digital	Not funded	None
Geothermal data	Paper, digital	Complete	Active
Permafrost depth and ice content	Paper, digital	Not funded	None
Radiocarbon ages	Paper, digital	Not funded	None
Slope stability data	Paper	Not funded	None
Paleoseismic data	Paper	Not funded	None
DGGS field photographs	Slide, paper, digital	2% complete	Active
Gil Mull field photograph collection	Slide	Not funded	None
AVO field photographs	Paper, digital	Complete	Active
AVO vent features	Paper, digital	Complete	Active
AVO historical eruption data	Paper, digital	Complete	Active
Minerals Industry tracking and resources data	Paper, digital	20% complete	Inactive
Unpublished field data and project files	Paper	75% complete	Active
Unpublished field data and project files	Digital	Not funded	None
DGGS digital field station and sample locations	Paper, digital	20% complete	Active
Alaska Quaternary volcanism field station and sample locations (AVO)	Paper, digital	Complete	Active
Wes Wallace field data collection	Paper, digital	Not funded	None
Geophysical data	Paper, digital	50% complete	Active
VHS geophysical flight line video	Film	40% complete	Active
AMS/AOF geophysical flight line film	Film	Not funded	None
Gravity data	Paper, digital	Not funded	None

Physical sample and legacy paper collections	***Media***	***Completeness***	***Status***
Oil & gas well samples (GMC)	Physical samples	95% complete	Active
Processed slides (GMC)	Physical samples	84% complete	Active
DGGS surface samples (GMC)	Physical samples	16% complete	Active
Non-DGGS surface samples (GMC)	Physical samples	1% complete	Inactive
Megafossils (GMC)	Physical samples	7% complete	Active
Mineral exploration core (GMC)	Physical samples	66% complete	Active
U.S. BLM pulps (GMC)	Physical samples	8% complete	Active
U.S. BOM core (GMC)	Physical samples	89% complete	Active
U.S. BLM surface samples (GMC)	Physical samples	10% complete	Active
DGGS petrographic slides	Physical samples	Not funded	None
AVO petrographic slides	Physical samples	50% complete	Inactive
AVO rock samples	Physical samples	80% complete	Active
AVO processed samples	Physical samples	80% complete	Active
UAF Tectonics and Sedimentation Group samples	Physical samples	Not funded	None
Geo-engineering core samples	Physical samples	Not funded	None
Legacy analog geophysical data rolls	Paper, mylar	Not funded	None
Legacy paper air photos	Paper	Not funded	None
Legacy mineral industry data (AKMIDI)	Paper, digital	Complete	Passive
Szumigala defunct minerals company files	Paper	Not funded	None

APPENDIX C

CURRICULUM VITAE

Jennifer E. Athey

Geologist IV
Geoscience Information Manager
Education & Outreach Specialist

Alaska Division of Geological & Geophysical Surveys (DGGS)
3354 College Road Fairbanks, AK 99709
Office: (907) 451-5028, Fax: (907) 451-5050
jennifer.athey@alaska.gov

Education

1999 M.S. in Geology · University of Alaska Fairbanks · Fairbanks, Alaska

1993 B.S. in Geology · University of Delaware · Newark, Delaware

Work Experience

2009 – PRESENT Division of Geological & Geophysical Surveys
Alaska Department of Natural Resources · Fairbanks, Alaska
Geologist III-IV, Geologic Communications

Duties: Project administration, data management, education outreach, display of technical information, agency liaison, business process efficiency

2000 – 2009 Division of Geological & Geophysical Surveys
Alaska Department of Natural Resources · Fairbanks, Alaska
Geologist I-III, Minerals

Duties: Project and data management, geologic mapping, analytical studies, GIS

1996 – 2000 Mineral Exploration · Alaska
Field Geologist & Information Specialist

1993 – 1996 University of Alaska Fairbanks · Fairbanks, Alaska
University of Delaware · Newark, Delaware
Teaching Assistant · Lab & Field Assistant

Outreach and Data Delivery Projects

PRESENT DGGS website redesign · http://dggs.alaska.gov

PRESENT Field Photo Archiving Application and Inventory (in development)
USGS National Geological & Geophysical Data Preservation Program grant

2014 Airborne GeophysWeb · *DGGS Airborne Geophysical/Geological Mineral Inventory Program* · http://maps.dggs.alaska.gov/gp/

2013 Geologic Map Index of Alaska · *USGS Minerals Data & Information Rescue in Alaska grant* · http://maps.dggs.alaska.gov/mapindex/

2012 Alaska Geologic Data Index · *USGS Minerals Data & Information Rescue in Alaska grant* · http://maps.dggs.alaska.gov/agdi/

2011 Online Guide to Geologic Hazards · *Alaska Coastal Management Program, Sec 309 grant* · http://dggs.alaska.gov/sections/engineering/geohazards/

Group Facilitator and Communication Experience

2009 – PRESENT	Non-profit volunteer work - Enep'ut Children's Center, Fairbanks, Alaska. President. Website & social media manager. Guest teacher. http://eneput.com
2008 – PRESENT	DGGS liaison to USGS - National Cooperative Geologic Mapping Program, National Geospatial Program, and grant review committee member
2012	DGGS Geologic Communications Section Discovery Process, lead
2008 – 2009	DGGS Field Operations Safety Committee, co-lead
2008 – 2009	DGGS Outcrop-to-Publications Process committee, co-lead

Publications, selected

Solie, D.N., and **Athey**, J.E., 2015, Preliminary Evaluation of Bedrock Potential for Naturally Occurring Asbestos in Alaska: Alaska Division of Geological & Geophysical Surveys Miscellaneous Publication 157, 16 p., 21 sheets, scale 1:500,000. (approved)

Athey, J.E., Freeman, L.K., Harbo, L.A., and Lasley, P.S., 2014, Alaska's mineral industry 2013: Alaska Division of Geological & Geophysical Surveys Special Report 69, 65 p.

Athey, J.E., 2007, Geologic maps: solving problems by understanding our world: Alaska Division of Geological & Geophysical Surveys Information Circular 55, 2 p.

Athey, J.E., 2007, Using geologic maps: Alaska Division of Geological & Geophysical Surveys Information Circular 56, 2 p.

Athey, J.E., Newberry, R.J., Werdon, M.B., Freeman, L.K., Smith, R.L., and Szumigala, D.J., 2006, Bedrock geologic map of the Liberty Bell area, Fairbanks A-4 Quadrangle, Bonnifield mining district, Alaska: Alaska Division of Geological & Geophysical Surveys Report of Investigation 2006-2 v 1.0.1, 98 p., 1 sheet, scale 1:50,000.

Athey, J.E., and Craw, P.A., 2004, Geologic maps of the Livengood SW C-3 and SE C-4 quadrangles, Tolovana mining district, Alaska: Alaska Division of Geological & Geophysical Surveys Preliminary Investigative Report 2004-3, 24 p.

Presentations / Proceedings, selected

Athey, J.E., and DGGS staff, 2014, Geologic data processing and delivery at the Alaska Geological and Geophysical Surveys (Presentation): USGS Digital Mapping Techniques workshop, Salt Lake City, Utah, June 1-4, 2014.

Athey, J.E., 2012, A Plan and Plea for Increasing Communication about Digital Geologic Field Mapping, *in* Soller, D.R., ed., Digital Mapping Techniques '10—Workshop Proceedings: U.S. Geological Survey Open-File Report 2012-1171, p. 143–144.

Athey, J.E., and DGGS staff, 2012, On the horizon from DGGS… Increased access to online mineral-related data and updating the Alaska Mineral Industry reporting system (Presentation): Alaska Miners Association 2012 Annual Convention, Anchorage, Alaska.

Athey, J.E., and DGGS Staff, 2011, Shepherding Geologic Data from the Outcrop to Publication (and Beyond?), *in* Soller, D.R., ed., Digital Mapping Techniques '09—Workshop Proceedings, Morgantown, West Virginia, May 10–13, 2009: U.S. Geological Survey Open-File Report 2010–1335, p. 255–260.

Trystan M. Herriott

State of Alaska
Department of Natural Resources
Division of Geological & Geophysical Surveys
3354 College Road, Fairbanks, Alaska 99709-3707
http://dggs.alaska.gov/pubs/staff/tmherriott
trystan.herriott@alaska.gov

EDUCATION

• University of California at Santa Barbara (UCSB), September 2001–December 2006
- • Master of Science in Geological Sciences, December 2006
  Stratigraphy, structure, and $^{40}Ar/^{39}Ar$ geochronology of the southeastern Laguna del Laja area: Implications for the mid-late Cenozoic evolution of the Andes near 37.5ºS, Chile
- • Bachelor of Science in Geological Sciences, with Honors, June 2005

PROFESSIONAL EXPERIENCE

• Research geologist, State of Alaska, Division of Geological & Geophysical Surveys (DGGS), Fairbanks, Alaska, 2009–present
• Environmental consultant, Fairbanks, Alaska, 2007–2008
• Research and teaching assistant, Department of Earth Science, UCSB, Santa Barbara, California, 2005–2006
• Research intern, Cascades Volcano Observatory, U.S. Geological Survey (USGS), Vancouver, Washington, 2005

RESEARCH AREAS AND STATEMENT

• Stratigraphy, volcaniclastic processes, sequence stratigraphy, clastic sedimentology, geochronology, geologic mapping
• My research aims to unravel sedimentary basin histories by examining basin-fill strata. I collaborate with geologists from state agencies, USGS, and academia, focusing on basin analysis and tectonic framework studies that shed light on the geologic context and evolution of petroleum-bearing basins. Integration of surface and subsurface data is an important aspect of my work, and collaboration with geologists and geophysicists at the Alaska Division of Oil and Gas is critical to this effort. Current projects include studies in northern, interior, and southern Alaska.

HONORS

• Gold Pencil Award to Herriott and others (2014; doi:10.14509/27261), DGGS, 2014
• Lloyd and Mary Edwards Field Studies Fellowship, Department of Earth Science, UCSB, 2006
• Outstanding Senior Award, Department of Earth Science, UCSB, 2005
• John Woolley Scholarship, Coast Geological Society, 2005
• Awardee, USGS and National Association of Geoscience Teachers (NAGT) research internship, 2005
• Nominee, USGS and NAGT research internship, 2004
• Robert M. Norris Prize in Field Geology, Department of Geological Sciences, UCSB, 2004

SELECTED PROFESSIONAL ACTIVITIES

• Volume editor, *Petroleum-related geologic studies in lower Cook Inlet during 2015, Iniskin–Tuxedni region, south-central Alaska*, 2016
• Invited lecture, *Sequence stratigraphic framework of the Upper Jurassic Naknek Formation, Cook Inlet forearc basin, south-central Alaska*, University of Alaska Fairbanks, 2015
• Invited lecture, *Sequence stratigraphic framework of the Upper Jurassic Naknek Formation, Cook Inlet forearc basin, south-central Alaska*, Alaska Geological Society, 2015
• Theme session co-chair: *Tectonics, Sedimentation, and Energy Resource Potential of the Northern Cordillera*, Geological Society of America Cordilleran Section annual meeting, 2015
• Chairperson, Field Operations Safety Committee, DGGS, 2014–present
• Board of Directors, Alaska Geological Society, 2012–2014

PUBLISHED PAPERS

Herriott, T.M., ed., 2016 (in press), Petroleum-related geologic studies in lower Cook Inlet during 2015, Iniskin–Tuxedni region, south-central Alaska: Alaska Division of Geological & Geophysical Surveys Preliminary Interpretive Report 2016-1, 78 p.

Herriott, T.M., Wartes, M.A., and Decker, P.L., 2016 (in press), Record of a Late Jurassic deep-water canyon at Chisik Island, south-central Alaska: Further delineation of Naknek Formation depositional systems in lower Cook Inlet, *in* Herriott, T.M., ed., Petroleum-related geologic studies in lower Cook Inlet during 2015, Iniskin–Tuxedni region, south-central Alaska: Alaska Division of Geological & Geophysical Surveys Preliminary Interpretive Report 2016-1, p. 45–49.

Herriott, T.M., Wartes, M.A., Decker, P.L., and Harun, N.T., 2016 (in press), Preliminary stratigraphic architecture of the Middle Jurassic Paveloff Siltstone Member, Chinitna Formation, Tuxedni Bay area, Cook Inlet, Alaska, *in* Herriott, T.M., ed., Petroleum-related geologic studies in lower Cook Inlet during 2015, Iniskin–Tuxedni region, south-central Alaska: Alaska Division of Geological & Geophysical Surveys Preliminary Interpretive Report 2016-1, p. 39–44.

Wartes, M.A., and Herriott, T.M., 2015, Oil-stained sandstone in the Middle Jurassic lower Paveloff Siltstone Member of the Chinitna Formation: Exploring the potential role of facies variations in controlling diagenesis and reservoir quality in western Cook Inlet, Alaska: Alaska Division of Geological & Geophysical Surveys Preliminary Interpretive Report 2015-7, 9 p. doi: doi:10.14509/29533

Gillis, R.J., Herriott, T.M., and Tsigonis, R.M., 2015, Preliminary results of reconnaissance structural studies of the western Susitna basin, south-central Alaska, *in* Gillis, R.J., ed., Overview of 2014 energy-focused studies in Susitna Basin, south-central Alaska, and preliminary results: Alaska Division of Geological & Geophysical Surveys Preliminary Interpretive Report 2015-3-5, p. 25–34. doi:10.14509/29469

Herriott, T.M., Decker, P.L., and Wartes, M.A., 2015, Evidence of a submarine canyon in the Snug Harbor Siltstone and Pomeroy Arkose Members, Naknek Formation, south-central Alaska: Implications for the distribution of coarse-grained sediment in Upper Jurassic strata of Cook Inlet, *in* Wartes, M.A., ed., Energy-related studies during the 2014 field season, western Cook Inlet, Alaska: Alaska Division of Geological & Geophysical Surveys Preliminary Interpretive Report 2015-5-9, p. 57–62. doi:10.14509/29464

Nina T. Harun

Alaska Division of Geological and Geophysical Surveys (ADGGS)
3354 College Rd.
Fairbanks, AK 99709
(907) 451-3191
nina.harun@alaska.gov

EDUCATION

M.S. Geology, UNIVERSITY OF ALASKA, FAIRBANKS, 1990.
B.S in Geology, BELOIT COLLEGE, BELOIT, WISCONSIN, 1984.

EXPERIENCE

Geologist - **ALASKA DIVISION OF GEOLOGICAL AND GEOPHYSICAL SURVEYS –**

- Energy Group – Creating and implementing DGGS energy database. Red Glacier field map for the USGS State Map program-field work, logistics and generation of final mapping product. Conducted a field based coal study of the Susitna basin as part of an energy-focused sedimentological and structural study of the basin. Updating and editing geologic maps in ArcGIS. 2014 – Present.

- Energy Group - Coal and Geothermal – Compiled data on coal mines and deposits for inclusion into a coal database. Collaborated on creation of the Geothermal Sites of Alaska Map. Compiled data on thermal springs and geothermal activity including direct use, geochemistry, near earthquake data, geothermal wells, and bottom hole temperatures. Worked on generation of the Geothermal Map of Alaska in ArcGIS. Produced new Alaska geothermal bibliography. 1 year

Geologist - **UNOCAL CORPORATION** (Spirit Energy 76) -

-Gulf of Mexico Shelf Exploration and Western Gulf of Mexico Development/Geophysical Technical Services – Evaluated, generated, and developed prospects for the Gulf of Mexico sale using of 3-D and 2-D seismic data, and well log data. Generated structure maps, amplitude maps, net pay maps, cross-sections, synthetics and risk analysis to evaluate and develop prospects. 4 years.

PUBLICATIONS

Harun, N.T., LePain, D.L., Tsigonis, R.M., Helmold, K.P., Stanley, R.G., 2015, **Reconnaissance Coal Study in the Susitna Basin**, *in* Gillis R.J., ed., 2015, Overview of 2014 energy-focused field studies in Susitna basin, south-central Alaska, and preliminary results: Alaska Division of Geological & Geophysical Surveys, Preliminary Interpretive Report 2015-3, 34 p. doi:10.14509/29408.

Clough James G., Nina T. Harun, Cameron A. Hughes, James R. Weakland and Cheryl E. Cameron, 2013, **Alaska Geothermal Sites Map and Database: Bringing together legacy and new geothermal data for research, exploration and development**, Abstract IN13A-1559 presented at 2013 Fall Meeting, American Geophysical Union, San Francisco, Calif., 9-13 Dec.

Harun, N., 2001, **Porosity Development in a Detrital Chert Reservoir: Diagenesis and Provenance of the Sadlerochit Reservoir (Lower Triassic Ivishak Sandstone), Prudhoe Bay, Alaska (abs.)**, AAPG Annual meeting, Denver, CO, June 2001.

Harun, Nina, 1996**, Siderite in the Ivishak Sandstone, Prudhoe Bay, Alaska: Is it an Indicator of an Early Burial Environment? (abs.),** AAPG Annual meeting, San Diego, CA, May 1996.

Lagoe, Martin, Paul Mann, and Nina Harun, 1995, **Effects of subduction of the Hawaii-Emperor seamount chain on the Kamchatka convergent margin, 2: Structural and stratigraphic effects on the fore arc basin (abs.),** American Geophysical Union, fall meeting, 1995.

SKILLS

ARCGIS **-** GIS editing, analysis and computer mapping.
Coal analysis, Well log analysis, Subsurface geological mapping, Geophysics for geologists, Risk Analysis, Petrography

PROFESSIONAL SOCIETIES- Geological Society of America, American Association of Petroleum Geologists, Alaska Geological Society

Christopher Ramey

EXPERTISE

Languages

ActionScript, C#, C/C++, CFML, Go, HTML, Java, JavaScript, Lua, PHP, Python, Ruby, SQL, Visual Basic

Databases

CouchDB, db4o, H2, MongoDB, MySQL, Oracle, PostgreSQL, SQL Server, SQLite

Frameworks/APIs

Android, ASP.NET, EJB, Hibernate, jQuery, JSF, JSP, Leaflet, Lucene, OpenLayers, PEAR, Posix, Servlets, Sphinx, Spring

Systems

BSD, Linux, Mac OS X, Solaris, UNIX, Windows

PROFESSIONAL EXPERIENCE

State of Alaska, Department of Natural Resources

Analyst/Programmer IV – 2011 to Present

Worked closely with geologists, geophysicists and paleontologists to design, develop and document software allowing them to present their work to the public in meaningful and interesting ways.

Southcentral Foundation

Application Developer II – 2010 to 2011

Developed and designed a variety of software for internal and external use. Authored software specifications and supported other developers in their efforts.

The Sage Group, LLC

Project Manager/Senior Software Engineer – 2001 to 2010

Responsible for managing and developing hundreds of projects, often leading other engineers. Authored scope, budget and technical specifications.

Integrity Solutions, Inc

Software Engineer – 1999 to 2001

Designed and developed custom software. Helped clients to develop ideas and bring projects to fruition.

Era Aviation

System Administrator – 1996 to 1999

Managed backups and provided technical support to night crew. On-call 24/7 for system troubleshooting.

APPENDIX D

BUDGET DOCUMENTS

QUOTE FROM SCANNING CONTRACTOR

PORTABLE MICROGRAPHICS, INC.
Microfilm & Imaging Services

Jan 26, 2016

Jennifer Athey, Geologist
Alaska Division of Geological & Geophysical Surveys
3354 College Road
Fairbanks, Alaska 99709-3707

Jen,

Thank you for allowing me to send you pricing on the digital conversion of your 35mm slide collection. There are a total of approximately 5,000 35mm slides that are located in Santa Fe, NM. I travel to Santa Fe often and can do the pick-up and delivery back at no additional charge provided it works into a regularly scheduled trip. The 35mm slides will be digitized in color at 600 dpi using an 8" X 10" rasterization scale resulting in an image with approximately 4,800 pixels X 6,000 pixels.

Since the slides are in plastic sleeves and the information around the actual slide is required. Here are 2 options for capturing the information:

Option 1 for the information around the slides:

We can scan each slide capturing the information around the slide image. Then as we scan the slides with the pictures we will number everything so that you have the picture and then the information. The information around the slide will be scanned at 600 dpi but not rasterized. This option would result in twice as many images but the information corresponding to each slide would be right next to the picture of the slide.
The cost for this option would be an additional $ .20 per slide.

Option 2 for the information around the slides:

We can scan the actual plastic sleeve resulting in a single image with all of the information around each slide visible. We would need to use a sharpie marker to write a unique number on the plastic sleeve to the side of each slide and then the slide picture would be named using the unique number next to its text information.
The cost for this option would be an additional $ 3.00 per plastic sleeve.

We can provide either tif or jpeg version as the final delivery or if required both. If the slides need dusting or cleaning this will be done with compressed air to avoid any damage to the slide. If cleaning is required there will be an additional charge of $ .06 per slide. All slides will be scanned on an Epson flatbed scanner. Once scanned, the images will be named using a naming convention to be discussed.

QUOTE FROM SCANNING CONTRACTOR, PAGE 2

The following is the pricing to digitally convert the 35mm slide collection to tif and jpeg images:

5,000 photos X $ .50 per 35mm slide……..	= $ 2,500.00
New Mexico Gross Receipts (7.1875%)……..	= $ 179.69
Estimated Total	= $ 2,679.69

If there are more 35mm slides or fewer 35mm slides the final invoice will reflect the actual number of photos scanned.

If you have any questions regarding this quote please do not hesitate to contact me at our office 1-877-881-4665 or on my cell phone 1-505-228-2808. Thank you for your consideration for your digital conversion needs.

Sincerely,

John Pinkston
Portable Micrographics, Inc.
2415 Princeton NE Suite K
Albuquerque, NM 87107
portablemicrographics.com

NEGOTIATED RATE AGREEMENTS FOR SALARY AND BENEFITS – GEOLOGIST IV

Personal Services Detail for PCN 10-2016 (391)

Scenario FY: 2017
Scenario: FY2017 Governor
Department: Natural Resources

PS FY: 2017
RDU: Fire Land and Water Resources
Component: Geological & Geophysical Surveys

Position Detail:

Last Edit By:	DMMACKEY	Edit Date:	11/14/2015 08:48 PM
Position Status:	Existing	Budgeted Months:	12.0
Bargaining Unit:	General Gov't Employees (GP)	Component Months:	12.0
Class:	P8343 Geologist IV	Merit Date:	09/16/2016
Location:	Fairbanks (JBA)	Salary Change Date:	09/16/2016
Position Type:	JCCL Full Time	Calculation Method:	Monthly - Salary Override
Retirement:	A PERS Other	Range/Step 1:	21 K 7,964.00/mth. for 2.5 mths.
Salary Schedule:	403 BASE +3%	Range/Step 2:	21 L 8263.00/mth. for 9.5 mths.
Strike Class:	3		
Overtime Eligible:	Yes	Total Salary:	98,409
Position Frozen:	No	Total Premium Pay:	0
Position Split:	No	Total Benefits:	51,857
Project:	0	Total COLA:	0
Region:	60		
		Total Position Cost:	150,266

COLA:

Effective Dates	Percent	COLA Cost
1. 07/01 thru 06/30	0.00%	0
2. [none]	0.00	0
	Total COLA:	0

Premium Pay:

Overtime Pay:	0.00	Hours:	0.0	Higher Class Pay:	0.00
Graveyard Pay:	0.00	Mths:	0.0	Standby Pay:	0.00
Swing Shift Pay:	0.00	Mths:	0.0	Subsistence Pay:	0.00
Hazardous Pay:	0.00			Additional Pay:	0.00
Seaduty Pay:	0.00			Total Premium Pay:	0.00

Benefits:

Department Benefits:	FULL	
Leave Cash-In:	2.26%=	2224.04
Risk management:	2.22%=	2184.68
Unemployment Insurance:	0.40%=	393.64
Term leave:	1.15%=	1131.70
Short Term Non Perm:	0.00%=	0.00
Unique Rate:	0.00%=	0.00
Bargaining Unit Override Rate:	0.00%=	0.00
Total Department Benefits:	6.03%=	5,934.06

Retirement Benefit:	FULL	
Retirement Benefit:	22.00%=	21,649.98
	0.00 / Mth.=	0.00

Statewide Benefits:	FULL	
Health Insurance:	1,389.00 / Mth.=	16,668.00 / Yr
Life Insurance:	3.48 / Mth.=	41.76 / Yr
Legal Trust Fund:	8.00 / Mth.=	96.00 / Yr
Other:	0.67 / Mth.=	8.04 / Yr
Total Statewide Benefits:	1,401.15 / Mth.=	16,813.80 / Yr

SBS Benefits:	FULL	
Supplemental Benefits:	6.13%=	6,032.47

Medicare Deduction:	FULL	
Medicare Cost:	1.45%=	1,426.93
Total Benefits:	51,857	

Notes:

7/12/15 - The position type does not match.~Showalter

11/14/15: This position is in salary override to allow for the adjustment in pay increment from 3.75% to 3.25% in FY2017. DM

Funding Detail:

	Percent	Amount
1002 Federal Receipts	5.00%	7,513.30
1004 General Fund Receipts	65.00%	97,672.90
1061 Capital Improvement Project Receipts	30.00%	45,079.80
Totals:	100.00%	150,266.00

Actuals as of 11/29/2015:

Bargaining Unit:	GP	FYTD Overtime Pay:	0
Class:	P8343 Geologist IV	FYTD Graveyard Pay:	0
Location:	JBA	FYTD Swing Shift Pay:	0
Salary Schedule:	403	FYTD Hazardous Pay:	0

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NEGOTIATED RATE AGREEMENTS FOR SALARY AND BENEFITS – GEOLOGIST IV, PAGE 2

Personal Services Detail for PCN 10-2016 (391)

Scenario FY: 2017 **PS FY:** 2017
Scenario: FY2017 Governor **RDU:** Fire Land and Water Resources
Department: Natural Resources **Component:** Geological & Geophysical Surveys

Retirement Code:	A	FYTD Seaduty Pay:	0
Range / Step:	21 / K	FYTD Subsistence Pay:	0
Merit Date:	09/16/2016	FYTD Standby Pay:	0
FYTD Regular:	35,838	FYTD Additional Pay:	0
Emp CC:	PE Permanent		
Position:	FACL	Seasonal Indicator:	FR

NEGOTIATED RATE AGREEMENTS FOR SALARY AND BENEFITS – GEOLOGIST III

Personal Services Detail for PCN 10-2232 (391)

Scenario FY: 2017
Scenario: FY2017 Governor
Department: Natural Resources

PS FY: 2017
RDU: Fire Land and Water Resources
Component: Geological & Geophysical Surveys

Position Detail:

Last Edit By:	DMMACKEY	Edit Date:	11/14/2015 08:51 PM
Position Status:	Existing	Budgeted Months:	12.0
Bargaining Unit:	General Gov't Employees (GP)	Component Months:	12.0
Class:	P8342 Geologist III	Merit Date:	03/16/2016
Location:	Fairbanks (JBA)	Salary Change Date:	03/16/2018
Position Type:	FACL Full Time	Calculation Method:	Monthly - Salary Override
Retirement:	A PERS Other	Range/Step 1:	19 L 7,217.00/mth. for 12.0 mths.
Salary Schedule:	403 BASE +3%	Range/Step 2:	19 M 0.00/mth. for 0.0 mths.
Strike Class:	3		
Overtime Eligible:	Yes	Total Salary:	86,604
Position Frozen:	No	Total Premium Pay:	0
Position Split:	No	Total Benefits:	47,654
Project:		Total COLA:	0
Region:			
		Total Position Cost:	134,258

COLA:

Effective Dates	Percent	COLA Cost
1. 07/01 thru 06/30	0.00%	0
2. [none]	0.00	0
	Total COLA:	0

Premium Pay:

Overtime Pay:	0.00	Hours:	0.0	Higher Class Pay:	0.00
Graveyard Pay:	0.00	Mths:	0.0	Standby Pay:	0.00
Swing Shift Pay:	0.00	Mths:	0.0	Subsistence Pay:	0.00
Hazardous Pay:	0.00			Additional Pay:	0.00
Seaduty Pay:	0.00			Total Premium Pay:	0.00

Benefits:

Department Benefits:	FULL	
Leave Cash-In:	2.26%=	1957.25
Risk management:	2.22%=	1922.61
Unemployment Insurance:	0.40%=	346.42
Term leave:	1.15%=	995.95
Short Term Non Perm:	0.00%=	0.00
Unique Rate:	0.00%=	0.00
Bargaining Unit Override Rate:	0.00%=	0.00
Total Department Benefits:	6.03%=	5,222.23

Retirement Benefit:	FULL	
Retirement Benefit:	22.00%=	19,052.88
	0.00 / Mth.=	0.00

Statewide Benefits:	FULL	
Health Insurance:	1,389.00 / Mth.=	16,668.00 / Yr
Life Insurance:	3.48 / Mth.=	41.76 / Yr
Legal Trust Fund:	8.00 / Mth.=	96.00 / Yr
Other:	0.67 / Mth.=	8.04 / Yr
Total Statewide Benefits:	1,401.15 / Mth.=	16,813.80 / Yr

SBS Benefits:	FULL	
Supplemental Benefits:	6.13%=	5,308.83

Medicare Deduction:	FULL	
Medicare Cost:	1.45%=	1,255.76
Total Benefits:	47,654	

Notes:

7/12/15: Late merit. Needs evaluation.~Showalter
11/14/15: This position is in salary override to allow for the adjustment in pay increment from 3.75% to 3.25% in FY2017. DM

Funding Detail:

	Percent	Amount
1002 Federal Receipts	5.00%	6,712.90
1004 General Fund Receipts	70.00%	93,980.60
1007 Interagency Receipts	10.00%	13,425.80
1061 Capital Improvement Project Receipts	15.00%	20,138.70
Totals:	100.00%	134,258.00

Actuals as of 11/29/2015:

Bargaining Unit:	GP	FYTD Overtime Pay:	0
Class:	P8342 Geologist III	FYTD Graveyard Pay:	0
Location:	JBA	FYTD Swing Shift Pay:	0
Salary Schedule:	403	FYTD Hazardous Pay:	0

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NEGOTIATED RATE AGREEMENTS FOR SALARY AND BENEFITS – GEOLOGIST III, PAGE 2

Personal Services Detail for PCN 10-2232 (391)

Scenario FY: 2017 **PS FY:** 2017
Scenario: FY2017 Governor **RDU:** Fire Land and Water Resources
Department: Natural Resources **Component:** Geological & Geophysical Surveys

Retirement Code:	A	FYTD Seaduty Pay:	0
Range / Step:	19 / K	FYTD Subsistence Pay:	0
Merit Date:	03/16/2016	FYTD Standby Pay:	0
FYTD Regular:	35,097	FYTD Additional Pay:	60
Emp CC:	PE Permanent		
Position:	FACL	Seasonal Indicator:	FR

Position Justification:
This is a long term non-perm project position that is currently filled and is working on the federally funded scanning project. This position was not previously budgeted in the FY-04 budget. This PCN will be 100% funded from CIP receipts from the federally funded scanning project.

NEGOTIATED RATE AGREEMENTS FOR SALARY AND BENEFITS – GEOLOGIST II

Personal Services Detail for PCN 10-2035 (391)

Scenario FY: 2017
Scenario: FY2017 Governor
Department: Natural Resources

PS FY: 2017
RDU: Fire Land and Water Resources
Component: Geological & Geophysical Surveys

Position Detail:

Last Edit By:	LCFLORES	Edit Date:	11/03/2015 01:36 PM
Position Status:	Existing	Budgeted Months:	12.0
Bargaining Unit:	General Gov't Employees (GP)	Component Months:	12.0
Class:	P8341 Geologist II	Merit Date:	07/01/2015
Location:	Fairbanks (JBA)	Salary Change Date:	01/01/2017
Position Type:	FACL Full Time	Calculation Method:	Monthly - Steps and Salary Change Date
Retirement:	A PERS Other	Range/Step 1:	17 C 4,921.00/mth. for 6.0 mths.
Salary Schedule:	203 BASE +3%	Range/Step 2:	17 D 5096.00/mth. for 6.0 mths.
Strike Class:	3		
Overtime Eligible:	Yes	Total Salary:	60,102
Position Frozen:	No	Total Premium Pay:	0
Position Split:	No	Total Benefits:	38,216
Project:	0	Total COLA:	0
Region:	60		
		Total Position Cost:	98,318

COLA:

Effective Dates	Percent	COLA Cost
1. 07/01 thru 06/30	0.00%	0
2. [none]	0.00	0
	Total COLA:	0

Premium Pay:

Overtime Pay:	0.00	Hours:	0.0	Higher Class Pay:	0.00
Graveyard Pay:	0.00	Mths:	0.0	Standby Pay:	0.00
Swing Shift Pay:	0.00	Mths:	0.0	Subsistence Pay:	0.00
Hazardous Pay:	0.00			Additional Pay:	0.00
Seaduty Pay:	0.00			Total Premium Pay:	0.00

Benefits:

Department Benefits:	FULL	
Leave Cash-In:	2.26%=	1358.31
Risk management:	2.22%=	1334.26
Unemployment Insurance:	0.40%=	240.41
Term leave:	1.15%=	691.17
Short Term Non Perm:	0.00%=	0.00
Unique Rate:	0.00%=	0.00
Bargaining Unit Override Rate:	0.00%=	0.00
Total Department Benefits:	6.03%=	3,624.15

Retirement Benefit:	FULL	
Retirement Benefit:	22.00%=	13,222.44
	0.00 / Mth.=	0.00

Statewide Benefits:	FULL	
Health Insurance:	1,389.00 / Mth.=	16,668.00 / Yr
Life Insurance:	3.48 / Mth.=	41.76 / Yr
Legal Trust Fund:	8.00 / Mth.=	96.00 / Yr
Other:	0.67 / Mth.=	8.04 / Yr
Total Statewide Benefits:	1,401.15 / Mth.=	16,813.80 / Yr

SBS Benefits:	FULL	
Supplemental Benefits:	6.13%=	3,684.25

Medicare Deduction:	FULL	
Medicare Cost:	1.45%=	871.48
Total Benefits:	38,216	

Notes:

7/12/2015 - Vacant - not sure of fill date.~ Showalter

10-22-2015 - Reclass down, effective 10-9-2015, Anticipated fill date 1-1-16. ~ Showalter

Funding Detail:

	Percent	Amount
1002 Federal Receipts	5.00%	4,915.90
1004 General Fund Receipts	65.00%	63,906.70
1061 Capital Improvement Project Receipts	30.00%	29,495.40
Totals:	100.00%	98,318.00

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NEGOTIATED RATE AGREEMENTS FOR SALARY AND BENEFITS – ANALYST/PROGRAMMER IV

Personal Services Detail for PCN 10-2223 (391)

Scenario FY: 2017
Scenario: FY2017 Governor
Department: Natural Resources

PS FY: 2017
RDU: Fire Land and Water Resources
Component: Geological & Geophysical Surveys

Position Detail:

Last Edit By:	SLSHOWALTER	Edit Date:	10/23/2015 08:35 AM
Position Status:	Existing	Budgeted Months:	12.0
Bargaining Unit:	General Gov't Employees (GP)	Component Months:	12.0
Class:	P1624 Analyst/Programmer IV	Merit Date:	03/16/2015
Location:	Fairbanks (JBA)	Salary Change Date:	03/16/2017
Position Type:	FACL Full Time	Calculation Method:	Monthly - Steps and Salary Change Date
Retirement:	A PERS Other	Range/Step 1:	20 K 7,404.00/mth. for 8.5 mths.
Salary Schedule:	203 BASE +3%	Range/Step 2:	20 L 7645.00/mth. for 3.5 mths.
Strike Class:	3		
Overtime Eligible:	Yes	Total Salary:	89,692
Position Frozen:	No	Total Premium Pay:	0
Position Split:	No	Total Benefits:	48,753
Project:	0	Total COLA:	0
Region:	60		
		Total Position Cost:	138,445

COLA:

Effective Dates	Percent	COLA Cost
1. 07/01 thru 06/30	0.00%	0
2. [none]	0.00	0
	Total COLA:	0

Premium Pay:

Overtime Pay:	0.00	Hours:	0.0	Higher Class Pay:	0.00
Graveyard Pay:	0.00	Mths:	0.0	Standby Pay:	0.00
Swing Shift Pay:	0.00	Mths:	0.0	Subsistence Pay:	0.00
Hazardous Pay:	0.00			Additional Pay:	0.00
Seaduty Pay:	0.00			Total Premium Pay:	0.00

Benefits:

Department Benefits:	FULL	
Leave Cash-In:	2.26%=	2027.04
Risk management:	2.22%=	1991.16
Unemployment Insurance:	0.40%=	358.77
Term leave:	1.15%=	1031.46
Short Term Non Perm:	0.00%=	0.00
Unique Rate:	0.00%=	0.00
Bargaining Unit Override Rate:	0.00%=	0.00
Total Department Benefits:	6.03%=	5,408.43

Retirement Benefit:	FULL	
Retirement Benefit:	22.00%=	19,732.24
	0.00 / Mth.=	0.00

Statewide Benefits:	FULL	
Health Insurance:	1,389.00 / Mth.=	16,668.00 / Yr
Life Insurance:	3.48 / Mth.=	41.76 / Yr
Legal Trust Fund:	8.00 / Mth.=	96.00 / Yr
Other:	0.67 / Mth.=	8.04 / Yr
Total Statewide Benefits:	1,401.15 / Mth.=	16,813.80 / Yr

SBS Benefits:	FULL	
Supplemental Benefits:	6.13%=	5,498.12
Medicare Deduction:	FULL	
Medicare Cost:	1.45%=	1,300.53
Total Benefits:	48,753	

Notes:
7/12/2015 - Late Merit. Needs Evaluation ~Showalter

Funding Detail:

	Percent	Amount
1004 General Fund Receipts	70.00%	96,911.50
1007 Interagency Receipts	5.00%	6,922.25
1061 Capital Improvement Project Receipts	25.00%	34,611.25
Totals:	100.00%	138,445.00

Actuals as of 11/29/2015:

Bargaining Unit:	GP	FYTD Overtime Pay:	0
Class:	P1624 Analyst/Programmer IV	FYTD Graveyard Pay:	0
Location:	JBA	FYTD Swing Shift Pay:	0
Salary Schedule:	203	FYTD Hazardous Pay:	0

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NEGOTIATED RATE AGREEMENTS, SALARY & BENEFITS–ANALYST/PROGRAMMER IV, PAGE 2

Personal Services Detail for PCN 10-2223 (391)

Scenario FY: 2017 **PS FY:** 2017
Scenario: FY2017 Governor **RDU:** Fire Land and Water Resources
Department: Natural Resources **Component:** Geological & Geophysical Surveys

Retirement Code:	A	FYTD Seaduty Pay:	0
Range / Step:	20 / J	FYTD Subsistence Pay:	0
Merit Date:	03/16/2015	FYTD Standby Pay:	0
FYTD Regular:	32,270	FYTD Additional Pay:	0
Emp CC:	PE Permanent		
Position:	FACL	Seasonal Indicator:	FR

NEGOTIATED RATE AGREEMENTS – MICROCOMPUTER/NETWORK SPECIALIST III

Personal Services Detail for PCN 10-0279 (391)

Scenario FY: 2017
Scenario: FY2017 Governor
Department: Natural Resources

PS FY: 2017
RDU: Fire Land and Water Resources
Component: Geological & Geophysical Surveys

Position Detail:

Last Edit By:	DMMACKEY	Edit Date:	10/14/2015 11:37 AM
Position Status:	Existing	Budgeted Months:	12.0
Bargaining Unit:	General Gov't Employees (GP)	Component Months:	12.0
Class:	P1634 Micro/Network Spec II	Merit Date:	03/16/2016
Location:	Fairbanks (JBA)	Salary Change Date:	03/16/2018
Position Type:	FACL Full Time	Calculation Method:	Monthly - Steps and Salary Change Date
Retirement:	A PERS Other	Range/Step 1:	20 J 7,171.00/mth. for 12.0 mths.
Salary Schedule:	203 BASE +3%	Range/Step 2:	20 K 0.00/mth. for 0.0 mths.
Strike Class:	3		
Overtime Eligible:	Yes	Total Salary:	86,052
Position Frozen:	No	Total Premium Pay:	0
Position Split:	No	Total Benefits:	47,457
Project:	0	Total COLA:	0
Region:	60		
		Total Position Cost:	133,509

COLA:

Effective Dates	Percent	COLA Cost
1. 07/01 thru 06/30	0.00%	0
2. [none]	0.00	0
	Total COLA:	0

Premium Pay:

Overtime Pay:	0.00	Hours:	0.0	Higher Class Pay:	0.00
Graveyard Pay:	0.00	Mths:	0.0	Standby Pay:	0.00
Swing Shift Pay:	0.00	Mths:	0.0	Subsistence Pay:	0.00
Hazardous Pay:	0.00			Additional Pay:	0.00
Seaduty Pay:	0.00			Total Premium Pay:	0.00

Benefits:

Department Benefits:	FULL		Statewide Benefits:	FULL	
Leave Cash-In:	2.26%=	1944.78	Health Insurance:	1,389.00 / Mth.=	16,668.00 / Yr
Risk management:	2.22%=	1910.35	Life Insurance:	3.48 / Mth.=	41.76 / Yr
Unemployment Insurance:	0.40%=	344.21	Legal Trust Fund:	8.00 / Mth.=	96.00 / Yr
Term leave:	1.15%=	989.60	Other:	0.67 / Mth.=	8.04 / Yr
Short Term Non Perm:	0.00%=	0.00	Total Statewide Benefits:	1,401.15 / Mth.=	16,813.80 / Yr
Unique Rate:	0.00%=	0.00			
Bargaining Unit Override Rate:	0.00%=	0.00	**SBS Benefits:**	FULL	
Total Department Benefits:	6.03%=	5,188.94	Supplemental Benefits:	6.13%=	5,274.99
			Medicare Deduction:	FULL	
Retirement Benefit:	FULL		Medicare Cost:	1.45%=	1,247.75
Retirement Benefit:	22.00%=	18,931.44			
	0.00 / Mth.=	0.00	Total Benefits:	47,457	

Notes:

Funding Detail:

		Percent	Amount
1004 General Fund Receipts		70.00%	93,456.30
1061 Capital Improvement Project Receipts		30.00%	40,052.70
	Totals:	100.00%	133,509.00

Actuals as of 11/29/2015:

Bargaining Unit:	GP	FYTD Overtime Pay:	0
Class:	P1634 Micro/Network Spec II	FYTD Graveyard Pay:	0
Location:	JBA	FYTD Swing Shift Pay:	0
Salary Schedule:	203	FYTD Hazardous Pay:	0
Retirement Code:	A	FYTD Seaduty Pay:	0
Range / Step:	20 / G	FYTD Subsistence Pay:	0

NEGOTIATED RATE AGREEMENTS – MICROCOMPUTER/NETWORK SPECIALIST III, PAGE 2

Personal Services Detail for PCN 10-0279 (391)

Scenario FY: 2017 **PS FY:** 2017
Scenario: FY2017 Governor **RDU:** Fire Land and Water Resources
Department: Natural Resources **Component:** Geological & Geophysical Surveys

Merit Date:	03/16/2016	FYTD Standby Pay:	0
FYTD Regular:	28,758	FYTD Additional Pay:	2,402
Emp CC:	PE Permanent		
Position:	FACL	Seasonal Indicator:	FR

NEGOTIATED INDIRECT COST RATE AGREEMENT

United States Department of the Interior
INTERIOR BUSINESS CENTER
Indirect Cost Services
2180 Harvard Street, Suite 430
Sacramento, CA 95815

December 28, 2015

Mr. Fabienne Peter-Contesse, Director
Support Services Division
Alaska Department of Natural Resources
P.O. Box 111000
Juneau, AK 99811-1000

Dear Mr. Peter-Contesse:

Enclosed is the signed original Negotiated Indirect Cost Rate Agreement that was processed by our office. If you have any questions concerning this agreement, please refer to the signature page for the name and contact number of the negotiator.

As a recipient of federal funds, the regulations require you to maintain a current indirect cost rate agreement. For provisional/final indirect cost rates, Indirect Cost Proposals should be submitted on an annual basis, and they are due within six (6) months after the close of your fiscal year. For predetermined rates and approved rate extensions, proposals are due in our office six (6) months prior to the expiration of your current rate agreement. Please note that proposals are processed on a first-in, first-out basis.

Common fiscal year end dates and proposal due dates are listed below:

Fiscal Year End Date	Proposal Due Date
September 30th	March 31st
December 31st	June 30th
June 30th	December 31st

Please visit our Web site at http://www.doi.gov/ibc/services/Indirect_Cost_Services for guidance and updates on submitting future indirect cost proposals. The website includes helpful tools such as a completeness checklist, indirect cost and lobbying certificates, sample proposals, Excel worksheet templates, and links to other Web sites.

Sincerely,

Deborah A. Moberly
Office Chief

Enclosure
Ref: J:\States & Local Gov\Alaska\Alaska Department of Natural Resources (Aknrw202)\FY 16C\Aknr.Issue.ltr.16.docx

Phone: (916) 566-7111
Fax: (916)566-7110
Email: ICS@ibc.doi.gov
Internet: http://www.doi.gov/ibc/services/Indirect_Cost_services

NEGOTIATED INDIRECT COST RATE AGREEMENT, PAGE 2

State and Local Governments
Indirect Cost Negotiation Agreement

EIN: 92-6001185

Organization:

Alaska Department of Natural Resources
P.O. Box 111000
Juneau, AK 99811-1000

Date: December 28, 2015

Report No(s).: 16-A-0243(16C)

Filing Ref.:
Last Negotiation Agreement
dated December 10, 2014

The indirect cost rates contained herein are for use on grants, contracts, and other agreements with the Federal Government to which 2 CFR Part 200 applies for fiscal years beginning on or after December 26, 2014 subject to the limitations in Section II.A. of this agreement. Applicable OMB Circulars and the regulations at 2 CFR 225 will continue to apply to federal funds awarded prior to December 26, 2014. The rates were negotiated by the U.S. Department of the Interior, Interior Business Center, and the subject organization in accordance with the authority contained in applicable regulations.

Section I: Rates

Type	Effective Period From	Effective Period To	Rate	Locations	Applicable To
Fixed Carryforward	07/01/15	06/30/16	15.70%*	All	1/
Fixed Carryforward	07/01/15	06/30/16	16.99%**	All	2/

1/ Land and Water Conservation Fund and Historic Preservation grants
2/ All Other Programs <u>except</u> Fire Suppression

***Base:** Participants' direct costs billed to Land and Water Conservation Fund and Historic Preservation grants.

****Base:** Total direct salaries and wages, <u>including</u> fringe benefits. The rate applies to all programs administered by the non-federal entity <u>except</u> Fire Suppression. To determine the amount of indirect costs to be billed under this agreement, direct salaries and wages and related fringe benefits should be summed and multiplied by the rate. All other program costs should be eliminated from the calculation.

Treatment of fringe benefits: Fringe benefits applicable to direct salaries and wages are treated as direct costs; fringe benefits applicable to indirect salaries and wages are treated as indirect costs.

NEGOTIATED INDIRECT COST RATE AGREEMENT, PAGE 3

Section II: General Page 1 of 2

A. **Limitations:** Use of the rate(s) contained in this agreement is subject to any applicable statutory limitations. Acceptance of the rate(s) agreed to herein is predicated upon these conditions: (1) no costs other than those incurred by the subject organization were included in its indirect cost rate proposal, (2) all such costs are the legal obligations of the grantee/contractor, (3) similar types of costs have been accorded consistent treatment, and (4) the same costs that have been treated as indirect costs have not been claimed as direct costs (for example, supplies can be charged directly to a program or activity as long as these costs are not part of the supply costs included in the indirect cost pool for central administration).

B. **Audit:** All costs (direct and indirect, federal and non-federal) are subject to audit. Adjustments to amounts resulting from audit of the cost allocation plan or indirect cost rate proposal upon which the negotiation of this agreement was based will be compensated for in a subsequent negotiation.

C. **Changes:** The rate(s) contained in this agreement are based on the organizational structure and the accounting system in effect at the time the proposal was submitted. Changes in organizational structure, or changes in the method of accounting for costs which affect the amount of reimbursement resulting from use of the rate(s) in this agreement, require the prior approval of the responsible negotiation agency. Failure to obtain such approval may result in subsequent audit disallowance.

D. **Rate Type:**

1. Fixed Carryforward Rate: A fixed carryforward rate is based on an estimate of the costs that will be incurred during the period for which the rate applies. When the actual costs for such periods have been determined, an adjustment will be made to the rate for future periods, if necessary, to compensate for the difference between the costs used to establish the fixed rate and the actual costs.

2. Provisional/Final Rates: Within six (6) months after year end, a final indirect cost rate proposal must be submitted based on actual costs. Billings and charges to contracts and grants must be adjusted if the final rate varies from the provisional rate. If the final rate is greater than the provisional rate and there are no funds available to cover the additional indirect costs, the organization may not recover all indirect costs. Conversely, if the final rate is less than the provisional rate, the organization will be required to pay back the difference to the funding agency.

3. Predetermined Rate: A predetermined rate is an indirect cost rate applicable to a specified current or future period, usually the organization's fiscal year. The rate is based on an estimate of the costs to be incurred during the period. A predetermined rate is not subject to adjustment. (Because of legal constraints, predetermined rates are not permitted for Federal contracts; they may, however, be used for grants or cooperative agreements.)

4. Rate Extension: Only final and predetermined rates may be eligible for consideration of rate extensions. Requests for rate extensions of a <u>current</u> rate will be reviewed on a case-by-case basis. If an extension is granted, the non-Federal entity may not request a rate review until the extension period ends. In the last year of a rate extension period, the non-Federal entity must submit a new rate proposal for the next fiscal period.

NEGOTIATED INDIRECT COST RATE AGREEMENT, PAGE 4

Section II: General (continued) Page 2 of 2

E. **Agency Notification:** Copies of this document may be provided to other federal offices as a means of notifying them of the agreement contained herein.

F. **Record Keeping:** Organizations must maintain accounting records that demonstrate that each type of cost has been treated consistently either as a direct cost or an indirect cost. Records pertaining to the costs of program administration, such as salaries, travel, and related costs, should be kept on an annual basis.

G. **Reimbursement Ceilings:** Grantee/contractor program agreements providing for ceilings on indirect cost rates or reimbursement amounts are subject to the ceilings stipulated in the contract or grant agreements. If the ceiling rate is higher than the negotiated rates in Section I of this agreement, the negotiated rates will be used to determine the maximum allowable indirect cost.

H. **Use of Other Rates:** If any federal programs are reimbursing indirect costs to this grantee/contractor by a measure other than the approved rate(s) in this agreement, the grantee/contractor should credit such costs to the affected programs, and the approved rate(s) should be used to identify the maximum amount of indirect cost allocable to these programs.

I. **Central Service Costs:** If the proposed central service cost allocation plan for the same period has not been approved by that time, the indirect cost proposal may be prepared including an amount for central services that is based on the latest federally-approved central service cost allocation plan. The difference between these central service amounts and the amounts ultimately approved will be compensated for by an adjustment in a subsequent period.

J. **Other:**

1. The purpose of an indirect cost rate is to facilitate the allocation and billing of indirect costs. Approval of the indirect cost rate does not mean that an organization can recover more than the actual costs of a particular program or activity.

2. Programs received or initiated by the organization subsequent to the negotiation of this agreement are subject to the approved indirect cost rate(s) if the programs receive administrative support from the indirect cost pool. It should be noted that this could result in an adjustment to a future rate.

3. Indirect cost proposals must be developed (and, when required, submitted) within six (6) months after the close of the governmental unit's fiscal year, unless an exception is approved by the cognizant agency for indirect costs.

NEGOTIATED INDIRECT COST RATE AGREEMENT, PAGE 5

Section III: Acceptance

Listed below are the signatures of acceptance for this agreement:

By the State & Local Government:

Alaska Department of Natural Resources
State/Local Government

/s/
Signature

Fabienne Peter-Contesse
Name (Type or Print)

Director
Title

12/17/15
Date

By the Cognizant Federal Government Agency:

U.S. Department of the Interior
Agency

Deborah A. Moberly /s/
Signature

Deborah A. Moberly
Name

Office Chief
Office of Indirect Cost Services
Title

U.S. Department of the Interior
Interior Business Center
Agency

DEC 28 2015
Date

Negotiated by Marilyn P. Elgar
Telephone (916) 566-7293