
Foreword

The Nunavut Research Institute was created in 1995 when the Science Institute of the NWT was divided into eastern and western operations. In the Eastern Arctic, the re-named institute was amalgamated with Nunavut Arctic College.

The Nunavut Research Institute focuses on supporting scientific research and technology development across a broad spectrum of issues and concerns. The Institute's interpretation of research is broad – incorporating Inuit Qaujimanituqangit, social sciences, and natural sciences. The following mission statement guides the activities and services provided by the Institute:

The mission of the Nunavut Research Institute is to provide leadership in developing, facilitating and promoting Inuit Qaujimanituqangit, science, research and technology as a resource for the well being of people in Nunavut.

Institute services are guided by the core values of Nunavut Arctic College - strong communities, cultural appropriateness, partnerships, quality, access, responsiveness and life-long learning. The Nunavut Research Institute places emphasis on brokering northern-based research, which is linked to community needs, and making greater use of Inuit Qaujimanituqangit in research projects.

This Compendium of Research has been produced as part of the Institute's effort to communicate information about research projects, which have recently taken place in Nunavut under the authority of the Nunavut Scientists Act.

FOR MORE INFORMATION

For more information about the research projects listed in this Compendium, please contact:

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Location/Region: Cape Dorset
Project Title: **Models and Metaphors of Healing in Aboriginal Context**

Summary: The research project is designed to elicit a cross-cultural and cross-community compendium of models and metaphors used in the work of healers and clients in Aboriginal communities. The research involves a study of six Aboriginal-run healing programs funded by the Aboriginal Healing Foundation (AHF) and is designed, in part, to work with the survivors of the residential school system. The project is supported by the AHF and the communities involved. The current submission to the REB is for one of the six case studies as a part of this process. Goals are to provide description of AHF funded healing projects that allows for comparisons among them and the generation of a notion of "best practices" in the delivery of healing services to traumatized Aboriginal individuals and communities; to develop our understanding of the meanings and processes of "healing" that will contribute to the broader goal of sustaining healing into the future; to contribute to the theoretical understanding of the process of healing, the development of appropriate research methodologies to assess this, and to contribute to healing program and process development.

Name: Chan, Laurie
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Province/State: Quebec
Country: Canada
Number in party: 4
Location/Region: Kivalliq, North Baffin
Project Title: **Food Security in Nunavut: Traditional and Market Food : A Community Study**

Summary: This project is being carried out by the Centre for Indigenous Peoples' nutrition and Environment at McGill University. The goal is to find out how people in Nunavut decide what to eat. This is important because we know there is a connection between peoples' health and what they eat. Through this study we hope to find ways to improve access to healthy food choices. We should like to speak with people from 6 communities using a focus group approach. At the end of the study, we will have a good idea about how people decide what to eat and how they feel about things such as the cost, freshness and variety of food in their local market and the availability of country food.

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Number in party: 2
Location/Region: Iqaluit
Project Title: **The study of Congenital Heart Defects in a Northern Population**

Summary: Congenital heart malformations is a common congenital malformation, diagnosed around the world in about 1% of live births. This is also true in the Canadian Arctic, where in Nunavik, the rate of infant mortality is 5 times that of non-aboriginal Quebec and 2/3 of the neonatal deaths are due to birth defects. In Nunavut and Nunavik , a 5 year cohort of more than 2,500 Inuit births occurring between 1989-1994 evaluating the rates of birth defects, confirms that congenital heart defects, specifically septal defects (VSD's) and atrial septal defects (ASD's) were nearly 5 times more frequent than in other Canadian populations. Children and their mothers will be invites to participate in the study which will compare vitamin levels of the mothers, genetic factors of mothers and children with controls (the mothers's sisters). As well, dietary histories of the cases, controls and other women of childbearing years will be assess for intake of nutrients important in fetal development . Histories of pregnancy exposures will be compares between cases and controls.

Name: Rockman Greenberg, Cheryl
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Province/State: MB
Country: Canada
Number in party: 3
Location/Region: Kivalliq
Project Title: **Does the Metabolic Disorder, CPT1 deficiency, cause Sudden Unexplained Death among Inuit Children**

Summary: The overall purpose of the study on CPT1 deficiency is to determine the significance of this disorder in the Inuit of Kivalliq. We wish to determine 1) the characterization of CPT1 deficiency in a large kindred from Arviat and another large kindred from the NWT 2) conduct a pilot prospective newborn screening study to determine the carrier frequency of the P479L mutation for CPT1 deficiency in the Inuit from Kivalliq.

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Number in party: 3
Location/Region: Nunavut Wide
Project Title: **The Emergence of Gestational Diabetes Mellitus and Type 2 Diabetes Mellitus Among the Inuit of the Baffin Region**

Summary: The objectives of the current proposal are to determine the prevalence of diagnosed diabetes during pregnancy and type 2 DM in the Baffin Region; and to identify the prevalence and determinants of impaired glucose tolerance (IGT) and other risk factors for type 2 DM among the Inuit in 2-3 communities in the Baffin Region. The information will provide an Inuit-specific context of the determinants and prevalence of diabetic risk factors upon which to develop health promotion and prevention strategies. Also, the information from the initial screening will help determine the need for diabetes screening and the most cost-effective screening policies that could be implemented throughout the Territory. The first component of the study represents a case-ascertainment and a capture-recapture analysis to examine completeness of case ascertainment. The capture-recapture method requires two independent data sources and the ability to identify matches based upon personal identifiers. Cases identified through community screenings and hospital laboratory records will be used in a capture-recapture analysis to estimate the true number of cases (with confidence intervals) for the Baffin Region. The minimum amount of data required is a laboratory result indicative of type 2 diabetes or impaired glucose tolerance and personal identifiers to ensure that each case is counted only once and to enable a capture-recapture assessment of completeness of case ascertainment. For the second component of the study, which is the community health screening, the information collected will include systolic and diastolic blood pressure, fasting plasma glucose and insulin, fasting lipids, an oral glucose tolerance test and measures of weight, height, circumference, and body fat distribution, physical activity and diet. Participants' gender, age, and smoking status and family history of diabetes and heart disease are also considered important for the screening.

Name: Sweetwater, Indigo
City/Town: Kamloops
Province/State: BC
Country: Canada
Number in party: 1
Location/Region: North Baffin
Project Title: **Learning Plan - Community Health Development**

Summary: 1. Review any critical social research theory 2. Gather relevant data for a community health profile. 3. Explore the community's collaborative processes and organizational actions currently in place. 4. Interview community leaders. 5. Explore the community's process of conflict resolution. 6. Identify priority community health concerns.

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Number in party: 2
Location/Region: South Baffin
Project Title: **Usage of the Nunavut Kamatsiaqtut Help Line**

Summary: The Nunavut Kamatsiaqtut Help Line (NKHL) has collected data based on the crisis calls received over the previous 2 years for which they would like to analyze. They approached the present researcher for assistance and have agreed to have the project carried out. The research questions have yet to be finalized with the NKHL Board of Directors. Some potential questions include the demographics of the callers, types of calls received (e.g. problem type, severity), assistance that was required, assistance that was offered, recommendations/referrals that might have been given, and a temporal analysis of the usage of the Help Line. This project will involve 2 people going to Iqaluit to access the database. The data will be coded in the computer for information that is required to answer the research questions. No identifying information will be recorded. The coded data will then be brought back to Lakehead University for data analysis. A report will be written for the NKHL. Any publications in scholarly journals that may come out of this project will be written after full consultation with the NKHL Board of Directors so that they will have input into the dissemination of the results.

Name: Farrell, Emily Cowall
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Country: Canada
Number in party: 1
Location/Region: South Baffin
Project Title: **Pangnirtung Medical Practices Study: Forming a history of practical care**

Summary: The purpose of the field study to be conducted in Pangnirtung, Nunavut during February-March 2004 is to engage in oral history collection concerning the nature and extent of medical care practices within the Inuit traditional approach to disease. This study will focus on the practices common to the Inuit of the Cumberland Sound region as described by the people of the community of Pangnirtung.

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Number in party: 6
Location/Region: South Baffin
Project Title: **Monitoring Temporal Trends of Human Environmental Contaminants in the NWT and Nunavut: Inuvik and Baffin Regions**

Summary: The Nunavut Department of Health and Social Services with support from the Northern Contaminant Program is delivering a program which measures levels of environmental contaminants in the blood and hair of volunteer pregnant women from the Baffin region. The overall goal of this program is to establish a time trend of selected environmental contaminants in human blood and hair in the Northwest Territories and Nunavut. The results from this study will strengthen national and international efforts to limit the global pollution that affects northern people. Information collected about lifestyle during pregnancy will help to explain relationships between lifestyle and exposure to environmental contaminants, and to promote healthy babies and pregnancies in Nunavut. The study will involve the recruitment of pregnant women in Iqaluit once they arrive to give birth. Women will be asked to answer some questions about lifestyle and diet during pregnancy. Participants will be asked to answer some questions about lifestyle and diet during pregnancy. Participants will be asked to sign a consent form agreeing to provide a hair sample, a sample of their blood and blood from their umbilical cord after it has been cut. The blood sample will be collected during a scheduled blood draw, and will not involve and risk or discomfort beyond what is normally experienced. During the recruitment process, women can decide whether they wish to sign a consent form agreeing to also participate in Phase 2 of the study in 2005/2006. Phase 2 involves follow up with their infants at 6 months of age. This follow up will involve tests to assess if prenatal exposure to contaminants has effected infant development. Communication is an important part of this monitoring program. Communication activities will be ongoing with communities, stakeholders and participants throughout the program.

Name: Steenbeek, Audrey
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Province/State: BC
Country: Canada
Number in party: 2
Location/Region: Qikiqtarjuaq

Project Title: **Prevalence of Sexually Acquired Gonococcal and Chlamydial Infections in an Inuit Community: Identifying Gender Differences in Sexual Networks, Risk Behaviours and Health Services Utilization**

Summary: 1.Count the number of chlamydia and gonorrhoea cases among people ages 15-65 in Qikiqtarjuaq over one month and, over time. Reasons: i) few people ever treated and chlamydia and gonorrhoea are very easy to spread, ii) people who are not treated get serious problems like pregnancy complications, not able to get pregnant, severe pain and, are more at risk for cancer and HIV, iii) very easy to treat (one dose of antibiotics). 2. Find information on: high risk-behaviors and beliefs about what is risky, general health and use of health services; determine if this information is different between men and women. Reasons: i) find out who is at risk for getting chlamydia and gonorrhoea, ii) find out who uses the health care system and the reasons for those who do not. 3) Develop better health services that can meet the needs of aboriginal people. Reasons: i) reduce chlamydia and gonorrhoea, ii) promote better health services that use traditional knowledge and is more easily accessed by aboriginal people and iii) prevent a future HIV outbreak. This will be achieved by sampling the populace by interviewing participants and taking urine samples. Participants will be given \$20 for participating and all information will be kept confidential.

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Number in party: 3
Location/Region: Kivalliq
Project Title: **Does the Metabolic Disorder, CPT1 Deficiency, cause Sudden Unexplained Death among Inuit Children in**

Summary:

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Province/State: NU
Country: Canada
Number in party: 1
Location/Region: Nunavut - all communities
Project Title: **Implementation of the TAH / BNL System for Nunavut**

Summary: The new system for allocating wildlife harvest limits in Nunavut is the responsibility of the Nunavut Wildlife Management Board and requires the setting of total allowable harvests and basic needs levels and surpluses. This research project will identify the implications of the new system for stakeholders, and develop a plan for the NWMB that meets the requirements of the Nunavut Land Claims Agreement.

Name: Blakney, Sherrie
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Province/State: Manitoba
Country: Canada
Number in party: 3
Location/Region: Kivalliq
Project Title: **Connections to the Land: Health and Resilience in Arviat Nunavut**

Summary: This project will examine: 1) the socio-cultural health and resilience of Inuit and their connection to the land; 2) the potential risk that climate change and development may pose to Inuit livelihoods; and 3) the ability of government and non-government institutions to assist communities in maintaining social and cultural health.

Name: Kendrick, Anne
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Affiliation: University of Manitoba
City/Town: Winnipeg
Province/State: Manitoba
Country: Canada
Number in party: 8
Location/Region: Kivalliq
Project Title: **Cross Cultural and Landscape Level Land Use Understanding on the Beverly and Qamanirjuaq Caribou Ranges**

Summary: The research project will explore the traditional knowledge of the communities living on the Beverly and Qamanirjuaq barren ground caribou herd ranges and current biological; research undertaken on these ranges. The project also aims to improve communication between diverse scientific and aboriginal knowledge systems, helping to strengthen management organizations overseeing the caribou ranges. The project hopes to link the mapped data collected from the Baker Lake and Arviat hunters knowledge of change on the ranges.

Name: Dobbins, Holly
Department: Social Movements Program
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Province/State: New York
Country: USA
Number in party: 1
Location/Region: South Baffin
Project Title: **Organizational Unity in the Creation of Nunavut**

Summary: The creation of Nunavut has been described as one of the most highly successful cases of the self-determination of an indigenous people. Jose Kusugak, an Inuk leader, attributes this success, in part, to the Inuit's organizational stability (Kusugak 2000: 23-24). Yet in this process Inuit organizations underwent significant changes, moving from the national to transnational in scope. How did they manage to maintain their stability or cohesion, even while undergoing such transitions, over the course of some thirty years? And what role did this stability play in producing the final agreement? These are questions that were raised by participants in the process, indicated to me need further research. In order to investigate these questions, I feel my first step is to get a better sense of the point of view of the Inuit about the nature and role of their own organizations in this process. I plan to visit Iqaluit and Ottawa to interview individuals involved in the Nunavut negotiations. I would introduce myself to members of a) the Nunavut Government, b) Nunavut Tunngavik Inc. (or former members of the TFN), and c) the Inuit Circumpolar Conference. Initial questions include: to what do they attribute their success; how they perceive cohesion and stability in their organizations at different times in the process; and if they perceive differences at various periods of time, how they account for them. With regard to the outcome of this project, I would like to lay the foundation for writing my doctoral dissertation on the creation of Nunavut. By combining my fields of International Relations and Indigenous Studies I hope to create a work that can be useful both to the people of Nunavut and to other indigenous peoples and organizations internationally, as well as contribute to an emerging area in social movements. I would like to begin the process of such a collaborative process.

Name: Gearheard, Shari
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Province/State: CO
Country: USA
Number in party: 4
Location/Region: Baffin

Project Title: **An Integrated Investigation of Coupled Human and Sea Ice Systems: A Comparison of Changing Environments and their uses in Western and Eastern North American Arctic**

Summary: Our work plan has the following objectives; 1) document Inuit and Inupiat knowledge and use of sea ice along with those factors that limit or enable this use, 2) document Inuit and Inupiat observations and perspectives on sea ice changes and correlate these with scientific observations, 3) examine the differences and similarities in sea ice changes and community interactions with them in the Baffin Bay and Chukchi Sea locales 4) document how Inuit and Inupiat cope with changes in sea ice in their respective regions and how different approaches in one region may inform the other regarding adaptation strategies.

Name: Looker, Dianne
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Country: Canada
Number in party: 2
Location/Region: Nunavut Wide
Project Title: **Teaching and Learning Technology; Enhancing Equity for Canadian Youth**

Summary: The research attempts to document the "digital divide" between Inuit and non-Inuit youth; identify links between access to and facility with ICT and other aspects of youths' lives (educational and occupational plans self-image); identify resources and programs in the Department of Education, schools, the Arctic College, and youth oriented community organizations that encourage or inhibit equity in access to and facility with ICT.

Name: Boyle, Michelle
Department: Sustainable Development Research Initiative
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City/Town: Vancouver
Province/State: BC
Country: Canada
Number in party: 1
Location/Region: Kitikmeot
Project Title: **Community Adaptation in a Changing Arctic Environment**

Summary: The ultimate aim of this project is to assist communities in devising adaptation strategies appropriate for more sustainable development. The main objectives are: 1) to study the nature and speed of expected changes (environmental, economic, social, institutional and technological) and their integrated effects on development in Arctic communities; 2) to

determine the extent to which past experience of development and community response will be useful in the future; and 3) to offer the above results to two communities and assist them in developing their adaptive management plans. The third objective will involve working with two communities in Nunavut as partners to assess expected local changes and potential adaptive responses. Community participation is critical in expressing their concerns and information needs, in conveying their knowledge of local impacts and in defining options and thresholds for future development. The intended outcome for the community is both a plan for the present and a process for future decision-making as new issues arise.

Name: Dorais, Louis-Jacques
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Province/State: Québec
Country: Canada
Number in party: 11
Location/Region: South Baffin
Project Title: **Inuit Discourse and Identity After the Advent of Nunavut**

Summary: The objective of this project is to understand the way through which speakers of Inuktitut living or staying in Iqaluit think about the present and future language situation in the territory after the advent of Nunavut, and how these reflections play a part in the construction and practice of Inuit identity in general and, more particularly, of an Inuit-based territorial identity. We want to know how the creation of a new political entity with an Inuit majority has influenced this majority's language attitudes. We presume that the advent of Nunavut has heightened the expectations of many speakers of Inuktitut in terms of the practical usefulness of their language, a fact that might help reinforcing Inuit ethnicity. The research we propose results from a long-term collaboration between Université Laval and Nunavut Arctic College (Nunatta Campus), and it will involve the cooperation of Statistics Nunavut. It should play a crucial part in informing governmental and educational authorities about possible language policies. Data will be collected by way of interviews conducted by NAC students in Iqaluit, with a total of 45 adults, including 30 Iqaluit residents, 10 visitors from Igloolik and Kimmirut, and 5 individuals officially involved in language planning and development. Data will be correlated manually and compared with relevant scientific literature and language statistics (provided by Statistics Nunavut), in order to elaborate a model of the evolution of language attitudes and identity in eastern Nunavut, based on Inuit reflections and expectations.

Name: Omura, Keiichi
Department: Faculty of Language and Culture
Affiliation: Osaka University
City/Town: Osaka
Country: Japan

Number in party: 4
Location/Region: Kitikmeot
Project Title: **Ethnological Research on Traditional Knowledge and Environmental Management in the Inuit Society of Pelly Bay**

Summary: The general aim of this project is to study and understand Inuit traditional knowledge, especially concerning ecological environment (nuna), and consider how to apply this knowledge to management of the environment. The project is composed of the following parts; field research on 1) language, 2) traditional technology of subsistence activities, 3) traditional ecological knowledge of animals and plants, 4) gender. Based on this research, we hope to find a way to apply Inuit traditional knowledge to environmental management, and examine the possibility of Inuit traditional knowledge to contribute to environmental problems. I plan to continue the study on Inuinaqtun by formal interviews with several elders in order to learn the basis of traditional knowledge. A series of participant observations and interviews on hunting, fishing and gathering activities and food sharing practices in daily life will be done to understand the traditional technology of subsistence activities. The traditional ecological knowledge of plants and animals will be sought through interviews with several elders. Women's activities and social roles will be recorded and analyzed in order to study the role of women in the environmental management system of Inuit and the new political environment of Nunavut. We believe that audio, visual and written records on traditional knowledge and traditional subsistence technology will make a significant cultural heritage not only for Inuit but also for all of us. Furthermore, to consider the way to apply Inuit traditional knowledge to environmental management will contribute to solving environmental problems.

Name: Thomas, Darren
Department: University of Manitoba
City/Town: Winnipeg
Province/State: Manitoba
Country: Canada
Number in party: 2
Location/Region: Kivilliq
Project Title: **Development of a Coastal Community Climate Change Action Plan**

Summary: This project was initiated by the Hudson Bay Oceans Working group . The group felt that climate change has a large impact on the land and on the people of the north . DFO felt that the information gathered could be used in the development of the Integrated Management Plan for the Hudson Bay. The purpose of this research is: 1) to determine the current understanding of climate change impacts in Northern Canada 2) to determine the place that Traditional Knowledge has in determining climate change impacts 3) To examine social, economic and cultural impacts related to climate change from the perspective of local residents

Name: Hitch, Michael
City/Town: Brantford

Province/State: On
Country: Canada
Number in party: 1
Location/Region: Kitikmeot, Baffin
Project Title: **Impact Benefit Agreements and Their Role in Pursuing Sustainable Mining Communities**

Summary: The research is intended to assess the political context and nature of discourse between affected actors, identify and describe the presence of unequal power relationships, and evaluate the success of the impact and benefit agreement instrument in establishing a sustainable future for these communities. This research is built upon the literature in the field of sustainability and natural resource development by addressing the role of an inherently unsustainable practice in remote community development through the application of the impact and benefit mechanism. In addition, the proposed research will define sustainability in the context of a pre-mining community. The purpose is to consider how mining can be used and better still, understood as a tool to promote sustainability and provide the impetus for the community and other actors to embark upon a sustainable pathway.

Name: Reimer, Bill
Department: Sociology and Anthropology
Affiliation: Concordia University
City/Town: Montreal
Province/State: PQ
Country: Canada
Number in party: 2
Location/Region: North Baffin
Project Title: **The New Rural Economy Site Profile for Arctic Bay**

Summary: This project is to complete a field site profile for Arctic Bay. The profile would contain information regarding the history of Arctic Bay, its current business enterprises, services, communication infrastructure, and voluntary groups. It will be included in the site profiles of the New Rural Economy Project (NRE) of the Canadian Rural Revitalization Foundation. The objective is to build local and regional capacity to identify options and opportunities for rural revitalization. Results from the profile will be made available to the citizens of Arctic Bay in the form of reports that discuss their implications for community selection and planning. Since the profile will be one of 20 others collected and analyzed from other rural sites, it will provide an opportunity for those in Arctic Bay to compare their situation with others, explore common interests and identify unique characteristics. Researchers and citizens from other sites will be available for consultation regarding the implications of the results for local conditions. The collection of information will be conducted in two stages. In the fall of 2004, preliminary information regarding the site history, basic institutions, enterprises, and infrastructure will be collected from available documents and key informants. In the summer of 2005, this information will be augmented and updated to ensure that it is accurate and comparable to similar profiles from other NRE field sites. Reports based on the data will be produced in the fall of 2005.

Name: Visart de Bocarné, Pascale
Department: Dept of Anthropology
Affiliation: Université Libre de Bruxelles
City/Town: 1410 Waterloo
Country: Belgium
Number in party: 1
Location/Region: South Baffin
Project Title: **Inuit Art in Anthropological Perspectives**

Summary: Inuit Art has raised a series of questions on the anthropological leveling the sense that Canadian Arctic sculptures are exhibited and sold at a great distance from their place of origin. So what does it tell us about those who produced it? What place does Inuit art take in the European imagination, which tends to dream of these populations living in the far North under extreme conditions? My research will be a comparison between Inuit Art and the acrylic paintings produced by the Aboriginals of the central Australian desert. Both are art forms coming from minority populations yet have found a place on the international art scene. This work has permitted me to bring out a certain number of common points and strong differences between these groups. I have chosen to concentrate on Inuit Art because this art form holds a particular anthropological interest due to its place in the unique context of rapid socio-political evolution of this minority population. On the one hand, over the last 50 years, the Inuit population has gone from nomadism to a more sedentary lifestyle, living a western lifestyle. While on the other hand, the creation of Nunavut is a political fact that is without precedent and which has extremely positive historical implications for the recognition of indigenous rights. Contemporary Inuit Art is even more interesting as it has made its appearance at this same period, permitting it to be a good basis on which to study a group in the midst of change. The goal of my thesis is to focus on the place that art has taken in this political and economic evolution but mostly to concentrate on the points pertaining to its cultural identity, art being a strong vector of tradition. Before starting my thesis, I strongly wish to study more deeply the questions arising from the growth of Inuit Art in today's historical context. By spending a short time in Iqaluit, I'm hoping to come into closer contact with the place and the reality that art has within a Inuit community.

Name: Randa, Vladimir
City/Town: Villa des Olivettes
Province/State: Bagneux
Country: France
Number in party: 1
Location/Region: North Baffin

Project Title: **Changes and permanent features in the attitudes towards the wildlife and the subsistence activities, transmissions of knowledge and skills through generations**

Summary: Since my initial project was to study the relationships between the Inuit and the animals, Iglooklik appeared as an appropriate community because of its well-known attachment to the traditional culture. Thanks to many people I was able over the years to collect very valuable information about the Iglulingmiut traditional hunting skills, zoological knowledge and beliefs and attitudes towards animals. I would like to continue my research in 2004 in order to check and complete this information. Recently I became interested in studying the changes in attitudes towards animals. I would like to continue my research in 2004 in order to check and complete this information. Recently I became interested in studying the changes in attitudes towards wildlife, especially amongst the younger people born and educated in town. Their experience of the life on the land is very different from their parents and grandparents' experience and I wonder how the latter influence the former. What kind of education do the young people receive in their family? I very much hope to be given an opportunity to join the people in the summer camps which is the best way to understand their attitudes towards the animals. As usual, I will do my best to improve my inuktituk. Returning to Iglooklik years after years has a particular meaning for me as many people became my friends and I very much look forward to seeing them again.

Name: Bradd, Christopher
Affiliation: York University
City/Town: Toronto
Province/State: Ont
Country: Canada
Number in party: 1
Location/Region: South Baffin
Project Title: **A study of Traditional and Colonial Conceptions of Space and Time among the Inuit of Baffin Island**

Summary: This project will 1) attempt to determine how the relatively imposition of settlement life on Baffin Island has altered traditional, nomadic experiences of time and space among the Inuit of that region; and 2) try to specify how different, if not, competing, spatial and temporal experiences of being "in town" and being "on the land" are negotiated through daily social practices within their contemporary communities. This research will; provide the basis for a socio-political analysis of the role that technologies of time and space have played in the colonial governing of that region. Field research will be conducted in two settlements on Baffin Island: Iqaluit, Nunavut's largest city and capital, and the hamlet of Pangnirtung, which will also serve as a point of departure for conducting interviews while traveling on the land with different local hunters and fishers. The main source of information collection will be obtained through oral interviews conducted with elders, teachers, mothers, government workers and children from the communities. A summation of the collected responses will be presented to the main participants, who will also be asked for their final conclusions (on both the information and the process). The information gathered from this research will serve as the basis for a chapter of the researcher's dissertation.

Name: Deisel, Torsten
Country: Germany
Number in party: 1
Location/Region: North Baffin
Project Title: **The political and Social Transformation Process in Nunavut**

Summary: In general I am interested in researching what Nunavut's society and its political leadership expects of its sovereignty. In how far do especially the MLA's wish are they able to connect Inuit culture and tradition with Euro-Canadian life ways. I am interested in finding out if there is mainly private interest in politics without special cultural references. Or are the MLA's influenced by a feeling of concern and responsibility to Inuit culture? I hope I will be able to show in which direction the new territory will be developed by the reconstruction of their lives and political processes closer to the understanding of the country's population. People shall recognize that single persons make decisions and that there are not any strange institutions that do so. Consequently politics in general - in this case: the nation-building process of Nunavut-gets more a human, individualistic aspect. Nevertheless the concrete political and social consequences of the politics of the Government of Nunavut will not be getting lost in my work. If the MLAs are not interested in participating in my research I would like to change my focus to the role of media in Nunavut. First of all I would like to ask about the types of media. Are there other ways of transmitting information, especially to the families on the land? What is their contribution to Inuit culture care and preservation? How do they define their tasks in Nunavut's society and policy? Therefore it seems interesting to look at the connection between media and politicians" Are some media enterprises linked with specific political organizations? How important are new about politics and what other information are given by the different kinds of media? In both cases I propose to do open interviews with my partners. The information I will get should be completed through written documents why I hope to get access to concepts that handle with questions like the development of Nunavut, Inuit culture preservation, school curricula and similar documents. Naturally scientific literature began to deal with secondary ones and on the other hand it is better to work with primary resources instead of secondary ones and on the other hand much material isn't still researched. I would like to use my collected data for the written part of my masters' thesis. Before using or publishing any data for the written part of my research for their permission. After finishing my field work the participants will receive a copy of the final report to the NRIU within a period of approximately one year. They will get an abstract of my M.A thesis, too. If anyone of my partners wishes to remain anonymous I will respect his wish and I will try to find mechanisms to work with the information I got, without giving clues so that he can be identified.

Name: Klein, Heidi
Department: BSc., MES
Affiliation: Gartner Lee Limited
City/Town: Calgary
Province/State: Alberta
Country: Canada
Number in party: 13
Location/Region: Kitikmeot, South Baffin
Project Title: **Socio-Economic for High Lake**

Summary: The purpose of this program is to collect socio-economic information in relation to the potential impacts of the proposed High Lake mine. The information will be used to inform the environmental assessment of potential project impacts and of potential migration measures. Where applicable, the socio-economic information will be used to better understand how changes to the environment will affect residents of the Kitikmeot; as well as, how the project will change the lives of Kitikmeot residents directly e.g. employment. The socio-economic program will begin by collecting and reviewing existing socio-economic information i.e., previous environmental assessment reports, Statistics Canada, community economic reports, etc. The seven Kitikmeot communities will be subject to this evaluation. Once the baseline data is collected, the researchers will meet with the community residents, leadership and Nunavut organizations to confirm and up-date findings and discuss potential impacts from the project. If required, there may be some one-on-one meetings. The researcher will have community meetings in order to collect information on potential socio-economic impacts. This information will ultimately be placed on the public registry for the environmental assessment completed by the Nunavut Impact Review Board. The data collected will be held in the offices of Gartner Lee. Environmental assessments are publicly open processes. It is not anticipated that there will be a need to maintain anonymity or confidentiality. The socio-economic information will be reported back to the communities through a series of workshops planned for October, January and March. It will also be reflected in the draft and final Environmental Impact Statement. The media for reporting will likely be written and video.

Name: Doubleday, Nancy C.
Department: Department of Geography and Environmental Studies
Affiliation: Carleton University, Loeb B349
City/Town: Ottawa
Province/State: Ontario
Country: Canada

Number in party: 2
Location/Region: South Baffin
Project Title: **Inuit Identity, Wildlife, Justice and Sustainability**

Summary: I am hoping to better understand how people in Nunavut look at the relationship of survival, sustainability, culture, territory and identity. This understanding will then be used to look at approaches to wildlife management and community justice issues by government institutions at the federal and territorial levels. The reason for choosing wildlife management and community justice issues is that both issues have been said to be important to Inuit before Nunavut was created, and both are said to be important now for reasons of cultural survival and Inuit identity. The questions we hope to learn more about are questions such as "Does government wildlife management do enough to reflect Inuit identity and knowledge?" and "Do community justice concerns get addressed by government in a way that respects Inuit views about sustaining Inuit identity. If culture and place are critical aspects of sustainability, learning more about the way they connect in communities like Cape Dorset may have important lessons for us all. It is hoped that the research will be of value to people in the community and across Nunavut. It is also hoped that people outside Nunavut will learn from this research. People everywhere are trying to find paths to sustainability and it is my intention in doing this research to contribute to this search for sustainable approaches wherever possible. We would like to come to Cape Dorset to do this work because Cape Dorset plays an important role in educating the world about Inuit identity through the artwork of local artists, and also people there are interested and involved in wildlife issues, in community justice, and in life on the land.

Name: Boudaud, Laetitia
Department: Departement d'anthropologie
Affiliation: Université Laval
City/Town: Québec
Province/State: Québec
Country: Canada
Number in party: 0
Location/Region: North Baffin
Project Title: **Family photography as a Social Construction of Collective Memory in Mittimatalik**

Summary: This project is conducted within the framework of a master's degree thesis and aims at collecting photographs chosen by Mittimatalik families in order to participate in interviews related to memories regarding these photographs. The main objective of this research is to understand how Inuit family photographs help to have a better understanding of the collective memory and local history of Mittimatalik. Implication of participants in this project will have to do with showing family photographs and participating in interviews or life stories sessions related to the photographs selected by them. Please note that family photographs will be used for the purpose of this project only and will be reproduced with a digital camera so that the original photographs can be immediately given back to its owners.

Name: Zinga, Dawn
Department: Department of Child and Youth studies
Affiliation: Brock University
City/Town: St Catherines
Province/State: On
Country: Canada
Number in party: 4
Location/Region: Nunavut wide
Project Title: **Canadian Multiculturalism: Day School Contest and Perceptions of Children and Youth**

Summary: The research investigates perceptions of Canadian multiculturalism in children and youth by surveying students in grades 6-7 and grades 10-11 and the educators of those students. The research concentrates on an in-depth analysis of multicultural experiences and awareness, level of intercultural development, impact of multicultural issues on daily life, and exposure to multicultural images and experiences through the media and the school environments. Participating schools distribute the Perspectives Survey and consent forms in individual envelopes to students either in grades 6-7 or grades 10-11. The students take the surveys home to be reviewed with their parent(s) / guardian. The surveys are returned within one week in the sealed envelope. Teachers in participating classrooms are also asked to complete a survey. This research is being conducted in conjunction with a contest designed to promote awareness of Canadian Multiculturalism Day. The contest is open for students from Junior Kindergarten to Grade Twelve. Students in kindergarten classes are asked to submit pictures, students in elementary grades (grades 1-8) are asked to submit a picture (artwork) and a short piece of writing (250 words or less) on "What does Multiculturalism mean to you?" while the senior grades (grades 9-12) are asked to submit a short essay (500-1000 words) in response to the same question. The closing date of the contest will be February 28, 2005. Students participating in the contest have the option of consenting to have their entry added to a secondary dataset. The secondary dataset helps researchers to examine developmental differences in how students are able to conceptualize multiculturalism. All analysis of the secondary dataset is subject to ethics approval and must fall within the parameters outlined by the informed consent associated with the contest.

Name: Gurr, Vanessa
Department: Anthropology
Affiliation: University of Winnipeg
City/Town: Winipeg
Province/State: MB

Country: Canada
Number in party: 1
Location/Region: South Baffin
Project Title: **Re-Inventing Isuma**

Summary: The proposed project builds on my university studies of Indigenous spirituality and colonial history. Therefore my research will explore the influence of European Christianity on Indigenous beliefs. Conversations with people from other regions in Nunavut have confirmed that there is a current revival of interest in traditional spirituality. Recent years have also seen a renewal of scholarly interest in Shamanism in the Arctic regions of Canada. The rise of fundamentalist Pentacostalism seems to point to a preference for inspired and ecstatic religious systems amongst the Inuit of Nunavut. My research will focus on religious expression to understand why there is such a close relationship between Pentacostalism and Shamanism. I will contact the Iqaluit Pentacostal church and, hopefully, they will permit my curiosity and allow me to observe their religious ceremonies and interview some of their members.

Name: Cosgrove, Joseph
Department: Anthropology Department
Affiliation: St.Mary's University
City/Town: Dartmouth
Province/State: Nova Scotia
Country: Canada
Number in party: 1
Location/Region: North Baffin
Project Title: **Retracing the Burials of Displaced Inuit Afflicted with Tuberculosis**

Summary: This research project, which is the basis for an undergraduate honors thesis, will trace one family's experience with losing a family member as a result of their removal from the community for treatment of Tuberculosis. This project will also attempt to locate the displaced member's burial site for the living relative(s) in Iqaluit, Nunavut. The fieldwork portion will take place in Iqaluit and research will be conducted through audio tape interviews with (a) family member(s) and archival research. The process of locating participants will be through word of mouth by certain Inuit associations such as Qikiqtani Inuit Association and Nunavut Tunngavik Inc. as well as personal communication with Inuit I meet during my stay in Iqaluit. A more thorough understanding of the context within which the (deceased) individual was removed from the community will be achieved through interviews with (a) family member(s). Interviews will also allow me to gain any known information regarding what happened to the family and individual following his/her removal. Finally, the structuring of the interviews will be open, meaning topics will be introduced by the interviewer but the participants will determine what to discuss or not. This enables the participants to direct the conversation where he/she deems suitable. I will have possession of all transcripts, which will be kept separately from any identifying information also in my possession. Nobody outside of my thesis committee will have access to the interviews. I will keep the recorded data for five years upon completion of the project, due to potential secondary analysis in a Graduate program. A feedback letter will follow the fieldwork in Iqaluit, which will

express appreciation for participation and a personal commitment to the project. The participant(s) will receive a copy of the report prior to its publication.

Name: Donaldson, Shawn
Department: Department of Geography and Environmental Studies
Affiliation: Carleton University
City/Town: Ottawa
Province/State: ON
Country: Canada
Number in party: 1
Location/Region: South Baffin
Project Title: **Healing the social body: A community-based approach to mental health policy.**

Summary: I would like to gain a better understanding of community perspectives on how to understand and promote mental health and prevent mental illness. Particularly, I would like to better understand the role that cultural concepts of mental health, connections to nature, identity and traditional values play in mental health and the prevention of mental illness. This can be used to examine the government approach to address mental health issues to see if it reflects Inuit views and knowledge. This research will use qualitative methodology in conjunction with official statistical data. I hope to do interviews with community members, public health officials, nurses, doctors, psychologists and psychiatrists.

Name: Looker, Dianne
Department: Department of Sociology
Affiliation: Acadia University
City/Town: Wolfville
Province/State: NS
Country: Canada
Number in party: 2
Location/Region: Nunavut Wide
Project Title: **Teaching and Learning Technology; Enhancing Equity for Canadian Youth**

Summary: The research attempts to document the "digital divide" between Inuit and non-Inuit youth; identify links between access to and facility with ICT and other aspects of youths' lives(educational and occupational plans self-image); identify resources and programs in the Department of Education, schools, the Arctic College, and youth oriented community organizations that encourage or inhibit equity in access to and facility with ICT.

Name: Laidler, Gita
Department: Geography
Affiliation: University of Toronto
City/Town: South Building, Room 3102
Province/State: ON
Country: Canada
Number in party: 11
Location/Region: Qikiqtani (North and South)
Project Title: **Ice through Inuit Eyes**

Summary: The project objectives are to: 1) gain a better understanding of the meaning of sea ice to Inuit culture and Identity; 2) better comprehend the traditional and contemporary Inuit means of characterizing sea ice variability; 3) evaluate methods of collecting, analysing, and combining IQ and scientific knowledge; and, 4) establish future collaborative research/monitoring needs.

Name: Gray, David
City/Town: Metcalf
Province/State: Ontario
Country: Canada
Number in party: 1
Location/Region: Kivalliq
Project Title: **Northern People and Northern Knowledge: A Virtual Museum of the Canadian Arctic Expedition of 1913-18**

Summary: The Canadian Museum of nature with funding from The Virtual Museum of Canada, is preparing a virtual museum exhibit on arctic hare. This exhibit is based on a research program carried out on arctic hare behaviour in Nunavut between 1985 and 1992. It will provide the most comprehensive source of information on the arctic hare. This virtual museum exhibit will also bring together photographs, specimens, and artifacts from several major museums and archives and a number of smaller institutions, including community museums in the north. This project will enable these small institutions to have an additional significant Internet presence. Partners in this project are: The Prince of Wales Northern Heritage centre, Parks Canada, The Canadian Museum of Civilization, The Nunatta Sunakkutaangit Museum, and the Kitikmeot Heritage Society. The proposed 2004 project aims to increase the northern and modern point of view of the arctic hare by collecting traditional and recent knowledge of hares for the online exhibit. It will also balance the geographical coverage as most of the completed research was done

in the high arctic islands. Ranin Inlet was selected as it represents a southern arctic hare population. A visit in February 2003 confirmed that hares are present near the community.

Name: Kral, Michael
Department: Dept. of Anthropology
Affiliation: Yale University
City/Town: New Haven
Province/State: CT
Country: USA
Number in party: 1
Location/Region: North Baffin
Project Title: **Suicide and Well-Being Amongst Inuit Youth**

Summary: This project is my doctoral thesis at McGill University. I will be following up on two important findings from the Unikkaaruit project. First, I plan to speak with youth and others in the community about their romantic relationships, as they are tied to family and the community, and to what Inuit see as being important. Second I would like to look closely at how Igloodik has developed, in the past, today, and what is planned for the future, activities and programs related to suicide prevention or wellness in the community, especially for youth. I am very interested to speak with youth, and with Inuit who have been involved in the youth committee in the past and today. I would like to help Nunavummut and others understand nunaliit silatuningat or community wisdom: how it begins, how it is supported, and how to continue these positive efforts once they are in place. I would like to show the Nunavut and Canadian governments that it would be worth investing in the community, because this may be the best place to have suicide prevention and youth wellness efforts become successful. I am also linking this project with suicide prevention projects in Nunavut, including the new Nunavut Suicide Prevention Council that is beginning. My plan is to speak with Inuit ranging in age from youth to elders. I would like to attend meetings of groups and committees in Igloodik who are working on wellness, especially youth wellness. I will involve Inuit in how this study is going, to participate in working on this project. This will include finding out what questions are most important for Inuit in Igloodik regarding suicide prevention. I plan to stay in Igloodik for about five or six months.

Name: Thompson, Caroline
Department: Faculty of Education
Affiliation: University of Western Ontario
City/Town: London
Province/State: On
Country: Canada
E-mail: ethomp4@uwo.ca

Number in party: 1
Location/Region: Kivalliq
Project Title: **Inside School Administration in Nunavut: Three Women's Stories**

Summary: My research will investigate the factors that motivate Inuit women to become principals in Nunavut. In this study I would like to interview three Inuit educators about school administration. I will audiotape the stories of three Inuit women in Rankin Inlet and Baker Lake at a location of their choosing. Each of the participants will have the opportunity to respond in Inuktituk with an interpreter. I will listen for common themes that emerge in what they say. These themes will be used to create the final report. Their stories will be presented anonymously and collectively, to ensure confidentiality.

Name: Levesque, Francis
City/Town: Quebec City
Province/State: Quebec
Country: Canada
Number in party: 1
Location/Region: South Baffin
Project Title: **Dog Slaughters and the Inuit in the Eastern Canadian arctic**

Summary: Between 1950 and 1975, when the Inuit of the Eastern Canadian Arctic started living in newly created communities, they brought with them the dogs they traditionally used to hunt and travel with. This created health and security problems in most communities, dogs being too numerous. One of the solutions found by the Canadian authorities to solve those problems was to shoot the dogs. This is remembered by some Inuit as the time the Canadian authorities tried to exterminate the Inuit themselves. The main objectives of this research are as follows: (1) to document the dog slaughters perpetrated by the Canadian authorities between 1950 and 1975 in the Eastern Canadian Arctic, and (2) to understand why the memories of various people concerning the dog slaughters differ so greatly (some remember the slaughters well and others do not remember at all) This research will be based on interviews made in Iqaluit (Nunavut). These interviews will be held with witnesses and non-witnesses that have been told stories about the dog slaughters. The interviews will be held in the language chosen by the interviewee (Inuktituk or English). An interview framework that shows examples of questions that may be asked has been included here. This framework may change in the future, depending on the orientation the research will take. The data will be used by myself only. No other researcher will have access to it. I will also leave copies of the interviews to the NRI. I will keep the original copies of the interviews for my personal files. The data will not be used in other researches, ever. The anonymity of participants will be respected with the use of numbers and fictitious names. However, if the participant requests that his or her name may be used, I will. The research results will be used to write a PH.D thesis. They will also be used to write scientific articles. I could also make a visit to the communities and make presentations and pay visits to local radio shows. I could also write a summary of my research and publish it in a local newspaper.

Name: Smit, Barry
Department: Department of Geography
Affiliation: University of Guelph
Province/State: On
Country: Canada
E-mail: bsmit@guelph.ca
Number in party: 3
Location/Region: North Baffin South Baffin
Project Title: **Inuit Adaptive Strategies and Environmental Conditions**

Summary: The purpose of the proposed project is to learn from Inuit Qaujimatuaqangit how environmental conditions affect individuals and communities, how such conditions are managed and how environmental and other changes are influencing the ability to cope with such conditions. The project also seeks to identify recommendations on how such conditions can be effectively managed. This will be achieved through interviews with individuals in the community and focus groups. Locally hired assistants will have a prominent role throughout the research process from helping to develop the methodology through to guiding the interviews and focus groups, identifying important questions to ask, to helping in interpreting and disseminating the results. The research will help to identify important issues and concerns, and fill an important knowledge gap regarding how communities deal with environmental conditions. The project output will consist of a series of reports documenting those environmental conditions that are problematic, identifying why they are problematic, and presenting locally relevant options to help manage these conditions. The findings will be communicated to key decision makers and will identify priority areas for policy development and further research. They will also be communicated to their communities, groups, organizations, identified by the community.

Name: Leduc, Tim
Department: Faculty of Environmental Studies
Affiliation: York University
City/Town: Toronto
Province/State: On
Country: Canada
Number in party: 2
Location/Region: North Baffin /Kivalliq
Project Title: **Inuit Qaujimatuaqangit, Climate Change and Western Knowledge**

Summary: When the U.S government was asked in 2001 whether or not the energy consumption that marks the American lifestyle needs to be changed because of its impact on climate, the White House answered with: " That's a big no. The President believes that it's an American way of life, and that it should be the goal of policy makers to protect the American way of life." While the Canadian government has not shown this candor, it focuses on minimizing the economic impacts on the current policies are fully implemented, it is widely agreed that it will have minimal impacts on the negative effects of climate change. While this energy intensive lifestyle is not up for negotiation, its impacts may make many other cultural ways of living increasingly difficult. Considering the arctic's sensitivity to climate change, these political decisions have impacts on Inuit,

even suggesting that their cultural ways of living have been put up for negotiation without their agreement. This research is about the political and economic implications of looking at climate change and its policies about Inuit perspective. To do this I propose to engage a Nunavut community in discussions about Inuit Quajimatuqangit in relation to climate change and Canadian climate change policies. The research is conceived as various sharing relationships. I am currently working with J. Arnakak, who is translating IQ into a model that can be used for developing policy. Information will be shared with him to develop this model which aims to ensure that Inuit cultural values are nurtured in Nunavut. I will use this knowledge for questioning Canadian perspectives and actions for dealing with climate change. Finally, I will enter discussions with members of the interested community about their needs in relation to this research.

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Location/Region: Kivalliq, South Baffin
Project Title: **A comparative Grammar of Inuktitut Dialects**

Summary: Inuktituk is a language, but from another perspective, it is more accurately described as a family of dialects. Dialects differ from each other in pronunciation, words, meaning and grammar. This project investigates grammatical differences across dialects of Inuktituk. For example in Labrador, Inuit do not normally say nirijunga "I am eating" but instead say nirivunga. In contrast, most of Nunavut, Inuit say both these words. The research involves paying adult speakers of Inuktituk to translate some simple sentences from English to Inuktituk and also to judge whether or not sentences produced by the linguist are correct in their dialect. The main researcher will travel research assistants to Iqaluit and to Baker Lake in order to work with speakers of different dialects there. Both these communities have multiple dialects, Iqaluit because many people travel there and Baker Lake because many different groups settled there. The grammatical differences will be described and possibly analyzed from a linguistic perspective. The goal is to create a book or series of articles which will discuss these differences in a methodical and enlightening manner. Both linguists and speakers of Inuktituk may be interested in reading the results. In addition, we hope to make a website, with discussion of these issues in simple terms for the general public and northern communities.

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Country: Canada
Number in party: 2
Location/Region: North Baffin
Project Title: **Local knowledge (IQ) on climate change and marine birds in High Arctic Nunavut**

Summary: The issue of climate change and its effects of Arctic Wildlife and communities is one of growing concern. We plan to interview 10 elders and hunters in each of Pond Inlet and Resolute Bay to gather local knowledge (IQ) on the distribution of marine birds through the year, and whether local residents have noticed changes in the timing or locations that birds use. We are also interested in community travel routes, particularly for hunting, and how these may be affected by changing sea-ice, so some interview questions will also focus on that aspect. After gathering this IQ we will prepare digital maps of the information, interpret it in light of our knowledge of birds and ice, and then report back to the communities (by presentations and posters) to ensure that we have interpreted their information correctly. The Hamlets of each community, and the Mittimatalik HTO have already given their approval for this project.

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Location/Region: Nunavut Wide
Project Title: **Polar Bear and Inuit: A Multiple-Use Resource and It's socio-Economic Implications in Nunavut**

Summary: The purpose of this research is to understand how Inuit have changes their views and management of polar bears since the introduction of sport hunting and conservation concerns. The first question in this research is whether polar bears were once viewed by Inuit as subsistence-cultural resources available to all local people with few rules governing their use. The introduction of sport hunting and the increasing interest in conservation of polar bears by outsiders has led to more strict management of polar bears. The type of management can be and can exclude outsiders from using the resource. The main goal of this research is to learn how Inuit have changed their view of polar bears based on the new use of polar bears in sport hunting and how inuit management of polar bears has evolved. The second question is to understand how Inuit and government balance these outsider interests in polar bears. The two main interest groups are sport hunters and conservationists. If either of these groups gains too much influence, the current management of polar bears could be threatened. This project will explore how inuit and government rules reflect the interests of these two outside groups while trying to maximize Inuit use and benefit from polar bears. The main objective is to create a framework to understand the evolution of polar bears management. Other researchers have studied common property management in other situations and have developed a framework to explain why some forms of management work better than others. I used

their framework to study Native people's resource management in the Amzon Basin as part of my Master's work. I would like to test and possibly modify the framework to explore the multiple uses of polar bears by inuit. It is hoped that this project will be useful in several ways. First, this project will record the history of changes in polar bear use since the introduction of the sport hunt. Second it will provide information to Inuit about potential benefits and costs related to changing the current management situation. Native peoples around the world are struggling to maintain control over their traditional resources and to use these resources in new ways to support their livelihoods. This research will provide a framework for studying natural resource management that is focused on Native people. I hope that other groups will be able to learn from the experiances of the Inuit and that this will help them to manage their resources in a way that is culturally acceptable and sustainable.

Name: Keith, Darren
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Country: Canada
Phone: Keith
Number in party: 3
Location/Region: Kitikmeot
Project Title: **Kiluhiqturmiut Project**

Summary: The Kitikmeot Heritage Society wishes to run an Inuinaqtun immersion/oral history camp in the Kiluhaqtuq area of Bathurst Inlet to rprovide an immersion experience for youth, and to record the culture and histroy of the Kiluhaqturmiut. The goals of the immersion camp are to: 1)provide an immersion experience for Cambridge Bay youth; 2)expose Cabridge Bay youth to the oral traditions of the Kiluhaiqturmiut; 3) record the oral traditions of the Kiluhiqturmiut; 4) record the archeological features at the field site as interpreted by Kiluhiqturmiut Elders.

Name: Klein, Heidi
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Province/State: AB
Country: Canada
Number in party: 10
Location/Region: Kitikmeot
Project Title: **IQ for High Lake and Ulu**

Summary: The purpose of this program is to collect Inuit Qaujimajatuqangit or Inuit traditional knowledge in the kitikmeot regions, west of Bahurst Inlet, where the proposed High Lake and Ulu mines are located. The IQ will be used to inform the environmental assessment of potention project impacts and of potential mitigation measures. Where applicatble. The IQ will nhelp "flesh-out" the picture of the biophysical environment by providing

long-term data to the 2year scientific work being done. Wolfdén is aware of the recently completed IQ undertaken in Kitikmeot and has been in discussions with the Kitikmeot Inuit Association. It is currently out understanding that access to that database is before that IQ information is available, hence the requirement for Wolfdén to conduct a separate study. The IQ program will include the following 1) collection and review of IQ already in the public domain 2) A site visit to High Lake by Elders and Gartner Lee personnel in early August 2004 3) an IQ workshop in Kugluktuk in late August 2004 with selected elders from Kugluktuk, Bathurst Inlet, and Cambridge Bay which are the communities nearest to the mining project and 4) Integration of the results of this work with the biophysical and engineering programs providing baseline information for interpretation of results. Wolfdén Resources Inc. and Gartner Lee Limited have prepared an IQ approach that addresses matters of data storage, use, ownership, access, intellectual property rights and participant consent. The IQ and the use of IQ will be reported back to the communities through a series of workshops planned for October, January, and March. It will also be reflected in the draft and final Environmental Impact Statement. The media for reporting will likely be written, mapping and video.

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Location/Region: Kivalliq
Project Title: **".com Pression"**

Summary: The objective of the film ".comPression" is to create an interesting and though provoking documentary about the topic of language in Nunavut. This topic will be explored through performances (drum dances, traditional games), and through interviews with various members from the communities of Repulse Bay and Arviat feel that language plays a role in their communities. If language does not play a role, what does? If explicitly about the filmmakers' perspective on this issue as an outsider, avoiding a meta-narrative approach to the topic of language.

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Location/Region: Kivalliq and South Baffin
Project Title: **Parasites and Biting Flies in Nunavut**

Summary: This is a continuing project on the distribution of biology of parasitic organisms in biting flies, especially mosquitoes. I will collect mosquito larvae from the local melt pools. Roundworm infections have been reported in 1954 and 1976. During the summer of 2002, I found roundworm in mosquitoes in one pool and ciliated protozoan in mosquitoes from a second pool. The parasites I collect will be preserved for future studies on the morphology and molecular relationship of the parasites. These studies will be valuable for the understanding of the distribution of these parasites in biting flies. I also hope to develop a better understanding of natural control mechanisms in populations of biting flies.

Name: Mallory, Mark
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Country: CA
Number in party: 4
Location/Region: North Baffin
Project Title: **Limnology of Cape Vera Ponds**

Summary: This project aims to gather information on water flow and water and sediment chemistry of the small, shallow ponds below the seabird cliffs at Cape Vera. The nutrients coming from seabird faeces feed in to some of these ponds, providing local enrichment and enhanced shoreline growth of mosses. These ponds also support abundant insect numbers, a food source for local birds like snow buntings. However, studies elsewhere in the Arctic (e.g. Alaska) have shown that migratory wildlife inadvertently bring contaminants in to these local food chains, because they pick these pollutants up in their wintering or feeding grounds, but expel them as waste at the colony. Our work will look at water flow, water movements, water chemistry and sediment chemistry to assess what ponds are affected, and if contaminants are enhanced in ponds fed with higher inputs from drainage at the colony.

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Project Title: **Glacier-climate studies on Grinnell ice cap**

Summary: This is a proposed extension of the monitoring program of glaciers we (Geological Survey of Canada) have been conducting in the high Arctic since the early 1960's. We want to establish a site on Grinnell ice cap to monitor the status of the ice cap for

detecting and measuring climatic change in the southeastern Arctic. In 2004, we will evaluate if the ice cap is suitable for this work. If it is, we will set up snow depth poles to measure annual snow accumulation and loss during future visits, and we will install an automated weather station to collect year-round weather information. We will also collect some snow samples to measure levels of air pollutants deposited in snow. We are applying for a multi-year license (2003-2006) to include future follow-up work of the same nature.

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Number in party: 2
Location/Region: North Baffin
Project Title: **The changing glacial landscape of Colin Archer Peninsula, Devon Island**

Summary: This work will investigate the dynamic and sensitive glacial environment of the Colin Archer Peninsula. This region has been identified as an area of exceptionally rapid glacial melt. The work ask whether this melt activity is characteristic of the region or if it is simply a result of climatic change. This involves measuring present and past sedimentation rates in several lakes in the area. Lake sediment coring will be carried out on five lakes in the area. This procedure involves drilling through the lake ice and placing a metal tube through the hole . The tube is then pushed into the lake bottom to capture a sample of sediment. A single core will be taken from each lake . Some small monitoring equipment will be installed in one of the lakes and a weather monitoring device will be established on or near one of the ice capes. This project will involve visiting the study site in years after 2004. This scope and scale of the project will remain the same.

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Location/Region: North Baffin
Project Title: **Mass Balance Measurements of White and Baby Glaciers, Axel Heiberg Island, NU**

Summary: Our research objective is to continue monitoring the mass balance of White and Baby Glaciers. Present computer models suggest that the Arctic regions will get warmer first and will provide the first definitive proof of global warming. Monitoring these glaciers and improving our measurement techniques may provide first hand evidence of any such warming. Essentially the mass balance of a glacier is determined by measuring the amount of snow that falls and accumulates on the upper parts of the glacier. Depending

on which is bigger, accumulation or melt, the glacier gains or loses mass. We need a very long record of annual measurements of accumulation and melt to be able to distinguish whether the glacier is reacting to normal weather variations or because the climate is changing.

Name: Koerner, Roy Martindale
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Country: Canada
Number in party: 4
Location/Region: North Baffin
Project Title: **Glacier Mass Balance and Pollution**

Summary: The programme is an ongoing one started in the early 1960s to monitor glacier health and climatic change in the Eastern Arctic. Beginning in early April, 2003, we will re-measure the mass balance of Agassiz (N Ellesmere), Meighen, Melville South, northwest Devon Ice Caps, and a small Glacier near Grise Fiord. There are automatic weather stations on each ice cap and these will be downloaded and re-set. Campbell Scientific will again send a technician to check and download the 3 Agassiz automatic weather stations. If convenient, he will also check out and download the AWS on Meighen Ice Cap. At the same time, snow samples will be collected from each ice cap as part of a continuing programme to monitor any changes in the amounts of pollution coming into the high Arctic. Campbell Scientific will send an employee to download three stations on Agassiz Ice Cap, and Jocelyn Bourgeois (GSC) will collect samples for snow biology there.

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Location/Region: North Baffin
Project Title: **The Hydrology and Dynamics of John Evans Glacier, Ellesmere Island**

Summary: Our aim is to investigate interactions between John Evans glacier, Ellesmere Island and the climate system. Our approach involves a combination of field monitoring and field experiments designed that allow us to develop and test of numerical models of glacier flow and exchanges of mass and energy with the atmosphere. The research focuses on direct ice atmosphere interactions and indirect interactions between glaciers and climate. It also investigates potential biogeochemical feedbacks on the climate system, such as the consumption of atmospheric CO₂ by chemical weathering, the cycling of organic carbon in glacial systems, and the potential release of CO₂ and CH₄ produced by sub glacial

microbiological activity to the atmosphere following deglaciation. The long term objective is a comprehensive assessment of the relationships between arctic glaciers and recent and future climate change.

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Province/State: Quebec
Country: Canada
Number in party: 7
Location/Region: North Baffin
Project Title: **An Investigation of the Impacts of Global Change on Permafrost in High Arctic Polar Desert Ecosystems**

Summary: This is an ongoing study of permafrost hydrology, microbiology, permafrost and climate. This project has two main objectives: first, to assess and detect landscape changes associated with warming permafrost and melting ground ice. And second, to assess the nature and role of micro-organisms inhabiting frozen ground and rock and to assess how climate change will effect their ecology. The following activities are proposed for the 2004 field season and will involve spring and summer field work. We will continue to search for other active and relic spring sites that may exist . We propose to a) examine the microbial communities found in association with springs b) test our glacial lake-sub glacial recharge hypothesis, c) develop models for the different spring systems and d) continue physical and chemical studies of brine icing formations. We will also continue our work on ice covered lakes and will undertake chemical surveys to determine the characteristic of their water and ice, the structures of their water columns , and identify major biological and chemical process. We will continue the high resolution GPS mapping of spring outlets, flow paths and structures.

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Location/Region: North Baffin
Project Title: **Validation of CryoSat Satellite - New Techniques for Glacier Mass Balance Observation**

Summary: Glacier and ice cap changes are recognized as very good indicators of climate change. The GSC has collected and assessed mass balance data from numerous ice caps in Nunavut for over 40 years. This information had provided the basis for a number of

important investigations concerning climate change. The data and assessments will be discussed in the Arctic Council's Arctic Climate Impact Assessment (ACIA). Traditional glacier and ice cap mass balance measurements conducted on the ground are very reliable, however, there is a need to improve our ability to measure and assess glacier changes over wider areas and regions where glaciers are found. To do this we are developing new techniques and evaluating existing aircraft and from space to extend over large areas the manual (by-hand) observations made at single points on the ground. It is also important to determine with greater confidence why these glaciers are changing. The goals of this investigation, therefore, are to: 1. Develop new methods for measuring glacier mass balance on the ground, from aircraft and from space. 2. Validate a new satellite sensor (CryoSat) that will assist in mapping ice cap elevation and snow accumulation changes. 3. Determine if snow accumulation has been increasing on the ice caps due to climate warming. 4. Contribute to efforts that are determining where the ice caps of Nunavut are growing or shrinking. The work will be conducted out of a single main camp (4 people) with field parties traveling periodically along measurement lines from this camp to the ice cap edges. We will be testing our methods and conducting ground measurements on Agassiz Ice Cap in the spring of 2003 (6-8 weeks). Ground and aircraft measurements will be conducted on Devon Ice Cap in the Spring and Fall of 2004 and 2006. For 2003, we will consider Devon Ice Cap as a suitable alternate to Agassiz if weather prevents access to Agassiz. We will be living and working out of 2 portable man tents and 1 portable lab/communal tent. All can be assembled and disassembled quickly. No permanent structures will be left.

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Country: Canada
Number in party: 3
Location/Region: North Baffin
Project Title: **Sources of Methy Mercury to the high Arctic Ecoregion**

Summary: In the high Canadian Arctic, some marine animals contain levels of methyl mercury high enough to cause health risks to northern peoples consuming them as traditional foods. Our past studies on Ellesmere Island, Nunavut, found that snow with high levels of sea salt also had high levels of methyl mercury. This finding strongly suggested that the methyl mercury in snow originated in the ocean. The objective of our research is May 2004 is to determine if methyl mercury is coming from open water areas in the sea ice and being deposited in snow. We will also determine if the methyl mercury remains in the snow until the snow melts in spring. If methyl mercury is in melt water, it would then be available for bioaccumulation through Arctic food chains. We will drill holes in the sea ice near the North Water Polyna to be analyzed for concentrations of methyl mercury. By understanding the sources of methyl mercury to high Arctic food chains, we will be able to determine whether contamination of traditional Arctic foods by methyl mercury can be reduced.

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Location/Region: North Baffin
Project Title: **Calibration and Validation of the Cryosat Radar Altimeter: Field Studies on Devon Ice Cap, Nunavut**

Summary: The two main objectives are 1) to differentiate seasonal elevation changes and long term changes in ice cap thickness and 2) to determine the relationship between surface elevation and changes in ice mass. Long term ice cap thickness will be calculated as the difference between stake movement and average accumulation rates. The rate of the transformation of ice to snow at each site will be estimated by measuring changes in the length of the cable attached to the bottom of a 20 m borehole and to the ice surface. The change in the length between 2004 and 2006 will indicate the magnitude of elevation change that is caused by firn compaction and not related to changes in ice mass.

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Number in party: 2
Location/Region: North Baffin
Project Title: **Northern Ice Shelf Community Dynamics**

Summary: Arctic ice shelves can only be found along the northern coast of Ellesmere Island. These unique features are typically formed by a long-term thickening of landfast sea ice. Communities, composed of many kinds of microscopic algae, can be seen entrapped in the surface of these ice shelves. When summer comes, melt pools form around the organisms and the tiny algae are free to photosynthesize and grow. Until recently, scientists have overlooked the microbial communities on northern ice shelves. This study site offers insight into how organisms can tolerate extreme cold but also how they may respond to a changing environment given issues such as global climate change and long-range transport of pollutants. This project aims to find out how much biological material

exists on the ice shelves and estimate its overall productivity. Previously, all five of Canada's major ice shelves were sampled for biomass, community analysis and water chemistry. In addition, light and temperature sensors were installed and are currently recording conditions on the ice shelf. This summer, we plan to carry out surveys and experiments on the Ward Hunt Ice Shelf to further our research. By taking samples and using water chemistry probes, it is possible to see differences between the numerous melt pools where these communities persist. By using a radiocarbon tracer, the productivity of the communities can be established, thereby giving an estimate of growth.

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Location/Region: North Baffin
Project Title: **Paleomagnetic, U-Pb geochronology and geochemical studies of dykes in Greenland and Nunavut**

Summary: In 1915, Alfred Wegener proposed a major fault along the Nares Strait between Greenland and Ellesmere Island to allow the northward separation of Greenland from Labrador. Ever since, the existence of this fault has been controversial: plate tectonic reconstructions using marine magnetic anomalies in the Labrador Sea indicate a left-lateral offset of about 200 km. but Paleozoic sedimentary rocks appear to be continuous across the Nares Strait limiting movement to 50 km. There is a major E-W trending swarm (about 700 million years old) extending for more than 200 km in the Thule area of Greenland that appears not to continue to the west into Ellesmere and Devon Islands. If the 2 swarms can be correlated it would support the conclusions that Greenland did undergo the net movement of about 200 km required by plate tectonics reconstructions. We use paleomagnetism, geochemistry and U-Pb geochronology to test the correlation of the 2 dyke swarms. Our results to date have been very encouraging and good data has been acquired.

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Number in party: 2
Location/Region: Kitikmeot
Project Title: **Testing the inertial interchange hypothesis, Shaler Supergroup, Victoria Island, Canada**

Summary: The inertial interchange hypothesis states, that superimposed on plate tectonic motions, rapid and choreographed drift of all the continents may have occurred numerous times between 900 and 500 million years ago as the Earth adjusted to drive positive mantle

mass anomalies to the equator and negative mass anomalies to the poles. The consequences of such large and rapid plate motions would be global and profound. We think we have uncovered geological evidence of such an event in the sedimentary record of Svalbard, Arctic Norway. Now we propose to mount and integrated physical, chemical, and magnetic stratigraphic study of time correlative Upper Schaler Supergroup, Victoria Island in order to test the inertial interchange hypothesis and to investigate its consequences on the biosphere , global carbon cycle and sea level.

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Number in party: 6
Location/Region: Kivalliq
Project Title: **Identification and Characterisation of Ice Stream Sticky Spots: An Improved Understanding of Ice Stream Basal Mechanics and Shutdown.**

Summary: One of the most important issues facing the world's population is the potential impact of future climate change and, in particular, the threat of increased global temperatures (global warming). A potential impact of global warming may be that ice sheets (such as the West Antarctic Ice Sheet) will melt, raising global sea level and having far reaching socio-economic implications, such as the widespread displacement of coastal populations. It is now known that the stability of the ice sheets is controlled by very rapidly flowing zones of ice known as the "ice streams". Ice streams are generally 30km wide and reach lengths of up to 400km. Their rapid flow and large size drain a disproportionate amount of ice from an ice sheet. Recently, it has been discovered that ice streams can change their size, speed up, slow down, and even shut down altogether. This behavior is puzzling but is almost certainly related to the conditions at the base of the ice where a layer of soft slippery sediment usually exists to lubricate their rapid flow. A problem with research on contemporary ice sheets is that it is impossible to observe and collect data from the sediments beneath the ice streams. Our own research has shown that during the last ice age (when an ice sheet covered most of Canada), a large ice stream flowed across the north-western Canadian Shield. It left behind an almost perfect record of it's flow by eroding and depositing the sediments in the area. The ice stream imprint initiated in the vicinity of Baker Lake and flowed north-westward through the Thelon Basin and up towards Bathurst Inlet. Now that the ice has disappeared we can access the bed of ice stream and investigate the sediments that would have lubricated it's flow. We aim to observe and examine sediments in the vicinity of the Thelon River and carry out some simple tests in the laboratory to explore the processes influencing ice stream flow. In late July/ early August 2004 we aim to visit three sites in a two week period, all accessible by powered boat from Baker Lake, Nunavut Territory. At each site, we will set up camp for 2-3 days. Apart from the collection of very small sediment samples, our fieldwork will be purely observational.

Name: Ash, Gary
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Country: Canada
Number in party: 10
Location/Region: Kitikmeot
Project Title: **Doris North Project**

Summary: Miramar Hope Bay Ltd. Pland to carry out additional baselie aquatic investigations during the 2004 field program. The program for 2004 is considered an extension of the work done in 2003 and the data information collected is required to fill in some information gaps as we continue our advanced exploration activities in the Hope Bay Belt. A considerable amount of aquatic surveys have been completed on the belt since 1992 under a previous owner. The program in 2004 will focus on Roberts bay, Little Roberts Lake and Roberts Lake ares, loacated in the northern portion of the Hope Bay Belt with the closest community being Umingmaktok. Community visits to Bathurst Inlet and Umingmaktok during the summer of 2000 summarized the program inticipated in 2000 and what we might expect to do in 2004. As mentioned, the study program for 2004 is designed to compliment existing information and fill in data gaps on aquatic habitat and fish populations in the study area. The work will include both springf and fall field surveys, focusing on Arctic char spawning locations and migration patterns in and out of Roberts Lake Tissue samples will be collected from approximately 100 fish (sculpin and stickleback) and analyzed for metal concentrations. Where possible, fish tagging will be undertaken to enable longer term monitoring. Inaddition, sediment samples will be collected in Roberts Bay and Roberts Lake to determine the present concentrations of metals and organic contaminants.

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Number in party: 5
Location/Region: Resolute Bay, Iqaluit
Project Title: **Investigations of Arctic microbial diversity associated with Arctic willow and introduced historic woods.**

Summary: An understanding and appreciation for biodiversity in Arctic ecosystems is very important for future efforts to monitor and protect these fragile natural resources. Our previous investigations have found a rust fungus that attacks arctic willow. This fungus is bright yellow in color and can be seen on the leaves. It can kill the leaves and stems of the willow. The fungus is very different from other rust fungi and we would like to study this disease to determine it's impact and find out where the disease came from. This study will also look at decay processes in dead willow to learn what organisms are involved and how they contribute to woody biomass degradation in Arctic ecosystems. This will include studies on dead willow wood and also wood introduced into the arctic such as the historic woods brought by explorers to the region over 100 years ago. These

historic woods are being degredated by some of the same decay fungi as those found in degregading arctic willow. Knowledge of the biology and ecology of these fungi is essential to successfully preserve the historic sites for future generations. Results will not be of immediate use to managers of these historic structures but will provide new information on arctic biology and ecology and improve our understanding of how microbes function in the arctic. To study these organisms we would make collections of leaves and wood to study in the laboratory. We would also set up a study where sterile wood, cotton and other materials are placed into the ground and buried. These samples would be removed and taken to the laboratoy after 1 and 2 years to determine that mocrobes are in them. Transport will be by aircraft and camping will be at sites designated by Parks Canada officials. The study will take place 2004 to 2007.

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Location/Region: North Baffin
Project Title: **The role of biotic soil processes in plant colonization and successionn along glacier forelands**

Summary: Since the end of the last Little Ice Age, global warming had led to a decrease in the surface area and mass of many glaciers in the Canadian High Arctic. As glaciers melt, they leave behind barren, exposed soil that is ideally suited to the study of plant colonisation. The first organisms to colonize glacier forelands are microscopic bacteria, plants and animals. These pioneering species of soil organisms are potentially very important for the improvement of soil conditions in harsh environment. Our research will investigate whether these naturally occuring soil organisms create a superior soil environment for plant establishment and successs. Through our analysis, we hope to determine if there are some trends that could serve to predict the re-vegetation potential of disturbed polar landscapes. Our proposed reseach site, the foreland in front of the retreating "Teardrop Glacier" in Sverdrup Pass is an example of a foreland that is exposing new terrain to the colonization of life. We expect to fly into the camp by Twin Otter and to establish a temporary camp at this site for 2 people for less than 6 weeks and 1 person for approximately 1 week. We will erect two Igloo style tents for cooking and storage ad 3 personal sleeping tents. All of our wastes will be recycled, burned, buried, or packed out as described in our NRI application. We would also like to include Alexandra Fiord as an additional or alternative research site so that it may be used as a comparison to our work at Sverdrup Pass. Our research methods are primarily non-destructive, based largely on the monitoring of vegetation changes over time using standard vegetation sampling techniques, on-site germination of seeds and soil collection for nutrient analysis. We also hope to establish a small number of permanent plots that can be used for valuable long term environmental monitoring of changes to the soil and plant communitites over time.

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Number in party: 2
Location/Region: North Baffin
Project Title: **Contaminants in Seabirds at Prince Leopard Island**

Summary: The primary research objective is to monitor changes in levels of contaminants in seabirds as representative of the marine environment in the Canadian Arctic. Prince Leopold Island is the key seabird contaminant monitoring site in Arctic Canada, having first been sampled in 1975. In 2004, the objective is to collect adult birds (10 of each specified species) to sample liver, muscle, and kidney tissues. Adult birds have not been sampled at PLI since 1993, and since that time we have determined that certain contaminants are increasing in the Arctic. Sampling adults for contaminants is the best methods to determine if concentrations of contaminants are at levels that may impair reproduction. The tissues will also be archived for future analyses.

Name: Mallory, Mark
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Province/State: NU
Country: Canada
Number in party: 6
Location/Region: North Baffin
Project Title: **Limnology of Cape Vera Ponds**

Summary: this project aims to gather information on water flow and water and sediment chemistry of the small, shallow ponds below the seabird cliffs at Cape Vera. The nutrients coming from seabird faeces feed in to come of these ponds, providing local enrichment and enhanced shoreline growth of mosses. These ponds also support abundant insect numbers, a food source for local birds like snow buntings. However, studies elsewhere in the Arctic (e.g. Alaska) have shown that migratory wildlife inadvertently bring contaminants in to these local food chains, because they pick these pollutants up in their wintering or feeding grounds but expel them as waste at the colony. Our work will look at water flow, water movements, water chemistry and sediment chemistry to assess what ponds are affected, and if contaminants are enhanced in ponds fed with higher inputs from drainage at the colony.

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Number in party: 4
Location/Region: Kivalliq
Project Title: **Paleoclimate and post-glacial evolution of the southwestern Foxe Basin region, based on different paleolimnological approaches.**

Summary: To explore the potential responses of northern freshwater ecosystems and their watersheds to climate change and to place instrumental temperature records into a longer-term perspective, we will use a multi-disciplinary peleolimnological approach to study the biostratigraphic (fossil microscopic algae and insects) and sedimentological changes preserved in the sediment records of several lakes distributed throughout the eastern Canadian Arctic and Subarctic. We will initiate studies on fossils preserved in lake sediment records from Southampton Island (lat. 62N to 65N), an area with serious peleoenvironmental and paleoclimatic data gaps. We will generate paleolimnological data both at high temporal resolution and at high geographic coverage, including sub-decadal records that span at least 2000 years and extend through the 20th Century. This research program involves the integrated study and comparison of present-day sedimentary and limnology processes in several lakes with observations of climatic and hydrologic conditions in their catchment basin. This is done in an attempt to determine how climatic and hydrological signals (e.g. snow melt, temperature and summer thunder storms) are reflected in the lake sedimentary record. In the field, the project implies the installation of monitoring equipments (data loggers) in the water column of the study lakes, as well as the coring of lake sediments using light weight gravity and piston corers. Helicopter support from PCSP will provide transportation in the field. No campsite will be required. Overnight stays will be at the Esungark Inn in Sallit.

Name: Siciliano, Steven
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Province/State: SK
Country: Canada
Number in party: 5
Location/Region: North Baffin
Project Title: **Trace Contaminant Transformations in the Northern Terrestrial Ecosystems**

Summary:

Metal contaminants and other pollutants from anthropogenic and natural sources have been found in Arctic ecosystems. As of yet, little is known about how these contaminants move through the soil ecosystems present in the Arctic. This project is investigating how the unique biology and chemistry of the Arctic contribute to the unusual behavior of pollutants in the Far North. We are hoping to use this information to develop management strategies that could mitigate contaminant impact on northern Canada as well as provide new biotechnologies that may be useful for dealing with contaminants in other settings. The field component of this project will involve an extended stay of up to 8 weeks in the Truelove Lowland on Devon Island, Nunavut. This site was chosen based on previous studies indicating its suitability for studying metal contaminant transformation, ecosystem diversity and the existence of a wealth of information including soil maps, vegetation analyses and landform classification. At least two students will be working in the field for the duration, with intermittent visits of supervisors Dr. Steven Siciliano and Dr. Derek Peak, as well as the possibility of other students doing research for their B.Sc and M.Sc theses. There is a base camp in the Truelove Lowland where personnel will be lodged although as of yet this has not been guaranteed. If this is not possible, personnel will sleep in tents and every precaution will be taken to have minimal impact on the site. Equipment and food will be transported by helicopter to and from the site. Much of the laboratory analysis will be done with portable equipment that will be used on-site. Samples of soil and water will also be taken back to Saskatoon for further experiments and analysis.

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Location/Region: Kivalliq
Project Title: **The PolarDARN radar for Rankin Inlet (Kangiqliq)**

Summary:

A large group of international scientists have joined to use radars to study high-altitude weather systems and their effects upon the low-altitude weather we experience at the ground. The SuperDARN (Super Dual Auroral Radar Network) community, with funding and/or participation from 12 countries (Canada, US Great Britain, France, Italy, Finland, Norway, Iceland, Japan, Australia, New Zealand and South Africa), has constructed 9 radars in the northern hemisphere and 7 in the southern hemisphere (including four in Antarctica) All of the 16 SuperDARN radars are located so as to examine the "auroral zone" (the zone of northern or southern lights) at high latitudes in the northern and southern regions of the earth. There is, however, a gap in the coverage over the polar regions. The north magnetic pole lies near Eureka, Nunavut. Only two radars, to be called the PolarDARN radars, are needed to view the entire "north polar cap" region centered around the magnetic pole. The first radar would be installed in Rankin Inlet, the second in Inuvik. We already take part in science projects at two sites in Rankin Inlet-at a small hut in which a camera and a radio insonde operate. The

PolarDARN radars will be portable- easy to install and remove, with no environmental damage. The radars measure the high altitude "weather maps" (which are voltage maps, because high-altitude winds are motions of electrically charged particles driven by electrical voltages). These maps are available on the internet with only a few minutes delay. Such information is important for all satellites, because satellites fly in this high altitude weather. These satellites are extremely important to the north because they transmit most communications signals (telephone, TV, internet etc.). Recently, scientists have found that the high-altitude weather is connected to the low-altitude weather, and the PolarDARN radar observations will help us to understand these connections. PolarDARN can measure part of the energy from the Sun to the Earth, namely the energy that comes from the "solar wind". This energy goes most directly to the polar regions, so these are very important regions to study. We are very fortunate that Nunavut and the NWT provide much easier access to the northern polar regions than Antarctica to the south polar regions.

Name: Smol, John
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Province/State: On
Country: Canada
Number in party: 6
Location/Region: North Baffin
Project Title: **Water Quality and environmental change at Cape Herschel, Ellesmere Island.**

Summary: Lakes and ponds are sensitive repositories of environmental information. We (J.P Smol, and M.S.V Douglas) have been monitoring 45 lakes and ponds at Cape Herschel, Ellesmere Island, approximately every 3 years since 1983. This area has become a critical reference site for limnological data. In 2004, we propose to continue our long-term monitoring of these sites at Cape Herschel. Our ongoing work confirms that these sites are extremely sensitive monitors of environmental change; however, it is vital that we continue to sample at 3 year intervals to determine if in fact these regions are changing and responding to possible environmental stresses. We will collect present-day water quality data and algal samples during approximately 12 days in July from lakes and ponds within walking distance of Cape Herschel. We will remove a small sample of water (~2L) from each pond, as well as a small amount of mud (a few cm³) for analysis of indicators of environmental change. We do not sample or disturb any wildlife or fish. Pending the availability of PCSP helicopters and weather, we would also like to sample a few sites on nearby Pim Island, Bache Peninsula, Knud Peninsula, Alexandra Fiord and Stygge Nunatak region. This increases our range of sites in which to assess past environmental changes. In addition, while based at PCSP (Resolute), we sample about 10 ponds and lakes as part of our long-term water quality assessments.

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Number in party: 0
Location/Region: North Baffin
Project Title: **Borden Basin Project- NRI**

Summary: This is the second year of work in the Borden Basin, which is the geological name for the rocks in the broad area between Arctic Bay and Pond Inlet. It's primary goals are: 1) investigating the properties of the rocks in the region, and what they can tell us about the geological history of the area; and 2) understanding how zinc and lead were transported to the area and deposited there, and what factors control where they are found in the region. The 2004 field season is proposed for June 13-August 15. The work will be accomplished by 2 people traveling on foot on the land from small base camps. Rocks will be described, mapped, measured, and sampled (first sized pieces or smaller) using a rock hammer. A series of 10 small base camps is proposed over approximately 2 months. Each will consist of 2 tents, which will be removed each time the 2 researchers move camp. Camp moves will be done using a helicopter based in either Pond Inlet or Resolute Bay. All transportation on the ground will be by foot. Sewage and grey water will be buried, and garbage taken to a municipal landfill by helicopter each time the camp is moved. All other material used or collected will be removed from each site with each camp move.

Name: Glenda, Fratton
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Province/State: On
Country: Canada
Number in party: 8
Location/Region: Kitikmeot
Project Title: **High Lake project**

Summary: Wolfden Resource Inc. through its consultant Gartner Lee Limited, will develop and complete the environmental, social and economic conditions for the High Lake project. And, to meet environmental assessment and regulatory requirements for developing the High Lake Project into an operating gold and base metal mine that will have about a 15 year mine life. Information gathering is expected to take several field seasons to complete, with most of the site information being collected in the summer. Socio-

economic information and traditional knowledge gathering will occur throughout the year, and the planned community meetings. Wolfden's vision is to bring the High Lake property into mining production for the benefit of its shareholders and the residents of Nunavut in a manner that respects the environmental and socio-economic conditions in Nunavut. Wolfden will operate in a highly professional manner to generate trust and respect between the firm and residents of Nunavut. The High Lake Project consists of the High Lake and Ulu mineral properties: transportation corridors from Ulu to High Lake and north to the coast and a deepwater port facility at Grays Bay on the Coronation Gulf. The High Lake project is located in the Kitikmeot region of Nunavut. Field work will include studies to gather environmental and socio-economic information that will help in design and construction planning. For all field studies, access will be by helicopter, boat or on foot as appropriate; ATV's will also be used near the existing camps, located at High Lake and Ulu. These camps will be used as the base camps for the field work. Sampling methods will include the collection of water, soil, rock, vegetation, and fish samples for analysis. Information will also be gathered about wildlife, birds, vegetation, fish, and weather conditions. Information on marine mammals, ice and weather conditions in the Coronation Gulf will be collected for proposed shipping activities. Weather stations will be constructed at High Lake and Ulu to gather weather information. Archaeological studies of the area are also being done.

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Location/Region: North Baffin
Project Title: **Planktic organisms (graptolites, radiolarians, acritarchs) biostratigraphy taxonomy paleoecology and evolution.**

Summary: This summer's field work will be essentially a continuation of the earlier ones, that is, sampling from Lower to Upper Silurian rocks (435-410 million years) primarily for their contained extinct marine organisms called graptolites. These organisms are particularly well preserved in Arctic Canada and, in fact, are among the best in the world. Graptolites are extremely useful for age-dating of the rocks and are helpful in understanding the nature of deep-water basins of the distant past. Moreover, their marvelous preservation in the Arctic permits an unusual opportunity to study their complex morphology with the aid of a scanning electron microscope. I have been studying these organisms for many years and, as a result of collecting from many sections in the Arctic, have amassed large collections from the entire Silurian. However, the fact remains that there are a number of small but significant "gaps" remaining in my earlier collections, and filling these gaps is important from both a biostratigraphic (rock age-dating) viewpoint, and also from the evolutionary viewpoint. Thus, for the summer of 2004 I plan only a very short period in the field, during which time, my graduate student assistant and I propose to briefly visit and sample a number of crucial sections; those at Abbott River, Cape Phillips, Snowblind Creek and Baillie Hamilton Island (two localities). More

specifically, we intend on sampling only very specific levels in each section, and will therefore require. On average, only one to two hours at each site. Hopefully all sections can be visited and sampled in one full day.

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Province/State: Québec
Country: Canada
Number in party: 4
Location/Region: South Baffin
Project Title: **Re-sampling of the Baffin Bay Picrites**

Summary: the Baffin Bay picrite lavas have played a key role in our understanding of basaltic volcanisms on earth. Most of the scientific work on these lavas is on samples that I collected some 20 years ago and distributed to scientists around the world. Recent work by Fin Stuart of Edinburgh University has determined extremely high $3\text{He}/4\text{He}$ ratios in the olivine crystals of the Baffin picrites, which now replace results that imply that the Baffin extreme terrestrial $3\text{He}/4\text{He}$ end member. These preliminary results imply that the Baffin Bay picrites sample a very deep mantle source within the Earth, which until now has not been identified. We are unable to follow up on these exciting results because my Baffin sample collection is now virtually depleted. Together we hope to return to the Cape Searle - Cape Dyer coast this summer to obtain a new collection of lava samples. Chemical and isotopic analyses of these rock samples will enable us to investigate the nature of the deep mantle source regions for basalts on the Earth. We plan a three-week expedition in August, comprised of myself and a student from McGill University of Professors Stuart and Fitton from Edinburgh University in Scotland. We will fly to Broughton Island by First Air in early August and hire a boat to take us south to the Cape Searle-Cape Dyer coastline. We anticipate 4 different camps, each approximately 4 days in duration. We will be moved from camp to camp by boat and will use light backpacking gear and small 2 man tents. Our work in the field will consist of mapping and the collection of ~ 150 first sized rock samples to be returned for hammers. No equipment or garbage will be left in the field, and there will be essentially no trace of our presence after we have left.

Name: Aiken, Susan
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Number in party: 3
Location/Region: South Baffin
Project Title: **Flora of the Canadian Arctic Archipelago**

Summary: The last Flora of the Canadian Arctic Archipelago was written by A.E. Porsild and published first in 1957 with a supplement in 1964. It is out of date, very skimpy on details useful for identifying plants and in illustrations limited to black and white line drawings and maps. Data for the current work are being gathered in electronic database format that can be accessed interactively by computer for plant identifications. Coloured slides are being digitized showing habitats in which plants grow, and also close up pictures of plants, such as flowers and fruits. The results are more complete information than has been previously been available for identifying arctic plants. Results to date may be viewed at www.mun.ca/biology/delta/arcticf. My reason for going to Coral Harbour and Crocker on Devon Island would be to study grass *Dupontia* and obtain samples for a circumpolar study on this genus of grasses. The areas have otherwise been very well collected and I would anticipate taking a minimum of samples.

Name: Young, Kathy
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Province/State: Ontario
Country: Canada
Number in party: 3
Location/Region: North Baffin
Project Title: **Hydrological Response of High Arctic Wetlands to Local and Regional Environmental Settings**

Summary: Wetlands are important ecological niches in High Arctic environments providing habitats for fauna and migratory birds. However these sites are sensitive to change initiated by northern development or climatic variability. Insufficient information exists about Arctic wetlands and there is a real need to make an inventory of wetlands and relate their form and function to large scale patterns of snow, permafrost and climate. These types of information will improve our understanding of their ecology and determine their susceptibility to future environmental changes. The present project will examine the role of regional and local environmental conditions on the hydrology of High Arctic wetlands. The immediate objectives of this project are: 1) to identify wetlands using remote sensing and relate them to factors such as climate, frost, snow and ecology; 2) examine the impact of climate variability on snowmelt, ground thaw, flooding/drying on wetlands; 3) assess regional versus local water sources in sustaining wetlands; 4) employ a permafrost model to predict susceptibility of wetlands to terrain disturbance, climate variability and climate change. Presently, a great deal of environmental data (water, energy, vegetation) has been collected at a wetland site near Resolute Bay and this research will continue. In addition, several target wetlands will be selected from areas of the High Arctic which experience cool/wet/cloudy environments (Cresswell Bay, Somerset) versus warm/dry/sunny areas (East Wind Lake, Ellesmere). Satellite imagery will help us to map these wetlands in terms of their form, snowcover, vegetation and flooding or drying conditions. Fieldwork will confirm the accuracy of the satellite images. We will carry out snow surveys in early May, before snowmelt and we will re-visit sites in late summer to download meteorological information (air/surface temperature, precipitation), determine

maximum ground thaw and note maximum and minimum water levels in a series of water wells.

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Location/Region: North Baffin
Project Title: **Trophic structure of aquatic communities in shallow Arctic water and their response to climate change**

Summary: The Arctic Tundra is spotted by thousands of shallow lakes and ponds. Unlike water bodies to the south, the life is mainly confined to the bottom of the water body, instead of the water column. The high transparency of arctic water, I.e. light can penetrate to the bottom, allows microscopic algae to grow on the sediment and form thick mat-like structures. We think that all other life in the water body are dependant and feed on these microbial mats. Algae and large particles from the sediment may provide food for plankton in the water column, however no previous studies have addressed such processes in this vast biome. The project aims to find links between the sediment and water column using natural stable isotopic signals that can be measured from individuals. This involves a collection of samples from the microbial mat, water and plankton of the ponds for later analysis in the laboratory. In addition we plan to study the pigmentation pattern of zooplankton in these clear water bodies. Zooplankton protect themselves from the harmful ultraviolet radiation by creating pigments that act as sunscreens. These can be measured in the living organisms and potentially, from the fossil remains found in the bottom sediments of the water body. This would give information of the past UV-conditions since pigments are produced in relation to the intensity of UV radiation. The field work will take place in Resolute and in the area near the Lake Hazen and in Ward Hunt Island, Ellesmere.

Name: Henry, Greg
Department: Department of Geography
Affiliation: University of British Columbia
City/Town: Vancouver
Province/State: British Columbia
Country: Canada
Number in party: 6
Location/Region: North Baffin

Project Title: Climate Change and Tundra Ecosystems:Species-Level Responses and Consequences for Ecosystem Processes and Feedbacks

Summary: This project began in 1998 and builds on a long-term study established in 1992 to investigate the effects of climate warming on tundra ecosystems. My long-term experimental plots are established at Alexandra Fiord, Ellesmere Island where I have conducted ecological research since 1980. The plots are warmed by 2-3 degrees Celsius by placing small (1.5 m diameter), open top greenhouses over them. In some of the plots, snow is removed so plants start to grow earlier, and in others snow is added so they will start to grow later. In other plots, I add a little fertilizer to stimulate plant growth. All of these experiments are meant to cause changes that may happen in the future as the climate gets warmer. We found that warming has changed the amounts of nutrients available to plants, and there are more nutrients available in the warmed soils of some sites, especially the wetter sites. There was not a large effect of the warming on the rate of nitrogen fixation in the soils, which is an important process that supplies new nitrogen to ecosystems. The numbers and kinds of plants (part of biodiversity) in the plots have changed in the warmed plots. We do not fully know what these changes in numbers and types of plants will affect animals feeding on them. One of the most important ways we can determine the effects is to measure the changes in plots like these over many years, which is what we continue to do. This coming summer we will also establish experiments to change the biodiversity in small plots by removing some species and adding seed from others. We will then measure how the plants and soils respond over the next few years. These experiments will help us to understand what happened to the tundra when the species diversity changes. My research site at Alexandra Fiord is part of the International Tundra Experiment (ITEX), which is a network of arctic sites and scientists around the world doing similar studies. My site is the oldest and most comprehensive ITEX site, and is the only site in the High Arctic. My group of 2-4 students and 1-2 colleagues usually arrive at the site in late May or early June and stay until late August. We use the RCMP buildings at Alexandra Fiord, with permission, as our research camp

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Location/Region: Kitikmeot
Project Title: **Dendrochronological Field Investigations At The Northern Nrth American Threeline**

Summary: The goal of our project is to develop tree-ring records from old growth trees at northern treeline locations in Canada and Alaska for paleoclimatic studies. Over the past two to three decades scientists from our laboratory have conducted field work from such locations including the Coppermine River area (which we first sampled in 1984) As a result of those efforts we have compiled a database of tree-ring data for the circumpolar

Arctic which have and are being used to reconstruct Arctic and Northern Hemisphere temperatures over the past several centuries to millenium. Our current project aims to collect both living and subfossil wood material, primarily of white spruce, from the Coppermine and Mackenzie Mt. areas in the summer of 2004 in order to update and extend our previous collections. It is planned that three persons from our laboratory will conduct the field trip (estimated to last approx. 4-6 weeks), using commercial and chartered aricraft (helicopter, float plane) where appropriate. Temporary camps (tents) will be used, and inflatable rafts may be employed. Research methods will include the nondestructive sampling of living trees (primarily white spruce)using increment borers. Chain and hand saws will be used to obtain sections from dead wood material. The resulting extended records will allow us to infer information about the nature of past climate during the "Medieval Warm Period" and the "Little Ice Age" relative to the past century of large-scale warmingand anthropogenic increase in trace gases. This work is fully funded by the USA National Science Foundation. The pricipal Investigators of this project are Rosanne D'Arrigo, Gordon Jacoby and Brendan Buckley. Results will be reported to the appropriate agency.

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City/Town: Ottawa
Province/State: On
Country: Canada
Number in party: 2
Location/Region: Kitikmeot
Project Title: **Holocence Paleoecology and paleoclimatology of the central Canadian Arctic**

Summary: Our research is a study of the changes in the climate and vegetation across the Canadian Arctic for the past 10,000 years. We will determine how climate changes in the past affected the vegetation of the region. We determine past changes in the climate and vegetation by studying lake sediments. Lakes are continually accumulating sediment, and therefor as you go deeper in the sediment, you are going back in time. We collect cores of the lake sediment and interpret how the vegetation has changed by analyzing the pollen in the sediment. This research program provides important information about the sensitivity of arctic vegetation to climate change. The objectives of the research program are to describe the changes in the vegetation across the Arctic for the past 10,000 years, determine if the climate changes the same way and at the same time across the entire Arctic, and to determine the extent of the present-day climate changes across the Arctic.

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Location/Region: NB
Project Title: **Impact of biology and photochemistry on mercury cycling in fresh and saltwaters of the high arctic**

Summary: Because it is very toxic and accumulates in organisms, particularly in fish mercury is an important pollutant. Elemental mercury is efficiently transported as a gas around the globe, and even remote areas show evidence of mercury pollution originating from industrial sources. Once emitted in the atmosphere, mercury takes part in a complex chemistry that can lead to its deposition onto snow packs, lakes and oceans. These compartments can be seen as reservoirs of mercury. Recent studies have shown that once deposited, mercury can go back to the atmosphere under the influence of sunlight radiations. However, the mechanisms involved and the extent of this phenomenon remain poorly known. During the snowmelt period, biology became an important component of winter's ecological cycles and is thought to greatly influence mercury cycling. This project aims at clearly identifying mechanisms involved in the formation of volatile elemental mercury in fresh and salted snow packs and aquatic systems. No perturbations will be brought to the ecosystem: we will just collect snow and water. We will use snowmobiles to reach our sampling sites, as our work deals with ultratrace levels of mercury, the use of combustion engines will be as moderate as possible. We will study freshwater lakes of the Resolute Bay area (Meretta lake, North Lake and Small Lake) and some of the saltwater sites located in the Barrow straits. We would use PCSP laboratories to perform our analysis and carry out the experiments. This project will last for three years (from May 2003 to May 2006) as we wish to assess mercury cycling during spring, summer and wintertime in the above-cited sites.

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Number in party: 5
Location/Region: North Baffin
Project Title: **Geoscience Knowledge in Nunavut**

Summary: The field work proposed for the summer of 2004 is the second in a four year collaborative effort to advance geoscience knowledge in Nunavut, specifically related to the discovery of new mineral and hydrocarbon resources. The two scientists leading the project, Marie Claude Williamson and Marcos Zentilli successfully completed the first field season on Axel Heiberg Island in July 2003. The project has long term scientific, applied and outreach objectives. The scientific objectives are to better understand the volcanic and structural history of this region, and the effects on the formation of oil and gas deposits in the Earth's crust. Outreach activities were initiated in July 2003 by a visit of the field party to Grise Fiord. We plan to visit the community again this year, to make a second donation of books to the school library, and spend more time with the

educational Authorities to discuss exchanges and sponsorship for the students of Ummimak school. Our project website, active May to December 2003, provided visibility to our scientific and outreach activities. The site will be updated and launched again in May 2004, to illustrate our scientific activities; help us establish linkages with Northern Educational Institutions; collect additional books and educational materials for Ummimak school; and advance our fundraising activities. In July 2004, we will continue our studies of the unique geological environment observed on Axel Heiberg Island, that includes sedimentary and volcanic rocks locally intruded by evaporite structures. We will map and sample these lithologies in three areas of Axel Heiberg Island : Surprise Fiord; Gobs Fiord and Whitsunday Bay; and the expedition Fiord area. The objective of the field program is to sample these volcanic rocks and document the structures around the salt domes. IN our laboratories, we will then investigate how the rocks and structures record changes in the movement and temperature inside the salt domes. These geological observations provide us with clues on the location and migration path of oil and gas deposits through time.

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Location/Region: North Baffin
Project Title: **Mars Deep Drill - Planned Science and Technology Field Research**

Summary: This is a new project that has only recently received funding under NASA's Astrobiology Science and Technology Instrument Development Program. The ultimate goal of this research is to develop and field test technologies that can collect micro-organisms present in the ancient Martian ground ice and to provide a science base for this investigation by the direct examination of analogue permafrost environments on Earth. Field testing will be carried out for 3 consecutive springs. This research will characterize the stratigraphic nature and distribution of massive ground ice, the age of the ice and characterize the abundance, distribution and composition of the active bacterial communities in the active layer, sediments overlying massive ground ice, in the massive ground ice, and in the poorly consolidated Tertiary bedrock that underlies the ground ice. To ensure that drilling/coring systems are capable of operating successfully on the surface of Mars, we propose to characterize relevant physical properties of rocks and of drill bits in the laboratory under Mars-like conditions of temperature, pressure and atmospheric composition. We propose to develop sampling technologies for aseptic drilling in permafrost. We plan to work in Eureka for 3 reasons, first because of the widespread occurrence of ground ice conditions; second because the area represents one of the coldest and driest ground ice environments in the Arctic; and thirdly because of the available logistical infrastructure.

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Number in party: 6
Location/Region: North Baffin
Project Title: **CASE 8-Tertiary strike-slip tectonics on SE Ellesmere Island and their relations to Nares Strait**

Summary: Since the Nares Strait conference in 1980 at Halifax, the role of the plate boundary between Greenland and Ellesmere Island (Wegener Fault Zone) is unclear; there is no doubt about lateral movements between Greenland and Ellesmere Island during Cretaceous/Early Tertiary times, but recent observations along Nares Strait (joint expeditions of BGR and GSC) indicate that the Wegener Fault Zone along Nares Strait does not continue towards Baffin Bay through Smith Sound. This contradiction can only be solved by the existence of another important fault zone somewhere south of 79° North which could accommodate the movements between Greenland and Ellesmere Island. East of Vendom Fiord and Strathcona Fiord (South Ellesmere Island) the large up to 75 km wide NNE-SSW trending Vendom Fiord Fault Zone (VFFZ) is exposed in the foreland of the tertiary Eureka Thrust Belt. It is dominated by lateral movements and contains numerous small, isolated Tertiary Basins. The planned field work during CASE 8 focuses on the architecture, kinematics and the timing of the VFFZ. Observations of the structural geology in the Siluro-Devonian bedrocks, Tertiary Basins and along the faults will be carried out in combination with sedimentology and paleontological studies of the Tertiary strata to understand the origin, nature and the ages of active tectonic phases along the VFFZ. The large extent of the fault zone across and along strike indicated that it belongs to the major fault zones on Ellesmere Island. Therefore, it is a major target of our field work in 2004 to prove the possibility that the VFFZ could represent the southern continuation of the Wegener Fault Zone which has been overthrust by the Eureka Thrust Belt in the central part between Sverdrup Pass and Carl Ritter Bay.

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Number in party: 3
Location/Region: Kivalliq
Project Title: **The role of Inuit women in Religious space in the Kivalliq**

Summary: My general research objective is to document the role of Inuit women in religious activities. I want to learn more about the various religious experiences of Inuit women and how they pass on their knowledge to the younger generations. This research is conducted within the SSHRC-CURA project titles "Memory and History in Nunavut" It is a partnership between the GETIC of Laval University, the Nunavut Arctic College and Iqaluit's Elders Society. I will attempt to reach my goal by interviewing and recording life histories mainly of Inuit women of different generations and observe, as much as I can, their activities in their families, in schools and at various religious celebrations and festivals. I want to focus on women experiences because after reviewing of the anthropological literature on this topic, I noticed that the men were more solicited in general than women. I thus thought it would be relevant and interesting to try and supplement their data with testimonies coming from Inuit women. The oral data will be kept in a locked drawer in the GETIC laboratory of Laval University as long as any potential use has been decided with the communities I will work with. The information obtained will be used for writing a PhD thesis, and in the publication of articles in scientific journals and for presentations in conferences, At the end of my PHD, I will send a copy of each audio and video tapes to the communities, at the Nunavut Arctic College and also to the participants who will have asked me a copy and I will erase the tapes of those who have asked to stay anonymous.

Name: Ash, Gary
Affiliation: Golder Associates Ltd.
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Province/State: AB
Country: Canada
Number in party: 4
Location/Region: Kitikmeot
Project Title: **Habitat and Fish Use at Stream Crossings**

Summary: Detailed investigations were carried out between 1997 and 2001 to collect baseline data for the potential goldmine development by WMC International Ltd/ in the Meliadine Lake area near Rankin Inlet, Nunavut. Comaplex Minerals Corp. acquired the property WMC in October 2003 and is continuing with the exploration and environmental studies. The study program for 2004 is designed to fill the data gaps on habitat and fish use at stream crossing sites along the proposed road corridor between Rankin Inlet and the potential mine site. The collected will be used in the preparation of an environmental impact assessment and will form a baseline for future monitoring activities.

Name: Whyte, Lyle
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Number in party: 0
Location/Region: North Baffin
Project Title: **Microbial investigations of perennial springs, permafrost and ground ice in the high Arctic**

Summary: Relatively few reports are found describing the ecology and biodiversity of microbial communities in the Canadian high Arctic where unique habitats exist including cold perennial salt springs, glacial ice and sub glacial soil, permafrost and ground ice, and cryptoedoliths (microbial communities within rocks). Little is known about the traits that enable such microorganisms to survive and thrive in these extreme habitats. Therefore, I am presently developing and expanding a research program focused on Arctic microbial biodiversity and ecology studies in these habitats to expand our basic knowledge of Arctic microbial communities, to determine the utility of these unique environments as analogs to those which may exist or existed on Mars, and, in the longer term, the potential biotechnological applications of cold adapted microorganisms (examples: antifreeze proteins, polyunsaturated fatty acids.) In 2003, small representative samples (~2 kg of soil/ permafrost or 2-4 L of water) of the microbial populations will be obtained from the Eureka and Axel Heiberg sites. Microbial biodiversity research will be conducted in my lab at McGill University on the collected samples. These data will provide information on the microbial populations associated with these sites, the physiological types that are involved in biogeochemical processes and hopefully establish which organisms become fossilized or preserved in the system.

Name: Poland, Dr. John
Department: Analytical Services Unit, Biosciences Complex
Affiliation: Queen's University
City/Town: Kingston
Province/State: Ontario
Country: Canada
Number in party: 9
Location/Region: South Baffin
Project Title: **Chemical Sampling and Analysis**

Summary: The Analytical Services Unit, Queen's University will have a team on site at Resolution Island again this year. Our work is to support the major cleanup being undertaken by the Qikiqtaaluk Corporation for Indian and Northern Affairs Canada. The majority of the work will involve sampling and analysis of soil, barrel contents and other miscellaneous items. Work will continue this year with the removal of the PCB-contaminated soils from the S1/S4 beach area and valley where we will test soils to ensure cleanup is complete and also map locations. The permanent barriers constructed in 2003 will be monitored, repaired, tested and modified as appropriate. Further work will be conducted with respect to hydrocarbon contamination including additional environmental assessment, monitoring and operation of the experimental land farm and other remediation trials. Other work will be undertaken includes testing the lake and drinking water, monitoring the performance of the existing barriers in drainage pathways, testing monitoring the performance of the existing barriers in drainage pathways, testing background water and plant samples and air monitoring.

Name: Walker, Donald
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Number in party: 12
Project Title: **Biocomplexity of Frost Boil Ecosystems**

Summary: What we would like to do is to spend a day at Isachsen on Ellef Ringnes Island in July 2003, looking at, measuring and sampling the soils and vegetation near the airstrip. We are interested in the interactions between the soils, the climate and the vegetation, and the way that these interactions control the patterns of bare soil and vegetation that are found in the Arctic. Often these patterns form circular features called frost boils. This summer will be the third year of a five-year research project. We spent last summer doing similar work on Banks Island. This summer we will be working at mould Bay on Prince Patrick Island. We would like to visit Isachen to see if some of the interesting relationships between the vegetation, the soils, and the permafrost still hold true in a colder climate. Our goal is to find moderately well-drained fine-grained soils that we could compare to similar areas on Banks and Prince Patrick Islands. Our group will include a vegetation scientist who will look at the plants growing in different areas; a soil scientist who will describe and sample the soils; and a permafrost scientist who will look at the soil ice, and air ground temperatures. During our visit, we will examine the plants and soils. If we find a suitable area, we would like to mark a 10 x 10m grid and describe and map the vegetation. We would dig a soil pit (1x2m, 1m deep). All soils, except for a small amount collected for analysis (less than 2kg) would be returned to the pit in the order which it was removed. We would put some temperature sensors at the grid, which we would leave there to measure air, ground and soil temperatures for several years. We would collect a small amount of vegetation.

Name: Whitehead, James
Affiliation: University of New Brunswick
City/Town: Fredricton
Province/State: NB
Country: Canada
Number in party: 2
Location/Region: North Baffin
Project Title: **Field Investigation of a probable impact crater Island**

Summary: This project will determine the origin of a 40-50 wide crater in Canada's arctic. The crater possesses features consistent with formation by a meteorite impact. The study of young, uneroded impact craters is important as they can preserve morphologic detail that

is typically obscured in older craters. We will fully characterise the morphology of this feature. This crater occurs on sediment, not rock, and can be used as a comparison for craters produced by laboratory impact and nuclear explosion experiments. We will determine the age of the crater in a novel way, using cosmogenic nucleides and possible using C14 of sediment in the lake. We aim to use a magnetometer and radar to locate and retrieve meteoritic material for further studies in Canada that may elucidate the origin of the impacting body. Any collected material will ultimately be donated to the National Collection of the Geological Survey of Canada.

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Location/Region: Kivalliq
Project Title: **Western Churchill Metallogeny Project**

Summary: The principal objectives of the project provide geoscience information on the surficial materials and exposed bedrock in two areas near Baker Lake and Wager Bay, in the form of geological maps and reports for economically effective and environmentally sound use of the terrain and materials. It will involve Quaternary mapping at a regional scale in the Schultz Lake map and the Wager Bay map areas, and targeted bedrock studies in the Thirty-Mile Lake map and the Wager Bay map areas. Activities will be conducted out of Baker Lake June 14 through July 4, 2004 and from a mineral exploration camp from July 4 through July 26th. The work will be carried out on foot and by helicopter supplied by the Polar Continental Shelf Project, and will be done by making geological observations and collecting small samples of surface sediments and bedrock specimens. Superficial mapping is focused towards a better understanding of the glacial and post-glacial history of the area, and issues concerning land care as development occurs. Glacial sediment sampling will contribute to characterizing the glacial transport history and will provide information on the nature and composition of the surficial materials. Bedrock studies is directed towards a better understanding of the relationships between rock types, geological events, and mineralization. This work is part of a three year multi-disciplinary and collaborative effort between geoscientists of Nunavut, the Northwest Territories, the Prairie Provinces and the Geological Survey of Canada to provide a regional geoscience knowledge base for the Western Churchill geological province. The main economic self-sufficiency and work opportunities for northerners.

Name: Fratton, Glenda
Affiliation: Gartner Lee
City/Town: Calgary
Province/State: Alberta
Country: Canada
Number in party: 18

Location/Region: Kitikmeot
Project Title: **Baseline Study Programs for the High Lake Project**

Summary: Wofden Resources Inc. through its consultant Gertner Lee Limited, will design and undertake preliminary and long-term environmental and socio-economic baseline programs to develop a general understanding of the environmental setting for the High Lake Project. And, to meet environmental assessment and regulatory requirements for developing the High Lake Project. The High Lake Project consists of: The high Lake and Ulu mining properties; transportation corridors from Ulu to High Lake and north to the coast; and a deepwater port facility at Grays Bay on the Coronation Gulf. The high Lake project is located in the Kitikmeot Region of Nunavut. An Environmental baseline camp is required for the proposed High Lake Project. Baseline conditions will be used to prepare an impact assessment for the project on the environment, to select sites and road locations and to prepare environmental protection plans and environmental monitoring programs. A one-year, multi-discipline permit is requested for this Project. The Socio-economic and Traditional Knowledge Program associated with this project is submitting a separate application. Field work will include feasibility and reconnaissance studies for the engineering design and construction team, and environmental baseline data collection. For all studies, access will be by helicopter, boat or on foot as appropriate; ATV's will also be used near the existing camps where feasible. Sampling methods to be employed involve standard environmental survey techniques and do not involve any new technology. Global positioning Systems (GPS) and appropriate scale maps and aerial photos will be used for recording point location information and for navigation. Teams studying the various biophysical environment components will work cooperatively for logistical efficiency and to reduce the amount of air traffic in the area. Local assistants will be hired to assist in data collection. All personnel will be staying at and working at the existing camps.

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Number in party: 2
Location/Region: North Baffin
Project Title: **Quaternary glacial geology and sea level history of Lougheed, Cameron and Vanier islands, Nunavut**

Summary: This research aims to define the nature and extent of past glaciations as well as research is to obtain a long term paleoclimatic record (between today and 40,000 years ago) from these former ice and sea level conditions in western Nunavut. We want to know what insights do past changes provide for a better understanding of recent global warming, especially regarding the possibility of further reducing the remaining glaciers and sea ice cover. This would contribute to the investigation of recent sea level rise which we also previously identified on Melville Island. Sea level rise is clearly more widespread in the western islands and we are interested in identifying other factors that are contributing to

it. High latitude areas such as Nunavut provide diverse records of past global changes, since they are generally the first regions to be affected by climate variability. Hence, it is of prime importance to obtain more data from these regions and to place them in a context of much longer environmental changes in order to improve our understanding of possible future climate conditions. The methods we use in our research include the analysis of sediments, the collection and dating of shells and driftwood as well as the characterization of the impacts of recent climatic and environmental changes on the coastline. Field surveys are realised using light All Terrain Vehicles and a helicopter. We usually have 3-4 camps per summer in order to cover as much ground as possible. Camps are temporary and involve only light structures. The expected duration of our field season is 4-6 weeks, depending on weather conditions.

Name: Muir, Derek
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Province/State: On
Country: Canada
Number in party: 2
Location/Region: North Baffin
Project Title: **Fish from High arctic Lakes: Cumulative effects of contaminant and climate warming**

Summary: The purpose of this project which began in 1999 is to investigate changes in amounts of contaminants over time in landlock Arctic char from lakes in the Canadian high arctic islands. Our approach is to measure amounts of contaminants such as mercury and PCB's in the fish each year to see if they are decreasing or increasing. We are studying Resolute, Amituk and Char Lakes near the Hamlet of Resolute Bay because char from those lakes were first sampled for contaminants in 1993 and, therefore, the older results can be compared with newly collected samples to see if contaminant levels are increasing or decreasing. We have found that the amounts of mercury are going up slowly in char from Char lake and Amituk Lake but have gone down slightly in Resolute Lake. This year we also propose to collect fish from other lakes in the area such as the North Lake, and lakes on Devon Island and Somerset Island to compare contaminants in char with results for the fish in Char, Resolute and Amituk Lakes. All fishing will be done between July 26 and Aug 13. We will also collect sediment and water from each lake to study the amount of mercury and other contaminants entering the lake in early June and in late July or early August. We will continue to report our results annually to the Hamlet of Resolute Bay.

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Number in party: 7
Location/Region: North Baffin
Project Title: **The Mars Society "Flashline" Mars Arctic Research Station :An International Research Station at Haughton Crater, Devon Island, To Support Human Mars Exploration Research**

Summary: The Mars Society is a private international society dedicated to furthering the human exploration and settlement of the planet Mars. In July 2000, the Mars Society established a research facility at the Mars-like Haughton impact crater site on Devon Island, called the Flashline Mars Arctic Research Station (FMARS). Designed to simulate a landed spacecraft on Mars, the FMARS project serves three goals: 1) To provide a testbed for studying the many aspects of field exploration operations on a human mission to Mars; 2) To provide a capable field research laboratory to help further our understanding of the Arctic, the Earth, Mars and the possibilities and limits of life on our planet and beyond; 3) To inform and inspire people around the world to greater interest in space and science by bringing before them in a tangible form the vision of human exploration of Mars. This unique program entails a six person crew of scientists and engineers attempting to conduct field exploration in Devon Island's polar desert, while working under the same constraints as a human expedition exploring Mars. The crew lives in a combination habitat/laboratory module that is an architectural duplicate of a Mars mission unit. Anyone leaving the station to do field research needs to wear a simulated spacesuit, that limits the mobility, agility, dexterity, and sensory abilities of the wearer much as a real spacesuit would. While in the station, crewmembers also perform laboratory analyses of samples brought in from the field, repair equipment, write reports (exchanged with Mars Society's Mission Support via a satellite link that imposes a Mars-like delay on communications), and engage in the chores of daily life living together as a team. The purpose of conducting such simulated operations is to gain essential knowledge of Mars exploration tactics, human factors issues, and engineering requirements - in short, to start learning how to explore Mars.

Name: Pollard, Wayne
Department: Department of Geogrpahy
Affiliation: McGill University
City/Town: Montreal
Province/State: Quebec
Country: Canada

Number in party: 9
Location/Region: North Baffin
Project Title: **Physical and Biological Implications of Permafrost and Ground Water Dynamics in a High Arctic Polar Desert Ecosystem**

Summary: This research licence application is for the continuation of our investigations of high Arctic perennial springs. Our research is entering into a new phase that focuses on the biological and physical connections of these spring systems and their interaction with the surrounding polar desert ecosystem. We plan to continue our research on the hydrologic, geomorphic, and geological processes however by also looking at their microbial ecology (microscopic communities) and the various products of biological activity (biogenic mineralization, gases, biofilms) we hope to characterise a potentially unique microbial ecosystem. The 2003 field season we will continue to document and refine our understanding about hydrological and biological processes of spring systems at Expedition Fiord as well as spring sites occurring at Whitsunday Bay, Strand Fiord and investigate new sites including Middle and Bundle Fiords and Northern Ellesmere Island. We will continue to look for other active and relic spring sites. We propose to (a) examine the microbial communities found in association with the springs, including the composition and distribution of the microbiota along environmental gradients particularly with respect to changes in redox, PH, temperature, light and dissolved gases, (b) test our glacial lake-subglacial recharge hypothesis, (c) develop thermodynamic and flow models for the different spring systems, and (d) continue physical and chemical studies of brine icing formation. Two periods of field work are planned, (1) 2 weeks in April and (2) 4 weeks in June/July. The main field work are planned, (1) 2 weeks in April and Whitsunday Bay and Ward Hunt Island. Samples from springs, lakes, surface runoff and precipitation will be collected for geochemical analyses. To determine the origin of the spring water we will measure the total dissolved gases in the spring water and compare it with those water in local lakes and glacial meltwater. We will continue high resolution GPS mapping of spring outlets, flow paths and structures. These data will be used by N. Martineaux to test different hydrologic models for these springs. Andersen will characterize the abundance, distribution and composition of the active bacterial communities in the springs and the runoff areas. The effects of environmental gradients on the microbial community will be investigated. He will also focus on the processes controlling microbially induced biomineralization. Andersen will use these data to develop models of this permafrost spring system that can be extrapolated to Mars in order to aid in site selection and experiment development for future Mars missions.

Name: O'Neil, Jim
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Number in party: 4
Location/Region: Kitikmeot
Project Title: **Commercial and Domestic Char Fisheries in the Kitikmeot Region**

Summary:

The community of Kugluktuk is currently seeking opportunities to expand and diversify their domestic and commercial char fisheries in their region. The development of additional fisheries would provide some protection for the char population in the Coppermine River which receives considerable fishing pressure. Golder Associates Ltd. Entered into discussions with the ANL in the fall of 2002 regarding the possibility of eliminating the movement blockage in Nulahugyuk Creek. The decision was reached to apply for funding under the Fish Habitat Compensation Fund, following receipt of support from the community. The proposed project would be a joint effort between the community, represented by the ANL and Golder Associates. The first phase of the project is a site inspection the objective would be to determine the location and cause of the blockage, and to develop design plans and cost estimates for correcting the problems. Without a site inspection it would not be possible to determine whether the blockages could be removed using hand labor or would require heavy equipment. The work could involve excavation or the installation of engineered instream structures or both. Then ANL would provide project coordination, logistic support and traditional fisheries knowledge of the HLNC site. Golder would provide technical expertise in the fields of fisheries biology and river engineering and would be responsible for applying for fisheries /land use permits and preparing reports and applications to government agencies. The project would be phased in order to allow the proponent and the funding agency to proceed in an orderly fashion. Phase 1 would be carried out in early August 2004.

Name: Hamilton, Jim
Department: Ocean Sciences Division
Affiliation: DFO, Bedford Institute of Oceanography
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Province/State: Nova Scotia
Country: Canada
Number in party: 4
Location/Region: North Baffin
Project Title: **Arctic Ocean Climate Change Project**

Summary:

An oceanographic study in the eastern end of Barrow Strait has provided continuous measurements of water current, temperature and salinity from August 1998 to present, under research license 0204802N-M. The objective of the work is to develop an understanding of the circulation in the area, and to quantify the heat and fresh water movement between the Arctic Ocean and the Northwest Atlantic so that the coupling between these two oceans is better understood. Measurements, combined with modeling studies, are being used to determine how this coupling affects the local, regional and global climate systems. The data collected also provides a baseline for further studies. A continuation of this program has been funded to provide an extended continuous time series of data that can be examined for trends that may be linked to climate change. Quantified change in the fresh water outflow through Barrow Strait would be a useful global warming indicator. The principal method of data collection is 10 moorings that support current meters for measuring the speed and direction of the water flow, and "CTDs" for measuring salinity and temperature. The tops of all of the moorings are well below the surface (deeper than 25m). They are deployed by Canadian Coast Guard ship in August, left on site for one year, and then recovered the following August. The ship

also conducts a "CTD" survey, which involves lowering an instrument over the side of the ship to measure salinity, temperature and depth, at specific locations. Plans are to continue the program for 3 more years, replacing the mooring array and completing the CTD survey in August of each year, until the final recovery in 2006.

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Number in party: 19
Location/Region: North Baffin
Project Title: **Variability and Forcing of Fluxes Through Nares Strait**

Summary: Our science goal is to determine how much seawater and ice flow south through Nares Strait and how that flow varies over a 3 -year period. We are using satellite information, models and ocean observations to do this. Ocean studies began from the USCG Icebreaker Healy in summer, 2003 under the NRI license #02 021 03 N-A. Among other things, we anchored 23 sets of instruments on the seafloor in Nares Strait. We intend to retrieve and redeploy these instruments by helicopter in April 2005. The work will be conducted using aircraft from a land-based 6-week camp on Greenland at about 80 deg 27.5 min N and 066 deg 44.38 min W. We do not anticipate landing in Canada, except in the event of an emergency, but we will be working from the sea ice at locations next to Ellesmere Island. We will drill 8 -inch ice holes and use acoustics to locate and release the moorings from their anchors. We will melt a 4-foot hole to pull the equipment from below the ice. This equipment will be taken back to camp where the date will be recorded. We will then prepare and deploy the equipment to be anchored to the seafloor for two more years. We will not be collecting any sea-life. We will attempt to minimize disturbance to wildlife in the region by our operations. This project is logistically complicated so we have not arranged for Inuit observers in 2005 but hope to do so in 2007, when we will retrieve the equipment again. In 2003, we enjoyed the participation of Pauloosie Akeagok of Grise Fiord on our cruise. An article featuring Pauloosie's role in our mission appeared in Above and Beyond (Nov/Dec2003). For further details, please see my summary for the license and final report in 2003.

Name: Consaul, Laurie
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Country: Canada
Number in party: 2
Location/Region: North and South Baffin
Project Title: **Systematics and Evolution of Arctic Alkali Grasses (Puccinellia)**

Summary:

We are studying the morphology and genetic variation of arctic alkali grass (*Puccinellia*, also called "goose grass"). These grasses are important as food for geese and as colonizers of disturbed habitats. However, these plants are often difficult or impossible to identify and their origins are unknown. This research will investigate their range of variation and evolutionary origins. Our main goal is to make arctic plants easier to identify, important for conservation and environmental impact studies. Our study involves visiting four main sites that are known to have several different species of alkali grass. At each site we will make observations on the reproductive stage, morphology, habitat, and distribution of each species. Population samples of about 25 plants from 8 species in total (2-4 species per site) will be collected. We will not remove whole plants from the environment, but will take pieces from each plant whenever possible. A few leaves of each plant will be preserved alive for greenhouse experiments on effects of environment. Another part of each plant will be pressed and dried as a research voucher to be deposited at McGill University.

Name: Marshall, Shawn
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Number in party: 3
Location/Region: North Baffin
Project Title:

**A deep ice core from the Prince of Wales Icefield, Ellesmere Island:
High resolution reconstructions of climate, glacier mass balance, and
sea ice conditions in the Baffin Bay region over the last 100 years**

Summary:

The research team wished to acquire two deep ice cores (ca. 350-m long) from the Summit region of the Prince of Wales Icefields, Ellesmere Island, NU, in spring 2005 and spring 2006. Reconnaissance work for the ice core site selection and ice core interpretation will be done in spring 2004. This study builds on three years of preparatory work (2001-2003) on the Prince of Wales Icefield, in which, Marshall and Sharp established the meteorological and snow chemistry characteristics of the proposed ice core site. This is an unusually wet area for the high Arctic, with annual snowfalls of order 1m, offering the possibility for high-resolution reconstructions of climate, sea ice conditions, and atmospheric chemistry over the last 1000 years. Ice core acquisition from mid-April to mid-May in 2005 and 2006 will require a temporary camp at the Summit site of the Prince of Wales Icefield. A group of four will spend 3-4 weeks acquiring the 350-m cores, which will be packed in coolers and shipped out to Resolute (and on to Ottawa). In addition to the long cores, a series of short cores will be collected and analyzed for signal-to-noise ratios in the ice core environmental proxies, annual layer thickness, snow-water and sulphate isotopes, and dissolved ion concentrations that can be used for annual layer identification. Fieldwork in spring 2004 is scheduled for April 24-June 4, and will involve University of Calgary M.Sc student Vivian Wasiuta, a field assistant, and R.M Koerner. This fieldwork will include the following (a) Ice-penetrating radar studies at the proposed drill site, to map the bedrock /ice thickness and guide the final ice core site selection (b) Data acquisition and maintenance of the automatic weather station at the

Summet site, and © Snow sampling for sulphate isotopes (an open water/sea ice proxy) on transects from the ice divide to the eastern edge of the Icefield, on the Leffert and Alfred Newton Glaciers.

Name: Beauchamp, Benoit
Affiliation: Geological Survey of Canada
City/Town: Calgary
Province/State: Alberta
Country: Canada
Number in party: 10
Location/Region: North Baffin
Project Title: **Understanding Oil and Gas Potential of Sverdrup Basin & Stimulating Economic Development**

Summary: The Sverdrup Basin of the Canadian Arctic Archipelago (Nunavut) has a proven oil and gas potential. The Sverdrup Basin riches have been left untouched for the past three decades in spite of a resurgence of hydrocarbon exploration activities in the Beaufort-Mackenzie area. The project builds from a partnership between the Geological Survey of Canada and the Nunavut's Department of Sustainable Development, the principal goal of which is to facilitate the transfer of existing knowledge about the Sverdrup Basin to a new generation of northern stakeholders, to stimulate oil and gas activities in the North and to help Nunavut develop a knowledge base to promote it's own riches to industry and other stakeholders. New data about Late Paleozoic and Mesozoic resource potential will be gathered through one field season, during which various northern stakeholders, including Nunavut representatives will be invited to get acquainted with Canada's most unique and potentially richest sedimentary basin. The group of researchers will be based out of Eureka and will be using the PCSP facility next to the air strip at a staging base. The group will be taken to different outcrops in the vicinity of Eureka in the morning and will be picked up in the evening. Two-men fly camps will also be set out from Eureka to more remote areas of Ellesmere and Axel Heiberg islands.

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Number in party: 3
Location/Region: North Baffin
Project Title: **High Arctic Cryptoendoliths: Ecological Constraints and Survival Strategies in a Polar Desert Environment**

Summary: Endoliths, defined as any diverse small organisms that live within rocks or consolidated soil crust, are recognized as one of the many forms of extremophiles living on earth. This study focuses on providing a comprehensive assessment of cryptoendolith communities

observed in Tertiary sandstone outcrops around the Eureka area on Ellesmere Island. These cyanobacterial-dominated microorganisms, inhabiting structural cavities of porous rocks, are a unique example of extremeophiles living under harsh climatic conditions. Classified as a polar desert, survival in the Canadian High Arctic requires organisms to employ unique strategies to overcome environmental stresses such as thermal extremes, high UV exposure, and desiccation. The primary step is to examine general endolith habitats and community structures as the cryptoendoliths in this region have not previously been studied. Following this, general aims include documentation of both the spatial distribution and general taxonomy of these communities. This will be followed by a larger, more detailed effort to 1) conduct in situ measuring of microenvironmental conditions (temperature, relative humidity, UV, light transmission) in the host substrates; 2) isolate and culture the communities for more detailed taxonomic identification; 3) assess the degree to which these organisms physically alter their mineral environment; and 4) simulate environmental conditions in laboratory experiments to evaluate stress limitations.

Name: Howe, Robert
Affiliation: National Institute of Polar Research
City/Town: Salt Spring Island
Province/State: British Columbia
Country: Canada
Number in party: 6
Location/Region: North Baffin
Project Title: **Ecosystem Study of Deglaciaded Arctic Areas**

Summary: This project will describe the response of Arctic plants to melting glaciers and observe the characteristics of plants, mosses, and lichens under different climate conditions. Plants will be observed in the field with respect to their physical and chemical composition, and distance to nearby glaciers. Soil mapping will be done at various distances from glaciers. Observations of different mosses and lichens species along glaciers will be recorded. The temperature, amount of water, and soil conditions will be measured underneath mosses. The rate of growth for mosses in light and dark conditions will be measured with special equipment. In 2001, a group of researchers traveled to Ellesmere Island looking for an appropriate base site. This year's experimental sites will be established and may continue for 2 more field seasons. The projected outcome of the site will be the project's completion in 2004.

Name: Black, Paleah
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Number in party: 1

Location/Region: North Baffin
Project Title: **An Ethnobotanical Profile of the Inuit of Nunavut Canada**

Summary: To date there has been very little direct research done on the medicinal ethnobotany of the Inuit of Canada, making this a new and exciting field. There has been even less done on the biochemical composition of these plant specimens to test their active compounds. This research project would encompass both of these objectives; to compile information regarding traditionally used medicinal plants by the Inuit, and to do their corresponding biochemical analysis. Information will be sought through voluntary interviews, conducted by Paleah Black and in interpreter in Iqaluit. After the research goals are explained, confidentiality is ensured, and full and informed consent is gained of the participants, and audio recorder may also be used for the duration of the interview. Plant specimens will be collected with the informant for the future testing their active compounds. All information gained will remain the property of the Iqaluit Inuit who participated. At the end of the research project in April 2005 the information will be compiled into a booklet and distributed within the community. Since this project will be completed by a life long resident of Iqaluit and the information will be returned to the community, it is felt that community acceptance and support will be found for this project. Dr. J.T Arnason, of the University of Ottawa, will supervise the plant analysis at the medicinal plant laboratory. Dr. Cuerrier, arctic flors taxonomist of the University of Montreal, will assist in the plant identification.

Name: Westergaard, Kristine
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City/Town: TROMSO
Country: Norway
Number in party: 1
Location/Region: North Baffin
Project Title: **Mapping the flors in the wake of Roals Amundsen- 100 years later**

Summary: The sailing ship JOTUN Arctic is sailing in the wake of the Norwegian explorer Roald Amundsen through the Northwest Passage a hundred years later, and gives a unique opportunity to study the flora of previously more or less unstudied areas. It is well known that the number of plant species is falling towards the poles. The number of plants found is related to the size of the area investigated. The flors of the Canadian Arctic Archipelago's tundra is not well known due to logistical difficulties. This project will make inventories of plant species richness at Bylot Isl., Devon Isl., Beechey Isl., Resolute, Sommerset Isl., Matty Isl., King William Isl., and Gjoa Haven. Mapping of the flora will be done in a large scale, like during the Swedish "Tundra North West" expedition in 1999. To cover as many habitats as possible, the frequency of the different plant species will be registered over a large area using a five graded system (dominant, usual, frequent, unusual, and rare). It is necessary also to collect vouchers of plants (approximately 500) to herbarias so that later work is possible. Care will be taken not to collect vulnerable species. In addition to extensive photo documentation will be done. Several international studies need leaves from 45 different plant species collected and dried on silica gel. These studies involves the relationship and migration routes of model

plant species, studied by genetic methods. All sampled populations from Nunavut will from very important source references to the many circumpolar species being studied.

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Number in party: 2
Location/Region: North Baffin
Project Title: **Recovery from the Permian-Triassic extinction up to the Dienerian-Smithian boundary**

Summary: The Permian Period is a time of major climate change that significantly affected the distribution of many types of plants and animals and culminated in earth's greatest extinction. Examining rocks that age as well as overlying rocks of early Triassic age and comparing these to other regions of the world is important for recognizing global patterns related to the extinction event. Rocks exposed on Ellesmere Island were once part of the northwestern part of the giant supercontinent, Pangea. This region has been little studied in regards to the paleoenvironment during the Permian and Lower Triassic periods and will thus provide valuable information for the understanding the causes of this dramatic extinction event and the recovery afterward. It also provides a historical perspective on a climatic crisis that, in many respects, is similar to the modern human-made globe perturbation. This project will be based on examination of outcrops and collection of rock samples for various analyses by two researchers from the University of Calgary, one of whom is doing his P.H D. Small rock fragments will be taken from loose material in outcrops at different levels in the Permian to Lower Triassic interval. This project is supported by PCSP and will have essentially no impact on the environment.

Name: Kelly, John
Affiliation: SRI International
City/Town: Menlo Park
Province/State: CA
Country: USA
Number in party: 10
Location/Region: North Baffin
Project Title: **The Resolute Bay Observatory**

Summary: The Resolute Bay Observatory (RBO), previously known as the Early Polar Cap Observatory, is the most northern polar cap facility funded by the United States National Science Foundation (NSF). The RBO is of considerable importance to the upper atmospheric science community and provides the necessary infrastructure for housing

instruments that collect data used by scientists world wide for continued research investigating the Sun's influence on our planet's atmosphere. SRI International (SRI) designed and built the facility in 1992 with a contract to a Canadian-based construction company. SRI has since operated, maintained and coordinated the science endeavors at the RBO for the NSF. The observatory is located on 11,640 m² of land that is leased for 20 years from the Resolute Bay Airport on Cornwallis Island. It is approximately 5km North East of the Resolute Bay Airport and positioned approximately 40 m below a hilltop, providing excellent shielding for sensitive receivers systems and blockage of light from the airport community. The facility is approximately 427 m² with half of it being used for housing scientific instruments and the other half used for visitors' quarters. There are three darkrooms for optical instruments, including roof hatches, with a total of four domes, and a support room adjacent for experiments and the associated data acquisition systems. The facility is powered alternately by two 50 kW diesel generators. The RBO is operated and maintained without a permanent site crew. The required on-site support, such as logistics, technical support, routine maintenance and daily site inspections, is provided by subcontracting to a local company in Resolute Bay. Ongoing scientific investigations at the RBO use optical instruments and both passive and active radio frequency instruments by scientists whose goals include a wide variety of investigations, using the following instruments, listed with their Principle Investigator.

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Number in party: 2
Location/Region: Ktitkmeot
Project Title: **Mirimar Hope Bay Ltd. Mineral Exploration**

Summary: Mirimar Hope Bay Ltd. Is conducting mineral exploration for the Back River Project, which includes the Goose Lake and George Lake deposits in Nunavut. This exploration area is located approximately 550 km north-east of Yellowknife and 400 km south of Cambridge Bay. As part of the exploration, Mirimar pland to collect baseline meteorological data in the George and Goose lakes area. One meteorological montitoring station will be setup at each of the two camps. Meteorological data will include: air temperature, inds solar radiation, precipitation, and relative humidity. The results will be presented in the annual summary report.

Name: Henry, Greg
Department: Department of Geography
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City/Town: Vancouver
Province/State: British Columbia

Country: Canada
Number in party: 6
Location/Region: North Baffin
Project Title: **Climate Change and Tundra Ecosystems:Species-Level Responses and Consequences for Ecosystem Processes and Feedbacks**

Summary: This project began in 1998 and builds on a long-term study established in 1992 to investigate the effects of climate warming on tundra ecosystems. My long-term experimental plots are established at Alexandra Fiord, Ellesmere Island where I have conducted ecological research since 1980. The plots are warmed by 2-3 degrees Celsius by placing small (1.5 m diameter), open top greenhouses over them. In some of the plots, snow is removed so plants start to grow earlier, and in others snow is added so they will start to grow later. In other plots, I add a little fertilizer to stimulate plant growth. All of these experiments are meant to cause changes that may happen in the future as the climate gets warmer. We found that warming has changed the amounts of nutrients available to plants, and there are more nutrients available in the warmed soils of some sites, especially the wetter sites. There was not a large effect of the warming on the rate of nitrogen fixation in the soils, which is an important process that supplies new nitrogen to ecosystems. The numbers and kinds of plants (part of biodiversity) in the plots have changed in the warmed plots. We do not fully know what these changes in numbers and types of plants will affect animals feeding on them. One of the most important ways we can determine the effects is to measure the changes in plots like these over many years, which is what we continue to do. This coming summer we will also establish experiments to change the biodiversity in small plots by removing some species and adding seed from others. We will then measure how the plants and soils respond over the next few years. These experiments will help us to understand what happened to the tundra when the species diversity changes. My research site at Alexandra Fiord is part of the International Tundra Experiment (ITEX), which is a network of arctic sites and scientists around the world doing similar studies. My site is the oldest and most comprehensive ITEX site, and is the only site in the High Arctic. My group of 2-4 students and 1-2 colleagues usually arrive at the site in late May or early June and stay until late August. We use the RCMP buildings at Alexandra Fiord, with permission, as our research camp.

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Number in party: 4
Location/Region: Kitikmeot
Project Title: **High-Resolution Quantitative Reconstructions of Holocene Climatic Changes and their Impacts on Environment.**

Summary: We will utilize biological, physical and geochemical measures from a transect of modern lake sediments and lake cores located across the Spruce tree-line-shrub tundra-high

Arctic tundra ecotones in the Kitikmeot Region to develop a record of the past temperature changes, and identify its impact on vegetation and people during the Holocene. We are attempting to identify the impact climate change had on the Paleo-Eskimo community present on Victoria Island approximately 4000 years Before Present. Paleo-Eskimos, highly mobile hunter-gatherers, became established in much of the Canadian Arctic. Two factors have been invoked to explain the initial decline and the lack of a subsequent recovery in pre-Dorset Paleo-Eskimo populations: 1) Over-hunting population and 2) deteriorating of favorable climatic and ecological conditions due to Neo-glacial cooling. This research will help identify whether climate change is responsible for "boom-bust" cycles in the Paleo-Eskimo population documented in the archeological record of south western Victoria Island over the last ~5000 BP.

Name: Brozowski, James
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Province/State: MN
Country: USA
Number in party: 1
Location/Region: Kivalliq
Project Title: **Gill Net recovery of Arctic charr from Kasegalik Lake, Flaherty Island, Nunavut**

Summary: The proposed project involves sampling of Arctic charr from Lake on Flaherty Island, Belcher Islands, Nunavut for the purposes of mercury analysis. It is the largest freshwater lake on the Islands and is often used by Sanikiluaq residents to fish for ikalu. This proposed work is to further current baseline monitoring of background mercury concentrations in Kasegalik Lake Charr. Charr will be recovered using gill nets set in the lake. Approximately 100 charr will be netted and transported back to Sanikiluaq. The anterior portion will be removed previous to the anterior dorsal fin and this section of head and muscle will be labeled, wrapped and frozen for transport. This portion not used shall be offered to any interested community members. Mercury analysis will be performed at the University of Minnesota Mercury Analysis Laboratory. Additional sampling may include fish from Hudson Bay water offshore of the community. 3-spine stickleback as well as insects living in the lake will also be sampled for food pyramid studies. Sampling of charr is critical when documenting environmental contaminant issues and the charr ecology complex on the Belchers. Atmospheric circulation is the main source for mercury deposition to the Arctic and it is important to continue monitoring the mercury reaching the Islands.

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Number in party: 2
Location/Region: North and South Baffin
Project Title: **Systematics and Evolution of Arctic Alkali Grasses (Puccinellia)**

Summary: We are studying the morphology and genetic variation of arctic alkali grass (Puccinellia, also called "goose grass"). These grasses are important as food for geese and as colonizers of disturbed habitats. However, these plants are often difficult or impossible to identify and their origins are unknown. This research will investigate their range of variation and evolutionary origins. Our main goal is to make arctic plants easier to identify, important for conservation and environmental impact studies. Our study involves visiting four main sites that are known to have several different species of alkali grass. At each site we will make observations on the reproductive stage, morphology, habitat, and distribution of each species. Population samples of about 25 plants from 8 species in total (2-4 species per site) will be collected. We will not remove whole plants from the environment, but will take pieces from each plant whenever possible. A few leaves of each plant will be preserved alive for greenhouse experiments on effects of environment. Another part of each plant will be pressed and dried as a research voucher to be deposited at McGill University.

Name: Muggli, Deborah
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Province/State: BC
Country: Canada
Location/Region: Kivalliq
Project Title: **2004 Qilalugaq Aquatic Studies**

Summary: The "2004 Aquatic Baseline Studies-ilalugaq Project" is designed to provide core baseline information on a maximum of three local lake/ stream systems that will be necessary in the event that proposed diamond mining moves forward in coming years. Any future development is highly dependant on results of exploratory drilling. The 2004 studies are designed to minimize impacts while still providing useful information which would strengthen future annual studies in support of a required environmental impact assessment. Specifically, this project assess the hydrology, limnology, aquatic ecology, as well as both water and sediment chemistry in this undisturbed area just north of Repulse Bay. During a week of the spring freshet in mid-late June, hydrology stations would be set up at four stream stations, stream flows would be measured, and water samples would be collected to assess water quality. The hydrology data loggers would be serviced once a month in July, August and September. Through 10 days in August, stream sampling would be done along with sampling of benthic invertebrates, water, sediment, phytoplankton, zooplankton and fish communities in three lakes. All fish would be released live to minimize impacts. A bathymetric survey of up to 40 lakes will be conducted sometime in the summer. A helicopter would transport crew from the mine camp to each stream. No buildings would be constructed. A hydrology station would be set up on the shore of each stream, and removed in the fall. A local bear monitor would be hired to accompany the two field samplers for each camp.

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Number in party: 4
Location/Region: North Baffin
Project Title: **High Resolution Studies of High Arctic Paleoclimate from Varved Lake**

Summary: We plan to go to Murray Lake in Quttinirpaaq Park in late July or early August 2004. We will travel by helicopter to the lake and set up a small tent camp for 5-6 days. We do not plan any permanent structure. There will be 3-4 people. We will use a rubber boat on the lake, if ice conditions are favorable. If the ice cover is extensive, we will cancel the trip this year. We will tow behind the boat an instrument that sends out sound waves into the water. These bounce back from the bottom of the lake and indicate the depth of the lake and the thickness of the sediment at the bottom of the lake. We want to find out the best place to take a core of sediments from the lake in future years. We plan to take 4-5 small sediment sample cores from the bottom of the lake this year, and to suspend in the lake 2 sediment traps. These will be removed in the future years. The work will help us to understand how the climate in the Park has changed over time, and to investigate if the temperatures were higher when early hunters moved through the region several thousand years ago. In our previous research in Murray Lake, the sediments we recovered enabled us to look at temperatures over the last 1000 years; now we would like to extend this record back 4000 years or more if possible. The research will have no impact on the fish or environment of the lake.

Name: Sandeman, Hamish
Department: Canada-Nunavut Geoscience Office
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Province/State: Nunavut
Country: Canada
Number in party: 12
Location/Region: Kitikmeot
Project Title: **Boothia Mainland Project: Economic Potential Through New Bedrock Mapping and Surficial Geoscience Upgrading.**

Summary: This project is designed to evaluate economic potential of the Boothia Mainland area immediately south of Taloyoak through framework bedrock geological mapping and upgrading of the surficial geoscience information. Archean volcanic and sedimentary rocks of the Prince Albert group exposed in the region are thought to have a high

potential for Au, Ni, Zn, diamond group elements. Similarly, the potential for discovery of bedrock geology of the area is complex and poorly understood, development of the regional bedrock geoscience knowledge base is a prerequisite to efficient mineral exploration in the region. Presently, little is known about the distribution of economic minerals within the study area, and only a rare mineral showings have been identified in supracrustal rocks of the region. A flurry of recent diamond exploration activity and the acquisition of extensive prospecting permits in the region indicates that the area also has the potential to host diamond-bearing kimberlites. The proposed regional bedrock mapping, along with a drift prospecting survey and accompanying surficial geoscience activities, have the capability to identify new sources of AU, ZN, and PGE's associated with supracrustal rocks, as well as kimberlite indicator-mineral trails. This information will be obtained through characterization of regional geology and collection of drift samples and determination of background metal values and evaluation of regional-scale ice dynamics. Therefore, geochemical and heavy mineral surveys undertaken as part of this project will add significantly to the general geoscience knowledge of this area. Project outputs will: 1) contribute to digital northern geoscience data resources, 2) incorporate remotely sensed data and contribute to new multi-thematic models, 3) help to assess mineral potential increased community participation in exploration activities and geoscience resource development.

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Number in party: 3
Location/Region: South Baffin
Project Title: **Peterhead Inlet: Invertebrate Diversity and Fish Habitat in a Small Arctic Stream**

Summary: The research will help us learn about the types of insects and young fish that inhabit a small stream at Peterhead Inlet. Knowing this formation will help us determine whether fish use the small streams during the summer, and if so, whether they eat the available insects in the stream. The study will help to identify what areas of the stream are important for fish. And will tell us whether insects can be used to monitor changes in the health of small Arctic Streams. Insect sampling will be collected from the bottom of two small pools and two rapids near the mouth of the Peterhead river by using a small dip net. 4 samples will be collected at each site. For each sample, the dip net will be placed in the water three minutes to capture insects. Any small fish collected in the net will be returned to the stream alive. We will collect less than one kilogram. The water temperature, depth, and chemistry will also be recorded at each sampling location. Each sampling site will be electrofished to determine the distribution of juvenile char and 9-spined stickleback in selected habitat types and their food preference relative to invertebrate distribution in a small Arctic stream. ElectroFishing will be done with a backpack electrofisher which stuns fish. A subsample of fish will be collected from each site for complete necropsy. The weight and length of the sampled fish will be recorded

and the otoliths and viscera will be removed from a small number of fish in the sample will be returned to the site from which they were collected. No more than 500 nine-spined sticklebacks and a total of 150 juvenile char will be collected. All sampling in 2004 will be completed over a two day period in August. The site will be accessed by boat; we will walk to the sampling sites on foot. Sampling will be completed by a small team of 3 people. All fish and invertebrate samples will be processed at the Iqaluit Research Centre. A reference collection of invertebrates will be created for educational and scientific purposes. Summer student staff and local volunteers will participate in the project. The project results will be reported directly to the HTO in person, by means of a presentation and written reports. The project co-leader Terry Dick has already met the Amaroq HTO in May 2004 to discuss this project.

Name: Evans, Marlene
Department: National Water Research Institute
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Province/State: SK
Country: Canada
Number in party: 0
Location/Region: Kitikmeot
Project Title: **Temporal trends and spatial variations in persistent organic pollutants and metals in sea run char from the Canadian Arctic.**

Summary: This study will find out what the levels of contaminants are in char when these fish return from feeding in the ocean in the summer. We want to find this out because Inuit communities are being advised to eat more char and less seal, beluga, and walrus in order to reduce the amount of contaminants they consume. We expect levels to be low in char. We also want to find out if contaminant levels are the same across the Arctic or if they are higher in some areas than others. Finally, we want to find out if contaminant levels have gone up or down since the last time they were measured. This summer, we want to measure contaminants in char at two locations in the western Arctic (Paulatuk, Holman), two locations in the central Arctic (Cambridge Bay, Gjoa Haven), and two locations in the Eastern Arctic (Iqaluit, Pangirtung). This will allow us to compare levels from the western side to eastern side of the Arctic. In 2005-2006, we will focus on a north-south gradient from Hudson's Bay to the tip of Baffin Island, the northern extent of the char range. In both years, we will coordinate our studies with other researchers who will look at contaminants in seal and/or beluga in these communities. This will allow us to compare the amount of contaminants in food in char and mammals. Community members would collect the fish in cooperation with colleagues or work with us in collecting the fish. We plan to visit all communities in summer 2004 to explain the study, collect or arrange for sample collections, and explain previous contaminant results in char, seals, beluga, and walrus. Study results will be communicated back to the communities in 2005.

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Number in party: 36
Location/Region: North Baffin
Project Title: **NASA Haughton-Mars Project**

Summary: The nasa haughton-Mars Project (HMP) is an international interdisciplinary field research project centered on the scientific study of the haughton meteorite impact crater and surrounding terrain, Devon Island, Nunavut, Canadian Arctic, viewed as place similar to the planet Mars. The HMP research program has two components : Science and Exploration. The Science program studies geology and biology, specifically the rock, snow, and ice features of the land, and the forms of microbial life in the arctic polar desert. The Exploration program studies new technologies and strategies for the future exploration of Mars by robots and humans. The proposed field season will run from July 1, 2003 to August 5, 2003. This year's research activities will include automation of the Mars Greenhouse established at the HMP Base Camp last summer, tests of spacesuit components and systems for future astronauts on the Moon or Mars, tests of a future small remote-controlled Mars airplane, and visits to remote parts of Devon Island using the new "MARS-1" Humvee rover. As in previous years, several students and young adults from the communities of Resolute Bay and Grise Fiord will be hired as participants in the proposed field research program.. The NASA HMP is managed by the SETI Institute and is headquartered at NASA Ames Research Center in Mountain View, California, USA. Other major research organizations participating in the project include the Canadian Space Agency, the Mars Institute, and Simon Fraser University (Vancouver BC) Logistical support is provided in part by the Polar Continental Shelf Project of Natural Resources Canada.

Name: Danon-Schaffer, Monica
Department: Department of Chemical and Biological Engineering
Affiliation: University of British Columbia
City/Town: Vancouver
Province/State: BC
Country: Canada
Number in party: 1
Location/Region: North Baffin
Project Title: **Mass Balance Evaluation: Polybrominated Diphenyl Ethers in Soil/
Sediments of Cdn Arctic**

Summary:

Our research program will involve soil and sediment sample collection, primarily at designated solid waste disposal sites in selected locations across the Canadian Arctic, such as the dump site in Iqaluit and Cambridge Bay. We will use hand towels for soil collection and sediment sample collection. Lechate samples will be collected if we determine that necessary upon evaluating the site Conditions. We anticipate no more than 2-3 days will be required at each location to collect samples. Due to the long daylight hours, we may be able to expedite the field program and finish sooner. We will stay in local lodging. There will be no need to set up camps anywhere. Transportation to the crisis will be via air. Ground transport will be used to reach the specific site.

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Number in party: 2
Location/Region: North Baffin
Project Title: **CanZinco Limited, Environmental Effects Monitoring Field Study**

Summary:

The objective of the research program is to collect samples as required to comply with the Metal Mining Effluent Regulation of the Fisheries Act. Under that Regulation, operating mines in Canada are required to carry out an Environmental Effects Monitoring program. Jacques Whitford has been retained by Breakwater Resources Limited, the owner of the Nanisivik Mine, to carry out the required EEM program. As a component of the EEM program, the Nanisivik Mine is required to collect fish samples from the "exposed" and "Reference" locations in order to evaluate the potential effects of the effluent fish. The proposed study design has been reviewed and approved by the technical Advisory Panel established for the purpose by Environment Canada. Fish will be collected from the Strathcona Sound, in the northern part of Baffin Island. Strathcona Sound is located at Latitude. Fish from the "exposure" area will be collected near the mouth of Twin Lakes Creek. Fish from the "reference" area will be collected near the mouth of the Strathcona River. The sampling program will be July 30, 2004 and end date before August 30, 2004. The target species will be shorthorn Sculpin and Arctic cod. A minimum sample size of 20 male and 20 female fish, of each species, will be sought at both the exposure and reference areas. In order to ensure that the desired representation of both sexes can be obtained, it is requested that the permit allows for the retention of up to 100 shorthorn sculpin and 100 Arctic cod, in total. Fish will be killed by a blow to the head, and will be held intact in a frozen condition prior to being shipped to Fredricton, NB, where they will be thawed and dissected as per the requirements of the MMER. The fishing gear to be used will include angling with jigs, and gill nets (a standard experimental gill net set with mesh size ranging from 5.0 inch to 4 inch) and angling using jigs. Angling will be the preferred method, as past experience at the site has shown this to be very efficient and selective. Non-target species will be released alive to the waters where they were caught. Gill nets, if they are used, will be tended regularly, and every effort will be made to release any by-catch alive and unharmed. The gill nets will be clearly marked with the name and contact information for the owners.

Name: Stewart, Ronald
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Province/State: PQ
Country: Canada
Number in party: 1
Location/Region: Baffin, South
Project Title: **ArcticNet Project 4.3: Vulnerabilities and Adaptation to Meteorological and Related Hazards**

Summary: Climatic conditions vary along the coast and throughout the interior of Southern Baffin Island and even within Iqaluit. Such variations are an important concern to local communities and transportation industry. However, no detailed case studies of winter storms have so far been conducted in that area. From 19 October to 16 November 2004 we are planning to conduct a small field project within and in the vicinity of Iqaluit, and in the coastal mountains northeast of Iqaluit to investigate meteorological surface conditions associated with severe winter storms. To begin to determine surface weather conditions changes across Southern Baffin Island we are planning to supplement the operational surface data with data from a mobile automatic weather station. The instrument can be carried in a backpack and set up and maintained by a single person. In the field it is powered by an internal battery that is recharged with a solar panel. No motorized transport is required, and no combustion power generators will be used. Weather variations within and in the vicinity of the city will be investigated by means of handheld instruments.

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Number in party: 3
Location/Region: South Baffin
Project Title: **Evolutionary ecology and conservation biology of Atlantic cod from landlocked fiords on Baffin Island**

Summary: This project concerns Atlantic cod populations in Ogao, Qasigialiminiq, and Tariuja lakes on Baffin Island. The goals will be to understand where these cod come from, how fast they grow, how old they are, what they eat, how many are in each lake and how much harvest they can support. The lakes will be studied to try to find other similar lakes that

might also contain Atlantic cod. Adult and Juvenile Cod will be collected from each lake by gill net and/or angling. Tissue samples, ear bones, stomach contents, and various measurements will be taken. Some cod will be tagged and released alive to estimate the number of fish in each population. Lake depth, temperature and salinity will be measured. Plankton will be collected using a plankton net. An underwater camera will be used to observe cod to see what other fish and invertebrates live in the lakes. We have obtained some samples of ear-bones taken from previous studies and test-fisheries to minimize lethal sampling. An underwater camera system will be used instead of more damaging methods to see what other fish and invertebrates occupy the lakes.

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Project Title: **Reconstructing Weather from the sediments at Cape Bounty, Melville Island and North Lake, Cornwallis Island**

Summary: Our work is intended to develop a long record of past weather and river conditions using lake sediments. Our work will involve obtaining sediment from the lakes and measuring processes that control sediment deposition at Cape Bounty. We have chosen these lakes because the rivers appear to supply abundant sediment and deep lakes are needed to preserve the sediments for our research. We will complete the work at North Lake in several days and then establish a small camp at Cape Bounty. We will collect samples from the lake through holes in the ice. We will study sediments in the laboratory and measure the amount of sediment that has accumulated each year in the past. We will also look for evidence of major rainfall events during the summer and late fall. To measure weather and sediment deposition in the lake during the summer, we will place instruments in the lake and on the river to tell us how the rivers respond to weather and how much sediment is transported. Additionally, we will collect vegetation samples and measure the amount of vegetation to compare with satellite images to determine if vegetation can be mapped this way. This work is also important for understanding where wildlife are found and how vegetation changes.