1977-78

GEOLOGY JOURNAL

1977 - 78

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Co-Editor

4 th Edition

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to the Graduates

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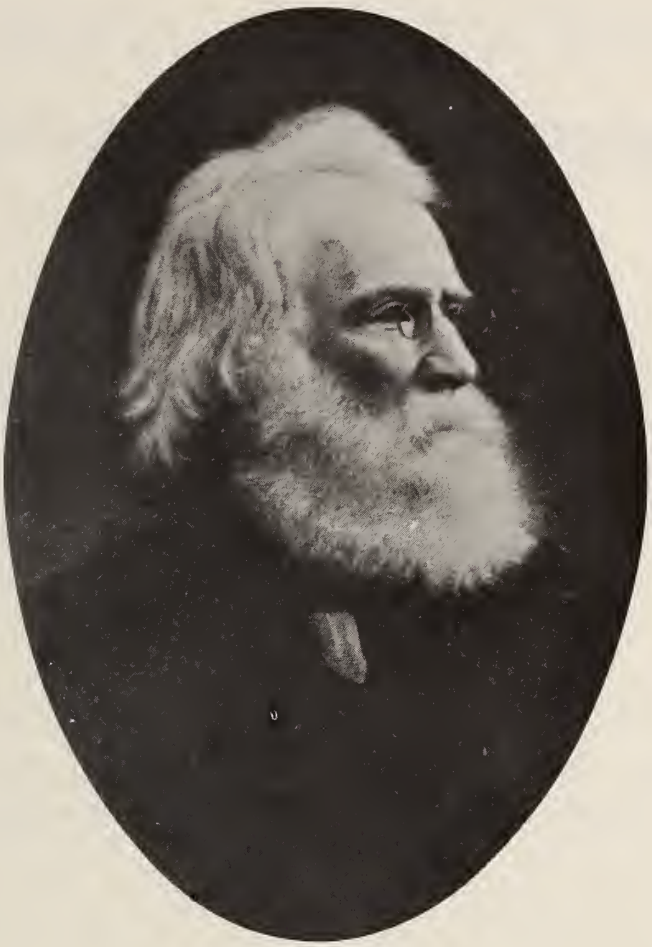
Dedication



This fourth volume of the Geology Yearbook is dedicated to the spirit of

Sir William Logan

a pioneer in the investigation of Canadian geology. In 1843 an Act of the Provincial Government of Canada (the union of Lower and Upper Canada, formalized in 1840) established the Geological Survey of Canada, with its headquarters in Montreal, the Provincial Capital. Under the direction of Logan an enormous amount of work was completed by him and his colleagues so that in 1863 he was able to see the publication of the monumental 'Geology of Canada' and the first Geological Map of Canada. His own researches are a measure of the stature of the man - explorations in the Lake Superior region north of Lake Huron and along the Ottawa Valley with the Mattawa Valley to Lake Nipissing; along the St. Lawrence Valley in Quebec, in the Eastern Townships and in the Gaspé Peninsula.

In the history of our country the Geological Survey has a prominent place in the flourishing present and is founded on a glorious past, because of the spirit of men like Logan. The promise of the future is in other hands, such as those that produced this Yearbook, but that future is assured as long as the memory of our great fellow countrymen lives on.

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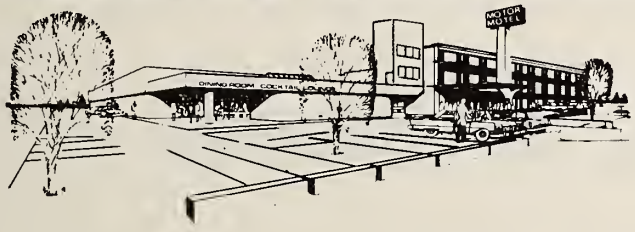

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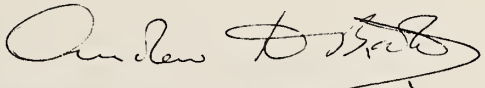
Message from the President

I wish the 1977/78 crop of Geology students at Lakehead University every success both in their studies and in their future careers. On successful graduation, they are one of those relatively small groups of university graduates who will find no difficulty in obtaining suitable employment.

The future of the world, both as regards energy and other mineral resources, depends on renewed and extensive geological exploration and development. Likewise, the future of the smaller towns of Northwestern Ontario, as well as those elsewhere, depends on the discovery of new resources to be exploited by the local inhabitants.

It is also my pleasure to tell the Geology students, as well as the public at large, that at last it appears that we have overcome the hurdles in the way of implementing our Master of Science in Geology course at Lakehead University. With any luck, this should come on-stream for the session 1978/79, and best wishes and thanks go to the Faculty and Staff who have helped to make this regionally-relevant idea a practical possibility, as well as to the National Research Council whose generous funding for this development overcame the financial obstacles.



ANDREW D. BOOTH, President.

Message from the Dean of Science

I would like to congratulate the Editor and Staff for their initiative in recommencing the Geology Year Book series.

The primary purpose of students whom enroll in a programme of study at a university should be to obtain an education. However, a university experience should consist of more than lectures, laboratories and examinations. It should be a time when young people undergo considerable social and cultural development. The comradship involved in bringing the Year Book to a successful completion is part of this extracurricular experience.

I wish the members of the Geology Club a rewarding and successful sojourn at Lakehead University.

Best wishes!

JOHN S. MOTHERSILL,
Dean of Science.

Message from the Chairman

"I take things such as I find them at present, and from there I reason with regard to that which must have been ...."

(James Hutton 1726-1797)

In the past year a number of developments have taken place which will have an effect on everyone in the Geology Department at Lakehead University. Revisions in the undergraduate programmes and courses were completed. With these changes we believe that our students will be exposed to a more competitive programme which will prepare them for a variety of alternatives upon graduation.

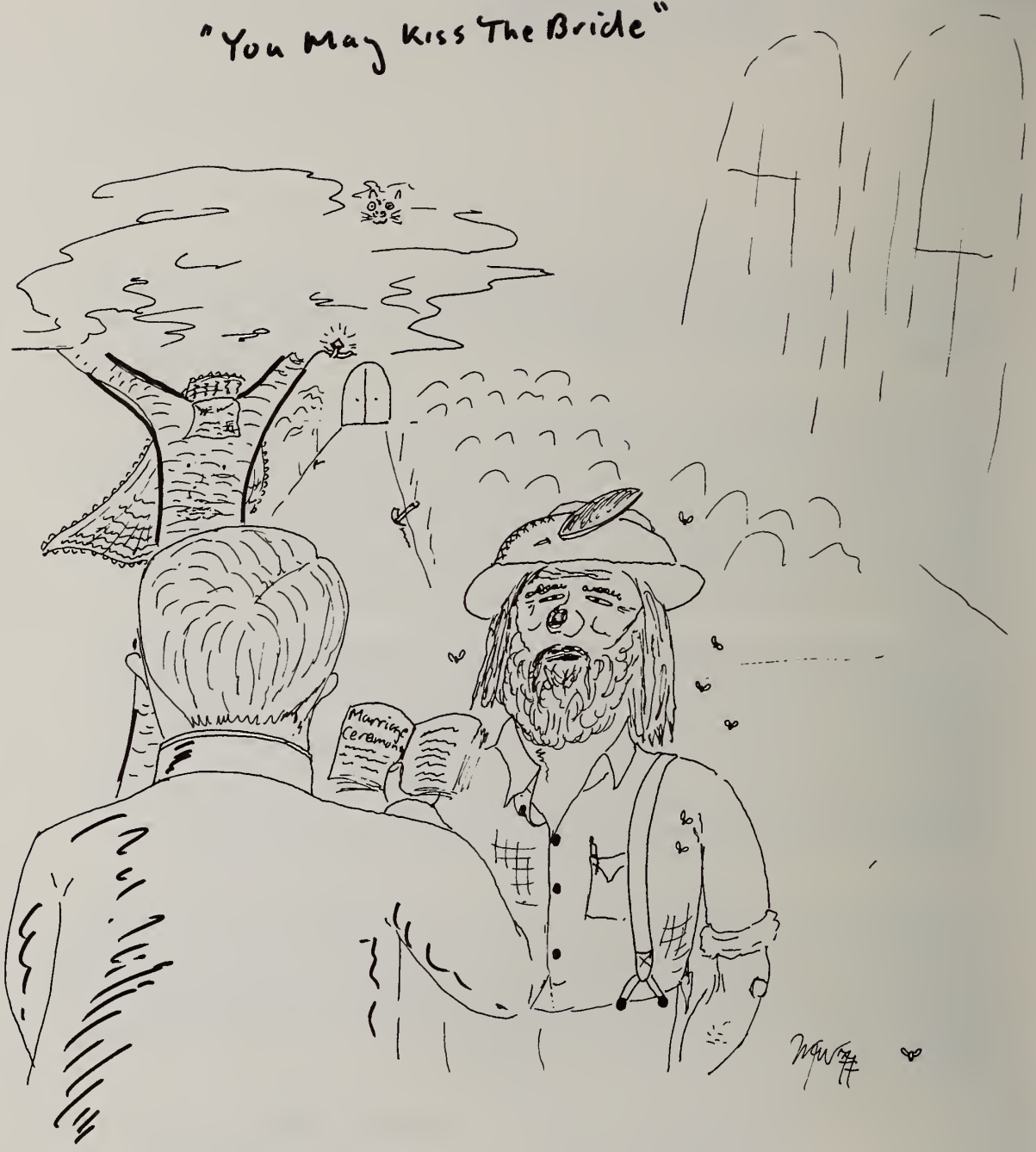
In the coming year the Department will embark on its graduate programme which was recently approved by the Council of Ontario Universities. It has taken a great deal of hard work and an even greater amount of patience over many years which now make it possible to provide students the opportunity of a graduate programme in Geology at Lakehead University. Graduate research topics will focus on the Precambrian of the western Superior Province and adjacent regions, and will be centered in the major disciplines of Geology. The presence of graduate students will be of benefit to all of us, for they will form an integral part of the geological family at Lakehead University.

The geological community at large will also experience some significant changes in the next few years. A major portion of the Geological Survey of Canada will be relocated in Thunder Bay by 1980. Among the geologists to be transferred here are members of the Precambrian Division, the Petrology, Geochronology, and Paleomagnetism Sections. The impact of this explosive increase in the geological community is difficult to imagine in all its ramifications. Whatever the outcome, it remains certain that for us all it will provide a previously nearly non-existant setting in which we can readily exchange geological knowledge and ideas. Such an environment will surely enhance the present high level of research activity.

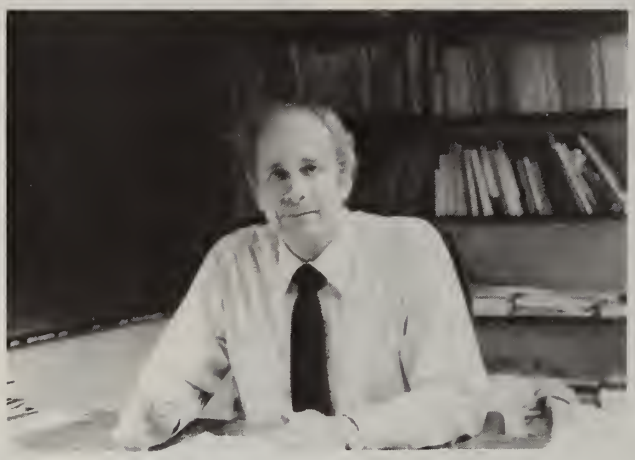
In the next few years we will experience the full impact of these changes. In the meantime there remains much for us all to do to ensure that we will benefit the utmost from these developments. May I extend my heartiest congratulations and admiration to all geology students on the successful production of the Geology Yearbook. You have shown yourselves capable of imagination, initiative, boundless energy and persistance in this worthy undertaking. Your labours will serve future Yearbook organizers well. On behalf of the Geology Department I extend our best wishes to you in your future endeavours.

M.M. Kehlenbeck,
Chairman

"You May Kiss The Bride"



Faculty & Staff

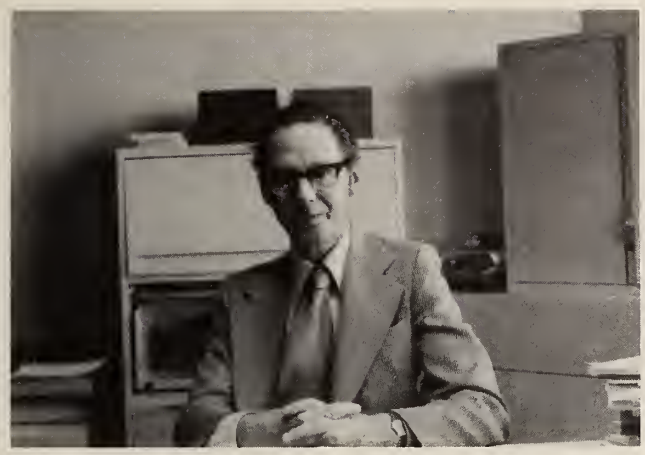


Dr. John S. Mothersill, B.Sc., B.Sc., Ph.D.
Background;
Exploration Geologist for Standard Oil (N.J.)
Senior Geologist for Mobil International Oil Co.
Exploring for petroleum in Turkey, Nigeria, France and Colombia, 1956-64
Associate Professor, Lakehead University, since 1966
Dean of Science at Lakehead since 1975.

During June, four Alpine piston cores were taken of the sedimentary sequence in the main post-glacial basin of Thunder Bay from a Deep Diving Systems drilling barge. The locations of the cores were picked so that increasingly thicker post-glacial sections would be encountered from the basin margin toward the basin centre. All four cores consisted of the underlying glacial varved section.

Seven hundred and eighty-four oriented, two-cm^3 samples were taken from along the length of three of the cores (at 3 cm intervals throughout the post-glacial section and at 10 cm intervals throughout the varved section). The declination, inclination, intensity and susceptibility of magnetization and Q ratio (intensity/susceptibility) of each sample was determined using paleomagnetic equipment at the University of Edinburgh. These data were plotted by computer programme and the declination direction variations were correlated for the two thicker post-glacial section cores. For the post-glacial section, five major swings occur in declination; the inclination variation is in the order of 35^0; and the susceptibility shows two slight but significant shifts. The uppermost susceptibility shift appears to correspond to the time of the Nipissing phase based on radiocarbon age determinations. Substantial decreases in the intensity and susceptibility of magnetization were noted for the sediments at the base of the post-glacial section. Paleomagnetic directions also were determined after the samples were "cleaned" in a peak field of 200 oersteds to get rid of any extraneous NRM directions. The declination and inclination determinations of the cleaned samples correspond almost identically with the results obtained from the uncleaned samples. Radiocarbon analyses are being carried out on fifteen samples from two of the cores to determine the age of the declination and inclination swings and susceptibility shifts. This age-dated paleomagnetic column will be used for time-parallel correlations throughout the northern and western Lake Superior area. Post-glacial sediments in this basin should provide a continuous or near continuous sedimentary record to assess sedimentation rates and climate changes. Presently, sedimentation rates are being assessed by: a) ^{14}C determinations, b) the variability of the organic C/N content of the samples after treatment with sulphurous acid using a Perkin-Elmer CHN Analyzer and c) grain-size variability using the Micromeritics Sedigraph 5000 method. These data are presently being compiled.

During the summer, a report in methodology for determining asbestos fibre counts in water was finalized in conjunction with co-workers from several other laboratories in the province. The method will be recommended to the Ministry of the Environment (Ontario) as the standard method for determining asbestos fibre counts in water.



Dr. Edward Mercy, B.Sc., Ph.D., D.I.C.
Academic Background;
Lecturer in Geology, Imperial College of Science and Technology, London, England.
Lecturer in Geology, later Senior Lecturer in Geology, University of Edinburgh, Scotland.
Professor of Geology and Chairman of the Department, Lakehead University, 1967-1976
Professor of Geology at Lakehead since 1976.

I was granted sabbatical leave by the University for the academic year 1976-77, a welcome break after nine years of administration. The purpose of a sabbatical leave is to relieve the faculty member of his teaching and administration functions and so enable him to renew his primary scholarly interests. Many use the time to develop and strengthen their research work, others write the book they have been thinking about for years. My need was overwhelmingly to catch up on my reading.

It is a truism that scientific knowledge is expanding at an explosive rate and that scientists are becoming more and more specialized. In my own field of geochemistry the explosion of knowledge and understanding has been triggered by the great advances in analytical capability brought about by the new science of electronics, without benefit of which my generation did their research work. I am now aware that I can do no more than keep abreast of the new knowledge by reading and dedicated study. It is a major task to separate the dross, of which the system encourages more than is at all reasonable, from the reality of truly new work and insight. My earnest hope is that by continuing study and appraisal my teaching functions, surely the most important aspect of a university professor, may be done at the highest possible level of attainment.

Dr. Manfred M. Kehlenbeck, B.A., M.S., Ph.D.
Academic Background;
Visiting Professor, University of New Brunswick 1969-70
Teaching Fellow, Queen's University 1970-71
Assistant Professor, Lakehead University 1971-
Chairman of the Department of Geology, Lakehead University since 1976.

The western part of the Superior province is composed of a series of subprovinces which have become better known as belts. Among these structural subprovinces are the Quetico, Shebandowan, and Wabigoon belts. In the area north of Thunder Bay these belts are well exposed, and the rocks within them have been the substance of my research interest for the past six summer seasons.

Although my interests range widely, I have become increasingly more concerned with the spatial and temporal relationships of the rock types of adjacent belts. The Quetico Belt in particular, has held my fascination because it is bounded on the south by the Shebandowan belt and on the north by the Wabigoon belt and therefore offers a perfect target to study the relationships between three adjacent belts.

Structurally the Quetico belt is characterized by linear and, to a lesser extent, planar elements which produce a dominant east-west grain. These same structural elements in the adjacent belts appear more varied in attitude except near boundaries with the Quetico belt where a zone of transition forms the changeover to the dominant east-west trend of the Quetico belt.

Studies of the lithologies exposed in different belts have shown that essentially similar rock types occur in all the belts. The metamorphic history differs between belts so that the rocks tend to appear different at first glance. Relative abundances of rock types also vary from belt to belt as well as within a single belt.

It appears certain that the structural characteristics are among the important criteria by which we can divide the western Superior province into subprovinces or belts. What now appears essential is to establish a tectonic framework which will explain the reasons for the observable structural differences in portions of the Archean crust.

Dr. M.W. Bartley, M.Sc., Ph.D.
Background;
Lecturer University of Toronto 1938-40
Iron Ore Exploration since 1938
Steep Rock Iron Mines development 1940-48
Principal, Lakehead Technical Institute 1948-52
Honary Professor Lakehead University since 1971
President C.I.M. 1976

I am one of the fortunate people who has had a very rewarding experience being involved with mineral exploration, mine development, mine operations and academic endeavours for almost forty-five years.

My greatest reward has been the accumulation of many close friends and professional peers, young and old in many parts of the world. Nothing can take the place of friends in one's chosen field of endeavour because they are always a source of enjoyment and a limitless fund of information. I maintain that whatever success I may have had is not the result of what I know but rather who I know and can turn to for advice.

After graduation from the University of Manitoba in 1934 and during subsequent post-graduate work I was employed by the Ontario Department of Mines during the field seasons and lectured at the University of Toronto during the academic year. During my final year of post-graduate work at Toronto I enlisted in the R.C.A.F. but was seconded to Steep Rock Iron Mines Limited to develop an iron mine in support of the war effort. I have remained in the field of iron ore exploration and development since that time. Interspersed was a brief period, 1948 to 1952 as Principal, Lakehead Technical Institute.

My involvement in the consulting field has been very pleasant and educational. My work has taken me to every Province except Prince Edward Island, to many of the United States, to the high Arctic and to several countries in South America, Asia, Europe and Africa. Each has been a new experience and I can recommend the life and the role to all graduates in geology.

Since I have lost the desire to attempt fifteen to twenty mile daily mapping traverses my present endeavours are directed towards economic appraisals and evaluations of mineral deposits and mine development. These are exacting assignments, often fraut with frustration because of the vast bureaucratic maze which must be negotiated. I find that my few hours per week devoted to instruction at Lakehead University is a welcome respite. I enjoy sharing my experiences with students who are so eager to learn and are so appreciative of assistance.

I heartily recommend that all prospective geologists and those in allied sciences become members of professional associations. It is through these affiliations that you will gain professional stature and lasting personal satisfaction.

I wish you success, satisfaction and many years of productive life after graduation.

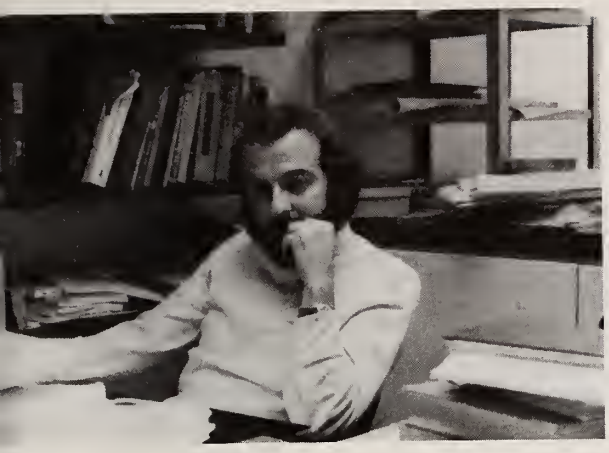
Dr. Roger H. Mitchell, B.Sc., M.Sc., Ph.D.
Academic Background;
Lecturer in Isotope Geochemistry,
University of Oslo, Norway, 1971-72.
Assistant Professor of Geology,
Lakehead University, 1972-76.
Associate Professor of Geology,
Lakehead University, since 1976.

Field work this year commenced with a visit to the "Moonshine Hills" of Kentucky in search of the type locality of mica peridotite. The search was not a resounding success as the peridotite dikes are intruded into faults occupied by flourite veins which weather to a persistant glutinous red mud, thus hiding the igneous rocks. Six months later I still have some of the mud on my boots. Samples were found with the aid of gophers, despite such hazards as flourite mud, bloodsucking ticks, snakes, fields of poison ivy and a local populace remeniscent of characters from "Deliverance". Never do field work in Kentucky unless you really have to!

Springtime found myself as 100% of the crew of the notorious Captain Platt and involved in a study of the igneous rocks found in the Lake Superior Islands and of the nepheline syenites found on the Marathon Riviera - field work not to be missed if you ever get the chance - one of the most beautiful parts of Lake Superior.

July found Dr. Platt and myself encamped upon some awfully stoney ground in the permafrost desert called Bathurst Island. Our work there sponsored by the Federal Polar Continental Shelf Project, was to make a detailed study of the Freeman's Cove volcanic rocks, these are the second only known occurrence of nephelinite in North America. During the work Dr. Platt did an excellent job as gunbearer, wreaking havoc amongst the oil drums with the 30-06, but failed abyssmally in attracting any polar bears. In fact, the fiercest beast we came across was a long-tailed jaegar.

The fall saw me once more in the desert, but this time in the very hot Arizona desert. As a part of the Second International Kimberlite Conference field trips were organized in the U.S. southwest. Here I collected kimberlites, minettes and pieces of mantle to compliment my studies of Canadian and South African upper mantle material. Much of the field work involved such activities as pushing rubber rafts down the San Juan River Canyon, climbing mountains under the blistering hot sun or coughing ones way around sagebrush and cactus in sandstorms. All very enjoyable and some 70 petrologists were kept on the liquidus by consuming some 5000 cans of beer over ten days. In all this was the most interesting field work of the year as I saw recent volcanism, the Grand Canyon, Monument Valley, the Rio Grande Rift, and a wide variety of igneous rocks.



Dr. R. Garth Platt, B.Sc., Ph.D.
Academic Background;
Visiting Professor, University of Copenhagen, Denmark, 1969-70
NRC Postdoctoral Fellow, University of Western Ontario, 1970-71.
N.E.R.C. Research Fellow and Staff member, University of Edinburgh, Scotland, 1971-74.
Assistant Professor, Lakehead University, since 1974

The "summer" season began and ended with organized field trips to the Coldwell Alkaline Complex in N.W. Ontario. The early summer field trip was organized for the 23rd Annual Meeting of the Institute on Lake Superior Geology. A guide book was prepared for the occasion. The late summer trip saw a group of hardy students (some students claimed it snowed - fertile imaginations), studying the complexities of North America's largest alkaline complex and the rigours of life on the North Shore of Lake Superior.

In between these events, serious research was continued on the petrology of the Coldwell Alkaline Complex with particular emphasis on the nepheline syenites and the dike rocks associated with the intrusion. In addition, preliminary investigations of the Keweenawan Osler Volcanics of Northwestern Ontario were undertaken. The department's research boat was often seen braving the waters of Lake Superior with Dr. Platt in command and Dr. Mitchell navigating.

Dr. Mitchell's navigation was so bad that the beginning of July saw us both on Bathurst Island in N.W.T.. This trip, under the auspices of the Polar Continental Shelf Project, was made to initiate studies into the geology and petrology of the Freeman's Cove Alkaline Volcanic Suite. This suite, containing as it does, nephelinites, basanites and phonolites is unique to the Canadian Arctic and its study will provide us with valuable information about the geological history of the area.

Dr. Stephen A. Kissin, B.Sc., M.S., Ph.D.
Academic Background;
Post Doctoral Fellow, McMaster University 1973
N.R.C. Post Doctoral Fellow, CANMET, Department of Energy, Mines and Resources, Ottawa 1974-75
Assistant Professor, Department of Geology, Lakehead University since 1975.

My activities last summer began with the GACMACGEGCGU (basically, Geological Association of Canada / Mineralogical Association of Canada) meeting in Vancouver in late April. As well as presenting a paper on the new mineral cernyite, Cu_2CdSnS_4, I attended a field trip to the southeastern B.C. lead-zinc deposits. My particular aim was to collect specimens from the Sullivan Mine, with the view of examining the tin mineralogy and pyrrhotite-sphalerite geobarometry.

On my return to Thunder Bay, I was involved with the 23rd Annual Meeting of the Institute of Lake Superior Geology, hosted by the Department, in the capacity of Technical Sessions Co-Chairman. I also attended the Mattabi field trip as a supernumary. For the remainder of May, I worked on the preparation of journal papers and some geological field problems in the Rabbit Mountain Mine area. My efforts were interrupted by the birth of my daughter, my second child, on May 31st.

After two weeks at home, I returned to the University to work on another journal paper on stannite and other tin-bearing sulphide minerals. Continued study on tin-bearing sulphide minerals led me to the appreciation that two previously undiscovered species exist. One is the cubic form of stannite, normally tetragonal Cu_2FeSnS_4, while the other is the iron analogue of kesterite, Cu_2ZnSnS_4, which is also tetragonal, but has a space group which differs from that of stannite.

In the latter part of August, I spent some time in the field mainly in the reconnaissance study of silver mines in the Rabbit Mountain area. As well, I made a trip to Ottawa to use the facilities at CANMET in order to investigate the two new minerals mentioned earlier and continue some aspects of research on the synthetic system Cu_2FeSnS_4-Cu_2ZnSnS_4. After all this, I found that the summer was suddenly gone.

Roy J. Shegelski, H.B.Sc., M.S., Ph.D.
(pending)

Academic Background;
University of Toronto 1973-77
Ph.D. pending
Lecturer at Lakehead University
since 1976

This summer was spent investigating mafic volcanic terrains in the Northwest Territories. The particular areas of study were the Nowyak Lake area and the Griffin Lake area which are within 60 km of each other and located in NTS sector 65G. The areas are located within the Churchill Province and are Archean in age. The predominant lithologies of the areas include pillowed and massive basalts with subordinate amounts of ultramafic flows (some showing spinifex textures), banded and laminated oxide facies iron formations, chertz sulphide facies iron formations and minor felsic pyroclastic and volcanoclastic tuffs and sediments. These areas were being investigated for massive sulphide potential. Results of the follow up to geophysical airborne and ground surveys in one of the areas led to the delineation of several favourable zones of nickel sulphide mineralization, in fact results are so encouraging that I cannot talk of them! The summer was relatively wet; the black flies were bad but the crews were great and included two able assistants from L.U.; R. Hall and B.Schneiders.

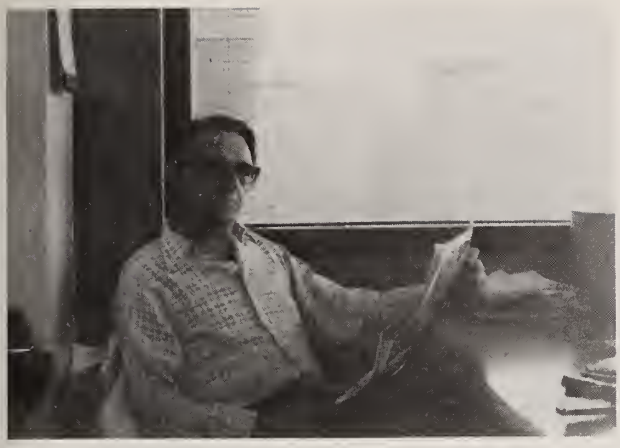
Howard Poulsen, B.Sc. (Physics), B.Sc. (Geology)
Background:
Exploration Geophysics 1961-71
High School Teacher 1968-69
Research Assistant (for J.M.Franklin) 1972-75
Laboratory Demonstrator at Lakehead
University since 1975

In addition to the ongoing analytical work of the Geochemistry Lab, the past summer provided for me three geological highlights; the annual meeting of the Institute on Lake Superior Geology in May; the visit of three foreign students at our Department; and a major retrieval of soft sediment cores from Lake Superior.

My contribution to the LSI meeting centered around a 2-day post-conference field trip to the Mattabi and NBU massive sulphide deposits. The trip, which entertained 46 geologists from all parts of North America, stressed the geological setting and genesis of the deposits based on the research of James Franklin of the Geological Survey of Canada. Jim and I spent a good deal of time organizing the trip in conjunction with the mine geologists as well as preparing a trip guidebook which summarized much of our research work at Sturgeon Lake carried out in the interval 1972-75.

The summer saw the arrival of three graduate students from Geologisch-Paleontologisches Institut, University of Hamburg, West Germany. Frank, Rudi and Claus had come to Thunder Bay to study iron formations as part of their graduate thesis requirements at Hamburg and informally allied themselves with our Department for the summer. Their stay here provided many interesting insights into geological education in Germany in comparison with the type of programme offered by our own University. Of particular interest was their reason for coming to Canada for field work; they had the sinking feeling that possible hundreds of geologists had already worked on most of the exposures in Germany. Our own fourth year students can take heart from this, considering the novel field aspect of most of their bachelor's theses.

One particularly fine sunny day found me aboard a barge in the middle of Thunder Bay harbour as part of a crew involved in the retrieval of four 50 foot piston cores of lake bottom sediment. The project was headed by Dr. Mothersill who is using the materials collected to study various aspects of the evolution of Lake Superior during the past 12,000 years. Although this project was of short duration (one day), it was most enjoyable and I didn't even get sea sick.



Ronald Bennett

Ron was the Chief Laboratory Technician at the Grant Institute of Geology, University of Edinburgh from 1936 to 1967. His research includes many kinds of technical approaches to Ph.D. studies. He has been the Principal Technician at Lakehead University since 1967.

Ann Sumpter

Ann was born and educated in England and emigrated to Canada in June 1967. She joined the staff of the Department of Geology at Lakehead University in July 1968.

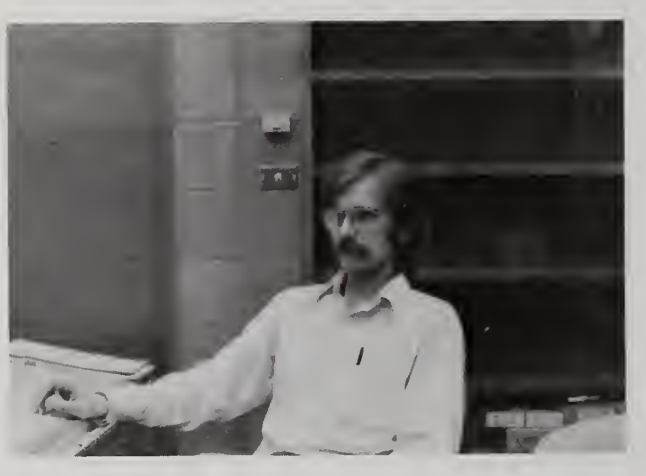
Ann maintains all the requirements of the first year teaching laboratory and manufactures thin sections of suites of rocks for all the Department's teaching purposes, of students field trip collections and for the research projects of the Faculty members.

Sam Spivak

Sam was born in Port Arthur where he received his basic drafting techniques in high school and his geological training while in the employment (for 8 years) of a local mining company. He has been draftsman for the Science Department for the past 7½ years. He maintains a fairly extensive map library (4500 geological maps), while his drafting time is largely devoted to preparing maps, overlays and drawings for use as teaching aids and research publications.

Pat Murphy

Pat was born and educated in Thunder Bay and has been employed in the Geology Department for the past 9½ years. She has a a wide variety of skills in the secretarial, sedimentological, geochemical and petrological fields. Before becoming secretary to the Dean of Science, Pat was a professional typist as well as a geological technician.



Ain Raitsakas

Resident Seismology Technician, Ain was born in England a lifetime ago. His emigration to Canada at an early age was briefly marred by his kidnapping and subsequent release by extra-terrestrials from Ganymede (who, incidentally, refused ransom). He was educated in Physics and the ways of the world at P.A.C.I., the University of Waterloo and Lakehead University where he won (?) a B.Sc. in Eclectic Pretensions. Prior to joining the Geology Department in 1973, he was engaged as a researcher of mycorhizal relationships. He presently maintains the various functions of the Lakehead Seismographic Station and all that that entails.

Wendy Bons

Wendy is originally from the Toronto area where she received her high school and college education. She has spent the past 3½ years in Thunder Bay, the last year being spent in the Geology Department as the Departmental Secretary. Secretarial duties in the Geology Department include such things as typing, filing, handling of incoming and outgoing calls, departmental budget documentation and documentation of faculty N.R.C. grants.

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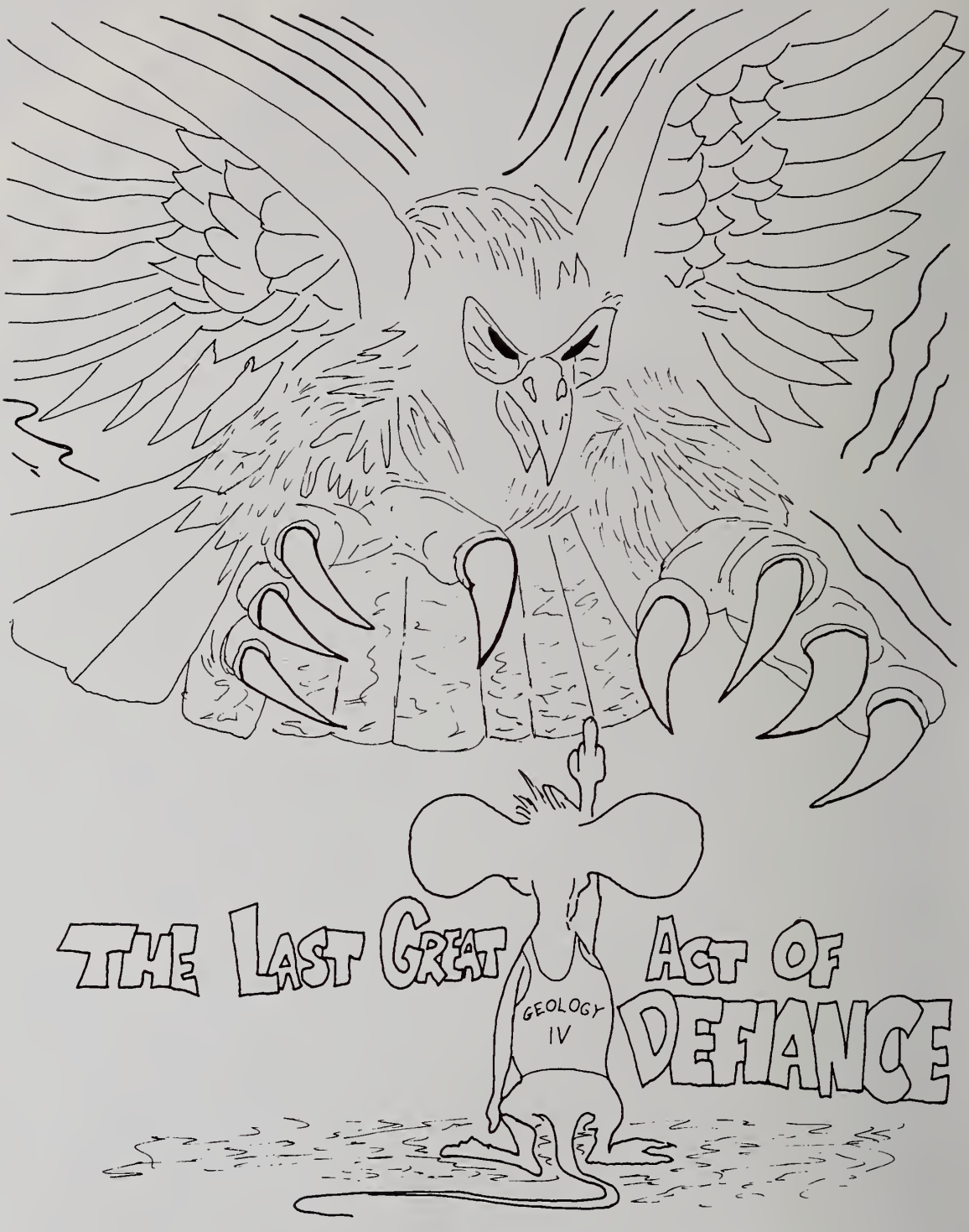
#@!!x?@$
WHO PUT THE SAND IN THE VASELINE ?!

Graduates



WE THE WILLING, LED BY THE UNKNOWING,

ARE DOING THE IMPOSSIBLE, FOR THE UNGRATEFUL.

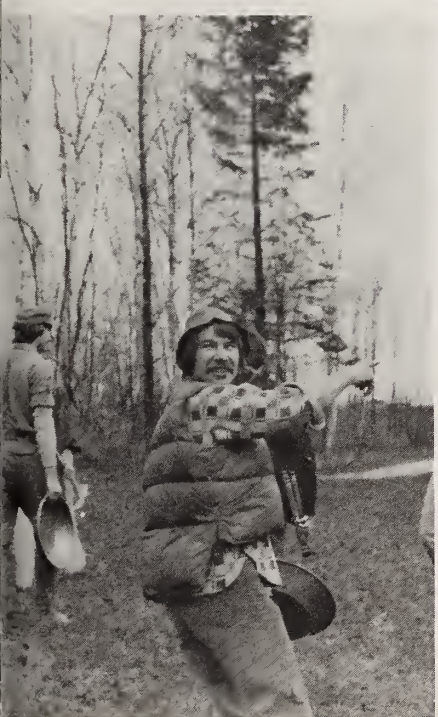
WE HAVE DONE SO MUCH FOR SO LONG, WITH SO LITTLE,

WE ARE NOW QUALIFIED TO DO ANYTHING WITH....

NOTHING!

L.U.'s Future Geologists

The product of four years in Geology at L.U. From left to right; Bernie Schnieders, Keith Peden, Gord Turner, Randy Hall, Brian Cole, Roman Tykajlo, Maureen Morrison, Tim Manula, Gord Yule, Mark Wittrup.



It's north to Alaska guys,
.....or is that the Crest?

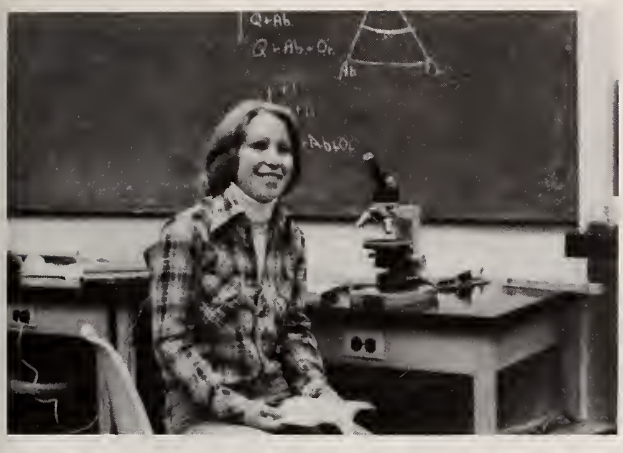
Brian Cole
Nickname:Wimp First Class
Pet Peeve:Eggshells in the sink.
Favourite Exp:'Turner you gink'
Work Experience:Recon. (Junior) mapping, Geochemical Sampling. Falconbridge Nickel, Summer 76
Contract Geochemical Sampling, Winter 1976
Recon. (Senior) mapping, Airborne geochem. and geophysics, Summer 1977

Brian is a member of the Wiley Street Revue. His favourite activity is fixing a certain 1970 Far-gone. Brian usually plays squash and outruns Ron with the coffee pot for exercise. In between playing with his rocks, Brian attends all his classes. He spends all of his free time in the Mineral Deposits Lab. Upon successful completion of 4th year Brian hopes to become a famed exploration geologist.

Thesis Topic: Geology and Mineralogy of The Beaver Junior Mine

The Beaver Junior Mine is one of the many workings in the northeast trending mainland belts of silver mines in the Thunder Bay area. It is located near the village of Stanley in the Thunder Bay District. The study of this mine involved a descriptive survey of the structure and geology and sampling for petrographic studies. Mineralogical investigation was based primarily on polished and thin section studies. Geology was determined from detailed mapping of the vein and various structures in close proximity to the mine adit.

The final objective of this thesis was to draw conclusions concerning the paragenesis of this type of deposit.



Maureen (FitzGerald) Morrison
Work Experience: Junior Mapper and Geochemical Sampler,
Texas Gulf, summer 1977

To Lakehead I came
To take Chemistry
To go toward
My Western degree

But soon I was told
L.U. is the best
The Profs are all keen
The students have zest

So I said to myself
Sure and why not
They seem to be
A pleasant enough lot

At Western they're snobs
Or so I was told
Not totally wrong
But pretty damn bold

A pretty small group
In geology here
Frosh know everyone
Right to fourth year

Not so at Western
I say with a sigh
But it's still a great place
And I rate it quite high

In N.S. and Gaspe
And good old N.B.
In '77 I worked
For Texasgulf-Tg

Junior mapper was I
And an expert soil sampler
Travelling around
In a bright orange camper

Great fun it was
And I learned some tidbits
To use as I become
An L.U. Geologist

Randy Hall
Work Experience:Junior Assist. Noranda Yellowknife 1976
Senior Mapper, Noranda Yellowknife 1977
Thesis Topic:Archean Komatiitic Flows of the Henik Lake Volcanic Terrain

One of the cities famed mini drivers, Randy prides the 4th year class with his usual presence. Noted for his helpful personality, Randy enjoys a cold beer while watching slide shows. Another of the Pink Paradise tenants, there is hope someday for a decent residence.

Randy has spent two previous summers with Noranda Yellowknife office both as a junior and senior Geological Assistant in base metals exploration. The north seems to have a strange affect on people and chances are that Randy may be returning with Noranda next summer as a Party Leader.

Randy's thesis is basically a study of a series of ultramafic flows located in the Griffin Lake area of the Keewatin District, Northwest Territories.

A section of these flows were carefully mapped and sampled, and the geochemical, textural and mineralogical variations across individual flows, and changes between successive flows are being examined.

The ultramafic units are also examined in light of the sulphide mineralization in the region, noting compositional changes and the mineralogy of the host rock and ore minerals within the map area.

As a result of this work, a composite picture of these particular spinefix textured flows shall emerge, and some attempts will be made to compare these flows to other similiar units elsewhere in Archean terrain.

Tim Manula
Nickname:B. Brother Nurd
Work Experience:Junior assist. Falconbridge 1976
Senior mapper, Gulf (uranium) 1977
Thesis Topic:Geology and Mineralogy of the West
Beaver Silver Mine, Thunder Bay

Tim is the youngest member of the fourth year entourage. He is closely associated with Wimp and Gink and has become affectionately known as B. Brother Nurd. His blond hair, blue eyes and big feet mark him as our representative Lapplander. His hobbies are also indicative of his ethnic background. They include cross-country and downhill skiing, snowmobiling, playing hockey, jumping into Lake Superior after a sauna in the dead of winter, drinking and herding reindeer. At school he engages in activities such as striking days off on his calendar, complaining about the mechanical fitness of his VW bus and drinking coffee along with the rest of us. In fact, his favourite question is ..."going for coffee?" Tim does not like keeners so he can often be found sitting with Romanchuk and Pedenchuk in their structural lab. Tim's ambition is to continue his education beyond the B.Sc. level and eventually become an employed geophysicist or an unemployed geophysicist. His favourite subject is, of course, Igneous Petrology. Tim never fails to become amazed over the electrical properties of Tholeiitic Basalts. When asked about his thoughts of the last four years, he said..."let's go for coffee."

Tim's thesis topic is the study of the silver mines of the Mainland Belt, in particular- the West Beaver Silver Mine. The Silver belt is under study at the present time to determine zonation of the veins and mineralogical implications. The relationship between the diabase sills overlying the Rove argillites is a study of both academic and economic interest.

Keith Peden
Nickname:Dipix Pedenchuck
Work Experience:Junior Assistant,(Basemetals),
Mattagami Lakes Mines, summer 1974
Underground Technician,Inco,
Shebandowan, Summer 1975
Expiditor, Imperial Oil, summer 1976
Great Lakes Timber, summer 1977
Thesis Topic:The Nature of the Shebandowan-
Quetico Boundary

Keith Peden, sp. Dipix Pedenchuck- This creature, native to the Thunder Bay area, may be found in its natural state in and about the Geology Department. It has been known to visciously attack cars, in particular - Bugis Volkswagonis, by kicking various parts and leaving said parts of this species scattered across the Thunder Bay region. When not found in the hallowed halls of Lakehead University it may be found scuba diving in the waters of Lake Superior or snowmobiling across the countryside. Nocturnal activities include Geology socials, Ukranian dances and/or defiling parked vehicles (notably Plymouth Furyix). This known instigator of practical jokes may be associated with its neighbouring species - Stickus Romaninski - in the structural lab. This association, known in the scientific world as the Dipstick relation, has been known to cause disasterous effects. A final word of caution, this species may become violent when compared to a Cumberland Street drunk.

The boundary between the Shebandowan-Wawa volcano-plutonic belt and the Quetico Gneiss belt has been taken by some to be a distinct hiatus separating these two belts as being critically different sub-provinces. Still others have suggested that the differences between these two sub-provinces is superficial and that the boundary is a gradational one. The purpose of this research is to objectively observe a section of outcrops intersecting this boundary. Most of the observations are based on mineralogy and metamorphic deformation.

Bernie Schnieders
Nickname: Bruno
Work Experience: Oil Field Geologist,Atlantic-Richfield
Summer 1976, Alberta
Junior Assistant, Noranda
Summer 1977, N.W.T.
Thesis Topic: Determination of Volcanic Terrain; Silicified Pillow Breccias or Agglomerates

Bernie is one of the more talented members of our fourth year class. His travelling music show complete with guitar and banjo have entertained everyone, (except that particular French girl.)

Bernie has asperations of opening "Bernie's Tackle Shop" as soon as he makes enough money after graduation. I guess Bernie wants to be a geologist at some time, as long as it doesn't interfer with his fishing and hunting too much. He has spent one summer working for Noranda in the Northwest Territories, and it sounds as if he had a real 'blast'. If worse comes to worse, I'm sure he has great potential as a manager of an A&P store.

Bernie is writing his thesis on some volcanic units he worked on this summer in the Northwest Territories, trying to determine if the fragments are silicified pillow breccias or agglomerates.

'Bruno' can hardly wait to graduate, since all this school 'bullshit' interferes with his regular visits to the College dances. He'll probably never be quite the same after spending the winter at the 'Pink Paradise', but I guess its not quite as bad as the 'Wiley Street' life.

Gord Turner
Nickname:Gink esq.
Work Experience:Geophysics and Junior Mapper
Umex, summer 1976
Contract line cutting and staking
Winter 1976-77
Senior Mapper, Umex, summer 1977
Contract staking, winter 1977
Thesis Topic:A Comparative Study of the Genesis
Of a Massive Sulphide Showing,
Savant Lake

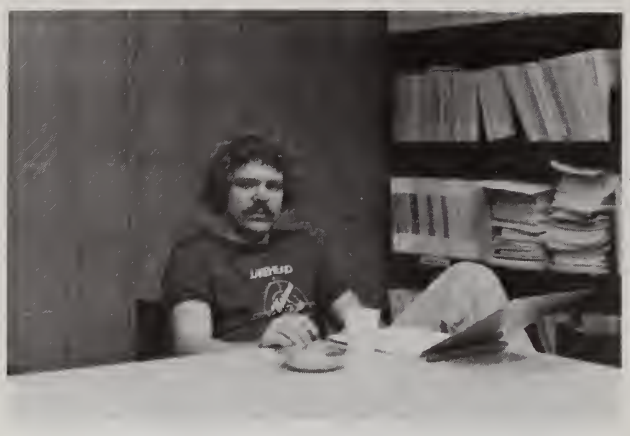
Gord is a member of the infamous Wiley Street Revue. A site of wide intoxicating parties, Gord is frequently seen leaving it in less than perfect state in an attempt to make it to those 9:30 geochemistry classes. As well as selling T-shirts, playing department hockey, and extensive testing of local ski hills, Gord occasionally is found working in the Mineral Deposits Laboratory. Having his home in Brampton Ontario and working with UMEX for 2 summers he has travelled around considerably. His future plans include being a successful exploration geologist.

Gord's thesis topic is a detailed study of a massive sulphide occurence of the Copper-Lead-Zinc type located 7 miles north of Savant Lake Ontario. Research on the property includes geological and geophysical interpretations and sampling for detailed geochemical analysis. Extensive mineralogical work with thin sections and polished sections was also prepared. The ultimate objective of the research is to compare the genesis of this showing with the model proposed by Sangster in 1972 and to consider relationships with the processes operative at Mattabi as described by Franklin in 1975.

Roman Tykajlo
Nickname:Romulus Stickus
Work Experience:Junior Assistant, Noranda (Winnipeg)
Keewatin District, N.W.T., (Uranium)
Summer 1977
Thesis Topic:Strain Ellipsoid in Archean Conglomerates,
Shabaqua, Ontario

Roman is the better half of the Dipstick relationship, i.e. the Stick, alias "Romulus Stickus". He is our token Ukranian in the Geology Department. Roman can be found in his structural lab analysing the structures of the fairer sex passing in the hall. He never quits his work, even on tea breaks in the cafeteria he is still doing his analysis. When he is not busy studying structures, he can be heard muttering "quel bummer" as he wades through his assignments. His pet peeve is the Geology Year IV class since his lab is always used for their discussion periods. Although Roman is supposedly in Geology he actually prefers Physics and hopes to emulate our favourite Physics professor, John. Roman hopes to eventually become a foreman for GM.

Deformed conglomerates are useful in the study of strain in that the sand and pebble sized clasts become homogeneously strained from essentially an original ellipsoid to a final ellipsoid which is markedly different from the original. This can be done by several methods. The shape and orientation of the final ellipsoid can be determined by measuring axial ratios and angular deflections of major axes on three mutually perpendicular sections, then combining this two dimensional information into a three dimensional model.

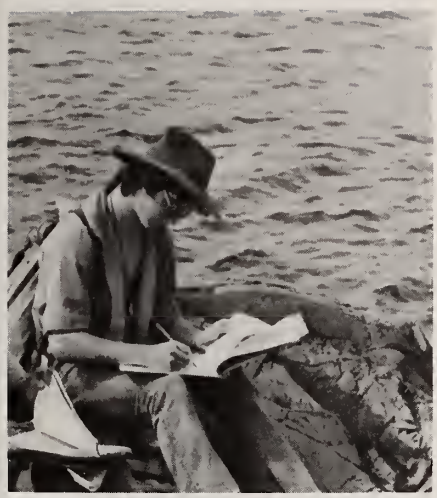


Mark Wittrup
Nickname:Markus, Splash, The Incredible Hulk
Work Experience:Junior mapper, O.D.M., Atikokan,1975
Junior mapper, O.D.M., Red Lake, 1976
Portage Crew, M.N.R., Quetico Park, 1977
Thesis Topic:Stromatolites of the Lower and Upper Algal Cherts, Gunflint Formation

Mark grew up in the Inner City Slums of Toronto. He first became interested in geology by collecting Ordovician Trilobites along the polluted beaches of that fair(?) city. His big break came after grade 13, he was accepted at Lakehead University after considering a career in muffler manufacturing. After working two summers as an eunuch for O.D.M., he got his balls back (Ed's note, footballs?) and took a job with the infamous Quetico Park portage crew who motto is "The Noble Torture." Presently he is trying to avoid admittance into the L.U. Geology five year program and is gainfully employed as a 'baby sitter' for K House in the L.U. residence.

If asked about the future, he replies that eventually he would like to become a successful exploration geologist. For the immediate future however it will be one more summer in Quetico and then return to L.U. for M.Sc. Before he gets tied down to a woman he wants to do a pubcrawl of Australia. Commonly, Mark can be heard saying such things as.... "Can we have another round at this table?" and "Don't worry, I'll get it done... eventually."

Mark's thesis is a pictorial documentation of the primitive marine algal life forms in the Proterozoic sedimentary sequences within the vicinity of Thunder Bay. Hopefully this thesis will provide someone with a basis with which to do more detailed work on the stromatolitic environment and possibly the origins of life on the earth during this period.



Gordon Yule
Nickname:'Gotts Dam'
Work Experience:Geophysical Operator, Noranda,
N.W.Ontario, Winter-Summer 1974
Junior-Senior Assistant, Noranda,
N.W.Ontario, (Uranium) Summer 1975
Contract Staking, Winter 1975
Junior-Senior Assistant, Noranda,
N.W.Ontario, (Basemetals) Summer 1976
Contract Staking, Winter 1976
Senior Mapper, Gulf MInerals,
N.W.T., N.W.Ontario, (Uranium) Summer 1977
Contract Staking, Winter 1977

This native of Longlac is a renowned O.K. used snowshoe salesman whose territories extend from the balmy regions of Longlac to the barrens of the Northwest Territories. When we cornered this man in the murky depths of the Waverly Hotel, (noted for its fine clientel) he recounted this tale of the dreaded geologic plague known as "Marathon Madness";

> "T'was way back in '76, when one of my associates from Wiley St. said that we were gonna go on a little class field trip to this here place called Marathon on a real futile exercise. After seven days and what seemed like forty nights the work had just begun! We worked and griped, we sweated and cursed, we complained and thought that our work was in vain; after all, we weren't going back there again.
>
> HA!
>
> When the field season came in '77 I had all but forgotten "Marathon Madness" and the curse that lay on the place, but sure enough, the first job of the season was in that dreaded place-"Marathon"
>
> Well, all I can tell you is that the class trip in '76 came in real handy. I figured there was a moral in there someplace and it goes something like this: "you can't believe all your Profs all the time, but you've got to believe some of the Profs some of the time."

Well, I kind of wondered about this guy and I decided to find out what he'd been up to in the last few years, and this is what I came up with. Well, it seems that he started out in this doomed profession in the winter of '74 as a geophysical operator for a company called Noranda Exploration and stuck it out for a full three field seasons and came out as a Junior-Senior Geologic Assistant in '76. When I met him in '77, he was working for another company called Gulf Minerals Canada as a Senior Assistant Geologist and had just finished a stint north of the Arctic Circle.

Seems this guy has worked in everything from base metals to uranium using geologic and geophysical methods of prospecting. Last I heard of him, he had just been certified as an honest to goodness PROSPECTOR by the Prospector and Developers Association.

Fall Socials

Musical Mooses? MW77
(with apologies to P.E.R.P.)

Geology Club Field Trip

Silver Islet

3rd Year Geology

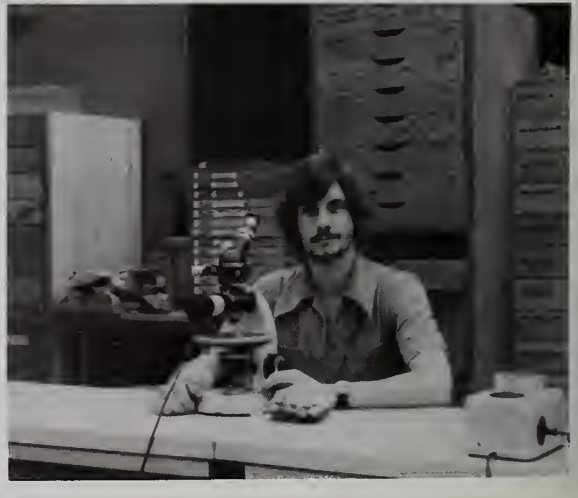
100 years ago, disaster struck the Great Lakes Nickel Mine - 4 of their exploration geologists were lost when the mucker they were working on mysteriously plunged into the murky depths of the mine.

Pictured below after they reemerged this past year Rob Lucas, Al Schappert, Jim Rodgers and Rob Fnukal had little to say except.... "WE'RE HUNGRY!"

Robert Fnukal
Work Experience: Junior Assistant, Mattagami Lakes Mines, Ignace-Sturgeon Lake, Kapuskasing-Timmins, summer 1976
Junior Assistant, Mattagami Lakes Mines, Longlac, Ignace-Sturgeon Lake, north of Lake Nipigon, summer 1977

Jim Rogers
Work Experience: Labourer, Upper Lakes Shipping
Summer, 1973-77

Robert Lucas
Work Experience: Junior Assistant, Falconbridge Nickel, Lake Nipigon Area (Uranium), summer 1977



Allan Schappert
Work Experience: University pollution and sediment research, summer 1976
Seismic Technician, Energy, Mines and Resources, Yellowknife, summer 1977

Thank you, GORD TURNER.

We Do do it best !

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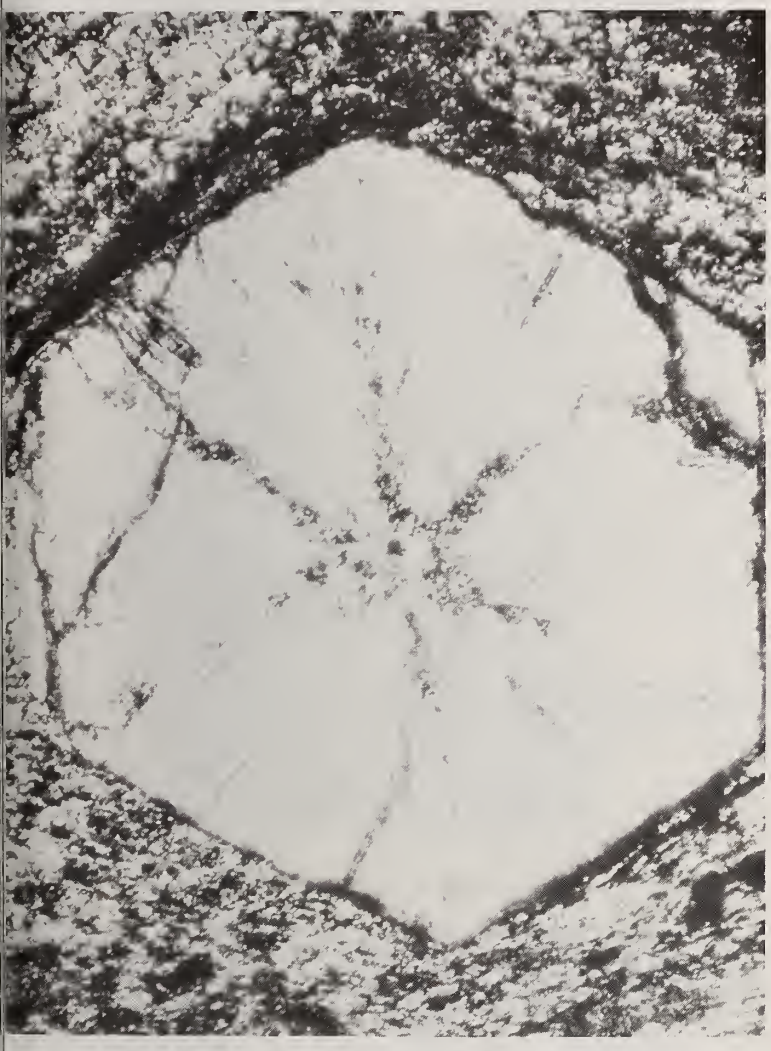
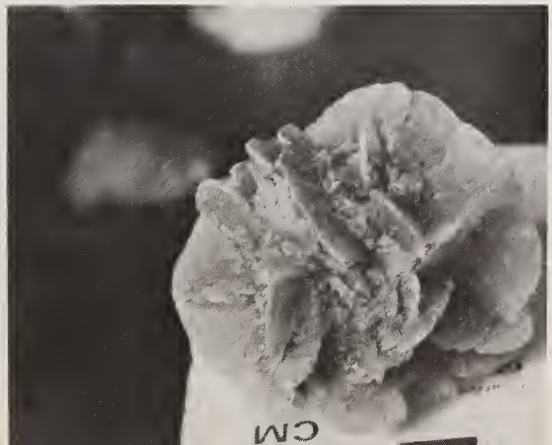
Summer 77

GOLD EAGLE HOTEL





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Second year - One great big happy (?) family! From left; Eugene Kent, Dr. Kehlenbeck, (in front), John Scollie (in back), Murray McGill, Randy Farmer (in back), Ron Tweedie, Joe Sipos, Mike Lucko, James Gresham (hidden), Tim Howson, Jack Parker, Dr. Mercy (in back), Bill Palmer, Wayne Redditt, Heather Brown, Myra Gerow, and Bruce Jago.
Absent: Harold Kobler and Gonzalo Medina.

2nd Year

The essence of a good field trip - Those evening discussions. Here we see Wayne Redditt, Dr. Mitchell and Eugene Kent "discussing".

Sometimes the evening discussions can get to you. They get to Jack most of the time. Joe is just an innocent bystander.

Heather Brown
Interests: Travelling, swimming, camping and cross-country skiing. Heather was employed by Noranda this summer.

Randy Farmer
Interests: Fishing, hunting, field geology.

Myra Gerow
Interests: Playing squash, photography, travel and car races. Myra worked for the O.D.M. for the summer.

Tim Howson
Interests: Motorcycles and bartending. Tim worked with the Ministry of Natural Resources in Sault Ste. Marie this summer.

Bruce Jago
Interests: Backwoods camping, antiques and field geology. This summer Bruce worked for Noranda.

Eugene Kent
Interests: Cross-country skiing and photography. Eugene worked for Falconbridge this summer.

Harold Kobler
Interests: Carpentry and circuit breakers.

Mike Lucko
Interests: Geophysics and his family; his wife Edna, and their two sons, Randy and Eric.

Murray McGill
Interests: Exploration geology, travelling, photography and motorcycles. Murray was employed by Dennison Mines for the summer.

Gonzalo Medina
Interests: Getting his B.Sc. degree, judo, fencing, and travel.

Jack Parker
Interests: "Even impaired walkers are picked up by the police." From this quote we can easily guess what Jack's main interests are. He was employed by the O.D.M. for this summer's work term.

Bill Palmer
Interests: Petroleum geology and paleontology, ever since he was 5 years old. Bill was employed by Falconbridge this summer.

Wayne Redditt
Interests: Expensive stereo equipment and British motorcycles.

John Scollie
Interests: Photography

Joe Sipos
Interests: Igneous Petrology (so he says).

Ron Tweedie
Interests: Just your normal, basic, every-day healthy interests. We won't enumerate them.

Scott Cheadle
Interests: Arch top banjo, snake handling, nude kites, and Peruvian classic litterature are his main interests. Marble classification and dog paintings come in a close second. Scott worked with some of the Profs at Lakehead this summer.

Mike Corey
Interests: Diving, cross-country skiing and stamps. Mike worked for Falconbridge this past summer.

Dan Malo
Interests: Scuba diving, Cross-country skiing, winter and summer camping.

Scholarship Winners

From left to right; Heather Brown - J.P. Bickell Bursary, Murray McGill - Abitibi Paper Bursary, Bruce Jago - Bora Laskin and C.P. Rail Scholarships, Myra Gerow - C.P. Rail Scholarship, Mike Lucko - J.P. Bickell Bursary.

the

Lakehead University Geology Club

Wishes all Students a very Successful
Summer Exploration Season

Bruce Jago , President

Gord Yule , Vice - President

BC

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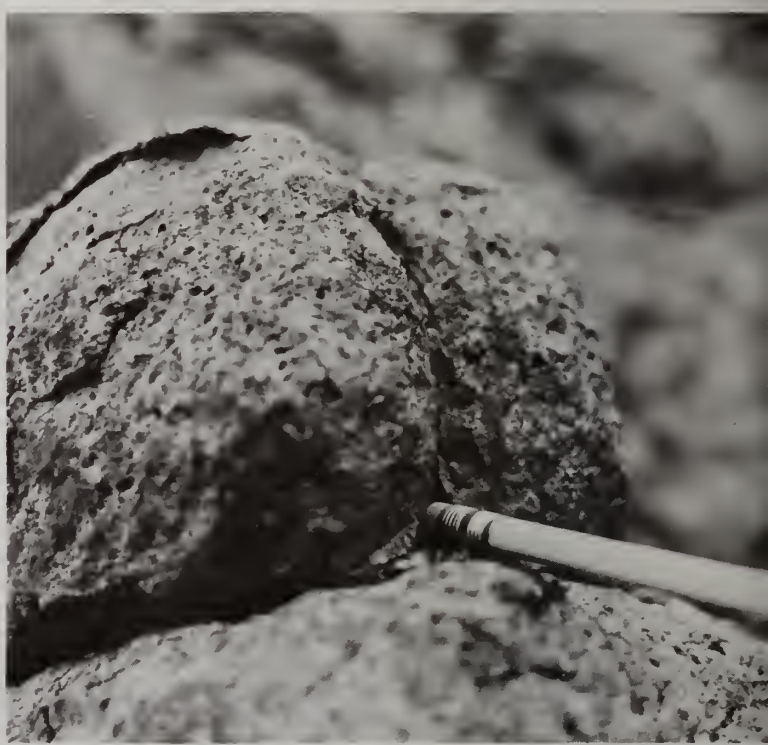
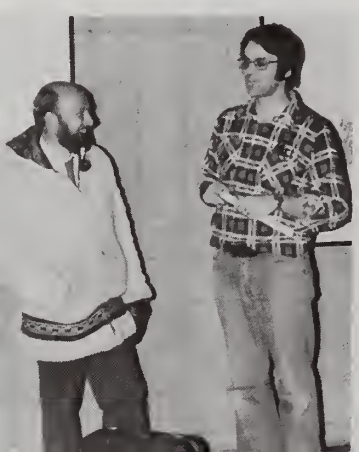
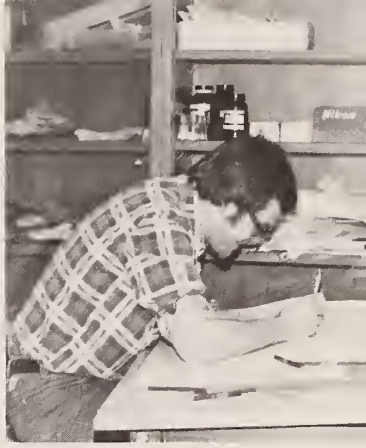
1st Year

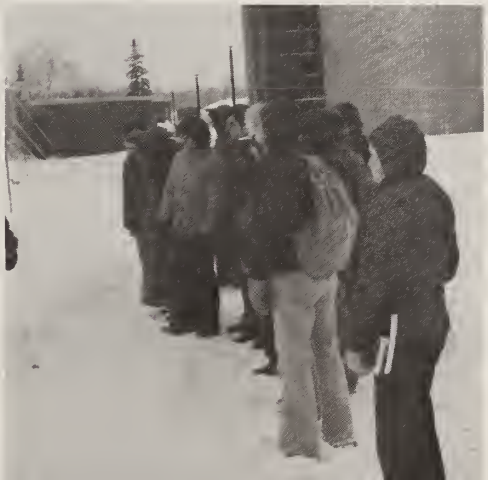
First Year Geology Majors: Front row (left to right); Rick Dutka, Barry Rabishaw, Burns Cheadle, Nick Spence, Rock Rice, George Chomacki, John Pearson, Scott Bruce. Middle row (left to right); Rob Bennett, Mark Stevens, Brett Barnes, Rick Kemp, Paul Gertzbein, Bill Love. Back row (left to right); Denis Samayou, Eric Albrechtsons, John Etches, Blair Kite. Missing; Sherri Baker, Warren Clendining, Dave Crocker, Rhys Denmore, Andrew Clarke, Ron Kumar.







HOT ROCKS



Message from the Geology Club

As president of this year's Geology Club I would like to express my thanks to those people who made this year a successful one. Our club executive was as follows: Bruce Jago, Club President; Gord Yule, Vice President; Rob Bennett, Secretary-Treasurer, Geology Club and Yearbook; Heather Brown, Social Co-ordinator; and Allan Schappert, Field Trip Co-ordinator. Without these interested people we would have only been a name for LUSU to push around. Instead they had to deal with people who had an objective in mind and were determined to see it to its completion.

Because of our restricted budget we were in a delicate position as far as funding was concerned, as well, the Student Union in all their wisdom feels it is necessary to keep their various clubs in the dark concerning field trips and general LUSU policy. Consequently we could only offer field trips to Silver Islet, the Silver Mountain area and an overnight excursion to Geco. Next year however, now that we the executive have gained valuable operational experience, we hope to be able to expand the activities of the club.

This year the club expanded in a different direction and a small group of individuals decided that the Lakehead University Geology Department should be represented once again in pictorial fashion within the pages of a Department Yearbook. The idea was conceived over a cup of coffee in the Geology Club office while looking over the files of previous years. After little discussion it was decided to go ahead. As this yearbook was a new experience for those who put it together, we had a lot to learn and a lot of mistakes to overcome. I can see now why more people did not feel inclined to get involved.

As Editor of the yearbook I would like to thank those brave individuals who undertook this seemingly easy task and who have found time to see it to its culmination. In particular, I would like to thank Heather Brown my Co-editor, Myra Gerow my right hand assistant, Murray McGill photo manager, Rob Fnukal advertising manager, Rob Bennett and Mike Lucko sales managers, Mark Wittrup who did custom developing for us as well as cartoons and a host of other people. I would like especially to thank Sam Spivak who relentlessly made headings and advertising layouts for us and who put up with our incessant bothering. This yearbook would not have been possible if it had not been for these people, THANKS AGAIN!

Yours truly,

Bruce Jago
President, Lakehead University Geology Club
Editor, Geology Club Yearbook

IN MEMORIAM

Jack J. Clue

1950 – 1978

Jack received his B.A. degree in Geography in 1972 and his Honours B.Sc. degree in Geology in 1975. After graduation from Lakehead University he joined the Manitoba Department of Natural Resources as a geologist. His future plans for graduate work in geology were prematurely halted by his untimely and unexpected death in late January 1978.

The members of the Geology and Geography departments join in expressing their sympathy to his family and friends.

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