
NEWS FROM THE DEPARTMENT

Spring has finally sprung in Kingston, exams are almost finished, and field school begins on the weekend (April 27th). It is high time that our "January" newsletter gets on its way.

Al Gorman has completed his brief history of the Seventh Decade of the Department, the 'fifties', in the midst of which he arrived at Queens. He also appended the story about an early Queen's graduate, George Stewart Malloch (Science '06), that was abstracted from the book "The Ice Master: The doomed 1913 Voyage of the *Karluk*" by Jennifer Niven (Hyperion, New York, 2000), a very good read.

Rob Langridge includes the following update on departmental hockey: "The 2002 Fur Cup and Fur Cuplet" Geo-hockey is alive and well, and Gorman is still playing. Three tiers of hockey now exist – hackers, extreme hackers (XHL) and grad hockey. All three are consistently well attended. In addition, there are the "TuffSchists", the team of the Geowomen.

The **2002 Fur Cup –45th annual – and the Fur Cuplet** were held on March 26th, in the Jock Harty Arena. In the Fur Cup, Geology defeated Mining, bringing the historic totals to: Geology: 27 wins, Mining: 16 wins, one game tied (1986), one game unreadable on the trophy (1965). A relatively new wrinkle is the "Fur Cuplet", a contest between the Profs and the Geowomen, the "TuffSchists". This year, the number of Profs available was down to three (Al Gorman was one of them), so they joined with the Schists to defeat the cross-dressed Hackers, 8-6.

The Fur Cup itself is in pretty good shape and heading towards 50. The trophy has been re"fur"bished several times over the years, and an additional level has been added a few years back, but it is still instantly recognizable – just like a few other Canadian hockey trophies. Rob figures there is a little Fur Cup lore out there – how the trophy came into being, game (and post-game) stories, and maybe even someone remembers who won the 1965 game. If you have a Fur Cup related story, send it along to Rob Langridge (rlangrid@kos.net). And if you are passing through Kingston next winter think about bringing your gear.

Homecoming Weekend in September 2001 went well with more than fifty alumni dropping in at our open house in the Bruce Wing reading room and a special dinner arranged by Ian Nichol for Pete Pienaar (Ph.D. '59) from South Africa. Next homecoming weekend is September 27-29, 2002, and we hope to see many of you drop in at the Department.

Dugald Carmichael's retirement party was held December 8th, 2002, complete with toast and roast. Needless to say we had a full house. A number of former students attended, and numerous e-mails were read from those who could not attend. Dugald was a bit worried at first that there would only be "roasting" Dugald stories, and he was quite relieved to hear how many kind words were said about him, about his contributions to the Department, and about his enormous influence on metamorphic petrology in general.

Reunion at Vancouver Cordilleran Roundup

With the help of Jane Wynne (néé Wallace, B.Sc.'77), the Department hosted a reunion for former students at the Cordilleran Roundup. Mike Doggett and Herb Helmstaedt met with about 50 alumni, mainly from the Vancouver area, and everyone had a chance of swapping stories and catching up over finger food and drinks. Jane gave the official toast "to old friends and newborn babies". After two successful reunions (Toronto and Vancouver), our aim is to hold similar events in Calgary and somewhere "down east".

Queen's Field Studies Program

You may recall from our January 2001 newsletter that the Department's Queen's Campaign project is designed to "restore and maintain our reputation of having the best geological field program in the Country". Significant progress has been made. With the help of the generous pledge of \$25,000 per year, over ten years, by Sue Riddell Rose (B.Sc. (Eng.) '86) and Michael Rose (B.Sc.'79), we will be able to introduce third-year field schools in clastic sedimentology and geological engineering. The process-oriented clastic sedimentology field school, to be held in the Bay of Fundy area, will complement our carbonate field school, held each year by Noel James in Bermuda. The geological engineering field school venue will depend on the locations of on-going engineering projects. We are very grateful to the Rose family for this enormous boost to our program.

We are also grateful to all of you who have begun to contribute to our departmental field trip endowment fund, the proceeds of which will be used solely to support student field trips. The costs of these field trips increase each year, and it has become clear that we cannot rely on the University budget to help us in this area. Therefore, your continued support through donations will greatly benefit our future students.

Miller Museum

Dr. Richard Milne (B.A. '54; M.D.C.M. '58) of Kingston made a generous donation to the Miller Museum, which allows Mark Badham to display our dinosaur eggs in a newly refurbished dinosaur display. We regard the Miller Museum as one of our most important links to the general public, especially to school children, more than 2000 of whom receive guided tours and lectures each year.

Awards

This year's **Gartner Lee Award** went to Kevin Cymbalsty from Yellowknife, a 4th year student in our geotechnical engineering option. Marie Wardman (B.Sc. (Eng.) '99) of Gartner Lee Limited was on hand to present the award.

MARIE WARDMAN PRESENTS KEVIN
CYMBALSTY WITH THE GARTNER LEE
AWARD.



Jennifer Anderson, M.Sc. candidate in Mineralogy, received the **Peacock Memorial Prize**, presented by the Walker Mineralogical Club of Toronto for her public outreach work in mineralogy.

Prof. Alan H. Clark is the 2002 winner of the **Duncan R. Derry Medal**, awarded by the Mineral Deposits Division of the Geological Association of Canada to an outstanding geologist who has made contributions to the science of economic geology in Canada.

Prof. Mark Diederichs has been awarded the 2002 **Rocha Medal** by the International Society of Rock Mechanics for his Ph. D. thesis entitled *Instability of Hard Rockmasses: The Role of Tensile Damage and Relaxation*. First presented in 1982, this is only the third time that the medal has come to North America. Prof. Kurt Kyser was awarded a substantial grant from the **Canadian Foundation for Innovation** (CFI)

which will allow him to more than double the capacity of his Stable Isotope and ICPMS lab. Kurt's lab has created an enormous critical mass of researchers in a very short time, and the enlarged lab will serve as core of a research cluster that connects Geological Sciences with the Departments of Biology, Chemistry, Environmental Sciences and Civil Engineering.

Prof. Jim Lee was awarded a **Golden Apple** by the Engineering Society for his enthusiasm and interest in the students and engineering activities. Senior undergraduate students Darryl Lehouillier and Gillian Savage were recognized by the Engineering Society as outstanding Teaching Assistants.

Prof. Michael Doggett was the 2002 recipient of the **Robert Elver Award**. The honour recognizes his significant contribution in the Canadian mineral economics field.

Mentioned

Prof. John Hanes was mentioned in the MacLean's 2002 Guide to Canadian Universities as one of the most popular professors at Queen's University. We consider this a great honour, especially in light of the fact that only one other Earth Sciences professor was similarly recognized in the entire guide. By now John has taught first-year geology to even more Queen's engineering students than Fred Jolliffe, one of the most popular geology professors in the fifties and sixties.

Retirement

On April 25th, the Department honored Hanne Sherboneau, who is taking early retirement this year. Hanne served as Head's secretary before taking over as graduate secretary for the last 20 years. In the latter capacity she looked after the welfare of our numerous graduate students, making sure they received their financial support and adhered to the complex regulations of our Graduate School. We will miss her input very much, especially her astute judgement about the inner workings of this University.



HANNE SHERBONEAU (CENTRE) PICTURED AT HER RETIREMENT RECEPTION WITH (FROM LEFT TO RIGHT) DR. ROEDER, DR. FARRAR, DR. DIXON AND DR. HELMSTAEDT.

THE SEVENTH DECADE - A SPURT IN PH.D.'S

The seventh decade saw relatively few changes in the faculty, most of those present at the beginning of the decade were still around at its end. Long-time professor Bruce Rose was lost to the department in 1954, and long-time prof Al Gorman arrived in 1955. Jack Usher was away for 3 years, and the soft rock side was covered off in the interim by Al McGugan, Bill Kerr and Roy Lemon. In 1959, Hugh Wynne-Edwards arrived, so the decade saw an increase from 7 to 8 professors.

The decade saw 12 Ph.D.'s awarded, three times as many as were awarded in the previous 60 years. The seventh decade saw the same number of Masters degrees awarded as in the sixth decade, averaging four a year, but the number of Bachelors rose from 10 to 15 a year. In 1959, the Faculty of Arts and Science started awarding B.Sc.'s and M.Sc.'s in the Sciences, instead of B.A.'s and M.A.'s, much to the dismay of many engineering grads. The first Arts & Science B. Sc. went to Hugh Balkwill, and the first M.Sc. to Peter Clarke. In 1960, the first members of the new Geotechnical Option graduated, led by Dave Devenny, who went on to a Ph.D. at Purdue, and a successful career in the Oil Patch, where his hard-learned geotech skills were probably put to good use reading well logs.

The decade saw over 200 outstanding geologists graduate from Queen's, and there is just no room to list all their accomplishments, so a few have been picked out (with apologies to those who should have been mentioned). About 30 chose academic careers, among them Bob Greggs, B.A., '54, Ian Nichol, M.A., '58, Hugh Wynne-Edwards, Ph.D. '59, Mabel Corlett, B.Sc., Hon., '60, and Dugald Carmichael, B.Sc., Eng., '62, all of whom returned to teach at their Alma Mater. Academic administration headliners include Fin Campbell, M.A., '56 at Calgary and John Mothersill, B.Sc., Eng., '56. Ph.D., '68, at Royal Roads. About 40 went into Economic Geology, and several achieved fame (notoriety?): Pete Pienaar, Ph.D., '59, Matt Blecha, B.Sc., Hon., '61, and Tony Naldrett, M.Sc., '61, Ph.D., '65, come to mind. About 25 went into Petroleum Geology, including Mike Chernoff, B.Sc., Eng., '59, who donated a large sum to the construction of the new Chernoff Chemistry Building, and Bill Simmons, B.Sc., Eng., '60, who rose to the top in Texas oil (i.e., wasn't too dense). Another 25 or so became employees of the Geological Survey of Canada, with names like Hugh Bostock, B.Sc., Eng., '54, and Don Cook, B.Sc., Eng., '62, Ph.D., '68, as examples. Among those making important contributions to the advancement of science were Paul Karrow, B.Sc., '54, in Quaternary, Ralph Kretz, M.Sc., '55, in metamorphic studies, Geoff Ballard, B.Sc., '56, of fuel cell fame, Tom Krogh, B.Sc., Eng., '59, M.Sc., '61, on zircon dating, Hugh Balkwill, B.Sc., Hon., '59, working on balanced sections, Al Freeze, B.Sc., '61, in groundwater, Ian McGregor, M.Sc., '62, studying mantle xenoliths, and Ralph Thorpe, M.Sc., '63, in isotopes. Dave Nowlan, B.Sc., '58, was the first Queen's geologist to win a Rhodes Scholarship. Unfortunately, because of this, he was lost to Geology, and became a Professor of Economics at the University of Toronto.

On the social side, this decade saw the start of several "traditions". The winner of annual hockey game between Mining and Geology finally received recognition in the form of the "Fur Cup", probably first presented in 1958. About that time, Ron Eade was one of the instigators of the "Grease Pole Climb". This was good training for him in hugging drill rods with Shell Canada. Also in 1958, the first edition of the "Miller Memoirs" appeared. While there had been an annual geology party for some years, it appears to have been first called "The Grenville Gronch" in 1960. Geology built some outstanding snow sculptures for "Winter Carnival", and won the top prize in 1963 with a stegosaurus about to elevate a geologist kneeling to evaluate an outcrop.

W.A. Gorman

THE SHORT SAD CAREER OF GEORGE STEWART MALLOCH, SCIENCE '06.

In 1913, the famous Arctic explorer, Vilhjalmur Stefansson, set out to organize the 1913-1918 Canadian Arctic Expedition. He purchased an unsuitable ship, the *Karluk*, second-hand Arctic clothing, and large supplies of pemmican which was never inspected. He hired a crew of 12, half of whom were totally unsuited for Arctic work. As ships captain, he hired Robert Bartlett, a Newfoundlander and an experienced Arctic sailor. Bartlett was dismayed by the state of the *Karluk*, but had just finished an unsuccessful sealing season, and was anxious to return to the Arctic. A scientific staff of 10 was to take part, including George Malloch of Hamilton, Ontario, the 12th Queens geological engineer and a graduate student at Yale. Because of the obvious lack of organization that quickly became apparent, friends urged him to resign, but he refused. Completing the ship's complement were a carpenter and hunter who had spent many years in the North, and 7 Eskimos (as they were then called), 4 hunters and the wife and two young children of one of the hunters. The ship left Esquimalt, B.C. for Hershel Island in the Canadian Arctic on June 3, 1913, a month later than planned, which made Captain Bartlett worry about ice conditions they would encounter. By August 13, the *Karluk* was trapped in ice short of its goal, and drifting westward. On September 20, north of Alaska, Stefansson left the ship with his secretary, 2 scientists, two Eskimo hunters, a large amount of supplies and the 12 best sled dogs "to hunt for food". It was possible that he never intended to return, leaving 25 on board *Karluk* to their fate.

On January 11, at a point about 40 miles north of Wrangel Island, Siberia, the ship was crushed by ice and sank. It was decided to move to Wrangel I. in a series of steps, so that all the supplies salvaged could be saved, increasing their chances of survival till the next summer. Partway there, a party of 4 crewmen was sent ahead to establish a base camp on land, but they got lost in a blizzard, and landed on Herald Island, 30 miles too far east. Their remains were discovered in September, 1924. Then 3 scientists and a crewman, discouraged by the slow progress towards the island, set out on their own. They too disappeared.

On March 12, 17 survivors reached Wrangel and set up camp. On March 18, Captain Bartlett and an Eskimo hunter set out on a 700 mile journey across the ice to get help. He reached a Russian village on May 16, and radioed a message as to where the survivors were. Unfortunately, it would be at least July before a ship could possibly get through the ice to Wrangel.

Those left on Wrangel were troubled by swollen limbs. Unknown to them, the pemmican diet was too rich in fat and protein, and low on carbohydrates, and they all developed nephritis, a kidney disease, to a varying degree. George was one of the most physically fit of the castaways, but he was careless about protecting himself against the cold. Despite frequent warnings, he would wander about in the snow in stocking feet. He soon had frost-bitten hands and feet, and was confined to his tent. On May 10, a finger had to be removed as gangrene had set in. He soon fell into a coma, and died on May 17. He was just 33.

Two others had died before a rescue ship arrived on September 6 to take off the remaining 12 survivors. In the meantime, Stefansson had been exploring the Western Canadian Arctic, discovering three unmapped islands. The National Geographic Society awarded him the Hubbard Medal for this work. Until he died, in 1962, he consistently put the blame for the loss of the *Karluk* on Captain Bartlett. The survivors unanimously blamed Stefansson, but were not listened to.

ALUMNI UPDATE

1948

Jack Ross, B.Sc., Eng., M.A.Sc., Toronto, 1949, started in Mineral Exploration, then in 1957, joined Mines and Technical Survey. In 1964, he went to the Department of Industry, and in 1970 became Head, Northern and Regional Development. From 1974 until 2000, he was scientific and social development advisor and consultant to both the federal and Ontario governments.

1959

Ken Card, B.Sc., Hon., Ph.D., Princeton, was co-winner, with **Howard Poulson**, Ph.D., 1984, of the 2001 CIMM Barlow Medal for their paper "*Archean and Paleoproterozoic Geology and Metallogeny of the Southern Canadian Shield*"

1960

Bill Barnes, B.Sc., Hon., 1960, M. Div. Toronto, 1973, after teaching for a few years, now operates a trailer park, rock shop, and mineral museum with his wife, Gina, on the Trans-Canada just west of Nipigon, Ont.

1961

Matt Blecha, B.Sc., Hon., M.Sc., McGill, 1967, Ph.D. McGill, 1969, retired to Owen Sound area from Tech Corporation in mid-nineties, but still does some consulting. Still as sharp as ever, he pointed out that I should have said Len Berry was a renowned, not renounced, mineralogist.

1962

Tom Hasek, B.Sc., Eng., of T. Hasek Associates, is still active in the relatively inactive mineral exploration business.

Peter Philipchuk, B.Sc., Hon., reports that he and classmates **Rich Brown**, **Bill Nixon** and **Ross Vogan** are still very active as independent veteran petroleum geologists in Calgary

John Shaw, B.Sc., Eng., spent 33 years with Placer Dome, with 18 of those years in Australia. He recently retired as VP, Australian Operations, Placer Dome, but continues his interest in exploration as Director of Delta Gold and of Kingsgate Consolidated, who were planning to open a 140,000 ounce in Thailand. Living in Sydney, Grandpa also devotes a slice of time to golf.

1965

John Henderson, B.Sc., Hon., retired from the GSC last May, but passes time there as an emeritus scientist.

Morland Smith, Ph.D., now retired, writes, travels, and participates in BMW motorcycle safaris.

1971

Manfred Kehlenbeck, Ph.D. retired in January, 2001, after a long career at Lakehead in Thunder Bay. He is now involved with gardening, painting (watercolours) and visiting warmer climes.

Marinus Kluyver, Ph.D., sent an update. He returned to France from Saudi Arabia in December, 2000, rejoining the Translation Service, where he leads a nongeological sessile life translating overseas reports into English, or translating scientific papers. Bilingual with geological experience, and interested in working for the Euro-dollar? Contact hmkluyver@brgm.fr.

Craig Leitch, B.Sc., Eng., went from the GSC to a 3 acre farm on Saltspring Island, B.C. in 1985. He brought a heritage orchard back into production.. He still consults, mainly petrology, but minex too. He recently worked on a Phillipine hydro tunnel project. His two teenagers will be driving soon, so less chauffeuring, more sailing is planned. cleitch@saltspring.com

1972

Harry Baker, B.Sc., Eng., M.Sc., Civil, 1976, after 20 years with NRC working frost-related engineering problems, established the Canadian Infrastructure Technology Assessment Centre at NRC, which evaluates new products used in Canadian infrastructure systems. Harry, his wife Vinita, and their children Nicholas, Ryan, Kari and Dana live in Russell, Ontario.

1973

Rod Klassen, B.Sc., Eng., M.Sc., 1975, Ph.D., Illinois, 1982, has been with the GSC for nearly 20 years, working in Quaternary, with emphasis on drift prospecting and till geochemistry.

1976

Jesse Winters, B.Sc., Hon., after a decade working for companies like Falconbridge, Rio Algom and Cominco, switched careers and is now an investment advisor with National Bank Financial.

1978

Peter Los, B.Sc., Hon., was chief geologist with Oil Company of Australia till 1990. He is now dealing in Australian aboriginal art in Melbourne, where he lives with his wife Ozlem and children Leylaan, Lamont, Alara and Jaan.

1979

Chris Morton, B.Sc., Hon, M.Sc. Stanford, 1981, MBA, U. Pennsylvania, 1990, is now working for Gale Group, a Division of Thompson Corp. He's at chris.morton@galegroup.com

1980

Gary Greer, B.Sc., Hon., B.Ed., Mount Allison, 1988, is now teaching maths and computers in the District Secondary School in Napanee.

1982

Brian O'Hearn, B.Sc., Eng., M.Sc., Mining, Witswatersrand, 1985, is presently working with Lafarge Canada in Richmond Hill, Ont., as manager of Mining Services.

1983

Mark Hannington, B.Sc., Hon., M.Sc., Toronto, 1986, Ph.D., Toronto, 1989, has been at the GSC since finishing his doctorate, working mainly on volcanogenic massive sulphide deposits in Canada. After a period as co-editor, Mark became the sole editor of "*Economic Geology*". Over the past 100 years, the journal has had only been 4 other editors, including another Queen's grad, Alan Bateman. With Mark's appointment, 40% of the editors have been from Queen's.

1987

Paul Hemsley, B.Sc., Hon., MBA, Dalhousie, 1989, is president of Hemmera Envirochem Inc. doing environmental and management consulting work, with headquarters in Vancouver and offices in Victoria and Edmonton. He, his wife Coryn, and daughter Caitlin, live in West Vancouver, where he also plays hockey. He can be reached at phemsley@hemmera.com

Brian Zaitlin, Ph.D., went to Australia for a Post-Doc, then on to Calgary with Imperial, before joining PanCanadian Energy, where he is currently Exploration Advisor. His household consists of his wife Beryl, his daughters Hannah, Leah and Sarah, a cat, 3 fish and a hound.

1991

Olga Ijewliw, M.Sc., has been with the GSC in the Continental Geoscience Division for 10 years, involved in regional mapping and thermobarometric estimates based on microprobe analyses. She has been working in both the Arctic and the Grenville.

Tim McLaren, B.Sc., Eng., MBA, McMaster, 1998, returned to McMaster in January, 2001, to work on a Ph.D. in Information Systems, preparing for an academic career. He married Sarah Gibson, B.Sc., 1993 (q.v.), they live in Brampton and can be reached at tmclaren@canada.com

Jim Stimac, Ph.D., his wife **Adrienne Laroque**, and children Cameron and Samira are living in Metro Manila, where Jim is in his fourth year as Geoscience Coordinator for Phillipine Geothermal Inc. Adrienne is on maternity leave from the University of Manitoba. Jim and Adrienne, along with co-authors Jeff Keith and Michelle Huminicke, were recently awarded the Hawley Medal for their study of immiscible Fe-S-O liquids in silicate magmas.

1992

Stuart Lunn, B.Sc., Eng., Ph.D., Civil, is now an Environmental Research Scientist, working on Oil Sands Development and Research for Imperial Oil in Calgary.

Martin Van Kranendonk, Ph.D., was with the GSC before heading off to New South Wales on a Post Doc. Now in Western Australia., he has been working in the Pilbara Craton of Northwest Australia. He lives in Perth and rollerblades to work along the banks of the Swan River.

1993

Jason Gerhard, B.Sc. Eng., has successfully defended his thesis, and will be awarded his Ph.D. in Civil this spring.

Sarah Gibson, B.Sc., Eng., M.Sc., Civil, 1997, and husband Tim McLaren, 1991, (q.v.), are living in Brampton. She spent the last 4 years working for Imperial in Toronto and Calgary after leaving geo-environmental consulting. She's at smclaren@canada.com

Adrienne Laroque, Ph.D. See Jim Stimac, 1991 (can be reached at jstimac@i-manila.com.ph)

Heather Mace, B.Sc., Hon., B.Ed., 1994, reported that she is now teaching in the Faculty of Education, at Ottawa, and would be getting married at Christmas, 2001.

1997

Chris Herd, B.Sc., Hon., Ph.D., New Mexico, had as his doctorate topic "Insights into martian magmatism gained through martian meteorites. He is now in Houston with the Lunar and Planetary Institute.

Gord Stretch, M.Sc. B.Ed., U.B.C., is teaching at a Secondary School in Port Moody and doing geological field work summers whenever possible.

Craig Waldie, M.Sc., reports that he has been working for Phelps Dodge in Toronto since 1998.

1998

Nadia Belanger, B.Sc., Eng. was working in Calgary, and took two months off last summer for military training. She may be in Afganistan by now. She reports that **Art McCarthy**, B.Sc., Eng., was working in Venezuela for a while last spring.

Gavin Grant, B.Sc., Eng., M.Sc., Civil, 2000, reports that he is working for Geotrans in Boston and sleeping. This suggests he has added working to his life style since leaving Queen;s

Sally Pehrsson, Ph.D., is back with the GSC after 8 months maternity leave following the birth of her son Gavin in July, 2000. She was finishing up projects in the Archean Slave and Rae provinces, and starting work on the structure and metamorphism of the Dashwoods subzone in the Appalachians of Newfoundland.

1999

Matt Skinner, B.Sc., Hon., is working on a Master's at U. of Victoria, which will hopefully contribute to the knowledge of past Vancouver Island earthquakes

Karen Wright, M.Sc., is now working for De Beers Canada, Mining, Inc. in Vancouver. Friends, (but specifically no weirdos) can reach her at k-jwright@debeerscanada.co

2002 FUR CUP
CHAMPIONS





HOMECOMING SEPTEMBER 2001



HAPPY RETIREMENT HANNE

CROSSWORD PUZZLE

1	2	3	4	5	6		7		8	9	10	11	12
13						14	15			16			
17					18					19			
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42					43	44		45	46				47
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59			60		61					62			
63				64		65				66			
67								68					

Across

- | | | | |
|----------------------------|------------------------------|-----------------------------|------------------------|
| 1. Bending of rock | 50. Mine in Montreal | 9. Capture | 58. Half - a prefix |
| 7. Real gneiss mineral | 52. Movie type of orange | 10. Little French island | 60. More in Montevideo |
| 13. Make use of | 54. Brown gas | 11. Region of Austria | 62. _____ of Harlech |
| 14. Nationality suffix | 55. Gold in Granada | 12. Come from a volcano | 64. Big in brochantite |
| 16. Crinoid cup | 57. Cure leather | 15. Pith helmet (Hindu) | 66. You of old |
| 17. Dino remains | 58. Belongs to a lady | 21. Occurs daily | |
| 18. On a river below falls | 59. Usual situation | 23. Fault, fold or factory | |
| 19. Low value diamond | 61. Coated with CaO | 27. Pre-Namibia nation | |
| 20. Dispose of | 62. Table-like hill | 28. A Gershwin | |
| 22. appropriate | 63. Apple-watching scientist | 30. Sheeplike | |
| 24. Natural rock pile | 65. Not the stoss end | 33. Azure gemstone | |
| 25. Slang identification | 66. Arab nation | 35. Manage, with care | |
| 26. Ease of splitting | 67. Tell off | 36. Refers to Yale | |
| 29. 71st element | 68. Intrusive rock | 38. Radar type | |
| 31. Home of mustangs | | 39. Earthy prefix | |
| 32. Make a boo-boo | | 42. Devilish | |
| 34. More than one | | 43. Lion constellation | |
| 37. Boudin-shaped food | | 44. Can be cut by knife | |
| 40. Calcite cooker | | 45. Indians of N.A. tribe | |
| 41. Headland | | 46. In the past | |
| 42. Claims of "Not Guilty" | | 47. Rock group outcrop area | |
| 45. Supports his nation | | 51. Got up | |
| 48. Confederate General | | 53. Hill of bedded drift | |
| 49. Geofizz group | | 54. Attacked | |
| | | 56. Algerian port | |

Down

- | | |
|---------------------------------|-----------------------------|
| 1. Arrangements of minerals | 44. Can be cut by knife |
| 2. Egg-shaped | 45. Indians of N.A. tribe |
| 3. Type of scape | 46. In the past |
| 4. Pass on | 47. Rock group outcrop area |
| 5. Short for FeTiO ₂ | 51. Got up |
| 6. Fire Opal | 53. Hill of bedded drift |
| 7. Depressions in till | 54. Attacked |
| 8. Type of current | 56. Algerian port |

G	A	B	B	R	O		Q	U	A	R	T	Z
N	I	C	O	L		F		T	E	R	R	I
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S	E		T		C	A	T		A		N	O
S		D	E	B	A	T	A	B	L	E		N
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G		F	I	R	E	H	O	U	S	E		C
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ANSWERS TO THE LAST
CROSSWORD

Spring 2002
ALUMNI UPDATE

If you haven't already done so, would you please help us to create an accurate location and mailing list by completing this questionnaire. Also, if you know of any alumni who are not receiving this Newsletter please let us know their names and addresses.

NAME: **Queen's Degree(s) and Year (s)**

Home Address: **Telephone:** **Business Address:** **Telephone:**
Fax: **Fax:**
E-mail: **E-mail:**

Degrees since leaving Queen's:

Please use the space below (or an attached page) to add any news that we can pass on to other alumni.

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