



PDAC Activities and Canadian Exploration News

Flow-through premium returns

Finance Minister Paul Martin has kept his promise to the PDAC and brought back a premium on flow-through shares. The enhanced tax measure was announced in the Economic Statement or mini-budget delivered by Martin on Oct. 18 with an effective date of Oct. 17. The Ways and Means motion passed 151 to 82 the following day.

The budget announcement came after Martin met with PDAC and Canadian Diamond Drilling Association (CDDA) representatives this summer to discuss the associations' joint proposal. Martin then arranged for industry representatives to work with senior government officials and report progress.

In the mini-budget, the finance minister delivered a tax shelter for investors that offers a 15 per cent up-front income tax credit until 2004.

Depending on the investor's province of residence, the new measures are intended to be roughly equivalent to federal measures that were in place between 1983 and 1987, when a 133 per cent deduction was available to investors in flow-through shares through the Mineral Exploration Depletion Allowance (MEDA).

"The government listened and responded to our calls to develop a program that would re-stimulate investor interest in the Canadian junior mining exploration sector," says PDAC president John Steele.

"The 15 per cent income tax credit, combined with the lowering of the inclusion rate for capital gains to 50 per cent, will attract investors from more income levels to help stimulate grass-roots exploration.

"This is a fairer program than MEDA, which effectively targeted only the highest income tax bracket. The measures passed Oct. 19 are more inclusive than ever."

Provinces were invited to top up the federal program, which would help ensure equivalency with MEDA for all Canadians. In British Columbia, the top rate will be 133.7 per cent. In Ontario, which last spring announced enhanced tax deductions for provincial residents who purchase flow-through shares, work on harmonization is under consideration.

In praising the federal government's initiative, the PDAC was quick to credit those who had helped bring the program to fruition.

In letters to key ministers, Members of Parliament and staff, Steele and CDDA president Tim Bremner wrote, "We are grateful for the opportunities you provided to our associations to make public the crisis in our sector and the remedies for it, and the encouragement you provided our representatives throughout the past year."

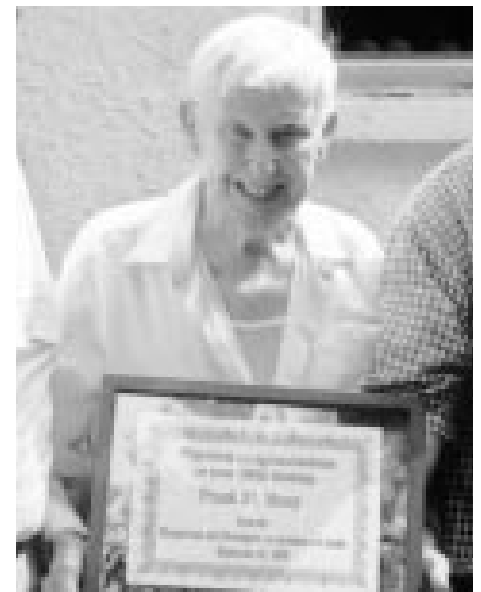
Writing to Ontario Minister of Finance Ernie Eves, PDAC executive director Tony Andrews said the provincial government's spring announcement "contributed significantly" toward moving the federal government along.

The PDAC's director of issues management, David Comba, singled out three federal Liberal Members of Parliament – Réginald Bélair (Timmins), Benôit Serré (Kirkland Lake-Cobalt) and Guy St. Julien (Rouyn-Noranda) – for the significant role they played in keeping the issue before the government. In the House of Commons on Oct. 19, Martin also paid tribute to the efforts of northern rural caucus MPs.

"They supported our campaign from day one and their support never wavered," said Comba.

During the 11-month campaign, Comba met and maintained contact with more than 160 politicians and government officials across Canada.

Milestone



Prospector Frank Hoey celebrated his 100th birthday with family and friends this fall. See story page 6.

PDAC in Brief is a quarterly newsletter published by the Prospectors and Developers Association of Canada. The newsletter is designed to inform the association's members of the activities of the PDAC and also of current issues and events of interest to the Canadian exploration and development industry.

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PDAC member companies confer with international mines ministers

Some 20 corporate members of the PDAC had an opportunity in October to sit down and talk with the mines ministers of countries in Latin America and the Caribbean, as well as those of Canada and the United States.

The opportunity arose because of the PDAC's new interest in international mining and exploration issues.

The occasion was the fifth annual Mines Ministries of the Americas Conference, held in Vancouver on Oct. 4 and 5. The conference brings together mines ministers and senior officials of North and South American countries to discuss major issues affecting the mining industry, such as the environment and sustainable development.

The meetings are formal, held in camera, and are intended to develop conventions and agreements, says Tony Andrews, executive director of the PDAC.

When it was decided that Canada, for

the first time, would host the meeting, the PDAC was asked if it would be a financial sponsor. It was the only association to receive such an invitation and, says Andrews, "We were pleased to offer our support for such an important venue."

He adds, "We thought sponsorship was worthwhile because it enabled us to offer a tangible benefit to our members and it was an opportunity to showcase PDAC's new international involvement to an important audience consisting of senior government officials, international institutions and industry."

Part of the benefit of being a sponsor, he explains, was that the PDAC was allowed to invite up to 20 member companies to attend the inaugural dinner.

"They had an opportunity to sit with the delegations of most interest to them, and also to arrange a small number of private meetings with ministers or their senior staff," Andrews says.

The association sent an invitation to all corporate members, saying places would be allocated on a first come, first served basis. Those who attended were primarily junior companies from across Canada, as well as a number of senior companies.

PDAC President John Steele, who was present as a member of the Canadian delegation at the meeting, delivered a luncheon address on the topic, "The PDAC: representing the interests of our members worldwide."

Andrews explains that although most of the foreign government delegations at the meeting have attended the PDAC's annual convention, they have not been exposed to the association's advocacy work or information resources side.

The speech provided an opportunity to tell them about that work and inform them about the association's expanded mandate to include issues of international interest.

PDAC, Fraser Institute consider joint project

The PDAC and the Vancouver-based Fraser Institute are joining forces to develop an investment climate report card for Canada and selected international jurisdictions.

The report card, which will provide an analytical measure of the investment climate, is one of two Fraser Institute initiatives currently being supported financially by the PDAC.

The other is the highly respected Fraser Institute Annual Survey of Mining Companies, now in its fourth year of production. The survey of jurisdictions in Canada and selected foreign countries measures the Canadian mining industry's perceptions of these jurisdictions as places in which to invest.

Despite its increasing reputation as an authoritative source, the survey has been under threat due to budget constraints at the institute, and this year requires external funding support if it is to continue to be published.

The PDAC believes the survey provides valuable information to both government and industry since perception, in reality, plays a large part in decision-making in the investment world.

The PDAC is also interested in adding a more objective analysis of the effects of policies and regulation on the investment climate; therefore a portion of its financial support will go toward development of an investment climate index, based on measurable variables.

The index, which will compare Canadian jurisdictions with each other, and with a number of mining jurisdictions abroad, will provide a significant benefit to the industry, says Tony Andrews, executive

director of the PDAC.

"The combination of the current survey, which is focused on perception, and the more analytical index based on measurable parameters will help to provide a more comprehensive report card on the effects of government policies and regulatory regime on the investment climate of a given jurisdiction," he says.

The Fraser Institute's Laura Jones, who is responsible for the Annual Survey of Mining Companies, will work with Jim Otto of the Colorado School of Mines to determine the feasibility of developing the index. Otto is an internationally recognized expert in assessing country risk.

Book hotels early

If you are attending the PDAC Convention, to be held in Toronto from Mar. 11 to 14, 2001, book your hotel accommodation early in order to take advantage of convention rates.

The convention, with its Trade Show and Investors Exchange, will be held at the Metro Toronto Convention Centre which is located conveniently close to downtown hotels. A list of hotels offering the special rate can be found on the PDAC web site at www.pdac.ca.

Unsafe vehicles, aircraft put geoscientists' lives at risk

By Richard H. Sillitoe



Helicopter pilots must possess the requisite experience for the conditions in which they fly

Last year, on a remote island in Indonesia, more than half the field party ended a fairly normal day's wading up and down jungle creeks with their feet reduced to bare flesh. The cause: a particularly virulent and fast-acting fungus assisted by the friction of wet socks. I was lucky, but several of the less fortunate were unable to walk for days.

An unusual lost-time incident, perhaps, and far from life-threatening, but an excellent example of the unexpected health and safety hazards that confront international explorationists as well as other geoscientists engaged in field mapping and research.

How many other professions do you know in which practitioners are routinely subjected to such disparate risks such as terrorist attack, ambush, kidnap, flash floods, volcanic eruption, landslides, rock and snow avalanches, lightning strikes, falling trees, animal attack, venomous insect and snake bites, entry of abandoned mine workings, falls on steep slopes and cliffs or into crevasses, crossing swollen rivers, river or sea navigation, altitude-induced illness,

extreme cold, numerous viral and bacterial infections, and no doubt more?

I am constantly surprised by how many geologists, especially the younger ones, seem to be largely oblivious to many of the personal risks inherent in exploration and how to mitigate them.

Undoubtedly, the rapid globalization of exploration during the '90s exacerbated the problem. Even the options for minimizing the chances of contracting malaria, an increasingly common and serious disease endemic throughout much of the tropics, are often poorly appreciated, judging by the number of times I am asked malaria-related questions.

And how many explorationists are familiar with chagas disease, encephalitis, histoplasmosis, leptospirosis and schistosomiasis (no, metamorphic petrologists are not at special risk!) – all widespread and highly dangerous diseases in regions and situations frequented by the exploration community?

Health and safety in exploration have become important topics. And rightly so. But, in my experience, only very few

companies adopt what I would consider a truly effective approach to the issues.

Health and safety often seem to be more about maintenance of corporate image and time-consuming collection of lost-time statistics than about real concern for the welfare of employees. Appreciable sums are spent on administration of elaborate safety audits by designated health and safety officers (who often know little about the exploration business), but not on properly preparing staff for work in potentially dangerous situations and locations.

Notwithstanding the long list of "exotic" risks in exploration, many of them noted above, it is widely known that driving and chartered flying are far more dangerous and life-threatening activities. And most geoscientists, their crews, and contractors do plenty of both.

To my mind, it is in these two areas that exploration companies must first seriously upgrade their safety performance.

Field vehicles used in many parts of the world are typically among the cheapest 4x4's available, often small pickups (traybacks) that provide a minimum of

Frank Hoey starts his second century

Well-wishers flocked to Frank Hoey's Frankford, Ont. home on Sept. 10 to celebrate the retired prospector's 100th birthday.

The years are resting lightly on Frank, a PDAC director for 30 years who retired from prospecting at age 77 – the same year he quit smoking.

"It was really great, seeing him so bright and sharp," says former PDAC president Ed Thompson. "He reads without glasses. He lives in his own house and cooks his own meals. And he could remember everything."

Thompson presented Frank with a plaque offering warmest congratulations from the PDAC, as well as a copy of *The Discoverers*, the history of the PDAC's first 50 years.

Frank takes his longevity casually.

"You just take things as they come," he says. "I guess I was fortunate."

He has always been healthy and says the most serious thing that ever happened to him was getting hepatitis.

"I was off in the bush at the time and I couldn't get out," he recalls. "So I just drank water."

When the pilot came to pick him up, he adds with a laugh, he didn't recognize Frank because he was so yellow from jaundice.

Frank came to Canada from Glasgow at age 8 and grew up in a French-speaking part of Montreal. He was a renowned athlete, a world champion snowshoer who in the early 1930s won the Montreal-Quebec City snowshoe marathon and a \$2,500 prize.

He became a prospector and worked for various mining companies before forming his own syndicate. In 1948, he married Frances Dickson. The couple had one daughter and made their home in Toronto. Frances died three years ago.

One of the birthday guests was Jim Walker, past president of the PDAC. He says other prospectors talked of Frank with high regard. "He was pretty businesslike," he recalls, "and physically he was a very strong man."

Age didn't slow Frank down. Walker remembers Frank and Frances at PDAC conventions in the '70s, when they were last off the dance floor. Upon retirement, they bought a house in Frankford, which Frank completely renovated.

Always an avid reader, Frank says he does a lot of reading these days. He also enjoys watching sports on television.

However, he says with a chuckle, his centenary has left him with a problem.

"After my birthday, I was saying to myself, 'What do I do now?'"



Frank Hoey enjoys his birthday with his daughter and grandchildren.

Schools queue for Mining Matters kits

Mining Matters is enjoying increasing popularity among Ontario's teachers, with a waiting list of schools wanting to acquire the kits that teach their students about minerals and mining.

"The response has been overwhelmingly positive," says Julie Morrice, who succeeded Linda Lilje as project coordinator in August.

A registered charitable organization, the Prospectors and Developers Association of Canada Mining Matters educates students about Canada's geology and minerals through the development and distribution of educational programs and materials.

The materials, assembled in a teacher's kit, include quizzes, rock and mineral samples, testing equipment, games and activity cards. To obtain a kit, teachers

attend a 90-minute workshop and agree to use the kit within the next 12 months and to evaluate the activities.

The first Mining Matters program was aimed at Grade 7 students and to date, more than 2,100 teaching kits have been distributed across Ontario.

Last year, Mining Matters introduced a Grade 4 program.

Although 2,000 kits were produced and distributed during the 1999-2000 academic year, it was not enough and there was a waiting list for 300 kits.

This summer 600 kits were assembled, but priority for these will be given to remote schools that have only one Grade 4 class.

"Before we even touch the waiting list, we'll make sure that all the remote schools

in northern Ontario know about the kit and are able to access it," says Morrice.

She plans to set up telephone workshops for teachers in remote areas who want to use the kits.

While she promotes the Grade 4 program, Morrice is looking at future directions for Mining Matters.

First, the Grade 7 program will be slightly revamped because of curriculum changes. After that, Grade 12 offers exciting prospects because of a new earth science curriculum to be implemented in 2003.

"When you read the expectations for that, it's amazing to consider the possibilities we'll have," Morrice says.

Tough questions challenge mines ministers

The PDAC had some tough questions for Canada's mines ministers at the Mines Ministers Conference, held in Toronto in September.

The association asked the ministers three questions: Is Canada going to be able to resuscitate its moribund exploration service sector? Is Canada going to be able to re-establish its competitive lead in global exploration by jump-starting its domestic exploration? Is Canada prepared to sacrifice the sustainability of the Canadian mining industry?

In its presentation, the PDAC pointed out that the metal price recovery cycle began two years ago, yet the exploration sector is missing out on a significant portion of that recovery. It also pointed to the severely depressed investment climate for mineral exploration, and the accompanying erosion of exploration sector support.

The sustainability of the Canadian mining industry is at stake, the PDAC brief said, but it is not only the industry at risk. Many rural and northern communities that rely on mining, as well as port and rail facilities throughout southern Canada, are economically vulnerable without mining.

"It is long past the time to act," the PDAC told the ministers.

The PDAC brought two recommendations to the conference.

First, it called on the federal government to work with the PDAC to develop the Focused Flow-through Share program (FFTS) and implement it by means of an Order-in-Council in time for the 2000 tax year.

Second, it asked the mines ministers to approve implementation of the proposed cooperative Ten-Year Geological Mapping Strategy

as an effective measure for attracting exploration investment across Canada.

Canada has always had a competitive edge for exploration investment due to the quality of the geoscience information available from federal and provincial survey organizations.

However, that advantage is being put at risk because the constant advance of science and technology gradually decreases the usefulness of existing data. As well, there are major gaps in coverage and Canada's geoscience knowledge base has eroded over the past 12 years because of reduced geological survey funding.

The PDAC told the Mines Ministers Conference that preliminary data indicate that despite healthy commodity prices, dramatic declines are continuing for grassroots exploration. According to the Canadian Diamond Drilling Association, in the first six months of this year drilling was down 12 per cent from the previous year, striking a new low record.

In addition, despite price increases of 247 per cent for palladium and 175 per cent for platinum from Aug. 2, 1999 to Aug. 2, 2000, there is only modest exploration activity in those Canadian jurisdictions that have the best geological potential and existing production.

Juniors are even having difficulty raising significant money to take advantage of the "coat tail effect" from Ekati, Diavik and Snap Lake to fund diamond plays elsewhere.

Finally, the PDAC pointed out, its own membership has dropped by 27 per cent since 1997, indicating that prospectors and explorationists are increasingly moving toward international memberships.

Convention draws major players in global mining

The PDAC is rolling into high gear as staff and volunteers prepare for the PDAC 2001 Convention, to be held at the Metro Toronto Convention Centre from Mar. 11 to 14.

Prospectuses have been printed for both the Investors Exchange and Trade Show, technical papers have been solicited, preparation of the convention program is underway and keynote speakers are being lined up.

For 69 years, the PDAC Convention has brought together all the major players in the mining industry, from bankers and investment dealers to prospectors and mine operators.

The convention annually attracts more than 7,000 delegates - and last year's special Mining Millennium 2000 attracted a record-breaking 10,500. More than 25 per cent of delegates come from beyond Canada.

For those involved in the mining sector, the PDAC convention is the place to be in mid-March.

The technical program offers a vast menu of presentations that reflect international and national issues while the Investors Exchange provides a wealth of information on junior companies. This information is supplemented by an Exchange Forum, where newsletter writers

and analysts focus on the new players and the new discoveries.

The convention also hosts a Trade Show that offers delegates a first-hand look at the latest products and services while allowing exhibitors to make personal contact with decision-makers from around the world.

Business Class offers premium service

Premium service is available for delegates who sign up for Business Class registration at the PDAC convention.

Business Class delegates have access to a dedicated registration area, a members-only intimate seating area where light breakfast and refreshments are served, a private lounge and a small meeting room. The facilities are on the main floor and close to all convention activities.

Business Class is fully staffed during convention hours and telephone, fax machines and photocopiers are available. Staff can arrange business meetings for you, book a private meeting room and provide some clerical support.

If you register prior to Feb. 1, Business Class is a bargain at \$450 for members and \$600 for non-members. After Feb. 1, fees increase by \$150.

OUR VOLUNTEERS

Geoscience interest led Mary-Claire Ward to the PDAC

The biggest challenge facing the PDAC, says director Mary-Claire Ward, is to get young members involved. “As the population ages, there’s an aging volunteer base and we’re not being replaced,” she says. “We have some young members on the board but we need to get more.”

The vice-president of Watts, Griffis and McOuat, Ward has been a long-time member of the association. As well as serving as director, she is chair of the geoscience committee. In 1994, she was chair of the annual PDAC convention planning committee.

Ward says that in the next decade, as many of its volunteers retire, the PDAC will be approaching a critical time. And while the wisdom and experience of retired members are important, the association needs the new ideas, new skills, enthusiasm and energy young people can bring.

“With young people, you’re building your base for the future,” she says.

Born in Dublin, Ward got her bachelor of science degree at University College, Dublin and worked for a year as an office geologist for a Canadian company based in Ireland.

It was not supposed to be that way, she says. When she went to university, she intended to be a nuclear physicist but in her first year she took a geology course, “grew to like it and stayed with it.”

There were not many jobs in Ireland at the time, particularly for women, and so in 1967 she decided to come to Canada.

“It was a little tough in those days,” she recalls. “The first six years after graduation I wasn’t allowed to do field work. People just didn’t allow women out there. It’s amazing when you think of it now.”

Her first employer was Toronto-based Kennco Explorations (Canada), where she worked as an office geologist. When the company moved to Vancouver in 1971, Ward went to Imperial Oil’s business development department.

The following year she was out in the field and subsequently carried out projects in Ontario, Nova Scotia and the Gaspé - in fact, she says, Patricia Dillon, CIM president and another PDAC director, was on her field crew as a student in 1972 and 1973.

In 1977, Ward became pregnant with her first child and decided to stay home for four years. When she returned to work, she joined Watts, Griffis and has been there ever since, travelling to projects around the world.

Ward’s volunteer involvement has been centred on geoscience and began with the Geological Association of Canada (GAC) in 1978.

From 1983 to 1985, she served as a councillor, or director, and continued to be involved with the association until her retirement as past-president in 1997.



Mary-Claire Ward says volunteering taught her new skills and helped her to develop a new network of contacts.

It was work with the GAC that led her to becoming a director with the PDAC in 1988, says Ward. Except for a three-year gap, when she served as GAC vice-president and president, she’s been a director and committee member ever since.

Although she admits the burden of volunteer work is heavy, Ward says it is rewarding, allowing her to learn new skills and develop a network of contacts.

She has seen huge changes in the PDAC since she first became a director, particularly in the internationalization of the association and its increasing effectiveness in lobbying.

“It’s been remarkably successful in the past decade,” she says.

She also points out that the association ensures that it is constantly evolving. It re-evaluates its work through regular strategic reviews, re-examines what it does and needs to do, and ensures that it reflects the desires of its members.

Asked how many hours she works for the PDAC, Ward laughs and says, “I’d rather not know.”

It doesn’t take all her free time, however – she’s now on the board of the recently formed Canadian Association of Mineral Valuers whose role will be to disseminate information and educate people about valuation approaches, and to certify mineral valuers.

Ward believes it is important to give something back to the industry that has given her so much. And, she says, her advice to a young person entering the industry who is considering volunteer work would be, “Do it.”

“It’s a really worthwhile thing to do,” she says. “And it’s fun. You meet the nicest people.”

Group develops vision for protection of species

The recommendations of a working group, whose membership included the PDAC, have been incorporated into Canada's proposed Species at Risk Act.

The new legislation, introduced in the House of Commons in April 2000, provides the authority to prohibit the destruction of endangered or threatened species and their habitat. It has as its primary objective the recovery of endangered species (birds, fish, mammals, plants and insects) to sustainable levels.

The report contains some of the recommendations developed by the Species at Risk Working Group. This group was made up of representatives of the mineral industry, including the PDAC, environmental groups and the pulp and paper industry, who worked together to develop a common vision and a sound basis for the legislation.

One of the most contentious aspects of the bill lies in the area of compensation. Provisions allow for compensation of private landowners for unforeseen restrictions on the normal use of their land; however, no provision was contemplated for compensating users of Crown land.

In July 2000, the PDAC and the Mining Association of Canada submitted a brief on compensation to Peter Pearse. A respected resource economist, Pearse was appointed by Environment Minister David Anderson to look into compensation issues.

The brief applauded the inclusion of a mechanism in the legislation that allows for compensation to those whose economic activity is unduly compromised by efforts to protect species at risk. However, concern was expressed about the suggestion that subsequent regulations may limit both the eligibility and extent of compensation.

The brief points out the potential damage of such a move on the financially fragile mine exploration sector and puts forward some guiding principles.

The brief can be found on the PDAC web site at www.pdac.ca.

Deeds vital to gaining trust says Andrews

PDAC Executive Director Tony Andrews made a presentation on gaining public trust at the Mining 2000 convention, held in Melbourne this fall.

The convention, which publicized itself as the southern hemisphere version of the PDAC convention, was the largest mining industry conference and trade show ever held in Australia and drew delegates from around the world.

The conference program provided five streams and covered most commodities. Australia's leading mining and exploration houses presented corporate overviews for the investment community and speakers from around the world spoke on technical innovations in a range of areas.

PDAC president John Steele and Tony Andrews represented the association at the convention.

In his paper, presented at the keynote session, Andrews said gaining public trust depends on deeds, not words.

He questioned the value of campaigns aimed at improving the image of mining. Rather, he said, the industry should be building public trust, focusing on particular publics such as those who have a stake in the industry.

In this category, he said, he would include governments, local communities and civil society (for example, non-governmental organizations).

It is vital that the industry maintain and improve its standards of operation if it is to gain public trust, he added.

PDAC joins Geoscience Council

The PDAC has become a member of the Canadian Geoscience Council, an umbrella organization that covers a group of associations across Canada with an interest in geoscience.

Membership in the council will allow the PDAC to become part of a larger voice for geoscience in Canada, although it will still continue to do its own lobbying.

Members of the council include academics, the Committee of Provincial Geologists, the Geological Association of Canada and the Society of Exploration Geophysicists.

Election of Directors

Members of the Prospectors and Developers Association of Canada wishing to nominate individual(s) for election to the PDAC Board of Directors are reminded that nominations must be delivered to the PDAC no later than December 15, 2000.

The following nominating rules apply:

- Each nomination must be supported by six PDAC members in good standing.
- Each individual being nominated must be a PDAC member in good standing who has consented in writing to serve as a director.
- Nominations should be addressed to the Secretary of the Association, 34 King Street East, 9th Floor, Toronto, Ontario, Canada M5C 2X8.
- Faxed nominations will be accepted provided that the original is delivered to the above address within ten days of the date of the faxed nomination and no later than December 15, 2000.

For further information, contact Tony Andrews, Executive Director, tel 1 416 362 1969; fax 1 416 362 0101; email aandrews@pdac.ca

safety features (and comfort) and are inherently less stable than more expensive 4x4's. Let's face it, even basic extras like air conditioning are a safety item on a long afternoon's drive in hot weather.

Our field parties should be provided with the safest vehicles available. Too often, when an exploration office possesses an upmarket field vehicle, it is for the exclusive use of the manager who drives it around town, except perhaps for the occasional weekend fishing trip!

Furthermore, why don't we insist on full internal roll cages in all our field vehicles? Anyone who follows international motor rallying knows what cheap, life-saving devices they are. In many developing countries, even lap/sash inertia (or, sometimes, any) seatbelts are still not used routinely on both front and rear seats.

More needs to be done in training drivers for field situations and in professionally examining their proficiency.

Many, whether geoscientists or professional drivers, have little or no experience of narrow mountain roads and high speeds on gravel roads. We should ensure that they receive professional instruction before they are allowed to drive in such conditions. Several companies based in the same city could coordinate their driver training in order to minimize costs.

Furthermore, more companies would do well to impose a rigorous ban on night driving, an unnecessary risk in many parts of the world.

A surprisingly large number of explorationists worldwide still fly on a wing and a prayer, not knowing much about the company they are chartering from or the proficiency of their pilots.

Why do companies still permit this to happen? No aircraft should be chartered unless the charter company has been audited by a highly regarded international aircraft consultant contracted by the exploration company concerned. A verbal report of someone else's audit is not good enough.

Of course, this requirement absolutely precludes use of military aircraft anywhere in the world.

Again, exploration companies operating in a country or region could join forces in the auditing of the charter companies available to them, an obvious but uncommon practice.

Bearing in mind that most chartered aircraft accidents are a result of pilot error, the audit must also specifically include careful scrutiny of all pilots who are to fly the aircraft concerned.

Helicopter pilots selected for operations in high-altitude regions, like the central Andes, obviously must possess the requisite experience for the conditions involved. A report commissioned recently by a major exploration company suggests that only a handful of pilots may be properly qualified.

And a final plea for helicopter-supported programs: let's insist that the charter companies fit full-harness seat belts and provide helmets for all front and rear

seat passengers. Helmets, which I have not seen used by passengers since the '70s, are admittedly awkward during a drainage geochemical survey, for example, but are great lifesavers in the event of a crash.

In the final analysis, health and safety in exploration is a personal issue given that about 90% of accidents result from human error. Each and every one of us has to learn to think in terms of health and safety.

However, employers should be prepared to spend whatever is needed to maximize vehicular and aircraft safety, even in times of decreased exploration budgets.

If we are asked to get into what we consider an inappropriate or ill-prepared field vehicle or aircraft, the right thing to do is to refuse. But should we be placed in that uncomfortable position?

So let us all urge the exploration industry to put its money where its mouth is and confront the obvious health and safety issues, especially those involved in vehicle and aircraft travel.

Accidents cost more in every way than the costs involved in trying to avoid them. Glossy health and safety brochures, slick slogans, and ineffectual safety meetings are simply not enough for the 21st century.

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