

Clean up of Ontario's most contaminated land

by Louise Livingstone

Deloro - The Ontario Environment and Energy minister Norm Sterling will visit the Deloro Mine site on Thursday July 3 to launch the next stage of the environmental clean up of the Deloro mine site. The goal is to establish and maintain environmental control of the site. Despite considerable investment, \$9.23 million to date, the former industrial site is still considered to be Ontario's most contaminated land and there are massive public safety and environmental problems as the site is next to the Moira River. Also participating in the site visit are parliamentary assistant Doug Galt MPP for Northumberland, Harry Danford MPP for Hastings and Peterborough, Gary Fox, MPP for Lennox-South Hastings, Doug Rollins, MPP for Quinte, and Bill Vankoughnet, MPP for Frontenac and Addington.

The history of mining at Deloro goes back to the 1860s when gold was discovered. By 1871 about 25 shallow shafts had been sunk on site. The high arsenic content of the gold ores made recovery difficult and hazardous, but technical developments made it possible. The gold mine closed in 1900s and the site with its smelters was used to process arsenic bearing silver and cobalt ores from mines in Northern Ontario. Deloro was the first plant in the world to produce cobalt commercially and during the last war was a leading producer of stellite, a cobalt-chromium-tungsten alloy. Ores from all over the world including Africa were processed at Deloro. During the 1930s, 1940s and 1950s radio active concentrates were brought from Eldorado Nuclear Limited in Port Hope for further refinement. Radio active slag was spread on site. By products of the smelting process were used to make arsenic-based pesticides.

In the 1960s the Ontario government began to monitor arsenic levels in the Moira River. Unable to make the owner control discharge of arsenic into the Moira River, the government took over control of the site. In 1983 an arsenic treatment plant was opened to collect, store and treat contaminated ground water. As a result the average annual arsenic concentrations in the Moira River dropped from 0.33 mg per litres in 1979 to 0.03 mg per litre in 1994. Further work was done to stabilise eight hectares of ferric hydroxide mine tailing on the east side of the Moira River, the pesticide building and arsenic bag house were cleaned up, unsafe structures were demolished and waste oil and pesticides removed. Also between 1993 and 1995 there was federal/ provincial project costing close to \$750,000 to close the mine workings.

Despite all this The Bay of Quinte Remedial Action Plan (RAP) still

identifies the Delora site as an ongoing source of arsenic to the Bay of Quinte Watershed and recommends the acceleration of the site rehabilitation program.

The Ministry of Environment and Energy (MOEE) has selected CH2M Gore and Storrie Limited (CG & S), one of the largest consulting engineering firms in Canada specializing in environmental engineering, to begin the next stage of rehabilitation. Work will be carried out in two main stages. The first stage scheduled for completion for March 31, 1998 contains an investigation and evaluation of the wastes, flood plain mapping, preparation of health and safety plans and environmental protection plans, design of hazardous waste storage facilities, preparation of approval applications, tender documents and contracts. The second stage requires ministerial approval and involves actual construction of facilities to contain and manage the hazardous wastes.

A public liaison committee with representatives from neighbouring communities and environmental groups as well as a technical committee. have been set up. For further information on the ongoing rehabilitation of the Delora Site please contact Jim Ritter, Ministry of Environment and Energy, Tel. No. 613.549.4000.

problem that does not go away

by Louise Livingstone

Hastings Cty. - Looking through the beautiful colour supplement produced by the Moira River Conservation Authority to celebrate their fiftieth birthday you won't find any mention of Deloro Mine, the most contaminated site in Ontario which lies in the middle of the watershed. It is not a new problem. It's one people have lived with for generations. Do we bury our heads in the sand like the ostrich and hope the problem goes away? Arsenic, as well as other toxic heavy metals, cadmium, cobalt, copper nickel and zinc, left from the smelting industry, have been leaching into the groundwater and surface water for at least a century. When private industry decided there was no more wealth to be extracted for Deloro, the Ontario government was landed with the problem. When it took over the site in the 1970s the perceived wisdom was that the pollution went into the river and gently floated down stream into the Bay of Quinte, with maybe some landing in the bottom of Moira Lake and Stoco Lake. Providing you did not drink the river or lake water or eat the fish more than once a year, you were quite safe, although there is increasing evidence that arsenic causes cancer, vascular disease, is linked with diabetes, and cause abnormal embryo in birds and mammals. The list goes on.

After much discussion a treatment plant was put in at Deloro to remove arsenic from the water before it made its way into the Moira River. The plant is now operated for the Ministry of the Environment and Energy by the Ontario Clean Water Agency. There was a dramatic reduction in the concentration of arsenic in the Moira River from 33 mg per litre to .03 mg per litre. However, by 1990 a plateau was reached; the level is not going down and there are still unexplained peaks and troughs. As well as the arsenic treatment plant, there has been a general site cleanup, eight hectares of ferric hydroxide mine tailing contaminated with arsenic, on the east side of the Moira, were stabilized, the building where arsenic

based pesticides were made and the arsenic bag house were demolished and the old mine workings were closed. It is increasingly expensive to keep the treatment plant open and obviously it is not a long-term solution.

In the spring of 1997 the Ontario Minister of the Environment, Norman Sterling, launched another study. "We want to protect public health and safety and end a threat to Moira River water quality that extends all the way to the Bay of Quinte," he said.

The consulting firm Gore and Storrie was chosen to work out what to do. This stage is to be completed by March 1998 with tenders ready to go for the actual cleanup in stage two. The government has not formally committed money to the cleanup itself as it does not know what it will cost. There is a technical committee advising on the work as well as a public committee with representatives of groups, such as the Moira Lake Property Owners Association. Supposedly action is being taken at last.

However, the newly formed Environmental Bureau of Investigation in conjunction with the Sierra Legal Defence Fund don't think what the Ontario government is doing is enough and they are pressing criminal charges.

They argue that after 18 years and a lot of foot dragging 3.27 tonnes of arsenic were still going into the river in 1996. The charges are being made under the Federal Fisheries and the Ontario Water Resources Act for depositing deleterious substances into the water. (Sierra Legal Defence Fund was set up in 1990s to work with environmental groups and first nations. If a fine is paid part goes toward paying legal costs.)

Since the 1970s there has been much research on arsenic and how it moved

through the environment. Professor Harry Hemond of M.I.T. in Boston headed a research team looking at the local Aberjona watershed for almost ten years. His team found although most of the arsenic was originally released in the headwaters of the watershed, it has moved and the potential for human exposure exists far from any designated hazardous waste site. Both surface water and groundwater were found to be important transport pathways. They concluded that risk assessments or remedial investigations restricted to designated sites in a watershed may yield both an inaccurate picture of the overall risks and were not the best place to focus remedial work. Cost-effective management of the problem depend on understanding where arsenic goes and the whole watershed should be considered when dealing with chemical contamination in the environment.

The problem of Deloro is far-reaching and complex. Even if it is possible to clean up the mine site Moira Lake will continue to act as a source of pollution for many years to come. One issue that seems to be ignored is the health of people living in the watershed. When well-known Ontario coroner and author Dr. Morton Shulman heard of the pending court case he wrote to the Sierra Legal Defence Services about work he and his daughter did in the 1970s on Deloro. He quotes a chapter in his book, Member of the Legislature called Arsenic and Old Tories in which he describes a major cover up. He identified cancer rates in the area were growing at a rate 75 per cent faster than elsewhere and he called for immediate action in the Ontario Legislature.

The local Medical Officer of Health issued the statement, "In my opinion and in the opinion of the Ontario Water Resources Commission and the Department of Public Health there is no danger of people developing cancer. The lake water is drunk only by a small proportion of cottagers ... There is no danger involved in swim-

ming." Was he right? A quick look at the Ontario Vital Statistics produced each year by the Ontario Registrar General show deaths from cancer per 100,000 in Hastings County in the 1970s and 1980s to be considerably higher than the Ontario average. (Loyalist College Library does not hold the volumes for the 1990s.)

Research is being done throughout the world linking the amount of arsenic people take into their bodies with risks of disease. Surely as Deloro is the most polluted arsenic site in North America the health impacts should be studied. The acting Public Officer of Health for Hastings and Prince Edward County, Dr. Alexander Huckowich, told *The Community Press* Deloro is not a recent problem and it has a long standing history. People are advised not to drink untreated surface water wherever they live. He did not think there had been any public health studies in the area. He did explain published statistics are vague and with any study it is difficult to isolate the effects any one factor might have especially if the population living there is small. Low levels of arsenic in the environment cause chronic rather than acute health problems and it is difficult to prove direct links. As a member of the technical advisory committee for the Deloro cleanup he sees value in background studies to see how much arsenic people in the area ingest or take into their bodies and whether there is a reduction over time following the cleanup. However, with or without health studies Dr. Huckowich says the situation has to be sorted out.

The Province of Ontario represented by the Ministry of the Environment and Energy will appear in the Belleville Court on December 16.

COMMUNITY PRESS
EASTERN EDITION
29 Nov 1997
Pg. 14

by Louise Livingstone

Deloro - "Quinte Conservation has written to both the prime minister of Canada and the premier of Ontario to ask them to support the MoE, to enable them to make proper choices and not just the cheapest with regard to the cleanup of Deloro," said Terry Murphy as he introduced Jim Ritter, Ontario Ministry of the Environment (MoE) project officer since 1992. Ritter came to the last meeting of the board of the Moira River Conservation Authority (MRCA) to give an update on progress. Ritter said he welcomed the opportunity. The Deloro mine site covers 650 acres. Forty acres were used for smelting, industrial buildings, pesticide manufacture, casting and refining. The red mud or tailings area to the east of the Moira River covers another 20 acres. Young's Creek, which runs south to the Moira River, is contaminated from these red mud tailings. "It is its own animal," said Ritter.

The whole Deloro site was used for gold mining between 1866 and 1902, when ore extraction stopped. The mining company developed the infrastructure for dealing with ores containing arsenic. The O'Brien family, which owned silver mines in Cobalt, sent ores to Deloro to be processed for silver, cobalt and arsenic. Later on ores came from Morocco and for 30 years (1930 - 1960) from Eldorado

Nuclear, via Saskatoon and Port Hope. Arsenic was an important by-product of smelting and was manufactured into a chemical pesticide. When DDT, introduced in the late 1940s and 1950s as a more effective pesticide, the arsenic market dropped off and arsenic was stockpiled at Deloro. Unfortunately, it was in a very soluble form and by the 1960s the Ontario Water Resources Commission was concerned about the amount of arsenic in the Moira River. The site changed hands and there was a government order against the owners, Erickson Construction, to reduce the amount of arsenic getting into the river.

Finally, the company declared bankruptcy and in 1979 the MoE took over the site. There was a high level of arsenic in the Moira River, the red mud tailings were uncovered, and fine particulate material was blowing around. There was radioactive material on site: uranium 238 and radium 226, as well as radon gas. The abandoned mine workings were a hazard with old shafts and pits abandoned since 1900. The timber over the top of the shafts was rotting and the shafts were collapsing. The company (Erickson Construction) had built a crude arsenic treatment system.

The Moira River was dammed by the MoE in 1982 and pumped out to see where groundwater seeped into the river and to find where the highest levels of contamination were. Six groundwater pumps were put in and linked up to a storage lagoon. Levels of arsenic coming in from the pumping stations along the river were up to 1,500 mg/litre.

The red mud tailings have been covered with half a metre of crushed limestone. This has raised the pH of the tailings, which means the heavy metals are less mobile. The limestone chips also control the dust. The most highly contaminated buildings have been demolished. In 1992 the federal government identified Deloro as a high-risk orphan site and helped fund the closure of the abandoned mine works. There were five main mining claims at Deloro: Cook, Hawkeye, Pierce, Gatling and Tuttle. Using a grid pattern technique and field survey the engineers were able to get a three-dimensional picture of what was happening below ground. There were 110 mine related features located, with 50 being significant. These were back filled and capped using reinforced concrete guaranteed to last for a very long time.

The arsenic treatment plant was upgraded and the contaminated sludge, containing arsenic and heavy metals from the treatment plant was put into temporary lagoons. (MoE is exploring methods of making this sludge inert as the cost of

Continued on page 3.

CH4 Gore and Storrie was appointed in July 1997 to develop plans for the final closure of the site. Stage one includes the final investigations and drawing up the contracts for the construction engineers. Stage two is the actual construction work. When defining the extent of contamination, contaminated soils were found beyond the area of the mine site. As a result there has been a large, comprehensive, environmental health risk study costing \$750,000, for the Village of Deloro. It is a multimedia study of soil, air, dust, radon gas and contamination of vegetables. There have been over 178,000 measurements taken, including urine sampling. Sampling has been done for arsenic, cobalt, nickel, lead and silver as well as radioactive materials. Dr. Noseworthy, medical officer of health for Hastings and Prince Edward, a consultant from the poisons section of the Sick Children's Hospital in Toronto, as well as representatives

from the MoE and the Ontario Ministry of Health are on the steering committee. The study is now out for peer review with experts from Canada and the United States studying the findings. Ritter concluded by saying, "We think we have done a thorough job, but after the peer review there may be more to do."

The other part is

the Moira River Impact Study. In December, consultants were asked to review what is known about the Moira River and to develop a terms of reference for a study. The aim of the study is three fold; to determine the extent and ecological significance of contamination in the Moira River system, which has and is currently coming from the former Deloro mine site; to undertake a screening level risk assessment of exposure and associated risk to health for people living downstream of the site and to predict environmental response in the Moira River system to remedial measures at the former mine site.

Two firms, Golder Associates Ltd. of Mississauga and Global Tox International Consultants Inc. of Guelph, Ontario, a risk assessment firm, have been employed to do surveys from the end of April until October and to report back by March 2000. In a letter sent to members of the various Deloro committees, Golder Associates were described as having extensive expertise and experience in surface water assessment particularly in relation to impacts from the mining sector. Global Tox's expertise in human health toxicology and in communicating the complexity of this science will also be valuable to this study. Jointly these companies have put together a project team that will bring a fresh, innovative approach to the past and continuing study of this river system.

Ritter ended by saying work is planned to start at the Deloro site in the fall, 1999, with site preparation to enable work to start in the year 2000 construction season. Before this work can start there is a consultation process to go through and an

COMMUNITY PRESS
EASTERN EDITION

21 MAY 1999

PAGES 143

Conservation authority meets in Deloro

by Louise Livingstone

Deloro - The Moira River Conservation Authority (MRCA) had its last meeting at Deloro to give members a chance to find out about the progress of the cleanup of the mine site. Before the Deloro presentation, manager Terry Murphy told the board a fund raiser for Quinte Conservation had been appointed for six months. The initial project is to promote the "Adopt an Acre" program. There is also a Quinte Conservation membership card allowing people to sponsor the authority. "The card is a way of making a donation to the authority," said Murphy. The fund raiser has helped with the organization of the Prince Edward Conservation Dinner and will come up with other fund-raising ideas. There is going to be another fund-raising dinner at O'Hara's Mill June 12 with entertainment, a roast beef dinner and an auction with Boyd Sullivan.

The City of Belleville parks department has contacted Quinte Conservation about extension of the Waterfront Trail up along the Moira River to Corbyville to link into the rail trail system. Much of the city's green belt land is owned by the conservation authority. Murphy asked the board to send a letter to the city approving the trail running through their property. Thought needs to be given to how the trail will run under bridges and how it will impact on the shore line and flood plain. The board agreed to approve the trail extension in principle.

There was some misinformation over a proposal for a regional composting facility. Quinte Conservation turned it down because it was not suitable for the conservation area to the north of the Quinte Conservation Office. However, Quinte Conservation is open for other proposals and is not against composting. Members are in favour of it if there is a proposal suitable for the conservation area.

The question of payment of per diem and mileage to board members was raised. Terry Murphy explained it was the decision of Quinte Conservation to pay its members. If, however, a township did not want councillors or appointed members to receive payment they should let the au-

thority know.

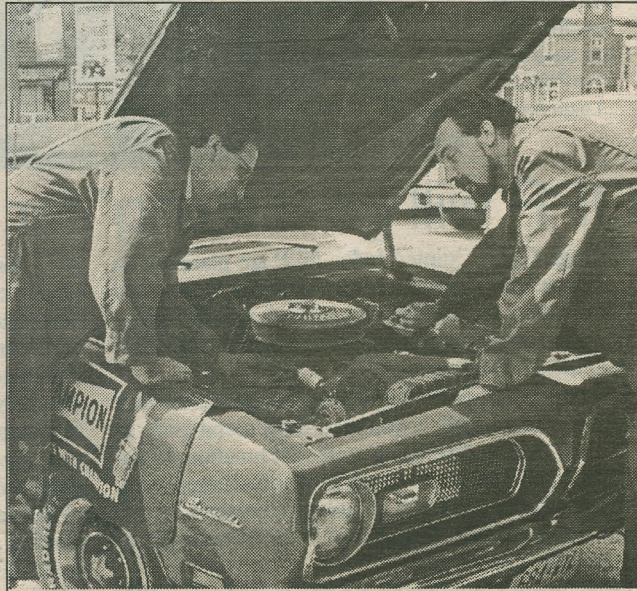
Quinte Conservation received a letter of congratulation from Simcoe Conservation authority as theirs is the first successful amalgamation in Ontario.

Quinte Conservation agreed to ask Domtar to manage some 100 acres of forested land belonging to the authority. It would not be a long-term agreement. The Forestry Division of Domtar has stringent standards more rigorous than the province, said Murphy. High quality hard wood will be sold and pulp wood will be used at the Trenton Plant.

The Longwell property, on Concession 5, Sidney Ward, of Quinte West, has been leased to two farmers. One of them has passed away. Half a dozen farmers have expressed interest in the land offering rent of up to \$50 per acre. As there are 40 acres this could bring in \$2,000 per year. At present the land has been rented on an annual basis for \$20 per acre. The committee agreed a new lease should be negotiated and property put out for tender.

Murphy told the committee of a workshop on climate change organized by Quinte Watershed Cleanup. The existence of climate change has now been accepted by the scientific community. Much of the work of the conservation authority has been

to do with flood control and management. There is little planning for drought and low water flow conditions. This spring has been very dry and the groundwater is being effected. There needs to be a public campaign on water conservation to raise awareness, said Murphy, as people don't care until their wells run dry.



Bruce Quackenbush and Richard Eldridge, owners of the newly opened Crowe River Auto Repairs, check under the hood of a 1969 Plymouth Barracuda. Judy Backus photo

COMMUNITY PRESS
EASTERN EDITION

21 MAY 1999

PG-23

Study results revealed more than a decade later

by Louise Livingstone

Deloro - While the residents of the village of Deloro wait for the results of the environmental health risk study, there is more evidence to show they have been neglected for years. The information comes from a briefing note prepared by the Ministry of Environment Standard Division for a meeting in February 1998 about off-site contamination at Deloro. It was given to The Community Press by the Environmental Bureau of Investigation (EBI) who had received it through the freedom of information process from the Ministry of Environment (MoE). The EBI is the group prosecuting the Ontario Government for continuing to allow contamination to come from the Deloro mine site.

"In 1986 and 1987 the Phytotoxicology (plant health) Section of the Ministry of the Environment collected soil and vegetation from Deloro, in the general vicinity of the mine site and from the Village of Deloro." This study was conducted as the terrestrial research component of the arsenic air standard and the arsenic soil guideline development process. "The work revealed that surface soil from 18 sites in the village averaged 723 parts per million (ppm) of arsenic, with a maximum concentration of 5,500 ppm. On the mine site arsenic concentrations of 1,000 ppm to 2,000 ppm were not uncommon, with levels as high as 10,000 ppm." Although, Operations Division staff from Eastern Region MoE, responsible for the Deloro site, knew of this survey they were not informed of the results. As it was an internal research project a public report was not prepared. It also appears neither the people living in Deloro nor the local medical officer of health were told of the results. It appears internal research studies of the Phytotoxicology Section of the MoE are not routinely distributed.

"In 1996 when the MoE soil cleanup guidelines were released and the arsenic guideline was set at 25 ppm, it was apparent that significant areas outside of the mine site, including the village of Deloro, were in exceedence." Even at this stage the Deloro Operations Division was not notified nor was the Medical Officer of Health, let alone the Deloro community. The briefing note suggests, "It would have been prudent to provide the results

of the historical pytoxicology sampling about Deloro to Operations Division at that time."

The first the Deloro community heard about off-site contamination was the Deloro Mine Site Rehabilitation Information Update issued by MoE on January 28, 1998. They were told: "As part of the investigations in the Mine Area, the consultants, CH2M Gore and Storrie Limited, recently took several soil samples on and around the Deloro site. ... In the limited sampling carried out to date, arsenic, cobalt, nickel and silver exists at levels several times higher than background and exceed provincial cleanup guidelines for all categories of land use (i.e. agriculture, residential/park land, industrial/commercial. ... The local Medical Officer of Health has been advised of these new findings."

At this stage, although preliminary data collected by the Phytotoxicology Section in 1975 indicated background values of radium were exceeded up to two kilometres from the mine site, neither this nor contamination of uranium and other possible radionuclides, were investigated by the cleanup consultants

In April 1998, the MoE started the Deloro Environmental and Health Risk Study to assess whether there are health risks from any contamination in the community. By August 1998, the community was told the study was well under way. By December 1998 all the environmental sampling in the village was complete. In February 1999, the Deloro community was informed the sampling results were being assessed. These included soil, plants, indoor and outdoor air, indoor and outdoor dust, private and public drinking water supplies, and a gamma radiation survey and testing for radionuclides and radon gas. The community was also told "all of the sampling results will be used in the evaluation of potential health risks to the Deloro Community." In February 1999, the letter sent to the community by MoE said, "The study has high priority for the ministry. ... The report will be reviewed for scientific thoroughness and accuracy by experts on the technical steering team as well as top scientists in Canada and the United States." The residents are still waiting.

Back in September 1986 a report was prepared (project 810-418T) called "Development of Ontario Arsenic Budget and Analysis of Population Exposure - Arsenic Exposure Analysis" by Canviro Consultants of Toronto, presumably for the MoE or the Ontario Ministry of Health. The study identified ways people can be exposed to arsenic and looked at the average exposure in the province. One of ways of getting arsenic is through soil. It was estimated a child, under four years of age, would consume one gram of soil per day. The average concentration of arsenic in soils in Ontario was estimated as 6.27 ppm. In 1986/1987 the Phytotoxicology Section of MoE found an average of 723 ppm (723 micrograms

(ug/gm) arsenic in the 18 soils samples they took in Deloro village. This means a child in Deloro could take in 723 ppm or 723 ug per day of arsenic through eating soil. The total amount of arsenic (from all sources) children were exposed to in Ontario, on average, was calculated in this arsenic balance report. This ranged from between 0.96 ug per kilogram weight of the child per day up to a maximum of 12.98 ug per kilogram weight of the child per day. A child weighing 25 kilogram in Deloro could receive 28.92 ug per kilogram per day just from ingesting soil, let alone from exposure through food and air. This was over twice the maximum exposure from all sources.

In 1993 Health and Welfare Canada produced a report on "Arsenic and its Compounds." In this report it states arsenic is classed by the Canadian Government as a non threshold toxicant (poison), a substance for which there is believed to be some chance of adverse health risks at any level of exposure.

COMMUNITY PRESS
EASTERN EDITION
11 JUN, 1999
PG 28

Deloro residents still waiting for test results

Health, not cleanup, is top priority

by Louise Livingstone

Deloro - "That meeting was a disaster," said Bob Eickmeier of the Moira Lake Property Owners after the Deloro Mine Rehabilitation Public Liaison meeting on June 10.

Carol Anne McGregor stood up and asked the Ontario Ministry of the Environment (MoE) project officer Jim Ritter for the results of analysis of arsenic in the urine of her grandchildren only to be told she would have to wait. The community of Deloro has been waiting since the fall of 1998 to get results of a major health risk analysis. Mrs. McGregor and her daughter are worried as they both have abnormal levels of arsenic in their urine and would like to be able to take all their results to their family physician. Ritter's response was, a letter sent to the community in May said "we now anticipate the release of the final report in mid-July. We do, however, want to reassure you that the medical experts on the technical steering committee reviewed all sample results that could indicate an immediate health concern. None of the findings suggested the need for immediate intervention. It is not clear whether the final report will be available."

McGregor's parting words as she left the packed hall were, "It is health, not cleanup we care about."

"It is not right not to give the people the results," urged Mark Mattson of the Environmental Bureau of Investigation (EBI). The EBI is the group that started the criminal prosecution of the Ontario government over off-site contamination. The case has now been taken over by the Attorney General's Office of Ontario. They had come to the meeting to give the committee the results of an analysis of the contents of a vacuum bag from a family in Deloro which showed high levels of arsenic (144 micro grams per gram). Medical Officer of Health Dr. L. Noseworthy has not replied to a letter containing the results. Ritter assured Mattson he has answered numerous calls and addressed everyone's concerns.

Is the health risk real or just perceived?

Deloro is like a Pandora's box. The latest revelation is that MoE knew back in 1986/1987 that there were high levels of arsenic in village soils and did nothing. The Deloro former mine site has been studied endlessly by government departments since the smelter closed in 1961, and there have been various projects to contain and reduce the pollution. Since a direct release of arsenic into the Moira River in 1958 which killed a number of cows in Rawdon, there has been a water

treatment plant and the river has been monitored regularly. There are shelves of reports on the health and safety of workers at this plant. Except for their families, the Deloro workers who died of cancer are largely forgotten. Back in the 1950s a major medical study linked exposure to airborne arsenic at Deloro with lung cancer and by 1958, 23 widows were receiving pensions in compensation. Many more men died in the 1960s and 1970s and their widows still live locally. The rates of some sorts of cancer in this area are significantly higher than the Ontario average. Why is it then, although Deloro is described as the most contaminated site in Ontario and the Ontario government is undertaking the largest and most comprehensive health risk study of its kind in Canada, is there no acknowledgment of a risk to the public? An MoE representative told the public liaison committee in June 1998, the Deloro Village Health Assessment is an investigation to determine if adverse health risk levels exist. "It is not an acknowledgment that a problem or adverse risk exists." It is hard to believe risks to human health off-site are just perceived and not real.

Both the technical and the public liaison committees have asked about buying up houses in Deloro for people wishing to move, but this is laid aside as premature.

It is not only the Deloro community that's frustrated, so is the public liaison committee and the project officer. Ritter had little progress to report. He repeated the priorities of MoE are now the Deloro Village Environmental Health Risk Study, then the Site Closure and third the Moira River Impact Assessment and also site preparation should start in the fall of 1999 with major construction beginning in 2000. He could give no indication of when the public could review the reports and recommendations. The Approvals Branch of MoE has yet to finalize and approve these. At a previous meeting Ritter restated the minister's commitment to the cleanup but indicated budgets have yet to be agreed upon and the whole process may be spread over a number of years.

The Moira Lake Property Owners Association has been told the results of the sampling being done this summer won't be available until next spring. They would like to know if it is safe to allow small children to play on the beaches and swim throughout the summer months.

Where does the federal government come into the picture?

Story continued on page 9.

When the Ontario government took over the former Deloro mine site it took over all the responsibility for the contamination on- and off-site. The ownership of the land off-site is not an issue; the Ontario government has the legal responsibility. The question is does the federal government have a legal and a moral responsibility? Councillor Dave Schulz of Centre Hastings reminded everyone of Deloro's role in supplying the allied war machine. "Why should the Ontario government have to bear the brunt of the cleanup?" he asked. Ritter reported back on where discussion with the federal government had got. As the Atomic Energy Control Board (AECB) has been reluctant to give MoE access to their files on Deloro, MoE wrote asking for assistance in identifying any outstanding concerns on file and to tell them if there was anything specific to address. A reply was received saying there are two broad issues, first managing the low level radioactive waste on site and to monitoring health and safety of staff, (no mention was made of the safety of the public) and second, legislation about radioactive material is changing and Deloro will have to be licensed as a radioactive waste site. AECB also said the two representatives from the Low Level Radioactive Waste Management Office (LLRWMO) at Port Hope will continue to advise the Deloro Former Mine Site Technical Liaison Committee. (AECB did a cleanup at Deloro in the 1970s, but looking at the amount of radioactive material that remains, both on- and off-site, they did not complete the job.) The MoE has asked



Carol Anne McGregor is more worried about the health of her grandchildren than the cleanup of Deloro. She asked Jim Ritter, MoE Deloro project officer, to give her daughter all their urine analysis results so she could get advice from her family physician.

the director general of the federal department of natural resources to bring his expertise and wallet to the table. He has yet to write back.

An open public consultation process

The Deloro cleanup process has exemption under the Environmental Assessment Act as well as the Environmental Protection Acts from holding full public hearings on the ground, amongst other things, a public consultation process is in place. The public liaison committee has been told on various occasions public information meetings are planned but there haven't been any yet. A year ago the representative of LLRWMO on the technical committee advised MoE of the need to undertake public consultation and have public liaison that is open and can "feel the pulse of the community."

At the public liaison meeting, Ritter, when faced with the delegation from the community and EBI, described the meeting as a business meeting with questions from the floor being at the chairman's discretion. "Why is this a closed system? It is a one-way dialogue you have dominated every meeting. Make it public," demanded Mark Mattson (EBI).

Marmora and Lake Councillor Bonnie Danes tried very hard to get a firm commitment on when the community would have the results of the health risk study. "Give us a date. How about July 15?"

Ritter's answer was that they have not got the peer review back so he could not set a firm date until later.

Residents in Deloro, in their frustration, are exploring the possibility of starting a civil class action suit against the Ontario government.

COMMUNITY PRESS
EASTERN EDITION
18 JUN, 1999
TG, 149

by Louise Livingstone

Deloro - Deloro is declared to be a safe place to live. The results of the urine analysis and environmental studies were hand delivered to residents the very night before a public meeting/open house on July 22. Residents and members of the Deloro minesite rehabilitation public liaison committee were given 48 hours notice, and selected members of the media were given less than 24.

"This had been the most comprehensive health risk study in Ontario," said Brian Ward, director of the southeast region of the Ontario Ministry of the Environment (MoE), when he announced the good news. "It is safe to live in Deloro. The potential health risk is comparable with the rest of Ontario. The water supply is safe. There are contaminants in the community but there is no link to health."

The MoE oversaw the project with help from the Ministry of Health, the local medical officer of health, the Ministry of Labour, a medical consultant from the Sick Children's Hospital in Toronto and four consulting firms. Seven peer reviewers were asked to look at quality control and reliability for different aspects of the study such as radiation risks. "The conclusion is, it is safe to live in Deloro and its houses," said Ward

Scott Fleming, toxicologist with the Standards Development Branch of MoE, told the small group of media people, there was a high participation rate in the community. Three questions were asked. First, are contaminants present in Deloro and if so at what levels? Second, what are the possible exposure paths and what is the likelihood of exposure? Third, what are the likely health implications of any exposure? Estimates for Deloro were compared with the Ontario population in general.

A questionnaire was circulated, on a door-to-door basis, about personal health and lifestyle. The medical doctors on the steering committee and the medical officer of health looked at all the data as it came in to see if any immediate action was needed. None of the results suggested immediate intervention.

The review of the cancer incidence in Deloro and the surrounding area for 1980 to 1995 was inconclusive. The medical literature was studied to identify which cancers are linked to the contaminants found at Deloro. (Diseases other than cancer were not looked at in this study, although according to information distributed to the community by the MoE, arsenic is linked to decreased blood cells, abnormal heart and blood vessel function, liver and/or kidney failure, impaired nerve function and also to fetal damage in animals.)

In addition to elevated levels of arsenic, significantly high levels of cobalt and lead were found in the soils. Elevated radon levels were found in ten houses at

levels around the provincial/federal guideline. This is considerably lower than the federal guideline levels. Gamma radiation was found in three small pockets in the village, along the fence of the mine site and at the site of the Galloway house south of the main entrance. The vacant Galloway property exceeded federal and provincial guidelines but causes no immediate health risk to the community. The radon levels in a "few" (ten) houses were not above guidelines requiring immediate action.

Although, there are significantly higher levels of lung cancer in men in Hastings County, no significant difference was found between numbers for Deloro and the immediate area, and the rest of Hastings County. Rates of leukemia were found to be declining in the Deloro area. Dr. Lynn Noseworthy said one cannot draw conclusions about mortality rates because Deloro is such a small community. There is no evidence it is any different from the rest of Hastings County.

The health risk study found no unsafe exposure level in the community and thus no adverse health effects. All the analysis experts concluded, "It is safe to reside in Deloro and its homes." Peer reviewer, Dr. "Buck" Grissom, toxicologist with the Agency for Toxic Substances and Disease Registry, in Atlanta, Georgia, said, "There were no really outstanding areas of contamination." He answered questions by phone, and told Scott Fleming he was going to send his report in.

The urinary analysis showed no statistical difference between Deloro and the control community in Havelock.

There was nothing unusual in Deloro. (Questions are being asked whether or not a one-time sample, taken in the fall when the children are back at school, was sufficient to give a true picture. When asked about other

methods for determining long-term exposure to arsenic, Fleming said, the use of hair samples is inaccurate because of airborne contaminants on hair. Peer reviewer Dr. Charles Abernathy, from the American Environmental Protection

Agency, said later this problem does not occur with the analysis of nail samples. He expressed reservations about the use of a one-time urine sample done in the fall.

When asked to conduct a full assessment of the health of the community, Fleming implied, a self assessment of health effect of living in Deloro collected through the three-page questionnaire was equivalent to a full health study. He also said, the (multimedia) health risk study indicated there was no need to look into people's actual health any further.

The risk of cancer caused by arsenic in Deloro is less than .2 times higher than the rest of Ontario. The risk is 1.17 people per thousand in Deloro as opposed to .963 people per thousand in Ontario. In other words, the Deloro community has a 20 per

cent higher chance of getting cancer from arsenic than the rest of Ontario. There was no discussion about whether or not this is an acceptable or tolerable risk. The summary of the findings report stated there is negligible risk from the contaminated soil and/or the household dust. If all the contaminated soils were removed from Deloro, the risk of cancer from arsenic would only be reduced by two to four per cent. Drinking water wells tested safe in every possible respect. What is not clear is if there are no risks from drinking water in Deloro why is the risk from drinking water to a Deloro resident classed at ten per cent higher than a typical Ontario resident?

Mark Mattson of the Environmental Bureau of Investigation (EBI) asked Scott

Fleming of the MoE, "to subject your study to a full public scrutiny." The EBI is the group which initiated the prosecution of the Ontario government over contamination from Deloro. The prosecution of the case has been taken over by the Attorney General's Office and goes to court in September, 1999. Mattson had serious concerns about the very short time given to the community for the public meeting and the lack of time people had to review individual findings. Scott Fleming assured Mattson, and every one else at the media briefing session, all the technical reports will be available to the public. He also said he will answer any questions by phone.

Although MoE concluded it was safe to live in Deloro, the ministry plans to spend about \$1.66-million to address the issues identified in the health (risk) study report.

Priorities will include maintaining drinking water safety, improved

security of the mine site, the removal of isolated pockets of soil and measures to reduce radon gas. In addition the former Galloway property will be fenced. Deloro's water supply will be tested as part of the Ontario Drinking Water Surveillance Program. (At present, the well is operated under an old certificate of approval which does not require such detailed or rigorous testing.)

Dr. Lynn Noseworthy, medical officer of health for Hastings and Prince Edward Counties welcomed the findings of the report. She sees no need to give special advice of mothers of young children about living with contaminated soils, but she recommends one shouldn't allow children to eat without washing their hands. She also advises people to keep away from the former mine and smelter site as it is very contaminated and she has recommended strongly to the MoE that the site be properly fenced and signed.

On the other hand, MoE gave out advice to residents about living with contaminated soils suggesting such things as washing your hands and face and those of your children after working or playing outside and before eating, and cleaning your house regularly with a damp cloth as vacuuming and sweeping can increase dust levels in the home. Use a phosphate cleaner at least one a week especially near

COMMUNITY PRESS

EASTERN EDITION

PAGES 1-3 & 12

30 JUL 1999

"The worst snow job I have ever seen"

by Louise Livingstone

Deloro - "Deloro is perfectly safe, although there are elevated levels of arsenic, radon, lead and cobalt. It was the worst snow job I have ever seen. Still, Deloro is a wonderful place to raise children." This was how Councillor Crichton Harrop described The Ontario Ministry of the Environment's briefing on the Deloro Health Risk Study held on Thursday, July 22. He had attended it with Councillor Dave Schulz and thought it staged and uninformative.

Centre Hastings Council has invited Larry McCormick, MP for Hastings, Frontenac, Lennox and Addington, to come to council to let them know when the federal government is going to get involved with solving the problems of Deloro. Reeve Tom Deline asked the

clerk to tell McCormick the council wants to know what he is going to do for this community with respect to Deloro.

The council concluded all the health risk study told them was there were no immediate health risks. It had not addressed the chronic or long-term effects of the contaminants.

Reeve Deline said, some people were asking for the province to pay to get their families examined. "What is OHIP for?" asked the reeve. "If I was concerned about my family I would take them to my family physician and ask for extra medical testing. My father worked at Deloro and he died of renal failure and lung disease. The Kingston consultant told us, "I don't even have to look at his chest." If I was worried about my family I would go and get my own testing done."

Councillors Harrop and Mitz said they listened carefully at the briefing for any information about the downstream effects and there was nothing relevant.

Councillor Larry Mitz pointed out, the Deloro community is very lucky being uphill of the site, as the groundwater moves to the southeast, downhill from the village.

As well as Larry McCormick, the council has invited Leona Dombrowsky, MPP for Hastings, Frontenac, Lennox and Addington, to come and speak with council. She has agreed to come to the regular meeting on August 25.

COMMUNITY PRESS

EASTERN EDITION

30 JUL 1999

PB'S 143