

# KIITG

keep it in the ground. inter-  
national stop uranium mining  
news letter. may 1982



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## ABOUT THIS NEWSLETTER

This is a newsletter linking together in an information chain people all round the world working to stop uranium mining. It is a participation publication, and all people are invited to send articles to us. We also publish scientific information which groups can use in their campaign. An amazing amount can be shared, and there is a lot to be gained from learning from the knowledge and experience, solidarity and support of others.



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KIITG is thankful once more to the Dutch foundation NOVIB for their generous financial assistance this year.

Apart from one major grant, we feel that Keep It In The Ground must have a self-supporting money base. So that we are not always dependent on grants. Our aim is to increase the number of subscribers to KIITG - and for those who wish, to increase the number of members. Members pay f40 a year and receive either the WISE bulletin or the KIITG for 10 issues. Subscribers pay f25 for 10 issues. As a member you support the work as well as pay for the publication.

Please pass copies of KIITG on to friends. Ask groups to subscribe.

This issue of Keep It In The Ground is the combined work of the Amsterdam staff, the Australia and Washington relays, and information from other relays and friends. Lin Pugh is the editor.

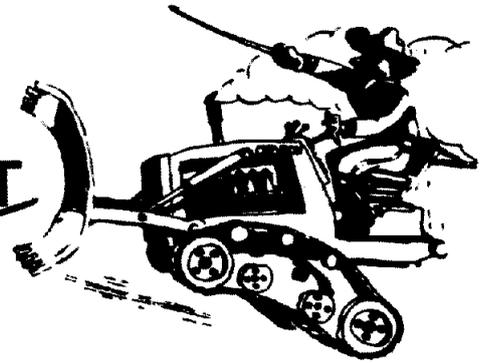
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# URANIUM AND ENVIRONMENT



## RANGER AND THE ONGOING RADIOACTIVE LEAKS

*Willy Wabeke, Stop Uranium Mining, Melbourne*

What was predicted and feared is happening. As a result of the uranium mining operations at Ben Lomond, Nabarlek and Ranger, surrounding water systems are being poisoned with radioactivity and toxic run-off produced by the mines.

The situation at Ranger is particularly alarming. In November 1981, highly contaminated water was monitored in the Alligator River area (a vast network of creeks, billabongs, streams and rivers) and traced back to Ranger.

The Ranger mine has a massive tailings dam/pond that has an area of 125 hectares. The law required that the tailings be covered by two metres of water. This law represented agreement entered into by the Northern Territory Government, mining companies and the supervising scientist. At one point in time, Ranger had six water pumps going at once trying to keep the tailings covered. Even at that rate, it was impossible: the water was leaking out. And so the Northern Territory Government, in collusion with the supervising scientist, closed the mine for four days. That was all the time they needed to change the rules so that it is only necessary to keep the tailing barely damp. After having changed the rules, the mine was re-opened and declared safe.

But why does the water leak out of the dam, even today?

In the two years from 1979-1981, Ranger mined/stockpiled 4 million tonnes of uranium ore. In order to break up this much ore, it took 1,000 explosions, each blast yielding 4,000 tons of ore. Each of these sharp jolts registered  $\pm 4.2$  on the Richter scale within a radius of 1,200 metres. The tailings dam was well within the radius of all 1,000 blasts. Jolts from explosions such as these open up already existing fractures in the earth and create new ones; and shock waves create hairline and microcracks which extend for miles, carrying contaminated water into the surrounding water systems. What they've done is to turn the floor of that dam into a sieve.

Why would such a situation be allowed to continue with the blessings of the government? Simple. Ranger had contracts to fulfil by the end of 1981.

At this time, two unions were engaged in a very effective ban on the export of uranium. Enormous pressure was applied on these unionists to lift the bans, this pressure coming from blatant pro-nuclear forces who were being helped by those people who still believe in the "peaceful atom". There is, of course, no possible way to keep Australian uranium out of nuclear warheads. The sequence of events at the end of 1981 went something like this: 1) uranium export bans were biting, 2) Ranger was closed, 3) the rules were changed, 4) Ranger was re-opened, 5) the bans were lifted, 6) Ranger contracts were met.

Ranger has a predicted lifetime capacity of 50 million tonnes of uranium ore. When looking at the

damage done by mining/blasting a mere 4 million tonnes, the mind boggles. If anything, Ranger will increase the size of the explosions because it is uneconomical to dislodge any less than 4000 tonnes at a time. What we are looking at here is the contamination of the entire Alligator Rivers area, that is, total water contamination in the Northern Territory.

Uranium mining appears to be accountable to no one. There is no independent monitoring of this ongoing contamination; no one is protecting the people and the environment. The "supervising scientist" is supervising the best interests of the mining company only. This situation cannot be allowed to continue. Independent monitoring of the contamination resulting from uranium mining is essential. A truly independent team must be set up to deal with the very real catastrophe in store for the Northern Territory. This team might consist of environmentalists, unionists, residents of the area. This team must be allowed to work free from the pressure of the mining company and, therefore, the government. It must be a team whose advice and recommendations are taken seriously -- before it is too late.

*Stop Uranium Mining Collective  
366 Smith Street  
Fitzroy, 3066, Victoria  
Australia.*

#### SOME DATA ON THE LAKEVIEW TAILINGS PILE AND RADON GAS

When the Lakeview (Oregon, USA) tailings pile was uncovered (from 1959 to 1974) it often gave off over 1,000 times as much radon gas as normal soil. This amount varies with soil moisture, temperature, barometric pressure etc. It was uncovered for 15 years. During this time it was giving off much more radioactive radon gas than normal soil does.

From 1961 to 1979 Lakeview's oat cell lung cancer rates multiplied nearly 10 times.

We now have 2 feet of cover on our tailings. This cuts the radon emissions by 30%. REC (Radiation Education Council) and the EPA (Environment Protection Assoc?) believe that we need at least 7 more feet covering on the tailings pile. Then radon emissions will only be twice that of normal soil. (sources: Engineering Assessment of Inactive Uranium Mill Tailings Lkw, OR, Oct 1981, Ford, Bacon & Davis; Federal Register, EPA, Part IV, Jan 9 1981; Investigation of Cancer Risks in Lake County, OR, 1981, Wm E. Morton, MD, Dr. PH.; A Summary of the Phase II-Title I Engineering Assessment of Inactive Uranium Mill Tailings, Ford, Bacon & Davis, Dec 1977.)

The government says it is short of money right now. Other areas have tailings problems too, and the money available may not go round. If Oregon (Lakeview especially) is passive about this problem, we may not get any more covering on our tailings at all.

If you want more information on this, write to  
REC, PO Box 705, Lakeview,  
Oregon 97630 USA tel (503) 9474630

#### STUDY OF THE EXPECTED CONSEQUENCES URANIUM MINING WOULD HAVE ON THE GROUND WATER OF COMBRAILLES AND LIMAGNES (FRANCE)

*AEDELEC, Association d'etude et de defense de l'environnement  
Limagnes et Combrailles*

Six permits to mine uranium have been asked in the east part of the district of RIOM: Prompsat, Blot l'eglise, Gelles, Espinasse, Clauvaud, and Les Tours.

Four of the permits have been granted, Cogema owns three of these permits, the other is Dong Trieu. The area is 20,000 hectares, very rich in different kinds of waters: springs and rivers supplying water to Limagnes and Combraille; and mineral water, some of which is used for health baths. A number of these spas are not being used.

The question we ask is, what influence will uranium mining have on this water? The following aspects

will be looked at:

- the mining
- water circulation
- other areas where mines are and what has happened with the water there
- conclusion.

Uranium is being mined in open pits. Radon bearing dust is carried on the wind from these mines. After the uranium has been mined the ore is extracted from the dirt, and the tailings are left behind. But these tailings also contain a lot of radiation. Both the dust and the tailings contain thorium, radium, polonium, etc. The radon and the radioactive dust are carried in the rain, are leached into the ground, and radiation also enters the water system when water passes through the mine and is used in the milling process. It is first filtered, but the filtering can exclude the radon gas.

#### CIRCULATION OF THE WATER AND ITS CONSEQUENCES

The water that we drink can be

1. drinking water from springs and wells, also used for agriculture.
2. from mineral waters, which are used in health centres or sold in bottles.

The mineral waters are legally recognised as having health giving qualities. The Academy of Medicine supports this.

Ordinary Water: This comes from rainwater, which is used either after falling on the surface and being collected, or it goes into the earth systems and we get it after several months. In this region, it never stays underground for long. This water is susceptible to contamination from a nearby uranium mine, if that mine is near an aquifer.

Geological Formations: Granite in the region is perforated by many springs, fed by small basins. If one spring is contaminated, they will all be affected.

The water of the Volvic Spa: The water at this spa comes from within the volcanic formations. One of the uranium permits has been given for a mine near Volvic. Water contaminated at Prompsat will come up at Volvic. This water is

filtered to stop bacteria, but this cannot stop radioactivity. Very likely, though, is that other springs will also be contaminated: Sayat, Blanzat, Saint Genest, etc. All these are well known for their medical purposes.

The protection measure which cover these waters are very weak; they were not created with the thought of uranium mining in the back of the head. At the moment studies are being made into new protective measures. But it is not clear whether the new measures will preclude radioactive poisoning.

Streams, Rivers, Small Lakes: These are also important. If you look at the map you will see that most of the rivers which give water to the east of these two regions actually passes through the zone of two of the proposed uranium mines -

Prompsat and Blot l'eglise. One of the rivers has streams coming from an area where three other mines are planned -- Les Tours, Gelles, and Espinasse. So in fact all the water running in the network could be contaminated.

MINERAL WATERS. Mineral springs are warm and mineralised. Some of these springs find their way to the surface naturally, others through artificial openings. There are various theories as to how the water is made - either underground water soaking up the minerals and coming out OR rainwater coming in and going out. Both need thousands of years to develop, and the waters go down to an incredible depth.

The warm mineral waters are almost always mixed with cold waters which joined in not so deep down. This can make the temperature of springs in close proximity to each other vary as much as from 18° to 37° -- every spring has its own temperature. There is very little known about where exactly the cold water joins in. But the chances are that it will have been through a uranium mine, for example, if there were several mines in the area. So it would be impossible to protect the warm water from this polluted water.

The waters at Chatel-Guyon are naturally radioactive: 38 to 53.10  $53.10^{-12}$  g/litre radon. If that is



increased through mining its therapeutical quality is threatened and we will assume it will not be healthy any more.

#### OTHER PLACES:

Several facts have to be realised: because the services charged with controlling nuclear installations and for the protection against radioactivity apply the rule of secrecy. Radioactivity is invisible, you can't smell it, so organisations can tell you whatever they like. The International Commission for Radiation Protection (ICRP) fixed the maximum dose of 500 millirem year for the public. But it is

not the dose the environment is allowed. This can be much higher, and often is, given that it is difficult to measure in the wild. The 500 millirems is more to protect the industry and shut up persons.

In 1976 the Association to Protect the Monts d'Ambazac measured the radioactivity in their water in the Limousin. In four places the measurements were:

1,323 Mrem/year
447 Mrem/year
806 Mrem/year
447 Mrem/year

These measurements were made in streams and side streams. These results show the augmentation of radioactivity near one of the tailings piles.

Two years later the same places were measured again. The first figure had increased to 11,677 Mrem/year, at Lavaugrasse. There is a possibility that this was an exceptional moment of an exceptional high -- but nevertheless it did exist at this time. These measurements also only measured gamma radiation.

The very official bulletin of the SCPRI (Service Central de Protection contre les Rayonnements Ionisant) have shown higher than normal levels of radioactivity in the small lakes of Gouiller and La Crouzille. Both provide drinking water to the town of Limoges.

The Ambazac protection group has taken the Cogema to court on this. But the process of the law is slow. In the meantime Cogema continues digging to prepare new mines. Springs disappear or become unusable.

The Visé, in Belgium, is also an example of radiation pollution. An officer of the Belgium army, a specialist in radiation pollution, found poisoned fish in a chanel of the Maas river. In the Maas and surrounding waters abnormal high levels of radioactivity and chemical pollution were found. Radon 222 and Tritium were found -- tritium does not occur in nature, proving that the poison had come from a

nuclear installation. Eventually it was traced to a uranium mine in Germany, and it had come via underground water flows.

#### CONCLUSIONS:

The water contamination is particularly damaging and little written about.

The water reservoirs, basins, lakes, above and below-surface waters are very concentrated in this part of France. It is so concentrated that every uranium exploitation will contaminate certainly part of the waters. One should not forget that when uranium exploitation starts in the region it doesn't usually stop at one: many hectares -- even more than officially allowed -- will be involved.

There is no way to guarantee that the mineral water coming from the deep levels of the earth will not be contaminated. So we have to ask:

- will the waters be controlled?
- How?

- Above all, by whom?

We don't really trust the officials to this one.

- If a river or a spring or any other water is contaminated, what are the solutions? You can't totally stop radiation, not even with chemical filters.

Under these conditions only three things can be done:

- close the mines. But financial interests are high, and given that France plans to continue its nuclear programme, we cannot expect this.

- close the springs. This does not, however, solve the problem of the rivers. If the springs go, so will hundreds of jobs, from people working at the health centres. A whole sector of industry will be forced to close.

- camouflage. The solution the

public powers adopt most easily. In this case thousands of people will drink dangerous water or the animals and agriculture will get equally dangerous water.

#### A last Thought

The proximity of the uranium mines would not keep the customers away from these places, unless they knew. The mistrust of the public is a great weapon -- look at how milk from La Hague has to be packaged in a way that people do not know where the milk comes from.

#### In Short:

Exploitation of uranium in our region will certainly contaminate the waters, and that in proportion to the extent of exploitation.

The debits outweigh the credits.

AEDELEC, c/o M.E. Dollet  
Teilhède le Haut  
63460 Combronde  
France

## EXPLORATION

### A LETTER FROM ENERGY POLITICAL ASSOCIATION- ALTERNATIVE TO NUCLEAR POWER (EVY)

---

Dear Friends,  
To thank you all for help and to keep you informed on a uranium exploration project in Finland, we send you this brief note and some material involving it.

#### *URANIUM DRILLING THROUGH A LAKE STARTED STRONG RESISTANCE IN FINLAND*

Uranium is not mined in Finland at the moment, but a couple of dozen uranium deposits are known around the country.

Geological Survey of Finland (GSF) started the exploration drillings in Leppäkorpi village, commune of Nummi-Pusula in Southern Finland, in the fall of 1980. At the end of 1981, 37 holes had been drilled. Then the research was interrupted for a while, because next GSF wanted to drill to the possible

uranium underneath a nearby, small lake (Palmottu), and they had to wait for the ice to get thick enough to carry the drilling equipment.

In the fall of 1981 the Leppäkorpi villagers had arranged two meetings with state officials and EVY, to get information on the dangers of uranium drilling and mining. Their attitude towards uranium industry was quite negative after those meetings and after they had read some press articles written by EVY members. The GSF plans to go on to the Palmottu Lake, which is owned and used for fishing by all the villagers and which has got four summer cottages and one steady farm on its shores. The frightened villagers started contacting officials and mass media. The villagers didn't want to get involved in any kind of illegal direct action.

Uranium drilling became a hot topic in the mass media. In spite of the large general concern, the explorers managed however to drill through the lake. Two holes were dug through the lake, and these two samples were quite poor with uranium, luckily,

and the explorers decided to go back to shore.

GSF has until now refused to give any information on the quality and quantity of the deposit. They only admit it is "promising enough to go on with the exploration".

The Institution of Radiation Protection (IRP) says they are not legally responsible for any tests or other measures at this point. They would get involved once a mine was opened or planned. Voluntarily they have however made a few analyses of the water in the lake and in the small creek running from it. The wells in the area have not been tested, and so the villagers are afraid that it is hard to prove later on, if it appears that the ground waters have been polluted, that the drillings are the cause.

The Finnish laws cannot prohibit this kind of uranium drillings, and also the law for mining (which includes the mining of uranium) is a very strong one. We heard that the project would be discussed in a preparatory session

of the national government, but this information has not been affirmed yet.

The commune leaders of Nummi-Pusula trust blindly the state officials (GSF and IRP), who should, but clearly do not, have enough information on the dangers of uranium mining. The libraries of both officials have in fact contacted EVY for more information. Both officials have in public stated that they do not know any special dangers in either drilling through a lake or making ordinary uranium drillings. They don't seem to be familiar with the negative information and experiences from Canada, USA or Australia. This has come out clearly in many interviews. It would be of great help to us to get that kind of information to them from as high an official/authority as possible. If any of you can think of some chance, please forward the message as soon as possible. The addresses are:

*Geological Survey of Finland*  
*Kivimiehentie 1*  
*02150 Espoo 15*  
*Finland*

*Institute of Radiation Protection*  
*PL 268*  
*001001 Helsinki 10, Finland*

*Ministry of Trade and Industry*  
*Aleksanterinkatu 10*  
*00170 Helsinki 17, Finland*

These officials don't easily trust the information they get from us, even though they are interested in it, and maybe a letter from abroad would help. EVY has taken part in the uranium discussion in press, on radio and TV. We have printed a brochure on the issue, which has been delivered to every household (about 2,200) in the Nummi-Pusula commune, to the mass media, and to the officials involved. We have also made a slide series with a spoken text about the foreign experience. In our further information work we would have great help of black and white photograph originals (good for printing) or slides. Both should be accompanied by sufficient information about the picture.

We have already got a lot of information from many of you. Please take contact, if you can help

us in some way or think there is something we have forgotten and could do at the moment. If there is a chance to get some letters to the Finnish officials, please try to get copies of them to us.

With regards from all EVY activists

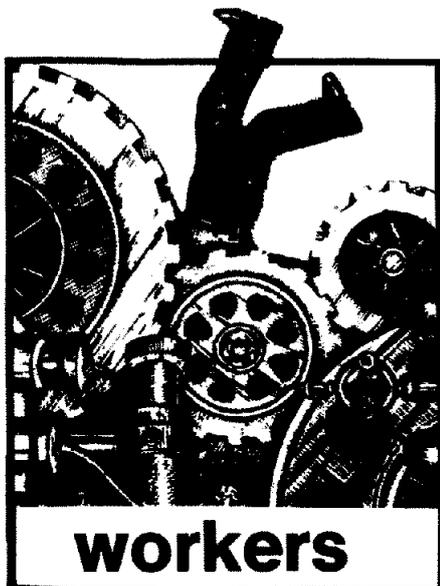
Juha Saarinen  
Auli Kilpeläinen



*URANIUM CITY*  
*(with apologies to Carl Sandburg)*

*Disaster City of the North,*  
*Yellow-cake Maker, Stacker of the Hot*  
*Tailings*  
*Player with Heavy Metals, the Nation's*  
*Boondoggle,*  
*Dusty, sprawling, linked by rough roads,*  
*City of the Steep Shoulders,*  
*They tell me you are wicked and I believe*  
*them; for I have seen*  
*your natives drunk on the hotel steps,*  
*cursing each other.*  
*And they tell me you are crooked and I*  
*answer: Yes, its true*  
*I have seen your company accused of*  
*price-fixing, evading the AECB regulations,*  
*frittering away the taxpayers' money (for*  
*you owe too) and going free to do it again.*  
*And they tell me you are dirty, and I*  
*agree, having seen your lethal garbage*  
*defiling the lakeshores.*  
*But having answered so I turn once more*  
*to those who sneer at Uranium City, and*  
*I give them back the sneer and say to them:*  
*Come, show me another mining town that*  
*has more shine and gilt than this Eldorado,*  
*Proud of its machismo, inhaling great*  
*drafts of radon,*  
*Knowing how its bread is buttered, naming*  
*its high school CANDU,*  
*Dead sure of its righteousness, scorning*  
*its detractors,*  
*Flinging magnetic curses against Greenpeace*  
*and its ilk,*  
*Battling even as an ignorant fighter who*  
*does not know nor care to know the secret*  
*of its opponents strength,*  
*Under the terrible burden of destiny*  
*labouring giving the world what it needs*  
*most,*  
*Coughing and laughing, proud to be Yellow-*  
*cake Maker, Stacker of Hot Tailings,*  
*Player with Heavy Metals, and Boondoggle*  
*of the Nation.*

*by J. Stan Rowe*



## workers

### ACTU PROMISES TO SUPPORT BAN ON ROXBY MINING

*The Australian, 13-14 March 1982*

The ACTU warned on March 12 that trade unionists would block the nation's largest on-shore resources project at Roxby Downs in South Australia. The move is a major blow to the South Australian Liberal Government which already faces the risk of losing the \$1000 million venture because of a state political impasse.

Construction is due to start next year on the massive uranium-copper-gold prospect, with completion in 1985. Hardening of the ACTU's previously softening position on uranium comes at a time when moves are under way in the Federal Australian Labor Party (ALP) to modify the party's anti-uranium policy.

Senior federal ALP officials said on the same March 12 they were reviewing the policy of revoking nuclear export contracts if a Labor government came to power. The future of the massive mining project was further thrown into doubt when the South Australian Labour Party reiterated its hardline policy against the mining of uranium, on March 12.

After an executive meeting in Melbourne, the ACTU president Mr Dolan said Roxby Downs was covered by the ACTU's anti-uranium policy.

"We will certainly be attempting to see that development does not take place", he said. Mr Dolan rejected arguments that uranium mines were major employers - a case strongly put by the South Australian Government for the development of Roxby Downs.

The governing Liberal Party in South Australia has intensified its campaign over the past few days to save the already endangered Roxby Downs project. The vital indenture bill (which we wrote about in previous KIITG's) providing for a feasibility study and a start on construction, has been stalled by the opposition parties in the State Parliament.

The Leader of the State Labor Opposition, Mr Bannon, indicated on the 12th the bill would be opposed unless amended. The Australian Democrats hold the balance of power in the South Australian Legislative Council and have joined forces with the ALP in opposing the bill. The South Australian Labor Party's position on the bill is sure to influence future ALP policy on uranium. Mr Bannon said Roxby Downs would be precluded under a Labor State Government.

ACTU

254 LaTrobe Street,  
Melbourne, Victoria, Australia  
tel(03) 347 3966

And: John Speight

Movement Against Uranium Mining  
70 Little George Street,  
Fitzroy 3065 Vic Australia.

### CLUFF LAKE ACCIDENT RESULT OF SLIPSHOD PROCEDURES

By Clare Powell

Inadequate safety precautions in a northern uranium mine resulted in an accident which sent four workers to hospital briefly on November 25, 1981.

The four, who were working in the mill area of the AMOK operation at Cluff Lake, were sprayed on the faces, hands and body with a "slurry" mixture of uranium oxide (yellowcake) and ammonium sulphate.

Mixing in the slurry - one of the final processes before the yellow-cake is shipped to the refinery - is done in large tanks about 20 feet high and six feet in diameter.

Apparently, a valve at the bottom of the tank had become clogged with the thick slurry and the men attempted to relieve the blockage by removing a pipe and prodding it with a rod. They were splashed when the mixture suddenly burst out of the pipe.

John Alderman, chief inspector of mines with the department of labour's occupational health and safety division, told Canadian movement journal *Briarpatch* that none of the workers was wearing protective clothing or face masks.

They were immediately flown to hospital in Uranium City for tests. At least one of the workers was sprayed in the mouth with the mixture, so he was given an emetic (a liquid to induce vomiting). They were also given urine tests to determine the level of radioactivity in their bodies. The tests showed a slight increase initially, but this declined as the men were kept under observation.

They were back to work the next day.

At the time, Alderman told us his officials would be conducting an investigation of the incident. On January 14, we called him back. He said the investigation had taken place and his conclusion was the accident had resulted from what he termed a "slipshod procedure".

No fault was attributed to the company since masks and protective clothing were readily available. The workers had simply chosen not to use them, confident they could fix the blockage with no problem. The mines inspector said the necessity of taking every precaution was emphasized. The design of the slurry tanks has been altered to avoid similar blockages in future.

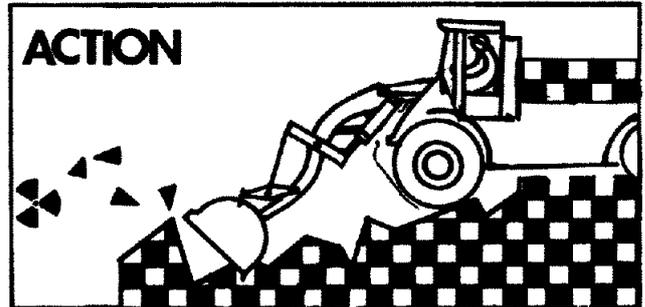
While the incident may seem minor as industrial accidents go, it does raise two serious questions:

1. Does a too nonchalant attitude exist in uranium mines? Uranium, after all, is a radioactive substance and potentially causes cancer. Yet it is sometimes

treated almost the same as iron, copper or other non-radioactive ores.

2. If accidents can happen where processes are relatively simple, what confidence can we have in the nuclear industry's assurances about safety in reactors where procedures are more complex and where the potential for radioactive contamination is much higher?

*Briarpatch*, January February 1982



#### SCOTTISH HIGHLANDERS URGE DE-INVESTMENT IN RIO TINTO ZINC

*from the Highland Anti Nuclear Group*

The Inverness Branch of the Highland Anti Nuclear Group (HANG) have sent an open letter to the Highland Health Board:

Dear Members of the Board,  
Over the last nine months we have been writing to you to draw your attention to the exploitation of Namibia and Namibians by Rio Tinto Zinc, a company in which the Highland Health Board holds shares. We pointed out that RTZ mines uranium in Rössing, Namibia in flagrant violation of United Nations Decree No. 1 of December 13 1974, which declared the exploitation of Namibia's resources without the consent of the UN Council for Namibia to be illegal.

We explained that the workers at all uranium mines are exposed to serious health hazards because of the continual release of cancer-causing radon 226 and radon 222 gas, and then emphasised the absence of medical checks on black workers at Rössing to monitor the radiation exposure. We pointed out that this was a single instance of general gross discrimination

between black and white workers in the provision of medical treatment in general, and that this discrimination extended to living conditions and wage levels as well.

We hoped that, once appraised of RTZ's abhorrent activities in Namibia, you would wish to disassociate the Highland Health Board from them by the sale of the Board's shares in the company. Naturally, we were prepared for the likelihood that the Board would wish to satisfy itself first that the information we presented was accurate, and that this could be the cause of some delay. But your reply astounded us. You were not in the least bit concerned about the cancer deaths or the defiance of the United Nations Decree. Your reply ignored them and denied



that there was any moral question to answer at all by blandly stating that "any changes in the Board's investment portfolio are made on the advice of a firm of investment advisers retained by the Board".

This is an insult to the dedication of all your employees to the battle against disease here in the Highlands. Human suffering matters little in Namibia as it matters here. Although your direct responsibilities are confined to the boundaries of the Highlands who will thank you if you act knowingly to the detriment of the health of people overseas?

In your last communication you wrote that you would not enter in to any further correspondence on this matter. Sadly this will not help us to resolve our differences which clearly arise from our differing criteria for the assessment of an investment's suitability.

We appeal to you in all sincerity to re-evaluate your Rio Tinto Zinc investment on a new basis -- on the basis of morality -- as we believe that when the issue is clear-cut, as here, morality must take precedence over financial return.

Yours sincerely  
A.L. Burton (Secretary)

For more information, please contact:  
Tony Burton, Stan Reid,  
HANG  
1 Attadale Road,  
Inverness IV3 5QH  
Scotland  
tel: (Tony) Inv 38349 (evening)  
(Stan) Inv 223550 (daytime)



#### URANIUM ENRICHMENT PLANT AT FULL CAPACITY

*The Japan Times, Sat March 27 1982.*

Okayama Prefecture: Japan's first uranium enrichment pilot plant began operating on March 26 at full capacity, using 7,000 centrifugal separators.

The Power Reactor and Nuclear Development Corporation has plans for domestically producing enriched uranium so that a nuclear fuel cycle can be established in Japan.

The pilot plant, which uses the centrifugal method, is the third of its kind in the world, following one built by Urenco, the Dutch-British-West German consortium, the other by United States concerns (including Goodyear). Detailed information concerning the capacity of the Japanese pilot plant is a closely guarded secret but officials concerned indicated that they believe it has a capacity equivalent to or superior to the Urenco plant. (Ed: we are not in agreement with these figures. The US centrifuge process is NOT commercial, while the Urenco process is. Urenco, however, has not one but TWO commercial plants, one in the Netherlands (Almelo) the other in Britain (Capenhurst). Then you have many other countries with experimental centrifuge enrichment projects. So you cannot really call this new Japanese plant the third in the world).

Originally the pilot plants capacity was set at 50 tons SWU (separation work units) a year but it is actually believed to be 70 tons SWU because of the improved performance of the centrifuges. About 15 tons of 3% enriched uranium will be produced annually, enough to enable a nuclear power plant with a generating capacity of 600,000 kilowatts to operate for a year.

A uranium hexafluoride plant also started operating several days before this. Hex is used in the enrichment process.

The government now plans to build a commercial plant to enrich uranium and begin limited operations in the late 1980's. The plant's capacity will be raised to 3,000 tons SWU a year by 2000.

*contact: Yukio Aki  
WISE Tokyo. (for address see back page)*

#### URANIUM HEXAFLUORIDE : CANADA

*A letter from Herman of Nuclear Newsletter, Saskatchewan*

I wish to congratulate you and your friends at WISE for the abundance of quality news reporting. It's very useful.

The reason for this quick note is a piece in KIITG 19, page 5, on "estimated present and planned conversion capacity by country". I have some more up to date figures for Canada. They were published in "Nuclear Newsletter" vol 5 no 1.

1. The Eldorado Nuclear uranium hexafluoride conversion facility for Warman, Saskatchewan (9000t/a) was cancelled. There are still rumours from time to time about Eldorado considering an alternative site in Saskatchewan. The provincial government would favour such a plant here, but it isn't very popular politically and Eldorado would rather expand their facility at Port Hope, Ontario.

2. Eldorado is building an 18,000 t/a refinery (yellowcake to uranium trioxide, UO3) in Blind River, Ontario. It appears to have scrapped its plans for a hex conversion plant there. The 18,000 t/a ref-

inery would take care of all foreseeable Canadian yellowcake production until well after 1990.

3. Eldorado wants to locate all its hexafluoride conversion capacity in Port Hope, Ontario. It is currently expanding its UF6 capacity there from 5500 to 9000 t/a.

When the Blind River refinery is operating in a year or two, Eldorado wants to shut down its existing refinery (yellowcake to UO3) in Port Hope. It will maintain its production capacity in Port Hope for converting 2000 t/a UO3 to UO2 for the CANDU programme.

My guess is that if Eldorado wants to expand its uranium hexafluoride conversion capacity beyond 9000 t/a in the future, it would prefer Port Hope. However, the Saskatchewan government can apply some pressure on Eldorado (since Eldorado owns a one-sixth interest in Key Lake through its subsidiary, Eldor Resources) to locate in Saskatchewan.

As you may remember, after Warman was rejected a number of real estate people in Saskatoon (of dubious morality: one of them was recently escorted by the Royal Mounted Police from Toronto to Saskatoon to face fraud charges) pushed a site near Laughan, Sask, and later our very own minister of the environment, Ted Bowerman, pushed a site near Albertville/Henribourg near Prince Albert. Nothing has come of these two proposals due to local opposition and I believe they are both dead.

However, there will be an election in the province, probably in June, and if the NDP gets back in, they may give it another try after the election.

With the mines here now under construction or operating and no new mines to be developed until at least the end of the decade, anti-uranium mining activity has slowed down. In its place there is a much greater activity in the nuclear weapons issue. The churches here are doing some fine work on that through the inter-church uranium committee and Project Ploughshare. A number of doctors

are also involved in that.

Peace and Love

Herman Boerma

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tel 306-665-6655. Canada

(ED: To give an idea of the good work of the Inter-Church Uranium Committee, we recently received a copy of a letter the committee had sent to 36 church and other groups asking them to support the Australian Council of Trade Unions bans on uranium mining.)



#### SACRIFICE AREA: HARD TO GET

*From Tribaal, March 1982*

What is happening with the film Sacrifice Area. Fons Eickholt tells the story of why, if you live in the Netherlands, you will be lucky to get to see the film a Dutch team made on the struggle in the Black Hills of South Dakota to stop uranium mining.

Otto Schuurman and Ernie Daamen entitled their film "Sacrifice Area", a phrase coined by President Carter to describe the Black Hills energy plan. Sacred to the Indian people, the Black Hills have been stolen by gold and uranium miners, and are being desecrated and desicrated. The film was made with help from a subsidy from the NCO, the Dutch Commission for Information and increasing awareness on development issues. It was shown in a television version (shortened), just before the Russel Tribunal on the Rights of the Indians of the Americas, in November 1980. Since then the film has been impossible to see. If you try and find it you end up in a maze of answers.



Last September a delegation from the Workgroup Indigenous Peoples (WIP) went to the Geneva conference on the Rights of Indigenous People. They wanted to take the film. Otto and Ernie don't have a copy: that was in the hands of Her Majesty's Information Service (RVD). The people at RVD said that they had the film, but that they could not lend it out. "The rights have not yet been finalised", they said. In that period, the day was saved when visiting Indians had brought their own (English) version of the film.

But for Dutch people then? They have to wait; including the organisers of the Russel Tribunal. The film was and remains inaccessible, despite the rights having been finalised. The RVD has kept its copy and sometimes shows it at festivals. All the people who want to borrow it keep getting no for an answer.

One year after the premiere, the NCO gave WIP a grant for a video copy. Finally the chance to show it! But no. The film is still not available at the time of writing, and the "ready in no time" video has STILL not turned up. What is going on? Why is it getting shown at festivals, and on San Francisco TV, while it is impossible to distribute it here? In the RVD film catalogue it is not even mentioned, but they DO have it. Is that Information with a capital I? On January 25 I rang the RVD. "You

will have to borrow it through "Fugitive Cinema", they said. Ring Fugitive: "No, we haven't got it". Ring Otto: "It's a real mess! We are being robbed. We put f50,000 (US\$25,000) into that film from our own pockets, and expected to get it back through distribution. But they are doing nothing with it. The NCO has to give permission to make an Inter Negative." RVD: "The NCO has a new distribution plan. We have to wait on that."

So wait! Waiting also for the solution to the puzzle: who is trying to make who look stupid? Does the Information service no longer want to inform and the Raising Awareness organisation no longer want to raise awareness? Or is it after all the fault of capitalism and bureaucracy?

*Tribaal, Minahastraat 1, Postbus 409, 109 AB Amsterdam, The Netherlands. tel (20)938625 (in the meanwhile it appears the video has come, for those wanting to see it now.)*



#### AGIP OPTS OUT OF CONTRACT

*The Financial Times March 24*

The Italian State-owned Agip has terminated its contract to buy uranium from the Madawaska mine near Bancroft, Ontario, with effect from June 3, according to Federal Resources of the U.S., which controls the Canadian operation. Federal Resources says it is looking for another market for its uranium, but the present position of oversupply is making this difficult.

#### ZIMBABWE TO CHOSE URANIUM?

*The Financial Times March 24*

Zimbabwe's state controlled mineral marketing agency, which will transfer responsibility for mineral sales from foreign-owned multinational companies to the government, should be fully operational within a month, according to Maurice Nyagumbo, Minister of Mines.

The agency will eventually assume responsibility for marketing all Zimbabwe's wide variety of minerals, apart from gold. The value of the country's mineral output last year was estimated at Z\$370 mil (£277m).

The marketing agency will be followed by the introduction of another new state-controlled body, the mining development corporation. This body is intended to promote government investment in mining operations, and eventually in exploration, Mr Nyagumbo said. He went on to say that the state planned to get involved in the development of strategic minerals such as coal and uranium, but state participation in non-strategic minerals would depend on whether the private sector welcomed government involvement.

Many companies, both within Zimbabwe and outside, have postponed investment decisions until they have seen how the marketing agency works in practice.

#### PROPOSAL: URANIUM GUIDELINES FOR NWT

*from News North, Feb 19 1982*

The minister of justice and public services is seeking several changes in the way uranium exploration and mining are regulated in Canada's North West Territories.

The most prominent of the proposed changes George Braden suggested in the legislative assembly is that permits be required before any below-surface uranium exploration takes place. Braden said Territorial government officials are planning to meet with officials of the Atomic Energy Control Board (AECB), the federal atomic regulating body, to discuss the changes.

Jurisdiction over uranium operations is now divided among the AECB and a long list of federal departments, as well as the territorial government. He said there appeared to be little coordination of the regulatory activity between the various federal bodies.

Braden said the results of the federal study of the abandoned mine at Port Radium, on Great Bear Lake, which shows radiation levels are still high, but not above the department of Health and Welfare's human safety guidelines, were in his possession. There were possible hazards with people visiting abandoned mines, he said, and warning signs would have to be erected and maintained at each site.

Besides instituting the exploration permits, Braden said the territorial government should take a lead role in establishing worker safety, public safety and environmental regulations for uranium activity in the North.

#### AUSTRALIAN GOVERNMENT OK'S JABILUKA MINE

*by Lin Pugh*

Pancontinental Mining Company now has Australian government permission to begin negotiating export contracts for the large Jabiluka uranium deposit in Australia's Northern Territory. The permission was given in early March, soon after the Northern Territory government and the non-representative Northern Lands Council (NLC) signed a draft agreement with the companies to exploit the venture.

Permission from the traditional owners has not been attained. Big Bill Neijji, a traditional owner of the Jabiluka uranium site, recently accused the NLC of "pushing, pushing, pushing" him into signing the go-ahead for the mine. A lawyer acting for the traditional owners initialled the Jabiluka agreement which the NLC also endorsed. But Big Bill and about 40 other traditional owners have refused to sign. Member of Parliament, Clyde Holding, has accused the NLC of operating under a conflict of interest, in that it

was financed in part from royalties payments derived from mining on Aboriginal land.

Under the Land Rights Act, traditional owners have to be advised of all options on mining, including no-mines options, Mr Holding said. This had not happened at Jabiluka, he said.

The NLC is broke at the moment and owes money to the Aboriginal Benefits Trust Fund. Obviously the trick of funding Land Councils through royalties is as much to blame as the Council itself. According to the Financial Times of March 2, the NLC stands to get several million dollars from the mining venture.

The Aboriginal Land Rights movement has been one of the major obstacles to the development of the mine. Pancontinental and Getty Oil first began trying to get the mine operating ten years ago, when the uranium market was more bouyant than now. In 1977 the federal government gave permission for the simultaneous development of at least three mines: Ranger, Jabiluka, and Queensland Mines at Nabarlek. Preparatory work has already been started, without permission of the Aborigines, in complete violation of the very limited safeguards of the Land Rights Act.

The government-imposed restrictions on foreign uranium companies in Australia having no more than a 25% share in a venture are also being by-passed. Pancontinental has 65% and Getty Oil 35% in the mine. Pancontinental is quoted as being Australian owned, however, the true ownership is not fully known. Pancontinental is dominated by its Canadian Chairperson Tony Grey and over half of its top 20 shareholders are "nominee companies" and cannot be investigated. Getty Oil is providing all the necessary finance apart from the first \$3 million, and effectively controls the company.

**BUT LET'S LOOK AT WHAT IS GOING ON IN THE BACKGROUND.....**

First, we hear on March 23 that Pancontinental Mining turned in a net loss for the six months to

the end of 1981, of A\$1.89 million (£1.1 mill). This is considerably larger than the A\$661,700 loss recorded for the previous comparable half year. The company put the extra loss down to increased expenditures due to stepping up market activities for uranium from the Jabiluka deposit. *So, the signing of the agreement was planned.*

Secondly, a "confluence of brains" got together for a weekend summit in the Northern Territory: Development - Getting it Off The Ground.

That was in November last year, and the immediate response of the Northern Territory government was to lobby the Northern Land Council and the Federal Government for immediate starts to the Jabiluka and the Koongarra mines. The Premier, Tuxworth, is planning a uranium boom in the Northern Territory, and wants Pancon and Denison (Koongarra) to pay the out of work miners sit-down money in the off season. He also asked the Air Force to move uranium if the trade unions remain uncooperative.

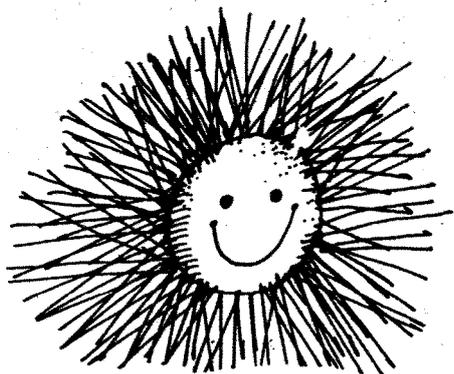
He did admit, though, that the mine may never get off the ground because of the poor world market.

*sources: From Massacre to Mining by Jan Roberts, Chapter 19*

*Financial Times, March 2*  
*Nucleonics Week March 18*  
*Tribune, March 31*

*The Australian, 1.11.81*  
*Financial Times, March 23*  
1982.

*contact: Aboriginal Mining Information Centre, 5 Candy Street, Northcote, Victoria 3070, Australia.*



## SOVIET UNION AND ARGENTINA TO SIGN URANIUM DEAL

Argentina will sign an agreement next month with the Soviet Union for the purchase of 45 pounds (approx 20 kg) of enriched uranium, according to a report in the Washington Post. The uranium is destined for use in Argentina's sixth experimental reactor RA6. Located outside Buenos Aires, RA6 was designed and built by local technicians. It will have a capacity of 10 Mw.

Argentina's National Commission for Atomic Energy (CNEA) says that the purchase was negotiated following the U.S. refusal to supply Argentina with fuel because that country has not signed the Nuclear Non-Proliferation Treaty. The uranium from the Soviet Union will be 20% enriched, the level required for operation of the experimental reactor. Unlike commercial reactors, experimental reactors can run for several years on one fuel load. The RA6 will require about 50kg of uranium for full-power operation.

Speaking at a recent atomic industry conference in Japan, Carlos Castro Madero, head of CNEA, charged the Nuclear Non-Proliferation Treaty discriminated against non-nuclear weapons nations. In the nonsensical logic typical of the nuclear industry, Madero said that "the best way to prevent nuclear proliferation is the expansion of international cooperation through transfer of technology for the peaceful uses of atomic energy, linked to the application of the International Atomic Energy Agency (IAEA) safeguards system on what has been transferred." However, Argentina has several facilities which are currently unsafeguarded by IAEA standards.

Furthermore, Argentina's intentions are suspect. Although government officials claim they have no plans for producing nuclear bombs, they have asserted on numerous occasions their right to carry out "peaceful" nuclear explosions (much in the way India has done in the past). Additionally, during a panel discussion last November, in the U.S.A., Miguel Usher, assistant to the President of Argentina

stated that nuclear power provided Argentina with "the most costly electricity ever made", and that nuclear power has been developed for non-economic reasons, ie, because of the military options development of nuclear power offers. Argentina's nuclear programme, which includes one operating nuclear power plant, 2 under construction, 2 plutonium separation units and a fuel fabrication plant, is the most advanced in Latin America.

sources: *Washington Post*, 20.3.82, *Nucleonics Week* 11.3.82, *Birch Bark Alliance Winter 81-82*, *WISE Energy and Development* booklet, pg 16.

contact: Barbara Fields, WISE-Washington, 1536 16th Street NW Washington DC 20036 USA. (202)3870818

DOE IS PLANNING A SERIES OF technical discussions with various Mexican government organisations which are involved in the decision on the purchase of a reactor station, according to Shelby Brewer, Department of Energy (USA) assistant secretary for nuclear energy. The discussions begun late in March on the topic of

uranium exploration. "We're going to start at the front end and work our way through the LWR (Light Water Reactor) fuel cycle", Brewer said. The seminars will include enrichment technology, but only to describe basic differences between gas and centrifuge and advanced isotope separation, he said. Whether the US transfers these technologies is still an unanswered question, he said. "We haven't gotten to those kinds of specifics."

Brewer has appointed himself the chief salesperson for U.S. nuclear fuel services in Mexico, a role he hopes to assume in other parts of the world. "I'm on sales missions to sell American enrichment services and to support the U.S. industry in its bids for purchase of American reactors," he told *Nucleonics Week*. Places identified as prospects for future U.S. sales are Yugoslavia, Egypt and South Korea, according to industry sources. Brewer was less specific, but he acknowledged that "we are very, very desirous to sell separative work units" in other parts of the world.

*Nucleonics Week*, March 4 1982

## scientific studies

This section is a continuation of our reprints from the extremely valuable resource: Health Dangers of the Nuclear Fuel Cycle and Low Level Ionising Radiation, from Physicians for Social Responsibility, PO Box 144, Watertown, MA 02172 USA tel 617-924-3468

- 38) National Academy of Sciences, The Effects on Populations of Exposure to Low Levels of Ionizing Radiation: Report of the Advisory Committee on the Biological Effects of Ionizing Radiation (BEIR report), November 1972.

### -Lung Cancer:

- suggested that 1 WLM results in 5 rems to the lung tissue .
- "... there is little or no dose-rate dependence observed following exposure with high-LET [linear energy transfer] radiation and a definite dose-rate dependence following exposure to low-LET radiation."
- On the basis of present evidence, 1 rad/WLM is probably close to the upper limit for a reasonably uniform dose to the basal cell layer of the epithelium of the larger bronchi..."
- "... the absolute risk [of lung cancer] in these groups (uranium miners and Japanese survivors) will approach  $2/10^6$ /year/rem.."

### -Testes:

- "In men who have received testicular irradiation in criticality

accidents of radiotherapy, the time required for the sperm count to return to normal has varied from about one year after a dose of 100 rem to more than three years after near-lethal exposure."

-hundreds of references.

- 39) Nader, R. and Abbotts, J., The Menace of Atomic Energy, W.W. Norton & Co. Inc., New York. 1977.

- "It appears that the Public Health Service 1969 estimate by C.C. Johnson that excess lung cancers would affect one-tenth or more of the miners is still accurate. Dr. Archer further indicated that 30 years of exposure at the present 4WLM per year standards would increase by 45 percent the chances that a person would contract cancer. Archer commented: 'The epidemic of respiratory cancers among United States uranium miners is continuing, even though radon daughter levels have been low in recent years. A new epidemic of death from respiratory insufficiency has begun among them'."

- "... another problem at mines and mills has surfaced - the drinking water for the workers & even their families may be radioactive..."

- In New Mexico in the Grant's Mineral Belt where water "had to be pumped out of the uranium mines to prevent flooding", the "EPA surveyed 6 drinking water supplies & found all 6 excessively contaminated with alpha radiation and radioactive uranium. Alpha radiation levels were 200 times those allowed by drinking water standards proposed by EPA; radium levels were 8 times the allowed levels."

-hundreds of references.

- 40) Palmer, H.E., Perkins, R.W., Stuart, B.O., "The distribution and deposition of radon daughters attached to dust particles in the respiratory system of humans exposed to uranium mine atmospheres", Health Physics, 10: 1129-1135, 1964.

- Comparison of air samples with whole body counting data obtained for 0.5 - 2.5 hours exposure in mines show nearly 100% deposition of radon daughters (20% in the head, 10% in neck, 70% in chest).

- Radon daughters attach themselves to dust nuclei in the air & release decay energy to local tissues following inhalation.

- Particles carrying the bulk of activity are probably smaller than 0.1 micron.