

# **MINING AND THE PUBLIC**

## **'THE SULLIVAN EXPERIENCE'**

by

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### **ABSTRACT**

In 1990, Cominco Ltd announced the indefinite closure of the Sullivan Mine, stimulating concerns from the community of Kimberley, regarding environmental protection and mine reclamation. The B.C. Ministry of Energy Mines and Petroleum Resources (MEMPR) established a Public Liaison Committee (SPLC) to review the Sullivan Mine Decommissioning and Closure Plan. This committee, open to participation by all interested parties, was formed to provide local public input to the Reclamation Advisory Committee on the terms and conditions of the Mines Act Reclamation Permit.

The East Kootenay Environmental Society, through the commitment of two of its members, has participated very extensively in the public review process. Through an open exchange between the committee's constituent groups and through Cominco's active support, understanding of diverse needs and concerns was achieved without wasteful confrontation. The paper describes the success of this process, the evolution of the committee and the unique format of the process.

## **INTRODUCTION**

The Sullivan Public Liaison Committee (SPLC) was formed in 1991 to review the contents of and provide recommendations on the decommissioning and closure plan for the Sullivan Mine in Kimberley, British Columbia. The experience and accomplishments of the SPLC are described from the three perspectives of the regulator, the mining company and the environmentalist.

### **B.C. MINISTRY OF ENERGY MINES AND PETROLEUM RESOURCES PERSPECTIVE**

by A.Whale

The Sullivan Mine is situated on the east flank of the Purcell Mountain Range in southeastern British Columbia. The mine and concentrator straddle the city of Kimberley, a community of 7000 people, which grew congruently with the mine since the first outcrop of lead/zinc/silver ore was discovered over 100 years ago.

The community setting, overlooking the Rocky Mountains, has always been attractive. As recreation and population patterns have changed to make the East Kootenay a magnet for growth, efforts by the municipal government over the past two decades have focused the city's development towards tourism. Kimberley and surrounding area has been advertised as an ideal tourist and retirement destination. The Sullivan Mine which traditionally provided the economic base for the immediate district for over a century, now faces the reality of ore depletion and closure in the year 2001.

In British Columbia all mining activity is regulated by the Mines Act which is administered by the Resource Management Branch of the Ministry of Energy, Mines and Petroleum Resources (MEMPR). Compliance with the provisions of the Mines Act, the Health, Safety and Reclamation Code, and permits issued pursuant to the Act are monitored by inspections.

In 1990, the Resource Management Branch ordered Cominco to submit a revised reclamation plan for the Sullivan Mine as part of a review and update of all Mines Act permits.

Also in 1990, Cominco announced the indefinite closure of the Sullivan Mine at a time of low metal prices and high operating costs. The reality of cessation of mining activity, which had supported the City of Kimberley for over 100 years, focused community awareness on outstanding issues. Questions were raised in public meetings and the press about public health and safety, the protection of water resources, land restoration, end-use and other environmental matters.

In April of 1991 Cominco submitted to the Ministry of Energy, Mines and Petroleum Resources a comprehensive decommissioning and closure plan<sup>1</sup> for all of its Kimberley Operations. These included

the Sullivan Mine, Concentrator, Fertilizer, Iron and Steel Plants and associated infrastructures.

In response to public concerns the Ministry of Energy, Mines and Petroleum Resources created the Sullivan Public Liaison Committee (SPLC) as a vehicle to involve the public in reviewing reclamation and closure plans.

Under "normal" circumstances East Kootenay mine reclamation plans are reviewed by the Kootenay Mine Development Review Committee (KMDRC) and recommendations forwarded to the Reclamation Advisory Committee for incorporation into Mines Act permits. The KMDRC is chaired by the District Manager/Engineer of EIM (the author) and the committee consists of representatives of interested provincial and federal agencies.

Before forming the SPLC, the operation of B.C.'s two other public liaison committees (formed for Equity Silver and Brenda mines) were reviewed. The structure of the SPLC was then tailored to meet the specific needs of the community of Kimberley. Groups concerned with the closure plans of the Sullivan Mine included the Kimberley City Council, the Bavarian Society, the East Kootenay Environmental Society, the Ktunaxa Kinbasket Tribal Council and the United Steelworkers of America Union.

To win and keep public support the SPLC's organization had to be open and neutral. The process had to be structured to minimize the possibility of confrontation.

Perhaps the most fundamental requirement to ensure the success of the SPLC was cooperation from the mine operators. From the first approach, Cominco bought into the SPLC process, seeing the potential advantage of minimizing antagonistic, often poorly informed, public comments and concerns.

As part of the inaugural SPLC meeting, Cominco agreed to jointly host an open house with the Ministry of Energy, Mines and Petroleum Resources. In addition to displays and presentations on Sullivan Mine reclamation research and acid mine drainage, Cominco arranged public tours to the mine subsidence area, a major reclamation project and the drainage water treatment plant. Approximately 200 people attended the open house and mine tours with approximately 60 attending the evening inaugural SPLC meeting.

SPLC meetings are widely advertised by the Ministry of Energy, Mines and Petroleum Resources. The meetings are held on neutral ground. The Steelworkers' union hall satisfies this requirement.

The meeting format is structured to minimize "them" and "us" . A U-Shaped layout of tables acts as a "round table" while also permitting presentations. An outer row of chairs is provided for those members of the public who wish low profile participation.

Advice had been received that pre-meeting meetings between

KMDRC members and the company were necessary to agree on acceptable requirements and avoid public bickering. As chair of the SPLC the author rejected this advice as it is not consistent with an open process. The SPLC conducts all KMDRC matters regarding the review of the Sullivan reclamation and closure plan.

The least controversial sections of Cominco's decommissioning and closure plan were selected for the first SPLC review meeting. However the East Kootenay Environmental Society (EKES) had an extensive list of questions on those sections. To avoid a potentially adversarial situation, with one group asking numerous questions and Cominco staff defensively answering them, Cominco staff were given the opportunity to review and respond to (EKES) questions. Although all EKES questions and Cominco's responses became part of the SPLC record, many of the questions received only cursory attention at the meeting.

Prior to the first review meetings, the author made himself available to members of the EKES to assist them in interpreting the decommissioning and closure plan and discussing mining procedures and jargon. These services have not been required recently as EKES members and Cominco staff interact directly.

As chair of the SPLC the author attempts to be more of a facilitator than the traditional authoritarian role.

Impartial minutes are considered critical to the success of the SPLC. However, verbatim minutes of meetings are 40 pages long, so the chair produces summarized minutes. These brief minutes together with selected appendices are distributed widely to every person who requests them (65 at last meeting). Complete verbatim minutes and full appendices are sent only to those who ask for them.

EKES members have made a major commitment of their time and considerable effort to understand problems and identify real concerns. This commitment must be recognized together with input from other groups.

Cominco continues to invest heavily in the SPLC with staff time. Most SPLC meetings are preceded by a mine or project tour for interested members.

Currently the SPLC has concluded reviewing Cominco's decommissioning and closure plans and made unanimous recommendations regarding reclamation plans and further work. It is probable that the SPLC will exist until the mine closes. Following closure, a modified SPLC will probably continue as a conduit for public/government/industry communications.

## **COMINCO LTD - KIMBERLEY OPERATIONS PERSPECTIVE**

by R.Simkus

The Sullivan Mine, now over 100 years old, was recognized at one time as the largest silver/lead/zinc ore body in the world. Discovery and development of this resource accounts for the very existence of the City of Kimberley and much of the regional infrastructure. The smelter operations at Trail were developed for the treatment of Sullivan concentrates and continue to rely on the mine for a major percentage of their feedstock.

Over the years, the mineral potential of the Sullivan was exploited to its full extent. Traditional mining and concentrate production activities were augmented by secondary opportunities. Following World War II the operation produced, along with lead, silver and zinc, products such as iron, steel, tin, fertilizers, sulphuric acid, and copper sulphate, employing as many as 2100 people at a peak in 1949.

All of these activities utilized substantial land and water resources. In total approximately 1000 hectares of land was disturbed, acid rock drainage sources from the mine works, dumps and tailings ponds impacted on local water courses, and fugitive sulphur dioxide emissions affected ambient air quality around the city. These problems were addressed, in full consultation with the B.C. Ministry of Mines (MEMPR) and Ministry of Environment, Lands and Parks (MoELP).

Cominco's research and analysis of the complex land reclamation issues in Kimberley began in 1972. Background sampling, laboratory work, construction of site test plots, all took place over that 20 year period. In 1979, the majority of acid rock drainage outflows from the mine and concentrator were captured and treated in a newly constructed, state-of-the-art water treatment plant, designed to protect the fishery resource of the St. Mary River system and downstream Kootenay River. All process sources of sulphur dioxide disappeared with the fertilizer operation shut-down in 1986. Fugitive emissions from the mine were sealed from underground in 1989. Continuous air quality monitoring installed on surface confirmed declining SO<sub>2</sub> emissions.

In 1990, the Sullivan Mine was closed, indefinitely. The sudden reality of closure raised the awareness of the community. Questions were asked in public meetings and in the press regarding land, water and air quality threats to the community. The city also recognized that the fresh water supply, sanitary landfill, and major land tenure responsibilities, carried by Cominco were unresolved and critical to the planning and future of Kimberley.

It became clearly apparent that Cominco's research, planning and mitigation efforts over the past decades were largely misunderstood or completely unknown by most of the public. We had failed to communicate effectively the information the public needed

to allay their concerns or feel any trust of the company's intentions. Inaccurate and unfounded accusations lodged by individuals received credibility from the silent response of the company. The local regulatory agencies were assailed as well, and couldn't offer any satisfaction to the concerned public.

The mine operation restarted in the fall of 1990. At that time a comprehensive reclamation and closure plan was prepared by Kimberley Operations<sup>1</sup> and in March 1991 was submitted to the Ministry of Energy Mines and Petroleum Resources (MEMPR). This plan was developed to address government and public concerns regarding the closure of the Sullivan Mine. The preparation of the plan involved exhaustive, detailed planning by all departments of the operation and provided credible solutions to every issue identified. The style and design of the document was intended for communication beyond the Ministry's reviewers. The inclusion of maps, aerial photos, illustrations, and clearly understandable tables was intended to aid the average member of the public grasp the concepts.

The MEMPR established a Sullivan Public Liaison Committee (SPLC) to review the Sullivan Mine Decommissioning and Closure Plan. This committee, open to participation by all interested parties, was formed to provide local public input to the Reclamation Advisory Committee on the terms and conditions of the Mines Act Reclamation Permit. To the mine operation, this committee became the first direct vehicle to achieve a constructive dialogue between a cross-section of the public and the actual designers and decision-makers from Cominco.

It was important to place the real "faces" of the company within this public forum and present the message that those implementing the reclamation plan were credible and committed to solving problems. At the same time, the genuine concerns of the public were represented in the committee, allowing for rational dialogue and mutual understanding of everyone's diverse roles in solving our environmental problems.

The SPLC provides access by the public, in a single forum, to representatives from the municipal, regional, provincial and federal governments, to hear their views and satisfy themselves that their interests are being addressed.

When dealing with sites like Kimberley too much energy was spent on assessing blame and negligence on someone's part for creating the problems faced today. The limited resources available to solve problems today couldn't be wasted on arguments over the lack of foresight of mine operators from two or three generations ago. The mandate of the SPLC was clearly to look at problems and their solutions, looking forward, not backwards.

The commitment of time and resources by the company to the SPLC has been very substantial, and has evolved as a reciprocal response to the commitment of others in the committee,

particularly the East Kootenay Environmental Society. The review of detailed questions and preparation of credible answers in advance of formal meetings has proven invaluable. Informal visits to the engineering office and tours of reclamation sites are commonly extended. As a member of the SPLC, the East Kootenay Environmental Society is used as a recognised community authority on Sullivan Mine environmental issues and are contacted for information regularly.

The complexity of the reclamation issues at the Sullivan demands much from anyone who seeks to fully comprehend them. The benefit to Cominco from full comprehension of the issues facing the SPLC is the gaining of trust and hopefully confidence in the ability of the company to implement effective solutions. In a broader context, it is hoped that the competence exhibited by Cominco in dealing with complex decommissioning issues at the Sullivan will be recognised in future mine development proposals, where hindsight provides benefits in the prediction and prevention of future environmental problems.

Extending beyond the activities of the SPLC, presentations on the reclamation issues dealt with in the plan are made to school children, teachers, professions, trade groups, municipal organizations, tourists and retirees. Effective communication has been recognised as a major priority for our industry, with valuable lessons learned through the SPLC.

#### **THE EAST KOOTENAY ENVIRONMENTAL SOCIETY PERSPECTIVE**

by L.Duncan

The prime reason for the involvement of the East Kootenay Environmental Society (EKES) in the Sullivan Public Liaison Committee (SPLC) is to work towards finding solutions to the environmental and reclamation problems at the Sullivan Mine. EKES is interested in solutions which work for all parties involved. That is, we seek to find ways of coping with the problems on a long-term basis with which the community, as well as Cominco, can live.

We believe the most effective way to reach this objective is to work with the company and the government, working hard to avoid unnecessary confrontation. We believe one of the most important steps to take in avoiding confrontation is to gain an understanding of the situation and the perspective of the other participants - in this case, that of Cominco and the Ministry of Energy, Mines and Petroleum Resources (Ministry of Mines). To gain an understanding of the other's perspective requires a fair bit of work, a lot of time and much listening from all parties. EKES members have had to:

1. identify the problems associated with the Sullivan Mine
2. gain some understanding of how and why the problems are created

3. find out what Cominco is proposing to do about them, and
4. assess the current ability of the industry to cope with these problems.

During the initial stages of the project, both Cominco and the Ministry of Mines have provided invaluable help. Each has spent many hours showing and explaining technical details of the local situation as well as the perspective of the industry to EKES members. Open communication and free exchange of information is necessary for the success of this endeavour, for it is through these types of interactions that a certain degree of understanding and trust is built. While the relationships that have been formed require continuing effort to maintain, it is the belief of EKES that the effort is worthwhile and will pay dividends in the search for solutions without confrontation.

During the project, EKES has clearly been the recipient of the greater share of technical knowledge. I hope that Cominco and the Ministry have gained something from us as well. This does not mean that all three parties agree on everything, but it does mean that there is a foundation of understanding from which all parties can talk and listen to each other.

#### ROLE OF EKES:

The first task of the members of the EKES Mining Committee was to identify the prime environmental concerns associated with the Sullivan. From EKES's point of view, these are:

1. Acid Rock Drainage from waste dumps, tailings ponds, and the mine as it impacts on surface and ground waters.
2. reclamation of disturbed lands waste dumps, tailings ponds, subsidence area, the mill area and contaminated spill areas.
3. safeguards (back-up measures)
4. designing measures to cope with changes in climate a recognition of and designing for the long-term nature of the problems
5. level of security required as reclamation bond - for the long-term maintenance of facilities

Aside from the identification of the problems, which in large measure are acknowledged by Cominco and the Ministry, EKES has had a definite role in the SPLC. This role requires EKES:

1. to provide a voice for individuals outside of traditional avenues (there is a mood of distrust of 'official' bodies)
2. to question the rationale of proposed actions
3. to help avoid 'tunnel vision' by offering suggestions from a different perspective
4. to search for the best solutions for the community as a whole



## MECHANICS OF THE SPLC

The Ministry struck the SPLC and invited all parties interested in the reclamation and closure of the Sullivan to take part. How does the process actually work?

The process began with an Open House where participants outlined their initial concerns and it was decided to work through the Reclamation and Closure Plan \* section by section. We also decided that if questions were sent to Cominco prior to the meetings, there would be an opportunity for Cominco to gather the data and prepare full answers rather than having to say "Sorry, we'll have to get back to the Committee on that." So, a pattern has been established where questions, suggestions or concerns are forwarded to the company approximately two weeks prior to committee meetings. Cominco then prepares written responses which are directed back to the originators. Copies of both questions and responses are circulated at the meetings. At the meetings, there then is the opportunity to ask for further clarification if necessary.

Questions and issues raised at the SPLC have resulted in:

1. further studies (for example, a hydro-geological study of the area surrounding the tailings ponds)
2. presentations at future meetings (for example, an explanation of the geology of the mine), or
3. site visits (for example, to the Mark Creek Project and an underground tour).

At the end of a meeting, the committee decides to either approve the proposed plan, at least in principle, or to recommend that further work is required. The recommendations of the SPLC are then be taken into account by the Reclamation Advisory Committee when amending Cominco's Reclamation Permit. It is worth noting that there have already been modifications to some reclamation designs, as a consequence of further studies suggested at SPLC meetings.

The public nature of the SPLC allows the company to demonstrate the knowledge gained through research and the practical experience of the ongoing reclamation. This expertise then becomes available for others in the industry to build upon. Such expertise, of course, is of great value to those within the mining industry who are facing similar problems as well as to those outside the industry who are looking for ways to protect and rehabilitate the environment.

The process which has evolved with the SPLC has proven to be an effective and efficient means of operating. This model has the potential to be used productively at other BC mines. The process encourages cooperation and discourages confrontation, which is surely a worthy goal for any corporation or organization.

#### VALUE OF PUBLIC INVOLVEMENT:

There are many important reasons for the public to be involved in the closure and reclamation of major mines. In the case of the Sullivan Mine which has such a long history, the local residents have a very real and very strong stake in the mine, the city and the surrounding environment. They want the closure and reclamation to be done thoroughly. By being part of the process, the public can have some assurance of the quality of work being proposed. The public can then take some ownership in the plan, and also take some responsibility in seeing it's implementation. Education, awareness and commitment through involvement in the SPLC has resulted in constructive ideas being contributed towards solutions, rather than non-productive criticism.

One of the advantages of utilizing a variety of people is that a diversity of perspectives are applied to the problem. This can result in some previously unthought of questions, some unique and, in some cases, better solutions being offered.

There is a good deal of scepticism and distrust directed toward both industry and government on the part of the public. Organizations such as EKES provide an independent assessment of the proposal and the monitoring of its progress. Our experience has been that EKES provides a voice for those individuals, not necessarily EKES members, who are unwilling to raise their concerns in a public forum.

EKES believes these are more than ample reasons to include the public in the process of mine closures and, just as importantly, in mine development proposals.

The SPLC process has so far been a positive experience for EKES. We have learned much and we feel that the company and the Ministry have been listening to us. We have been assured that the input of the SPLC will be taken seriously by the Reclamation Advisory Committee. We very much look forward to seeing this borne out in practice.

EKES looks forward to the continued involvement of our organization in the SPLC up to and beyond the closure date of the Sullivan Mine.

#### References:

- 1) Cominco Ltd, 1991, Kimberley Operations Decommissioning and Closure Plan