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"Keeping Nature in Business - Part Two"

KEEPING NATURE IN BUSINESS - PART TWO

"Keeping Nature in Business" was the title of the Keynote Address which I had the pleasure of presenting at the Coal Industry Reclamation Symposium, sponsored by The Coal Association of Canada in Banff, in February, 1977. Some of you were present, and I trust that you will understand why I have retained the same title for this address. My reason for doing so is twofold. First, the original paper dealt mainly with the challenges of land reclamation to the coal industry; this evening, as suits the occasion, I want to present my philosophy to representatives of both the government and the mining industry of British Columbia. I believe that this philosophy is supported by the Canadian coal industry in particular, and the mining industry in general.

Second, I have not wavered in my own belief that it is essential for all of us - coal miners and all miners - to "keep nature in business" to the maximum extent possible, in all of our operations.

We know that we do not have all the answers. We know that there is no one standard recipe for all reclamation, because of greatly differing soils, topographies, climates and desired uses. We know the serious dangers of making superficial comparisons between problems in one area or country and another. And we know that a sufficient range of technology exists to carry out successful reclamation for almost any specific mining situation in this country. That technology is continually being improved, in every annual cycle of nature. Even in the two years since Part I, we can see marked progress.

The environment is what is all around us and is where everything happens. Where it all happens is not just air, land and water, but all of nature. Environment is defined more formally as the surrounding conditions, influences, or forces which influence or modify. Within this context there is a host of physical, biological, physiosocial, biosocial and psychosocial factors. The term environment encompasses every aspect of life and living - every aspect of nature.

The environment undergoes and adjusts to change caused by natural phenomena. Man has added to these changes because of his own activities. He has overgrazed pastures, cleared steep slopes, blocked rivers, over-farmed land, over-killed wildlife, felled too many trees, built roads and communities, drained swamps - and has surface and underground mined many commodities. In order to adjust to the man-made changes, nature needs man's assistance.

In the past, relatively little concern was given to the impact of man's actions upon the environment. However, in recent years, many people have insisted that we become aware of air and water pollution, soil erosion, stream siltation and mutilated landscapes as major obstacles to both the quality of the environment and man's future condition on earth. Perhaps man has been greedy, thoughtless, careless or just plain ignorant; and he is just now learning that he must keep nature in business because it is necessary for his own continued happy existence. He is learning, and learning fast, that to stay in business, he must help to keep nature in business.

It is clear that we are on the threshold of a great mining expansion on this continent. As the world economy grows, and what we now call developing nations evolve into more or less developed countries and regions, so will grow the demand for all minerals: minerals for metals; minerals for fertilizers; minerals for energy.

Many of the new mines will be operated on the surface rather than underground, for many good reasons. And they will be operated by a mining industry that recognizes and accepts its responsibilities to preserving the environment; and that when the environment must be disturbed, the industry must restore it to an acceptable standard and make it suitable for whatever land use has been agreed in advance by all concerned.

As well as employing the best technologies to produce larger amounts of coal and minerals, the industry must also employ the best technologies to protect the environment.

Surface mining is the safest and most efficient method of removing coal from its bed. In the past it has had undesirable effects. But new awareness, and new technologies arising from research and experiments in many countries now enable coal operators to mine and reclaim so that the land is restored - and very often improved - in a relatively short time. This work must continue, so that some damages we now think of as inevitable can be minimized.

It is clear that disturbance of the environment to meet man's energy needs can no longer be allowed to leave behind a heritage of devastation. The alternative course which we must follow is expensive and demanding. It is the course of planned and effective land reclamation, of continuous striving to explore and develop improved methods, and of educating and training people in their effective application.

For the reclamation of surface mined land, feasible criteria should be established by governments in consultation with the coal industry and with all concerned citizens. The criteria should recognize that each surface mining operation and locality has its own unique characteristics, and that the criteria will probably be more effective if they are stated in terms of results and objectives.

Having referred to governments, perhaps a few words would be in order regarding their role in keeping nature in business. The provincial government departments charged with the responsibility for mines and for the environment have a special contribution to make in reclamation. For this is not an issue which lends itself to pontification by an effete mandarin in a distant capital for its solution. Rather, it calls for reclamation experts and engineers in these departments with the same qualifications and skills as those working in the mining industry itself, who are not too proud to put on their waterproof boots and go sloshing in the mud with their industrial counterparts, looking for the most practical way of doing things, recognizing that each mining situation is unique, and that no one imposed set of standards can possibly apply to even one mine. Flexibility

and good professional common sense, based on the best available technologies and applied specifically to each mine, are the essentials of good reclamation.

With coal's renaissance there has been some fear and speculation that environmental concerns would fall by the way-side. This is far from reality. In recent years the nation's awareness of its many-sided dependence on energy has sharpened. Over the same period, Canadians have grown increasingly conscientious in respect to their unparalleled environment. Can these concerns be reconciled? I think they can. A synthesis seems to be developing which could result in a new concept - an energy-environmental balance. The coal industry - and I am sure the same can be said for the mining industry - recognizes its role in creating and maintaining this balance, and will continue its programs for the improvement and application of environmental safeguards and the reclamation of disturbed lands.

What we have witnessed over the last few years in the resurgence of coal as a major source of energy is relatively insignificant compared to the requirements for this commodity in the not too distant future. The experts who predict coal demand to the end of this century and beyond put different numbers in their forecasts. What these numbers have in common is that they are all very large. I do not intend to become involved in a guessing game, but merely wish to point out that if you take the most conservative of predictions, you will conclude that by the year 2000, the annual production of coal will be in the order of four to five times its present level; and that may well double by 2025.

That is a lot of coal, and it means a lot of land will have to be disturbed in order to win it, and that land will have to be reclaimed. The conventional mining industry is more cyclical than coal, and it might not expand as dramatically as the coal industry must. But expand it will. Obviously, in total, we are talking about mining and consequent land reclamation on a scale never before dreamed of in Canada.

Those of you attending this Symposium are, for the most part, professionals in the field of reclamation. You represent several sciences, all of which have a specific and essential contribution to make to the complex mixture of knowledge, skills and experience which results in reclamation. Your future responsibilities will be very closely tied to the various commitments the mining industry must meet. You have a big load to shoulder. That load is not merely quantitative, although the expansion I have referred to does indicate large quantities, but also you are going to have to do your share in raising the state-of-the-art of reclamation from its present relative infancy to that of a mature technology in a matter of a few years only.

Your professional competence must be maintained and improved. Today's students; and I am so pleased that they are represented at this Symposium, have chosen a career which offers them a tremendous future. If I were a young Canadian, I know exactly what I would be doing today to develop a satisfying career, and that is what you are doing.

Man is supposed to manage his activities in relation to nature so that his needs may be met with least harm to nature. Because there are many people and they all want different things at different times, but often in the same place, it is important to have a good criteria and guidelines. If we know what we want, we should be able to know how we are to get it, making sure that we don't upset nature or our communities. How we do this should be discussed with all concerned and after agreement, should be written down. These are the "rules of the game", as people should play it.

Discussing reclamation, agreeing on some rules, recommending what should be done by whom, how, when and where, and seeing that it gets done fairly and properly; this is what governments and the mining industry must do to meet our needs and keep nature in business.

The mining industry has a real concern with discharging its responsibilities. It is prepared to do the things that it can believe in as

fair, clear, practical, reasonable and necessary. It is prepared to work with governments in deciding what these things should be.

All of this implies that we are going to have to work hard, perhaps I should say we are going to have to work harder and work together, to keep nature in business. But it will be worth all our efforts.

I hope that in say 1994, my successor, or somebody else who cares deeply about the environment, will come to this annual Symposium and deliver Part III of this paper. I hope it will be possible for him to say that in the fifteen years since Garnet Page spoke on Keeping Nature in Business, Part II, more than half a billion tons of coal have been taken out of the ground in Western Canada, scores of metal mines have been added to those already in operation, and no matter where the coal miners and the hard rock miners have worked, the land they once disturbed is available for Canadians to enjoy in perpetuity, be it for forestry, agriculture, recreation or for nature herself. No one has been a loser: the coal and minerals were fairly won with skill and hard work; and nature was properly restored with skill and hard work.

Ladies and gentlemen, it all depends on your skills, your mutual cooperation, and your hard work. I wish you well!