

16. Before a drilling rig is moved away from a drill hole, a tag indicating the company name and drill hole location to be placed facing and in close proximity to the hole but in no case more than thirty (30) feet from the hole location.

17. Total disposal of debris must be carried out for a distance of 300 feet from the high water mark of all rivers and for a distance of 150 feet from high water mark of secondary streams.

18. All vertical cuts made along slopes that are deeper than two feet in depth are to be backsloped to a minimum 1 1/2:1 slope ratio.

19. Continuous liaison shall be maintained with the officer designated by Forest Superintendent _____ of the _____ Forest, and these officers will oversee your program.

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In preparing this short talk, I assumed the group would be primarily interested in surface disturbance as it relates to coal exploration and surface mining. I will therefore give a general run down of present governmental procedures and policies with reference to this activity.

In brief, if a company proposed to mine coal, it would normally follow this procedure:

1. request the minerals be offered for sale.
2. obtain an exploration permit to determine location and extent of minerals.
3. once minerals established, obtain a mining permit and a mineral surface lease to mine.
4. after completion of mining and reclamation, obtain a reclamation certificate.

(1) To go into each of these stages more fully therefore, and the various environmental protection measures being utilized, let us consider first Stage 1 - sale or lease of minerals. (Here it should be pointed out that in foothills and mountain areas where coal is likely to occur a large proportion of the minerals have already been disposed of). Where they have not been disposed of, a mineral application or request is referred to the Mineral Referral Review Committee. The committee has representatives from the various resource disciplines as well as the Department of Mines and Minerals. Once a request for mineral sale is received, the committee makes recommendations to the Deputy Minister of the Environment as to advisability of sale, of all or part of the area and/or environmental protection conditions which should be attached if sale is approved.

(2) If the mineral sale is approved, the next stage, Stage 2 is normally exploratory. Authority to explore for coal or any other purpose entailing more surface damage than a purely geophysical operation for oil and gas is issued pursuant to the Public Lands Act. Once an application is made, it is submitted to an interdepartmental committee (commonly known as the coal committee), consisting of a Biologist, Agrologist and a Forestry representative. Recommendations of approving the project as a whole or in part plus any special reclamation or land use conditions, which should apply are made to the Deputy Minister of Lands and Forests. The Minister

of Lands and Forests makes the final decision as to whether the project will proceed or not. To date, outside of certain selected areas, pretty well all exploration programs have been approved. Exceptions have been select watershed areas and Wilmore Wilderness Park.

Stage 3 - If the company decides to mine, it makes a mineral surface lease application through the Lands Division. This application is referred to the various resource personnel, Fish & Wildlife, Water Resources, Forestry, etc. After comments have been made, a meeting is held with the governmental agencies and company to go over the proposal. If mine location considered is satisfactory, a letter of approval with conditions is issued by the Minister of Lands and Forests. Before development proceeds, however, the company is required to submit a development and reclamation plan. This is again forwarded to the various government agencies for comment. A development and reclamation committee go over the proposed development plan with the company.

As mining progresses, periodic meetings are held with the company to scrutinize and evaluate on a continuing basis on-going development programs.

These procedures have pretty well evolved over the past couple of years, since coal mining became an important industry in the foothills area.

The legislative authority presently for environmental protection rests in the Forestry, Lands, Water Resources and Fish & Wildlife Acts. Enforcement of the land use, reclamation conditions has generally been the responsibility of Lands or Forestry personnel, assisted by Water Resources and Fish & Wildlife. The area of over all inspection and enforcement responsibilities has as yet not been clearly defined.

As far as the outlook for the future is concerned, during the fall and winter 1971-72 five inter-disciplinary task forces were established and reports submitted to the Director of Interdepartmental Planning, Dept. of the Environment, to deal with surface disturbance and reclamation. The task force were:

- 1) coal exploration and surface mining
- 2) sand and gravel exploration and development
- 3) oil and gas exploration and development
- 4) sanitary landfill
- 5) stream bank protection

These task forces were established in an attempt to deal with all surface disturbance and reclamation comprehensively, and equitably, whether it is a surface mining, sand or gravel removal, oil and gas activity or what have you. Also, it was felt there was a need to bring together the various and sometimes overlapping environmental protection acts and regulations as they exist within the various departments and divisions. This would streamline both administrative and enforcement procedures which would be an advantage to both government and industry. This amalgamation and streamlining has already been done to some extent by bringing Water Resources, Environmental Health and the Reclamation Council into one department, the Department of the Environment.

The proposed surface disturbance and conservation act, under the Department of the Environment, which is to utilize the reports of the various task forces outlined previously, has not been tabled in the legislature as yet, but is expected to be before the 1972 spring session ends.

G. Stephenson
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(Summary Only of Talk Presented)

Comments on Canmore Mines - have been operating in Bow Valley since 1886, surface mining last four (?) years. Nine out of ten coal companies are concerned about the environment, for the following two reasons:

- 1) public image
- 2) more conscientious reasons

Concern the company shows for reclamation depends on three things:

- 1) depends on the personal concern of the individuals in charge of the company
- 2) attitude of the owners of the company - many are prepared to put money into it
- 3) depends on the attitude of the average employee, not only the owners but the people working for that company -- a case of educating employees as to what and what not should be done.

I believe that until proven otherwise, you get more things done by talking than by fighting. As an example, to quote Sir Winston Churchill, "Talk, talk, talk rather than war, war, war". My point is in your attitude to coal companies. Give them a chance to explain to you what they are trying to do and retain the cooperation of the coal companies. Unfair criticism by people who do not know the facts of the operations of the coal companies creates adverse reaction.

Showed Slides.

1. Canmore Corridor area.
2. Coal seam.
3. Site after strip mining is completed.
4. Same section of strip mine after reclamation - absolutely impossible to bring area back exactly as it was before strip mining.
5. Bull-dozing.
6. Abandoned mine, showing the worst possible condition.
7. Shows the three separate stock piles - rocks, gravel and soil - located on Mount Rundle strip mine.
8. Recharge pond.
9. View of Mount Rundle strip mine.
10. Strip mine shown earlier - full length of valley - originally covered with dense lumber.
11. Same strip mine taken from exactly the same point, looking the other way.
12. Mulching operation in progress.
13. Closer view, about two weeks after mulching operation.
14. How an area completely covered by dense forest can be opened up a little and possibly create pasture suitable for wildlife.
15. This is the only area for which I have a slide, shows a nine acre experiment plot on which we did establish vegetation.

It is my honest belief that where reclamation is not possible after surface mining, there should be no surface mining.