

Tom Schwetz
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COAL MOUNTAIN OPERATIONS

ELKVIEW COAL CORPORATION

LINE CREEK RESOURCES LTD.

GREENHILLS OPERATIONS

FORDING RIVER OPERATIONS

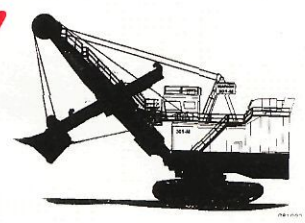
*thank you for
celebrating*

MINING WEEK

MAY 12-18, 1997

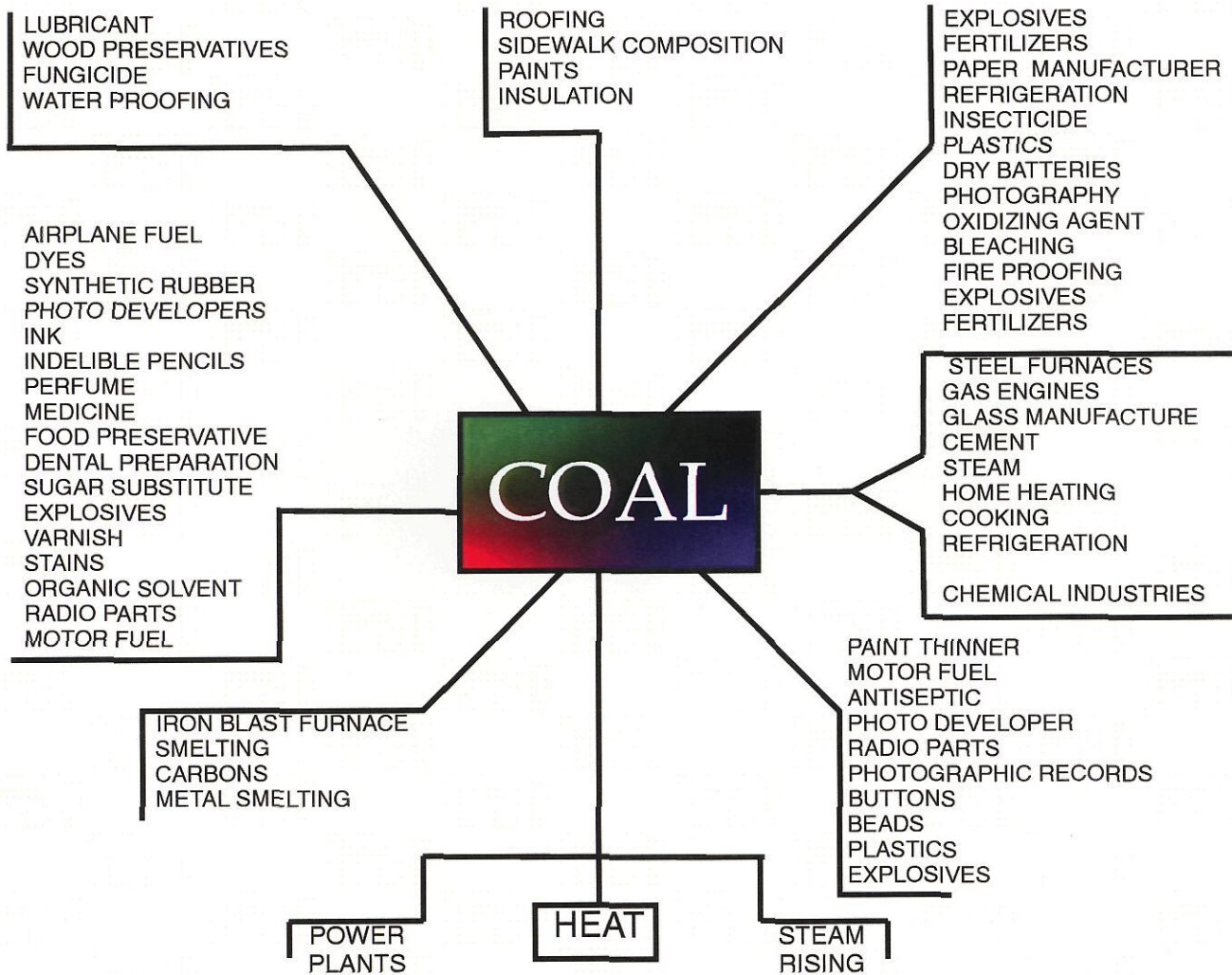
with us

**"MINING IS OUR HERITAGE -
AND OUR FUTURE"**



COAL

**MORE THAN
A FUEL**



THE MANY FACES OF COAL

For centuries, coal has been burned as a source of heat and energy. Today, coal generates 47 percent of the world's electricity, and is used to produce 75 percent of the world's steel. Yet coal has other important uses. Gases, oils and tars can be extracted and used in the manufacture of products ranging from gasoline and perfumes to mothballs and baking powder. The processes used to extract gases and liquids from coal differ slightly based on the objective of the process and/or the desired end products.

Coal can be processed many different ways to create a wide variety of products. Despite this, Canadian coal is not currently widely used for purposes other than electrical generation, heating or steel production. However, this may not always be the case. As technology improves and the costs of other fuel sources rise, the potential for processing Canadian coal into other products is expected to increase significantly.

CAREERS IN THE MINERALS INDUSTRY

SUMMARY OF EMPLOYMENT OPPORTUNITIES

EXPLORATION

- ◆ Geologist
- ◆ Mining Engineer
- ◆ Mining Technologist
- ◆ Geophysical Consultant
- ◆ Metallurgical Engineer
- ◆ Surveyors & Assistant
- ◆ Prospector
- ◆ Accountant
- ◆ Mechanic
- ◆ Expediter
- ◆ Heavy Equipment Operator
- ◆ Drill Machine Operator
- ◆ Blaster
- ◆ Diamond Driller
- ◆ Cook
- ◆ Camp Manager
- ◆ Legal Advisor

DEVELOPMENT OF THE ORE BODY

- ◆ Engineer:
 - ◆ Mining
 - ◆ Mineral Process
 - ◆ Metallurgical
 - ◆ Mechanical
 - ◆ Civil
 - ◆ Electrical
 - ◆ Geological
- ◆ Economist
- ◆ Environmental Specialist
- ◆ Environment Technologist
- ◆ Mining Consultant
- ◆ Government Regulator

MILLING & MINERAL PROCESSES

- ◆ Lab Chemist
- ◆ Mineral Process Engineer
- ◆ Industrial Engineer
- ◆ Crushing, Grinding,
Flotation Operator
- ◆ Instrument Specialist

RECLAMATION/ ENVIRONMENT

- ◆ Physical Science
Technologist
- ◆ Forester
- ◆ Agricultural Technologist
- ◆ Laborer
- ◆ Biologist
- ◆ Fish & Wildlife Specialist

MINE WORKERS

- ◆ Financial Officer
- ◆ Purchasing Agent
- ◆ Miner
- ◆ Truck Driver
- ◆ Instrument Technician
- ◆ Geologist
- ◆ Heavy Equipment Operator
- ◆ Personnel Officer
- ◆ Mining Engineer
- ◆ Computer Programmer
- ◆ Surveyor
- ◆ Office Support
- ◆ Accountant
- ◆ Mine Inspector
- ◆ Safety Personnel
- ◆ Industrial Hygienist

TRADESMEN

- ◆ Electrician
- ◆ Welder
- ◆ Mechanic
- ◆ Machinist
- ◆ Carpenter

COMMUNICATORS

- ◆ Desktop Publisher
- ◆ Public Speaker
- ◆ Writers/Photographer
- ◆ Graphic Expert
- ◆ Media Consultant
- ◆ Commercial Artist/Painter

COMMODITY SALES & TRANSPORTATION

- ◆ Sales & Marketing
Representative
- ◆ Economist
- ◆ Administrator
- ◆ Clerical
- ◆ Transportation Expert
- ◆ Commodity Expert
- ◆ Financial Expert

COAL

WHAT DO YOU KNOW?

1. Is coal the world's most abundant fossil fuel?

Estimates say the world's coal reserves will last between 235 and 1500 years, while oil reserves are expected to last between 45 and 60 years, and natural gas between 70 and 120 years.

2. Are coal reserves found all around the world?

Abundant coal deposits are relatively evenly distributed around the world.

3. Is oil cheaper to transport than coal?

Oil lends itself to transportation by pipeline which is a very economical way to transport bulk commodities. Although Canada's railways are efficient, the cost per unit of energy to move coal is considerably higher than the cost of transporting oil in a pipeline.

4. How much of the world's electricity is produced using coal?

Approximately 47 per cent of the world's electricity is generated using coal.

5. Is most of Canada's coal production used in Canada?

In 1994, 58 per cent of 72.8 million tonnes of coal produced in Canada was used in Canada.

6. Is Canadian coal mined in tunnels in the ground or in open pit mines?

Ninety-one per cent of Canada's coal production is mined from the surface from either open pit or strip mines.

7. How much Canadian coal is exported?

Of the 72.8 million tonnes of coal produced in Canada in 1994, 31 million tonnes, or 42 per cent was exported. These exports were valued at \$1.9 billion.

8. Is coal a non-renewable resource?

Like all fossil fuels, coal is a non-renewable resource; but because of its abundance, coal has more potential to serve as a long-term energy source than do other fossil fuels.

9. How much production of steel is dependent on coal?

In 1994, coal was used in the manufacture of 75 per cent of the world's steel.

10. With the discovery of oil and gas, is coal less important as an energy source in Canada?

Oil and gas took the place of coal as a primary fuel source in Canada during the 1940s. In recent years, however, there has been a major resurgence in demand for Canadian coal for electric power generation and steel making.

11. Is coal found in all provinces of Canada?

Coal is found primarily in the western provinces although smaller deposits are found throughout most of Canada, with the exception of Quebec and Prince Edward Island.

COAL

WHAT DO YOU KNOW?

12. Is coal mining in Canada a safe occupation?

Accident frequency rates for coal mines in Alberta and British Columbia are less than most other industries.

13. Are Canadian coal mining companies striving to protect the environment?

Environmental protection is a high priority for Canadian coal mining companies. Land reclamation, as well as water and air management programs, are conducted at all Canadian coal mines. Similarly, most Canadian coal-fired power plants are either equipped with emission-control technology or burn low-sulphur coal.

14. Is coal mining in Canada a temporary land use?

After mining, Canadian coal producers return land to a condition comparable to that which existed before mining.

15. When will Canada's coal reserves run out at our present rate of consumption?

Estimates place the life of Canada's proved coal reserves at 235 years at current rates of consumption. In addition to proved reserves, Canada has enormous volumes of non-proved resources which have potential for development in the longer term.

16. Does the Canadian railway system rely on coal power?

Canadian railways had stopped using coal as a fuel source by 1960.

17. Does all coal contain the same amount of sulphur?

Most western Canadian coal contains less than 1 per cent sulphur, up to 12 times less than coal found in the eastern United States.

18. When will Canada's oil and gas reserves run out at current rates of consumption?

Canada's conventional oil and gas reserves are expected to last 13 and 27 years respectively at current rates of consumption. Non-conventional sources such as tar sands could extend the life of Canada's oil and gas reserves by at least several decades.

19. How important is Canada's coal industry to the Canadian economy?

The coal industry in Canada provides direct and indirect employment to thousands of Canadians, pays millions of dollars in taxes and fees each year, and contributes to our balance of trade through exports. The coal industry is also an important source of revenue for Canada's railways and ports.

20. How much electricity do coal-fired electric generating stations in Canada produce?

Eighteen per cent of Canada's electricity is produced using coal, 62 per cent using hydro, 16 per cent using nuclear, and approximately four per cent using oil and natural gas.

COAL

WHAT DO YOU KNOW?

21. **Is the Canadian coal industry helping develop technologies to burn coal more cleanly?**

New technologies are being developed by the Canadian coal industry to help ensure environmental protection.

22. **What part does coal play in my daily life?**

Coal is used to generate 18 per cent of Canada's electricity and, in provinces such as Alberta, Saskatchewan and Nova Scotia, coal is the primary source of electricity. Coal is also used in the production of many products and appliances which contain steel. The coal industry is responsible for employing thousands of Canadians and for making significant contributions to Canada's economy.

23. **Did coal play a major role in the development of western Canada?**

Coal was the primary fuel used by the railways during the development of Canada's western provinces in the 1800s.

24. **Is land reclamation at coal mines in Canada done after the mines close?**

Land reclamation is a key part of the mining process for all Canadian coal mines and is performed on an ongoing basis throughout the life of a mine.

25. **Is most coal exported from Canada shipped to the United States?**

In 1994, 56 per cent - 17.4 million tonnes - of the coal exported from Canada was exported to Japan. In the same year, 600,000 tonnes were exported to the United States.

26. **Is the coal industry in Canada a relatively unregulated industry?**

No! The coal industry is one of the most highly regulated of Canadian industries.

27. **Do Canadian coal companies involve the public in the mine development planning process?**

Public consultation is an integral part of all Canadian mine planning and development.

28. **Did you know there is more stored energy in Canada's coal than all of the country's oil, natural gas, and oil sand combined.**

29. **Did you know one ounce of coal (30 grams) has all the energy needed to pop a bag of microwave popcorn. One ounce of coal will also power a Nintendo for 20 minutes.**

30. **Did you know by 2010, it is expected that coal will overtake oil as the single most important source of energy used on earth.**

31. **Did you know coal adds almost \$6 billion per annum to the Canadian economy.**

COAL

WHERE DOES IT COME FROM?

Coal, the most abundant and wide spread of the fossil fuels, originated in primeval lagoons and swamps throughout geologic history. Unlike petroleum, which is derived from the decayed remains of marine (saltwater) animals; coal is formed from the decayed remains of trees and other terrestrial vegetation.

The process of coal formation begins as successive generations of plantlife accumulate in a given area such as a shallow swamp or lake. As the vegetation dies and accumulates, it begins to decay, through bacterial activity. This accumulation and decay process must continue for many thousands, possibly millions of years in order to accumulate sufficient plant material to eventually produce an average size coal seam. At this stage, the accumulation of decayed vegetation is known as peat. It has been estimated that more than 20 metres of accumulated plant material are required to produce 1 metre of coal.








The bed of peat is then covered by many layers of sediment, which compresses the peat, driving out the moisture and beginning the process of coal formation. The extreme pressures combined with the steadily increasing temperature as the peat is buried deeper and deeper, slowly changes the peat to lignite (brown coal), bituminous (i.e. Elk Valley coalfield), and finally, to anthracite coal. The process is often aided by temperature and pressure increases associated with mountain building (tectonic) activity.

Each stage of coalification further reduces the moisture and gas content of the coal, and increases the carbon content. The entire process takes place over millions of years. In the Elk Valley coalfield, the coal bearing formation (Mist Mountain Formation) was eventually covered by many thousands of metres of non-coal bearing sediments which were eventually uplifted during the formation of the Rocky Mountains. Millions of years of erosion have, in certain areas, removed the overlying rock layers, bringing the coal seams nearer to the surface, where they can be mined and utilized.



COAL MINING & THE ENVIRONMENT



-  Coal mining is a temporary use of the land with high economic benefits being derived during its use.
-  The lands disturbed by mining are then reclaimed to end land uses of wildlife range, forest or recreation.
-  Progressive reclamation is practiced at all Elk Valley coal mines.
-  All local mines have permanent environmental staff which are responsible for land reclamation and management of air and water quality.
-  Many environmental awards have been presented to local coal mines for their outstanding achievements in land reclamation, research, and fish and wildlife programs.
-  The environment around the mines boasts abundant wildlife populations, clean water and high quality fisheries.
-  Over \$4 million/year is spent on environmental programs at the local mines.

