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ANNUAL REPORT

MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES



PROVINCE OF BRITISH COLUMBIA

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To
The Honourable Anne Edwards
Minister of Energy, Mines and Petroleum Resources

Minister:

It is my honour to submit to you the Annual Report of the Ministry of Energy, Mines and Petroleum Resources. This report details ministry activities for the period April 1, 1993 to March 31, 1994.

A handwritten signature in cursive script, reading "Brenda Eaton".

Brenda Eaton
Deputy Minister



To
The Honourable David C. Lam
Lieutenant-Governor of British Columbia

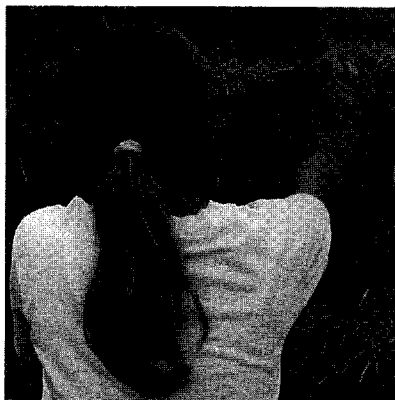
May It Please Your Honour:

I respectfully submit the Annual Report of the Ministry of Energy, Mines and Petroleum Resources. This report details ministry activities for the period April 1, 1993 to March 31, 1994, and is an accurate account of our achievements during that time.

A handwritten signature in cursive script that reads "Anne Edwards". The signature is fluid and elegant, with a large initial 'A' and 'E'.

Anne Edwards
Minister

HIGHLIGHTS



The Ministry of Energy, Mines and Petroleum Resources ensures that the province's energy and mineral resources are developed and used in a safe, efficient and environmentally sound manner.

Within the overall need for spending restraint, the ministry developed and implemented programs and strategies that helped the energy and mining sectors take advantage of improving market conditions.

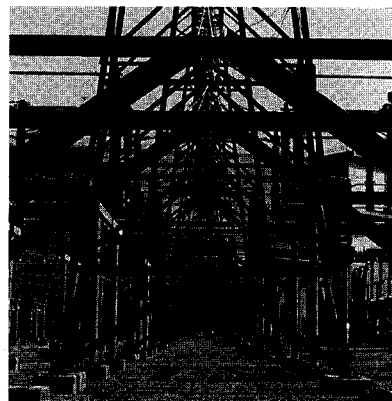
Energy and mining, when combined, directly account for 5.6 percent of provincial GDP and about \$1 in every \$10 of provincial revenues.

To reflect the importance of these industries and their long-term viability, in 1993/94 the ministry

embarked on a series of initiatives designed to stimulate development within an environmentally sound and sustainable framework.

ENERGY

- Average wellhead prices for natural gas rose from \$1.17 per thousand cubic feet in 1992 to \$1.42 per thousand cubic feet in 1993, contributing to a resurgence in exploration and development activities in northeast B.C.
- Government revenues from bonus bids, fees and rentals rose to \$215 million from \$63 million the previous year, an increase of 240 percent.
- Oil and gas drilling activity more than doubled with 446 wells drilled in the 1993/94 fiscal year. Fifty new oil or gas pools were discovered, most of them in the foothills and northeast plains. This led to an increase in subsurface mapping, resource inventories and reserves calculations.
- Natural gas reserves climbed to 245 billion cubic metres from 239 billion cubic metres the previous year. At the same time, energy removal authorizations were issued for a total of 15.8 billion cubic metres of natural gas over terms from three to 15 years.
- Crude oil reserves rose to 18 million cubic metres, after an increase of 2.5 million cubic metres in new reserves and production of two million cubic metres.
- Twenty-two conservation projects encompassing enhanced oil recovery, gas conservation proposals and good engineering practices received ministry reviews and technical approvals. The most significant of these was Imperial Oil Limited's \$12.5 million pilot proposal for enhanced oil recovery, to test and evaluate the use of solvent injection to increase the producible oil reserves in the Boundary Lake field.

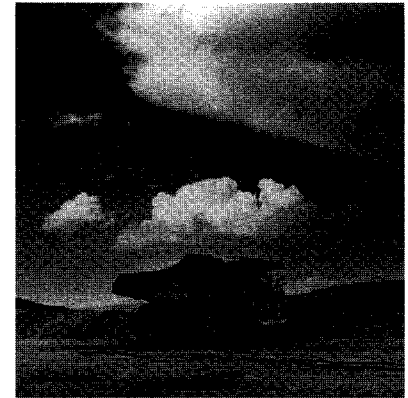


- There were 540 drilling rig inspections and 232 service rig inspections this fiscal year and ministry staff prepared 8 501 well site and facility inspection reports.
- Negotiations over return of Canada's entitlement to downstream power benefits under the Columbia River Treaty continued.
- Energy efficiency standards were raised for many energy-consuming appliances and products sold in the province, and new products were added to the list.
- A long-term firm power exports policy was approved by the government in July 1993, setting the guidelines for both power utilities and private producers to export surplus electricity under contracts of up to 20 years.
- Two new energy projects were approved this year. The Alkolkolex Hydro Project will see a small hydroelectric project built in the Revelstoke area and an expansion to the Aitken Creek Gas Processing Plant, northeast

of Fort St. John will increase its processing capacity by 2.9 million cubic metres per day.

- Environmental concerns also were a high priority. Options have been put forward to reduce nitrogen oxide emissions by the Burrard Thermal Plant. The power potential of wood residue (currently burned in beehive burners) is being studied as are other alternative power sources, such as wind and solar power. A request for proposals to replace the diesel generating plants in the Queen Charlotte Islands has been issued.
- In September 1993, the province approved the extension of the Power Exchange Operation (PEO) into the domestic market for transactions of up to one year. The PEO is a buy/sell marketplace that gives utilities, private power producers and industrial customers access to market-priced surplus electricity and services which were previously only available in the inter-utility export market.

MINERALS



In 1993/94 the industry showed signs of revitalization:

- Copper prices reversed their downward trend in late 1993 and regained most of the loss experienced since the beginning of the fiscal year.
- B.C. coal production recovered, increasing by three million tonnes in 1992 to 20 million.
- The 1994/95 provincial budget, introduced at the end of the 1993/94 fiscal year, reduced the industry tax burden and supported exploration work with benefits totaling \$100 million over five years.

- Nine projects were granted Mine Development Certificates in 1993/94; three for new mining operations—Eskay Creek, Mount Milligan and Hedley Tailings; four for projects approved in-principle several years ago; and two for expansions to existing operations.
- Construction started at Eskay Creek in March 1994 and once in production the mine is expected to employ up to 110 people for ten years.
- A number of new exploration projects proved promising including Red Mountain and Fish Lake which entered the Mine Development Assessment Process in 1993. Results at Kemess South and Huckleberry were also encouraging.
- After a three-year decline, the number of Free Miner Certificates awarded increased in 1993/94. More than 4 500 were issued to corporations and individuals.

Other highlights include:

- A protocol agreement with the Ministry of Environment, Lands and Parks, signed in October 1993, to streamline the application

process for acquiring industrial mineral tenures and quarry permits will simplify the development process for B.C.'s growing industrial mineral sector.

- The level of reclamation security held by the ministry to ensure reclamation costs are provided for increased from \$100 million in 1992 to \$118 million in 1993.
- The Geological Survey Branch completed a mineral potential mapping program for one-third of the province. This information is necessary for land use planners to ensure that access to mineral resources is maintained.
- The ministry, and representatives from BC Parks, First Nations, industry and individual stakeholders, co-chaired the multi-stakeholder planning process which led to the creation of the Ts'yl-os Provincial Park. Ministry participation helped to maintain access to the mineral resources in the region.
- 1 425 inspections of coal mines, exploration sites, placer mines, rock quarries, and sand and gravel operations were completed during 1993/94.

- Comprehensive mine safety audits were conducted at the Bullmoose, Island Copper, Similco, Snip and Sullivan mines.

FIRST NATIONS

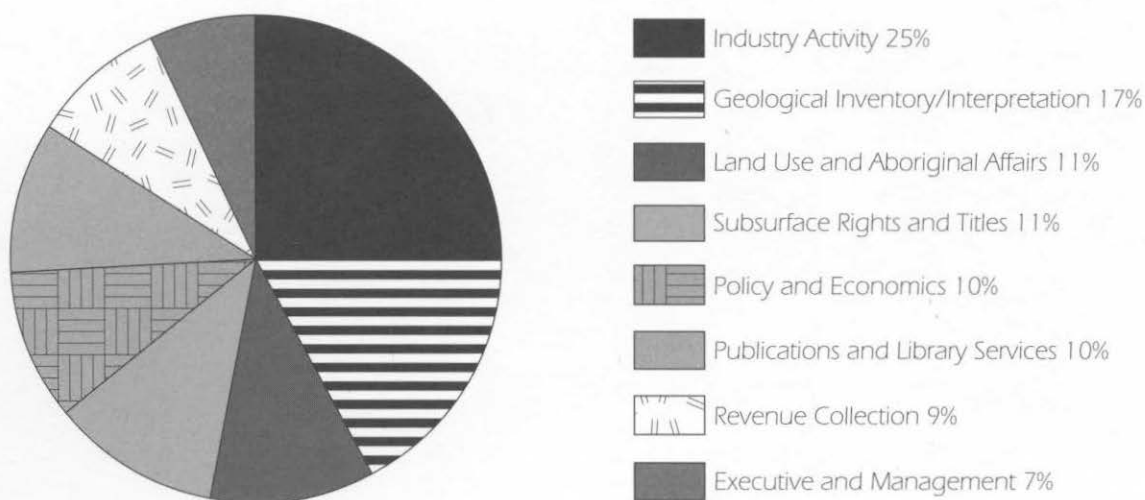


- The ministry conducted an extensive review of its relations with First Nations and identified measures for improving consultations on project evaluations, communications on mining issues and staff awareness of aboriginal concerns.
- The ministry sponsored the third forum on First Nations' participation in mining in Prince George.

1993/94 EXPENDITURES BY MINISTRY FUNCTION

	Clean Choice Program and Revenue Sharing Agreements	Minister	Dep. Minister/ Communications	Revenue and Operations	Energy Division	Minerals Division	Total \$
Industry Activity	—	—	2 909	98 717	3 227 046	5 801 127	9 129 799
Geological Inventory/Interpretation	—	—	—	59 896	876 794	5 124 095	6 060 785
Land Use and Aboriginal Consultations	—	—	—	—	1 341 291	2 662 730	4 004 021
Subsurface Rights and Titles	—	—	—	—	1 177 669	2 672 785	3 850 454
Policy and Economics	—	—	—	—	2 314 092	1 378 017	3 692 109
Publications and Library Services	—	—	509 796	171 788	779 402	2 031 035	3 492 021
Revenue Collection	—	—	—	2 591 782	273 849	236 547	3 102 178
Executive and Management	—	443 843	579 554	467 470	518 375	440 504	2 449 746
Total Active Programs		\$443 843	\$1 092 259	\$3 389 653	\$10 508 518	\$20 346 840	\$35 781 113
Grants and Contributions	4 089 381	—	—	16 941 219	227 440	260 620	21 518 660
Total	\$4 089 381	\$443 843	\$1 092 259	\$20 330 872	\$10 735 958	\$20 607 460	\$57 299 773

Note: "Industry Activity" includes Project Review and Permitting, and Environmental Health and Safety Inspections at mines and well sites.



ENERGY RESOURCES DIVISION

Activity in the province's oil and gas sector surged in 1993/94 as a result of improved prices for natural gas and increased product demand in the U.S. export market. The value of oil and gas production exceeded \$1 billion and new highs were recorded in the number of wells approved. The industry contributed \$355 million in direct revenues to the province through royalties, titles sales, permits, licenses and fees. Oil and gas reserves grew in 1993 as new discoveries outpaced the volumes produced.

The average price for natural gas rose from \$1.17 per thousand cubic feet in 1992, to \$1.42 per thousand cubic feet in 1993. That increase, combined with excellent prospects for gas reserve discoveries in B.C., sparked \$409 million in industry spending for exploration and development in B.C.'s gas basins.

To respond to elevated activity, the division has been assessing new well applications, processing plant and pipeline expansion projects, and an enhanced oil recovery project.

Following eight months of public consultation by the B.C. Energy Council (BCEC), the government announced the province's first long-term power export policy in July 1993. The new policy, which allows the commercial export of electricity on a long-term firm basis, includes conditions to ensure security of supply for B.C. consumers and protect environmental values.

It was announced in March 1994, as part of the 1994/95 provincial budget, that the B.C. Petroleum Corporation (BCPC) and BCEC would be concluded and their functions assumed by the ministry. The Oil and Gas Policy Branch and the Resource Revenue Branch have incorporated the functions of the BCPC. The BCEC's advisory role on energy policy is being assumed by the Energy Resources Division.

In 1993, the division participated in two major initiatives in the electricity sector—negotiations over return of Canada's entitlement to downstream power benefits under the Columbia River Treaty and B.C. Hydro's first Electric Systems Operation Review.

The division also participated in the government's ongoing land use and resource use planning processes throughout the province. The Commission on Resources and Environment (CORE), the Protected Areas Strategy (PAS) and Land and Resource Management Planning (LRMP), all used input from division staff particularly for activities in northeastern B.C.

The provincial government's energy efficiency regulations and the development of alternatives to fossil fuels were furthered in 1993. Energy efficiency standards, under the *Energy Efficiency Act*, were increased for a number of energy-consuming products sold in the province and new products were added. In February 1994, new building code energy

standards for housing were announced. Grants to assist homes and businesses on Vancouver Island to convert to natural gas were continued and expanded, the province's first methanol fueling station was opened, taxes were reduced or eliminated on several alternative energy products and new educational programs under the FuelSmart Program were launched.

The division's mandate is to encourage investment and employment in the energy sector while emphasizing conservation and environmental protection.

PETROLEUM GEOLOGY BRANCH

1993/94 Budget: \$816 000

Employees: 10

- Oil and gas pool evaluation and mapping
- Oil, gas and geothermal resource assessments

The branch, in conjunction with the Engineering and Operations Branch, assesses hydrocarbon and geothermal energy reserves in B.C. and calculates oil and gas resource inventories.

Evaluations and Mapping

Fifty new oil or gas pools were discovered in the 1993 calendar year, most of them in the foothills and northeast plains.

The branch's petroleum geologists were involved in the evaluation and sub-surface mapping of 235 wells in 1993/94. Two new gas fields (Aitken Creek and Romeo) and one oil field (Groundbirch) were designated for reserves accounting and infrastructure administration purposes in the fiscal year. Major geological evaluations and/or reviews were completed in the Oak Owl oil play, the Bullmoose-Sukunka-Murray gas play, the Pocketknife-Buckinghorse gas play and the Blueberry Field low permeability gas zone.

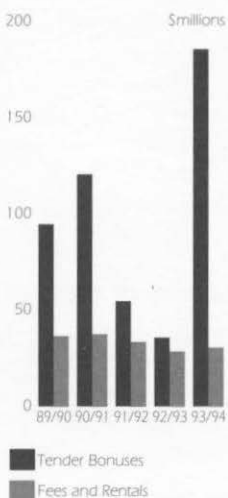
Resource Assessments for Land Use Planning

The branch provided data and advice for several land use and resource management

processes under way in the province, including CORE, PAS and LRMP. This required assessment of oil, gas and geothermal energy potential for use by the various study groups.

PETROLEUM TITLES BRANCH

Revenues from Bonuses,
Fees and Rentals



- Competitive sales of Crown petroleum, natural gas and geothermal rights
- Resource planning and regulation
- Crown petroleum tenures

1993/94 Budget: \$962 000

Employees: 15

A record year in natural gas exploration activity resulted in government's revenues from bonus bids, fees and rentals reaching \$215 million, an increase of 240 percent over the previous year and the highest revenue level in the last ten years.

The branch managed competitive bids for 1 124 parcels of oil and gas rights, after consultation with other provincial government agencies, local governments and the Treaty 8 Tribal Association. Maps detailing the locations of these proposals were made available to the public in Victoria, Fort St. John, Chetwynd and Calgary.

Records

The automated records management system was updated in 1993 to provide a more efficient, user-friendly tool for processing petroleum titles transactions and recording tenures. This improved tool contributed to the branch's ability to handle a 70 percent increase in new tenures without adding staff.

Streamlining

A number of amendments were made in 1993 to the *Petroleum and Natural Gas Act* and to the Drilling Licence Regulation. These changes streamline operating procedures and reduce industry costs.

The *Petroleum and Natural Gas Act* now allows regional staff to approve geophysical projects, rather than requiring head office approval. As well, the test production period for gas wells now allows term extensions and suspension of rental and work obligations to accommodate land use planning processes.

Amendments to the Drilling Licence Regulation were adopted to keep pace with changing technology and a maturing of the oil and gas sector in B.C. These changes include recognition of horizontal drilling techniques, increased interest in shallow gas drilling and the need to combine small licences to streamline administration processes.

ENGINEERING AND OPERATIONS

1993/94 Budget: \$3 100 000

Employees: 38

- Regulates and inspects exploration and production operations of B.C.'s oil and gas industry

Exploration and Drilling Activity

In 1993/94, the number of oil and gas wells more than doubled the previous year's level, with 446 wells drilled, up from 189 wells last year. The number of wells authorized for future drilling hit an all-time high of 596, eclipsing the old mark set in 1978. Geophysical exploration activity also surged in 1993/94, with a 64 percent increase in the number of crews active in the field. This level of activity indicates continued high levels of drilling in 1994/95.

Field Inspections and Audits

Engineering and Operations Branch activities are concentrated in two locations—the head office in Victoria and the field operations office just outside Fort St. John at Charlie Lake.

Field operations staff ensure oil and gas industry operations meet public safety, environmental protection, and protection of private property standards. In addition, field staff review and approve geophysical survey project proposals, handle inter-agency

referrals for well drilling and project applications, and represent ministry and subsurface rights holders' interests in land use discussions.

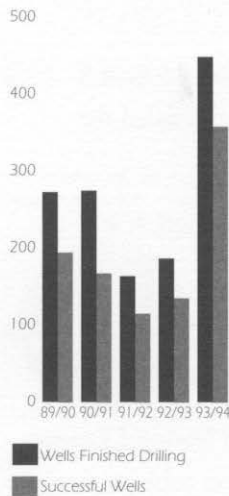
Victoria based personnel manage the branch's administrative operations, review well authorization and well transfer applications, prepare reserve estimates, set conservation and environmental standards, assist in the reviews of export proposals to ensure protection of domestic supply and publish a wide range of data relating to oil and gas.

Oil and Gas Reserves

The branch annually assesses oil and gas reserves. These reserves help to determine the surplus available for natural gas exports.

Additions to crude oil and natural gas reserves exceeded production in the 1993 calendar year. Natural gas reserves rose to 245 billion cubic metres from 239 billion cubic metres the previous year. More than 20.5 billion cubic metres of gas were added to reserves, while production was 15 billion cubic metres. Crude oil reserves rose to 18 million cubic metres after reserve additions of 2.5 million cubic metres and production of 2.0 million cubic metres.

B.C. Drilling Activity



Oil and Gas Conservation

Maximum allowable production rates were set for 56 oil wells and 149 gas wells. The branch also established technical approval for 22 conservation projects, including enhanced oil recovery initiatives, gas conservation proposals and improved engineering practices. The most significant of these was Imperial Oil Limited's \$12.5 million pilot proposal to test and evaluate the use of solvent injection to increase (potentially by 100 percent) the producible oil reserves in the Boundary Lake oil field. This field currently produces 25 percent of the province's crude oil. After assessing this project, branch staff arranged for royalty relief to generate the highest amount of revenue for the province while maintaining the economic viability of the pilot project.

Other major activities started in 1993 include a horizontal well drilling program that saw 33 oil and 18 gas wells drilled using this new technology. There is not yet enough production data to fully determine the impact of horizontal drilling on oil and gas production.

Land Use and Resource Management Planning

In conjunction with the Petroleum Titles Branch and the Petroleum Geology Branch, this branch analyzed established and potential oil and gas reserves that might be affected by the government's Protected Areas Strategy. The review demonstrated how diverse the impact of protection could be on the natural gas industry depending on the existing subsurface rights distribution, wells drilled and reserves discovered to date, and scientifically-based estimates of future discovery potential. This information will now be integrated into land planning processes. Staff were also involved in inter-agency meetings on the development of the Forest Practices Code, to ensure that the ministry will be able to enforce the code as it pertains to the petroleum and natural gas industry.

Staff in the field office in Charlie Lake were increasingly involved with other agencies' land use and resource plans for the northeast region of the province. Communities involved were Dawson Creek, Prince George, Fort Nelson, and Fort St. John. As part of this, much time was spent seeking public and agency comment on geophysical surveying and well drilling proposals.

Facility expansions

In 1993/94 the branch reviewed the merits of four major proposals for major gas plant construction or expansion.

- Unocal Canada Limited's Aitken Creek plant capacity was expanded from 4.5 million to seven million cubic metres of gas per day. The project included the installation of additional compression facilities.
- Colin Energy Corporation's Bougie Creek gas plant received approval. It will process 204 000 cubic metres of gas per day.
- Rigel Oil and Gas' Sikanni (Buckinghorse) gas plant was expanded from 1.3 million cubic metres of gas per day to 2.8 million cubic metres of gas per day.
- Westcoast Energy Incorporated's Pine River gas plant received National Energy Board (NEB) approval for a doubling of capacity, to 15.9 million cubic metres per day.

Orphan Wells Policy

Oil or gas wells that no longer produce, and whose owners no longer exist, are termed "orphan wells". These orphans are an environmental risk and dismantling them can be costly. In 1993/94 the branch prepared a discussion paper outlining options for dealing with orphan wells and for minimizing the likelihood of additional wells being orphaned. The goal is to implement policies that protect the public purse from having to deal with what should be an industry responsibility, likely through the establishment of a clean-up fund. Responses from interested parties, including industry, are being requested.

Field Inspections and Audits

Field staff in Fort St. John conducted 540 drilling rig inspections and 232 service rig inspections in 1993/94. As well, 8 501 well site and facility inspection reports were prepared. Geophysical inspections increased from 114 to 120 in the fiscal year.

In 1993/94, Fort St. John staff prepared two major petroleum industry guidelines—Geophysical Operating Guidelines and Guidelines for Construction and Clean-up of Roads and Well sites in Petroleum Exploration Areas. Both guidelines are designed to help industry comply with regulations and operating standards.

OIL AND GAS POLICY BRANCH

Destination of Gas
Produced in B.C.



■ Exports
■ Domestic Residential
■ Domestic Commercial/Industrial

1993/94 Budget: \$879 000

Employees: 8

- Oil and gas policy and analysis
- Energy Removal Certificates (natural gas)
- Represents B.C. interests at National Energy Board
- Oil and gas facility reviews
- Oil and gas markets database

The branch developed policy and market analysis initiatives to enhance supply security and economic return for B.C. from oil and gas resources.

Lower Mainland Gas Deliverability

The southwest region of the province, encompassing the Lower Mainland and Vancouver Island, is by far the most densely populated part of B.C. and it consumes the greatest amount of domestically used natural gas. In February 1994, the ministry published a discussion paper examining provincial natural gas security, including options for supply and deliverability to the southwest region.

Natural Gas Cogeneration

The branch completed a study on cogeneration, the simultaneous production of both electricity and thermal energy from a single fuel. The study compares the relative benefits to the province from each of five different siting options for natural gas fired cogeneration facilities. The five hypothetical 100-megawatt generation stations, three in B.C. and two in the U.S., are analyzed with respect to costs and benefits of B.C. versus U.S. locations. The key findings are that Lower Mainland cogenerators are competitive in supplying electricity to the Pacific Northwest and that, while substantial net economic benefits are obtained from natural gas exports, greater benefits may accrue from using the gas to fuel cogenerators which could supply electricity to the export market. The ministry welcomes comments on the paper.

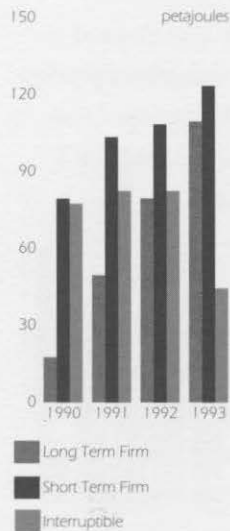
Enhanced Oil Recovery

In November 1993, the ministry agreed to a four-year enhanced oil recovery pilot project in the Boundary Lake field in northeast B.C. with Imperial Oil Limited. In exchange for oil royalty reductions, Imperial will spend \$10 million to test the potential for increasing oil recovery by injecting a solvent-mixture of propane, butane and pentanes into the oil reservoir. If successful, a commercial project valued at \$250 million and creating 250 person-years of direct employment is possible, and the recoverable oil volume of the oil reservoir could be doubled.

Energy Removal Certificates

In 1993, eight long-term Energy Removal Certificates for the export of up to 15.8 billion cubic metres of natural gas to U.S. customers over periods ranging from three to 15 years were approved:

Gas Exports to the U.S.



- New England Power Company is authorized to buy 225.7 million cubic metres over 15 years;
- certificates were issued to two Washington State power companies (Tenaska and Sumas Cogeneration Company) for 9.8 billion cubic metres of gas over 15 years;
- TM Star Fuel Company is permitted 1.5 billion cubic metres of gas over 15 years;
- San Diego Gas and Electric can buy two billion cubic metres of gas over 10 years;
- Cascade Natural Gas Corporation is authorized to buy 167 million cubic metres of gas over three years.

Canada-California Gas Supply Restructuring

New gas deregulation rules in California forced a restructuring of long-term contracts between Canadian producers and Alberta and Southern Gas Company Limited, an aggregator supplying gas to northern California. In 1992, the branch was active in intergovernmental negotiations and it participated in the NEB hearing that resulted in export restrictions on gas destined for northern California, which had been requested by the province and other intervenors.

These export restrictions prompted private sector negotiations that culminated in September 1993 with a “decontracting plan”, which would terminate the old contracts and set the stage for the negotiation of new contracts. The branch’s review determined that B.C. producers were treated equitably and that domestic consumers were protected by the new contractual arrangements. In October 1993, the branch requested that the NEB remove the export restrictions and proceeded to issue the required Energy Removal Certificates to bring the new contracts into effect.

B.C. Gas Reorganization

B.C. Gas Incorporated was asked by the B.C. Utilities Commission (BCUC) to implement a structural reorganization so the company’s gas utility assets would be isolated from its other business assets, thus allowing a more efficient regulatory evaluation of its capital structure. The reorganization required a legislative amendment as well as five related orders-in-council, all of which were handled by the branch.

Pine River Gas Plant

In June 1993, the NEB approved a proposal by Westcoast Energy Incorporated to embark on a \$300 million expansion of its Pine River Gas Plant and related pipeline systems. The branch and the Engineering and Operations Branch, in cooperation with the Ministry of Environment, Lands and Parks, ensured that the company's plans for the plant would meet provincial permitting requirements.

Westcoast Energy Expansion

In November 1993, Westcoast Energy Incorporated submitted a proposal to expand its natural gas processing and pipeline capacity. The Westcoast System Expansion Coordinating Committee was formed by the ministry to examine all public interest issues affected by the Westcoast proposal, and to identify permitting and approval requirements. This committee includes representatives from other provincial ministries, interested federal government departments and Westcoast officials.

Oil and Gas Market Database

Developed in 1992/93, the Natural Gas Market Information system automates data relating to natural gas Energy Removal Certificates, stores gas supply and sales contract information, and stores sales records received from BCPC and other sellers.

This data enables the branch to:

- monitor Energy Removal Certificates compliance;
- profile domestic and export sales;
- forecast royalties;
- maintain timely market intelligence for policy analysis.

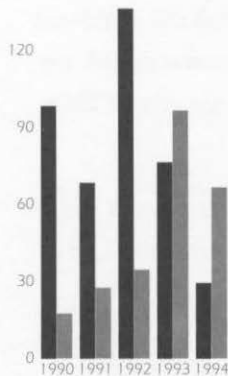
Information from the database is published in the division's *Energy Market Update* on a regular basis.

POWER AND PROJECTS BRANCH

Value of Electricity Exports

150
120
90
60
30
0

Smillions



■ Interruptible
■ Firm Contract

1993/94 Budget: \$787 000

Employees: 8

- Electricity policy and environmental analysis
- Project reviews
- Electricity exports

The Power and Projects Branch was created in May 1993 through amalgamation of the Project Analysis Branch and the Electricity Policy Branch.

Four major electricity policy initiatives were implemented in 1993/94—the long-term firm electricity export policy, B.C. Hydro's Electric Systems Operation Review, negotiations related to Canada's entitlement to the downstream power benefits under the Columbia River Treaty and a review of B.C. Hydro's Electricity Plan.

Long-term Power Exports

Following a public review conducted by BCEC in July 1993, the government announced a policy that allows power utilities and private producers to export surplus electric power under contracts of up to 20 years. To protect B.C.'s supply and price competitiveness, fair market access conditions ensure provincial purchasers can bid on power destined for export. While short-term firm and interruptible power exports have been permitted for many years, the issue of long-term firm exports has never before been publicly reviewed. The policy goal is to ensure surplus power is used to add value to provincial resources and is managed to create jobs and investment in the province.

Electric System Operations Review

In conjunction with the Minister responsible for B.C. Hydro, in June 1993 the Minister of Energy, Mines and Petroleum Resources instructed B.C. Hydro to begin a public review of its dam and reservoir system operating procedures, and to report on the potential trade-offs between power use and other uses of the utility's reservoirs. The branch coordinated government discussions on potential warranted changes to be considered by Cabinet following the review. A government report is pending.

Columbia River Treaty

In 1961, Canada and the U.S. signed the Columbia River Treaty to provide for construction of dams and electric power generating stations on the river system on both sides of the border. Three dams in B.C. offer water storage to regulate flows, which provides flood control and power generation in the U.S. Half the additional power generated in the U.S. belongs to B.C. At the time the treaty was signed, the power was surplus to B.C.'s needs and was sold for thirty years beginning in 1968, to a group of U.S. utilities.

There are several alternatives for maximizing the value of this historic power asset. In 1993 the branch became involved in international negotiations that will lead to a disposition of the power in the years after 1998.

B.C. Hydro Electricity Plan

B.C. Hydro submitted an updated electricity demand forecast in early 1994, along with an outline of the resources available to meet the demand. Officials in the branch reviewed the plan, concluding that the combination of existing supply and committed new resources is sufficient to meet B.C.'s electricity requirements until at least the end of this decade.

Burrard Thermal Plant

The Burrard Task Force report of March 1993, put forward several options for restructuring or replacing existing operations at this plant. In 1994, the Greater Vancouver Regional District (GVRD) issued B.C. Hydro a new air emissions permit for the plant. The GVRD decision was based on a commitment from B.C. Hydro to reduce nitrogen oxide emissions by more than 70 percent to meet provincial and regional air quality targets. The branch coordinated the task force.

Beehive Burners

B.C.'s forest products industry burns about 10 million tonnes of wood residue each year in beehive burners throughout the province. These burners present a serious air pollution problem and are being phased out in many locations. The branch has been involved in a government task force investigating potential power-generating (and

other value-added) uses for the wood residue following a decision by the Ministry of Environment, Lands and Parks to phase out the burners.

Queen Charlotte Islands

A request for proposals was issued by B.C. Hydro in 1993 to replace the diesel generating plants at Sandspit and Masset in the Queen Charlotte Islands. The branch is reviewing project proposals under new 'social costing' criteria to assess the full range of social, environmental and economic values.

Projects Approved

During 1993/94, two energy projects and the streamlining of electricity marketing procedures were approved under the Energy Project Review Process.

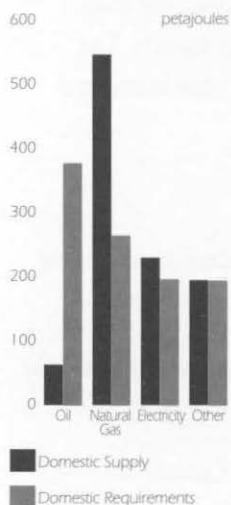
- Alkolkolex Hydro Project—a five-megawatt hydroelectric project in the Revelstoke area was approved.
- Aitken Creek Gas Processing Plant—an expansion of Unocal Canada Limited's gas plant to increase its processing capacity by three million cubic metres per day was authorized.
- Power Exchange Operation—this is not a project, but authorization from the government to B.C. Hydro to expand the pool of electricity buyers and sellers in the province in order to facilitate quick sales and transfers of power, storage capacity and transmission capacity, thus increasing the efficient use of these assets.

Energy Removal Certificates

Two Energy Removal Certificates for electricity were issued in 1993/94—one to Northwest Energy (Williams Lake) Limited Partnership for a three-month contract to export electricity to the U.S. from its wood-waste generation plant in Williams Lake, the other a permit renewal to Cominco Limited to export surplus electricity from two hydroelectric generating plants in the Kootenays. Certificates containing terms and conditions were issued for both.

ENERGY MANAGEMENT BRANCH

Energy Supply and Requirements by Fuel
(Total 1027 Petajoules)



1993/94 Budget: \$1 300 000

Employees: 10

- Energy supply and requirements forecasts
- Energy efficiency standards
- Programs promoting energy efficiency

The Energy Supply and Requirements Forecast is published by the branch every two years. It is a 20-year forecast of energy supply and requirements covering oil, natural gas, electricity and other fuels. The forecast is used in a wide range of energy planning functions both in government and in the private sector.

Published in November 1993, the latest forecast shows an average annual growth rate of 1.3 percent in energy demand to the year 2013. Electricity and natural gas are expected to increase their market shares at the expense of crude oil and other energy sources.

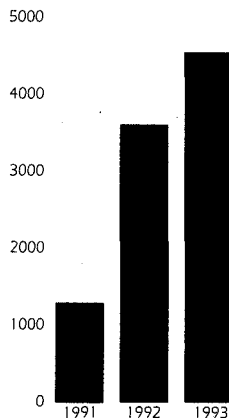
Energy Efficiency Standards

In 1993/94 the branch amended the Energy Efficiency Standards Regulations to introduce minimum efficiency standards for new products, such as large air conditioners, water chillers and gas-fired water heaters. At the same time, minimum efficiency standards were raised for products already covered by the regulations, such as clothes dryers, heat pumps and roadway lighting. In June 1993, the *Energy Efficiency Act* was amended to allow energy efficiency standards to be set for products that control or affect energy use, such as thermostats, windows and low-flow shower heads.

Minimum energy efficiency standards were also increased for housing through amendments to the Building Code. Higher levels of insulation are now required for walls, ceilings, concrete slab edges and radiant heating slabs.

Branch staff have also been active with other provincial and national groups, both government and the private sector, in the development of a National Energy Code. The first draft was published and reviewed in 1994, and a second draft will be released in 1995. The code is expected to be adopted in B.C. in 1996.

Number of Island
Gas Conversions



Clean Choice Program

This program of grants and incentives was introduced in 1991 to help Vancouver Island and Sunshine Coast residents convert their heating systems to natural gas supplied by the Vancouver Island gas pipeline. In 1993/94, \$3.88 million was paid out to 5 037 residents and 613 businesses. The program was expanded in October 1993 to provide grants for gas-fired appliances such as dryers and ranges.

Renewable Energy

In keeping with the ministry's mandate to promote the use of alternative renewable energy sources, such as solar and wind power, budget changes introduced in 1994 exempted solar, wind and micro-hydro equipment from provincial sales tax.

The branch also hosted Solar Tech '94, the second annual solar technology trade show in Vancouver. In conjunction with this show, the branch released its solar information kit—a compendium of consumer information on solar energy.

Transportation Energy

Branch initiatives in the transportation field in 1993/94 include:

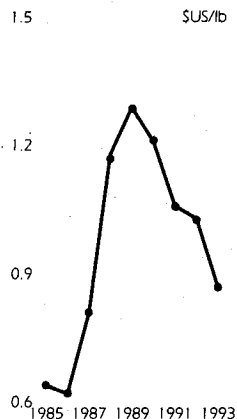
- a review of provincial alternative fuel policy options by the Alternative Fuels Task Force;
- construction of B.C.'s first methanol vehicle re-fueling facility in Burnaby, funded in part by the ministry;
- an evaluation of commercially available clean fuel technologies for use by B.C. Transit in its Victoria service area.

Activities in 1993/94 under the ministry's FuelSmart Program include instruction for truck drivers on fuel-efficient driving and vehicle maintenance; a van pool program; a video of the FuelSmart Challenge held in Victoria; and training packages for schools.

The branch is also participating, with other federal, provincial and territorial energy and environment officials, in the development of Canada's National Action Program on Climate Change.

MINERAL RESOURCES DIVISION

Average Annual
Copper Price

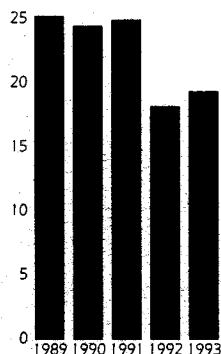


The value of mineral production in 1993 was \$2.35 billion. This represents a decline of about ten percent from 1992, due primarily to weak metal prices. This contributed to the temporary closure of the Gibraltar and Similco mines and a labor dispute at Westmin Mine. By year end, however, rising metal prices, a turnaround in coal and a weak Canadian dollar indicated a bright future ahead.

Following a year of upheaval, B.C.'s metallurgical coal production began to recover in 1993, reaching 18.4 million tonnes, up from 14.6 million tonnes in 1992. The restructuring of the industry and consequent efficiency improvements, limited employment growth to three percent. Overall, with cyclically weak metal prices causing temporary mine closures, total mining industry employment fell by nearly 1000 to an estimated 13 200.

Weak metal prices and increased international competition for exploration dollars resulted in a decline in B.C. exploration expenditures in 1993 to \$63 million, from \$72 million in 1992. Much of the year's exploration activity took place in areas with a good mineral database, known resources and a higher probability for development and production. Exploration also focused on existing minesites where mining companies hope to extend the life of current operations. Early results in 1994, indicated expenditures would increase as provincial exploration grant programs, such as Explore BC and the Prospector's Assistance Program, announced by government in March 1994, take effect.

Sales of B.C. Clean Coal
million tonnes



The division was reorganized at the beginning of 1993/94 to meet the challenges of land planning and changing environmental objectives; to provide greater focus to health and safety; and to streamline operations and improve efficiency. Some of the duties of the Resource Management Branch were absorbed by the Mineral Policy Branch to form the Land Management and Policy Branch. The Mine Health and Safety Branch and the Mine Review and Permitting Branch were created to assume the remaining responsibilities of the Resource Management Branch and the Mine Development Assessment Branch. The new Land Management and Policy Branch is also responsible for regional operations including mineral exploration permitting,

inspections, land use planning and regional geology. Regional Managers were appointed for Kamloops, Smithers and Cranbrook.

B.C. actively participated in the first meetings of the Whitehorse Mining Initiative (WMI) which were held early in the year. The WMI was announced in September 1992 at the Mines Ministers' Conference in Whitehorse, Yukon Territory. The WMI was established to respond to environmental, economic and social pressures facing the Canadian mining industry.

A Mineral Strategy for British Columbia, published in 1993, takes a three-pronged approach to help the mining sector. First, it concentrates on revitalizing the exploration activity essential to the development of new mines. Second, it seeks ways of improving overall competitiveness in the mining sector, from exploration through to processing. Third, it stimulates value-added mineral processing to increase both employment and revenue generation.

The division played a key role in the creation of Ts'yl-os Provincial Park. Division staff worked closely with representatives from BC parks, First Nations, industry and other interested stakeholders to ensure access to mineral resources in the region.

The division continued to promote investment in the sector. In addition to continual releases of geological information, an investment promotion seminar was held in Tokyo in the spring of 1993.

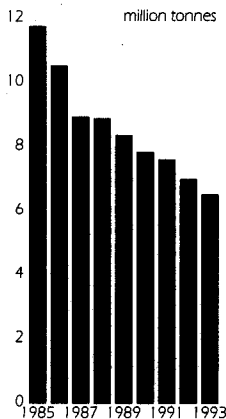
GEOLOGICAL SURVEY BRANCH

1993/94 Budget: \$5 600 000

Employees: 81.5

- Assembles and maintains a geoscience database
- Performs geological fieldwork

B.C. Base Metal Reserves



Metal contained in proven and probable ore in operating mines and deposits committed to production

Concentrating on areas adjacent to or near existing mines, five geological survey areas were studied—Northern Vancouver Island, the Interior Plateau, East Kootenays, Northern Selkirk Mountains and Tulsequah (in the northwest). Results are presented in publications, poster displays, regional workshops and national and international conferences.

Industrial minerals provide an opportunity for diversification in the mining sector. The branch works with the B.C. Trade Development Corporation and the Ministry of Economic Development, Small Business and Trade to promote the sector. A series of open houses held in Smithers, Prince George, Cranbrook, Vancouver, Nelson and Kamloops attracted more than 150 interested people.

An ongoing coal quality project was completed this fiscal year and the results published in two papers and a promotional brochure.

Resource Management

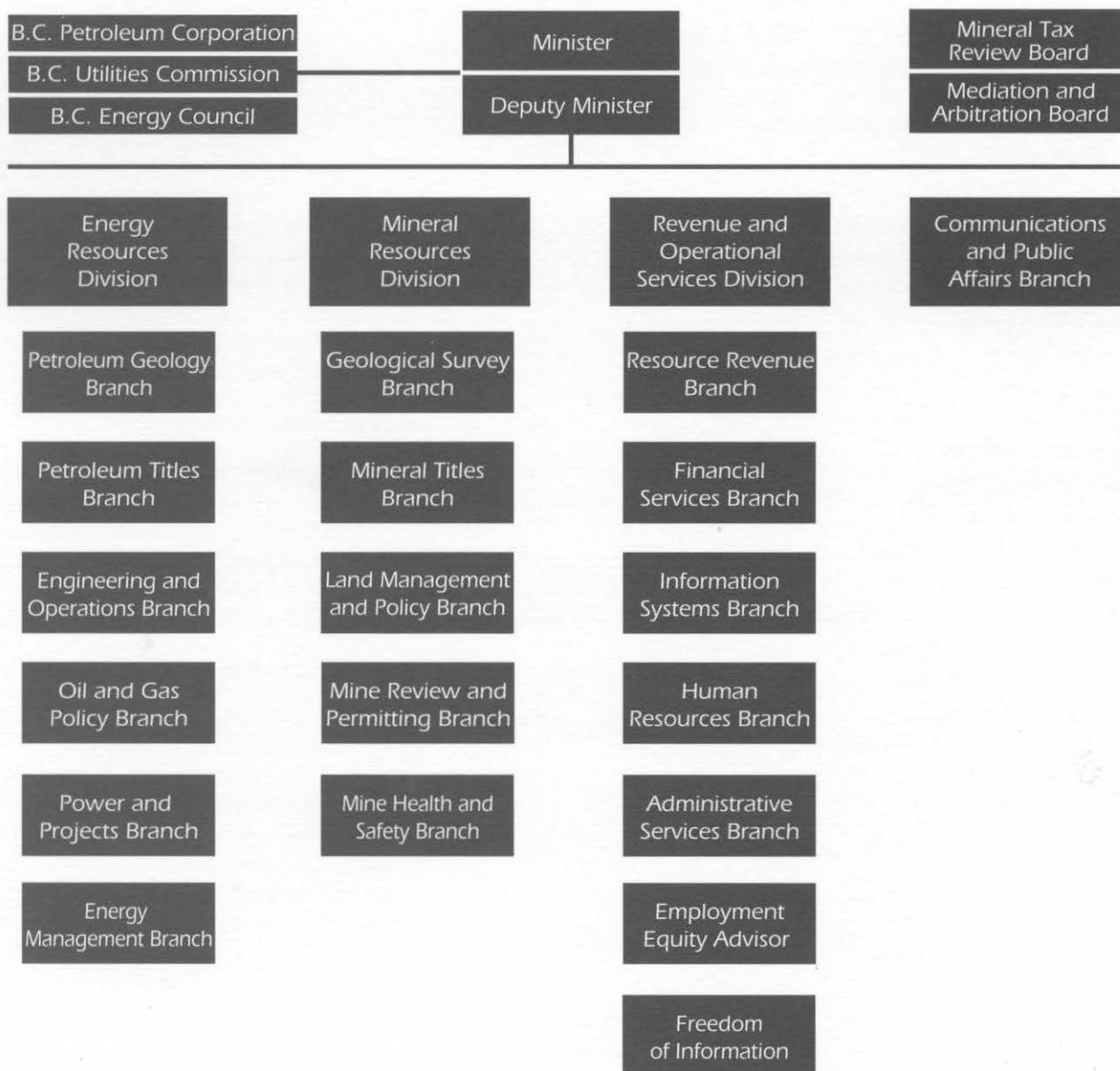
To ensure that mineral values were identified for areas being evaluated under land use planning processes, mineral evaluations for three Commission on Resources and the Environment (CORE) regions—Vancouver Island, the Cariboo and the Kootenays—were completed and recommendations made on the resource potential of numerous smaller areas being considered for protected designations.

The branch's comprehensive mineral data base, MINFILE, was updated in 1993/94. With more than 11 000 base metal, industrial mineral and coal occurrences registered in the province, this data base is valuable and accessible to industry, other government agencies and universities.

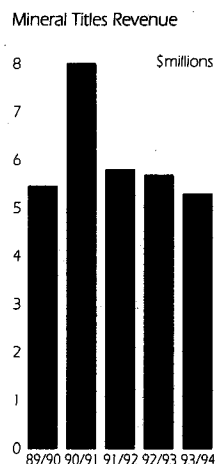
Public Information

The branch continued to develop its urban geology program through meetings with municipal planners and other agencies. Brochures on earthquake hazards and landslides were published.

MINISTRY OVERVIEW (AS OF MARCH 1994)



MINERAL TITLES BRANCH



1993/94 Budget: \$2 000 000

Employees: 33

- Issues and records mineral, placer and coal tenures
- Maintains title records and maps indicating status of mining rights
- Resolves disputes regarding tenure holders

Mineral titles are recorded throughout the province with 60 Government Agents and two mineral titles offices that act as recorders and sources of information. Seven of these offices house Gold Commissioners, who provide specialized tenure services and advice for their region. Each office is linked electronically to MiDA, the provincial titles data base.

Mineral Tenures

The number of new tenures recorded in 1993/94 fell seven percent from the previous year to 6 984. The main areas of interest for staking were in the Red Mountain area, near Stewart, and in the Kootenays. In total, over 6 000 hectares were staked.

	New Tenures Issued 1993/94	Total Tenures Issued as of March 1994
Coal	16	890 (280 000 hectares)
Mineral	6 049	40 850 (5.2 million hectares)
Placer	919	4 206 (210 300 hectares)

Industrial Minerals

The application process for industrial mineral tenures and quarry permits was streamlined. The branch and the Ministry of Environment, Lands and Parks signed

a protocol agreement in October 1993, outlining how their shared jurisdiction will be exercised. The branch also sponsored a series of open houses to promote the development of industrial minerals.

Tenure Maps

In late 1993, the branch updated its mineral tenure maps for use with CORE's three regional plans for Vancouver Island, the Cariboo and the Kootenays. These maps show a more accurate assessment of the impact of land use decisions on potential mineral development.

Fossils

The branch works closely with the Ministry of Environment, Lands and Parks to manage and protect fossils of significance in keeping with the *Heritage Conservation Act*.

Free Miner Certificates (FMC)

After a three-year decline, the number of Free Miner Certificates issued rose in 1993/94, with more than 5 000 granted to corporations and individuals.

Mineral Titles Enforcement

In order to minimize tenure disputes the ministry stepped up its claim inspection activity. Thirty percent of the new mineral titles were inspected in 1993/94.

LAND MANAGEMENT AND POLICY BRANCH

1993/94 Budget: \$3 700 000

Employees: 55

- Provides tax, market and project analysis
- Represents mineral interests in government policy and land planning processes
- Issues and enforces permits for mineral exploration, placer mining, and sand, gravel and quarry operations
- Develops mineral exploration and development policies

Economics and Policy Analysis

Much of the policy work undertaken by the branch was aimed at assessing B.C.'s competitive position relative to other jurisdictions. In 1993/94, the branch completed work on, or participated in, a number of projects.

Comparative Tax Studies

The Economic and Policy section participated in a federal-provincial intergovernmental task force which compared tax rates of different jurisdictions, including other Canadian provinces, U.S. states and countries such as Chile and Australia.

A study of B.C. taxation levels on metal mines examined profit-based and nonprofit-based taxation regimes and compared them with those of other jurisdictions. Staff also consulted with coal-based communities and researched coal mine competitiveness. These studies helped form the basis for taxation recommendations approved by Cabinet near fiscal year end. These legislative changes, which take effect in 1994/95, provide tax relief to the mining industry of \$100 million over five years (details are contained in the Revenues and Operational Services section).

Support for the Job Protection Commission

Cost reductions to restore mine profitability for three closed mines being examined by the province's Job Protection Commissioner were reviewed. The branch worked with the trustee in bankruptcy to facilitate the sale and reopening of the former Cassiar Mine.

Reclamation Security Policy

The section prepared several studies on mine reclamation security policy to ensure that required reclamation work is performed while not imposing undue financial burdens on the industry.

Land Use

The province's land use planning process invites governments and stakeholders to participate in land use and resource management decision-making at the provincial, regional and sub-regional levels. Ministry staff prepared resource data and represented the ministry's position at all levels and for all regions.

The branch worked with other agencies to identify the socio-economic implications of various land and resource management options studied by CORE and other land use planning processes.

Regional geologists and Mineral Land Planning Officers represent the ministry at the regional planning tables. They ensure that all areas with moderate to high mineral values are properly evaluated and considered in land use plans.

Protected Areas Strategy (PAS)

The government is committed to setting aside 12 percent of the provincial land base as 'protected,' using PAS to guide planning processes to achieve this goal. Mineral values on more than 16 recreation or forest wilderness areas, mostly in the Kootenays, the northwest and Vancouver Island were assessed.

In conjunction with the Geological Survey Branch, staff focused on collecting, interpreting and presenting information on mineral values to stakeholders involved in these planning processes.

Commission on Resources and the Environment (CORE)

Staff continue to play an active role in the ongoing development of CORE's provincial land use plan, including the first report from CORE's regional process on Vancouver Island, and the work underway in two remaining regional plans, the Cariboo and Kootenays.

Other Planning Processes

In early 1994, the provincial government announced the establishment of the Ts'yl-os Provincial Park and the adjacent Taseko Management Zone in the Chilcotin Mountains area of the province. The ministry co-chaired the planning process and will continue to help manage mineral resources in the Taseko area.

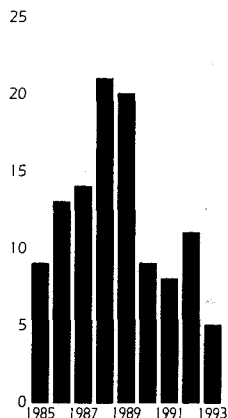
Ministry staff also provided advice on the Clayoquot Sound Compromise decision and developed mineral exploration guidelines for use in community watersheds.

Regional Operations

The ministry has six regional offices in the province. This fiscal year, permitting and inspections staff processed 1 746 Notices of Work (permit applications) in consultation with other agencies, First Nations and the public. Almost 1 200 inspections of permittees were conducted to ensure compliance with permit conditions, the *Mines Act*, and the Health, Safety and Reclamation Code. Regional Managers coordinated a review of new and amended permits for major mines through the regional mine development review process.

MINE REVIEW AND PERMITTING BRANCH

New Projects Entering the
Mine Development
Assessment Process (MDAP)



1993/94 Budget: \$1 900 000

Employees: 21

- Issues approvals and permits for major mines
- Responsible for geotechnical review
- Responsible for reclamation programs and inspection

The Mine Review and Permitting Branch was created in the spring of 1993 as part of the division's reorganization. It assumes the responsibilities of the former Mine Development Assessment Branch and Resource Management Branch.

Mine Development Assessment Process

The branch coordinated the environmental assessment process for 17 mine projects, participated in developing Bill 32, the government's new Environmental Assessment legislation, and promoted public consultation with respect to mine review processes.

Nine projects were granted Mine Development Certificates in 1993/94. Certificates were issued to three new mining operations—Eskay Creek, Mount Milligan and Hedley Tailings. Four certificates were issued to projects approved in-principle several years ago and two were issued for expansions to existing operations.

The Eskay Creek gold/silver project is the largest of the three new certified projects and is expected to generate 110 jobs and 360 tonnes of ore per day. An additional five

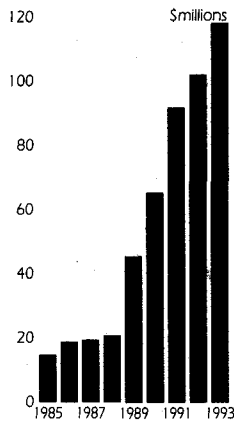
projects were in advanced stages of review in 1993/94, including the Kemess South copper/gold mine in north central B.C.

Geotechnical Engineering

The Geotechnical section regulates and monitors the geotechnical aspects of all mines including structures such as tailing dams, waste dumps, pit slopes and underground openings; undertakes geotechnical engineering reviews of all proposals for new mines or expansions of existing mines and investigates geotechnical incidents for compliance with the *Mines Act* and Code.

In 1993/94 the section sponsored the B.C. Mine Waste Rock Pile Research Committee and supported geotechnical research programs. The committee held meetings, a workshop with industry and conducted several research studies.

Reclamation Security Held
by the B.C. Government



These are approximate values at
year end.

Reclamation and Permitting

All lands disturbed by mining must be reclaimed. Major coal and metal mines cover 32 692 hectares in B.C., and by the end of the fiscal year 10 178 hectares had been reclaimed. The government requires that mining companies post security to ensure that funds will be available for reclamation when production ceases. These security deposits rose to \$117.9 million in 1993. Although reclamation security held by government has been increasing rapidly (see graph), several mines are still considered under-secured for planned reclamation work.

Key activities of the branch included the publication of a draft policy on acid rock drainage and the development of a standard reclamation cost sheet applicable to all mines.

In partnership with the Ministry of Transportation and Highways and the Land Management and Policy Branch, the section initiated development of a manual, outlining reclamation and environmental protection guidelines for sand, gravel and quarry operations in the province.

Acid Rock Drainage Research (ARD)

Research continued in 1993/94 at four current or former mine sites in the province:

- Britannia Beach—monitoring of waste metals discharge into Howe Sound from the abandoned Britannia Beach mine continued;
- Gibraltar—comparison of residual weathering products for use in chemical break-down at metal mine waste dumps was completed;
- Cinola—comparison of acid mine drainage predictions and subsequent results were compiled;
- Island Copper—a pit wall water quality model, first developed at Equity Silver, was expanded and improved using research gathered by the B.C. Acid Mine Drainage Task Force.

The Annual B.C. Mine Reclamation Award was presented in May to Fording Coal Limited at the 17th Annual Mine Reclamation Symposium in Port Hardy. Citations went to Noranda Minerals Incorporated's Bell Mine, Line Creek Resources Limited's Line Creek Mine, West Coast Aggregates Limited's Matsqui Pit and New Canamin Resources Limited's Huckleberry property.

MINE HEALTH AND SAFETY BRANCH

1993/94 Budget: \$2 400 000

Employees: 29

- Monitors employee health and safety
- Enforces compliance through audits and inspections
- Investigates accidents or dangerous occurrences at mines

The Mine Health and Safety Branch ensures that ministry health and safety responsibilities to the public and mining industry are met.

Inspections

All aspects of health and safety were included in 1 425 inspections of coal mines, exploration sites, placer mines, rock quarries, and sand and gravel operations during the fiscal year. Specialists reviewed mining operations for mechanical engineering, electrical engineering, occupational health and safety, and emergency preparedness. Resource management fees totaling approximately \$1.19 million in 1993 were collected to offset the cost of this program.

Audits

The mine safety audit program was introduced in 1992/93 to provide mine managers with an external and unbiased assessment of the training, health and safety of their mining operation. In 1993/94 the Bullmoose, Island Copper, Similco, Snip and Sullivan mines were audited.

Emergency Preparedness

Updated emergency preparedness procedures, including communications and organizational structures, were sent to all major mines. Regional mine rescue stations are located at Fernie, Victoria, Kamloops and Smithers.

Certifications

B.C. miners must be certified to ensure that they meet the necessary standards set out in the Health, Safety and Reclamation Code for mines in B.C. for First-class coal, shiftboss supervisors, blasters and mine rescue team members. In 1993/94, the branch certified 1 156 miners for these classifications.

Awards

British Columbia's annual mine rescue competitions were held in Fernie in 1993 and included entrants from all over the province. Fording Coal Limited's Greenhills Mine won the surface mine rescue competition, while Cominco Limited's Sullivan Mine won the underground mine rescue competition. The recipients of other health and safety awards are presented in the following table.

Award	Purpose	Recipient
John Ash Award	Lowest Injury Frequency Rate for greater than 1 million worker hours per year	Highland Valley Copper Corporation (Highland Valley Copper Mine)
Edward Prior Award	Lowest Injury Frequency Rate for 200 000—1 million worker hours per year	Homestake Canada Incorporated (Nickel Plate Mine)
Stewart O'Brian Award	Lowest Injury Frequency Rate for 35 000—200 000 worker hours per year	Baymag Mines Company Limited
Occupational Health and Safety Award	Excellence in Health and Safety	Quintette Operating Corporation (Quintette Mine)
Industrial Safety Association Award	Safest Small Underground Mine	North American Metals Corporation (Golden Bear Mine)

Certificates of Achievement were also awarded to Lafarge Concrete Incorporated (Earle Creek Plant), Cannon Contracting (Cannon Pit), Allard Contractors (Mission Pit), Plateau Construction Limited (Plateau Mine), Clayburn Industries Limited, Westroc Industries (Elkhorn Quarry), and Steelhead Aggregates (Abbotsford and Chilliwack Divisions).

WORKING WITH FIRST NATIONS

The Aboriginal Affairs Section, in the Land Management and Policy Branch of the Mineral Resources Division, was established in 1992/93. It helps coordinate First Nation activities and demonstrates the high priority government places on their issues. The section represents the ministry on the Nisga'a provincial negotiating team and provides policy advice and technical information on treaty negotiations and pre-treaty initiatives.

The ministry, along with the Ministry of Aboriginal Affairs, is negotiating an oil and gas revenue sharing agreement with the Blueberry River and the Doig River Bands.

The provincial government reviews all projects to ensure proposed resource developments do not adversely affect First Nations' traditional way of life. Ministry staff advise First Nations about the review processes for energy or mining projects, and liaise between First Nations and industry.

In September 1993, the third forum on First Nations' participation in mining was held in Prince George. Forum participants included representatives from industry, First Nations groups and the provincial government. A draft Memorandum of Understanding outlining processes for consulting First Nation groups about proposed mineral activities was discussed.

Mining and oil and gas companies are becoming increasingly aware of the importance of negotiating with First Nations over social and environmental impacts of industry activities and economic opportunities for First Nation groups. Aspects of these agreements may be incorporated into Mine Development Certificates and Energy Project Certificates.

Projects

The ministry contracted with the Arctic Institute of North America to review a well proposal in the Twin Sisters Mountain area where three bands of the Treaty 8 Tribal Association have cultural interests. The ministry will work with the Treaty 8 Tribal Association to develop a consultation protocol for reviewing future oil and gas activities.

In 1993/94, the ministry co-funded the hiring of a Natural Resources Coordinator in the office of the Wet'suwet'en Hereditary Chiefs to help assess three proposals under the Mine Development Assessment Process. Also participating are Manalta Coal Limited (Telkwa project), Homestake Canada Limited (Eskay Creek) and New Canamin Resources Limited (Huckleberry Copper). This action has had good results—at the end of the fiscal year Eskay Creek received its Mine Development Certificate and work continues on the remaining two proposals.

Impact assessments on the effect of industry activity on First Nation culture and lifestyle were conducted by independent consultants on the following projects under the Mine Development Assessment Process:

- Quesnel River Gold—Kinross Gold Corporation and the Red Bluff Band;
- Mount Milligan—Placer Dome Incorporated and the Carrier Sekani Tribal Council, Cheslatta Band and Nisga'a Tribal Council;
- Laredo Limestone—Laredo Limestone Limited and the Kitasoo and Heiltsuk Bands;
- Pacific Talc—Pacific Talc Limited and the Nlaka'pamux Nation Tribal Council, Boothroyd and Boston Bar Bands;
- Bearcub Feldspar—Spar Minerals Incorporated and the Okanagan Band;
- Crystal Peak Garnet—Polestar Exploration Limited and the Okanagan Tribal Council, Upper and Lower Similkameen Bands and Penticton Band.

REVENUE AND OPERATIONAL SERVICES DIVISION

The Revenue and Operational Services Division collects revenues generated by petroleum and mining activities in the province and provides support services for the ministry in the following areas:

- financial management
- human resource management
- employment equity
- information systems
- facilities and other internal infrastructure
- information requests and privacy issues

RESOURCE REVENUE BRANCH

1993/94 Budget: \$2 300 000

Employees: 26

- Assesses and collects mineral and petroleum taxes and royalties
- Audits industry compliance with revenue obligations
- Advises on appropriate taxation levels

Revenue Collection

The branch collects government revenues from taxes levied under the *Petroleum and Natural Gas Act*, the *Mineral Tax Act* (MTA) and the *Mineral Land Tax Act* on mineral and petroleum production. In 1993/94, the branch collected \$180.7 million in petroleum and natural gas royalties and \$39.8 million in mineral taxes.

Mineral Tax Act (MTA)

The branch assisted in developing taxation changes to improve the mining industry's competitiveness. The government implemented several changes—for the coal industry, a 5.5 percent reduction in the net current proceeds tax and a 4.5 percent reduction in the net revenue tax will reduce coal industry mineral taxes by 50 percent, or approximately \$13 million a year. This reduction will boost the coal industry's competitiveness in international markets. These tax reductions were implemented at the end of the 1993/94 fiscal year.

Other amendments to the MTA, scheduled to take effect January 1995, include:

- a provision to allow mineral tax to be deducted from income subject to provincial corporate income tax (a saving of \$3 million annually);
- an increase of one-third in the capital expenditure allowance for new mine development projects or major expansion projects. This provision, in effect for a five-year period, will stimulate mine development;
- permission for mining companies to "pool" their exploration expenditures (rather than allocate them to specific properties) for calculating deductions from mineral tax. This will allow mining companies more flexibility in assigning exploration expenditures.

Revenue Audits

The branch routinely audits petroleum and mineral producers to ensure they comply with revenue collection regulations.

- Petroleum—about 125 operators pay taxes and royalties on oil and gas production from 800 production facilities. In 1993/94, 15 field and desk audits generated additional revenues of \$4 million. Audit payback was about seven times the cost of the audit program.
- Minerals—about 100 mineral tax returns are submitted each year, half of them from operating mines. In 1993/94, 22 desk reviews and 23 field audits produced additional revenues of \$8.8 million. Audit payback was about 25 times the cost of the mineral audit program.

FINANCIAL SERVICES BRANCH

1993/94 Budget: \$712 000

Employees: 12

- Financial advice and services
- Budget preparation and management
- Payroll administration

Budget Management

Budget preparation for all managers was made simpler by the development of a salary costing spreadsheet which enables branches to calculate the cost of each employee more accurately and quickly. This new system provides a level of budgeting precision that will assist in budget allocation decisions.

Contract Administration

The branch developed a manual covering all aspects of contract administration. The manual was used as a teaching tool during four one-day training sessions delivered to employees involved in contract management.

Supplier Payments

In 1993/94 the branch focused on training and quality service improvements resulting in supplier payments being made more promptly than the government average, with a higher degree of accuracy. Ninety-one percent of payments were made in 30 days or less.

INFORMATION SYSTEMS BRANCH

1993/94 Budget: \$733 000

Employees: 12

- Advises on information systems
- Manages corporate systems facilities
- Supports ministry project and operations systems

Strategic Planning

The primary focus for this year was to plan for and execute the move of information systems equipment to the new Jack Davis Building from multiple precinct locations. This included 1 200 physical computing devices. The branch also designed and implemented an integrated communications cabling system for the new building.

The new building utilizes state of the art components including a Fibre Optic Backbone and modular high-speed connections to all workstations. The system is directly connected to the Government Fibre Optic Municipal Area Network.

Systems Management

A fixed price processing agreement was negotiated with BC Systems Corporation which had a cumulative savings to the ministry of 40 percent.

HUMAN RESOURCES BRANCH

1993/94 Budget: \$490 000

Employees: 7

- Services to recruit, develop and retain the ministry's workforce
- Advisory services to management respecting human resources issues
- Compensation services
- Liaison with organizations representing ministry employees

In 1993/94 the branch name was changed from Personnel Services to Human Resources to better reflect the broad role it plays within the ministry.

Human Resources Management

A major activity for the year was managing staff reductions resulting from a reduced ministry budget—22 positions were affected. The ministry was able to manage the reductions without the lay-off of regular staff members. The branch provided advice respecting the closure of the Geological Survey Branch's Analytical Laboratory. Alternate employment was found for affected employees.

Korbin Review

The report of the Korbin Commission Inquiry into the Public Service in B.C. was submitted to government. As a result, personal service contracts were jointly reviewed with the union, as part of a government-wide effort to identify those that involved an

employment relationship. The branch represented the ministry and provided overall coordination for this review.

Staffing

Staffing was active during the year with 30 regular positions filled. Fifty temporary assignments and secondments were made and auxiliary appointments totalled 75, with the majority being those for relief and geological field work during the summer months.

ADMINISTRATIVE SERVICES BRANCH

1993/94 Budget: \$1 900 000

Employees: 6

- Manages office space requirements
- Manages library services
- Manages fleet vehicles, communications and field equipment

Facilities Management

The new Jack Davis Building, an award-winning design incorporating proven energy efficient technology, was opened in July 1993 and now houses all the ministry's Victoria personnel. Final design was approved for a new regional office building in Prince George, scheduled for completion in 1994.

Library Services

Transfer of all library facilities and services to the Jack Davis Building was completed in 1993/94. The new library, which includes an information resource center and a display area for ministry publications and exhibits, is open to the public.

Warehouse Services

Warehouse Services dispatched 24 field crews in 1993/94, mostly for the Geological Survey Branch. This area is responsible for managing the ministry's vehicle fleet and was acknowledged as having the best utilized government fleet.

Employee Suggestion Awards Program

The ministry has an awards program which recognizes employee suggestions. In the 1993/94 fiscal year, ten awards were presented for valuable suggestions that saved the ministry a total of \$63 227 in operating expenses. The program was renamed IDEA—Improvements Developed by Employees in Action.

FREEDOM OF INFORMATION (FOI)

1993/94 Budget: \$120 000

Employees: 2

- Coordinates responses to information requests
- Provides policy advice and training on FOI related issues

Freedom of Information legislation came into effect in October 1993. The FOI unit responded to 27 requests for information by the end of the fiscal year and completed a review of all ministry legislation to ensure compliance with the *Freedom of Information and Protection and Privacy Act*.

Ministry staff received specific training in processing information requests under the new act.

EMPLOYMENT EQUITY

1993/94 Budget: \$107 000

Employees: 1

- Develops and implements the employment equity program in the ministry
- Provides policy advice and training on issues related to diversity in the workplace

The employment equity program published its first status report in November 1993 outlining its major accomplishments since the program's inception in 1991.

The employment equity program also undertook extensive consultation with ministry employees in developing its 1994/95 Business Plan. The plan, completed and published in January 1994, identified four goals for the ministry—to promote understanding of employment equity, to increase diversity in the workplace, to provide service equity and to manage change.

Outreach activities with schools to stimulate interest in sciences and related careers were an important feature of our employment equity program. More than 2 000 students were involved in ministry outreach activities in 1993/94.

COMMUNICATIONS AND PUBLIC AFFAIRS

1993/94 Budget: \$315 000

Employees: 6

- News releases, media alerts and speaking notes
- Advertisements and newspaper articles
- Brochures, pamphlets, booklets, annual reports and business plans
- Conferences and events

The Communications and Public Affairs Branch continued its good client relations this fiscal year, offering efficient service to the rest of the ministry, the media and the public.

The branch distributes ministry information, responds to public requests, deals with media inquiries, and assists other branches and the executive with managing issues, organizing events and advertising.

During the past fiscal year the Communications and Public Affairs Branch:

- produced and distributed more than 75 news releases and media alerts;
- created and published nearly 50 printed brochures, pamphlets, booklets, annual reports and business plans;
- designed advertisements, newspaper articles and other promotional materials for ministry programs and events;
- worked with other ministries, Crown Corporations and the media on consumer-education projects such as FuelSmart, Clean Choice, Victoria's PowerSmart Challenge and GLOBE '94.

In addition, branch staff worked closely with other ministry branches on:

- the provincial Mine Rescue and First Aid Competitions, held in Fernie in mid-June, which attracted a crowd of over 300 and publicized B.C.'s remarkable mine safety record;
- the International Western Regional Mine Competitions, held in Fernie in late September, which hosted competitors from both Canada and the U.S.;

- the Explore BC and Prospectors' Assistance Grants, announced at the end of the fiscal year. Branch staff prepared communications plans to publicize the variety of incentives offered to miners this year under the grant programs. Ads were distributed to newspapers, mining organizations, ministry offices and government agents;
- *A Mineral Strategy for British Columbia*, published in June 1993. The branch provided communications support through media interviews, ministerial speeches, staff awareness sessions and publications;
- regional conferences and seminars, including those held by Kamloops Exploration Group and Minerals North, as well as Solar Tech '94 and the Mine Reclamation Symposium;
- planning and preparation for the upcoming Mines and Energy Ministers' Conference to be held in Victoria in September 1994.

MINISTRY CONTACTS (AS OF MARCH 1994)

MINISTER'S OFFICE

Honourable Anne Edwards

DEPUTY MINISTER'S OFFICE

Brenda Eaton, Deputy Minister

Irwin Henderson, Communications and Public Affairs Branch

ENERGY RESOURCES DIVISION

Peter Ostergaard, Assistant Deputy Minister

Gordon Douglas, Executive Advisor

John MacRae, Director, Petroleum Geology Branch

Gerald German, Commissioner, Petroleum Titles Branch

Bruce Hanwell, Director, Engineering and Operations Branch

Karen Koncohrada, Director, Oil and Gas Policy Branch

Denise Mullen Dalmer, Director, Power and Projects Branch

Warren Bell, Director, Energy Management Branch

MINERAL RESOURCES DIVISION

Bruce McRae, Assistant Deputy Minister

Ron Smyth, Chief Geologist, Director, Geological Survey Branch

Denis Lieutard, Director, Mineral Titles Branch

Brian Parrott, Director, Land Management and Policy Branch

Ray Crook, Director, Mine Review and Permitting Branch

Dick Fyles, Chief Inspector, Director, Mine Health and Safety Branch

REVENUE AND OPERATIONAL SERVICES DIVISION

Joan Hesketh, Executive Director

Bruce Garrison, Director, Resource Revenue Branch

Jennifer Smith, Director, Financial Services Branch

Tom Scharien, Director, Information Systems Branch

Barry Turner, Director, Human Resources Branch

Timothy Chatton, Director, Administrative Services Branch

Belinda McLaughlin, Employment Equity Advisor

Jacqui Kenney, Manager, Freedom of Information and Privacy

DISTRICT OFFICES

Fernie

Fort St. John

Kamloops

Nelson

Nanaimo

Prince George

Quesnel

Smithers

Vancouver

LEGISLATION ADMINISTERED BY THE MINISTRY

Coal Act
Economic Development Electricity Rate Act
Energy Council Act
Energy Efficiency Act
Fort Nelson Indian Reserve Minerals Revenue Sharing Act
Gas Utility Act
Geothermal Resources Act
Indian Reserve Mineral Resource Act
Mine Development Assessment Act
Mineral Land Tax Act
Mineral Prospectors Act
Mineral Tax Act
Mineral Tenure Act
Mines Act
Mining Right of Way Act
Ministry of Energy, Mines and Petroleum Resources Act
Natural Gas Price Act
Petroleum Corporation Act
Petroleum and Natural Gas Act
Petroleum and Natural Gas (Vancouver Island Railway Lands) Act
Pipeline Act: Part 7 (by OIC 468/88)
Power Act
Utilities Commission Act
Vancouver Island Natural Gas Pipeline Act