

Province of British Columbia Ministry of Energy, Mines and Petroleum Resources Hon. Jack Davis, Minister MINERAL RESOURCES DIVISION Geological Survey Branch



GEOLOGICAL SURVEY BRANCH 1990 - 91 PLAN

Information Circular 1990-7

1990-91 GEOLOGICAL SURVEY BRANCH PLAN

PREFACE

This plan is a summary of the Branch's business and what it intends to accomplish in the 1990/91 Fiscal Year. It outlines our mandate, key functions, organization, 1990/91 Action Plans and new initiatives. It should be used in conjunction with the Branch's project inventory, which details all the major projects the Branch will undertake this year. The plan and the inventory are developed by Branch staff to help us translate our goals and objectives into measurable, achievable outputs.

MANDATE

Assemble, maintain, and disseminate an up-to-date, comprehensive geoscience database for British Columbia so as to provide a sound base for private sector exploration and development of the Province's mineral resources and for resource management decisions by Government.

KEY FUNCTIONS

DATA COLLECTION

Data are collected in two ways. Firstly, by the Branch through its programs of integrated geological and geochemical surveying and secondly, by way of information made available by legislation under the *Mineral Tenure Act* and the *Coal Act*. Results of annual mapping programs and research are published annually in Geological Fieldwork other Branch publications.

DATA CURATION AND RETRIEVAL

- Curate and store the confidential and non-confidential geoscience information coming to the Branch so that it can be readily retrieved in an appropriate form by users.
- Maintain a manual assessment report library, a manual file on mineral properties, three computer files -MINFILE, COALFILE, and Regional Geochemical Survey Data (RGS), for rapid retrieval and use by industry and government.

DATA ANALYSIS AND INTERPRETATION

- Synthesize, and interpret the variety of data received, from prospectors' reports to mining company reports, in the most cost effective way, to provide a quality provincial geoscience database and publish an annual summary in the volume Exploration in British Columbia.
- Provide timely analytical laboratory services in support of Branch survey activities.
- Assemble and maintain a file on the quality of B.C. coals to promote their use, raw or blended, in new markets.

PROVISION OF SERVICES

Provide geological services to the public and government from five district offices (Smithers, Prince George, Kamloops, Nelson, Victoria), a branch office in Vancouver, and headquarters in Victoria. Disseminate information through publications, publically available databases, scientific meetings, trade shows, and an annual open house in Vancouver. Provide prospector training courses throughout the Province. Manage government exploration incentive programs such as Prospectors Assistance and Training.

MARKETING INFORMATION

 Market the Branch's geoscience databases and publications in innovative ways to respond to users' needs and to raise revenue.

REGULATION

- Verify company work assessment reports submitted in compliance with the *Mineral Tenure Act* and *Coal Act* within 60 days of receipt. Verification ensures quality data is submitted to Province's geoscience database.
- Certify assayers in B.C. as required under the *Ministry Act*. Hold up to TWO examinations annually.

POLICY

- Improve the effectiveness for exploration for mineral, coal and industrial mineral resources through development of integrated, geoscience databases.
- Promote exploration and mine development and attract mineral investment in B.C. Favourable geology and a
 comprehensive geoscience database are the first drawing cards to attract private sector mineral exploration
 investment in an internationally competitive area.
- Provide geological information and advice on land use issues; conduct geological surveys to determine mineral
 potential as required. Information on the subsurface is required by many Government departments involved
 in land administration.
- Provide advice on provincial mineral and coal resource supplies and related technical matters as input to provincial regional economic development initiatives.

NEW INITIATIVES

To better respond to the challenges of the 1990s in late 1989 the Geological Survey Branch began a review of it's organizational structure and undertook other new initiatives as outlined below:

1.) In 1989 the Assistant Deputy Minister, Mr. Bruce McRae, requested the Canadian Geoscience Council to examine aspects of the Branch. Specifically, the terms of reference were:

- To review the current mandate of the Geological Survey Branch and to recommend changes, if any, that are deemed warranted to enable the Branch to better meet the Province's needs for geological information to the year 2000. Specifically, to review whether the Branch's mandate should be broadened to include geophysics and offshore geology.
- To review the organization of the Branch in the context of responsibility, reporting relationships, workload and effectiveness and recommend any necessary changes.
- To review and report on adequacy of staff and budget resources of the Branch, and its various sections, to effectively meet its mandate to serve the mining industry and other major clients in the next decade, having regard to the longer term prospects for public expenditure.

The final report is expected in May, 1990. A draft indicates that the Committee will make many recommendations for improvement. The most fundamental is a new organizational structure for the Branch. 1990 is thus anticipated to be a year of analysis, planning for change and implementation of change.

2.) After a 20 year hiatus the Geological Survey Branch established a Surficial Geology Unit in late 1989 staffed with 3.5 FTE's and a budget of \$285 000. The unit is committed to developing a surficial geology database suitable for stimulating and guiding mineral exploration as well as assisting in land-use planning and policy. This year's program will focus on drift exploration, placer geology, surficial mapping and research on geologic hazards.

3.) A comprehensive review of the organizational structure of the Branch was initiated in January, 1990 by Mr. L. Geddes of Peat, Marwick, Stevenson and Kellogg. Special attention was to be given to the balance between clerical support and professional staff, and to the span of control and resulting workload of managers.

BUDGET

The base budget of the Branch in fiscal year 1990/91 is \$7.034 million. This is an increase of \$878,000 over 1989/90 due to negotiated employee salary increases and the return of employee benefits to the Branch budget. However, the Branch's operational funding decreased by \$240,000 resulting in cancellation of a number of planned field projects in regional mapping and in regional geochemical survey programs.

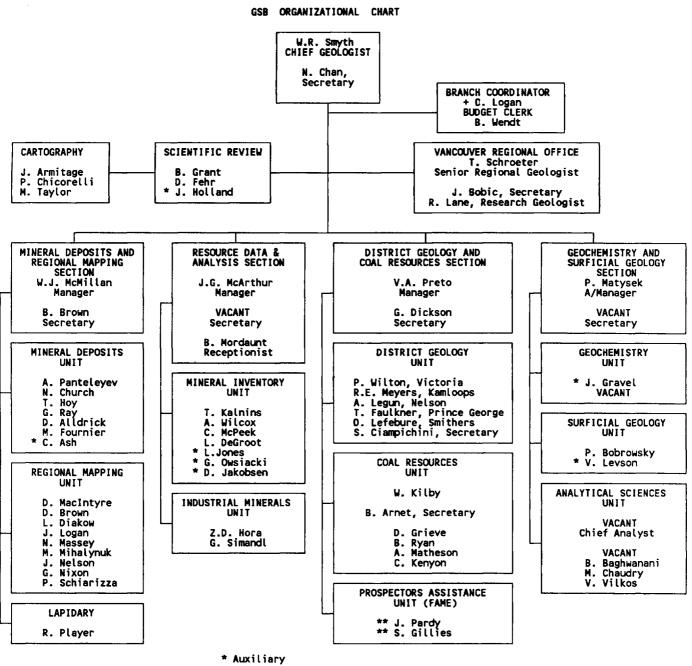
The MDA budget is \$300,700. 1990/91 is the last year of the agreement. The 1990/91 F.A.M.E. Program again only incindes the Prospector Assistance and Training Component, with a budget of \$500,000.

OPERATIONAL GROUP	BASE	MDA	FAME	TOTAL
Chief Geologist	409,620			409,620
Geoscience Grants	130,000			130,000
Scientific Review	479,643	30,000		509,643
Vancouver Geologist	184,169			184,169
Regional Mapping	1,067,766	90,000		1,157,766
Mineral Deposits	1,035,940	40,000		1,075,940
Geochemistry & Surficial Mgmt	131,380			131,380
Surficial Geology	284,150			284,150
Geochemistry	279,250	128,000		279,250
Analytical Lab	374,675			374,675
District Geology	852,107			852,107
Coal Resources	616,148			616,148
Management	153,377			153,377
Industrial Minerals	290,534			290,534
Land Use Field Studies	61,919			61,919
Assessment Reports	262,572			262,572
MINFILE	432,008	2,700		434,708
Overhead/Support	•	10,000		10,000
FAME			500,000	500,000
	\$7,045,258	\$300,700	\$500,000	\$7,845,958

1990/91 GEOLOGICAL SURVEY BRANCH BUDGETS

STAFFING

The Branch has 96 FTEs in fiscal year 1990/91. This is a decrease of 5.5 FTEs over the previous year due to the transfer of the Land Use Unit (4.5 FTEs) to the Mineral Policy Branch and the loss of 1 FTE to competing Ministry priorities. Of the 96 FTEs 62.5 are filled on permanent basis, 24 on term auxiliaries and 7.5 FTEs by short term summer students. The term auxiliaries are hired to work on mapping/research projects of predetermined lengths but usually no more than 4 years.



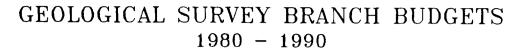
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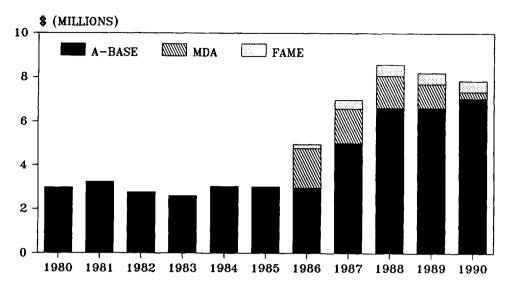
ORGANIZATION

The Branch is currently organized into four sections; Mineral Deposits and Regional Mapping Section, Resource Data and Analysis Section, District Geology and Coal Resources Section and the Applied Geochemistry and Surficial Geology Section.

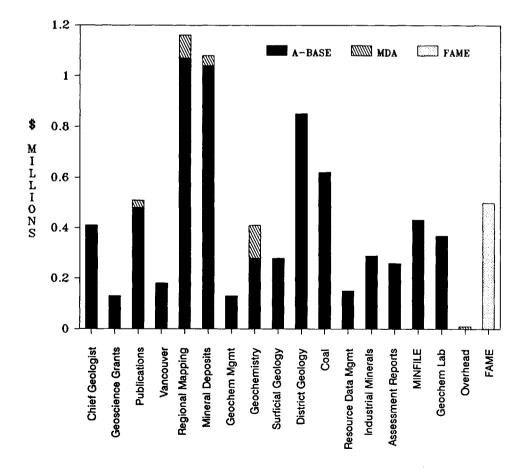
All four sections report directly to the Chief Geologist's office; as well, the Mineral Development Agreement (MDA) manager, the Scientific Review Senior Geologist and the Vancouver Regional Geologist report to the Chief Geologist.

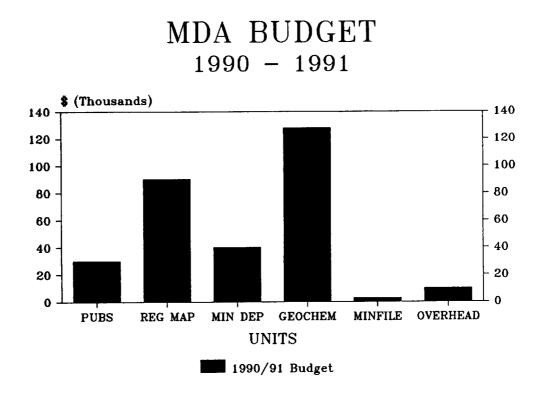
Following is a list of the current sections, outlining the objectives, resources, action plans and new initiatives of each of their units.



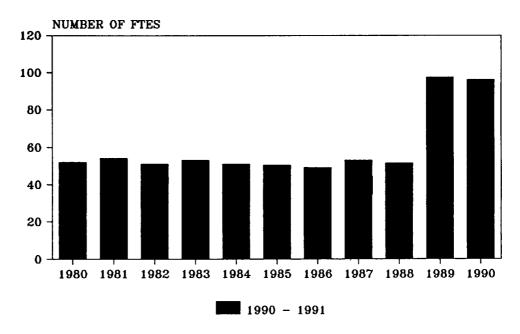


UNIT BUDGETS 1990 - 1991





GEOLOGICAL SURVEY BRANCH STAFFING LEVEL 1980 - 1990



PERMANENT AND AUXILIARY EMPLOYEES

MINERAL DEPOSITS AND REGIONAL MAPPING SECTION

OBJECTIVES

- Produce the modern mapping, mineral deposits and geochemical databases through integrated geoscientific surveys that are essential for successful private sector mineral exploration and development and government planning and policy making.
- Carry out follow-up scientific studies to produce internal and external reports and computer-accessible output that will stimulate exploration.
- Maintain a presence within the exploration and university communities through talks, visits and consultations.
- Provide information and advice to the general public.

MINERAL DEPOSITS UNIT

OBJECTIVES

- Conduct geologic and metallogenic studies of mineral deposits, mining camps and areas with potential mineral wealth in order to determine the distribution, origin and mode of formation of the deposits. Develop exploration guidelines that will generate activity in the study area and elsewhere in the Province.
- Provide expertise to the Branch, Ministry and community re land use issues, the earth sciences and environmental concerns.

STAFFING AND RESOURCES

A-Base - 16 FTEs, \$1,035,940. MDA - 1 contract geologist, summer assistants, \$40,000.

ACTION PLAN

RESPONSIBILITY	OUTPUT
Church	Open File reports
Höy	and maps, Fieldwork
Höy, Andrew	reports, talks, Exploration
Ray, Webster	reports, Annual
Alldrick, Britton	Cordilleran Roundup
Nixon, Hammack	Bulletin and Paper
Ash	series, reports, external
Church	
MacIntyre	
Höy	х.
All Staff	Talks, consultations, visits
	Church Höy Höy, Andrew Ray, Webster Alldrick, Britton Nixon, Hammack Ash Church MacIntyre Höy

NEW INITIATIVES

Tertiary Basins study by B.N. Church will evaluate the metallic and non-metallic resource potential of NTS map area 93B initially.

A modest beginning will be made toward a study of volcanogenic massive sulphide deposits in B.C. The initial work will be at the Windy Craggy deposit, by T. Höy and D. MacIntyre.

REGIONAL MAPPING UNIT

OBJECTIVES

- Conduct systematic 1:50 000 scale regional geological mapping and geochemical sampling of selected, poorly understood or underexplored parts of the Province.
- Produce maps of this scale as essential precursors to determining mineral potential for making informed government decisions and aiding discovery of new, employment-generating world class and smaller mineral deposits to replace today's depleting mineable reserves.

STAFFING AND RESOURCES

A-Base - 16 FTEs, \$1,067,766. (includes summer assistants) MDA - 1 contract geologist + technical assistance \$90,000.

ACTIVITY PLAN

ACTIVITIES	RESPONSIBILITY	OUTPUT
Mapping projects:		
Omineca Belt	Nelson, Bellefontaine	Open File maps and
Quatsino Sound	Massey	reports, Fieldwork reports,
Telkwa Range	MacIntyre, Desjardins	Annual Cordilleran Roundur
Final report preparation:		
Taseko-Bridge River	Schiarizza, Gaba	Bulletin and Paper series,
Whitesail	Diakow, Timmerman	reports
Tagish	Mihalynuk, Mountjoy	•
Iskut North	Logan, Koyanagi	
Stikine	Brown	
Cassiar-Midway	Nelson	
Sicker	Massey	

NEW INITIATIVES

Existing projects are multi-year efforts; two new projects are by J. Nelson in the Omineca Belt near the Mt. Milligan deposit and by N. Massey on Northern Vancouver Island.

RESOURCE DATA AND ANALYSIS SECTION

MINERAL INVENTORY UNIT

OBJECTIVES

- To review and approve/reject approximately 1200 mineral assessment reports annually for maintenance of mineral claim tenure under the *Mineral Tenure Act*.
- To develop and maintain a mineral exploration, assessment report database ARIS, and a mineral occurrence database - MINFILE & PROPERTY FILE, to stimulate and focus exploration and development of metallic and non-metallic minerals.
- To cost effectively distribute these multi-media databases and related maps to industry, government, academia and the public.
- To provide advice and application software to users to facilitate use of the databases.
- To promote technology/software development and transfer through cooperative interagency programs and commercial licencing agreements.
- To provide policy and legislative proposals to government.

STAFFING AND RESOURCES

8 FTEs, 2 contract geologists, 1 auxiliary support staff, \$850,457.

ACTIVITY	RESPONSIBILITY	OUTPUT
Assessment Report		Kalnins, de Groot
Approval/ARIS database		Approvals/rejections Assessment Report distribution, paper/fiche Assessment Report Index
MINFILE	Jones, McPeek	paper, diskettes Coding/updating occurrence descriptions publishing MINFILE products/ printouts, diskettes, maps application software
Revised Regulations	McArthur, Kalnins	Draft regulations for Mineral Tenure Act
MINFILE Marketing Agreement	Smyth, McArthur Jones	Sales royalties from other agencies Further project development
NEW INITIATIVES	RESPONSIBILITY	
Enhancements to ARIS database to remove unused fields/data and develop a portable credit accounting system and automated map production	de Groot	
Develop a PC LAN module for MINFILE	Jones, McPee	

INDUSTRIAL MINERALS UNIT

OBJECTIVES

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- To maintain an up-to-date inventory of industrial mineral occurrences including geology, resource economics, and specifications to identify opportunities for development.
- To conduct both regional and site specific field studies, office studies and laboratory analysis and testing.
- To monitor activity by the industrial mineral sector to provide timely advice to government.
- To provide timely evaluation of industrial mineral project proposals under review in the Mine Development Review Process.
- To promote industrial mineral development in British Columbia.
- To provide advice and information to the exploration and mining industry, manufacturers, commodity traders, government agencies and the public.
- To provide information and advice to government to formulate policy and legislation for the effective management of industrial minerals in British Columbia.

STAFFING AND RESOURCES

2 FTEs, 1.5 auxilliary support staff \$290,534.

ACTIVITY	RESPONSIBILITY	Ουτρυτ
Publishing previously completed	Hora,	Bulletins, Papers
projects: carbonatites, kimberlites	Authors	Open Files
phosphates, gypsum, feldspar,		
olivine, fluorspar, tertiary basins; barite		
limestone & dolomite; platinum,		
chromite, nickel; perlite,		
vermiculite, possolan Sulphur Inventory		Open File
Promotion of Industrial Minerals	McArthur, Hora,	Trade Show Display
(Market Discovery '90)		
NEW INITIATIVES	RESPONSIBILITY	
Magnesite deposit study	Simaudl	
Planning/organizing 1991 Forum, in Banff,	Staff	
on the Geology of Industrial Minerals.		

DISTRICT GEOLOGY AND COAL RESOURCES SECTION

DISTRICT GEOLOGY UNIT

OBJECTIVES

- To maintain an up-to-date inventory on the geology, mineral deposits, exploration trends and development in each district.
- To provide a timely response and input to project proposals under review in the Mine Development Review Process, and serve on Mine Review Committees.
- To promote the mineral potential of each district.
- To provide advice and information to explorationists, prospectors, and other agencies, and the general public.
- To assist in the administration and delivery of the Prospectors Assistance and Training Program.

STAFFING AND RESOURCES

12.25 FTEs, \$852,107, five district offices: Smithers, Prince George, Kamloops, Nelson and Victoria.

ACTIVITY	RESPONSIBILITY	OUTPUT
Geologic and metallogenic studies	Lefebure, Faulkner, Meyers Legun, Wilton	Open File Report and Maps Mineral Exploration Review Exploration Part B reports Fieldwork reports Talks and poster sessions
Mine Development Review and Land Use advice Mineral Potential Promotion, Consultation	Lefebure, Faulkner, Meyers Legun, Wilton All Staff	MDRP responses Regional geological meetings and field trips, talks, posters
Prospectors Training and Assistance	Lefebure, Faulkner, Meyers Legun	Producers and Potential Map Consultations Basic and advanced level courses Prospectors supervision & advic
NEW INITIATIVES	RESPONSIBILITY	Prospectors supervision & advic
Initial research on selected porphyry deposits in NWBC. Study of volcanogenic massive sulphide deposits in Tulsequah Camp.	Lefebure	
Metalldgenic studies in Vidette Camp and at Treasure Mountain.	Meyers	
Compilation of alkali porphyry deposits of southern Quesnel Trough.	Faulkner	
Geology of the CHT property. Mineral potential evaluation NTS 82G/NW. Metallogenic studies in the	Faulkner Legun Wilton	
Tofino-Kennedy lakes area. Compilation of the geology and	Wilton	
metallogeny of the SW district. Mineral deposits of the Stewart-Sulphurets- Bronson Creek area - GAC/MAC field trip.	Lefebure/Brown	
Mineral deposits of southern Canadian Cordillera - GAC/MAC and IAGOD field trips.	Meyers, Wilton, Legun	
Porphyry deposits of southern BC GAC/MAC field trip	Preto, McMillan	

COAL RESOURCES UNIT

OBJECTIVES

- To conduct regional and deposit scale studies so as to determine the distribution, configuration, mode of formation and utilization potential of the Province's coal resources to improve the effectiveness for exploration and development.
- To develop and maintain an up-to-date inventory of the quality and quantity of the Province's coal resources.
- To maintain and curate COALFILE, a computer based file of coal exploration data.
- To promote the development and utilization potential of the Province's coal resources.
- To provide advice to government on coal research and development.
- To participate in inter-provincial coal research projects.
- To maintain and curate a library of coal exploration assessment reports.

STAFFING AND RESOURCES

8.5FTEs, \$616,148.

ACTION PLAN

Bowser Basin

ACTIVITY	RESPONSIBILITY	Ουτρυτ
Regional and deposit scale geological studies	Kilby, Kenyon, Ryan, Grieve	Bulletins, Papers, Open File reports, poster sessions, talks
Coal Quality studies	Grieve, Matheson	Coal quality brochure and catalogue
COALFILE	Kenyon	File data and print-outs
Coal Assessment Reports	Kenyon	Public access
Promotion of development potential	All Staff	Talks and poster sessions, consultations
R & D advice	Kilby, Ryan	Internal briefings and consultations
NEW INITIATIVES	RESPONSIBILITY	
1:50 000 mapping of 93P/5 Burnt River area	Hunter, Kilby	
Coal resources of the	Rvan	

PROSPECTORS ASSISTANCE AND TRAINING

OBJECTIVE

- To implement and administer the prospector grant program in a timely and accountable manner to encourage mine finding.
- To organize and deliver the Advanced Prospecting Course and basic training courses as required.
- To prepare and provide rock and mineral teaching sets for internal and external use.

STAFFING AND RESOURCES

2 12-month contractors, \$500,000.

ACTIVITY	RESPONSIBILITY	OUTPUT
Grant program	Preto, Pardy	Review of application and award grants. Grantee database and performance reports. Field visits to grantees.
Advanced and basic prospecting courses	Pardy, Preto, District Geologists	Courses delivered Trained prospectors
Rock and Mineral sets	Pardy	Sets produced

APPLIED GEOCHEMISTRY AND SURFICIAL GEOLOGY SECTION

SURFICIAL GEOLOGY UNIT

OBJECTIVES

- To develop a comprehensive surficial geology database of the Province to stimulate and focus industry evaluation and exploitation of surficial deposits (placer, sand and gravel, etc.) and buried mineral deposits in areas of thick overburden.
- To evaluate/demonstrate the capability of drift prospecting techniques in areas of thick overburden.
- To coordinate and develop a geologic hazards database. To contribute to the study and analysis of various geologic hazards related to the surficial environment.
- To provide advice and information to explorationists, prospectors, government and other agencies, and the general public.
- To promote external professional interest (university, consulting, etc.) in developing a Quaternary geology database for the province.

STAFFING AND RESOURCES

3.5 FTEs, \$284,150.

ACTIVITY	RESPONSIBILITY	OUTPUTS
Surficial and subsurface Quaternary stratigraphy and sedimentology of NEBC	Bobrowsky, Levson	Fieldwork report Open File
Assessment of drift prospecting techniques (Mt. Milligan for year 1)	Bobrowsky, Levson	Fieldwork report
Development of a placer deposit database (Cariboo)	Levson, Bobrowsky	Fieldwork report Open file
Coordinate a geologic hazards workshop for private and government personnel	Levson, Bobrowsky	Open File (Proceedings volume)
Generate public information brochures on various geologic phenomena relevant to the Quaternary environment	Levson, Bobrowsky	Information Circulars

APPLIED GEOCHEMISTRY UNIT

OBJECTIVES

- To provide baseline geochemical data by conducting Regional Geochemical Surveys for use by the mineral exploration, evvironment and health industries and government agencies.
- To conduct field orientation studies and complimentary applied geochemical research for more effective use of geochemistry.
- To provide advice and information to geologists, prospectors, government and private agencies, and the general public on matters of mineral exploration, environmental hazards and health issues related to geochemistry.
- To develop methods in the processing and interpretation of geochemical data by computer assisted statistical and graphical techniques.
- To assist in the delivery of the prospectors training programs at introductory and advanced levels.

STAFFING AND RESOURCES

3.5 FTEs, \$407,250.

ACTIVITY	RESPONSIBILITY	OUTPUTS
Regional Geochemical Surveys	Matysek, Gravel	
1989 RGS Data Release	Jackaman, Fuelgen	3 Open File Map
92B, C, F & G		and digital packages
RGS archive data release		3 Open File Map
82E, F & K		and digital packages
Orientation Surveys		
Vancouver Island		Open File &
Southeastern BC (82G & J)		Fieldwork reports
Integrated Studies		
Drift Prospecting		Open File &
Mt. Milligan (93N)		Fieldwork reports
Prospectors Training		Basic and advanced
		level courses

ANALYTICAL SCIENCES LABORATORY

OBJECTIVES

- To provide analyses of rock, mineral and ores in support of the Branch's geological and geochemical surveys.
- Responsible for the certification of assayers in the Province.
- To provide advice and information to explorationists, prospectors, government and other agencies, and the general public.

STAFFING AND RESOURCES

4 FTEs, \$374,675.

ACTION PLAN

ACTIVITY	RESPONSIBILITY	OUTPUTS
Analyses of rock, ores and minerals	Bhagwanani, Chaudry Vilkos	Trace elements Gold, XRD Whole rock Open Files
Certification of assayers	Lab Staff	2 examinations per year

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VANCOUVER OFFICE

OBJECTIVES

- To ensure effective communication, consultation and liaison between Geological Survey Branch in Victoria and senior industry, government and university officials in Vancouver.
- To assist in assessing exploration trends and concepts in the Province by conducting field studies and attending meetings.
- To present talks, papers, poster sessions and promote exploration and development opportunities in B.C. at Symposiums and Trade Missions particularly out-of-province (e.g. N.W. Mining Association, Spokane).

STAFFING AND RESOURCES

3 FTEs, \$184,169.

ACTIVITY	RESPONSIBILITY	OUTPUT
Geologic studies	Schroeter Staff	Fieldwork reports, Exploration Part B reports Talks and poster sessions
Prepare an annual tabulation of Discovery Methods of B.C. Mines	Schroeter	Publication in the Provincial Geologists' Journal
Review current prospectuses, Stage I and II reports as an advisor to the Mine Development Steering Committee	Schroeter	Monitoring of development

SCIENTIFIC REVIEW OFFICE

OBJECTIVES

- To compile, edit and ensure the timely and cost efficient publication of all geoscience data generated by the Geological Survey Branch.
- To expedite the production of approximately 100 publications during the year.
- To promote easier and more convenient access to publications and data from the Geological Survey Branch.
- To coordinate the B.C. Geoscience Research Grant Program and ensure research results are made available to the public and the mining industry.

STAFFING AND RESOURCES

5 FTEs, \$509,643.

ACTIVITY	RESPONSIBILITY	OUTPUT
Publication of: Exploration in B.C. Papers - 6 Bulletins - 4 Information Circulars - 30 Geological Fieldwork, 1990 Open File Maps - 30 Open File Reports 15 MINFILE - 10 map sheets Regional Geochemistry Survey - 3 map sheets Geoscience Videos - 4 Release Notifications & Promotions - 8	Staff	Publications available to industry, public
	RESPONSIBILITY	PRODUCTS
Enhancement of computer- aided drafting and desk-top publishing technology	SRO staff	Maps & figures in digital format Improved format and processing of all publications
Initiatiate new series of geoscience video publications	Grant	Series of technical videos on geoscience topics for industry, government & public
Promote the production of geoscience publications for education and public information	Grant & SRO staff	Information Circulars

BRITISH COLUMBIA GEOSCIENCE RESEARCH GRANT PROGRAM

OBJECTIVES

- To support innovative geological research within the Province of British Columbia.
- To improve the geoscience database of the Province by adding to the scientific literature on the geology of British Columbia.
- To assist original geoscientific research at universities and institutions of higher learning.
- To develop new concepts and techniques which will reduce exploration risk, aid in identifying new mineral wealth and assist in informed land use management within the Province.

STAFFING AND RESOURCES

\$130,000

ACTIVITY	RESPONSIBILITY	OUTPUT
Disbursement of about 30 geoscience research grants	Management	Publications and scientific expertise available to government, industry & public