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1. SUMMARY

The organisational structure of the Commission caters for the Mines Division and the Geological Services Division assuming responsibility for the execution of the majority of the functions of the Commission. The Legal Division, the Administrative Division and the Finance Division provide support for the Mines Division and the Geological Services Division, as well as directly executing some of the Commission's functions. This review is structured so that the responsibilities of the respective divisions are evident.

The Commission played a major role in the mining sector of Guyana during 1990. Mining Engineers and Mines Officers, with responsibility for the administration of the Mining Act and Regulations, visited all the commercial mining operations, and reported on all aspects of their operations. Reports are on file for the following operations:

Licence Holder	Mineral	Area
GUYMINE	Bauxite	Linden
"	"	Kwakawani
Aroaima Mining Co.	"	Aroaima

Permit Licence Holder	Mineral/Ore	Area
Toolsie Persaud Ltd	Stone (crushed)	St. Mary's Essequibo
Baracara Quarries Ltd	Stone (boulders)	Monkey Jump, Essequibo
GNS	Stone (boulders) and Crushed	Teperu, Mazaruni
Small Miners	Gold	All mining districts
Small Miners	Diamonds	" "
Various Operations/Ceramin Sand	Soesdyke Ceramin	Kaolin Ituni
O. Atkinson	Amethyst	Aishalton

The prevailing fiscal and legislative regime for gold, diamonds, sands, kaolin, and semi-precious stones (amethyst, agate, etc) resulted in significantly increased declaration and lawful exploration of those mineral commodities. Certainly, the record gold declaration indicates that the Guyana Geology and Mines Commission and small miners are doing things right together. Especially heartening was that non-traditional minerals such as kaolin, silica sand and amethyst are finding their way to overseas markets. Agates, jasper and pegmatite (feldspar) also have markets overseas available and it is hoped that orders can be filled during 1991.

The Guyana Geology and Mines Commission also obtained approximately five tons of soapstone from Kauramembu area at the request of the Creative Arts Department of the University of Guyana. Local sculptors are utilising it, and the GGMC re-commenced research into the use of soapstone for paint manufacture. In addition, research into the production of black sands concentrate (to obtain titanium minerals) as a by-product of dredging was continued.

The Guyana Geology and Mines Commission successfully negotiated Agreements for several more properties to be licensed for exploration and mining of gold and diamonds, with one company showing interest in shell deposits and another in stone. The exploration highlight of the year was the filing by Cambior/GSR Ltd. of a feasibility study for the mining of the gold deposit at OMAI. Mazda Ltd. began development work on their gold placer deposit in the Konawaruk valley. Production at a rate of 20,000 ozs per annum, is scheduled for May, 1991.

Several local small miners, on the advice of the GGMC, introduced banka drilling to delineate their placer gold deposits before mining. Pereira's Nine Mile gold mine introduced exploratory diamond drilling with the help of the GGMC. Sample analyses for several of these programmes were done by the laboratories of GGMC.

Foreign companies used geology, geochemistry, geophysics and remote sensing as their major exploration technique. Of particular interest to the GGMC was the airborne magnetic surveys conducted by Questar on behalf of Golden Star Resources Ltd and Denison Mines Ltd. The latest in computer processing techniques were applied in evaluating the results of the surveys with excellent results.

It is now clear to explorationists that aeromagnetics can be successfully applied in the search for mineral deposits in our environment. The GGMC opened discussions with Denison and GSR in relation to having the north of Guyana covered by airborne magnetics using the latest computerized processing techniques. It appears that CIDA and UNDTCD may be interested in funding such a project.

The exploration activity highlighted the need for the GGMC to upgrade its Cartographic, Library (maps, books and periodicals, sample storage areas, and core drilling capability). The GGMC's Library is a major repository of information on mineral deposits in Guyana and each foreign company has researchers at work in our library on a regular basis. This work by researchers brought into sharp focus the importance of upgrading our facilities to minimise deterioration of our maps and books. Maintenance and extension of the facilities commenced in 1990 and will continue in 1991 with suggested computerisation of systems, and air-conditioning for the area where rare and single copy volumes are stored. Computerised drafting is now installed.

Dension Mines Ltd. Homestake Minerals, and Golden Star Resources Ltd used foreign (Brazilian) drills and personnel to conduct extensive drilling programmes on their properties. GGMC was only equipped to share in a small portion of this activity. It is proposed to substantially improve the drilling (core and banka) capability of the GGMC during 1991. The drill cores in storage at GGMC covers many properties over several decades and many foreign companies found such available core indispensable for planning programmes. The core and samples storage areas must now be extended to cater for the thousands of duplicate samples and thousands of feet of split core which companies are obligated to lodge with us for our records. Already hundreds of samples are now useless due to deterioration, and thousands of feet of split core are in the fields at Omai, Aurora, Akaiwong, Tassawini and other locations awaiting adequate storage capacity at GGMC.

Another area of interest involves application of state-of-the-art techniques for evaluation of placer diamonds deposits by foreign mining companies. The bulk sampling procedure involves statistical analysis of historical diamond prices and diamond characteristics to predict sample size and sample spacing. GGMC is monitoring these methods very closely in an attempt to verify the applicability of the techniques to our deposits. In addition, the search of paleoplacer deposits in the north of Guyana was reopened by Golden Star Resources Ltd. and geomorphologists were brought in to advise on a new approach.

GGMC was involved in modest research work in the area of mineral processing, import substitution and mining technology. Dredge mining technology was monitored and field work involving jig, shaking table, and screen tests were conducted by GGMC. Mining engineers were actively involved in advising miners on the application of new flowsheets to their operations. Several dredge operators were thereby encouraged to add improved screening facilities and processing techniques to their dredges. GGMC is in discussion with IAST to allow our mineral processing unit to use the processing laboratory and pilot plant owned by IAST at Turkeyen. IAST is amenable to this arrangement and it is anticipated that GGMC will occupy the IAST facilities during 1991. The report on the quarrying industry indicated that all operations need substantial technical inputs. A plan was formulated to involved GGMC in providing such technical support.

During 1990 GGMC initiated a programme to report on the effect of small scale gold mining on the environment. With the help of the Technical Assistance Group (TAG) of the Commonwealth Secretariat, consultants and GGMC personnel examined the impact mining has on the environment and sought ways to minimise any deleterious effects. Final reports are not due until 2nd quarter 1991 but indications are that new regulations will have to be implemented to ensure environmental damage is minimised.

The new Mining Act was published during 1990 and copies are available for the public. However, the order bringing the Act into force was not made. Work commenced on a substantial set of new regulations, and the final draft should be ready during the 2nd Quarter of 1991.

A major goal of the Commission was the retention of a competent body of workers suitably motivated to conduct the business of the Commission. Of course, the peculiar role of the Commission in the geological and mining sphere makes this goal an extremely challenging one. The mining engineers and geologists with the Commission are an inspired group of professionals making a sacrifice in the interest of national development. Likewise, the professionals and subprofessionals in ancillary fields must share this sense of inspiration.

Training at all levels was emphasized and the training schedule is impressive. The GGMC supported the re-introduction of the degree in Mining at the University of Guyana and assisted in co-ordinating inputs from foreign mining companies. Four persons from GGMC are studying overseas, (three for the degree in mining and one for the degree in geology). Several other employees are studying at the University of Guyana in disciplines needed by the Commission.

The GGMC was plagued with security problems during 1990. There were several losses reported due to break-ins and lapses in internal security and the Police was asked to advise us on ways to improve security.

The Commission maintained its interest in the welfare of workers with the continuance of Canteen facilities, uniforms, bursary awards scheme for employees and children, the introduction of transportation facilities and the acquisition of gym equipment.

The GGMC enjoyed a good year financially with royalties, rentals and fees substantially higher than projected.

During 1990, then, the Commission was involved with:-

1. The promotion of interest in mining and mineral exploration and the development of the mineral potential of Guyana.

2. Advising on the economical exploitation, beneficiation, utilisation and marketing of the mineral resources of Guyana.

3. The exploration of mineral resources on lands using techniques of geology, geochemistry and remote sensing.

4. Research into optimum methods of exploiting and utilising mineral and mineral products of Guyana.

5. The enforcement of the conditions of mining and dredging leases, concessions, exclusive permissions, prospecting, and claim licences.

6. Collecting all rents, fees, levies, tools, and charges payable under the Mining Act.

7. Undertaking the collection, preparation, publication and distribution of statistics relating to minerals and mining.

8. Promotion of training in mineral exploration and mining by aiding educational institutions and providing scholarship.

9. Assisting in securing an adequate supply of minerals and mineral products for the nation.

10. Suggesting legislation for the regulation of the mining industry in the interest of health and safety, minimising environmental damage and promotion of good mining practice.

2. GEOLOGICAL SERVICES DIVISION

Mineral Development comprises in sequence, geological surveys and research, exploration and exploitation, or mining.

Exploitation taps the mineral resources of a country for its economic benefit. But exploitation must be built on sound geologic knowledge and exploration, to define economic deposits which are the principal assets of any mining operation. This report highlights the importance of geological field activities in mineral development in Guyana and the central role geological field work plays in the Commission.

The 1990 programme was essentially to investigate for gold, diamond, columbite/tantalite, platinum group minerals, and the industrial minerals, kaolinitic clays and silica sand.

Field programmes completed during 1990 were the Bauxite Sampling Programme, the Upper Waini gold, diamond, columbite/tantalite and rutile expeditions, and clay sampling at Coverden.

2.1 The Bauxite Sampling Programme

The Bauxite Sampling Programme was a research project aimed at sampling some of the exposed faces in the bauxite mines currently in production at Linden. The bauxite samples were tested for gold mineralisation, following recent successes in Greece and Australia in uncovering extensive economic gold mineralisation in bauxite ore.

A type example, the new Boddington Mine in Australia, produced 186,000 ounces of gold in 1988, with production targetted to increase to 400,000 ounces of gold per year by the end of 1989. The ore consists of very fine gold in weathered bauxite, laterites and clays overlying basement rocks, a geological environment similar to that of our bauxite deposits.

Three Mines - Dacoura, Kara Kara and Dorabece were sampled during the first half of the year. Forty-nine geochemical samples were taken from the accessible faces of the mines. The samples were taken from the base of the overlying white sand, subvertically downwards to the base of the exposed bauxite horizon. A composite sample was taken from each lithologically distinct horizon - e.g. variegated clay, lignitic layer.

The samples were analysed for gold using MIBK extraction and Atomic Absorption Spectrophotometry in our Chemical Laboratory. The results obtained showed gold values to be uniformly low (0.16 to 0.01 ppm gold).

2.2 **The Upper Waini**

The Upper Waini project was mounted during the second half of 1990 to investigate reported occurrences of gold, diamonds, columbite/tantalite and rutile, and to evaluate the mineral potential of the Arawapai - Upper Waini area. Soil geochemistry, geological mapping and stream sediment concentrate sampling were undertaken.

On a practical level, access to Upper Waini in the low water season proved to be particularly arduous, and four out of the allotted eight weeks were spent in reaching Arawapai and setting up base camp.

Approximately 25 km of lines were cut, 70 soil samples and 57 stream sediment concentrates were collected. Eight pits were sunk but none of these exceeded one metre in depth owing to the prevailing high level of the groundwater. Heavy mineral samples have been submitted to the Petrological Laboratory for Mineral Characterisation, and the soil samples are being tested for gold by the Chemical Laboratory.

Mineral and chemical analyses will determine the heavy mineral suite present and the concentration of gold in the soils. These factors will indicate the area's potential for mineralisation.

The Waini project will continue in January 1991. An additional six weeks of field work is planned.

2.3 **Coverden Clays**

Auger Sampling of Coverden Clays was completed in March. Nine holes were sunk and thirty-eight samples taken to test their suitability for ceramic manufactures.

2.4 **National Rainforest Project**

The Geological Services Division compiled the Geological Report and prepared a geological reconnaissance programme for the National Rainforest Project, concerned with Environmental Research, and the application of sustainable development in Guyana's tropical rainforest's mineral and other natural resources.

The Guyana Rainforest Project document was prepared by a team of experts recruited by the Commonwealth Secretariat, in collaboration with Guyanese experts.

2.5 Concluding Remarks

I wish to acknowledge the work of Senior Geologist II, Mr. K. Persaud and supporting field officers - G. Best, N. Ramkeerat and R. Vieira, and to recognise the complementary work which accompanies every field project and provides reliable analytical data and drafted geological maps and sections for the geological report, the culmination and permanent record of our field activities.

Reference is made to the work of the Chemical and Petrological Laboratories and the Drawing Office, headed respectively by Senior Chemist - Mr. H. Bharat, Senior Analytical Officer - Mr. C. Rambali assisted from time to time by Senior Geologists - S. Narain and J. Ghansam, and Assistant Manager, Information and Publications - Miss I. Lowe.

The 1990 field programme was curtailed by the illness and later retirement of Senior Geologist I, Mr. Sat Narain, reducing our professional staff from three to two Geologists.

2.6 Activities of Foreign Mining Companies

The Commission's efforts in generating, analysing and packaging geological information, and with the help of the United Nations Development Programme, in the 1980's, in promoting geological information as targets for large scale exploration for gold, have been amply rewarded by the issuing of Exclusive Exploration Permissions (E.P's) to several foreign and local mining companies.

Most of these companies have been conducting systematic exploration of their E.P's. Three outstanding factors must be noted:

1. Exploration is always based on a body of already existing geological information and research, generated and recorded by geological surveys, previous mining and previous exploration;

2. Exploration and Mine Feasibility assessment, including Environmental Impact Assessment, and Mine Development generally have a long lead time of five to ten years, that is, it takes five to ten years from initial exploration to production;

3. Exploration does not necessarily lead to production; in fact, only a small number of the many properties which are explored are eventually brought into production.

4. In 1990, there were nineteen Exclusive Permissions in force. Of these, three were held by local miners.

Homestake International Minerals Limited, Guyana, and their joint venture partners South American Goldfields, held Exclusive Permissions over Peters' Mine, Akaiwong and Dazier Creek areas;

Brex (Guyana) Limited was granted an Exclusive Permission in the Middle Mazaruni;

Romanex was granted an Exclusive Permission over the Marudi Mountain prospects;

Denison Mines (Guyana) Limited, in joint venture partnership with South American Goldfields, held Exclusive Permissions at Aurora, Quartz Hill, West Kaburi and Five Star;

Golden Star Resources Limited held Exclusive Permissions in the Mazaruni area at Red Hill Loop, Eping, Saganang and Apaikwa, in the Mahdia area at Eagle Mountain, Tiger Creek and Proto-Mahdia, and in joint venture partnership with Placer Dome Incorporated, and latterly, Cambior Incorporated, at Omai off the Essequibo River.

The Government of Guyana is a joint venture partner in each Exclusive Permission agreement.

According to the Mining Companies' Reports the results of Exploration undertaken in 1990 were mixed, with exploration successes and disappointments reported. As mentioned earlier this is not unusual.

Homestake International reported very encouraging results at Akaiwong and Peters' Mine, while Dazier Creek did not meet up to their expectations.

Denison Mines reported a significant find at Aurora; results at Quartz Hill and West Kaburi were less note-worthy.

Golden Star Resources continued exploration for diamonds at Red Hill Loop, Eping, Saganang and Apaikwa on the Mazaruni generally with encouraging results. In the Mahdia area, they concentrated exploration and development work on the Tiger Creek and Proto-Mahdia Exclusive Permissions, with a view to completing a feasibility study for the Proto-Mahdia palaeoplacer deposit.

Up until April 1990, Placer Dome worked with Golden Star evaluating the Omai deposit. On 30th April, 1990, Placer Dome terminated its option agreement with Golden Star Resources and the Guyana Government citing economic reasons. On 24th May, Cambior of Val d'or, Quebec, Canada, signed a joint venture agreement with Golden Star Resources to complete a feasibility study of the Omai deposits.

A positive feasibility study was completed and approved by Cambior's Board of Directors in December, 1990. This feasibility study was submitted to the Guyana Geology and Mines Commission on December 29, 1990.

Brief highlights of the major exploration successes achieved during the year are:-

1. Golden Star's Proto-Mahdia deposit;
2. Homestake's Akaiwong deposit;
3. Denison's Aurora deposit;
4. Golden Star/Cambior's Omai deposit.

The Proto-Mahdia deposit straddles the Proto-Mahdia and Tiger Creek Exclusive Permissions.

Work completed in 1990 comprised line cutting, mechanised banka drilling, manual banka drilling, IPT auger drilling and topographic surveys, which were complemented by development work for the Proto-Mahdia feasibility study.

Drilling and pitting completed in 1989 defined a 'pay zone' of geological reserves within the Proto-Mahdia alluvial about 5 km (3 miles) long, containing some 165,000 ounces of gravity recoverable gold. The geologic reserves are being updated. (To date the proven reserves within the Proto-Mahdia alluvia stand at 13 million cubic metres containing 190,583 ounces of gold.)

Homestake's Akaiwong Exclusive Permissions located on the left bank of the Cuyuni River approximately 150 km south west of Georgetown.

The entire Exclusive Permission area was explored by geo-chemical sampling from the surface to one metre in depth. Favourable targets were further explored by auger drilling to fifteen metre depths on an established grid. The weathered profile of these targets were drilled with a diamond core rig - twenty four holes totalling one thousand six hundred and twenty six metres. An IP and ground magnetic/VLF survey was conducted on a portion of the grid.

The mineral potential is well developed in the weathered profile. In addition, drilling indicates that a potential vein target with wallrock dissemination exists in the fresh bedrock. It is felt that there is potential for a 20 million ton deposit grading 2.0 g/t Au at Akaiwong.

Homestake ceased their exploration programme and in December, 1990 they requested to withdraw from Guyana. However, South American Goldfields Ltd., their joint-venture partner, has intimated that they intend to pursue exploration activities on the said properties.

Denison's Aurora property lies on the right bank of the Cuyuni River approximately 170 air kilometres west of Georgetown, in the vicinity of Akaiwong.

The largest gold mine in Guyana's history was located at Aleck Hill on the Aurora Property. It operated between 1940 and 1950 and produced between 65,000 ounces to 110,000 ounces of gold from a combination of underground and open pit operations.

During 1990, reconnaissance stream sediment sampling, follow-up deep auger profiling, line cutting, channel sampling of tunnels, trenching, geological mapping, topographic surveys, geophysical induced polarisation and ground magnetometer surveys and nine diamond drill holes, totalling 1500 metres, were completed by Denison Mines.

Denison reported that five drill holes intersected gold mineralisation covering a strike length of 300 metres. Preliminary indications are that the zone contains about 1.5 million tonnes of material with an average grade of about 15gm/tonne gold - (about 0.5 oz/ton). This grade is about ten times that of the Omai Property.

The company has stepped up exploration activity on the property and drilling is continuing to further define this zone of mineralisation and test other similar zones already targetted.

With very favourable grades and good potential for increasing the tonnage of mineralised material, the Aurora deposit represents a significant find.

The Omai stock is a small (400m x 500m) pluton which has been the focus of gold exploration and production at Omai for over 100 years. The intrusive complex and its adjacent country rocks host gold mineralisation associated with a series of generally small but widespread quartz carbonate veins and stringers.

The Wenot Lake Zone was discovered in February, 1989 with the drilling by Placer Dome of hole DDH 66 some 350m west of Wenot Lake. This hole was aimed at testing coincidental gold geochemical and radiometric anomalies. Subsequent drilling outlined an east-west zone roughly 1.8 km (1.1 mile) long and 200m wide, interrupted by Wenot Lake in the centre. The western part of the zone and Wenot Lake itself were mined by hydraulicking methods during the 19th century.

Gold bearing alluvium found in the Gilt - L'Esperance - Dunclain Creeks on the Omai property is largely made of tailings from hydraulicking of the lateritic profile over the Wenot Lake zone and Omai stock.

At September, 1990, 97 diamond drill holes totalling 21,275 metres, 170 saprolite holes totalling 10,560 metres, 87 banks drill holes totalling 786 metres, 455 sonic drill holes totalling 1,723 metres had been drilled, in addition to the 74 holes totalling 12,220 metres drilled by Anaconda in 1947 to 1950.

Proven minable reserves at Omai Stock are given as 30 million tonnes at 1.77 g/tonne, and proven minable deposits at Wenot Lake total 5 million tonnes grading 1.6 g/tonne, using a cut-off grade of 0.80 gm/t.

The capital expenditures required to put the mining project into production based on the use of diesel power supply, are estimated at US$151,544,000.00. Gold production is scheduled to commence in 1993, during the first three years producing an average 255,000 ounces of gold with

an average milled grade of 0.058 oz Au/t. Just for perspective, for 1990 our records declared gold production was 38,712 ounces of gold.

The mining of two open pits (Main Stock and Wenot Lake) as well as alluvial deposits ensure a mine life of nine years.

In 1990, more than US$5.6 million was spent by the foreign companies - Denison, Golden Star, Homestake, South American Goldfields, Cambior and Romanex, on exploration at 16 E.P's (see Table appendix).

The Geological Services Division is associated with exploration done by the Mining Companies. Ours is the task of evaluating their work programmes and budgets, monitoring field programmes, and assessing exploration reports against the proposed programmes, budgets and the agreements signed between the companies and the Government of Guyana.

We are particularly happy to see our cumulative efforts in geological surveys and past exploration now crowned with successful exploration and the promise of large scale gold production in Guyana commencing at Omai in 1993.

In 1991, we will seek to better carry out our mandate to generate, analyse, store and disseminate geological information, and to advise potential investors in the mineral industry.

3. MINES DEVELOPMENT AND PRODUCTION DIVISION

3.1 Mineral Processing Unit (MPU)

(a) During the period January - March, 1990, a Prototype Mercury Retort was designed by the Mineral Processing Unit and fabricated by BACIF. The design proved unsatisfactory and modifications had to be carried out. Testing was scheduled for April 1990 after the completion of modifications. Improper sealing of the retort by BACIF further delayed the scheduled testing of the equipment.

(b) The Guyana Geology and Mines Commission held a seminar on 26th January, 1990 when a "Review of Mineral Processing Research and Development in Guyana" was presented by personnel from the Mineral Processing Unit.

(c) Early in the year the Mineral Processing Unit acquired a "Denver Flotation Cell" from IAST on a loan basis. Work was carried out on tailings obtained from the "9 Mile Issano Operation". Tailings of assay value 6 g/tonne were grounded and tested with Z-200 and fuel oil (collector) and floated with pine oil. The results indicated no significant upgrading. Floation of black sand from the Potaro commenced early in the year.

(d) Analyses of the results have shown good recoveries in fine gold. A concentrate of assay value 638 oz/tonne was obtained using Aerofloat 25, Z-200 and MIBC/pine oil. Further verification Floation tests were carried out using variable reagent quantities and flotation times. Results indicate that the process can be made more selective by staging reagent addition and eliminating the use of Z-200. Chemical analyses were also carried out.

(e) Heavy mineral analysis commenced on fifteen (15) samples taken from the Lower Mazaruni and Lower Cuyuni Rivers. The results indicate the following:

	Lower Cuyuni	Lower Maz.
Content & Distribution	0.6% HM	2% HM
	71% C 1 mn	100% 7 lmn
Heavy Mineral Recovery	17%	70%

Losses show poor performance of sluice boxes on -250/ fraction/microns. Nugget effect did not allow for specification of gold distribution. Evidence suggest -250um 90% in Lower Cuyuni and 60% in Lower Mazaruni.

f) The Mineral Processing Unit of the Guyana Geology and Mines Commission finalized arrangements for providing research service for the flotation of Gibbsite to the GUYCOR 93 Project. It was agreed that a work programme would be prepared and submitted.

(g) A short head Hydro Cyclone was designed by the Mineral Processing Unit and fabricated by F.O. Barakat. The cone had to be returned to the workshop to correct the feeding arrangement. Testing of the hydro cyclone had to be rescheduled.

(h) The Knelson Concentrator was used to process tailings for the recovery of fine gold. Results show good recoveries can be achieved. Samples were sent for Laboratory Assay.

(i) The Mineral Processing Unit evaluated data on Paranapanema's work at Tassawini. Initial indications are that the ore metallurgy is complex and grinding would be an essential processing step. After Paranapanema's withdrawal from the Tassawini property the Guyana Geology and Mines Commission decided that the property would be made available to interested local miners. As such work on the flow process would be of benefit to any possible local investor who has an interest in acquiring part of the property.

3.2 **The Mining Inspectorate**

3.2.1 Mining Stations

Eight (8) Mining Stations were staffed early in the year. The stations were Tumatumari/Mahdia, 72 Miles Issano, Waraputa Landing, Ya-Ya Landing, Kurubrong, Akaiwong, Kurupung-Enachu and Bartica. Staff at each station, except Bartica, averaged about four (4) personnel. The stations continued to monitor activities in the various mining districts and provided traditional services. The stations were closed after a thirteen (13) week period which ended with the start of the May-June rains.

3.2.2 Visits

About thirty-four (34) short trips were made by personnel of the Inspectorate to interior locations, some at the request of the miner. The following activities were carried out during some of the short trips.

(i) The verification and survey of land and river claims in the different mining districts.

(ii) Investigation and settlement of disputes.

(iii) The arresting of illegal mining activities involving both local miners and foreign parties (Brazilian).

(iv) Senior Mines Officer - Best and Garraway visited the North West District on a special assignment for the Waini Gold and Diamond Project.

(v) Officers from the Guyana Geology and Mines Commission with assistance from the police evicted on various occasions, itinerant miners from the Golden Star Resource's Omai property.

3.2.3 Inspectors Tour - Bauxite Industry

A part of it's ongoing monitoring programme of the industry, the Guyana Geology and Mines Commission carried out an inspection into the Bauxite Mining at the Linden and Berbice Operations. At about mid-year a two (2) week inspection was carried out by James Mingo (Mining Engineer), who reported on current mining practices and the safety aspects of mining on the various operations.

An inspection was also carried out at the Aroaima Bauxite Mine in Berbice where overburden removal is being carried out by the use of cutter head dredges. The international firm "Boskalis" carried out the dredging operations.

3.2.4 Inspection Tour (Quarry Mining)

At about mid-year an inspection of the various quarries was carried out. Mr. G. Howell (Mining Engineer) carried out a one week tour of the quarries in the Bartica triangle and outlying area. Some of the quarries inspected were St. Mary's, Baracara, Teperu, Itabu and Big Hope. The inspection focussed on current quarrying practice and the safety aspect of the operations. The Guyana Geology and Mines Commission shall be providing technical advise and services as a result of the observation made during these inspection tours.

3.2.5 Protection of Environment

As part of its environment protection activities, the Guyana Geology and Mines Commission retained the services of a Commonwealth Environmental Consultant - Dr. Watkin. Senior Technical personnel of G.G.M.C. and Dr. Watkin visited the Upper Mazaruni and the Potaro areas to observe the impact of the diverless dredges on the river banks. The diverless dredges - a recent development in local mining technology has the capability of dredging by suction consolidated river bank material. The capability, if left uncontrolled, can result in the creation of vast amounts of wetlands.

3.2.6 Mining Studies

The Guyana Geology and Mines Commission continued to receive and examine proposals for mining and application for mining and quarry licence. Proposals and applications were assessed and reported on during the year.

3.3 **Service to the Industry**

3.3.1 Flat Rock Bulk Sampling Project

This project, which was scheduled to commence in September, did not come on stream. A reconnaissance was made of the area by James Mingo (Engineer). The objective of this project is to extract 2100 tons of pegmatite from a deposit in the Flat Rock area (Essequibo Coast). The project had to be rescheduled because of the unavailability of a pontoon. Efforts to obtain a pontoon from HRRCL on a rental basis were not successful to date. The feldspar from this pegmatite is used in the production of ceramics. There is a local demand for this product.

3.3.2 Blue Mountain (Tassawini) Project

As part of the service provided by Guyana Geology and Mines Commission to the general public, trips were made to the Blue Mountain area of the North West Districts for the extraction of soapstone. The product (20 tons) was made available to craftsmen (sculptors) and students from various schools of art (University of Guyana and Burrowes School of Art).

3.3.3 Hinterland Roads

As part of its on going commitment to the development of transportation infrastructure and hinterland roads, the Guyana Geology and Mines Commission was involved in activities relating to the upgrading and reconstruction of the Arawai road. The GGMC is committed to providing technical and financial assistance where necessary in the development of roadways, which service the mining industry.

3.3.4 Drilling Core

Early in the year drilling was carried out for Placer Dome at the Omai property (Essequibo River). Nine (9) holes were drilled for a total footage of (1738') feet. Drilling was carried through saprolite (clay) and hard rock. Diorite cores were recovered. Core recovery exceeded 90% in most cases.

3.3.5 Drilling (Foundation)

Drilling was carried out at 51 Village, Corentyne. The drilling provided part of a foundation investigation where undisturbed soil samples were recovered. Kayman Sankar proposes to erect silos for the storage of rice at the location. Two holes were drilled to a total depth of 85 feet and undisturbed soil samples collected.

3.3.6 Drilling Core "9 Mile Operation"

Diamond core drilling was carried out at Pereira's "9 Mile Issano Operation". Nine (9) holes were bored, some vertical and some inclined in an attempt to delineate a mineralized/quartz vein. The results of the drilling was partly successful. NxQ cores were recovered during the drilling operation. Drilling is scheduled to continue.

3.3.7 Drilling (Arnik)

Diamond core drilling was and is being carried out for Goldfield Enterprise Limited at the Arnik property in District No. 4. Drilling is scheduled to continue in 1991. Approval is being given for the use of a bulk sampling programme using a pilot scale plant.

3.3.8 Banka Drilling

The Guyana Geology and Mines Commission continued to provide the local mining industry with Banka Drills and supervisory personnel. Four drills were out for most of the year. The GGMC plans to acquire six (6) more Banka Drills to supply the high demand in the mining industry.

3.3.9 Training

As part of its commitment to personnel development within the organization and industry all as a whole, the GGMC sent four (4) officers on courses (part-time) at the University of Guyana. Three (3) staff personnel were sent on overseas training courses for training in Mining and Mining related disciplines (Mineral Processing).

3.3.10 Lapidary

Throughout the year the Lapidary produced polished black pearls, agate cabochons, jasper, paper weights, jasper trophy bases and faceted stones.

Activities carried out were slabbing, trimming, buffing and polishing.

Work was also carried out on amethyst. The frequent spate of power outages contributed to significant losses in working hours. The standby generator was down for some repairs.

3.3.11 Statistics

1. Dredge registration for the period was recorded at:
   38 + 31 + 30 + 25 = 124
2. Applications for dredge licence was recorded at:
   266 + 56 + 8 + 2 = 272
3. Applications for Trading licence was recorded at:
   64 + 77 + 32 + 2 = 175
4. Applications for Business permission amounted to:
   54 + 85 + 29 + 15 = 183
5. Applications for Residential permissions amt. to:
   31 + 88 + 5 + 10 = 134
6. Applications for Goldsmith's licence amounted to:
   155 + 71 + 4 + 5 = 235
7. Applications for new Claim Licence amounted to:
   183 + 576 + 624 + 45% = 1841
8. Challenges for the period amounted to:-
   6 + 5 + 5 + 2 = 18
9. Complaints filed for the period amounted to:
   12 + 24 + 41 + 23 = 100
10. Gold production for the period was recorded at:
    2,551 + 9,799 + 10,676 + 15,688 = 38,716 ozs

11. Diamond prod. for the period was recorded at:
2,146 + 4,090 + 3,091 + 5,550 = 14,877 carats.

Total Production & Royalty
Bauxite Mined - Guymine Linden 1990

Months	State Lands	Private Lands	Total Mined
January	67,009	42,009	109,018
February	56,816	52,812	109,628
March	32,958	100,163	133,121
April	29,818	73,405	103,223
May	-	89,040	89,040
June	13,675	54,351	68,026
July	67,605	8,375	75,980
August	20,349	71,237	91,586
September	41,941	61,235	103,176
October	51,046	28,556	79,602
November	44,770	40,837	85,607
December	8,992	72,371	81,363
TOTAL	434,979	694,391	1,129,370

Bauxite Mined - Berbice

Months	Total Mined
January	21,502
February	21,100
March	4,165
April	36,756
May	26,694
June	48,713
July	116,703
August	56,467
September	34,832
October	37,065
November	7,988
December	20,510
Total	432,495

The amount of Clay and Sand (Silica) mined during the year was 2,229 tons and 535 tons respectively.

The amount of Kaolin mined was 406.25 tons. No amethyst was mined during the year. The amount of soapstone mined was 10 tons.

Baracara Quarries mined a total of 7,800 tons of Stone during the year, while Toolsie Persaud Limited mined 27,893 tons during the period January to September. (No figures are available for October through December).

4. ADMINISTRATIVE DIVISION

The Administrative Division embraces all the Service Sections of the Commission, which give support for the execution of the work programmes of the other sections.

In 1990, the Administrative Division comprised:

(a) The Personnel & Industrial Relations Section
(b) The Services Section
(c) The Information and Publication Section
(d) The Computer Section

4.1 Personnel and Industrial Relations Section

This section was responsible for Personnel Management and Administration and handled recruitment of staff, staff development, salaries and wages administration, and all other aspects of conditions of service. It also had responsibility for the enforcement of personnel rules and regulations.

Training of staff to better equip them to perform their appointed tasks received priority in 1990. Officers in all the Divisions, professionals and sub-professionals, and other levels of staff, underwent training in varied disciplines such as Mining, Cartography, Geology, Accountancy, Management and Computer. Training was done both locally and overseas.

Incentives to staff took the form of a revision of vacation and meal allowances, better canteen facilities and free transportation for staff who lived in rural areas. Although it was recognised that salaries, especially for the lower categories of staff, were still very inadequate, the Commission was restrained because of Government policy, to confining salaries within the parameters of Government/TUC negotiations.

The Security Service was not as effective as it was required to be and consequently the Commission suffered some losses, mostly of equipment. The building of a new security fence at the back of the compound sought to alleviate the problem.

The Industrial Relations climate was calm during the year.

4.2 **Services Section**

This Section provided transportation for the daily run of the Commission's business and for field projects related to the Mines Division and Geological Services Division. The Section was also responsible for maintenance of the Commission's buildings, vehicles and other mechanical equipment, and for maintaining power supply to all the buildings belonging to the Commission, and radio communication between the Commission and officers in the fields.

The extent to which field projects succeeded, depended to some degree on the quality of the services given by the Section. On some occasions the section did not perform creditably, and lacked the expertise to deal with some equipment. The quality of work of the Carpenter Workshop, which was some cause for concern early in the year, improved significantly later in the year.

The Commission's fleet of vehicles was increased by one (1) car, two (2) mini buses which were used to assist staff in the rural areas with transportation to and from work and one (1) truck which gave support to the other truck, for interior runs.

4.3 **Information and Publication Section**

This Section was responsible for map information and production, printing (inclusive of maps and books and forms used by the Commission) and maintenance of a Library which served primarily the Commission, the mining public and students.

The Cartographic Section serviced to a great extent, the Geological Services Division and the Mines Division in relation to the production of maps for various projects. Stock maps from the Cartographic archives were consulted throughout the year by Geologists, Mines Officers and other internal staff, as well as by members of the mining public.

Several Mining Property Descriptions were done for mining companies and small scale miners, e.g. Golden Star Resources, Homestake International Minerals Limited, Romanex International Limited, Mazda, Joseph Vieira, Neville Osman, among others. The assignments carried out included the plotting of mining properties newly applied for or revised, as well as verifying or writing out descriptions.

The Exclusive Permission map was updated and made available for the Commission's use and the public on demand.

Technical illustrations fair-drafted from geologists' field maps, included fourteen (14) drill hole sections and sketches for the Flat Rock Pegmatite Project.

The Drawing Office was also assigned the task of reproducing topographic and geological maps covering the area allocated for the Rain Forest Project.

The Library which is the only custodian of several rare publications, serviced a reasonably large clientele during the year. The Library facilities were extended to cater for the increased need for the documentation of information.

4.4 **Computer Section**

This section was responsible for the computerization of some areas of the Commission's activities. Most of the work of the Section related to the computerization of all records kept by the Commission in relation to the mining industry.

Several additional programmes were implemented in relation to dredges and gold and diamond production. Mapping peripherals were acquired, and a compilation of geochemical data base was done in preparation for the development of geological maps. The visit of a computer expert from Venezuela through the D.I.E.C. to train staff in the production of maps, however did not materialize.

Training of some of the Secretaries and Typists in Word Processing was done by the Head of the Unit.

Staff List - December 1990

Chairman's Office	Computer Room
Kenneth Bancroft	Ted Semple
Maylene Austin	Jan Carter
	Velma MacDonald
Commissioner's Office	**Registry**
Grantley Walrond	Gloria MacFarlane
William Woolford	Maylene King
June Allen	Lomawtee Dhanraj
Gillian Lord	Sookdai Persaud
Monica Sobers	Ellalyn Crawford

Administrative
Claudette Small
Andrea Fowler

Legal

Gertel Thom
Norma Newark

Personnel

Leslyn Garnett
Allison Vieira
Hazel Welch

Canteen
Kim Hughes
Joyce Sandiford
Anita Zephyr
Dame Forris

Cartographic
Jacqueline Vieira
Dawn Budhan
Joselyn Grimmond
Terry Moore
Ryan Smith
David Smith
Michael Rutherford
Faye Kerr

Library
Gloria Barkoye
Diana Bobb
Carlton Ferdinand
Marilyn Hope

Registry Cont'd
Ann Mitchell
Coin James
Keith Dyer
Patricia McCurchin

Electrical Shop

Errol Hunte
Maurice Halley

Printery

Ronald Bailey
Moses Collymore
Montague Mingo

Field Services & Transport
Clarice Teixeira
Ronald Harte
Inez Thompson
Hyacinth Jules
Monica Edwards
Yvonne Dyer
Marjorie Forte

Field Services & Transport (cont't)
Janet Darlington
Pearlene Garnett
Robin Hinchson

Carpenter Shop
Vibert Marks
Neville Barnes
Eric Crum-Ewing
GregoryBoyce
Warren Lord
Gregory Daniels
Michael Allen
Joseph Webster
Deonauth Mangra

Photo Laboratory
Louis Moe

Bindery
Albert Phillips
Winsford Sumner
Avis Europe

Mechanic Shop
Vernel Chisholm
Manichand Taylor
Richard McPherson
Terrence St Hill
David Robinson
Leonard Williams
Vibert Milling
Cyril Aaron
Cecil Pollard
Michael Benjamin
Earl Roberts
Sylvin Durante
Titus Leitch
Thurston Rodney
Sharon Dannett
Andre Williams
Michael Hope

Chemistry Laboratory
Haimchand Bharat
Sandriene Smith
Clyde Thompson
Anita Hosannah
George James
Roxanne Adams
Rajendra Singh
Marcia John
Joseph Wilson
Noel Proffith

Geological Services
Karen Livan
Kampta Persaud
Jagdeo Ghansam
Rickford Vieira
Wilberforce Tappin
Wendy Lammy
Neil Ramkeerat

Accounts
~~Rupert Foster~~
Abraham Baird
Satkumar Hemraj
Gale France
Merlyn Meredith
Compton Petterson
Sandra Persaud
Wendy Gray
Karen Nestor
Patrick Warner
Karen Smith
Yvette Holder
Maria MacDonald
Nadira Brijmohan
Sean Corlette
Alana Crandon
Horace Moore
Christopher Roberts

Stores
Terrence McKenzie
Arthur Gibbs
Collins Harding
Troy Harris
Deryck Best

Internal Audit
Fazal Razack
Terrence Simon

Petrological Laboratory
Charles Rambali
Thakur Persaud
Ruthan LaBorde

Mines
Sydney Edwards
Richard Squires
James Mingo
George Howell
Edgar Henry
Cecil Amos
Roy Austin
Ramesh Ramkhellawan
Colin Adams
Ronald Glasgow
Garfield Stuart
Colin Sparman
Euliene Watson
Leonard Moore
Samuel Munroe
Patricia Leitch
Joan Mortley

Mineral Research Unit
Joachim Bayah
Diane Skeete
Prandeo Sagar

Mines Clerical
Patricia Agrippa
Bhagmattie Ramsamujh
Suzette Dannett
Margaret Wilson
Clairmont Frank
Andrew Mortley
Donna Minns

Mines Administration
Jack Morgan
Ivor Smith
Linton Butters
George Best
Hemraj Ramkhelawan
Wendell Alleyne
Mohan Persaud
Trevor Reid
Mata Persaud
Deryck Loy
Brynmor Hopkinson
Leroy Fredericks
Allan Bunbury
Aubrey Sargeant
Keith Marshall
Sydney DeYoung
Neville Bourne

Mines Administration
David Garraway
Gilbert Smith
Oswald Williams
Kenneth Bransford
Deeneshwar Persaud
Cynthia Bradford
Roxanne Luckie
Brentnol Griffith

Lapidary
Asheek Alli
Gillian Holland
Gary Taylor
Donna Baird

Mines Clerical (cont'd)	Lapidary (cont'd)
Clarence Gaim	Roxanne Best
Clyde Walcott	Angela Beaton
Beverley Taylor	Sharon Beaton
Jovian Bascom	Jennifer Harris
	Jannace Holder

Appointments - 1990

Name	Designation	Effective Date
Leslyn Garnett	Asst. Manager (P&IR)	1990-03-19
Velma MacDonald	Clerk 11 (Computer)	1990-02-01
Ellalyn Crawford	Typist Clerk I	1990-02-01
Patricia McCurchin	Office Assistant	1990-09-03
Mildred Hubbard	Security Guard I	1990-01-16
Erwin Wilson	Security Guard I	1990-03-21
Calvin Case	Security Guard I	1990-11-08
Anita Zephyr	Canteen Assistant	1990-05-02
Ronald Bailey	Printing Services Supervisor	1990-07-16
Errol Hunte	Chief Electrician	1990-03-12
Maurice Halley	Snr. Electronics Technician	1990-11-06
Earl Roberts	Tradesman I	1990-05-02
Titus Leitch	Welder	1990-02-01
Michael Hope	Apprentice Mechanic	1990-10-15
Sandriene Smith	Chemist	1990-06-01
George James	Technical Asst. I	1990-09-03
Marcia John	Laboratory Assistant	1990-04-03
Joseph Wilson	Laboratory Assistant	1990-08-01
Ruthan LaBorde	Laboratory Assistant	1990-04-09
Karen Smith	Clerk II (Accounts)	1990-02-26
Yvette Holder	Clerk II (Accounts)	1990-11-01
Sean Corlette	Clerk II (Accounts)	1990-06-18
Alana Crandon	Clerk II (Accounts)	1990-10-08
Terrence Simon	Clerk lV (Audit)	1990-10-02
James Mingo	Snr. Mining Engineer I	1990-04-09
George Howell	Snr. Mining Engineer I	1990-04-17
Samuel Munroe	Tradesman I	1990-11-09
Prandeo Sagar	Laboratory Assistant	1990-04-02
Brynmor Hopkinson	Asst. Mines Officer	1990-11-01
Brentnol Griffith	Ranger	1990-11-01

Appointments - 1990 (cont'd)

Name	Designation	Effective Date
Roxanne Luckie	Female Searcher	1990-03-06
Clyde Walcott	Clerk I	1990-07-09
Beverley Taylor	Typist Clerk II	1990-12-03
Leslyn Crandon	Lapidary Attendant	1990-08-15
Sharon Benjamin	Lapidary Attendant	1990-08-15
Jennifer Harris	Lapidary Attendant	1990-08-15
Jannace Holder	Lapidary Attendant	1990-08-15

Promotions 1990

Name	New Designation	Effective Date
Allison Vieira	Personnel Officer	1990-10-08
Ryan Smith	Asst. Draughtsman I	1990-01-01
Michael Rutherford	Asst. Draughtsman I	1990-03-01
Vernel Chisholm	Chief Mechanic	1990-01-01
Richard McPherson	Snr. Driver/Mechanic	1990-01-01
Cyril Aaron	Driver	1990-11-12
Neville Barnes	Tradesman III	1990-01-01
Gregory Daniels	Tradesman I	1990-09-01
Jagdeo Ghansam	Snr. Geologist I	1990-07-01
Rickford Vieira	Snr. Field Asst.	1990-01-01
Suzette Dannett	Typist Clerk III	1990-01-01
Jovian Bascom	Clerk II	1990-01-01
Clairmonte Frank	Clerk II	1990-01-01
Andrew Mortley	Clerk II	1990-01-01
Asheek Alli	Supervisor	1990-01-01
Deeneshwar Persaud	Ranger	1990-11-01

Acting Appointments

Name	Designation	Acting	From	To
Jan Carter	Clerk III Computer	Clerk IV(Computer)	90-06-15	90-12-31
Kim Hughes	Canteen Asst.	Canteen Sup.	90-04-30	90-12-31
Arthur Gibbs	Clerk III (Accounts)	Storekeeper (Ag.)	89-07-12	90-12-31
Leonard Williams	Driver	Driver to Commr.	90-03-15	90-12-31
T. McKenzie	Clerk IV (Audit)	Senior Storekeeper	90-06-01	90-12-31

Acting Appointments

Name	Designation	Acting	From	To
Roy Austin	Drill F/man	Driller	89-04-17	90-12-31
R. Ramkhellawan	Drill F/man	Driller	89-02-15	90-12-31
Colin Adams	Drill F/man	Driller	89-02-15	90-12-31
P. Leitch	T/Clerk II	Conf. Sec. I	90-04-09	90-12-31
Jovian Bascom	Clerk II	Clerk III	90-02-01	90-12-31
Anita Hosannah	Technical Asst. II l	Analytical Officer I	90-05-01	90-12-31
Sharon Dannett	T/Clerk II	T/Clerk III	90-04-09	90-12-31
M. Benjamin	Tradesman I	Tradesman II	90-04-01	90-12-31
Gillian Lord	Clerk III	Secty. to Comm.	90-09-24	90-12-31
William Woolford	Manager (Mines)	Commissioner	90-03-14	90-12-31
A. Vieira	Personnel Officer	Asst. Mgr.(P&IR)	90-10-08	90-12-31
R. Squires	Mining Engineer I	Manager (Mines)	90-04-23	90-09-24
S. Edwards	Snr. Mining Engineer II	Manager Mines	90-03-19	90-04-22
L. Garnett	Asst. Mgr.(P&IR)	Admin. Mgr.	90-06-11	90-07-03
G. MacFarlane	Chief Clerk	Asst. Mgr. (Services)	90-08-20	90-09-28
M. King	Clerk IV	Chief Clerk	90-06-11	90-07-03
Leon Hinds	S/Guard III	Ch. Security Guard	90-01-30	90-03-09
C. Ferdinand	Library Asst.	Transport Officer	90-10-16	90-11-09
Gale France	Assistant Accountant	Accountant	90-04-23	90-07-31
Karen Nestor	Clerk III (Accounts)	Assistant Accountant	90-04-23	90-07-31
M. MacDonald	Clerk II (Accounts)	Clerk III (Accounts)	90-05-30	90-08-01
M. Wilson	Clerk IV	Chief Clerk	90-05-07	90-06-15
C. Roberts	Expeditor	Assistant	90-04-30	90-08-20

Purchasing Officer

Name	Designation	Acting	From	To
P. Warner	Clerk III (Accounts)	Storekeeper	90-05-30	90-08-01
Fay Kerr	Snr. Asst. Draughtsman	Draughtsman	I 90-07-01	90-12-31
Dawn Budhan	Snr. Asst. Draughtsman	Draughtsman I	90-08-01	90-12-31
Karen Smith	Clerk II (Accounts)	Clerk III (Accounts)	90-10-02	90-10-31

Purchasing Officer (cont'd)

Name	Designation	Acting	From	To
N. Brijmohan	Clerk II (Accounts)	Clerk III (Accounts)	90-10-02	90-11-12

Terminations

Names	Designations	Effective Date
Mildred Hubbard	Security Guard I	1990-12-18
Gloria Hughes	Canteen Supervisor	1990-10-24
Irma Lowe	Asst. Manager (P&I)	1990-12-05
Orson Joseph	Driver to Commr.	1990-08-07
Rajkumari Karamat	Clerk IV (Computer)	1990-06-15
Gregory Maloney	Security Guard I	
Loraine McGowan	Security Guard I	1990-08-02
Alexis Moore	Binder I	1990-09-05
Clairmonte Nedd	Chief Electrician	1990-01-08
James Chance	Asst. Electrician	1990-09-06
Sean Phillips	M/tenance Asst.	1990-11-25
Sat Narain	Snr. Geologist I	1990-11-30
Vijay Persaud	Snr. Field Asst.	1990-09-06
Trevor Duke	Tech. Asst. I	1990-10-25
Alex Smith	Expeditor	1990-10-11
Gregory Gaspar	Clerk I (Stores)	1990-12-01
Compton Matheson	Tradesman II	1990-10-30
Gavin Squires	Asst. Mines Officer	1990-09-10
Haydock Parris	Ranger	1990-07-29
Sarzaad Ghanie	Lapidary Attendant	1990-06-18
Corletta Martin	Lapidary Attendant	1990-04-05
Hazel Gill	Typist Clerk III	1990-04-24
Herbert Phillips	Security Guard I	1990-03-09
Vibert Thomas	Security Guard I	1990-01-26
Clive Blackman	Snr. Electronics Technician	1990-01-22
Nigel D'Anjou	Stores Attendant	1990-04-05

Local Training 1990

Names	Designation	Training Institution	Training Programme
C. Sparman	Mining Technician	Univ. of Guyana	Degree in Mining Min.Engin.
A. Sargeant	do	do	do
R. Vieira	Field Assistant	do	do
W. Gray	Snr. Accounts Clerk	do	Dip. inAccountancy
M. Meredith	Asst. Accountant	do	do
A. Gibbs	Asst. Storekeeper	do	do
H. Moore	Purchasing Clerk	G.T.I.	Basic Cert.in Account
T. McKenzie	Snr. Storekeeper	do	do
M. Sobers	Conf. Secty.	GG & MC	Word processing
W. Lammy	do	do	do
A. Fowler	do	do	do
P. Leitch	Conf. Secty. (Ag.)	do	do
R. Harte	Transport Officer	Public Corp. Secretariat	Supervisory Development
M. Collymore	Printing Press Operator	do	do
W. Lammy	Conf. Secty.	G'town Jaycee Women's Chap.	Seminar for Secretarys/Steno's.
P. Leitch	do	do	do
A. Fowler	do	do	do
J. Allen	Secty. to Commr.	Univ. of Guyana	Economics
C. Thompson	Analytical Off. I	do	Bsc Applied Chemistry
L. Garnett	Asst. Mgr. (PIR)	do	BA (Mgt.)
R. Vieira	Field Assistant	Red Cross H/Q	Emergency First Aid
A. Fowler	Conf. Secty.	do	do

External Training - 1990

Names	Designation	Training Institution	Type of Training
J. Grimmond	Draughtsman I (Ag.)	Int. Inst. for Aerospace Survey & Earth Sciences (Netherlands Govt. (Fellowship)	Technicial Dip Course in Cartography
J. Vieira	do	do	do
K. Persaud	Snr. Geologist I	McGill Univ. Montreal,Canada	Professional Dev. Seminar
W. Tappin	Geologist Trainee	Brock Univ. Canada	Degree in Geology
R. Glasgow	Mining Tech.		Degree in Mining
D. Skeete	Research Asst.	Camborne School of Mining	Degree in Mineral Processing
G. Stuart	Mining Tech.	do	Degree in Mining

5. FINANCE DIVISION

5.1 Income

The Commission's Receipts for 1990 totalled $75.797 M, which, when compared with the budgeted figure of $52.061 M gave a favorable variance of $23,736 M. Income for the period under review was 145.59% of the budgeted sum.

Income to December 31st 1990:

	ACTUAL	BUDGETED	VARIANCE	% TOTAL INCOME
	$	$	$	$
Fines, Fees etc.	4,686,454	2,200,480	2,485,974	6.19
Licences	5,049,788	2,564,600	2,485,188	6.66
Royalties	48,147,333	40,650,002	7,497,331	63.52
Leases&Concession	13,752,433	3,520,003	10,232,430	18.15
Drilling	1,060,467	1,535,000	(474,533)	1.39
Lapidary	60,748	120,000	(59,252)	0.08

	ACTUAL	BUDGETED	VARIANCE	% TOTAL INCOME
Canteen Sales	487,157	480,000	7,157	0.65
Others	2,552,507	990,800	1,561,707	3.36
	75,796,887	52,060,885	23,736,002	100

The Commission's income averaged 6.316 M per month over the period January - December, 1990.

5.2 **Expenses**

The total expenses for the period under review was $26,247 Million, which when compared with the budgeted figure of $37,110 Million gave a positive variance of $10,864 Million.

Expenses to December 31st 1990

	Actual	Budgeted	Variance	% Total Expenses
	$	$	$	$
Employment Costs	13,006,687	13,740,555	733,868	49.56
Ration	1,666,444	4,818,063	3,151,619	6.35
Materials & Supplies	894,404	2,298,143	1,403,739	3.40
Fuel & Lubricants	1,688,489	2,012,890	324,401	6.43
Transportation	1,794,190	2,909,400	1,115,210	6.83
M'tenance & Repairs	2,238,930	1,501,551	(737,379)	8.53
D.S.C./Public Relation	-	360,000	360,000	
Others	2,486,711	4,047,230	1,560,519	9.47
Research and Dev.	-	1,562,043	1,562,043	
Mineral Processing Research Institution	554,874	1,748,204	1,193,330	2.12
Lapidary	430,025	786,022	355,997	1.64
Office Services & Supplies	1,485,946	1,326,347	(159,599)	5.67
	6,246,700	37,110,448	10,863,748	100
Surplus/(Deficit) before Depreciation	49,550,187	14,950,437	34,599,750	

5.3 Creditors

The Commission's accounts showed creditor balances at December 31, 1990 was $1.497 M. This comprised of $.970 Million owing to the Accountant General, 0.526 Million in refundable deposits and Sundry Creditors.

5.4 Debtors

The debtor balances recorded in the Commission's Debtors Ledger at 31st December, 1990 totalled $1,807,747 M. of which amount $314,983 were with the Expeditors. The debt or balances were aged as follows:-

3 mths under	Over 3 mths & under 6 mths.	Over 6 mths & under 9 mths.	Over 9 mths & under 12 mths.	Over 12 mths	Total
$	$	$	$	$	$
490,520	315,286	530,641	220,645	250,655	1,807,747

5.5 Bank Reconciliation Statement

The reconciled balance in the Commission's Cash Book at 31st December, 1990 was $44,239,286.00 made up as follows:-

Balance as per Bank's Statement		$20,539,129.93
Less: Unpresented Cheques	486,598.25	
Deposits on B/Statement not in C.B.	8,608,065.63	
Shortdrawn Cheques	11.76	
Overdeposits	20,185.87	9,114,861.51
		11,424,268.42
Add: Deposits on Bank Statement not in C/B	14,824,437.14	
Debit Memos	17,911,954.01	
Loss on Foreign Exchange Transactions	11,005.87	
Overdrawn Cheques	91.69	
Short Deposits	60,942.24	
Return Items (Deposits)	6,080.00	32,814,510.95
		44,238,779.37

CASH BOOK BALANCE	44,239,236.52
Difference	457.15
Cash Book Balance	
Balance B/F	$ 35,250,323.65
Receipts	$ 11,639,452.75
	$ 46,899,776.40
Payments	$ 2,660,539.88
	$ 44,239,236.52

5.6 Investments

The Commission invested a total of $29,051 in short-term securities during 1990. There were eighteen (18) fixed deposit accounts in the sum of $28.951 Million at the Guyana National Co-operative Bank and National Bank for Industry and Commerce and $100,000 in Defense Bonds.

5.7 Interest Earned

The Commission earned accrued interest in the sum of $8.524 Million at December, 1990.

5.8 Surplus

The Commission recorded a surplus of $49.550 Million before depreciation. The budgeted figure was $14,950 Million.

5.9 Final Accounts

The Accounts Department completed the draft final accounts for 1983 and presented same to its external Auditors, Thomas Stoll and Dias.

5.10 **Stores Accounting System**

The proposed stock-taking exercise of the Commission's Store did not take place as planned.

5.11 **Asset Register**

The value of the Commission's assets could not be verified at 31st December, 1990 with any accuracy because of the inadequacy of the information available. A proper accounting record in the form of an accurate Asset Register was not available, and it was discovered that certain assets were totally depreciated and others were not accounted for in the Commission's books of account.

5.12 **Stock Valuation**

Stock values at 31st December, 1990 could not be ascertained because there was no Stores Ledger from which the relevant stock values could have been obtained, nor was the stock-taking exercise undertaken in January and February finalised to obtain this relevant information.

5.13 **Contribution to Central Government**

The following amounts were paid over to the Central Government for the year 1990:-

P.A.Y.E.	$ 1,300,202.25
N.I.S.	414,745.93
	$ 1,714,948.18

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Republic Of Guyana

Office of the Auditor General
P.O. Box 1002
Georgetown, Guyana

AG:112/95

20 December 1995

**REPORT OF THE AUDITOR GENERAL
TO THE MINISTER
ON THE FINANCIAL STATEMENTS OF
THE GUYANA GEOLOGY AND MINES COMMISSION
FOR THE YEAR ENDED 31 DECEMBER 1990**

I have audited the financial statements of the Guyana Geology and Mines Commission for the year ended 31 December 1990 as set out on pages 1 to 13 attached hereto.

I conducted my audit in accordance with generally accepted auditing standards. Those standards require that I plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures on the financial statements. An audit also includes assessing the accounting principles used and the significant estimates made by Management as well as evaluating the overall financial statement presentation. I believe that my audit provides a reasonable basis for my opinion.

As explained in Note 11, fixed assets have been stated in the accounts at a total cost or valuation of G$19,141,694. No physical verification to determine the existence and condition of these assets was ever done. As a result, the completeness, accuracy and validity of this balance could not be satisfactorily ascertained.

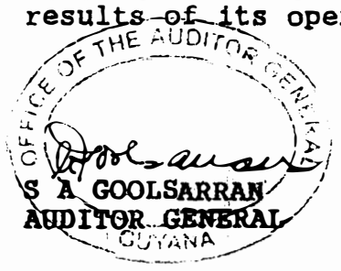
No stock count was carried out at 31 December 1990 and there were no practicable auditing procedures that could have been applied to confirm quantities and values. Further, adequate accounting records in relation to inventories have not been kept. Accordingly, the information and explanations necessary to verify the existence and valuation of inventories stated at G$1,713,798 in the balance sheet at 31 December 1990, were not obtained.

A difference of $15,830,989 was noted between the sundry debtors balance of $16,340,710 and the total of the individual debtors' accounts. In addition, several pages in the sundry debtors control account were missing. Further, no provision has been made for bad debts. As a result, the completeness, accuracy and validity of the balance of $16,340,710 stated as sundry debtors could not be determined.

The completeness, accuracy and validity of the amount of $785,729 stated as sundry creditors could not be determined as a schedule of creditors was not produced and because several pages in the general ledger sundry creditors control account were missing.

Details of the Gaibank Line of Credit were not provided for audit, and there were no practicable alternative audit checks. As a result, the accuracy of the amount of $1,153,498 stated as Gaibank Line of Credit at 31 December 1990 could not be satisfactorily verified.

Because of the significance of the matters referred to in the preceding paragraphs, I am unable to express an opinion as to whether the financial statements give a true and fair view of the state of the Commission's affairs at 31 December 1990 and the results of its operations for the year then ended.



S A GOOLSARRAN
AUDITOR GENERAL

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GUYANA GEOLOGY AND MINES COMMISSION
STATEMENT OF INCOME AND EXPENDITURE
FOR THE YEAR ENDED 31 DECEMBER, 1990

INCOME	NOTES	1990 G$	1990 G$	1989 G$	1989 G$
ROYALTIES	2	54,354,060		11,449,823	
LICENCES	3	5,307,844		1,662,180	
FEES, FINES ETC	4	4,360,620		2,428,822	
CONCESSIONS	5	15,777,728		3,864,856	
PROJECT FUNDS	6	62,449		5,056,758	
OTHERS	7	8,338,173		12,974,025	
			88,200,874		37,436,464
EXPENDITURE:					
EMPLOYMENT COSTS	8	12,458,585		9,199,834	
ADMINISTRATION	9	12,540,422		8,504,127	
TRAVELLING AND TRANSPORT	10	2,653,912		1,828,834	
DEPRECIATION		1,804,708		1,001,626	
			29,457,627		20,534,421
SURPLUS (DEFICIT):			58,743,247		16,902,043

STATEMENT OF ACCUMULATED SURPLUS (DEFICIT)

BAL. AT BEGINNING OF YEAR	25,479,099	8,577,056
SURPLUS (DEFICIT):	58,743,247	16,902,043
BAL. AT END OF YEAR	84,222,346	25,479,099

GUYANA GEOLOGY AND MINES COMMISSION

BALANCE SHEET AS AT 31 DECEMBER, 1990

	NOTES	G$	1990 G$	G$	1989 G$
FIXED ASSETS	11		14,510,321		13,081,212
CURRENT ASSETS:					
INVENTORIES	12	1,713,798		1,651,298	
SUNDRY DEBTORS	13	16,340,710		9,605,752	
CASH ON HAND AND IN BANK	14	28,346,610		5,481,453	
SHORT TERM INVESTMENT		28,728,022		6,317,994	
LORING LAB. INVESTMENT		8,505		8,505	
		75,137,645		23,065,002	
CURRENT LIABILITIES:					
SUNDRY CREDITORS	15	785,729		5,025,674	
DEFERRED INCOME		17,508		84,651	
ACCRUED EXPENSES	16	150,802		1,085,209	
		954,039		6,195,534	
			74,183,606		16,869,468
NET CURRENT ASSETS:			88,693,927		29,950,680
FINANCED BY:					
GOVT. OF GUYANA CAPITAL	17		2,374,825		2,374,825
NON DISTRIBUTABLE CAPITAL RESERVE			943,258		943,258
RESERVE FUND	18		84,222,346		25,479,099
SHAREHOLDERS' FUNDS			87,540,429		28,797,182
GAIBANK LINE OF CREDIT			1,153,498		1,153,498
			88,693,927		29,950,680

MEMBER

MEMBER

GUYANA GEOLOGY AND MINES COMMISSION

NOTES ON THE ACCOUNTS

1. ACCOUNTING POLICIES

ACCOUNTING CONVENTION

(a) The accounts have been prepared under the historical cost convention as modified for the valuation of certain fixed assets.

(b) Depreciation
No depreciation is provided on freehold land.

Depreciation on other fixed assets is on the straight line method calculated at the rates specified below which are estimated to write-off the assets over the terms of their useful lives as follows:-

Buildings	-	2%
Scientific, field and mining equipment	-	10% - 20%
Motor vehicles	-	25%
Office furniture, fixtures and fittings.	-	5% - 10%

(c) Inventories

These are valued at the lower of cost and net realisable value.
Cost is arrived at using the first-in-first-out method.

NOTES 2 - ROYALTIES - $1,948,539

ROYALTIES:	-	GOLD	926,929
	-	BAUXITE	775,799
	-	PRECIOUS STONES	125,155
	-	STONES	110,559
	-	SAND	10,097
			1,948,539

NOTE 3 - LICENCES - $793,543

LICENCES	-	OIL EXPLORATION	0
	-	PROSPECTING	32,216
	-	TRADING	80,350
	-	CLAIMS - P/STONES	11,275
	-	CLAIMS GOLD	9,660
	-	RIVER LOCATIONS	115,580
	-	GOLDSMITH	19,420
	-	DUPLICATE LICENCE	17
	-	DREDGE LICENCES	484,914
	-	MINING PRIVELEGES	40,111
			793,543

NOTE 4 - FEES FINES ETC - $526,270

801	FEES	125,916
802	FORFEITURES	96,114
803	TRIBUTES	290,997
804	APP. FOR DREDGES	470
805	REGISTRATION FEES	4,520
806	TRAN. OF DREDGES	1,230
836	DUTY ON TRANSFERS	7,023
		526,270

NOTE 5 - CONCESSIONS - $1,521,942

827	-	MINING CONCESSIONS	16,000
829	-	CON. DREDGING	0
830	-	CON. DUPLICATE	0
831	-	MINING LEASES	79,934
832	-	EXCL. PERMISSION	1,426,008
			1,521,942

NOTE 6 - PROJECT FUNDS - $738,360

841	-	DICKMAN HILL PROJECT	466,071
842	-	SUCTION DREDGE	139,270
850	-	ECLIPSE FALLS	93,199
851	-	MOCHA CLAY DEP. - VANCERAM	29,820
852	-	FLAT ROCK	10,000
			738,360

NOTE 7 - OTHERS - $2,670,729

825	RENTS HOUSING	84,290
826	MINING EQUIPMENT	67,768
828	PROFESSIONAL SERVICES	14,020
834	REGISTRATION CERTIFICATE	285
838	INTEREST ON INVESTMENT	10,833
844	SALE OF LAPIDARY PRODUCT	116,718
845	SALE OF GOLD	0
846	SALE OF SILVER	10,774
847	SALE OF DIAMONDS	11,700
862	CAPITAL GAINS	31,896
837	SALE OF OFFICIAL PUBLICATION	10,595
839	DISPOSAL OF ASSETS	242,985
840(b)	VERIFICATION OF CLAIMS	8,400
		610,264
835	MISCELLANEOUS	2,060,465
		2,670,729

NOTE 8 - EMPLOYMENT COSTS - $4,048,899

701	-	SALARIES	1,781,580
702	-	WAGES	723,195
703	-	SALARIES OVERTIME	103,335
704	-	WAGES OVERTIME	322,314
705	-	STATION/BUSH ALLOWANCE	21,075
706	-	PERSONAL ALLOWANCE	12,122
707	-	DUTY AND RESPONSIBILITY ALLOWANCE	47,896
708	-	SUBSISTENCE	344,861
709	-	RISK ALLOWANCE	2,981
710	-	CASH IN LIEU OF LEAVE	57,124
711	-	TRAVELLING ALLOWANCE	133,495
712	-	ENTERTAINMENT ALLOWANCE	22,528
713	-	TELEPHONE ALLOWANCE	2,300
714	-	PENSION SCHEME	141,278
715	-	N.I.S. EMPLOYERS	79,586
716	-	DIRECTORS EMOLUMENT	5,300
717	-	LEAVE PASSAGE	124,643
757	-	GRATUITY AND SEVERANCE PAY	17,440
741	-	UNIFORM AND SAFETY GEARS	18,320
737(a)	-	TRAINING AND EDUCATION	3,584
737(b)	-	BURSARY	1,207
758	-	INCENTIVES	82,735
			4,048,899

NOTE 9 - ADMIN EXPENSES - $3,945,399

514	-	LOOSE TOOLS & SUNDRY EQUIPMENT	26,291
719	-	FUEL LUBRICANTS - VEHICLES ETC.	415,584
720	-	SPARES & MAINTENANCE OF RADIO	66,962
721	-	SPARES & MAINTENANCE OF VEHICLES	408,260
723	-	TELEPHONE, TELEX, CABLES	72,349
724	-	ELECTRICITY	61,107
725	-	OFF. E/MENT RENTAL & MISCELLANEOUS	26,657
726	-	PRINTING & DUPLICATING	2,733
727	-	PROFESSIONAL&CONSULTANCY SERVICES	277,610
728	-	OFFICE MATERIALS & SUPPLIES	180,434
729	-	PRINT & NON-PRINT MATERIAL	1,853
730	-	POSTAGE	10,193
732	-	MAINTENANCE & REPAIRS TO BUILDINGS	132,716
733	-	MAINTENANCE OF GROUNDS	399
734	-	JANITORY & CLEANING	11,550
735	-	CUSTODIAL & SECURITY	25,886
736	-	LEASES, RENTAL & FARES	268,020
738(a)	-	NATIONAL DEVPT. & COMPENSATION	7,403
738(b)	-	MICRO FILMING	879
739	-	LUNCH & SNACKS	71,774
740	-	DRUGS AND MEDICAL SUPPLIES	25,188
743	-	CHEMICAL LABORATORY SUPPLIES	31,000
744	-	PET LABORATORY SUPPLIES	137
744(1)	-	LAPIDARY LABORATORY SUPPLIES	0
745	-	INSURANCE OF ASSETS	13,859
746	-	BANK CHARGES	1,298
747	-	REVENUE PROTECTION	89,809
750	-	MISCELLANEOUS - OTHER EXPENSES	445,858
753	-	ADVERTISEMENT	22,986
754	-	PURCHASE OF SILVER & SEMI P/S	7,855
755	-	DONATIONS - GIFTS, WREATHS, ETC.	11,269
756	-	MISCELLANEOUS	235,550
749	-	RATION	781,746
752(a)	-	SUB CONTRACT LAPIDARY	43,649
752(b)	-	SUB CONTRACT PER. DUE TO DRIVERS	41,584
761	-	INTEREST PAID	28,316
762	-	PROVISION FOR ACCOUNTING & AUDITING	80,000
		EMPLOYMENT EXPENSE	16,635
			3,945,399