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1. INTRODUCTION

1993 was a historic year for the Geology and Mines Commission and the Mining Industry of Guyana. It was highlighted by the official opening of Omai Mine in March 1993, the first ever large scale gold mine in Guyana, and consequently, by a landmark in gold production which rose steeply to surpass 300,000 ounces of unrefined gold.

Not only was the Omai mine development significant in itself, but equally important, it raised investor confidence to lift Guyana's investment profile to the status of being among the top ten most attractive countries in the world for mining investment, according to a report in the May 27, 1994 edition of Mining Journal. Guyana ranked an important nineteenth place in world gold production in 1993, against fortieth place for world gold production in 1992.

Success was recorded not only in the large scale gold mining sector, with Omai firmly establishing Guyana on the map as a significant world-class gold producer, but also in increases in the production of sand, stone, gold and diamond by local producers. The latter means that gold and diamond production have continued the steady climb experienced since 1990. The plans and programmes implemented by the Geology and Mines Commission in 1990-93 will result in continued increase in gold and diamond production into the twenty-first century.

The local gold and diamond mining sector mushroomed, as applications for medium scale prospecting permits - first received in October 1992 with the passing of the Mining (Amendment) Regulations, 1992 - continued unabated, and 974 applications were received in 1993. Applications for Claim Licences and River Location Licences in the small scale sector also exceeded the 1992 levels.

Other indicators of increased activity and expansion of the local gold and diamond mining and to a lesser extent, sand and stone quarrying sectors, were increases in revenue received for Fees and Fines, Licences, Royalties, Rentals (88% of budgeted income was realised) and in the number of new dredges put into operation. The Commission was therefore able to substantially increase its direct contribution to the central government to G$556.8m in 1993, of which G$446.8m or 80% was royalty paid by Omai Gold Mines Limited for the 223,000 ounces of (unrefined) gold won from Omai in 1993, and G$110m represented payment to the Consolidated Fund. In 1992, direct payment to the Consolidated Fund totaled G$75m.

Buoyed by success at Omai; the discovery of the large Las Cristinas gold mine in the Kilometre 88 area of the Cuyuni region in the Venezuelan frontier with Guyana; the discovery of kimberlite deposits in the Canadian Shield at Lac de Gras in the Northwest Territories; and the current international focus on exploration in the Guiana Shield, interest in new large scale exploration activity has been maintained. In 1993, a record number of 36 applications for Prospecting Licences were received, from local and foreign based companies and individuals.

At the same time, the number of properties under active exploration declined as Golden Star Resources and CAMBIOR applied for relinquishment of eight of their Exploration Licences for gold and diamonds. However, exploration continued apace by Romanex at their Marudi Mountain and Roraima Mining Company stepped up exploration efforts in their six properties, two of which are in joint-venture partnership with Golden Star Resources Limited, and four with CANARC.

Both of these companies recorded good exploration successes, with Romanex being able to outline drill indicated and possible reserves for the Marudi and Mazoa deposits, and define additional drilling targets. Further exploration is intended to increase the gold inventory and to undertake an economic evaluation for a possible open pit mine. Roraima Mining Company brought a successful new approach to exploration, featuring geological mapping as a basic exploration tool. This approach has led to the elucidation of property geology and added considerable detail to the historical geological picture, while guiding the definition of anomalies and prospective ground.

In addition to the growing interest demonstrated in the small, medium and large scale mining sectors, there were applications by three mining companies for permissions for Geological and Geophysical Surveys over extensive tracts of land in northern and northwestern Guyana. These four areas of interest combined to increase exponentially the areas of ground held and under application for geological/geophysical reconnaissance, prospecting and mining activities. Applications for Geological and Geophysical Surveys arose out of the Companies' desire to find new targets for grass-roots exploration. Success in the Geological and Geophysical Surveys will lead to multiple applications for Prospecting Licences and will enhance the geological data base of the Commission.

The Commission is particularly heartened by the fact that the activity in the mining sector is not limited to the exploitation of gold and diamond. Production of sand and stone increased significantly in 1993 over production in 1992. A Quarry Licence for sand extraction at Vreed-en-Rust in lower Demerara river, was granted to Roraima Mining Company in June 1993, and several applications were received for medium and large scale development of sand and stone resources, primarily in the Omai mine area, around lower Demerara, Essequibo, Mazaruni and Cuyuni Rivers and in the North-West District. The proposed quarry facility at Omai will exploit waste rock extracted during gold mining at Omai, creating a combined mine and quarry operation.

While pursuing mineral development, the Commission continued to be mindful of its responsibility and the collective responsibility of the Mining Industry for the protection of the environment. After extensive consultation with the Guyana Gold and Diamond Miners' Association (GGDMA), and technical inputs from the UN Inter-regional Adviser on Mining and the Environment, the Commission finalised its Environmental Management Agreement, which will govern environmental management and protection in medium scale and other mechanised mining activities.

Cognizant of its environmental obligations the Commission sponsored and held an Environmental Conference to have public dialogue on the theme "Environmental Management as an Integral Instrument in the Development of the Mining Industry", and to introduce the Environmental Management Agreement (EMA).

With the help of an Expert Jeweller recruited under the Caribbean Development Bank's (CDB's) STEP Fund project, a technical evaluation of the Jewellery Industry in Guyana was carried out as the first part of a project aimed at making concrete and practicable recommendations for the strengthening of the Jewellery Industry and the expansion of its market share in CARICOM. The project will conclude in 1994, with the conduct of a survey of the jewellery market in CARICOM and the preparation of a final report.

Although its planned technical programmes were not completed, the Commission generally fulfilled its responsibilities for geological surveys, mining research, dissemination of information on geology, mining and the mining industry, and interchange of ideas and information on the Mining Industry. This was done through carrying out five geological field projects by undertaking:

i) definitive work on the design of an improved gravity recovery system for fine gold, and diamonds;
ii) the Quarterly publication of the Mineral Industry Survey launched in 1992;
iii) the introduction of a weekly radio programme 'Minerals in Focus'; and
iv) holding of a National Environmental Conference in October 1993 and a National Mining and Quarry Conference in December 1993.

Training continued with sponsorship of students and support for the Diploma and Undergraduate programmes in Mining and Geology at the University of Guyana, technical training through CESO in diamond drilling, assay techniques and optimisation of flow sheet design for fine gold recovery by gravity separation methods; and training in micro-computing and cartographic techniques to improve staff performance and provide skills to meet the needs of the Commission in the fulfillment of its mandate, and to better serve the Mining Industry.

It is with a great sense of encouragement and responsibility that the Commission looks forward to 1994, to spearhead the realisation of continued growth in the Mining Industry. The Commission is preparing for the challenges facing a growing Mining Industry, of which the constant need for improved and effective technology, environmental protection and monitoring, and multiple development and use of natural resources are some of the major issues which we face.

2. ANNUAL SURVEY OF THE MINING INDUSTRY

2.1 Omai Gold Mines Ltd - First year of Operation

Omai Gold Project is jointly owned by CAMBIOR (65%) of Val D'Or, Quebec, Canada; Golden Star Resources (30%) of Denver, Colorado, USA and the Government of Guyana (5%), by means of shareholding in the Guyanese Company, Omai Gold Mines Limited. CAMBIOR has the responsibility for financing and operating the mine, which has a capital cost of US$183m, including working capital and financing cost. Omai Mine is the largest gold mine in the history of mining in Guyana, which had its beginnings in the 1880's. Prior to 1993, the highest declared gold production in Guyana was 139,000 ounces (of unrefined gold) produced in 1893. Gold production attained a record 310,000 (unrefined) ounces in 1993, of which 223,000 ounces were produced by Omai Gold Mines.

Mining and Processing

Construction of the surface facilities and infrastructure for the Omai Gold Mine was completed in December 1992, two weeks ahead of schedule and below budget. The mine was commissioned on December 16, 1992 and formally opened on March 11, 1993. In accordance with the Feasibility Study, ore is mined by open pit and after crushing and grinding, gold is won by state-to-the-art gravity, cyanide leaching and carbon-in-pulp (CIP) circuits. Gold is recovered by pressure stripping of the gold-impregnated carbon and electro-winning: the gold sludge from electro-winning and the concentrate from the gravity circuit are then smelted in an induction furnace, to produce bars of unrefined gold.

Tailings from the Omai operation are stored in an impervious tailings impoundment facility. In 1993 there was no discharge of water from the tailings facility into the natural water courses, and a large part of the water in the tailings pond was re-cycled and re-used in the mill.

The Mine Plan was adjusted to mine more saprolite and less hard rock in order to minimise stockpiling and rehandling of high grade rock ore. This resulted in less tonnage of material being mined than was projected, because of the relatively lower density of the saprolite. Ore production tonnage was 74.4% of what was planned.

6.1 million tonnes of ore and 10.9 million tonnes of waste material were mined from the Fennel Pit, to give a stripping ratio of 1.78. The ore grade averaged 1.59 g/tonne Au, compared with a projected grade of 1.61 g/tonne Au. The mined ore comprised 4.1 million tonnes of rock (average grade 1.5 g/tonne Au) and 2.04 million tonnes of saprolite with an average grade of 1.77 g/tonne Au.

Ore gains were recorded during mining due to possible reserves being upgraded to proven reserves, and the discovery of new ore in areas that had not been diamond drilled previously.

Start-up problems experienced in the mill were addressed during the year by repairs, replacement of parts, and by effecting modifications to the mill. There were difficulties arising from initial metallurgical problems and problems resulting from the extreme hardness and abrasiveness of the hard rock, which turned out to be greater than anticipated in the initial mine planning. The latter caused extensive wear on machinery and equipment. The gravity circuit was closed down in January because of the excessive steel content of the concentrate. After modifications, the gravity circuit was restarted during the third quarter, and yielded up to 10% of the gold produced in the mill.

For the year 3,958,000 million tonnes of ore were milled, to give an average daily mill throughput of 11,080 tonnes against a projection of 12,772 tonnes. Gold recovery averaged 89.8%, against the projected 92.8%.

Increase in Ore Reserves

As a result of the difficulties encountered the first year, the Feasibility Study production target of 262,000 ounces was not met. A geotechnical study of the hard rock indicated that the interramp slopes of the final pit walls in the hard rock could be steepened, and this factor, together with the discovery of additional ore (mentioned previously) by diamond drilling (78 holes, totalling 13,698 metres) and sampling, led to an increase in the estimate of gold contained in the proven and probable reserves in the Omai property, over the Feasibility Study estimate, as shown in the Table following:

Table 2(i) Omai Gold Mines

	Ore Reserves Estimate		
Date	Tonnes	g/t Au	Ounces in situ
Feasibility	40,600,000	1.63	2,130,000
December 31, 1992	44,300,000	1.60	2,270,000
December 31, 1993	**50,335,000**	**1,53**	**2,469,400**

The decrease in the ore reserves grade is due to the high mill grade in 1993 - averaging 1.87 g/t Au, and the lower grade of some of the additional ore from the periphery of the main pit.

Geology of the Omai Gold Deposits

Gold mineralisation at Omai occurs in three different areas: in a stocklike body (the Main Stock), in rhyolite bands in interlayered sequences of volcanic flows (the Wenot Lake Zone), and in alluvials (the Alluvial Deposits). The Main Stock, which is the site of the Fennel Pit, is a quartz-diorite pluton (400 x 500m) intruded into meta-andesite country rocks. The pluton is surrounded by a contact rim of younger, intrusive hornblende diorite, which together with the quartz diorite is referred to as the intrusive complex. The orebody occupies major sections of the complex, and is associated with widespread shallow-dipping, gold-bearing quartz-carbonate veins and stringers, a few centimetres to 1.5m in thickness. The quartz diorite is the main host for veins and stringers but economic mineralisation extends into country rock, and recent mining activities have revealed the presence of major veins (up to 1m thick), in the meta-andesite and overlying saprolite some 150 metres away from the quartz diorite.

The Wenot Lake Zone consists of inter-layered sequences of steeply-dipping rhyolite, andesite and pyroclastic units striking E-W across the property, in a zone 1.8km long and up to 200 metres wide. Gold mineralisation is closely associated with the rhyolite bands. The entire package of volcanic flows has been extensively weathered to develop both saprolitic and lateritic profiles, with extensive gold mineralisation in the laterites.

The Alluvial Deposits comprise sediments from the erosion of the mineralised units in the area. The depth of the Alluvial channel varies from less than one metre to three metres with an average depth of 6.5 metres.

Environmental Management

The Environmental Impact Study for the Omai Mine operation was a part of the Feasibility Study. The EIS was done over a two-year period by RESCAN Environmental Services Limited, before the commencement of the development of the project. An addendum of the EIS was filed in January, 1992.

The EIS provides an extensive survey of the mine site and climatic conditions that were used to assess the impact of the operation on vegetation, terrestrial wild life, riverain aquatic life, surface water quality, surface and ground water hydrology, local archaeology and socio-economics, and to establish an effective plan for Environmental Management of the operations.

Monthly monitoring of water quality in surface and ground water is done by OGML and representatives of GAHEF. RESCAN Environmental Services Limited also audits the Omai project by monitoring Omai's Environmental Management practices twice yearly.

Training

Under its Mineral Agreement with the Government of Guyana, Omai Gold Mines Limited (OGML) is committed to staff training, as well as to actively supporting the Geology and Mining programmes of the University of Guyana. On December 07, 1993, Omai Gold Mines Limited officially launched its sponsorship of the Lectureship Programme in Geology and Mining in the Division of Mining Engineering, Faculty of Technology of the University of Guyana. The Geology and Mines Commission played a proactive role in the realisation of this development.

The present commitment to the Lectureship is for three years at a cost of G$1.32m annually. In addition, OGML is seeking to establish a Chair in the Division of Mining Engineering, and to support training programmes related to mining and technical education, outside of the University of Guyana. Senior Geologist of the Commission, Mr. J. Ghansam was seconded to the University of Guyana in December 1993, under the OGML lectureship sponsorship programme. OGML has in place Industrial Attachments for graduates and undergraduates in the Mill and Geology and Mining Engineering Departments at Omai. The Company also recognises the need for support to the University of Guyana and other areas such as Business Management and Accounting and is prepared to make contributions to those areas as well.

2.2 Mineral Production in 1993

Declared production of (unrefined) gold, diamond, sand and stone increased in 1993, with gold production showing a spectacular increase of 288% over the 1992 production level, was due to the commencement of large scale gold mining at Omai. Bauxite production at Bermine and Aroaima declined, while Linmine marginally increased production from their operations at Linden.

Table 2(ii) - Showing mineral production from 1989 to 1993, 1994 estimated

	1989	1990	1991	1992	1993	Est 1994
Gold - oz unrefined (local miners)	17000	39000	59000	80000	87000	110000
Gold - oz unrefined (Omai)	-	-	-	-	223000	300000
Diamond - cts	8000	19000	21000	45000	50000	60000
Diamond Exports - cts	1000	5000	18000	37000	44000	53000
Bauxite - tonnes (Linmine) final products	665000	767000	716000	391000	407000	300000
Bauxite - tonnes (Bermine) final products	-	657000	631000	516000	465000	460000
Bauxite - tonnes (Aroaima) final products	-	-	849000	1406000	216000	-

	1989	1990	1991	1992	1993	Est 1994
Stone - tons	38000	49000	55000	73000	110000	356000
Sand - tons	-	-	-	502	197000	775000
Clay - tons	4000	2000	2000	6000	406	1000

Table 2(iii) shows that direct revenues from mining and exploration increased by 236% over 1992 revenues; the large increase was attributable to royalty accruing from the new mining operations at Omai, plus a 26% increase in other revenues relative to 1992. The value of diamonds exported in 1993 was approximately US $4m, which is 31% increase over the value of diamond exports in 1992 (US$3.05m).

Table 2 (iii) - Showing increasing revenues from mineral production

	1990 G$m	1991 G$m	1992 G$m	1993 G$m	Est 1994 G$m
Fees and Fines	4.69	12.59	16.47	17.3	55.48
Licences	5.05	5.98	13.71	11.93	14.59
Royalties (Omai)	-	-	-	471.43	616.87
Royalties (Other)	48.15	123.55	168.94	182.71	279.82
Rentals	13.75	22.17	25.72	72.11	138.36
Total	71.64	164.29	224.84	755.48	1105.12

GOLD AND DIAMOND

Attaining large scale gold production...

The establishment of the first large scale gold mine at Omai resulted in a quantum leap in (unrefined) gold production, from approximately 80,000 ounces in 1992 to 310,000 ounces in 1993, an increase of 290%. For the first time since the inception of gold mining more than a century ago, annual declared (unrefined)gold production in Guyana has surpassed 300,000 ounces, establishing Guyana as one of the world's significant gold producers.

Moreover, Omai has brought prominence to Guyana as a very prospective target for exploration for gold and diamonds. This has strengthened international interest in exploration in Guyana, even amid the strong competition that exists in South America and

worldwide for finite exploration funds. Interest in Guyana was expressed through the record 36 applications received in 1993 for large scale Prospecting Licences, from local and overseas-based companies and individuals. New exploration activity, together with current efforts led by Romanex at their Marudi Mountain property in southern Guyana and Roraima at their six properties, are expected to uncover new discoveries to further enhance large scale gold production in Guyana.

Declared gold and diamond production by local miners continued to rise, to sustain the trend of annual increases in gold production experienced from 1990. Declared production of 87,009 ounces of gold in 1993 was 9% higher than 79,582 ounces produced in 1992 while diamond production of 50,005 carats was 12% above 1992 production of 44,763 carats. This trend is expected to continue and to improve, since activity in the small and medium scale sectors which are both exclusive to Guyanese operators, continue to grow rapidly, as is demonstrated by the strong increases in claim-holdings, river locations and prospecting permits shown in Table 2(iv).

Table 2(iv) - General statistics relating to Mining Industry Performance

	1991	1992	1993	Est 1994
1. Dredges				
New Licences	139	167	217	240
Renewed Licences	355	336	332	360
Total Registered	1057	1225	1442	1682
2. Existing Claims				
Land Claims	7400	7800	9000	11000
River Locations	2900	2400	2900	3500
Total	10300	10200	11900	14500
3. Medium Scale Prospecting Permit Applications	-	*202	943	1200
4. Approx Acreage held/ applied for by Small & Medium Scale operators	300000	500000	1700000	2600000

*October to December 1992.

In addition to increases in gold and diamond production projected from the exploitation of their larger property holdings, research which has been initiated by the Commission to improve the recovery of fine gold (less than 250 micron diameter) won by gravity separation techniques, is intended to significantly boost gold recovery by local miners operating on a medium scale.

As the scale of operations, volume of gold produced and property holdings increase, the small and medium scale mining sectors will cumulatively achieve large scale gold production. The collective responsibility of GGMC and the mining sector for environmental protection must be given precedence, and as a consequence, environmental management will be an essential part of mining operations in the large, medium and small scale sectors.

Bauxite

World demand for bauxite was weak in 1993, as world oversupply of aluminium metal persisted.

Although Linmine increased its production of final products in 1993, total bauxite production declined relative to 1992. Linmine's production of final products increased by 4% (391,000 tonnes in 1992; 407,000 tonnes in 1993), while production at Aroaima declined by 13.5% (1,406,000 tonnes in 1992; 1,216,000 tonnes in 1993) and at Bermine's Kwakwani operations by 9% (516,000 tonnes in 1992; 469,000 tonnes in 1993). Bermine sought to extend their product range by producing calcined bauxite from feed acquired from Aroaima.

During 1993, Aroaima Bauxite Company (ABC) completed the mine's infrastructure, the new maintenance and permanent ware house facilities, housing for employees, and the school for employees' dependents.

Table: 2(v) - Bauxite production from 1990 - 1993 from Linden and Kwakwani operations; 1991 - 1993 from Aroaima's operation.

	(Production tonnes)			
	1990	1991	1992	1993
Linden (LINMINE)				
Calcined Refractory Grade RASC	288,000	331,000	215,000	261,000
Calcined Abrasive Grade AAC	28,000	29,000	3,000	6,000
Dried Metallurgical Grade MAZ	343,000	241,000	94,000	65,000
Chemical Grade CGB	108,000	115,000	79,000	75,000
Total Final Products	767,000	716,000	391,000	407,000

	(Production tonnes)			
	1990	1991	1992	1993
Ore Mined	1,900,000	1,700,000	1,300,000	1,400,000
Kwakwani (Bermine) Dried Metal Grade MAZ	545,000	498,000	388,000	332,000
Chemical Grade CGB	112,000	133,000	122,000	121,000
Cement Grade ACGB	-	-	6,000	10,000
Calcined Refractory Grade RASC	-	-	-	6,000
Total Final Products	657,000	631,000	516,000	469,000
Ore Mined	432,000A	7116,000A	NA	NA

	(tonnes)		
	1991	1992	1993
Aroaima			
Dried, shipped bauxite	870,000	1,406,000	1,216,000
Ore mined DMT	NA	NA	1,320,000

NA = not available
(Information from Communications Department, BIDCO and GGMC's records)

Sand

There was a large increase in declared production of sand - from 502 tons in 1992 to 197,000 tons in 1993. The first Quarry Licence for large scale production of sand was issued in June 1993, to Roraima Mining Company to exploit sand at Vreed-en-Rust on the lower Demerara River.

The improvement in declared production was due mainly to more effective monitoring of sand operations by the exact measurement of in-situ sand reserves and calculation of tonnages extracted by the Commission's Surveyor, Mr. L. Fredericks. However, there was also strong continuing interest in sand quarrying, and several applications were received for the development of sand on a medium and large scale from localities along the Demerara River and at Soesdyke, as investors sought to capture a share

of the local construction market, the eastern Caribbean market, and the larger markets in the Caribbean and North America.

Stone

Declared stone production rose by 51% from 73,000 tons in 1992 to 110,000 tons in 1993, mainly from St. Mary's Quarry with subsidiary amounts from Baracara's quarry at Monkey Jump. This falls short of demands for quarry products for the government's infrastructure rehabilitation projects for roads and sea defences, and the construction industry, estimated at 500,000-600,000 tons per year.

Government continued to give active consideration to granting the Teperu/Itabu quarry to a private operator. In 1993 Government was also in discussion with Spring Point who are seeking a Quarry Licence to exploit waste rock from Omai's mining operations.

Twelve applications for rights to develop stone quarries on a medium scale, received in 1992, were still under consideration at the end of 1993. The Commission drafted an amendment to the legislation, needed to permit the grant of medium scale Permits to exploit quarriable materials.

Clay

Declared clay production was minimal in 1993, declining from 6,000 tons in 1992 to 401 tons in 1993, due to the cessation of brick clay extraction by Guyana National Engineering Corporation.

MINES DIVISION

The year 1993 represented the fourth year of a Five-year Plan which was formulated to meet the challenges of the present decade. The plan emphasizes mineral processing and environmental research and manpower development through technical training, both directed to improving the performance of the local Mining Industry.

Constraints experienced in 1993, including a severe shortage of Mining Engineers and Mining Engineer Technicians, negatively affected the Division's ability to accomplish all of the objectives set out in the 1993 Work Programme.

Inspections of mines were done on two levels: inspections of the large scale gold mining operations at Omai Gold Mine were undertaken by the Inspectors of Mines who

were the Senior Mining Engineers. Inspections of small scale mining operations were carried out by the sub-professional Mines Officers.

3.1 Technical Unit

Environment Management Agreement (EMA)

The Environmental Management Agreement is intended to control the impact of medium and small scale mining operations on the environment, to give direction to mining operations and to establish operational parameters for environmental management in mining. Technical reports from UNEP and two projects undertaken with sponsorship from the Technical Assistance Group (TAG) of the Commonwealth Secretariat form the background for the Environmental Management Agreement. These reports are: "UNEP Technical Series No. 5"; "Environmental Aspects of selected non-ferrous metals ore mining"; "Review of Environmental Aspects of Dredge and Small Pit Mining Operations (in Guyana)", by Dr. E.N. Watkin (1991); and "Report on the Technological and Operational Aspects of dredge and small scale open pit gold and diamond mining in the Co-operative Republic of Guyana" by Alan Bradley (1992) of the Department of Mines, Western Australia.

The EMA was updated and refined throughout the year after extensive consultations with the Guyana Gold and Diamond Miners' Association (GGDMA) and the UN Inter-regional Adviser on Mining and the Environment, Mr. Barry Middleton who fully endorsed it. The EMA addresses crucial issues such as the disposal of waste petroleum products, infilling of excavated areas and pits during and after mining; mining of river banks; and sediment control in river water. Copies of the draft EMA were sent to GAHEF, GEMCO and the Guyana Forestry Commission for their perusal and comments.

Hydrological Surveys

Two Hydrological Surveys each of six weeks duration, which were scheduled for March/April and September/October in the Potaro, Konawaruk and Mid-Mazaruni - Cuyuni areas did not take place, since the contracts for conduct of the surveys could not be finalised in the scheduled period.

These surveys are carried out by the Hydrometereological Department of the Ministry of Agriculture on behalf of the Guyana Geology and Mines Commission for the purpose of compiling baseline data on the environment and monitoring changes caused by mining activities.

3.2 Administrative Unit

Review of the Administration of Medium and Small scale Mines

During a six-week consultancy from March 30 to May 08, 1993, CESO consultant, Mr. Larry Fischer, reviewed the Commission's capabilities, systems and practices in the administration of small and medium scale mines, paying particular emphasis on the administrative systems employed by the Mines Division.

The objective of Mr. Fischer's study was to make recommendations which would assist the Commission to maintain and improve efficiency in the administration of the small and recently established medium scale mining sectors. Mr. Fischer's recommendations were made to address the existing situation, where administrative activity is progressively increasing in volume and scope, as a result of the rapid growth of the small and fledgling medium scale mining sectors.

Making more Areas available for Mining

In keeping with a decision taken by government to open Closed Areas and areas formerly held by exclusive Prospecting Licences, and to discontinue State Mining Reserves, in order to provide additional ground for prospecting and mining, the Prime Minister, Minister of Mines and Minerals, Hon. Samuel A. Hinds, issued a press statement on November 17, 1993, to publicly announce these measures. At that meeting the Prime Minister also disclosed that the Commission would grant permission for Companies to undertake Geological and Geophysical Surveys over large tracts of land, and adverted to the Environmental Management Agreement, which addresses environmental issues resulting from medium scale and mechanised mining activities.

In order to give effect to the decision mentioned above, it was agreed that the Guyana Geology and Mines Commission would undertake preparatory demarcation of mining blocks on the ground. These blocks would be of 3000 feet by 300 feet dimensions, and they would be located by miners when the areas are opened to location and mining early in 1994.

From late February to late March, 1993, a crew comprising Senior Mines Officer - G. Best and Rangers - D. Garraway, R. Luckie and K. Bransford completed the demarcation of seventy-seven blocks along the **Puruni River area**. In March, 1993, Senior Mines Officer - I. Smith and Ranger B. Griffith demarcated twenty-seven blocks in the **Aremu River area**. The final four blocks were completed in May, 1993.

Verification of Locations

One thousand, two hundred and forty-seven land and river locations, were scheduled for verification in 1993.

It was decided that Claims in Prospecting Licence areas would be given top priority, followed by locations under dispute, and finally locations with applications for transfer of licences.

The areas targeted were Middle and Lower Cuyuni, North West District, Potaro/Mahdia, Essequibo, Berbice River, Imbaimadai, Ekereku and Upper Essequibo. During the first quarter of the year emphasis was placed on verifying claims in the Mahdia - Potaro and Cuyuni River Areas.

During 1993, a total of 317 verifications were completed in Mahdia/Potaro; Cuyuni (Aranka); Ekereku, Demerara River; Amatuk and Waratuk Falls, Potaro; and Kwitaro areas. It was difficult to implement the programme of scheduled verifications, since it was often impossible to bring together the claim holders or their representatives as witnesses, as is required by the Mining Regulations.

Revenue Collection

As planned, the collection of revenue which accrues from the issuance of Trading Licences, Business Permissions, Residential Permissions, the payment of claim rental and other statutory fees, took place throughout the year at the Georgetown Head Office, Bartica Mines Office, Mahdia Mining Station, Ekereku Police Station and Enachu Police Station. Various officers collected revenue during the demarcation and verification assignments in the first quarter. In May 1993, Senior Mines Officer J. Morgan made a visit to the North West District for the purpose of collecting revenue. Senior Mines Officer - G. Best undertook a similar visit to Ekereku in May, 1993.

Inspection of Small Scale Mining Operations

Inspection of mining camps and dredging operations was scheduled as an ongoing activity throughout the year, during which Mines Officers would focus on Occupational Health and Safety and cleanliness in the general operating environment. Routine Inspections of camps and dredges were carried out during the middle of the first quarter. In July a brief inspection was completed between Bartica and Issano on the Mazaruni River by Senior Mines Officer G. Best, and mining operations in North Rupununi District #6 were inspected during the last quarter of 1993.

In August, the Commissioner and other officials from the Guyana Geology and Mines Commission accompanied the Prime Minister - Honourable Samuel Hinds on a visit to Eteringbang to observe mining activities in the frontier area, observe on miners' compliance with the Mining Act and regulations, and through discussions, to find out what difficulties miners face, particularly with respect to transportation.

Court Matters

GGMC continued the prosecution of 64 outstanding court cases, and 79 cases were filed in 1993. Senior Mines Officer (ag) Allan Bunbury prosecuted offences under the Mining Act on behalf of the Guyana Geology and Mines Commission. Except during August when there were no court sessions, Senior Mines Officer (ag) Bunbury attended sessions at the Magistrate's Court in Bartica, Christianburg and Kamarang, accompanied by Mines Clerk III Clairmonte Frank who carried out the duties of Court Clerk.

At the end of the year 27 cases had been brought before the court, of which 22 were concluded. The majority (101 out of 143) were still pending before the court, while 8 were settled out-of-court and 7 were in the course of being settled out of court.

Disputes

Disputes were dealt with by officers already in the field or officers sent directly from Head Office. Disputes investigated during the year were related to issues arising at Ekereku, Demerara, Barama, Essequibo and Kuribrong Rivers, as well as at Arakaka, Mahdia, Soesdyke, Kamaria Landing, Potaro, Cuyuni and New River areas. The exercise at New River was undertaken in conjunction with the Guyana Defence Force and the Guyana Police Force.

3.3 Inspection Unit

The objectives of the Inspection Unit for 1993 entailed the administering and enforcement of the Mining Laws with respect to medium and large scale gold mining and bauxite and quarrying operations. Emphasis was to be placed on compliance with the terms of Mining/Quarry Licences and Mineral Agreements; the preparation of operational plans which would include rock reserve estimation; regular surveying and calculation of quarry reserves for the accurate calculation of royalties due; and the efficient use of equipment; as well as Occupational Health, Safety and Environmental matters.

Omai Gold Mine - monitoring first year performance

The Omai Gold Mine was commissioned on the 16th December, 1992. The formal opening took place on 11th March, 1993. Present at the opening ceremony were the President of the Republic of Guyana Dr. Cheddi Jagan, who gave the feature address, Mr. Louis Gignac, President and Chief Executive Officer of Omai Gold Mines Limited, the Leader of the Opposition Party, Mr. D. Hoyte, and many local and foreign dignitaries and officials.

The Guyana Geology and Mines Commission carried out inspections and monitoring of the Omai mining operations on an almost continuous basis throughout the year, except for the month of October, to determine compliance with the terms of the Mining Licence and Mineral Agreement, and proper and safe mining practice. From January to the end of September, inspections and monitoring tours were carried out by two Senior Mining Engineers/Inspectors of Mines, Mr. R. Squires and Mr. J. Mingo, on alternate two-week stints.

The modes of storage, handling, use and disposal of explosives and cyanide were inspected and monitored. The enforcement of safe working practices was observed and the general standard of occupational health noted. Inspections were also carried out on the tailings facility and tailings management, effluent and waste disposal.

Pouring of Gold bars at the refinery was witnessed on a weekly basis and Gold Production figures were checked and recorded during the year.

In October 1993, the Commission's Board of Directors took a decision that the period of inspections should be shortened to three days per month and Mines Officers should be assigned to the location on a continuous basis to monitor Gold Production.

Surveys of Sand Quarries

The alternation of the only two Mining Engineers on staff for the greater part of the year on continuous two-week stints at Omai Gold Mine, severely curtailed the implementation of the year's programme of inspections of large and medium scale mines, sand pits and quarries. Work was consequently limited to inspections and surveys undertaken by Surveyor, L. Fredericks at sand and loam pits. Surveys were undertaken at a loam pit at Dakara Creek in the Soesdyke area, Mahdodri's and Jaundoo's silica sand pit operations at Soesdyke, Gafson's and Raghoo's silica sand pit operations at Yarowkabra and at Roraima Mining Company's silica sand quarry at Vreed-en-Rust, lower Demerara River. Surveyor, L. Fredericks was assisted by Ranger, B. Griffith in the execution of these surveys.

3.4 Drilling Section

Core Drilling

The work programme for 1993, scheduled the deployment of a BBS1 and a BBS15 drill for six months at the Aroaima Bauxite Mines in Berbice, in continuation of the programme of drilling initiated in 1992 as sub-contractors for Linmine. The initial target footage of 9000 feet was revised downward to 5400 feet to be completed within 168 working days.

Drilling with the recovery of NQ and BQ sized cores, commenced in February, after the drills and camp equipment were shifted from the North to the South Mine. The crew comprised E. Henry (Project Officer), C. Adams (Driller), O. Williams (Ranger) and eight drillers. From February until the first week in June, 35 holes were drilled for a total of 1527 feet. Utilisation of the drill was calculated as a low 22%.

Drilling was suspended in June pending the repairs and overhaul of both drills to improve their performance. At the end of December, repairs had not been completed.

The entire staff of the Drilling Section was afforded practical training in diamond drilling techniques to upgrade the skills of the drillers and to prepare the Project Officer for training of new and junior drillers. Training was carried out by CESO consultant Mr. Don Hosking on a six-week assignment which lasted from March 23 to May 03, 1993.

Banka Drilling

During the year the Guyana Geology and Mines Commission made three of its four Banka Drill Rigs available for rental by miners. The rigs were rented throughout the year. Repairs and acquisition of casings for the fourth Banka drill were not effected.

3.5 Mineral Processing Unit

The full organisation of the Mineral Processing Department at its new location at the Institute of Applied Science and Technology was planned for the year. Under its agreement with the Institute of Applied Science and Technology, the Geology and Mines Commission would utilise the Institute's Mineral Processing Laboratory, Pilot Plant facilities and mineral processing equipment. A Pilot Plant was to be established during the first half of the year, and the "Fine Gold Recovery Programme" initiated in 1991 was to be continued. This project would involve sampling gold deposits followed by bench-scale testing and ultimately, Pilot Scale testing of samples to upgrade the recovery of gold, particularly the fine size fractions (less than 250 microns) which are lost in traditional

recovery systems comprised essentially of wide riffle-bearing sluices and battels, with gold recovery by amalgamation.

Latterly, battel concentration directly after sluicing has been supplanted by secondary concentration using a trommel - centrifugal "Knudson Bowl" combination. Gold is recovered from the black sand concentrate by batteling and amalgamation.

Other projects identified for 1993 were a comparative study of the Knelson centrifugal Concentrator and the locally produced centrifugal concentrator (commonly known as the 'Knudson Bowl', referred to above), and the design and development of a simple mercury retort for use in the local gold mining industry.

Staffed by the Senior Mineral Processing Engineer, the Mineral Processing Unit was relocated to the Institute of Applied Science and Technology. An assessment was made of the facilities available and the combined set of equipment belonging to IAST and GGMC, which were to be incorporated into the Pilot Plant. Repairs, upgrading and securing the facility, all vital prerequisites for the establishment of the Pilot Plant, were not completed. IAST suggested that the Commission could undertake the repairs, the cost of which would be deducted from rental payments.

The comparative study of the locally produced 'Knudson Bowl', and the Knelson concentrator was initiated in the first quarter. However, testing of the equipment was not carried out.

Work on the mercury retort was shelved after the Guyana Sewerage and Water Commission (contracted to fabricate samples retorts for testing) advised that it was necessary to import materials for its fabrication since these could no longer be obtained locally. The design of the retort is based on the concept of simple and readily applied 'Intermediate Technology'.

The Mineral Processing Unit completed its obligation of giving assistance to the mining programme at University of Guyana for the academic year 1992-1993.

During the last quarter Senior Mineral Processing Engineer D. Skeete benefitted from training in Assay Techniques undertaken by Mr. Nicholas Mys, consultant with the Canadian Executive Service Organisation (CESO), and training in Flow Sheet design given by Dr. Vernon Sefton, also a CESO consultant.

The '**Fine Gold Recovery Programme**' received considerable impetus, by means of Technical Assistance from CESO consultant Dr. Vernon Sefton, who worked with Senior Mineral Processing Engineer, D. Skeete, to complete the design of a portable demonstration Pilot Scale Plant for gold recovery in local small and medium scale, land and river based operations. Preliminary plant designs were presented at the National

Mining and Quarrying Conference, held at Linmine's Surapana Club on December 03-04, 1993.

The next two phases of the Fine Gold Recovery Programme, involving the perfecting and fine-tuning of the engineering design; purchasing of components; assembling the demonstration plant, and finally field testing of the plant in active mining locations, are scheduled for 1994. Dr. Sefton will give Technical Assistance to direct these two phases.

3.6 Registry

The overall goal for the Registry emphasized accuracy and efficiency in the filing and retrieval of records.

Statutory publication deadlines for the 'List of claims in Existence at December 31, 1992' and 'List of Claims Abandoned at March 31, 1993,' were met. The Registry updated its records during the year and maintained statistics on mineral production in 1993. It was hoped that a micro-computer would be acquired, to enhance record keeping and expand data collection, allowing for better management of the ever-expanding volume of documentation and records generated by the expansion of the mining industry.

The Registry received and processed applications for Trading Licences, Business Permits, Residential Permissions, Goldsmiths' Licences, Claims and Dredge Licences, details of which are given in Table 3(i).

A clerk was assigned to work with the Hearing Officer, Magistrate Juliet Holder-Allen, who presided over challenges and complaints filed under the Mining Act 1989 and Regulations.

Table 3(i) **Disputes, Claims and Licence Applications**

	1993	1992
1. Disputes		
Complaints filed	60	82
Challenges filed	3	12
2. Claims		
Abandoned at March 31, 1993	1,856	1,265
In existence at Dec 31, 1993	11,900	10,125

3. Application for Licences

New dredge Licences	217	167
Renewed dredge Licences	332	336
Claim Licences	1,958	1,594
Trading Licences	156	350
Residential Permissions	111	239
Business Permissions	205	536
Goldsmith's Licences	346	271
4. Claims Verified	317	552

Table 3(ii)

Comparative Gold and Diamond production for 1993, 1992

	1993	1992	%increase in 1993
Gold (oz, unrefined) from local miners	87,009	79,581	9.3%
Total local miners & *Omai Gold Mines Ltd (unrefined)	310,009	79,581	290%
Diamonds produced (carats)	50,005	44,763	11.7%
Diamonds exported (carats)	43,785	37,457	16.9%
Approx value of exports (US$)	$4m	$3.05m	31.1%

*Omai Gold Mines Limited began production in 1993.

4. GEOLOGICAL SERVICES DIVISION

4.1 Geological Field Expeditions

1993 saw the inexorable diminution of the professional staffing of the Geological Services Division with the loss of four Geologists. Three volunteer geologists Miss T. Finerty (VSO), Mr. J. Halilovic and Miss C. Urulbay (UNV's) left during the year, and by year-end Senior Geologist, J. Ghansam finalized arrangements for a secondment sponsored by Omai Gold Mines Limited, to teach Geology at the University of Guyana. In addition, Mr. C. Rambali, Geological Technician, resigned in October.

Despite the attrition in its geological staff, the Geological Services Division was able to successfully undertake five full scale geological field projects. These were:

(i) The Ayanganna Project
(ii) The Tumatumari Dimension Stone Project
(iii) The Eteringbang Project
(iv) Yaiema Divide Road Project
(v) The Port Kaituma Project

Ayanganna Geomorphological Diamond Investigation
(February - April, 1993) - J. Halilovic, UNV

This project was planned along the lines of the Upper Mazaruni Geomorphological Project (1992) and was aimed at ground checking of possible geomorphological controls of primary gold and diamond sources as well as the occurrence of alluvial gold and diamond deposits in the area. The project area covers some 40 sq.km. in the vicinity of the headwaters of the Potaro River. Initial geological study of the area was conducted using aerial photographs and available documentation.

Field work consisted of geological mapping, pitting, heavy mineral sampling and ground truthing of the geomorphological concepts derived from the interpretation and analysis of aerial photographs.

Primary and alluvial gold and diamond mineralisation are known within the exploration area. No clear sign of primary mineralisation were found in the field, though it is speculated that the intrusion of dolerite sills caused the mobilisation of gold into the enclosing sandstones and conglomerate of the Roraima Group.

Alluvial gold and diamond mineralisation appears as "small valley" type, most probably of Quaternary age. It is related to isolated accumulations of alluvial gravels filling small relief depressions. Heavy mineral concentrates contain mostly ilmenite, rutile, zircon, hyperstene, goethite, hematite, andalusite and corundum.

Tumatumari Dimension Stone Investigation
Senior. Geologist - J. Ghansam

The main objective of the project was to examine and evaluate possible sources of dimension stone from dolerite in the Tumatumari area, underlain by the prominent Tumatumari dyke. The areas were selected on account of their topography which suggested the likely presence of exposures of hard rock.

Geological work was directed along Tumatumari Ridge. Mapping, line-cutting, pitting and stream sediment sampling were undertaken over an area of 0.5 sq.mls on a dolerite Ridge situated on the right bank of the Tumatumari Falls. A baseline 3 miles long was cut along the centre of the ridge intersected by 36 cross-lines at 400ft intervals. A total of 35 rock samples, 33 stream sediment samples and 5 pit samples were collected for laboratory studies.

An irregular grid covering an area of approximately one sq ml was cut along a second dolerite Ridge on the left bank the Tumatumari Falls. A total of 26 samples were collected in this area.

Boulders of quartz dolerite up to 100 feet long and 15 feet wide were exposed on the right bank ridge: they varied from fresh and hardly jointed to fractured and weathered. The dolerite resource was estimated at 1.7 million tons. The thickness of the weathered cap, and the dimensions and continuity of the fresh in situ rock could not be determined, and diamond drilling is recommended to establish reserves. However, as applies in Brazil, the fresh boulders may themselves constitute an exploitable resource.

The rock is a hard, medium grey with varying grain sizes. On the left bank ridge dolerite boulders are intensely weathered and jointed.

The project lasted from March 02 to April 25, 1993.

The Eteringbang Project
Project Geologist - Sherwood Lowe

The Eteringbang Project, was initiated in September 1993 to follow up and investigate reports of a large amount of lode gold extracted from a small hill in the area. As the area lies in a military zone, the project was conducted in close collaboration with the Guyana Defence Force. Exploration work was confined to a Proposed Military Reserve (PMR), which is roughly 14km² in area with the small gold-bearing hill lying in the top centre.

The objective of the project was to assess the gold potential of the PMR. The project lasted 7 weeks from September 16th to November 2nd. The main exploration technique used was soil geochemistry, with samples analysed by panning and results presented as a gold count. Experienced battelmen were employed to pan the samples in the fields. One hundred and fifty soil and alluvial samples were taken and four pits sunk in areas selected on the basis of point sample results.

Most of the soil samples did not show any gold colour, with others registering not more than 10 counts. The two highest values (all gold sizes) were 8 and 10 counts. The alluvial gravel samples (35 in all) were collected at shallow depths (>30cm). They were composed of quartz pebbles, weathered lithic fragments and ferruginous nodules, and they returned better values, reaching as high as 40 gold counts.

The underlying geology of the PMR is comprised totally of bedded silicified pyroclastic rocks. Field work identified the presence of two styles of mineralisation in the Proposed Military Reserve: alluvial gravel deposit and gold in quartz veins.

Alluvial gravel deposits in dry river flats and beds occupy a large portion of the Reserve, and clear evidence exists on the ground of past exploitation of this resource. The areas of potential gold-quartz reserves have mostly been claimed by local miners.

Yaiema Divide Road Project
Project Geologists - S. Lowe and G. Nestor

The Yaiema Project formed part of a GGMC initiative to encourage the expansion of small and medium scale gold mining into new areas. The general area selected for geological work was abandoned in the days of low gold prices, but is considered geologically favorable for gold mineralisation.

An essential aspect of the initiative was the establishment of convenient access lines to areas that field investigations have revealed to be prospective. It is hoped that these measures will encourage small/medium scale miners into the areas.

Specifically, the Yaiema project focused on the area straddling the Yaiema Divide road. The road, which served as a baseline during a 1971 economic mineral survey undertaken by the United Nations and the Geological Surveys Department, and has since fallen into disuse, had to be relocated and cleared. The road was cleared up to the mouth of the Yaiema river, a left bank tributary of the Kuribrong. The entire length of this link between the Issano Branch road and the Kuribrong river is approximately 25-27 km.

Two areas just east of the start of the Yaiema road were selected for geological evaluation work. The areas were considered favorable because of their proximity to the Okuwa southern Stock (a known mineraliser), the presence of old gold workings, and the

presence of meta-sediments, which are considered to be a highly favoured host to gold mineralisation in the area.

Over two hundred soil samples were taken in both areas. In area I, results indicate the presence of several geochemical anomalies (threshold 0.1ppm) lying more or less parallel to large faults indicated on Gibbs' 1:50,000 geological map of the area. Soil sample results for Area II are still pending.

It is recommended that follow-up exploration be conducted in anomalous areas to investigate their lateral and areal integrity. Work should further concentrate on areas underlain by metasedimentary rocks as those seem to be the most amenable to gold mineralisation in the general area.

Port Kaituma Dimension Stone Investigation
Geologist - G. Nestor

Port Kaituma Dimension Stone Project commenced on 2nd September and ended on 16th November, 1993. The area extends approximately from Port Kaituma in the north-east to Jonestown in the south-west, and is about 2km in width, being roughly centred on the ridge of the granitic mass.

The main aim of this project was to assess the area for Dimension Stone resources. The area of Port Kaituma was chosen because of the presence of an ENE-WSW trending aegirine-biotite granitic batholith extending for several square kilometres, which was quarried in the 1960's at a location 4.1km from Port Kaituma, and a good transportation network which has been improved and upgraded by Barama Company Limited. At the disused Port Kaituma Quarry, the aegirine granite is commonly red in colour, reportedly (Bramley, 1960) due to radioactivity.

The composition of the granite varies, and locally it is granodioritic. Intruding the granitoids are narrow, discontinuous dolerite dykes (wth average width of 5 to 7cm) and sills and pegmatite and aplite intrusives.

Geological mapping was conducted in the area, utilising the outcrops along the ridge as well as float, dykes and intrusives. Over 40 samples were collected and 42 line kilometres were cut and traversed.

Reference: Kaituma-Barima expedition Report by K. Bramley (BG Geological Survey, 1960)

Staffing - Geological Field Section
January - December 1993

Names	Positions	Comments
K. Persaud	Manager (ag)	
J. Ghansam	Senior Geologist II (ag)	Seconded to UG in December 1993
S. Lowe	Senior Geologist I (ag)	
G. Nestor	Geologist	
T. Finerty	VSO Geologist	Completed 2-year contract in February 1993
J. Halilovic	UNV Geologist	Completed 2-year contract in April 1993
C. Urulbay	UNV Geologist	Completed 2-year contract in June 1993
G. MacFarlane	Admin Assistant	
B. Taylor	Confidential Secretary	
E. Dunlop	Field Assistant	Attending UG full-time from September 1993
M. Abraham	Field Assistant	
C. Matthews	Field Assistant	

4.2 Prospecting Licences

During 1993, two Prospecting Licences were granted to GIDCO over the Pott Falls area, and Case Development Company over the Baramita area.

Golden Star Resources applied to relinquish Prospecting Licences for the Akaiwong, Peter's Mine, Aurora, Aremu, Oko, Red Hill Loop and Apaiqua properties and Cambior relinquished the Tikwah property. This resulted in a net 16 properties held as Prospecting Licences at December 31, 1993, down from 22 in 1992.

Table 4(i) - **Prospecting Licences at December 31, 1993**

Property	**Company**	**Date of Grant**
Baramita	Case Development Co. Ltd.	07.09.93
Winter's Mine	Plaza Mining Company Ltd.	25.11.92
Saganang	Golden Star Resources Ltd.	10.05.90
Upper Sir Walter	Roraima Mining Company	07.09.92
Imotai	Roraima Mining Company	07.09.92
Ianna	Roraima Mining Company	07.09.92

Wariri	Roraima Mining Company	07.09.92
Quartzstone	Roraima Mining Company	07.09.92
West Fork, Aranka	Roraima Mining Company	07.09.92
Marudi Mountain	Romanex Guyana Limited	13.07.90
Pott Falls	Giddings Industrial Company	15.09.93
Mariwa -Sardine Hill - White Water	Odinga Lumumba	30.08.91
Eagle Mountain	Golden Star Resources	30.10.87
Tiger Creek	Golden Star Resources	30.10.87
Proto Mahdia	Golden Star Resources	13.02.89
Quartz Hill	Golden Star Resources	01.11.88

There were 36 applications for Prospecting Licences received during 1993, which are at various stages of processing.

Marudi Mountain Prospecting Licence - Romanex

The objective of Romanex's exploration at their Marudi Mountain Prospecting Licence property was to upgrade the mineral inventory by diamond drilling several new targets to find possible faulted extensions of Marudi gold deposit and strike extensions of the Mazoa gold deposit located 1½km to the north. By the end of December 1993, seven targets were tested by a total of 2,617 metres of drilling.

Gold resources were increased to 676,000 ounces, as Table 4(ii) below shows:

Deposit	Resources	tons	grade(oz/ton)	ounces
Mazoa	drill indicated	6,100,000	0.077	469,000
Mazoa	possible	1,300,000	0.065	84,000
Marudi	possible	2,200,000	0.056	123,000
		9,600,000	0.07	676,014

Romanex plans to further upgrade the mineral resource inventory by undertaking 12,470 metres of diamond drilling at Mazoa and Marudi Mountains and regional targets, and examining the near surface zones of enrichment, in an attempt to increase the overall grade. The Mazoa and Marudi deposits remain open at depth and some of the richer intersections occur at the bottom of the drill holes. Romanex believes that the property has the potential to exceed one million ounces of gold inventory. The next phase of exploration will lead to an economic evaluation for a possible open pit mine.

Gold mineralisation at Marudi is stratabound, occurring within a stockwork of steep, cross cutting quartz veinlets, veins and broad silicified zones associated with strong concentrations of pyrite, pyrrhotite and chlorite within a steeply dipping ferruginous quartzite unit. The ferruginous quartzite is part of the regional lower Proterozoic Kwitaro

sequence of subvolcanics, chemical and clastic sediments with intercalated marble, dolomitic marble and banded iron formations, intruded by feldspar porphyries and a granite batholith which gave rise to thermal metamorphism. Romanex's work is the first to demonstrate the presence of marble and dolomite in the Kwitaro group.

Roraima Mining Company

(i) **Upper Sir Walter Prospecting Licence**

A series of metamorphosed acid to basic rocks of the Cuyuni Formation, occurring in the southeast of the property, is intruded to the north by Trans-Amazonian granite, with the contact generally trending northeast-southwest. The Cuyuni Formation rocks are largely volcanic: the basic series consisting of foliated chlorite schists, amphibolites and epidiorites. The acid to intermediate volcanic series includes a considerable amount of sedimentary intercalations of siltstones, banded slates and weathered pyrite cubes. The granite is cut by an ENE-WSW trending dolerite dyke, and truncated by White Sand Series terraces.

Stream sediment sampling, geological mapping and augering were carried out. Results showed limited spotty mineralisation related to quartz veining and volcanic lithologies.

(ii) **Quartzstone Prospecting Licence**

The area is underlain by intermediate volcanic and volcaniclastic rocks, lithic graywackes, metapelites and schists of the Cuyuni Formation, striking north-south, and in contact with the Quartzstone Aremu batholith intrusives. The granite generally extends along the eastern side of the Prospecting Licence and the metavolcanics and metasediments to the west, with a north-south trending contact. Two main units can be distinguished in the Cuyuni Formation, a metasedimentary unit with minor volcanics and a metavolcanic unit with minor metasediments. Laterite duricrust is extensively developed on the summit of Sodam Mountain.

Initial geochemical soil sampling was followed by detailed geological mapping, deep augering and trenching.

Gold mineralisation occurred in all of the lithologies - granodiorite, metasediments and metavolcanics - and along the granite-metamorphics contact, with continuous mineralisation in the granite and contact zone.

Extensive follow-up geochemistry, deep augering and trenching are planned to confirm the presence of hydrothermal alteration zones and to determine the magnitude of the mineralised areas.

(iii) **Imotai Prospecting Licence**

In the Minabaru area folded, foliated amphibolite schist, amphibolites, talc-chlorite sericite schists, and gabbro form the northern limb of an anticline whose core is occupied by foliated hornblende gneiss. Gabbros which are locally differentiated, and quartz veins, generally strike NNE and dip steeply to the east or west, generally concordant with the foliation of the metavolcanics.

The hornblende gneiss strikes NE, with a shallow dip and intrusive quartz veins strike N 70° E. Laterites occur widely in the east, at the tops and sides of hills. Two north-south trending faults and fracture zones occur, displacing the talc-chlorite-sericite schists.

In the rest of the Prospecting Licence, the geology is similar with foliated biotite-sericite-chlorite-amphibolite schists and fine grained amphibolite schists forming the limbs of a drag fold with granite-granodiorite and gabbro-pyroxenite along its axial plane. Two sets of quartz veins occur: one set is a typical host for gold.

Soil sampling and geological mapping showed that gold mineralisation is predominantly associated with disseminated sulphides in gabbro, amphobolite-quartzite veinlets, and amphibolite schists and laterites. Azurite staining is found locally in amphibolite joint plains.

Roraima Mining Company plans to complete in-filled detailed grid lines and to prospect isolated gold anomalies.

(iv) **Wariri Prospecting Licence**

Amphibolites cover large portions of the Prospecting Licence area, and they are intersected by shear zones. A granitoid stock intrudes the amphibolites, and two ultrabasic bodies are recognised.

A regional trend is established by a dyke swarm of basic rocks which strike N50°E and cut all of the older rock. A mineralised shear zone also strikes 50°E.

Soil sampling, deep augering and trenching were undertaken and gold mineraliation in the saprolite was investigated.

Gold mineralisation is associated with the shear zone crossing Wariri mine which is marked by carbonate, chloritic and silicate alteration zones.

(v) Ianna Prospecting Licence

The Ianna Prospecting Licence is underlain by a typical greenstone sequence of metavolcanics and metasediments, all of which are steeply dipping and strike ESE - WNW (120°). They are intruded by the Teki Granite and the Yakishuru and Ianna post-to syntectonic stocks. Mineralised shear and fracture zones containing veins/stringers occurring in the vicinity of the stock margins have contributed to the deposition of gold, and are responsible for extensive gold workings on a small scale.

Several favourable gold geochemical anomalies with adequate strike lengths and widths have been outlined and seem to indicate sufficient deposits amenable to surficial exploitation. Geochemical sampling was conducted along grid lines. The next stage of exploration, including trenching, is intended to confirm these results, and drill targets will be selected upon completion of the trenching program.

(vi) West Fork, Aranka Prospecting Licence

The West Fork property is underlain by lower Proterozoic metavolcanics and metasediments intruded by late granite stocks. South-east of Aranka River clayey eluvials with frequent laterite and milky quartz fragments, basaltic lavas, amphibolites and chlorite schists occur. Some of the more ductile volcanic rocks exhibit a strong foliation striking 145° and dipping 55-80°.

Weathered acid to intermediate volcanics occur to the east, and deeply weathered granitic rocks occur to the north.

The property was explored by line cutting, trenching, channel, panel and chip sampling, detailed geological mapping and deep augering. Gold mineralisation occurs in narrow quartz veins in sharp contact with the host rocks, associated with limonite and limonitized pyrite cubes, and locally with hydrothermal alteration in pyroclastic rocks, and zones of shearing. Gold mineralisation is lithogically and structurally controlled.

Further trenching, deep augering and geological mapping are planned to test the lateral and depth continuity of the mineralised zone and outline the prospective lithological units.

4.3 Medium Scale Prospecting Permits

Table 4(iii)

Application for Prospecting Permits (Medium Scale)
January to December 1993

	Berbice	Potaro	Mazaruni	Cuyuni	N/West	Rupununi
No. of applicants	2	54	97	40	14	10
No. of Parcels	5	181	410	174	116	88

Total No. of Applicants: 217
Total No. of Parcels: 974

Minerals	# of applicants
Gold and Precious Stones (including Diamonds)	133
Gold	64
Silica Sand	11
Gold, Valuable Minerals & Precious stones	7

Minerals	# of applicants
Diamonds	5
Gold and Base Metals	2
Gold, Precious stones, Base Metals	1
Total	**217**

No. of Grants for the Year 1993 — 81

4.4 The Chemical Laboratory

The Chemical Laboratory comprises five sections:

1. Main (Wet Chemical) Laboratory
2. Sample Preparation Laboratory
3. Fire Assay Laboratory
4. Spectrographic Laboratory
5. Atomic Absorption Laboratory

Sample Analyses

During the year a total of 445 soil, rock, black sand concentrates, evaporite silica sand, gravel, bauxite and yellow metal samples were submitted to the Chemical Laboratory for analyses. Details are given in the table below:

Table 4(iv) - Analyses undertaken in the Chemical Laboratory in 1993:

# of Sample	Sample Type	Person or Company requesting analyses	Sample Location	Type of Analyses	Remarks
4	Soil	SG (ag) Lowe	Eteringbang	MIBK/AAS	-
13	Rock	-do-	-do-	Fire Assay/AAS	-
5	Black Sand Concentrates	-do-	-do-	Amalgamation and Parting	-
180	Soil	SG (ag) Lowe & G. Nestor	Yaiema	MIBK/AAS	80 samples still to be analysed.
16	Evaporite	Geol Nestor	Takutu Basin	Cold HF attack/AAS	-
42	Soil	W. Tappin	Eteringbang	Aqua Regia Spectrographic analysesAAS	for base not possible due to metals; Fire electri-cal problems Assay/AAS for affecting the gold; spectrograph trographic analyses.
17	Gravel	SME Squires	Konawaruk	Crushing, sizing Amalgamation and parting; Fire Assay/AAS; MIBK/AAS.	
1	Rock	MG (ag) K. Persaud	-	Aqua Regia/AAS for Base Rock; Fire Assay/AAS for gold.	-

# of Sample	Sample Type	Person or Company requesting analyses	Sample Location	Type of Analyses	Remarks
1	Soil	-do-	-	Cold HF attack/ AAS.	
1	Sand	SME Mingo	-	Crushing and pulverisation.	
1	Gravel	Comm (ag) W. Woolford	9-Mile Issano	Battel concentration Amalgamation and parting.	-
1	Black Sand	D. Small	Ekereku	Amalgamation part ing; spectrographic analyses.	-
1	Rock	S. Hector	Ekereku	Fire Assay/AAS	-
1	Silica sand	J. Alexander	Ekereku	Spectrographic analyses	-
50	Core	J. Alexander	Aremu	Fire Assay/AAS	-
59	Silica Sand	S. Narain		Sieving	-
1	Silica Sand	N. Harripaul	-	Cold HF attack/ AAS, Spectrographic Analysis; LOI.	-
1	Bauxite	F. Oudkerk	-	Cold HF attack/ AAS, Spectrographic Analysis; LOI; moisture content.	-
17	Sand	R. Ramraj	63-Beach	Sieve Analysis	-
10	Yellow metal exhibits	Police	-	Carat testing for gold.	-
3	Coloured Objects	Police	-	Determination of precious metal content.	-
21	Yellow metal jewellery	Customs and Excise	-	Analyses for gold and carat testing.	-

Duplicate Samples

Sample rejects from Golden Star Resources were received during the latter part of the year.

Equipment

No purchase of equipment was done during this year. Throughout the year the Chemical Laboratory was plagued with extensive malfunctioning and stalling of equipment most of which was due to various electrical problems. The Rotap sieve shaker, Disc Mill, Fire Assay Furnace, Manesty Still, Spectrograph, 220 Atomic Absorption Spectrophotometer, and Mettler Top-Loading Balance were all affected by electrical problems caused by the irregular power supply.

General

During the period March - October, the Senior Chemist I attended meeting of the National Laboratory Accreditation Technical Committee held at the Guyana National Bureau of Standards on the second Wednesday of each month.

Staffing for the year 1993 was as follows:

Staff	Designation	Remarks
S. Smith	Senior Chemist I	
C. Thompson	Analytical Officer II	On full time study leave.
G. James	Technical Assistant II	Seconded to Gold Board for one month.
R. Adams	Technical Assistant II (ag)	
R. Singh	Technical Assistant I	Seconded to Gold Board for 2 weeks.
T. Hicks	Laboratory Assistant	
N. Proffith	Laboratory Assistant	
B. Currie	Laboratory Assistant	Appointed 93-01-04
R. Wilson	Laboratory Assistant	Appointed 93-01-11

All of the staff of the Chemical Laboratory were trained for four weeks in Assay Techniques by CESO consultant Mr. Nicholas Mys.

4.5 Petrological Laboratory

Table 4(vi) - Analyses undertaken by the Petrological Laboratory in 1993

# of Sample	Sample Type	Person or Company requesting analyses	Type of Analyses	Remarks
15	Saprolite	J. Carter	Mineralogical	Certification for Export
52	Soil	K. Persaud MG (ag)	Mineralogical	
40	Soil Stream Sediments	J. Ghansam, Snr. Geol.	Mineralogical	
52	Concentrates	J. Halilovic, UNV	Mineralogical	
48	Silica Sand	Roraima Mining Co	Mineralogical	Certification for Export
10	Silica Sand	T. Fletcher & Assoc	Mineralogical	Certification for Export
74	Soil (Rejects)	Golden Star Resources	Mineralogical	Certification for Export
421	Soil (Rejects)	Golden Star Resources	Mineralogical	Certification for Export
30	Concentrates	J. Halilovic, UNV	Mineralogical	
194	Pulverised	Roraima Mining Co	Mineralogical	Certification for Export
70	Soil	Exall Resources	Mineralogical	Certification for Export
18	Stream Sediments	Exall Resources	Mineralogical	Certification for Export
30	River Water	Exall Resources	Ph test	Certification for Export
13	Rock	Golden Star Resources	Microscopic examination	Certification for Export
16	Silica Sand	White Sands Guyana Limited	Mineralogical	Certification for Export
38	Concentrates	J. Ghansam, Snr Geol	Mineralogical	
19	Silica Sand	Roraima Mining Co	Mineralogical	Certification for Export
1	Glass Cullet	Roraima Mining Co	Visual Examination	Certification for Export
4	Silica Sand	Hexagon Minerals (Guyana) Limited	Mineralogical	Certification for Export

In addition, 66 thin sections and 7 polished sections were prepared.

Staffing

C. Rambali	Geological Technician	(Resigned in October 1993)
T. Persaud	Technical Assistant II	
L. Ramkissoon	Laboratory Asst	(recruited in March 1993)

5. SPECIAL PROJECTS

5.1 Updating of Mineral Promotion Prospectus

This project was undertaken with assistance from the United Nations Department of Economic and Social Development, as a follow-up to the Mineral Promotion Project. Mr. Peter Harben, consultant, visited Guyana on January 4-13, 1993, on an information gathering mission.

He held interviews with top officials from government departments, Commercial Banks, Inter-American Development Bank, Entrepreneurs, Mining Company officials, and officials of the Guyana Gold and Diamond Miners' Association.

The updated Prospectus has been expanded in scope to include all economic minerals found in Guyana. The draft prospectus was completed and the UNDESD is awaiting the update of the introductory sections by the government of Guyana, necessary for the conclusion of the prospectus.

5.2 Ceso Technical Assistance Projects

5.2.1 Training by Ceso Consultants

Training given in Mineral Processing/Diamond drilling and Assay Techniques is described under "Training' on page 59.

5.2.2 Ceso Technical Assistance in Administration Of Small and Medium Scale Mines

This project is described under (Mines) Administration, on pages 19-20.

5.2.3 Ceso Technical Assistance in Designing a Portable Demonstration Pilot Scale Plant

This project is described under the activities of the Mineral Processing Unit, on page 28.

5.3 GGMC-USGS Collaboration

5.3.1 Usgs-ggmc Agreement for Collaborative Mineral Resource Assessment for Investment Opportunities

In July 1993, the GGMC entered into a Memorandum of Understanding with the United States Geological Survey (USGS) for collaborative work in a three-year programme for mineral resource assessment and mineral resource inventory, to provide up-to-date data and information on geology and mineral resources in Guyana for the benefit of local and foreign miners, mining companies and investors.

Signing of the Memorandum of Understanding consolidates initiatives taken by the Commission in 1991, which were given new impetus in April 1993.

A three-year US $900,000 USGS-GUYANA programme to aid development and diversification of the Guyanese mineral industry and to promote foreign investment in the mineral sector is proposed, in a collaborative programme with the Guyana Geology and Mines Commission. The programme includes a country-wide synthesis and assessment of Guyana's identified potential mineral resources to guide long range planning.

The essential elements of the programme are the synthesis of available information and field geological and geochemical surveys; strengthening of technical capabilities in Guyana; and the provision by the USGS of up-to-date publicly available geoscience data bases for use by potential national and international investors in the mineral sector, to serve as an environmental baseline and for use in land-use planning decisions.

The mineral resource assessment programme awaits funding for its implementation. Notwithstanding, the USGS has initiated co-operation with the GGMC by making available its computerised Mineral Data Resource System.

5.3.2 Installation of USGS Mineral Resource Data System (MRDS)

The internationally utilised Mineral Resource Data System of the US Geological Survey was installed at the Commission. The MRDS is a computerised information bank on mineral resources which is administered by the Office of Mineral Resources of the US Geological Survey.

The MRDS is a storage and retrieval facility for information on mineral resources through-out the world, and it includes data on Omai and other deposits in Guyana. This system provides an easily accessible data bank on mineral information in an organised manner with the ability to produce reports, tables and maps.

The USGS will provide advice, consultation, and suitable training related to MRDS, in exchange for new and updated mineral records. In addition, the USGS will update the software for MRDS on regular intervals.

The USGS has initiated the digitisation of the Topographic and Aeromagnetic Maps of Guyana produced in 1972 by Terra Surveys of Ottawa, Canada. This activity is complementary to the Commission's initiatives in creating a Geographic Information System, reported on page 63, under 'Digital Mapping'.

5.4 CDB Step Fund Projects

5.4.1 Pre-investment Study of the Jewellery Industry in Guyana

This is one of three projects approved for assistance through the CDB's STEP Fund. During the initial phase of the project, a survey of the jewellery industry was conducted by Jewellery Export consultant to KDP of Ireland, Mr. Rudolph Heltzel, from October 19 to November 05, 1993. The project aims to provide clear recommendations for the strengthening of the jewellery industry, prime considerations being standard marking of jewellery which is essential to obtaining and maintaining a market share of the Caricom and ultimately the international jewellery market, training to upgrade jewellers' skills in design and fabrication of jewellery to an international standard, and environmental screening.

Preparatory to Mr. Heltzel's visit, the Commission held nationwide discussions with jewellers to inform them of the project's objectives and benefits and to encourage them to participate in the survey. As a result the jewellers formed the Guyana National Association of Jewellers and Goldsmiths, that worked closely with Mr. Heltzel.

Mr. Heltzel interviewed 37 registered jewellery enterprises. His preliminary report was received on December 05, 1993. In keeping with the project's terms-of-reference, a copy of the report was sent to the National Association of Jewellers and Goldsmiths.

5.4.2 Industrial Minerals Characterisation

5.4.3 Testing of Industrial Minerals

Proposals were received for these projects but shortlisting was not completed. Environmental screening is a part of both of these projects.

5.5 BRGM Proposal for a Mineral Inventory for Guyana

Mr. J. Danto, BRGM's Geology and Mining Services Area Manager for America, held discussions with the Commission on a project proposal for the establishment of a Mineral Inventory for Guyana. This proposed four-year project involves data compilation and training of GGMC staff; Regional exploration, Detailed Exploration.

BRGM gave the undertaking that they would send a geologist to assist in the preparation of a project proposal to be submitted to the European Union for their consideration for financial assistance. This project will complement the USGS project initiative.

5.6 South American Mapping Project (SAMMP)

The Commission became an associate member of SAMMP in October 1993. The South American Mapping Project is a collaboration between Paterson, Grant and Watson (PGW), consultant geophysicists of Toronto, Canada and Geophysical exploration Technology (Getech) to compile all available aeromagnetic data on South America. The project is sponsored by a group of major Oil Companies, and national groups such as the GGMC that have some amount of aeromagnetic data can become Associate Members of SAMMP.

Under SAMMP the Commission's analog data will be digitised then reprocessed with state-of-the-art techniques to produce a 1km x 1km grid, magnetic intensity maps at Scale 1:2,000,000 and 1:5,000,000, and a processing report and an atlas of known surveys, locations, specifications and ownership. For the first two years after the completion of the project the SAMMP collaborators alone will be entitled to sell the final products. However, as a special concession to the GGMC, PGW has agreed to provide a gridded dataset that has been uniquely created for the Commission, which the Commission can sell, having to pay PGW a fee of US $500 on the first ten sales of the dataset.

5.7 Review of Environmental Management in Mining

From March 8-13, 1993, Mr. Barry Middleton, UN Inter-regional Adviser on Mining and the Environment visited Guyana at the request of the Geology and Mines Commission, to review small, medium, and large scale mining operations and environmental legislation. He had discussions with officers of the Commission, viewed the Chemical Laboratory and visited GAHEF and Mazda's mining operations on the Konawaruk River. He also reviewed the Omai Gold Mines Limited's Environmental Impact Study and the Commission's draft Environmental Management Agreement (EMA). Mr. Middleton accompanied the Commissioner (ag) Mr. Woolford to the opening ceremony of the Omai Gold Mine, and afterwards, undertook a field inspection of the Omai project.

Mr. Middleton concluded that the Omai Gold Mines Environmental Impact Study appears to have addressed the major environmental issues of large scale gold mining in a wet tropical environment. He strongly recommended that the Environmental Management Programme, as presented by the EIS must be implemented and major issues must be addressed. He recommended that environmental management of large scale mining operations should be undertaken by the mining company, with random checks being performed by government authorities. He also recommended that Environmental Reports

should be made public, and that set procedures should be established for resolving any disagreements between the analytical results and assessment of the Environmental Agency and the Company.

Mr. Middleton felt that Mazda was taking a responsible attitude towards environmental management by returning the dredged material to near its original position and by burning gold amalgam in a closed retort so that no mercury was being lost to the environment. Noting that "there is no international standard of total suspended solids in river systems, as all rivers carry a different sedimentation loading depending on their geographic location", Mr. Middleton recommended that the control of sediment loading into the water-course immediately behind the dredging operation requires further investigation. He mentioned the difficulty and partial success reported by Mazda in constructing sediment dams and returning dredged material higher up the dredged embankment.

Mr. Middleton stressed the importance of collecting as much data as possible before mining operations commence, to determine the natural sediment loading of the river system in the natural environment before mineral extraction activities commence. The Commission has already initiated a programme of hydrological surveys to this end. He quoted Dr. E. Watkins (1991) that sediment loading in excess of 20,000ppm will cause mortality to aquatic fauna.

After observing that the dredged waterway had returned to near its original course and that weeds and vegetation had stabilised the rehabilitation area, he recommended that seeding and planting tall shrubs and rainforest trees would enhance the rehabilitation of the land.

Mr. Middleton reviewed two Technical reports of TAG (Technical Assistance Group of the Commonwealth Secretariat) Consultants Dr. E.N. Watkin and Mr. Alan Bradley, which assessed the Environmental Impact and Technological and Operational aspects of dredge and small scale open pit gold and diamond mining in Guyana. As was noted earlier the EMA was based on these reports of the TAG consultants and UNEP reports on the environmental aspects of mining non-ferrous ores.

As stated on page 18, Mr. Middleton highly commended the Environmental Management Agreement and recommended it to all countries. Mr. Middleton recommended that the Commission's Chemical Laboratory should be upgraded with respect to safety, redesigning, painting and improving floors and walls and installing acid resistant bench tops.

Mr. Middleton submitted his report to the Commission.

5.8 Socio-Economic Assistance to Mining Communities

In an effort to address pressing problems of prostitution, drug use and malaria reported by the Guyana Gold and Diamond Miners' Association, the Commission launched a field programme of socio-medical outreach and clinics aimed at providing out-patient services to mining communities while simultaneously educating residents and miners about dangers following the use of illicit drugs and alcohol.

The Commission formulated an outreach programme executed jointly with the Ministry of Health, Vector Control Service, and the National Drug Abuse Prevention Unit. Four week-end clinics and drug educational presentations were held at Tumatumari, Mahdia, Aroaima, Ekereku, and a one-day clinic was held at Chinawying. First Lady, Mrs Janet Jagan was part of the team that visited Chinawying. The services provided were well received by the communities which were very co-operative.

The Commission acknowledges the time and service given by First Lady, Mrs. Janet Jagan, Doctors B. Harry, A. Diaz, C. Jagan, M. Lall; Mr. V. Richards, Mr. Wills, Mr. D. Bacchus, Mr. K. Lall, Mr. M. Shaw; Ms. Y. Azore, Mr. B. Halfrost, Mr. B. Cort, Ms. E. Bart; Medex Mr. Grant, and officers of the Commission Messrs L. Fredericks and L. Butters, and Ms. Harris who organised, co-ordinated and managed the programme.

On March 25, the Commission handed over to Dr. T. Tiwari acting director of Communicable Diseases of the Ministry of Health, a large collection of pamphlets and posters designed to educate the public about malaria, and identification/referral cards to document the history of malaria in itinerant persons operating in the interior, including miners. The Commission made a further donation of G$1.5m in December 1993, to the Ministry of Health to help boost the Ministry's efforts in combatting malaria.

6. ADMINISTRATIVE DIVISION

6.1 Administrative/Personnel and Industrial Relations Department

Performance Appraisal and Salary Increase

The performance appraisal of employees was completed and increments of 2%, 5% and 10% were paid. The Commission paid G$5,000 across-the-board salary increases. The increases were paid in June, retroactive to January 1993.

Training

Fifty-three employees and nineteen scholars, the latter sponsored by the Commission, were in training during 1993. Emphasis was placed on Mining Engineering

during the first three months of the new year at the Omai Mines Laboratory. Two laboratory staff will be on training during each week-end of this period.

From the 9th - 27th August, 1993, the Commission conducted its second two-week vacation Geological Workshop for fifth-form students. Thirteen students graduated and were presented with Certificates of Attendance. The second vacation introductory micro-Computer course which was also for fifth-formers, was held concurrently. Sixty-four students divided into batches, were introduced to the use of micro-computers. At the end of the course, they were awarded with Certificates of Attendance. Participants for these two programmes were drawn from Secondary Schools around Georgetown.

Mr. C. Roberts, Clerk IV (Personnel), was on a thirteen-week national Service Attachment during this period, a pre-requisite for the award of the Diploma in Personnel Management tenable at the University of Guyana.

Bursary Awards

Under the Bursary Award Scheme for employees' children, three students were awarded bursaries for creditable performance at the 1993 Common Entrance Examinations, bringing the total number of awardees in the 1993-94 academic year to nine. The 1993 recipients were Nadine Livan, Yolande Semple and Kevin Sparman.

Uniform/Protective Clothing

Employees of the Commission received their annual issues of uniforms and protective clothing.

Staff Transportation

The Commission continued to provide daily transportation to employees living on the East Coast Demerara, West Coast and West Bank Demerara. The drivers are to be commended for their reliability and punctuality.

Staff Recruitment/Service Termination

Sixteen permanent and eight temporary staff were recruited, and the services of five employees were terminated.

6.2 Information and Publication

Cartographic Section

Work related to Mineral Prospection

There was a vast increase in the number of applications for mining and prospecting licences and permits that had to be processed, and cartographic work in this area occupied the staff for the majority of time available in 1993. Draughtsmen were involved in writing up descriptions of blocks of land for which applications were made for medium and large scale mineral exploration and prospecting, for the publication of statutory notices in the Official Gazette. The format for these descriptions was modified to facilitate their location on maps and in the field, and as a result there were numerous descriptions to be re-written. Part-time staff were recruited to assist in this task.

Draughtsmen were also involved in progressively plotting the blocks of land under application for medium and large scale licences and permits and geological/geophysical reconnaissance permissions on 1:50,000 scale topographic maps to produce dated stock sheets. There are more than 50 stock sheets which are kept in duplicate for the Cartographic Section and the Commission.

Over thirty 1:1,000,000 scale maps of Guyana depicting Closed Areas, State Mining Reserves, Amerindian Reservations and Mining property status were produced on request. The property status map showing areas applied for and held under Prospecting Licences, Prospecting Permits, Mining Licences, Mining Permits and Reconnaissance Permits, was updated. Property status information was generalised and shown on a small scale map requested by the Ministry of Foreign Affairs.

In addition to the foregoing, maps depicting mining properties within specific areas and other specailised information were prepared.

Geological Atlas and Resource Maps

One geological atlas sheet at scale 1:250,000 was produced to camera-ready stage. Six maps and two diagrams were produced as part of a regional information package covering Administrative Regions where mining was taking place. These maps were constructed on a small scale and covered topography, vegetation, climate and population.

Other Cartographic Work

Two maps depicting Dimension Stone Resource locations were re-designed and constructed. There were also several requests for maps and diagrams related to projects conducted by the Geological Services Division.

Nine small scale maps and a book cover for the Ministry of Education's Broadcast to schools programme were designed and constructed as a 'Notes to Teachers' booklet. Two of the maps were done in two colours. The section fulfilled a request from Bush Lot Secondary School, West Berbice, for maps of Guyana. These maps were drawn and hand-coloured and depicted rainfall, vegetation and relief.

The Cartographic Trainees gave valuable assistance in simple tracing assignments, hand colouring of maps and lettering of signs, labels and covers.

Digital Mapping

The programme of digital mapping initiated late in 1992 was continued. Several maps were digitally captured, a few of which were imported into existing draughting software and editing was initiated. These included 1:1,000,000 scale and 1:3,000,000 scale maps of Guyana as well as several 1:50,000 topographic sheets covering portion of Guyana.

The early stages of a G.I.S began since some of the 1:50,000 topographic sheets digitally captured depicted medium and large scale mining properties. A portion of one area - Groete Creek, was edited and other information on property owner, date of grant, identification number of property and acreage was added, thus creating a simple information base for that specific area. Details related to geology, vegetation, climate etc. can then be superimposed on separate overlays (on screen). These were done through AutoCAD, which, although not software designed for G.I.S, offers useful features and facilities towards this end.

The digital creation of small scale regional maps and a 1:500,000 base map of Guyana was planned for the period May to December 1993. This work could not begin because there was, and still is, the need for an upgraded version of AutoCAD and also further training for the Cartographic staff in digital methods. It should be noted that the work outlined in the previous paragraph was made possible through the loan of necessary raster to vector conversion software that was compatible with the version of AutoCAD in use at the moment.

Map Catalogue

The transfer of the map catalogue to the computer was planned between February and April 1993. This was not attempted since the catalogue had first to be put in order and personnel earmarked for the task needed training in basic computer skills. The listing of maps held in the Section was started and some of the Cartographic staff have had computer training at the National Data Management Authority towards this end.

Printery, Bindery and Photographic Laboratory

These sections produced statutory books and forms to be used by the Commission and the mining industry. Cards and maps were also produced for use by the Commission and to fill external requests.

During 1993, 173,332 pages; 67,435 forms; 13,780 cards; 12,428 slips and 4,200 maps, to give a total of 271,175 prints, were produced by the Printery.

The Bindery produced 1,865 books from a total of 173,332 pages. A total of 1,126 books were repaired and rebound for various sections of the Commission. Fifty photographic plates were produced by the Photo-lithographer, who was also assigned duties in the Cartographic Section and the Bindery.

All requisitions for printing, binding and photolithological work were filled.

Library

Public Awareness programme/Development Support activities

In view of the rapid and significant developments in the mining industry, the Commission undertook to provide information on developments in the mining industry, using a multi-faceted approach. This information was directed at government officials, miners, educators and pupils, and the public at large.

i) **Mineral Industry Survey**

For each of the quarters October to December, 1992, January to March 1993 and April to June, 1993, a total of 100 copies of the Quarterly Mineral Industry Survey were produced and were distributed to Senior government officials, Mining Companies and individuals who hold Prospecting and Mining Licences, local Libraries, the Guyana Gold and Diamond Miner's Association and to selected geological and mining institutions overseas.

ii) **Photographic Exhibition**

A photographic exhibition entitled "A Short History of Gold Mining in Guyana and the History of Omai Gold Mines Limited" was mounted at the Guyana Geology and Mines Commission Library from May 03-21, 1993. The majority of the exhibits were made available by Omai Gold Mines Limited. The exhibition attracted a large number of viewers.

iii) **Assistance to Schools' Broadcast Programme**

The Broadcast to Schools Unit of the Ministry of Education sought the assistance of the Commission for sponsoring their Schools' Broadcast programme, as well as for the production and printing of 400 programme guides each containing 119 pages, inclusive of maps for teachers. A package of notes entitled "Careers in Mining" was prepared by the Commission for the Broadcast to Schools Unit.

iv) **Radio Programme**

On the 20th October, 1993, the Commission launched a weekly Radio Programme entitled "Minerals in Focus". This broadcast featured developments in the Mining sector emphasising the activities of the Commission. It was also used as a means of presenting technical and statistical updates on mineral production and the mining industry to the general public.

Library Services

The Library staff were kept busy attending to the needs and requests of customers who ranged from staff, students of the University of Guyana, miners, investors and consultants in geology and mining. The re-start of the degree and diploma programmes in mining and geology at the University of Guyana, and the Commission's sponsoring of scholars, led to increased demand for the services of the Commission's library. Heightened interest and expansion in the mining industry resulted in more requests for reports, maps and photocopying services in 1993.

The library also carried out routine services in 1993. These included placing orders for texts, journals and other publications; cataloguing and accessioning new texts and other publications; updating Mine Extracts from Official Gazettes in preparation for binding; reproduction of out-of-print Reports; fulfilling local and overseas requests for Publications and Maps; and weeding Library Stock.

6.3 Registry

The main Registry was responsible for maintaining the filing system, receiving and despatching mail and typing correspondence and other documents. Much work was done in typing notices of intent to grant medium scale prospecting permits.

The Personnel Section, and Mines Division maintained Registry sub-units, and applications for Medium Scale Prospecting Permits were filed by the Geological Services Division.

6.4 Services

Carpentry Maintenance Workshop

Major jobs accomplished by the Workshop in 1993 in addition to routine maintenance of buildings, compound and furniture were an extension under the north western building to provide office space for drivers and field staff; laying concrete over four areas in the compound; and the construction of two bicycle sheds.

The driveway, and the guttering of the buildings, were rehabilitated by contractors.

Mechanical Workshop

The Mechanical Workshop undertook maintenance and repairs of the Commission's vehicles, except for the nine new vehicles, which were serviced and repaired by the Service department of Transport Services Limited.

Radio and Electrical Workshop

The Radio and Electrical Workshop undertook repairs and maintenance of electrical and electronic equipment in the Commission. The electrical system was inspected by the Chief Electrical Inspector of the Ministry of Works, who recommended a general overhaul of the system. The upgrading work was undertaken by a contractor.

Canteen, Security Services

The Canteen continued to provide daily meals and refreshments, principally for staff members, and to cater for internal meetings, training programmes, special functions and on occasion, overtime work by members of staff. Meals and refreshments were provided to staff at a subsidised rate.

Two security guards were recruited to achieve the full complement of staff. A security guard was posted at Aroaima after the suspension of drilling operations.

7. LEGAL SERVICES DIVISION

In 1993 the Legal Services Division continued to play a supportive and advisory role to the other departments within the Commission. In particular, the Legal Services Department worked closely with the Mines and Geological Services Divisions. In the

absence of a Legal Adviser, in 1993 the Legal Services Division was manned by the Legal Officer, Ms. R. Benjamin, with assistance from Attorney-at-Law, Mr. Maxwell Edwards. The major activities undertaken in 1993 are given in summary.

7.1 Licences/Mineral Agreements/Permissions

KRETSCHMAR INTERNATIONAL GEOSCIENCE CORPORATION was granted permission to conduct reconnaissance geological surveys over a four-month period in the Wenamu and Tassawini areas, for base metals and gold, respectively. RORAIMA MINING COMPANY LIMITED was granted a Quarry Licence on June 11, 1993 to exploit silica sand in the Vreed-en-Rust area on the West Bank of the Demerara river.

EXALL RESOURCES (GUYANA) LIMITED arrived at a settlement with respect to the Mazaruni River area over which they had applied for a Prospecting Licence for diamonds and gold. Exall amended the area under application, to relinquish the disputed area and simultaneously to include a contiguous area.

GOLDEN STAR RESOURCES LIMITED completed advanced discussions and negotiation relating to their application for a permission to conduct Geophysical and Geological Surveys to prospect for diamonds and gold over three areas covering about 3.2 million acres in northern and northwestern Guyana. Based on the results of their surveys, Golden Star Resources is expected to apply for Prospecting Licences over selected areas.

CARIBBEAN MINING DEVELOPMENT AND INVESTMENT COMPANY (CAMDICO) was granted a Mining Licence on October 15, 1993, to exploit gold at Groete Creek in the Lower Essequibo. A Mineral Agreement is still pending. GIDDINGS INDUSTRIAL DEVELOPMENT COMPANY LIMITED (GIDCO) was granted a Prospecting Licence on September 15, 1993, to prospect for gold at the Pott Falls gold prospect.

Unconcluded discussions relating to Prospecting Licences and Mineral Agreements, were held with several companies.

7.2 Court Matters

The Legal Officer, working together with Attorney-at-Law Mr. Maxwell Edwards, and from time to time with other Counsel, represented the Commission in ten major court matters, arising from breaches of the Mining Act 1989 and Regulations. These matters, including breaches by Brazilian miners, were heard in the Magistrate's Court. Other matters, injunctive in nature, were heard at the High Court. Much time was taken up with research and preparation of court matters and attendance at Court in 1993.

7.3 Redrafting of Mining Regulations and Amendment of Mining Act 1989

Considerable work was done on redrafting of the Mining Regulations. A first draft was forwarded to the Guyana Gold and Diamond Miners' Association for perusal and comments. Constraints in time, much more of it being taken up with Court Matters in 1993, contributed to the non-completion of the redrafting.

An amendment to the Mining Act, 1989 is currently in draft. This amendment accommodates the insertion of a section of similar effect to that of Section 10 in the now repealed Mining Act, Chapter 65:01.

The Division was handicapped by not having an operational computer since November 1993. It is hoped that a more modern computer will be acquired in 1994.

7.4 Environmental Management Agreement

The Environmental Management Agreement (EMA) was drafted by Mines Division in consultation with the Legal Services Division. There were discussions with the Commissioner, involving the Legal Officer, Manager Mines (ag.), and Mr B. Middleton, UN Inter-regional Adviser on Mining and the Environment, which resulted in the adoption of suggestions aimed at facilitating the understanding of the legal language and contents of the EMA. Mr. Middleton observed that the draft Environmental Management Agreement was an excellent concept that covered all aspects of management relating to mining operations. He recommended that the EMA could be implemented into the Mining Regulations of any country wishing to ensure sound environmental practice of mining operations.

The several drafts which ensued from the original were extensively discussed with the Miners' Association (GGDMA).

7.5 Lectures on Mining Offences

The Legal Officer delivered lectures on Mining Offences at the Police Prosecutors' Courses held in January and March of 1993.

8 AUDIT DEPARTMENT

In 1993 the staff of the Audit Department was augmented by the recruitment of an Assistant Internal Auditor, an Audit Clerk IV and an Audit Clerk III. An Audit Clerk IV and a Typist Clerk are needed to complete the full complement of staff for the department. During the year 1993, the following audit assignments were accomplished.

- Preparation of Audit Programmes, undertaking routine audits of various aspects of the Commission's activities, and a special investigation.

- Verification of the Inventory for each section of the Commission and the Bartica Mines Office, and special inventory verifications to facilitate hand-over and take-over exercises.

- Documentation and Evaluation of the Commission's Accounting Systems

- Reconciliation of records related to field activities at 9 Miles Potaro and Imbaimadai.

– Assisting in the Stock Verification exercise undertaken by the Finance Division

Some tasks, comprising the auditing of several financial and non-financial aspects of the Commission's activities, were not completed. Constraints which hindered the completion of the Department's programme for the year were, shortage of staff; slow responses and delays in the retrieval of documents, correspondence and records; and the deployment of staff in November-December to assist in the Stock Verification exercise undertaken by the Finance Division.

9. COMPUTER SERVICES UNIT

The Computer Services Unit continued to play a supportive and advisory role in the development and management of programmes relevant to the administration of the mining industry, and other aspects of the Commission's work which were already computerised, or where the process of computerisation and digitisation of maps were being extended.

During the year, with the installation of micro-computing facilities in the Finance and Geological Services Divisions and the extension of the work in the Mines Division, the two supporting staff from the Unit were redeployed to the Finance and Mines Divisions.

10. LAPIDARY WORKSHOP

The Lapidary Workshop produced cabochons and artifacts of agate, jasper, amethyst, rose quartz and green quartz, and polished black pearl beads using stocks in hand. Sales in 1993 amounted to G$249,000, which was 104% increase over sales realised in 1992 (G$122,000).

The Lapidary participated in the National Trade and Tourism exhibition held in August 1993.

11. PURCHASING SECTION

The Purchasing section undertook the acquisition of Capital and Expendable items for the Commission as required, based on the Operating and Capital budgets of the Commission.

The Section serviced eleven field expeditions of the Geological Services and Mines Divisions. Increasing activity in the Commission has led to greater purchasing requirements and with the filling of vacancies, it is anticipated that field and office activities will be further heightened. Hence, there is a need for bulk purchasing to increase efficiency, and measures are being instituted to reintroduce bulk purchasing at least in partial measure in 1994. This will no doubt require some re-organisation of the storage space in the Stores. Except for fresh vegetables and supplies, rations for field expeditions and the Canteen were purchased through a standing order.

During the last quarter the section was short staffed after the departure of Expediter M. Karamat, who left on study leave to pursue the diploma in Mining Engineering at the University of Guyana.

12. CONFERENCES

12.1 Environmental Management as an Integral Instrument In the Development of the Mining Industry

On Saturday October 30, 1993, the Commission hosted a conference at the Guyana National Service Sports Complex in Georgetown, based on the theme mentioned above. This conference provided an opportunity for public dialogue, coming at the culmination of meaningful, protracted discussions between the Commission and the Guyana Gold and Diamond Miners Association on the draft Environmental Management Agreement, and exchanges with the environmental Agency GAHEF and the Forestry Commission.

The Conference featured the Environmental Management Agreement, and members of the mining community and Environmental Agencies participated in the proceedings. The Hon. Prime Minister, Minister of Mines and Minerals, was the guest speaker. After the Hon. Prime Minister's address, a paper by the acting Commissioner Mr. William Woolford, introducing the Environmental Management Agreement, and a presentation by Senior Mining Engineer, Mr. R. Squires on "The influence of the cost of Environment Management on Development in the Mining Industry", a panel discussion brought together professionals from a wide cross section of the mining industry - i.e. LINMINE, BERMINE, AROAIMA and BARCARA Quarries - GAHEF, GGDMA and the University of Guyana, to deliberate on the topic of SME Squire's presentation. There were about eighty persons in attendance.

12.2 Strategies for the Development of the National Mining and Quarrying Industry

A National Conference on Mining and Quarrying under the theme "Strategies for the Development of the National Mining and Quarrying Industry", was hosted by the Guyana Geology and Mines Commission at LINMINE's Surupana Club at Linden on December 03 and 04, 1993.

The Conference was opened by the Mayor of Linden, Mr. P. Haynes, and the Chief Executive Officer of LINMINE, Mr. E. Maher, delivered the opening address. The Hon Prime Minister, Minister of Mines and Minerals, delivered the closing address.

Following a packed agenda, on December 03, the Conference examined the state of the national Mining and Quarrying Industry, and this included two panel discussions. Challenges facing the Mining and Quarrying Industry were discussed on December 04.

Participants were drawn from GGMC, LINMINE, BERMINE, Omai Gold Mines Limited, University of Guyana, Guyana Agency for Health Sciences Education, Environment and Food Policy, Guyana National Engineering Corporation, and from private Engineering and Manufacturing firms and private consultants.

Papers presented largely addressed technical aspects of gold, diamond and bauxite mining and processing, with equally important contributions covering the environmental impact of mining, problems of marketing locally produced mineral-based products, a proposal for the development of an Integrated Information system for Mineral Properties, the contribution of the Mining Industry to the National Economy, and proposal for cost effective Road Building in the Interior.

The field expedition to Omai Gold Mine planned for December 04, did not take place.

12.3 **International Conferences**

Director of the Commission's board, Mr. N. Chanderpaul attended the conference "Investing in the Americas, 1993" on March 16-18, 1993, in Miami, Florida, and the Finance Workshop "Mining Investment in Latin America" on March 15, 1993, both were presented by Mining Journal and International Investment Conferences Inc.

On March 28-31, 1993 Chairman of the Commission, Mr. J.D.N. Punwassee attended the Prospectors and Developers 61st Annual Convention in Toronto, Canada.

13. FINANCE DIVISION

13.1 Financial Report for 1993

Income

The Commission's total Income for 1993 was G$795.586m, representing 84.1% of budget There was an unfavourable variance of G$150.246m.

Central Government received royalty on the Commission's behalf directly from Omai Gold Mines Ltd. in the amount of G$446.8m, plus further payments in the sum of G$110m, which amounted to a total of G$556.8m, or 70% of the Commission's total income for 1993.

Table 13(i)- **Income to December 31, 1993**

	Actual	% of Total Income	Budgeted	Variance	% increase over 1992
FINES and FEES etc.	$17,299,000	2.17	$22,314,000	($5,015,000)	+5%
LICENCES	$11,930,000	1.50	$14,192,000	($2,262,000)	-13%
ROYALTIES					
(i) OMAI	$471,431,000	59.26	$609,378,000	($137,947,000)	+287%
(ii) OTHER	$182,707,000	22.97	$221,442,000	($38,737,000)	
LEASES & CONCESSIONS RENTALS	$72,110,000	9.06	$65,226,000	$6,884,000	+180%
CORE DRILLING	-	-	$8,000,000	($8,000,000)	
BANKA DRILLING	$1,152,000	0.14	$4,200,000	($3,048,000)	+27%

	Actual	% of Total Income	Budgeted	Variance	% increase over 1992
LAPIDARY	$249,000	0.03	$132,000	$117,000	+104%
CANTEEN SALES	$881,000	0.11	$780,000	$101,000	+2%
OTHERS	$9,603,000	1.21	$167,000	$9,436,000	-35%
ACCRUED INCOME	$28,224,000	3.55	-	$28,224,000	-36%
(Interest on Fixed Dep.	$795,586,000	100.00	$945,832,000	($150,246,000)	+77%

The Commission's income averaged G$66.30m per month over the period January - December, 1993.

Expenses

Excluding Omai Royalty and payment to the Consolidated Fund the Commission's total operational expenses amounted to G$127.2m.

When compared to the budget for operational expenses of G$201.3m, there is a favourable spending variance of G$74.10m which represents un-utilised budgeted expenditures.

Table 13(ii) - **Expenses to (G$) December 31, 1993**

	Actual	% of Total	Expenses	Budgeted	Variance
EMPLOYMENT COST	$79,761,000	11.66	$96,939,000	$17,178,000	
RATION	$4,459,000	0.65	$13,517,000	$9,058,000	
MATERIALS & SUPPLIES	$3,178,000	0.46	$20,393,000	$17,216,000	
FUEL and LUBRICANTS	$4,412,000	0.64	$11,062,000	$6,650,000	

	Actual	% of Total	Expenses	Budgeted	Variance
TRANSPORTATION	$5,403,000	0.79	$3,408,000	($1,995,000)	
MAINTENANCE & REPAIRS	$7,260,000	1.06	$5,818,000	($1,441,000)	
D.S.C./PUBLIC RELATION	$35,000	0.01	$290,000	$255,000	
OTHERS	$14,491,000	2.12	$37,693,000	$23,203,000	
RESEARCH & DEVELOPMENT	$793,000	0.12	$5,430,000	$4,637,000	
MINERAL PROCESSING	$764,000	0.11	$2,536,000	$1,772,000	
LAPIDARY	$2,025,000	0.3	$1,776,000	($249,000)	
OFFICE SERVICE & SUPPLIES	$4,592,000	0.67	$2,480,000	($2,112,000)	
CENTRAL GOVERNMENT	$556,844,000	81.41	$719,378,000	$162,534,000	
	$684,017,000	100.00	$920,720,000	$236,703,000	
SURPLUS/(DEFICIT) BEFORE DEPRECIATION	$115,569,000		$25,112,000	$86,457,000	

Surplus

A surplus of G$25.1m was budgeted after payment of Central Government contributions and before depreciation. Actual performance indicated a surplus of G$115.57m which exceeded the budget by G$86.46m.

Creditors

The Commission's accounts showed Total Creditors as at December 31, 1993 as G$1.2M of which refundable deposits amounted to G$897.000.

Debtors

The Debtor balances recorded in the Commission Debtor's Ledger as at 31st December, 1993 totalled G$6.9m.

The Debtors balances were aged as follows:

3 months & under	over 3 mths & under 6 mths	over 6 mths & under 9 mths	over 9 mths under 12 mths	over 12 mths	Total
$570,000	$1,208,000	$1,134,000	$1,327,000	$1,327,000	$6,875,000

Cash Position

The Cash Book balance at 31st December, 1993 was G$27,43m which was reconciled to the Main Bank Accounts at GNCB and GBTI.

During the year the Commission transferred its main bank account from GNCB to GBTI, and established a seven (7) Day Call Account at GBTI in addition to its Current Account. All deposits are made to the Call Account, and the Current Account is used to make day to day disbursements on behalf of the Commission. The Current Account operates at a maximum level of G$4M, and is financed by transfers from the Call Account as required to maintain the level.

Investments

The Commission had on investment a total of G$176.5m in Short Term Securities at the Guyana National Cooperative Bank and National Bank of Industry and Commerce. Defence Bonds to the value of G$100,000 were also held at the end of 1993.

Accrued Interest Earned

For the year 1993, the Commission earned accrued interest on its investments in the sum of G$28,224m as at December, 1993, to give an accumulated total interest earned in the sum of G$69,148m.

Acquisition of Fixed Assets

Capital items purchased by the Commission during the year under review included the following:-

	G$m
(a) Two Nissan D21 double-cab 4x4 Pickups	12.601
(b) One (1) Nissan Patrol Station Wagon - Std	6.806
(c) Computer Equipment including Printers	1.968
(d) BBS 25 Diamond Core Drill, complete with water and pressure pumps	17.036
(e) Weighing Equipment - Diamond Scale	0.215

Assets Register

The value of the Commission's assets could not be verified with any accuracy at December, 1993 because of the inadequacy of the information available. Work is currently in progress to bring the Asset register up to date.

Stock Verification

A stock verification exercise has been completed and the nucleus of a stores inventory has been established. Stock cards are available in the Stores, but no Stock Ledger has been set up in the Accounts Department as yet. Because of the inadequacy of storage space the direct purchasing system was continued in 1993.

Final Accounts

The Division's Task Force headed by the Finance Manager, embarked on an exercise to complete the preparation of the Final Accounts for 1984 - 1992, within thirty-eight weeks effective from 1st September, 1993.

They encountered considerable difficulty during the exercise in terms of substantiating balances and in some instances had to resort to reconstructing records in order to provide audit evidence. These activities were not expected to be as extensive as they actually were, and consequently it is anticipated that there might be a delay in the scheduled time for completion of the Final Accounts, which is now projected at June 30, 1994.

The first set of Accounts, for 1984, were completed in December 1993.

Contribution (G$m) to Central Government

The following amounts were paid over to the Central Government for the year 1993:

P.A.Y.E	$12.502
N.I.S.	$3.016
Compensation for Geol Survey Assets	$110.000
Royalty from Omai Gold Mines	$456.844
	G$582,362m

The Commission's Board of Directors approved of G$110M to be paid into the Consolidated Fund. This amount represents compensation for the assets of the Geological Surveys and Mines Department. The remittances were made in three installments to 31st December, 1993. Royalty from Omai Gold Mines in the sum of G$446.8M was paid directly to central government.

Stores Services

During the year 1993 the Stores Section of the Finance Division made six major despatches to the North West District, Rupununi, Berbice and Mazaruni areas. The work of the Section is to be commended because even though short staffed there was no discrepancy reported on the Goods and Supplies dispatched which were worth around $1.18m.

Staffing

During the last quarter of the year the Finance Division's staff was augmented by four temporary clerks, to supplement deployment of some staff on a thirty-eight-week exercise to prepare the Final Accounts of the Commission for the years 1984-1992 as was mentioned earlier. Even with the additional staff, vacancies still existed in the Division for the following positions:

Assistant Accountant	- 1
Accounts Clerk	- 3
Storekeeper	- 1
Stores Clerk II	- 2
Stores Clerk I	- 1
	8

The present accommodation for staff is inadequate and every effort should be made to improve accommodation and to upgrade the sanitary facilities.

Computerisation

Preliminary work was done on the development of a payroll programme and an integrated accounting system. Progress was hampered by the malfunctioning and eventual breakdown of the computer assigned to the Accounts Division.

14. LIST OF PROFESSIONAL STAFF

The total number of permanent staff employed at the end of 1993 was 202. Of these, 23 were professional staff, including two new graduates in Mining Engineering, recruited in December 1993.

Names	Designation
William Woolford	Commissioner (ag)
Karen Livan	Deputy Commissioner (ag)
Rupert Foster	Manager (Finance)
Claudette Small	Manager (Admin)
Kampta Persaud	Manager (ag), Geol Services
Sydney Edwards	Manager (ag), Mines Division
Lenise Fredericks	Cartographer
Richard Squires	Senior Mining Engineer II
James Mingo	Senior Mining Engineer II (ag)
Jaghdeo Ghansam	Senior Geologist II (ag)
Diane Skeete	Mineral Processing Engineer I
Rosemary Benjamin	Legal Officer
Ted Semple	Senior Data Management Officer
Sandrene Smith	Senior Chemist I
Sherwood Lowe	Senior Geologist I (ag)
Fazal Razack	Senior Internal Auditor

Names	Designation
Donna McRae	Information & Documentation Officer
Abraham Baird	Senior Accountant
Gordon Nestor	Geologist
Norma Harris	Admin Officer
Ivor Smith	Chief Mines Officer
Euliene Watson	Mining Engineer
Derick Babb	Mining Engineer

GUYANA GEOLOGY AND MINES COMMISSION

July 01, 1994

Office of the Auditor General of Guyana

Tel No. 592 - 2 - 57592
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63 High Street
Kingston, Georgetown,
Guyana S.A.

AG:69/98

15 April 1998

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 1993

I have audited the financial statements of the Guyana Geology and Mines Commission for the year ended 31 December 1993, as set out on pages 1 to 15, which have been prepared under the historical cost convention as modified by the revaluation of certain fixed assets and the accounting policies as set out on page 4.

Respective Responsibilities of Management and Auditors

The preparation of the financial statements including assertions relating to their completeness, accuracy and validity, is the responsibility of the management of the Guyana Geology and Mines Commission. My responsibility is to express an independent opinion on the statements based on these assertions and to report my opinion to you.

Basis of Opinion.

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.

Disclaimer of Opinion arising from Limitation in Scope

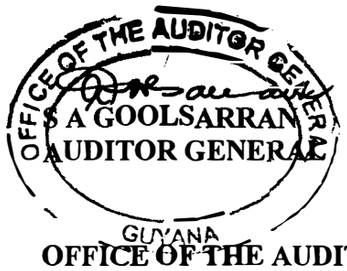
As explained in Note 12, fixed assets have been stated in the accounts at a total cost or valuation of $60,864,600. An Asset Register was, however, not maintained, but a schedule of these assets was submitted. Because the location of the assets were not indicated in the schedule it was difficult to carry out a physical verification. In addition, management was unable to state when last a physical verification of these assets was carried out. As a result, the completeness, accuracy and validity of the valuation of assets totalling $60,684,600 could not be properly determined.

A stock count was not carried out at year end and there were no practicable auditing procedures that could have been applied to confirm quantities and values. In addition, adequate accounting records in relation to inventories have not been kept. As a result, the existence and valuation of inventories stated at $2,192,530 in the balance sheet at 31 December 1993, could not be properly verified.

According to the General Ledger the sundry debtors balance at year end was $52,771,962. However, the subsidiary ledger reflected a balance of $1,110,250, giving a difference of $51,661,712. A reconciliation was not carried out to determine the reason for the difference. In addition, an aged analysis of the debtors was not prepared for the period under review and a provision for bad and doubtful debts was not made. As a result, the completeness, accuracy and validity of the amount of $52,771,962 could not be determined.

The accuracy the amount of $171,441,281 shown as short term investment could not be verified since a confirmation of the balances existing at year end was obtained from the Bank. In addition, details were not provided in support of accrued expenses of $7,784,909 reflected in the balance sheet at 31 December 1993. In the circumstances, the completeness, accuracy and validity of the amount was not determined.

Because of the significance of the matters referred to in the preceding paragraphs, I am unable to form an opinion whether the financial statements present fairly, in all material respects, the state of the Commission's affairs as at 31 December 1993 and the results of its operations for the year then ended in conformity with generally accepted accounting principles.



S A GOOLSARRAN
AUDITOR GENERAL

OFFICE OF THE AUDITOR GENERAL
63, HIGH STREET
KINGSTON
GEORGETOWN
GUYANA

GUYANA GEOLOGY AND MINES COMMISSION
STATEMENT OF INCOME AND EXPENDITURE
FOR THE YEAR ENDED 31 DECEMBER 1993

1992 G$	INCOME	NOTES	G$	1993 G$
164,984,333	ROYALTIES	2	631,567,712	
6,261,456	LICENCES	3	29,839,200	
15,775,921	FEES, FINES ETC	4	29,214,813	
25,845,526	CONCESSIONS	5	13,161,176	
33,503,029	OTHERS	6	48,313,249	
246,370,265				752,096,150
	EXPENDITURE:			
53,681,489	EMPLOYMENT COSTS	7	81,883,458	
50,258,423	ADMINISTRATION	8	50,873,369	
7,760,454	TRANSPORT AND TRAVELLING	9	5,807,131	
5,357,384	DEPRECIATION		7,489,653	
117,057,750				146,053,611
129,312,515	SURPLUS/(DEFICIT):			606,042,539
75,000,000	APPROPRIATION TO CONSOLIDATED FUND	10		556,830,344
54,312,515	RETAINED SURPLUS/(DEFICIT)			49,212,195

STATEMENT OF ACCUMULATED SURPLUS (DEFICIT)

165,900,159	BAL. AT BEGINNING OF YEAR	220,212,674
54,312,515	RETAINED SURPLUS/(DEFICIT) FOR THE YEAR:	49,212,195
220,212,674	BAL. AT END OF YEAR	269,424,869

GUYANA GEOLOGY AND MINES COMMISSION

BALANCE SHEET

AS AT 31 DECEMBER 1993

1992 (RESTATED) G$		NOTES	G$	1993 G$
27,843,685	FIXED ASSETS	11		41,005,189
	CURRENT ASSETS:			
2,254,485	INVENTORIES	12	2,192,530	
17,988,061	SUNDRY DEBTORS	13	52,771,962	
20,918,181	CASH ON HAND AND IN BANK	14	43,528,079	
161,979,154	SHORT TERM INVESTMENT	15	171,441,281	
0	LORING LAB. INVESTMENT		8,505	
0	SUSPENSE ACCOUNT		12,871,059	
203,139,881			282,813,416	
	CURRENT LIABILITIES:			
3,162,491	SUNDRY CREDITORS	16	1,699,100	
2,266,322	DEFERRED INCOME		42,534,902	
678,999	ACCRUED EXPENSES	17	7,784,909	
526,482	SUSPENSE ACCOUNT		0	
6,634,294			52,018,911	
196,505,587	NET CURRENT ASSETS:			230,794,505
224,349,272				271,799,694
	FINANCED BY:			
	GOVT. OF GUYANA			
2,374,825	CAPITAL	18		2,374,825
943,258	CAPITAL RESERVE			0
220,212,674	ACCUMULATED S/PLUS	19		269,424,869
223,530,757	SHAREHOLDERS' FUNDS			271,799,694
818,515	GAIBANK LINE OF CREDIT			0
224,349,272				271,799,694

William H. Woolford
COMMISSIONER

CHAIRMAN

GUYANA GEOLOGY AND MINES COMMISSION

NOTES ON THE ACCOUNTS

1. ACCOUNTING POLICIES

(a) ACCOUNTING CONVENTION

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 charged 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.

2 - ROYALTIES - $631,567,712

ROYALTIES:			1993 $	1992 $
820	-	BAUXITE	165,871	302,477
821(a)	-	GOLD	175,334,381	157,448,350
821(b)	-	OMAI	446,830,344	0
822	-	PRECIOUS STONES	7,470,265	6,717,099
823	-	SAND	1,246,856	450,105
824	-	STONES	519,995	66,302
			631,567,712	164,984,333

3 - LICENCES - $29,839,200

	-	GOLD & PRECIOUS STONE	162,600	0
	-	PROSPECTING LIC. (SM)	147,788	155,183
	-	PROSPECTING LIC. (MED.)	1,258,369	0
	-	PROSPECTING LIC. (LG)	17,696,304	0
	-	CLAIMS GOLD	1,974,070	218,445
	-	PRECIOUS STONES	753,700	142,565
	-	RIVER LOCATIONS	2,885,000	577,340
	-	DUPLICATE LICENCES	0	38
	-	TRADING LICENCE	1,792,000	2,355,000
	-	GOLDSMITH LICENCE	200,300	190,500
	-	DREDGE LICENCES	2,664,790	2,525,960
	-	MINING PRIVILEGES	304,279	96,425
			29,839,200	6,261,456

4 - FEES FINES ETC - $29,214,813

801	FEES	623,864	162,994
803	TRIBUTES	27,954,384	15,392,351
804	APP. FOR DREDGES	100,700	55,200
805	REGISTRATION FEES	22,600	28,532
806	TRAN. OF DREDGES	8,960	5,170
836	DUTY ON TRANSFERS	504,305	131,674
		29,214,813	15,775,921

5 - CONCESSIONS - $13,161,176

827	-	MINING CONCESSIONS	1,359,788	671,080
829	-	CON. DREDGING	0	326,600
831	-	MINING LEASES	968,243	5,035
832	-	EXCL. PERMISSION	10,833,145	24,842,811
			13,161,176	25,845,526

6 - OTHERS - $48,313,249			1993	1992
			$	$
826	-	MINING EQUIPMENT	1,002,000	320,000
834	-	REGISTRATION CERTIFICATE	9,400	1,001
838	-	INTEREST ON INVESTMENT	32,515,229	27,209,448
847	-	SALE OF LAPIDARY PRODUCT	253,084	122,193
837(a)	-	SALE OF OFFICIAL PUBLICATION	1,070,994	0
837(b)	-	SALE OF OFFICIAL PUBLICATION	183,128	365,491
871	-	DRILLING	1,025,375	2,401,890
873	-	CANTEEN SALES	879,785	867,373
875(a)	-	VERIFICATION OF CHALLENGE	38,500	0
875(b)	-	VERIFICATION OF CLAIMS	553,300	1,308,882
878	-	GAIN ON FOREIGN EXCHANGE	173,750	566,845
835	-	MISCELLANEOUS	10,608,704	339,906
			48,313,249	33,503,029

7 - EMPLOYMENT COSTS - $81,883,458				
701	-	SALARIES	52,332,082	35,324,445
702	-	WAGES	1,331,202	1,223,370
703(a)	-	SALARIES OVERTIME	5,329,715	2,398,243
704	-	WAGES OVERTIME	1,449,242	1,060,180
705	-	STATION/BUSH ALLOWANCE	633,215	430,168
706	-	HOUSE ALLOWANCE	7,070	0
707	-	DUTY ALLOWANCE	161,340	0
708	-	SUBSISTENCE & TRAVELLING	1,537,362	1,325,465
709	-	RISK ALLOWANCE	38,668	34,606
710	-	CASH IN LIEU OF LEAVE	1,796,101	1,190,481
711	-	TRAVELLING ALLOWANCE	231,201	150,687
712	-	ENTERTAINMENT ALLOWANCE	196,136	258,724
714	-	PENSION SCHEME(EMPLOYERS CONT.)	4,446,789	2,625,110
715	-	N.I.S. EMPLOYERS CONTRIBUTION	1,833,543	1,146,992
716	-	DIRECTORS EMOLUMENT	690,160	180,000
717	-	LEAVE PASSAGE	4,795,399	3,039,630
718	-	RESPONSIBLITY ALLOWANCE	202,966	92,311
719	-	ACTING ALLOWANCE	1,016,145	501,326
720	-	UNIFORM & SAFETY GEARS	1,607,044	1,387,903
721	-	TRAINING AND EDUCATION	1,802,887	974,018
723	-	GROUP PERSONAL ACCIDENT INS.	1,000	0
724	-	PERSONAL ALLOWANCE	322,286	218,738
771	-	GRATUITY AND SEVERANCE PAY	121,905	119,092
			81,883,458	53,681,489

8 - ADMIN EXPENSES - $50,873,369			1993	1992
			$	$
514	-	LOOSE TOOLS & SUNDRY EQUIPMENT	420,678	447,631
722	-	LUNCH & SNACKS	1,626,862	1,669,258
726	-	FUEL LUBRICANTS - VEHICLES ETC.	4,724,759	4,177,256
727	-	MAINTENANCE OF RADIO & COMM. EQUIP.	25,000	78,225
728	-	MAINTENANCE OF ELECTRICAL EQUIP.	1,262,293	442,608
729	-	MAINTENANCE OF VEHICLES	2,374,024	2,525,173
730	-	MAINTENANCE OF CRAFT, EQUIPMENT	210,625	545,802
732	-	HIRE OF EQUIPMENT	5,280	0
733	-	TELEPHONE, TELEX, CABLES	271,118	218,839
734	-	ELECTRICITY	1,704,320	1,039,775
735	-	RENTAL OF OFFICE EQUIPMENT	4,100	11,200
736	-	MAINTENANCE OF OFFICE EQUIPMENT	744,079	359,014
737	-	PRINTING & DUPLICATING	869,472	605,323
738	-	MATERIALS & SUPPLIES - DRAWING OFFICE	401,575	715,875
739	-	PROFESSIONAL&CONSULTANCY SERVICES	2,936,443	1,134,609
740	-	AUDIT FEES	100,000	100,000
741	-	OFFICE STATIONERY	2,475,911	2,810,209
742	-	OFFICIAL PUBLICATION & NOTICES	820,931	5,751,078
743	-	POSTAGE	28,384	8,959
745	-	MAINTENANCE & REPAIRS TO BUILDINGS	2,105,348	2,647,553
746	-	MAINTENANCE OF GROUNDS	135,930	2,207,737
747	-	JANITORIAL & CLEANING	417,654	348,416
748	-	CUSTODIAL SERVICE	68,115	109,262
749	-	LEASES	520,000	110,100
750	-	RATES & TAXES	15,252	0
751	-	BURSARIES	55,624	26,150
752	-	NATIONAL EVENTS	71,260	27,298
753	-	COMPENSATION TO MINERS	662,271	301,880
754	-	DRUGS & MEDICAL SUPPLIES	510,228	523,742
756	-	CHEMICAL LABORATORY SUPPLIES	2,670	21,912
757	-	PETROLOGICAL LABORATORY SUPPLIES	290	1,112
758	-	LAPIDARY LABORATORY SUPPLIES	85,312	0
759	-	INSURANCE OF ASSETS	80,983	59,283
760	-	BANK CHARGES	91,187	139,449
763	-	RATION	4,888,004	4,574,192
764	-	MISCELLANEOUS - OTHER EXPENSES	1,696,452	2,638,480
767	-	ADVERTISEMENT	167,080	277,773
769	-	DONATIONS - GIFTS, WREATHS, ETC.	1,710,825	144,854
770	-	MISCELLANEOUS	1,094,358	2,227,926
773	-	EXHIBITIONS & SALES	12,885	0
774	-	ENTERTAINMENT EXPENSE	1,097,996	797,794
776	-	STORAGE	3,337	341
777	-	CUSTOMS & EXCISE	303,228	134,485
		BAL. C/FW:	36,802,143	39,960,573

8 - ADMIN EXPENSES

		1993	1992
		$	$
	BAL. B/FW:	36,802,143	39,960,573
778	- FREIGHT & HANDLING CHARGES	8,507	171,827
779	- LEGAL EXPENSES	251,000	103,430
780	- STOCK LOSSES & OBSOLENCE	59,872	0
781	- AMMUNITION	10,125	0
782	- WELFARE & SUNDRIES	747,612	1,089,670
783	- REVENUE STAMPS	27,621	12,898
785	- DEVELOPMENT SUPPORT & COMMUNICATION	36,500	108,000
786	- MATERIAL & SUPPLIES - COMPUTER	1,283,408	3,452,097
787	- MAINTENANCE OF COMPUTER	51,545	313,617
788	- PROMOTIONAL SEMINAR	508,032	0
789	- RESEARCH & DEVELOPMENT	6,033,078	9,000
791	- LOSS ON FOREIGN EXCHANGE	3,470	6,388
792	- SUBSIDIES	0	1,140,000
793	- SPORTS CLUB	15,225	6,160
794	- ANNIVERSARY CELEBRATION	192,371	17,006
795	- WITHOLDING TAX	4,842,860	3,867,757
		50,873,369	50,258,423

9 - TRANSPORT AND TRAVELLING - $5,807,131

		1993	1992
		$	$
725	- OVERSEAS CONFERENCE & VISITS	669,290	879,705
722	- ROAD AIR & OTHER TRANSPORTATION	5,137,841	5,752,861
732	- HIRE OF EQUIPMENT	0	1,127,888
		5,807,131	7,760,454

10 - APPROPRIATION TO CONSOLIDATED FUND - $556,830,344

Included in this amount are Omai Royalties which is paid into the Omai Gold Mines Account No. 964 at the Bank of Guyana. All payments made are then transferred to the Consolidated Fund. The following is a breakdown of appropriations in this regard.

	1993	1992
	$	$
Omai Royalties	446,830,344	0
Consolidated Fund	110,000,000	129,312,515
	556,830,344	129,312,515

11 - FIXED ASSETS

	LAND & BLDGS.	MOTOR VEHICLES	OFF. FUR. FIX. AND FITTINGS	SCIENTIFIC FIELD AND MINING E/MENT	TOTAL
COST/VALUATION	**G$**	**G$**	**G$**	**G$**	**G$**
At 1 January, 1993	2,441,603	21,089,381	5,539,994	11,142,465	40,213,443
Additions in 1993	1,975,996	15,215,412	3,034,885	424,864	20,651,157
Disposals	0	0	0	0	0
At 31 December, 1993	4,417,599	36,304,793	8,574,879	11,567,329	60,864,600
DEPRECIATION:					
At 1 January, 1993	275,342	6,513,037	1,303,783	4,277,596	12,369,758
Charged for the year	342,135	5,854,606	306,107	986,805	7,489,653
Written back on disposals	0	0	0	0	0
At 31 December, 1993	617,477	12,367,643	1,609,890	5,264,401	19,859,411
NET BOOK VALUES:					
At 31 December, 1993	3,800,122	23,937,150	6,964,989	6,302,928	41,005,189
At 31 December, 1992	2,166,261	14,576,344	4,236,211	6,864,869	27,843,685

12 - INVENTORIES - $2,192,530

		1993	1992
		$	$
608	- STOCK OF GOLD	1,018	1,018
611	- STOCK - STORES LUMBER etc.	2,191,512	2,253,467
		2,192,530	2,254,485

13 - SUNDRY DEBTORS - $52,771,962

601	- SUNDRY DEBTORS CONTROL	19,470,201	18,366,299
602	- DEPOSITS LODGED	2,880	2,880
613(b)	- PREPAYMENTS	26,472	29,238
613(a)	- ACCOUNTS RECEIVABLE	32,453,894	(410,356)
422	- SHORT TERM LOAN	818,515	0
		52,771,962	17,988,061

14 - CASH ON HAND AND IN BANK - $43,528,079

BANK BALANCES:

SUB IMPRESTS:

A/C 212006199	8,068	8,378
A/C 212007000	29,989	30,299
A/C 212007001	5,953	6,263
A/C 212005758	29,165	29,475
A/C 203005024	29,275	29,585
A/C 212006198	29,145	29,455
A/C 212007044	28,862	29,172
A/C 212007002	10,106	10,416
A/C 212007039	4,215	0
SUB TOTAL	174,778	173,043

OTHER BANK ACCOUNTS:

G.N.C.B. MAIN ACCOUNT	22,745,707	20,710,168
G.B.T.I. 7 DAY CALL ACCOUNT	20,668,348	0
G.B.T.I. CURRENT ACCOUNT	(114,849)	0
HINTERLAND RD. PROJECT	56,752	56,752
SUB TOTAL	43,355,958	20,766,920

CASH BALANCES:

PETTY CASH IMPREST	(1,465)	(16,394)
STAMP IMPREST	(2,224)	(428)
STAMP IMPREST (CASHIER)	3,460	1,631
ICE IMPREST	(2,528)	(6,691)
CANTEEN IMPREST	100	100
SUB TOTAL	(2,657)	(21,782)
TOTAL:.....	43,528,079	20,918,181

15 - SHORT TERM INVESTMENT - $171,441,281

	1993 $	1992
OPENING BALANCE	161,979,154	110,151,212

NEW INVESTMENTS

FIXED DEPOSITS CERTIFICATE:

CERTIFICATE NO.	DATE				
131453	93/01/05	1,991,899			
129305	93/05/03	2,509,899			
			4,501,798		
			166,480,952		
113511	92-01-01			7,091,983	
113583	92-01-08			3,045,120	
113905	92-02-27			1,415,200	
113727	92-03-16			241,524	
113787	92-04-01			3,812,049	
113798	92-04-02			4,304,899	
139602	92-05-08			15,000,000	
					34,910,775
					145,061,987

RETIREMENT OF FIXED DEPOSIT:

CERTIFICATE NO.	DATE				
113511	91-12-31	8,655,066			
113583	92-01-08	3,942,491			
100301	90-11-14	6,400,170			
100074	90-08-22	3,429,350			
			22,427,077		
			144,053,875		
100326	90-11-21				5,000,000
					140,061,987

REINVESTMENT OF FIXED DEPOSIT ACCTS:

CERTIFICATE NO.	DATE	1993 $		1992 $	
92908	89.04.21	310,487		483,929	
92909	89.04.21	310,073		479,599	
92910	89.04.21	310,013		479,916	
92911	89.04.21	310,013		479,916	
92912	89.04.21	92,998		143,975	
93181	89.07.20	290,076		419,129	
93182	89.07.20	290,076		419,129	
93183	89.07.20	285,640		383,183	
	BAL. C/FW:	2,199,376	144,053,875	3,288,776	140,061,987

15

		1993		1992	
		$		$	
	BAL. B/FW:	2,199,376	144,053,875	3,288,776	140,061,987
CERTIFICATE NO.	**DATE**				
100001	90.07.20	422,731		566,944	
100002	90.07.20	422,731		566,944	
100003	90.07.20	210,867		283,042	
100004	90.07.20	211,297		283,472	
100073	90.08.22	194,096		301,957	
100074	90.08.22	0		540,712	
100075	90.08.22	353,585		582,648	
019233	90.07.12	375,566		535,198	
100516	91.02.01	13,189,363		581,683	
100849	91.05.17	3,308,765		5,003,746	
95616	91.07.10	2,546,059		3,823,633	
113511	91-12-31	11,747		1,551,367	
113583	92.01.08	265,250		632,121	
113905	92.02.27	210,410		262,753	
113798	92.04.02	598,387		631,465	
113787	92.04.01	511,840		629,957	
139602	92.05.08	1,930,662		1,811,239	
113727	92.05.16	34,302		39,510	
129305	93.05.03	164,518		0	
131453	93.01.05	225,854		0	
			27,387,406		21,917,167
			171,441,281		161,979,154

16 - SUNDRY CREDITORS - $1,699,100			1993	1992
			$	$
401(a)	-	SUNDRY CREDITORS CONTROL	(747,221)	1,009,170
401(b)	-	PROVISION FOR AUDITING	1,048,336	948,336
432	-	REFUNDABLE DEPOSIT	1,397,985	1,204,985
			1,699,100	3,162,491

17 - ACCRUED EXPENSES - $7,784,909

402	-	ACCRUED SALARIES	61,521	(84,943)
403		ACCRUED WAGES	1,138	(2,630)
404	-	OTHER ACCRUED EXPENSES	2,238,084	405,209
405(b)	-	PAYE	1,674,437	256,601
405(a)	-	N.D.S.	(7,987)	(7,987)
406(a)	-	SALARIES PAYABLE	741,108	(777,998)
407	-	N.I.S PAYABLE	624,754	213,788
408		WAGES PAYABLE	27,474	3,748
409	-	LIFE INSURANCE	55,624	3,350
410(a)	-	DEPENDANTS FUND PAYABLE	19,048	8,050
410(b)	-	DEPENDANTS FUND MORTGAGE	(413)	(413)
411	-	PENSION FUND PAYABLE	575,288	(70,708)
412	-	UNION DUES	34,940	2,990
413	-	P.S.U. CREDIT UNION	128,884	(8,437)
414	-	RENT DUE AND PAYABLE	450	397
416	-	MORTGAGE FINANCE PAYABLE	10,230	825
417	-	LEAVE PASSAGE PAYABLE	1,003,140	166,902
418	-	FIELD ALLOWANCE PAYABLE	180	180
419	-	MISCELLANEOUS	66,945	56,320
420	-	GNCB TRUST MORTGAGE	1,534	1,534
423	-	RISK ALLOWANCE	948	948
427	-	SUB. & TRAVELLING	(35,712)	40,877
428	-	HOUSE ALLOWANCE	(1,798)	1,298
429	-	PERSONAL ALLOWANCE	274,196	204,725
430	-	SPORTS CLUB	1,430	(1,798)
431(a)	-	D.I.A. PAYABLE	(8,825)	274,196
431(b)	-	H.I.A. PAYABLE	800	(8,825)
433	-	WITHOLDING TAX	297,491	800
			7,784,909	678,999

18 - GOVT. OF GUYANA CAPITAL - $2,374,825

This is comprised as follows:-

	1983
Assets less liabilities at 1/8/79	2,139,306
Other expenditure	235,519
	2,374,825

The Commission came into existence on 1/8/79 by an order enacted through the Geology and Mines Commission Act 1979.

According to Section 35(1) and (2) of the Act, for the assets and liabilities vested at 1/8/79 the Commission shall issue to the Government debentures or debenture stock of such nominal value and bearing such interest rates and repayment dates as may be agreed upon between the Minister responsible for finance and the Commission.

The debenture stock has not been issued to the Government and the repayment terms and interest rates have not yet been agreed.

19 - ACCUMULATED SURPLUS:

The Guyana Geology and Mines Commission Act 1979 Section 20 (1) provides that the Commission shall maintain a reserve fund and shall, out of the net surplus of each year, transfer to that fund a sum equal to not less than such sum as may be fixed by the Minister.

GUYANA GEOLOGY AND MINES COMMISSION
CASHFLOW STATEMENT
FOR THE YEAR ENDED 31 DECEMBER, 1993

	1993 G$	G$
NET CASH INFLOW FROM OPERATING ACTIVITIES		136,821,091
RETURN ON INVESTMENT & SERVICING OF FINANCE		
INTEREST RECEIVED ON INVESTMENT CONTRIBUTION	32,515,229	
CONTRIBUTION TO CENTRAL GOVERNMENT	(110,000,000)	
NET CASH INFLOW FROM RETURN ON INVESTMENT & SERVICING OF FINANCE		
TAXATION		(77,484,771)
WITHHOLDING TAX	(4,842,860)	
TAX PAID		(4,842,860)
INVESTING ACTIVITIES:		
PAYMENT TO ACQUIRE TANGIBLE FIXED ASSET	(20,651,157)	
LORING LAB INVESTMENT	(8,505)	
SHORT TERM INVESTMENT	(9,462,127)	
FINANCING		(30,121,789)
NET CASH OUTFLOW FROM INVESTING ACTIVITIES:		
REDUCTION IN CAPTIAL RESERVE	(943,258)	
REDUCTION IN GAIBANK LINE OF CREDIT	(818,515)	
NET CASH OUTFLOW		(1,761,773)
INCREASE IN CASH & CASH EQUIVALENT		22,609,898

20 - RECONCILIATION OF OPERATING PROFIT TO NET CASH INFLOW FROM OPERATING ACTIVITES:

	G$
OPERATING PROFIT	159,212,195
INTEREST ON INVESTMENT	(32,515,229)
WITHHOLDING TAX	4,842,860
DEPRECIATION	7,489,653
DECRESE IN STOCKS	61,955
INCREASE IN DEBTORS	(34,783,901)
DECREASE IN CREDITOR	(1,463,391)
INCREASE IN DEFERRED INCOME	40,268,580
INCREASE IN ACCRUALS	7,105,910
INCREASE IN SUSPENSE	(13,397,541)
	136,821,091

21 - ANALYSIS OF CHANGES IN CASH DURING THE YEAR:

BALANCE AT 93/12/31	43,528,079
BALANCE AT 93/01/01	(20,918,181)
INCREASE IN CASH EQUIVALENT	22,609,898