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EXECUTIVE SUMMARY

2015 was an unprecedented time for the Guyana Geology and Mines Commission (GGMC) which managed another steady and measured outlook. Revival of the unaccustomed challenge such as industrial action for emoluments by the Guyana Public Service Union's GGMC Branch; the ever persistent constraints due to infrastructure realities so that staffing compliments could not be achieved; aged and insufficient field assets, election and transitions as a consequence interrupted operations of the Board where there were unflattering episodes that were played within the media; reassignment of Management including the position of Commissioner could not have been insulated from staff and staff relations in certain instances suffered badly. However, the operational and technical aspects of the Commission endured. Even in the glare of the horrific mines accident at Mowasi; the focus was redoubled. Providing support were the regional exploration; engineering and mineral processing experimentation; which were aimed to aid the sector in alternatives to mercury and better recoveries. The education and awareness drive was emphasised in compliance sweeps, investigations in response to complaints and routine tours by Mines Officers in the field that were executed to impose and influence orderly conduct in the sector. Regional geochemistry and geological projects were completed and investigation continued into useful mercury free recovery systems.

A prevailing downturn in gold and commodity prices in general kept the mainstream sub-sectors unsettled. Bauxite operations and promoted ventures such as in new bauxite projects and manganese development would not recover during 2015, advancing little if any at all and awaiting better times for capital inputs. Fortunately, the flattening of petroleum prices did not have a similar effect on the petroleum exploration ventures in Guyana which experienced a significant discovery in deep-water offshore on May 8, 2015, key programmes remained on target and new venture interests were sustained. The large-scale gold operations such as Aurora Gold Mine and Karouni Gold Mines also remained fully committed despite the economic environment. Such strategic developments were on a scale and cycle that were less sensitive to the prevailing situation than the smaller outfits that constituted the foundation of Guyana's mining sector and which were responsible for the gold and diamonds declared.

Gold declaration achieved 451,058.81ozs exceeding the budget by 10 percent. That was 16% more than what was declared in 2014. **Diamond** declarations were robust at 118,450.79 carats, exceeding budget by 97.4% and exceeding 2014 declaration by 19%. Declared production for **Bauxite** stood at 1.50 million tonnes being 84% of budget and on par with 2014 declared production which was 6% higher. The short-fall in bauxite was mostly evident for Mazaruni though production of MAZ was the most by quantity. Quarry materials have had an average year with stone declaration 395,944.11 tonnes being 52% of budget. A strong local demand from the construction and infrastructure became less so in 2015. The **sand and loam** extraction for 2015 was 1.1 million tonnes, being 27% of the budget and 73% lower than 2014. Sand and loam producers were more stringently looked at in 2014 after delinquency among operators for the payment of royalties required an intervention to curb the practice. Improvements were observed by the end of 2014 but this force of effort was not sustained in all regards during 2015. Despite the

executional challenges, better could have been done by GGMC while the conduct of the operators should not be without blame.

Despite the overall state of affairs in the sector, the GGMC financials were healthy. Actual revenue was G\$9,826.2904 million which exceeded the budget by 29.4% and 13% more than what was for 2014. A cautious outlook for the budgeted price of gold by GGMC cushioned the effects of assumptions on the Commission's financial performance. In addition; business on account of petroleum for example, generated some unexpected revenue which compensated somewhat for the ordinary "solid" minerals performance.

The sector itself remained a pivotal aspect to the economy, again contributing no less than 10% of GDP and a main source of foreign exchange earnings. In terms of other aspects of the national economic profile, the fact that the sector still generated much interest and business could not be ignored. For example, there were 3,519 dredge licenses issued in 2014 while in 2015 there were 3,348; just a shade less. On the petroleum business side, discussions with new venture companies such as Eco (Atlantic Guyana Inc., Tullow Guyana B.V., and Mid Atlantic Guyana Inc. who were licenced for offshore exploration; and the preparation by Esso Exploration and Production Guyana Ltd., et. al to define and delineate their Liza discovery in deep-water offshore; and CGX Resources with their 2D/3D seismic survey and geo technical work offshore; and the persistence by Repsol et. al. in their processing and interpretation following their geophysical surveys in 2013; all pointed to opening opportunities in this understated but emerging petroleum sector where in 2015 G\$1.1 billion. stood at there was unprecedented attention by the international community.

Year 2015 was despite all the happenings to dictate otherwise, a year that GGMC had more good than negative occurring.

THE COMMISSION (BOARD of DIRECTORS) 2015

1. Mr. Clinton Williams	-	Chairman
2. Capt. Gerry Gouveia	-	Vice-Chairman
3. Mr. Patrick Harding	-	Director
4. Mr. Evan Persaud	-	Director
5. Ms. Unata DeFreitas	-	Director
6. Mr. Tasreef Khan	-	Director
7. Mrs. Prema Ramanah- Roopnarine	-	Director
8. Ms. Lisaveta Ramotar	-	Observer
9. Mr. Frederick McWilfred	-	Observer
10. Mr. Rickford Vieira	-	Commissioner
11. Mr. Jacques Foster	-	Board Secretary
12. Mr. Terrence Adams	-	Director
13. Ms. Eulienne Watson	-	Director
14. Mr. Derrick John	-	Director
15. Mr. Tom Dalgety	-	Director
16. Ms. Nageshwari Lochanprasad	-	Director

17. Col. Kemraj Persaud	-	Observer
18. Mr. Rene Duesbury	-	Observer
19. Ms. Yvonne Pearson	-	Observer
20. Mr. Courtney Ramsay	-	Observer
21. Mr. Peter Ramotar	-	Observer

OFFICE OF THE COMMISSIONER – RESEARCH, PLANNING AND MONITORING DEPARTMENT

The Research, Planning and Monitoring Department which is an expansion of the Economists office and a part of the Commissioner’s Secretariat, remained undermanned due to space constraints within the Commission. There was never-the-less, the typical gathering and collating of mining related statistics during 2015. This information feeds into Ministries and Agencies to provide forecasting and planning resources.

This department was the “go to” department during the mission from the IMF, WTO, IDB and of late, consultants on EITI. With the main-streaming of Agency reporting for the signed onto conventions, the role of this department must be supported urgently with suitable staff and office accommodation.

The head of department has intimated that training opportunities were few but this could mainly be due to the interrupted nature of 2015. With the significance of the oil and gas discovery and implications for governance transparency oil reporting, this department has an important function to uphold within the Commission.

GEOLOGICAL SERVICES DIVISION

A major focus of the Geological Services Division is to investigate the geology and mineral resources across the country to provide to the public with the basic prospection information and advisory services, on the available economic mineral prospects; and provide technical assistance to miners. The Division also consists of the Petrographic Laboratory; Bullion Assay Laboratory and Chemical Laboratory which give support to the Division’s field and Commission’s other activities.

The completed 2015 work programme is provided in the following. The locations for project areas are depicted on the subsequent figures. There were two (2) geochemical projects in the Greenstone Belt area that time and resources did not permit but the named reports were also completed in 2015.

1. Preliminary Report: Mabura Geological and Laterite Extension Mapping Project.

2. Preliminary Report: Investigation of the Structures of the Lithologies and Quality of Semi-Precious Stones Occurring in the Rupununi Project
3. Preliminary Report: Kauramembu Mountains MMI Soil Sampling Project.
4. Final Report: Upper Potaro Geochemical and Geological Mapping Project

Name of Project/Activities	Summary of Projects and Activities Completed
Drill Core Repacking Project	Field work began in April and was completed in May, 2015. In excess of 3580 boxes of drill cores were recovered from the three core sheds at Omai and were transported and repacked at R&D Lab, Nottinghamshire, Linden.
Geological Staff Field Training Programme	During the month of May, a field training was held at Annai-Lethem for all Geologists and Geological Technicians of the Geological Services section of the GGMC. The training was aimed at training staff in Geological and Structural Mapping. A one day training exercise was also held at the Turkeyen Seawall.
Diamond Investigations	Diamond verification and compliance was carried out in middle Mazaruni during the periods of March and November-December, 2015. Operations in Kurupung, Enachu, Isseneru and Turtle creek were monitored for general compliance purposes and specifically for review and correlation of some field production book sheets.
Mabura Geological and Laterite Extension Mapping Project	The Division of GGMC conducted a Geological Mapping and Laterite Deposit Quantification project in the Mubura area from July 10 to August 13, 2015. A total of 125 laterite and fresh rock samples were collected.
Investigation of the Structures of the Lithologies and Quality of Semi-Precious Stones Occurring in the Rupununi Project	The aim of the project was to produce a detailed geological map, to determine the quality and quantity of the semi-precious stones and it will further seek to determine the relationship of the semi-precious stones with the southern Guyana granite occurrences and other lithologies. A total of seventy-four (74) rock and semi-precious stone samples were collected.
Name of Project/Activities	Summary of Projects and Activities Completed
PL Monitoring	Visits were made to several PLs in various mining districts during the course of the year. The objective of these visits was to observe the work done at each site and verify the information submitted in the work programmes submitted by the respective PL owners. Visits were carried out in March, June, October and December. These areas were Mahdia, North-West, Cuyuni and others.
Kauramembu Mountains MMI Soil Sampling Project	A geochemical and geological mapping project was carried out in the Kauramembu mountains area during the period of October 7 th to November 3 rd , 2015. The aim of the project was to carry out geological mapping of the area and to delineate the ultramafic formation and Ni-Cr mineralized zone. One hundred thirty-two (132) MMI soil samples, twenty-two (22) stream sediment samples, fifty-three (53) rock samples and twenty-two (22) pan concentrate were collected during the course of the project.
Total	
GFC Training Programme	Several geologists participated in a training programme conducted at the Guyana Forestry Commission. The training dealt with Synthetic Aperture Radar (SAR) for Forest and Land Cover Mapping. The course was conducted by representatives of the French Guiana Forestry Commission in January, 2015

Name of Project/Activities	Summary of Projects and Activities Completed
Mining Act Training Programme	In February, 2015 a refresher training course was conducted on the Regulations and Mining Laws of Guyana. Gazetted Mines Officers in the Geoservices Division attended the programme.
In-house Training	A series of internal training sessions were conducted during the period of August to December. Training was heavily centred on the identification of minerals in thin section and the analysis of geo-chemical data using the MapInfo Software. Eight training sessions were held and staff members were given opportunities for practical exposure.
Bullion Assay Laboratory Activities	The Assay Laboratory completed gold bullion assay on 135 batches containing 4,101 samples for the year 2015 sent by the Guyana Gold Board. The lab also completed 4 batches containing 99 samples that were held over from 2014. These analyses represented a total income of GUY \$13,603,500.00.
Petrographic Laboratory	236 pails and 12 s/containers we submitted for checking prior to shipping overseas.
Chemical Laboratory	Analytical work was done on in excess of 510 samples for both internal and external customers during 2015.

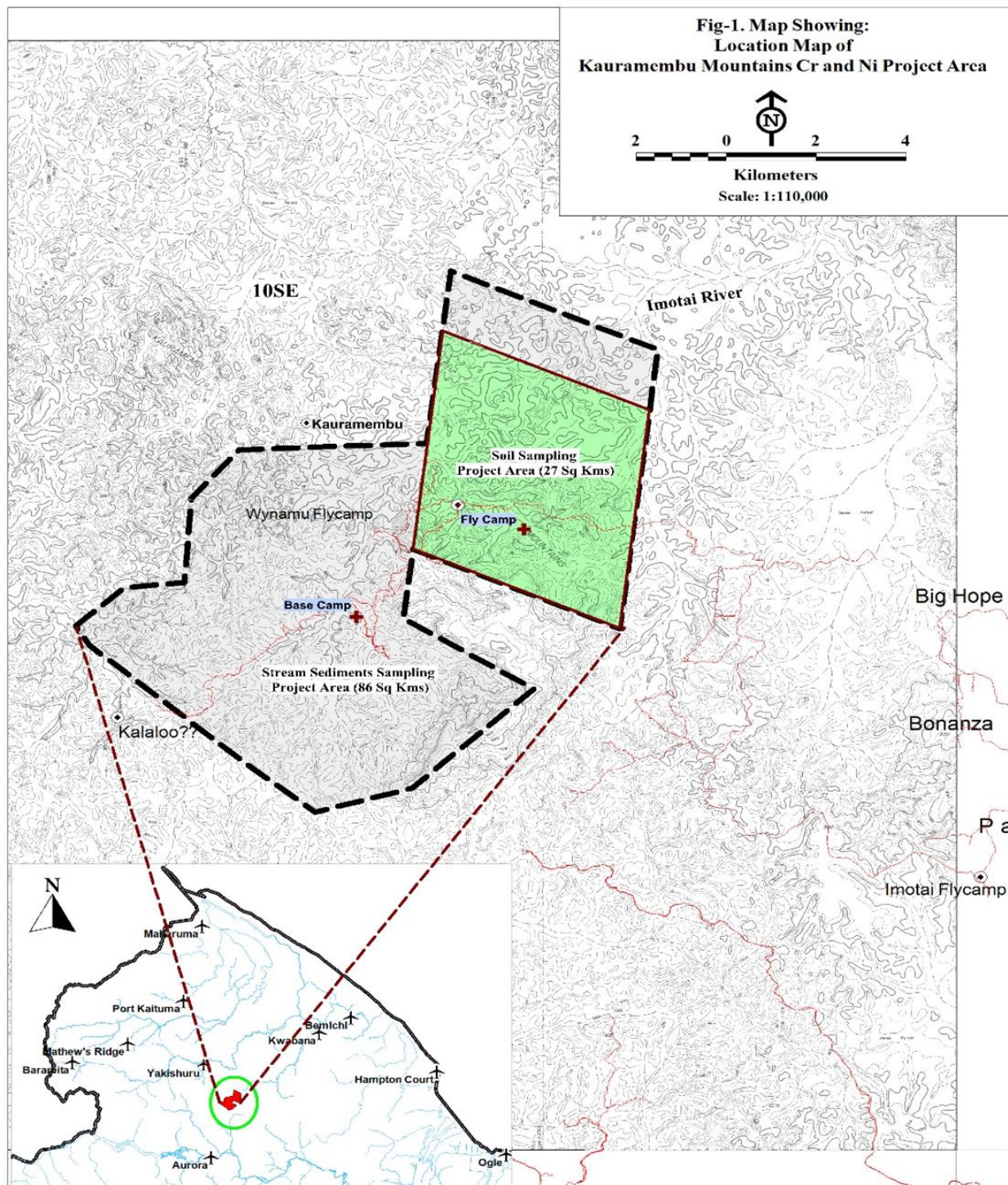
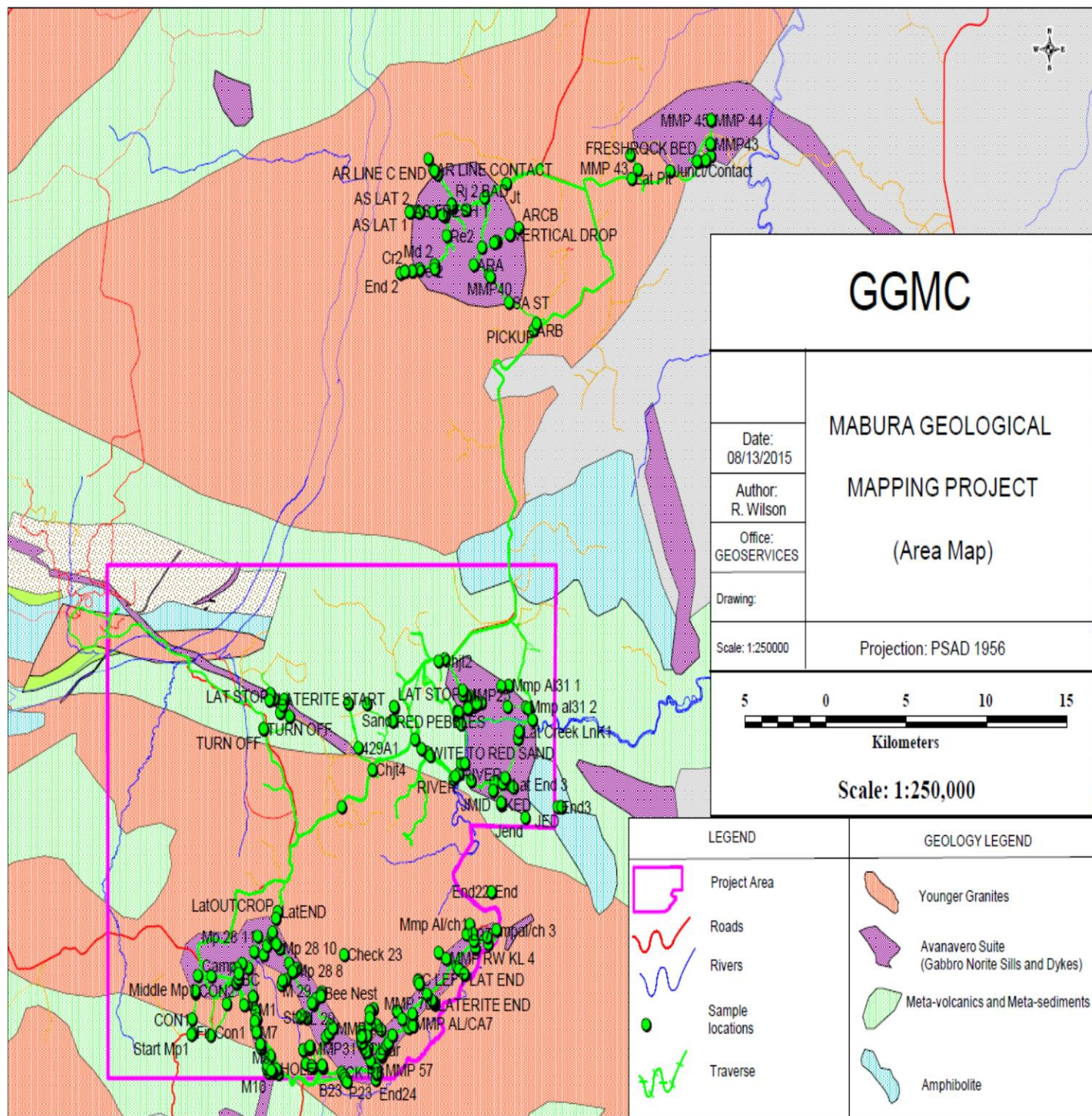
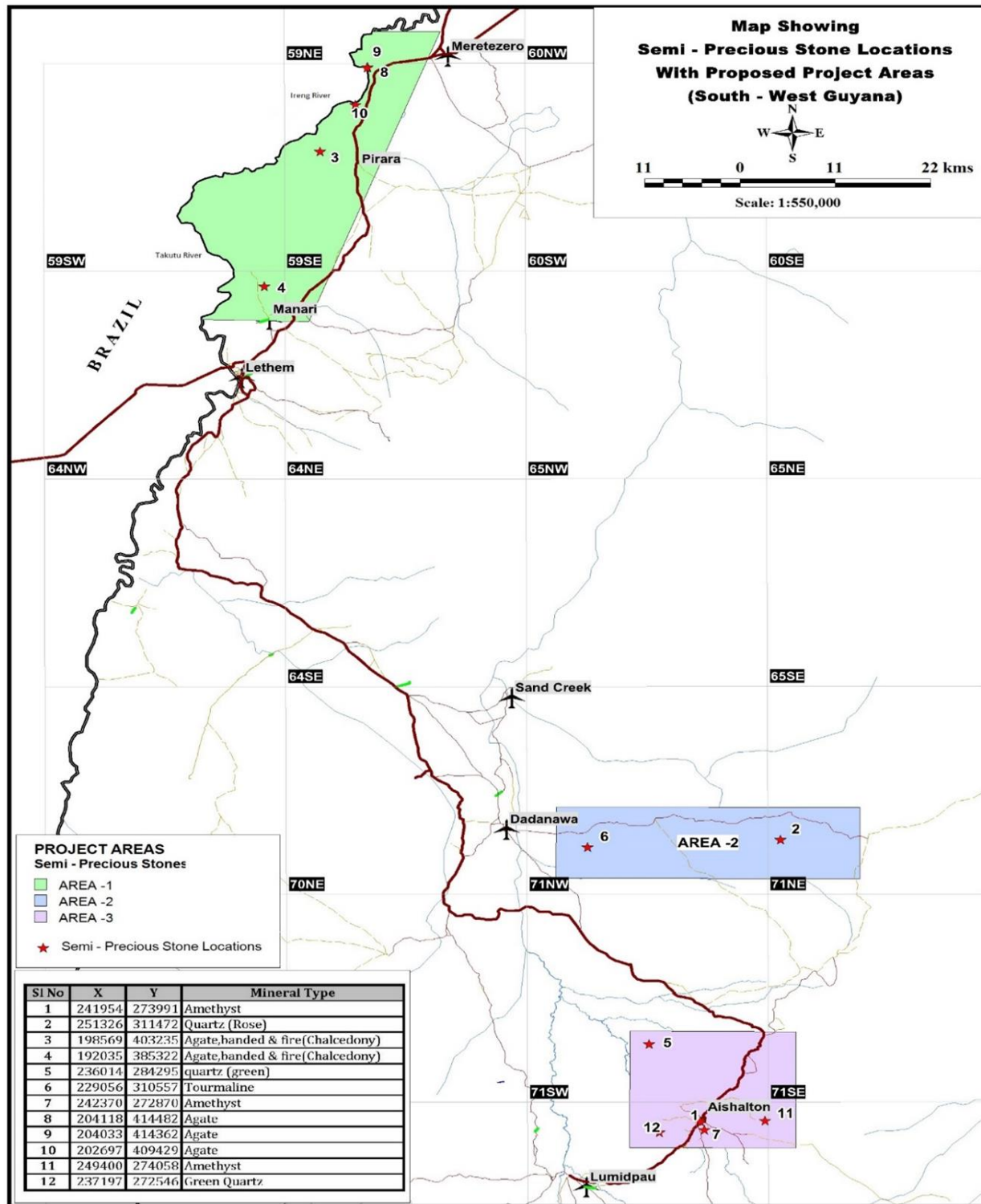


Fig. Showing the Project Area Map for Kaurambu Project

Fig. Showing the Project Area Map for Mabura Project





LAND MANAGEMENT DIVISION

The work of the Land Management Division (LMD) was underscored by the efforts to be timely and accurate. In that regard, applications for Medium and Large scale mineral tenures were verified for availability by GIS Technicians and reviewed for accuracy under the ISO 9001:2008 Quality Management System. Stock maps, databases and ledgers were updated as required to reflect the status of new applications received and in process.

In terms of main objectives set out for 2015, the matrix sets out what was accomplished.

Strategic Objectives	Planned Activities	Unplanned Activities	Status % Completed	Remarks
1. Mineral Property Management	Develop Modules as per signed Contract Input and test Data		00%	Second phase of Data Input Commence
2. Adopt Internationally acceptable standards to manage information	Develop GRE Tunnel	-	100%	Completed. SIRGAS (international Geodetic reference frame) to be adopted.
3. Develop a remote sensing unit	Identify training and Development Programme	-	100%	Officer in training to return September 2016
4. ISO Quality Objectives	PPMS 146 days MP 200 days PL 200 days ML 157 days QL 157 days PGGS 60 days		97.88% 84.45% - - - -	Large Scale - Processing at various levels – bond, Board approval, awaiting submission of documents, re-verification, etc. 9 PL, 6 QL and 1 PGGS was received for period under review. No ML were submitted
5. Processing of Concessions for Duty Free				IDA - 1 Awaiting Minister Approval.
a. IDA's	43		100%	
b. Large Scale	18		100%	Duty free to be processed.
c. Medium Scale	71		89%	
d. Small Scale	41		95%	

6. Customer Request Services				
a. Printed Maps	725		-	Fluctuates as per customer request
b. Digital Maps	248		-	
c. GPS Uploads	119		-	
d. Updated Stock Map Inventory	93		-	
e. Report	3		-	

In terms of the committed ISO processes, applications for PPMS numbered 1,306, processing was 146 days and for the year 1,562 permits were granted and rentals for 4,096 properties were received. MPs were processed in 200 days, having received 591 applications, granted 800 permits and received rent for 2,349 properties. Pls were processed in 200 days, having received 9 applications and issued 17 licences. Applications for 6 QLs were received, none were issued. There were no PGGS issued although there was 1 application.

The Division attracted some negative criticism due to conflicts in tenure that have to be addressed. Otherwise the Division has conducted its affair fairly well.

SPECIAL PROJECTS UNIT

The Special Projects Unit is an evolving department of the Guyana Geology and Mines Commission. The SPU can be termed the Project Management and Civil Engineering arm of the Guyana Geology and Mines Commission.

In 2015, the projects were identified via the multi-stakeholder Hinterland Infrastructure Committee (HIC) which was comprised of representatives of:

GGMC

Ministry of Public Works

Ministry of Local Government

Guyana Forestry Commission

Guyana Gold and Diamond Miners Association.

However, there were internal projects of the GGMC to which the SPU was committed e.g. the Construction of Mining Stations at key locations such as Aranka; Lethem, Eteringbang, Bartica, Olive Creek. At the end of 2015, the Lethem, Bartica and Olive Creek buildings were completed, one building at Aranka (#1) was done while the other was stalled due to logistic issues faced by the contractor. Eteringbang was completed while the building at Eclipse Falls was 85% complete. Approximately G\$454 million was paid in special project works for buildings up to the end of 2015.

There were some road works that SPU facilitated during 2015 e.g. Puruni Road rehabilitation, Brian Sucre Junction to Blackwater, Tamakay Landing to Cuyuni and Parika/Goshen design. Approximately G\$585 million were paid in regards of the mentioned road works which were completed during 2015.

Development of the Department

The full engineering compliment of the department was undertaking geotechnical training with other engineers of the Commission with a view to respond to the occurrence of mine pit collapses.

MINES DIVISION

The Mines Division consists of five Sections: Technical, Surveying, Inspectorate, Mineral Processing Unit and Clerical. This Division is responsible for regulating, monitoring and recording of all mining and quarrying activities of Small, Medium and Large Scale operations. The Mines Division administers the application and issuance of Claim and River Location Licenses for Small Scale mining and the technical terms and requirements of Quarry and Large Scale Mining Licenses. It also facilitates the implementation of internationally acceptable mining standards, practices and culture.

The regulation and monitoring of all mining and quarrying activities and administration of Claims and River Location Licenses form a major part of the work of Mines Division; a substantial part of which is carried out by technical staff members which are based at the District Mining Stations and Substations. These activities, together with the complimentary regulatory activities carried out by the Clerical Section, constituted an important aspect of Mines Administration and Regulation, budgeting and collection of royalties, rentals, fees and fines due under the Mining Act 1989.

In 2015, the Mines Division in discharging its responsibilities facilitated the provision of regulatory and administrative oversight for the Mining Industry contributing to revenue protection; providing technical assistance to miners during routine monitoring by mining engineers and mineral processing engineers in the Mining Districts in the critical areas of mining, improved mineral recovery and tailings management.

Mines Technical

Mainly large and medium scale mining activities are regulated through technical inspection tours and the promotion of technical development of the mining sector. Miners were assisted in improving and meeting tailing and environmental management objectives. Seminars were conducted based on the Mining (Amendment) Regulations, Codes of Practice and Occupational Safety and Health (OSH) in all Mining Districts.

Increasing the knowledge and awareness level of miners on exploration methods, quantifying reserves, improving recoveries, alternatives to mercury use in the gold mining sector were all key activities. To keep improving this area, staff training together with organized field visits to neighboring countries are vital to develop core competencies of Mines Technical Staff. Nevertheless, while enforcing compliance with the Mining Regulations and meeting and maintaining international standards in Environmental Management (EM), the Commission has been increasing the number of field stations as well as the presence of Field Officers in the Mining Districts.

Planned Activities for 2015

In 2015, the Mines Technical Section planned to conduct thirty-six (36) technical inspections, ten (10) quantity surveys and two (2) research projects. Technical inspections comprised quarterly visits conducted to five (5) of the Mining Districts, while the ten (10) quantity surveys were quarterly visits conducted in the three counties; Essequibo, Demerara and Berbice to survey all operating sand and loam pits, stone quarries and clay pits. The Mines Technical Section completed thirty-four (34) planned technical inspections for 2015 inclusive of six (6) medium scale inspections (gold). Eight quantity surveys and sand pit inspections of the ten planned visits were done in the three (3) counties.

Summary of Compliance Monitoring and Evaluation

The Compliance Monitoring and Evaluation Campaigns for each quarter targeted all the mining operations within the six Mining Districts:

The major features of each campaign focused on the following:

- General Regulation of all Mining Operations in accordance with the Mining Act of 1989 and Regulations;
- Turbidity of discharged effluent (tailings management);
- Mercury use (use of retort and using mercury in closed system on the final concentrate);
- Hygiene (garbage disposal and toilets/latrines);
- Camp and mine safety;
- Buffer areas (mining in protected areas);

The Campaign Strategy took the form of visits to as many operations encountered and using the MRV checklist, the teams recorded compliance/non-compliance of key regulations. In cases where non-compliance was observed, Citations/Warnings/Cease Work Orders were issued, where required, and recommendations for charges made.

In the areas of non-compliance, the specific infraction was highlighted and the miners were advised on the necessary steps to be taken in order to achieve compliance.

MINES INSPECTORATE

In 2015, despite limitations, such as the lack of adequate transportation and poor condition of roads in some areas. Mines Inspectorate Section succeeded in reaching all of the major mining areas in Mining Districts # 1, 2, 3, 4, 5 and 6 with the strength of Seventy-eight (78) Officers, Eight (8) Community Mines Rangers and four (4) Clerks. The Mines Inspectorate Section carried out the day to day administration and regulation of Small and Medium Scale gold and diamond mining operations in the Mining Districts, working from the permanent Mining Stations, and Sub-Stations set up in response to needs or level of mining activities.

Duties carried out included inspections of Goldsmiths' Premises; inspection of Small and Medium Scale gold and diamond mining (dredging) operations and shops in Mining Districts; issuance of Licences to trade in Gold or Precious Stones (Trading Licences) and Residential Permissions in Mining Districts; and Verification of Claims and River Locations in Mining Districts. Inspections of dredging operations and shops are directly linked to monitoring and protection of revenue, while Verification of Claims and River Locations promoted orderly mining and reduced opportunity for raiding or unlawful working of Claims and River Locations.

Analytical data pertaining to Mines Division's compliance monitoring and inspectorate outcomes follow.

Dredges Monitored

The breakdown of the dredges/operations monitored in 2015 for each Mining District (per quarter) is shown in the figure below.

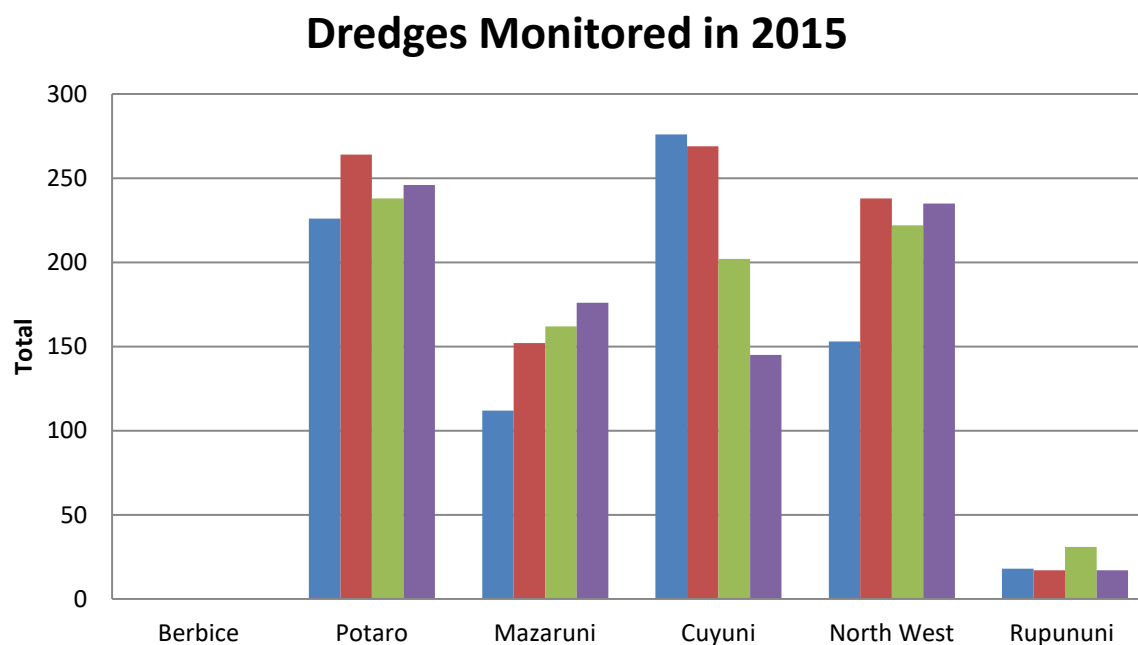


Diagram depicting the total amount of dredges/operations monitored in 2015

No. of Workers Employed during 2015 by District

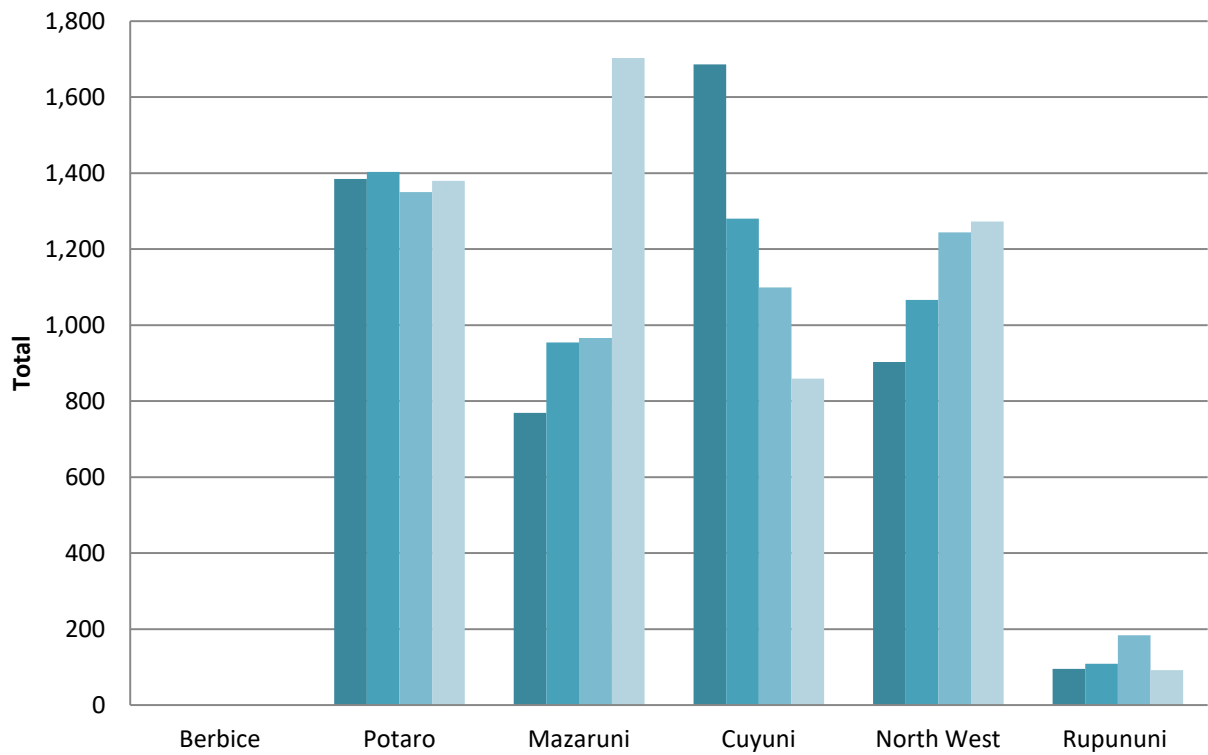


Figure showing the total number of workers employed on dredges/operations monitored in 2015

CWOs served by Mining District in 2015

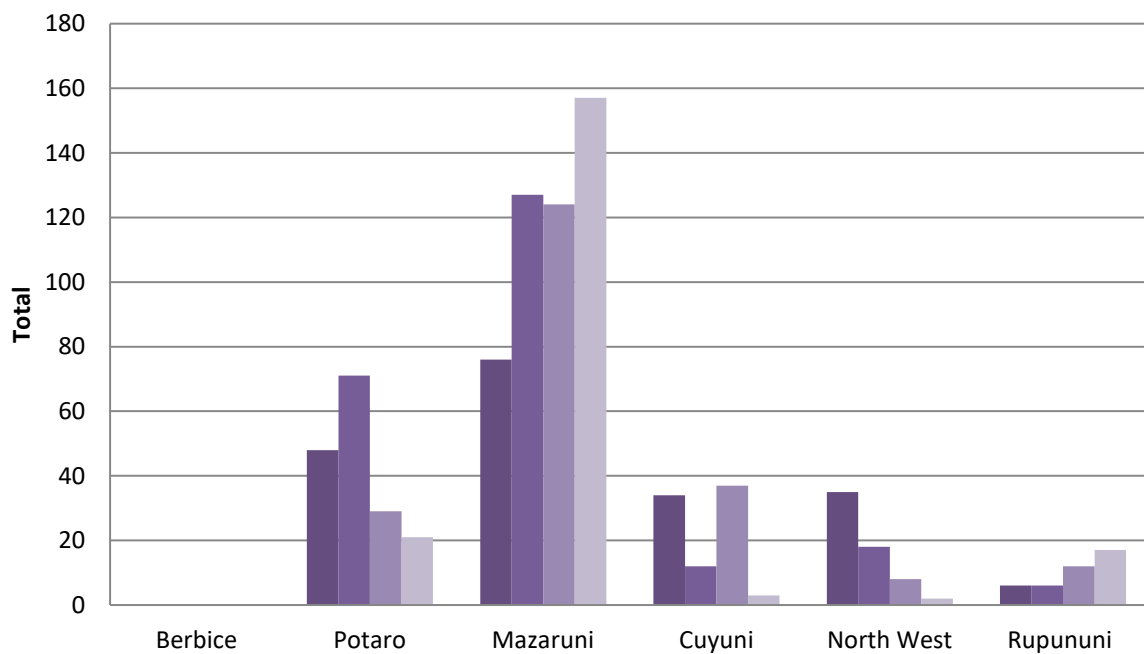


Diagram showing the total amount of Ceased Work Orders issued in Mining District in 2015

Dredges Comparison in 2015

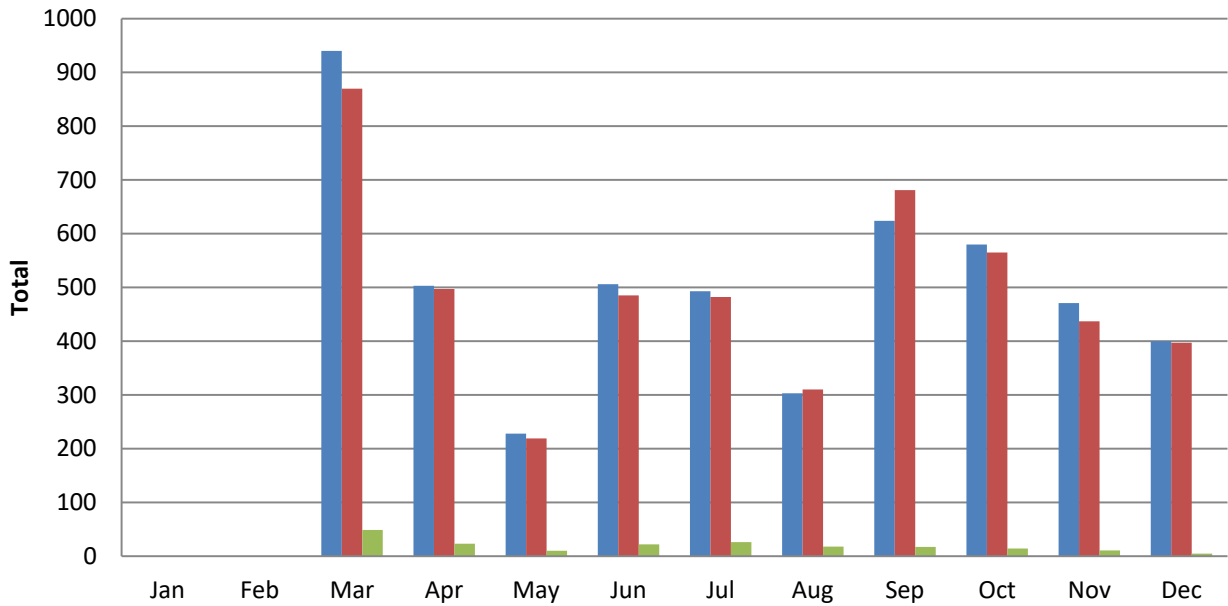


Diagram showing dredge comparison in 2015

Properties Visited in 2015

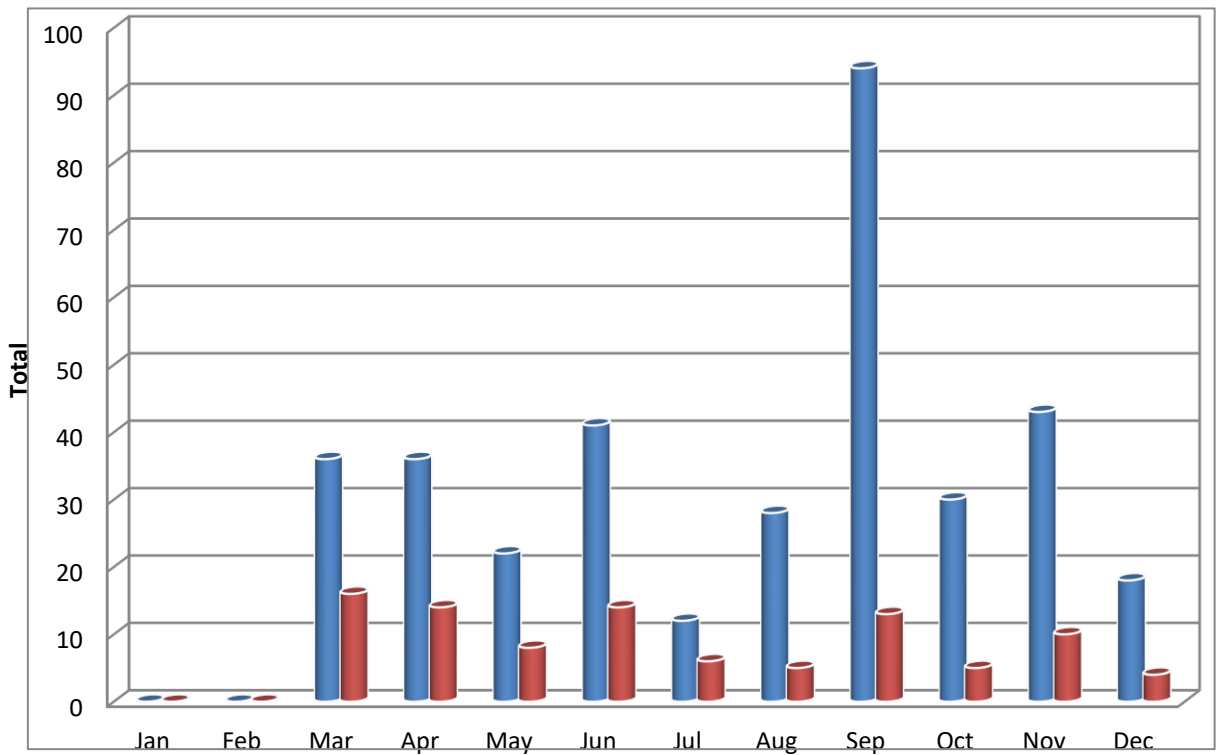


Diagram showing the total properties visited in 2015

Inspections for 2015

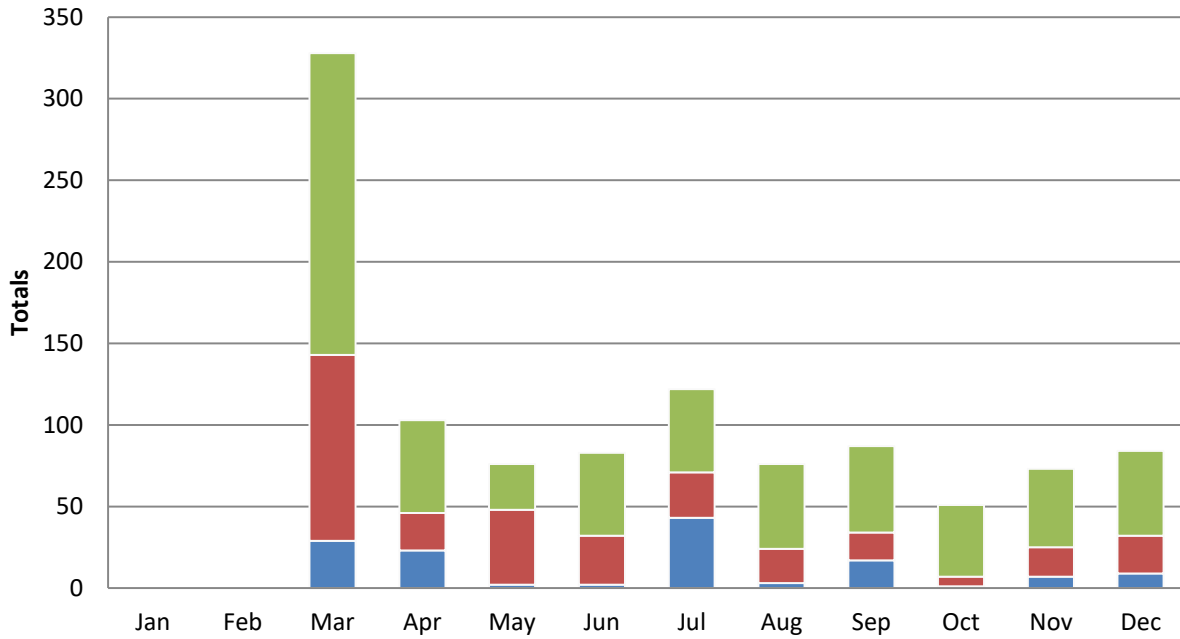


Diagram showing the total inspections for 2015

Cease Work Orders Issued for the Year 2015

CWO served in 2015

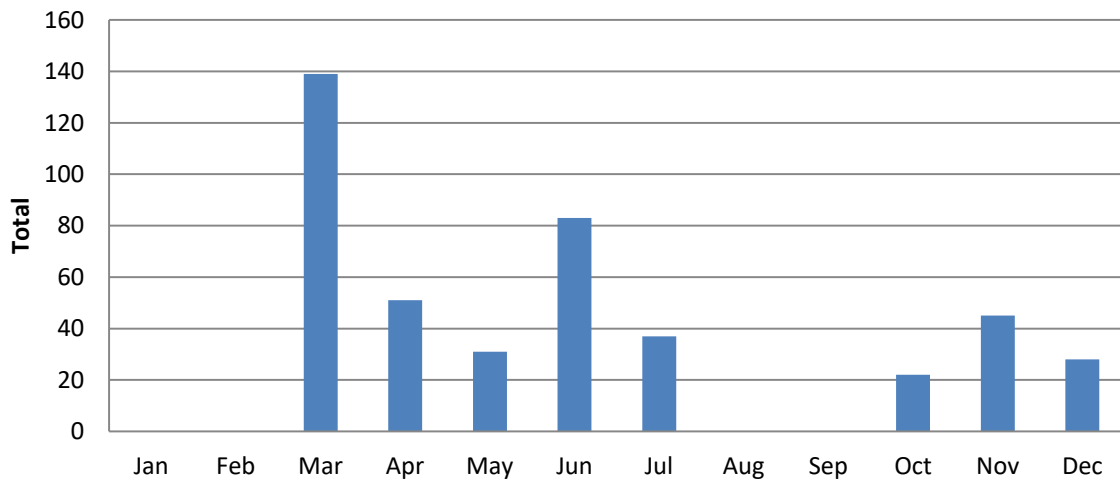


Diagram showing the total amount of CWOs in 2015

Disputes in 2015

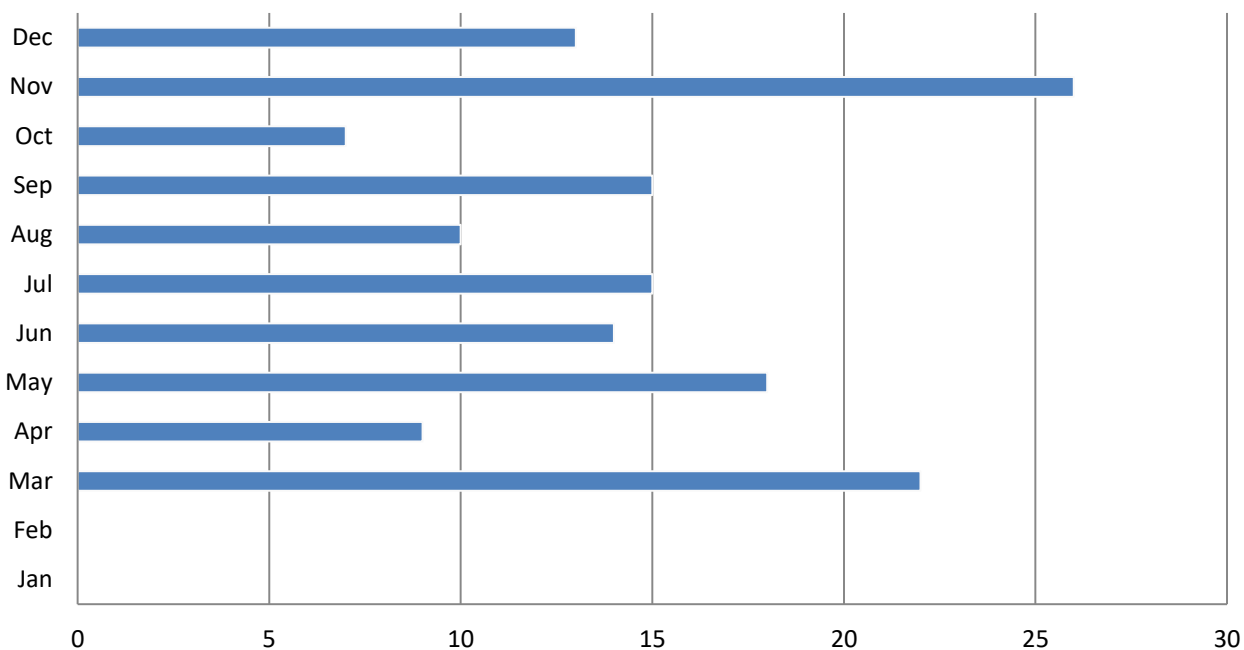


Diagram showing the total disputes for 2015

Reported Fatalities and Demographics

Mining District	Location	No. of Accidents	No. of Fatality	Nature of Accident
2	Mahdia/Potaro	4	13	Pit wall failure Ten (10) persons died at Mowasi on 17/5/2015
3	Puruni/Mazaruni	1	1	Pit wall failure
5	Kamarang	2	2	One (1) pit wall failure and one (1) water dredge drowning
5	North West District	3	3	Two (2) pit wall failure and One (1) falling tree
	TOTAL	10	19	

Campaign Constraints and Recommendations

Compliance Monitoring and Evaluation was delayed due to the late deployment of Officers to each Mining District at the beginning of 2015 (Industrial Strike Action & Annual Refresher Training Programme in Mining Regulations). There was also the inadequate supply of ATVs for multiple teams to visit and revisit areas within each district providing constraints to effectiveness.

Emerging recommendations were: -

- Adequate ATVs are needed to traverse the Lower and Middle Cuyuni Area which are known for its rugged terrain.
- Campaigns on mining and environmental practices and regulatory requirements of the mining sector are needed to increase the education and awareness of miners.
- An exercise is needed to remove illegal structures along the Lower Cuyuni Road at the entrances to Arawak, Aremu Falls Top; in the Arawak Mining Area and above the Waimu Landing at Waikari on the Cuyuni River, they having already been issued the relevant orders to remove.
- A consideration for more mining lands to be made available to small scale miners; this can reduce illegal mining and increase production.
- Proper tailings management strategy would help to reduce the impact of turbid water on receiving streams.

Inspections Of Bauxite Operations Highlights

Two bauxite companies operated in Guyana during the period under review namely, Bauxite Company of Guyana Inc. (BCGI) – a subsidiary of Russian Aluminium Company (RUSAL) and Bosai Minerals Group Guyana Inc. (BMGGI). These bauxite mines are classified as large scale mining operations. The First Bauxite Company of Guyana Ltd has completed and submitted its Technical Report on the Feasibility Study for Propant Project at Bonasika and the Company was engaged in raising capital to construct and operate a mine in the Bonasika, Essequibo area.

Increasing self-monitoring capabilities together with increasing the frequency of monitoring discharges to air and surface water were identified as the vehicles by which BMGGI would improve and move towards achieving sustained environmental stewardship.

In general, operations, were being carried out in good compliance with the Mining Act 1989, Mining Regulations, Environmental Protection Act 1997 and Occupational Safety and Health Act 1987. However, more could be done about their water discharges such as acquiring the internal capacity to monitor same. No blasting activity was undertaken over the review period and as such compliance with the Blasting Operations Act was not an issue to be dealt with during the mines inspection.

The Bauxite Company of Guyana Inc. (BCGI), is primarily a producer of metallurgical grade bauxite. A workplace Occupational Safety and Health (OSH) committee, in 2015, at the Bauxite

Company of Guyana Inc. (BCGI) remained defunct, due to unresolved industrial matters. The Company was however, urged by the inspecting engineer to resuscitate the Company's workplace Environment, Health and Safety (EHS) Committees as these will impact positively on workers' overall safety and health in the workplace. Responsibilities for the environment and environmental management remained high on the agenda of the Bauxite Company of Guyana Inc (BCGI) in 2015. Self-monitoring of water quality (turbidity) associated with BCGI activities continued throughout 2015 with reported turbidity levels recorded in the Berbice River over the review period being within 14 parts per million (ppm) during the dry season; However, this would rise during the rainy season to about 31 ppm due to surface run off. This however compared well with the stipulated turbidity level in Guyana's Rivers and streams of 30 NTU. No blasting activity was undertaken by BCGI in 2015 and as such compliance with the Blasting Operations Act was not an issue to be dealt with during this mines inspection.

The Bauxite Company of Guyana Inc. (BCGI) operations were being carried out in good compliance with the Mining Act 1989, Mining Regulations and the Environmental Protection Act 1997.

Surveying Section

Objectives	Targets for Year	Output / Deliveries	Percentage Completed	Remarks
Strategic Objectives Sand & Loam Pit and Stone Quarry surveys	23	23	100	All planned surveys at Essequibo, Demerara, Bartica and Berbice were completed.
Claims Verification	1,500	1,380	92	This year the percentage of claims verified is bit lower than 2014. The numbers started very slow at the beginning of the year, but improved as the year progressed.
Ad-hoc Surveys	-	7		These surveys were done at Arau, Lethem, Linden and 2 visits each to Ekereku and Imbaimadai. All were done for different purposes.
Demarcation of Boundaries	-	-	-	
Regularisation of Landings	-	2	-	This year Sand Hills was regularized. Additional work was done at Puruni Landing

During the year under review the following occurred:

- Average staff field occupancy per month was **62%**. Field occupancy was much lower this year due to the staff strike during the First Quarter of the year and General Elections during the Second Quarter.
- All planned sand & loam pits and stone quarry quantity surveys were completed. The implementation of the Quarry Monitoring Unit saw monthly surveys for the operations in the Demerara area. However, these were not always completed on a timely basis, due to the unavailability of vehicles.

During the last Quarter of 2015, the Commission continued to rent survey equipment due to the fact that the two (2) South Total Stations both developed technical problems. The Board of Directors approved purchase of two (2) Trimble Stations. Approval was sought to have the two (2) South Total Station repaired as well.

- Six (6) Ad-hoc Surveys were completed during the year, details of these are listed below:
 1. Two (2) Surveys were conducted at Ekereku to define the boundaries of the claims “Lotto #2 & 3” for Henry Vitalis. These claims are within Medium Scale Block P-172/MP/000 belonging to Ryan Pereira dated 26th February 2015. This matter is now being addressed by the Law Courts.
 2. In Imbaimadai there was the survey of claims “Yes #1 & 2” Amanda Peters. These claims are within Medium Scale Block P-10/MP/002 belonging to Carlton & Tyron Powers dated 15th November 2006. This matter was addressed in the Law Courts.
 3. In Imbaimadai also was the issue to resolve the Roberts vs Da Silva dispute. Both claim holders were present. However, Mr. Roberts did not understand the situation and subsequently hired an attorney-at-law to seek clarity.
 4. A visit to Arau to investigate the turning of a creek was a matter addressed.
 5. In Lethem sand mining in that region was an issue to be regularized.
 6. There was the conduct of a Cadastral/Engineering Survey in the vicinity of GGMC R&D Laboratory, at Linden, at the request of the Administrative and Human Resource Manager.
- Ninety-two percent (92%) of the 1,500 land and river claims targeted for the year were verified. A crew of nine (9) Verification Officers completed an average of 153 claims each.
- During the period July to December 2014, the following obtained with respect to claim licences:
 -

No.	Amount	Particulars of files
1	492	Claims were recommended for claim licence and sent for descriptions in Land Management division
2	630	Claims were recommended for claim licence and sent to Commissioner for approval
3	564	Claims deemed null and void
4	13	Claims deemed null and void in error
5	16	Comprehensive review
6	20	Complaints
7	147	Further processing Claims Research Officer
8	185	Claims abandoned
9	3	General correspondence

During the year under review, Surveyors were a part of the Dispute Resolution Committee and the National Action Plan Alignment (NAPA) Project at the Guyana Land and Surveys Commission. In addition, staff actively participated in Amerindian Land Titling consultations countrywide. These along with regularization of landings and determination of quantities for sand & loam and stone quarries kept the staff occupied during the year.

Quarry Monitoring

GGMC's Land Management database had seventy active sand mining permits recorded, of which twenty-six (26) were located along the Soesdyke-Linden Highway. In the Berbice area, there were six (6) sand mining permits while in the Essequibo area, there were five (5) active sandpits. Sandpits of the Essequibo are to be regularized.

Guyana currently has five (5) active stone quarries situated on the Mazaruni and Essequibo Rivers in the vicinity of Bartica. There are Baracara Quarries-Monkey Jump and Big Hope, Toolsie Persaud- St Mary's, BK Quarries, and Durban Quarries. There is also a Stone operation at Omai by the name of Metallica Commodities Corp.

The GGMC's Quarry Monitoring Unit (QMU) is responsible for monitoring the extraction of quarriable material including sand, loam, and stone. The unit was formed in early 2014, for the purpose of better regulating of the quarry industry. The need for this unit was largely due to the high outstanding royalties resulting from quarry owners becoming delinquent in their payments;

The use of the conveyance slip system had shown significant potential at the initial stages of its implementation, to address the delinquency in sand and loam royalty payments. The system lapsed as there was inadequate deployment of assets due to competition for resources mainly vehicles.

Notwithstanding, quantity surveys were conducted on all active quarries by surveyors of the QMU. For the sand and loam pits that supply trucks directly; surveys were conducted monthly since the implementation of the conveyance slip. For other quarry operations, surveys were conducted at the end of every quarter of the year. The Unit sums the quantities which are then forwarded to the Finance Division for updating of the royalty indebtedness for each quarry surveyed. As the arrears are paid by quarry owners, the figures are adjusted by the Finance Division to reflect such.

Quarry and Sand Inspection 2015

Field Monitoring of Quarries, Sand and Loam Pits in Guyana included the enforcement of provisions of the Mining Regulations, including the Mining (Amendment) Regulations 2005. Compliance Inspections were conducted by the Engineers at the end of each quarter for the year 2015. These inspections covered all quarrying operations (sand, stone, and loam) in Berbice, Essequibo, and Demerara. In general, stone quarry operations were at a satisfactory level of compliance, but for sand and loam there is the need for more consistent attention.

Common areas of Non-Compliance were:

- Demarcation of boundaries-
- Registration of personnel and equipment- unregistered quarry workers were an issue at all operations.
- Erection of required signs- most pits were without the appropriate road signs.

MINERAL PROCESSING UNIT

The Mineral Processing Unit (MPU) has the responsibility for designing, testing and demonstrating improved mineral recovery for Small and Medium Scale gold and diamond mining operations. Other responsibilities include testing and determining other valuable minerals than can be produced with gold and diamonds as by-products or co-products and testing the potential for utilization of economic minerals found in Guyana. Activities for improving mineral recovery are linked to optimizing tailings management.

The Unit continued diligently with their outreach to Miners for assisting with their operational issues while promoting workable alternatives such as the Knelson Concentrator, Gold Cube and Gold Kacha. Locations included Tamakay, Imbaimadai, Karrau, Northwest District.

There were also preparations for a collaborative project involving IDB and CIRDi to train trainers with modules focusing on alternatives to Mercury. This collaboration was scheduled for 2016. The MPU did have its own challenges due to competition for vehicles within the Commission but managed to turnout a satisfactory performance during 2015.

MINES CLERICAL

The Mines Clerical Section has the critical responsibilities which includes those that relate to the promotion of legality within the mining sector, including the issuing and renewing of: dredge licenses and registration credentials, trading licenses, certificates of registration, prospecting permits, mining privileges, business and residential permissions and claim licenses.

SUMMARY FOR THE YEAR 2015

ITEM	AMOUNT
	2015
Complaint	0
Challenges	0
Court matters currently before Hearing Officer	6
Trading Licences	272
Renewal of Goldsmith Licences	52
New Goldsmith Applications	0
Business Permissions	177
Residential Permissions	72
Dredge Registration	763
Dredge Renewals	2,586
Dredges Licenced	3,349
Dredge Transferals	45
Dredges Scrapped	8
Exportation of Diamonds (Metric Carats)	107,870.78
Certificate of Registration	256
Prospecting Permits Small Scale	870
Mining Privileges	1,744
Claim Applications - Land	2,362
Claim Applications - River	497
Processing of Claim Licences	282
Duplicate Licences	2
Specified Machinery	209
Claims Transfers	6

BUSINESS LICENCES AND RENTALS FOR THE YEAR, 2015

	RESIDENTIAL PERMISSIONS			BUSINESS PERMISSIONS			TRADING LICENCES		
MINING DISTRICTS	Renewals	New Appl.	Arrears	Renewals	New Appl.	Arrears	Renewals	New Appl.	Arrears
No.1									
No.2	1			12			7	2	
No.3	51			40	8		27	6	
No.4	3			14	1		17	1	
No.5	1			10			18	1	
No.6				3			4	0	
Georgetown							38	5	
Essequibo	1			1			1		
Berbice							1		
Bartica							1		
Linden									
E.C. Demerara									
E.B. Demerara							2		
W.C. Demerara							3		
TOTAL	57	0	0	80	9	0	119	15	0
YEAR TO DATE	57	0	0	80	9	0	119	15	0
Comparative Fig 2014	77	0	0	89	5	0	135	9	0
Variance	-20	0	0	-9	-4	0	-16	6	0
<u>-1</u>									
No.1									
No.2				14			13	1	
No.3	3			45			42		
No.4				16			46		
No.5				13			23		
No.6									
Georgetown									
Essequibo									
Berbice									
Bartica							8	6	
Linden									
E.C. Demerara									
E.B. Demerara									
W.C. Demerara									
TOTAL	3	0	0	88	0	0	132	7	0
YEAR TO DATE	15	0	0	88	0	0	132	7	0
Comparative Fig 2014	22	1	0	109	2	0	145	1	0
Variance	-5	-1	0	-109	-2	0	-22	5	0

GOLDSMITH'S LICENCES FOR THE YEAR, 2015

	Renewals	New Licences	Arrears Paid	TOTAL
East Coast Demerara	12	0	0	12
East Bank Demerara	3	0	0	3
West Coast Demerara	7	0	0	7
West Bank Demerara	1	0	0	1
Georgetown	16	0	0	16
Berbice	7	0	0	7
Linden	1	0	0	1
Essequibo	3	0	0	3
Bartica/Potaro	1	0	0	1
NWD	1	0	0	1
Mazaruni	0	0	0	0
TOTAL	52	0	0	52
	2014			TOTAL
East Coast Demerara	16	0	0	16
East Bank Demerara	7	0	0	7
West Coast Demerara	13	0	0	13
West Bank Demerara	3	0	0	3
Georgetown	18	0	0	18
Berbice	41	0	0	41
Linden	0	0	0	0
Essequibo	2	0	0	2
Bartica	5	0	0	5
Mazaruni	0	0	0	0
TOTAL	105	0	0	105
Variance	-53	0	0	-53

DREDGE REGISTRATION FOR THE YEAR 2015

	Mining District							YTD Comparative	
Suction Size	1	2	3	4	5	6	Total	Fig. 2014	Variance
2"	0	0	0	0	0	0	0	0	0
3"	0	1	0	0	0	0	1	0	1
4"	2	115	108	73	36	8	342	361	-19
5"	0	10	10	5	8	0	33	46	-13
6"	4	92	96	64	53	5	314	372	-58
8"	0	12	16	21	11	0	60	49	11
10"	0	1	0	0	0	0	1	2	-1
12"	0	0	2	1	0	0	3	2	1
14"	0	2	5	0	1	0	8	2	6
16"	0	1	0	0	0	0	1	2	-1
18"	0	0	0	0	0	0	0	0	0
Total	6	234	237	164	109	13	763	836	-73

DREDGES TRANSFERRED 2015

	Mining District							YTD Comparative	
Suction size	1	2	3	4	5	6	Total	Fig. 2014	Variance
2"	0	0	0	0	0	0	0	0	0
3"	0	0	0	0	0	0	0	0	0
4"	0	1	3	1	0	0	5	4	1
5"	0	1	3	0	0	0	4	2	2
6"	0	10	7	6	4	0	27	14	13
8"	0	1	3	1	0	0	5	4	1
10"	0	0	0	0	0	0	0	0	0
12"	0	1	1	0	0	0	2	3	-1
14"	0	1	1	0	0	0	2	6	-4
16"	0	0	0	0	0	0	0	0	0
18"	0	0	0	0	0	0	0	0	0
Total	0	15	18	8	4	0	45	33	12

DREDGES SCRAPPED FOR THE YEAR 2015

Suction size	Mining District						Total	YTD Comparative	Variance
	1	2	3	4	5	6		Fig. 2014	
2"	0	0	0	0	0	0	0	0	0
3"	0	0	0	0	0	0	0	0	0
4"	0	0	1	0	0	0	1	0	1
5"	0	0	0	0	0	0	0	0	0
6"	0	4	2	0	0	0	6	6	0
8"	0	0	0	0	0	0	0	1	-1
10"	0	0	0	0	0	0	0	2	-2
12"	0	0	0	0	0	0	0	0	0
14"	0	0	0	1	0	0	1	1	0
16"	0	0	0	0	0	0	0	0	0
18"	0	0	0	0	0	0	0	0	0
Total	0	4	3	1	0	0	8	10	-2

DREDGES LICENCED FOR YEAR 2015

Suction size	Mining District						Total	YTD Comparative	Variance
	1	2	3	4	5	6		Fig. 2014	
2"	0	0	0	0	0	0	0	0	0
3"	0	2	0	0	0	0	2	3	-1
4"	3	260	281	195	111	23	873	966	-93
5"	0	69	110	42	22	0	243	296	-53
6"	6	400	568	483	324	40	1,821	1,885	-64
8"	0	75	46	67	70	4	262	233	29
10"	0	1	10	13	0	0	24	21	3
12"	0	8	17	25	0	0	50	50	0
14"	1	15	23	12	2	0	53	44	9
16"	0	16	2	2	1	0	21	20	1
18"	0	0	0	0	0	0	0	1	-1
Total	10	846	1,057	839	530	67	3,349	3,519	-170

DREDGES RENEWED FOR YEAR 2015

Suction size	Mining District						Total	YTD Comparative	Variance
	1	2	3	4	5	6		Fig. 2014	
2"	0	0	0	0	0	0	0	0	0
3"	0	0	0	0	0	0	0	3	-3
4"	1	145	173	122	75	15	531	602	-71
5"	0	59	100	37	14	0	210	251	-41
6"	2	308	472	419	271	36	1,508	1,514	-6
8"	0	61	30	46	59	4	200	184	16
10"	0	2	10	7	0	0	19	19	0
12"	0	8	15	28	0	0	51	49	2
14"	1	13	18	8	1	0	41	41	0
16"	0	15	2	8	1	0	26	19	7
18"	0	0	0	0	0	0	0	1	-1
Total	4	611	820	675	421	55	2,586	2,683	-97

CERTIFICATE OF REGISTRATION, MINING PRIVILEGES, PROSPECTING PERMITS (SMALL SCALE) FOR THE YEAR 2015

ITEMS	MINING DISTRICTS						G/Town	TOTAL	2014	Variance
	1	2	3	4	5	6				
Certificate of Registration	0	0	0	0	0	0	260	260	370	-110
Mining Privilege	0	0	0	0	0	0	1,744	1,744	3,236	(1,492)
Prospecting Permits (Small Scale)	0	48	85	29	55	7	624	848	922	-74

CLAIM LICENCES PROCESS FOR THE YEAR 2015

Mining	CLAIM TYPE			2013		Variance	
District	Gold and	River	Total	Gold and	River	Gold and	River
	Precious Stones	Locations		Precious Stones	Locations	Precious Stones	Locations
No.1	2	11	13	61	161	-59	-150
No.2	187	56	243	690	150	-503	-94
No.3	1,245	351	1,596	1,289	208	-44	143
No.4	418	50	468	703	208	-285	-158
No.5	446	29	475	770	136	-324	-107
No.6	64	0	64	37	86	27	-86
TOTAL	2,362	497	2,859	3,550	949	-1,188	-452

STATISTICS BY SUB HEADS - YEAR 2015

DESCRIPTION	Total
Tributes - Gold - ozs	0
- Diamonds - MC	0
Application for Registration of Dredges	763
Registration Fees (Specified Equipment)	209
Transfer (Dredges)	45
Challenges	0
Transfer of Claims	6
Certificate of Registration	256
Application Fees for Claims (River)	2,362
Application Fees for Claims (Land)	497
Application Fees for Prospecting Permit (Small)	870
Mining Privileges	1,744
Prospecting Permits	870
Goldsmith Licences	52
Trading Licences	272
Duplicate Licences	2
Dredge Licences	3,349
Gold & Precious Stones Claim Licences	12,427
River Claim Licences	4,398
Business Permission	177
Residential Permission	72
Exportation of Diamonds (Metric Carats)	107,870.78
Processing of Claim Licences	282

The year 2015 can be considered as an efficacious year for the Mines Division since there were no major setbacks in the implementation of the Division's mandate. Both Technical and Clerical staff members from the Inspectorate section were distributed throughout the different Mining Districts to facilitate the monitoring and inspection of large, medium and large scale operations, in addition to the sale of relevant permits and licenses.

The Mines Technical Section was prominent in dealing with various methodological aspects of environmental management, tailings management and other educational seminars and outreach activities. In addition, technical assistance was given to miners to promote sustainable exploitation in Large Scale operations, quarries and sand and loam pit operations.

The Mineral Processing Unit conducted testing and implementation of various technologies which included sluice box technological improvement and training, floatation devices, cyanidation, and tailings management. This Unit was successful in field workshops and technical assistance outreaches which included equipment demonstration.

The Division remains committed to facilitating sustainable mining practices by the implementation of new technologies to increase production. Also, safeguarding the health and well-being of miners remains a priority. Therefore, it is envisioned that education, awareness and more prolific interaction with miners will be a focal point of the Division's strategy for facilitating prolonged development in the Mining Sector.

ENVIRONMENTAL DIVISION

Environmental Practices in mining have evolved from not only how miners should protect the environment, but also how other stakeholders who are competing for natural resources and operating in a common biosphere act as stewards of the environment for sustainable living.

Compliance with the Mining law and Regulations governing the management of the environment, especially as it relates to water quality and discharge, tailings management and mercury use and the recent development of 10 codes of practice which will be read as part of the Mining Regulations (use of Small Dams for Control of Water/ Tailings; Environmental Effects Monitoring; Quarrying; Sand and Loam Mining; Contingency and Emergency Response; Mine Reclamation; Control Effluents; Use of Mercury and Tailings Management and Mines Waste management) and in respect of

Occupational Safety and Health (OSH) an OSH policy statement that shapes the framework for OSH in GGMC and The Mining, Quarrying, Sand and Loam Sectors.

Summary of Activities

To promote, monitor and enforce good practice to achieve minimal levels of pollution of soil and water resources, reduce mine accidents and comply with standards and the law; To promote good practices by building knowledge, practical skills, information and data bases in environmental and OHS management in GGMC and among miners. The Following provides a summary of the Division's work in 2015.

Priority Areas	Key Performance Indicators (KPI), Aimed for by the Environmental Division	Base Year (KPI)	Work Achievement with respect to Target of KPI	
		2014	2015	Work Achievements for 2015
	To measure turbidity above and below tailings discharge points, in streams.	0%	35%	Completed
Demonstration Reclamation Modeling:	Reclamation Models will be sustainable and successful.	0.3%	0.4%	Work done at NWD #5 and Continued work at Mahdia.
OH&S Inspections: - Head Office -Lapidary Mines Stations	100% compliance of all GGMC's offices and Mines stations with the O.H.S regulations and the safety act.	80%	90%	Completed
	Workers' Health Programme	As needed	As needed	Completed
	MED. Supervisory tours	2/yr.	1per quarter.	Not done
	Tailings Management Technical Assistance in all mining Districts			Collaboration with Mines Division
	Guy Expo 2015			
	Mining week exhibition and conference 2015			Completed
Pick it, Clean it up Campaign in Mining Districts	Improvement of sanitary conditions of all main landings, mining towns and established settlements.	In 4 Mining Districts	In 2Mining Districts	Completed
Collection and analysis of soil data	Estimate soil properties to aid reclamation purposes.		At propose Reclamation sites	For WWF/EPA /GGMC Konawaruk Project – Potaro MD # 2.
Hazard/Risk identification of GGMC and all site locations	Identify, eliminate and/or mitigate hazards and potential health risk	1/yr.	1/yr.	Completed
Exposure to Mercury in air – WHO Standards	Conduct regular Mercury test around GGMC offices and Gold Board Lab using the Lumex (AAS)	2/week	2/week	Instrument under repair from April to November 2015
Promotion of Workers' Safety and Health	The Medical Program is ongoing: Referrals, Dental Care, De-worming exercise, Immunization, Annual Medicals for Field and Laboratory staff			Completed
Educational and Awareness in Mining areas	Improve Environmental and Health Awareness in the Mining Communities through dissemination of information.			Completed as per Compliance Monitoring and Special OSH

				training in light of the Mining Pit Accidents.
First Aid Training Supply of Medical supplies for First Aid Kits	Improve miners' knowledge in First Aid use			Completed in collaboration with Mining School. GGMC mining Station and HQ.
OTHER MAJOR ACTIVITIES WERE: -				
Capacity building in environmental management for the gold mining sector in Guyana WWF/GGMC Project	<p>On May 30th, 2013, a grant agreement was signed between World Wildlife Fund Inc. (WWF) and the Guyana Geology and Mines Commission. The WWF seeks to provide the GGMC with financial and technical support for the purpose of national capacity building through education and awareness activities, baseline studies and training of stakeholders within the gold mining sector.</p> <p>Goals:</p> <ul style="list-style-type: none"> · <u>To conduct a baseline assessment of distribution routes of mercury use in Guyana as part of a strategy for its discontinued use by June 2013. (completed in 2013)</u> · To improve best practices in Guyana's mining sector <u>by developing a curriculum for the Mining School and providing training and build capacity to for new entrants and existing small and medium scale operators by the end of May 2014. (completed in 2014)</u> · To contribute to the sustainability of the mining sector in Guyana through <u>the development of a National Action Plan and updating the Codes of Practice on Mining by the end of June 2014. (work in done in 2015 and rollover to 2016)</u> 			
Pilot Project of Hydroponic Growing of Cash Crops to Miners and Mining Community	<p>Promotion of Hydroponic gardening done at Mahdia. Promoting growing of cash crops in mining camps and in the backyards of residence in the Mahdia Community proved to attract much success. Feedback indicated that the project was well received. <i>Chicken production has restarted. A pilot project for miners and residence of the Mahdia Community in drip irrigation for the production of agricultural cash crops to complement food security in the area. work done in in 2015</i></p>			
Benefits of Reclamation seen at St. Elizabeth, Potaro Mahdia, MD#2.	<p>Acacia plants that were planted in the Mahdia Area – St. Elizabeth, as part of the reclamation process, to re-vegetate Mine Out Sites has now seen the benefits of its nutrient production were pruned and to add nutrients to the poor soil quality of mined out sites. Native Plant Species were planted within those Acacia species and after about three years of monitoring (2013- 2015) were observed to be growing rapidly and healthy. December 2015 report revealed the native species are observed to be growing by natural means within the reclamation site. <i>(work done in 2015)</i></p>			

<p>Mining Accidents Investigations and ED participation in the COI 2015.</p> <p>GGMC and particularly the ED were involved in providing information, files reports, logistics for visits.</p>	<p>The COI team which was headed by Dr. Grantley Walrond into mine accident deaths by pit collapse has reported the Key Findings at a Glance as follows:</p> <ol style="list-style-type: none"> 1. The principal causes of the pit failure accidents were a result of a neglect of safe mining practices has determined that operators did not ensure that health and safety measures were properly managed. 2. That there is a lax culture of safety in Guyana and that clear rules must be applied and enforced.”. 3. The Guyana gold mining industry is in transition –the dimensions of the pits that are being excavated in the sector call for proper engineering controls and safeguards that promote health and safety practices. 4. The regulatory agencies in the cases examined – Guyana Geology and Mines Commission (GGMC) in particular – did not have the focus, capacity and/or strategy to ensure that the operations are meeting their legal <i>responsibilities</i> under accepted health and safety laws and guidelines and the requirements of the Mining Act. Urgent institutional strengthening is imperative! 5. The active participation of workers in the management of health and safety initiatives is needed. This requires legislative guidance from the GGMC and Occupation Safety and Health (OSH) regulator. It is necessary that all participants in the sector are actively engaged and certified with basic health and safety training on an annual basis – this could easily be tied to the granting of mining privileges. Managing any active mining operation in Guyana must require clear and certified OSH qualifications and/or competence as required by the mining regulations. 6. The available emergency response mechanisms for search, rescue and/or recovery are inadequate and will need proper definition and manning. Clear protocols for how to handle and respond to accidents are required. <p><i>All Technical Officers of the Mines and Environmental Division should have learned and develop appropriate skills, guided by the COI findings to move the mining and regulatory process to attain Safer Mines. Work in progress in 2016)</i></p>
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PETROLEUM DIVISION

For 2015, the most significant achievements were as follows:

The successful negotiations between the Government of Guyana and both Mid-Atlantic Oil and Gas Inc, and RATIO Energy Ltd. /RATIO Guyana Limited for their respective Production Sharing Agreements (PSA) and accompanying Petroleum Licences (PL); ESSO’s discovery of petroleum (crude oil) on May 8 while drilling the Liza-1 well in its Stabroek Block; Successful completion of post-graduate petroleum related studies by three (3) Guyana Geology and Mines Commission (GGMC) employees in Spain and Scotland, respectively; Completion of technical exercises such as drilling exercises at Hogg Island and a surface geophysical exercise at Aberdeen, Lower Pomeroon River.

Archive Maintenance, the cataloging of technical data and the Petroleum Registry.

Other significant notes include major maintenance was completed on the rigs and ancillary equipment, a series of reconnaissance exercises of the Upper Canje Creek area, Boersierie Conservancy, Bonasika Creek and Essequibo River, Malali area on the Demerara River, and the Takutu Basin. The presence of gas was noted on Fort Island and Tuschen and could be of some interest if determined to be thermogenic when analyzed.

GGMC and EPA personnel completed monitoring on both the Deepwater Champion Drillship during the drilling of Liza-1 and on the Celtic during Esso's 3D Seismic survey. Petroleum Division staff took part in several short training courses and workshops. These included:

- Emergency Response Plan and Waste Management for EPA/GGMC (Esso), January 2015.
- Planning and Oversight Deepwater Exploration (by EGCI/MNRE), April 2015
- One-week geological field (Geological Services Division, GGMC), May – June 2015
- Fundamentals of the Oil and Gas Industry (Fazal Hosein, Consultant) December 2015

Conclusion

As at the end of 2015 the petroleum companies operating in Guyana were:

- CGX Resources Inc.
- Esso Exploration and Production Guyana Ltd., et. Al (Hess & CNOC Nexen)
- Mid Atlantic Oil & Gas Inc.
- Ratio Energy Ltd/Ratio Guyana Lid.
- Repsol Exploration Guyana S. A. et. Al (Tullow Guyana BV).

The Division has managed to achieve some seventy percent (70%) of its programme in an interrupted year of internal industrial action and national elections.

HUMAN RESOURCES AND ADMINISTRATION DIVISION

The Human Resources and Administration Division supports the technical divisions of the Commission in the execution of their mandate and comprise the following Sections/Departments:

1. Human Resources Department
2. Information and Documentation Department
3. Services Department
4. Registry
5. Security Department.

Resignations

<u>Position</u>	<u>Number of Persons</u>
Mining Technician	1
Environmental Technician	1
Field Assistant	1
Systems Analyst	1
Mines Officer	1
Clerk, Land Management	1
Senior Petroleum Technician	1
Mechanic Driver	1
Driver	1
Senior Geologist	<u>1</u>
Total	<u>10</u>

Staff Training and Development- only received forty percent (40%) of what was scheduled. Industrial action and national elections did interrupt this programme.

The GGMC continued its sponsorship of the Degree and Diploma Programmes respectively in Geology and Civil Engineering offered by the University of Guyana. The sponsorship provided by the Commission caters for the purchase of equipment, payment of lecturers, payment of tuition

fees and related allowances, inter alia for students the Commission sponsors. There were eleven (11) students sponsored by GGMC at University of Guyana at end of 2015.

Under the Staff Welfare programme, ten (10) bursaries were awarded for Grade 6 successes ranging from 99% -89%.

Celebration & Ceremonies – was on the occasion of the GGMC 36th Anniversary.

On August 1st 2015 Long service, bursary and sports awards were distributed. The Hon. Minister of State, Joseph Harmon, and Mr. Rickford Vieira, Commissioner, addressed attendees.

The occasion of Mining Week 2015 was observed from August 23 -29, 2015. Admin & HR were critical in the logistical arrangements, setting up of booths at both the exhibition site and at Bartica, electrical wiring of booths, setting up, manning of booth and organizing and distributing meals to the Commission's 500+ guests at Pork-Knocker Day.

The GGMC Christmas Party was held on December 17th, 2015 at 704 Sports Bar.

Staff Actions were evident during the period January 5 to 27, 2015, the Guyana Public Service Union (GPSU) together with workers of GGMC organized strike action regarding the implementation of SV Jones Associates Compensation Proposal. Terms of Resumption (TOR) were brokered by then Ministry of Labour and workers resumed work on Wednesday January 28, 2015.

The services departments were duly stretched in 2015. their constraints were the number of staff, available vehicle and access to locations with materials. The competition for vehicles has been severe. The Commission is in possession of seventy-six (76) vehicles including ATVs that range in age from 2006 to 2015 for "pick-ups" and 2005 – 2013 or ATVs while these vehicles are functioning, their reliability under the conditions are under scrutiny.

- The Carpentry and Electrical workshops serviced the Commission's properties throughout the Districts.
- The CN Baron Library and the Information and Documentation functions enjoyed some 5320 customers proving it value to the Commission and sector. The function of Information and Documentation also ensured the presence and participation of the GGMC throughout the year for themed exhibitions; career fairs; town days, special Ministry events and such. On these occasions, literature and educational materials were distributed. Products from the Lapidary are also promoted.
- As the Commission progresses, it has to be mindful of security. The GGMC security is supported by CCTV at HQ. Satellite offices are somewhat exposed although security visits are conducted regularly. Local security have to be contracted for some of the locations.

Despite being understaffed and cramped for space, the Admin Division has delivered when truly needed.

INFORMATION TECHNOLOGY (IT) DEPARTMENT

The IT Department completed in full their programmed projects to give support to management solutions such as the presentation of a Fleet Management System, web applications for consolidating Mines Information; the implementations of the Integrated Mineral Property System, File Tracking Management and such. Meanwhile the IT systems of the Commission and satellite offices were maintained and/or upgraded. The IT Department was a critical area of the Commission during 2015.

LEGAL DIVISION

The Legal Division of the Guyana Geology and Mines Commission provided support to all the Offices of the Commission on issues of importance to them. Based on requests made, the Legal Division also provided legal support to the Board of Directors of the Guyana Geology and Mines Commission.

Staff Movements

In March 2015, the Legal Division welcomed a new staff: Confidential Secretary, Ms. Sherrae Lindie.

In October 2015, the Legal Assistant, Ms. Zola Williams returned to the Legal Division having completed a Master's Degree in Oil and Gas Law and Policy from the University of Scotland.

The Legal Division also facilitated the preparation and filing of Affidavits on behalf of the Commission in court disputes; reviewed and drafted Memoranda of Agreements involving the Guyana Geology and Mines Commission and third parties; as well as reviewed and provided opinions and positions for the Commission.

Highlights for the year 2015

By virtue of the principle of confidentiality, the Legal Division is unable to disclose the nature of the matters addressed during 2015. However, the following activities are some of the highlights of the year 2015 for the Legal Division:

Legal Division has managed during 2015 the ongoing Litigation involving the GGMC. Approximately twenty-two (22) new civil court matters were instituted against or involving the Commission. For the year 2015, approximately fifteen (15) civil court matters involving the Commission were completed. Hence, at December 2015, there were approximately forty-seven (47) civil court matters remaining involving the Commission.

Workshops were attended by staff of the Legal Division for example:

- “Essential Elements for a Legality Definition and Legality Assurance System (LAS) in the Guyana-EU FLEGT Voluntary Partnership Agreement (VPA) organized by the Amerindian Peoples Association (APA).
- “Preparation of Budgets and Budgeting” facilitated by the Budget Committee of the Guyana Geology and Mines Commission.
- “Taxation Issues in the Mining Sector” facilitated by PriceWaterhouseCoopers Trinidad Office
- “Building Capacity for Managing the Hydrocarbon Sector in Guyana” organized by the Department of Natural Resources and the Environment, in collaboration with the United Nations Development Programme.
- “Sovereign Wealth Funds” organized by the Department of Natural Resources and the Environment, in collaboration with the University of Calgary’s School of Public Policy and the Canadian High Commission.

The Legal Division also has oversight of the Kimberley Process for diamonds export.

- The 1st, 2nd and 3rd quarter export statistics were prepared and submitted to the Kimberley Working Group on Statistics. The 4th quarter 2015 Export statistics will be submitted to the Kimberley Working Group in the 1st quarter of 2016.
- The 2014 Annual Report for the Implementation of the Kimberley Process Certification Scheme in Guyana was prepared and submitted to the Honourable Chair of the Kimberley Process, Mr. Bernardo Campos.

Legal Division facilitated workshops on the Mining Laws for internal customers; on the Kimberley Process for prospective Brokers. On the request of GRA, presented on the Anti-Money Laundering Laws during the Mining Week Conference and compiled the Mining Laws to 2015 for dissemination to GGMC officers and key persons in the sector.

Legal Division had a very busy year in 2015.

INTERNAL AUDIT DIVISION

The Audit Division was only able to accomplish 75% of its planned audit due to industrial action by employees which lasted for in excess of eight (8) weeks. In addition to the national Election climate and the loss of the Assistant Internal Auditor to the Land Management Division.

The following audits were conducted:

Administrative	-	4
Financial	-	8
Field	-	5
ISO	-	5
Special Investigations	-	6

Recommendations

From the Administrative Audits, it was determined that better record keeping was required to properly account for the consumables. In addition, items to be disposed of should be done regularly.

From the Financial Audits, it was observed to be addressed that; the matter of clearing advances shall be compliant with standard practices; that supervisory checks of sub-impress and reconciliations issues be conducted to ensure accountability and effect controls; tender procedures be fully adhered to.

From the Field Audits, it was observed that unserviceable items were accumulating at stations and that needed fixing; that Commission's assets were not properly marked; that clerical issues at the Mines offices need to be restored to prior proper standards.

From the ISO audit, it was revealed that; performance assessment must be completed and signed off by the appropriate supervisor and manager of each division.

All process and final reviews must be completed before a permit, licence or permission is issued to a customer.

The Audit Division undertook to work more closely with Divisions in the following given the results from the Audits.

Type of Training	Facilitator	Staff
ISO Root Cause Analysis	Bureau of Standards	P. Monize, C. Mckenzie, J. Thompson and D. Amsterdam,
Key Performance Indicator	IIA	J. Thompson, J. Lyken and P. Monize
Conducting effective Investigation	IIA	Arthur Gibbs
Tracing and Recovery Fraud and loss	IIA	Arthur Gibbs
Performance Appraisal and People Consultant skills		Joel Lyken

FINANCE DIVISION

The Finance Division is one of the divisions within the Commission that provides services to the other divisions, departments, projects and customers of the Commission.

Budget and Finance

The 2015 budget and work programme was approved by the Board of Directors at its meeting of 29/01/2015.

A half year review of the budget was done as at the end of May 2015 however, the revised budget that flowed from the review process was not approved by the Board of Directors at its meeting of 18/12/2015. It must be mentioned, that there was a hiatus with respect to statutory meetings of the Board of Directors after the last general elections thus, there was not an earlier opportunity for the Board to deliberate on the revised budget.

Never-the-less, the table provides the figures for the original and revised 2015 revenue budget, along with the relevant increases/decreases.

Original and revised budgeted figures for revenue along with increases/decreases

Description	Original Budget (\$M)	Revised Budget (Not Approved)	Increase/Decrease
Fees & Fines	\$214	\$214	
Permits & Licences	\$37	\$37	
Royalties	\$4,809	\$4,809	
Rentals	\$2,100	\$2,100	
Internal Income	\$294	\$2,662	2,368
Drilling Income	\$5	\$5	
Financial & Admin Income	\$134	\$134	
Other Receipts	-	-	-
TOTAL	<u>\$7,593</u>	<u>\$9,961</u>	<u>2,368</u>

The above illustrates, that the revised revenue budget was increased by \$2.368(B) or 31.2% over the original 2015 revenue budget of \$7.593(B). This increase was influenced largely by the budgeted increase in internal income (of which \$2.617(B) was actually received from the sale of duplicate petroleum data as compared to a budgeted amount of \$269.9(M) for the year.

The original and revised budgeted figures for expenditure, along with increases/decreases

Description	Original Budget (\$M)	Revised Budget (Not Approved)	Increase/Decrease
Employment Cost	\$1,239	\$1,807	568
Transport, Travel & Maintenance	\$177	\$177	0
Materials & Supplies	\$146	\$146	0
Rentals & Professional Services	\$177	\$177	0
Information, Publication & Legal Services	\$53	\$75	22
Utilities, Ins. & Financial Services	\$97	\$126	29
Field Expenses	\$858	\$858	0
Welfare & Sundries	\$56	\$56	0
Assistance to Mining/Central Govt	\$2,884	\$2,884	0
Others	\$39	\$270	231
Special Projects	\$0.0	\$0	0
Capital Expenditure	\$963	\$963	0
TOTAL ROUNDED TO 1 D.P	<u>\$6,689</u>	<u>\$7,539</u>	<u>850</u>

The above table illustrates that the revised budget for expenditure, was increased by \$850(M) or by 12.72%, of the original budget of \$6,689(B). The significant increases are in Employment Costs and Others. Notable increases are Information, Publication & legal Services and Utilities and Insurance and Special Projects.

The actual performance of the Commission for the period January 1 to December 31, 2015, was measured against the revised budget.

Revised budgeted (unapproved) and actual revenue performance for year 2015 (in millions of dollars)

Description	Budgeted (\$) (Not Approved)	Actual (\$M)	Variance (\$M)
Fees & Fines	214.0	221.0	7
Permits & Licences	37.0	37.0	0
Royalties	4,809.0	4,706.0	(103)
Rentals	2,100.0	1,709.0	(391)
Internal Income	2,662.0	2,753.0	91

Financial & Admin Income	134.0	134.0	0
Drilling Income	5.0	.0	5
Revenue & Other Receipts	0.0	267.0	267
TOTAL ROUNDED TO 1 D.P	<u>9,961.0</u>	<u>9,827.0</u>	<u>(134)</u>

Notable decreases are the performance of Rentals, with a negative variance of (\$391M), the reason for the underperformance occurred because of properties not paid for on a timely basis and some not approved by the Minister, and therefore cancelled.

The unfavorable variance for royalties is actually as a result of a timing difference as royalty for December, 2015 of \$397.5M, which was actually received in January 2016.

Description	Budgeted	Actual	Variance
Employment Cost	\$1,239.0	\$1,841.0	(602)
Transport, Travel & Maintenance	\$177.0	\$109.0	(68)
Materials & Supplies	\$146.0	\$43.0	103
Rentals & Professional Services	\$177.0	\$86.0	91
Information, Publication & Legal Services	\$53.0	\$87.0	34
Utilities, Ins. & Financial Services	\$97.0	\$148.0	(51)
Field Expenses	858.0	\$572.0	286
Welfare & Sundries	\$56.0	\$60.0	(4)
Assistance to Mining Sundries/Roads	\$2,884.0	\$520.0	2,364
Assistance to Mining/Central Govt	\$0.0	\$6,020.0	(6,020)
Stock	\$0.0	\$448.0	(448)
Others (Including Stocks issued)	\$39.0	\$144.0	(105)
Special Projects	\$0.0	\$6.0	(6)
Capital Expenditure	\$963.0	\$357.0	606
Unbudgeted Outflows	0	\$212.0	(212)
TOTAL	<u>\$6,689.0</u>	<u>\$10,653.0</u>	<u>(3,964.0)</u>

The total unfavorable variance as per table IV above was significantly influence mainly by Assistance to Mining/Central Government, whereby \$6B was paid to the Consolidated Fund in 2015.

The positive variances for capital expenditure (\$606.0M) resulted from capital works that were budgeted for in 2015, but were not started or not completed in 2015. This includes mainly the High Street building (\$500.0M).

The positive variance for field expenses is mainly as a result of Industrial action at the beginning of 2015 as it resulted in the late deployment of field staff to the mining districts and projects planned not being done.

Total actual revenue for 2015 amounted to nine billion, eight hundred and twenty-seven million dollars (\$9.827M). Total actual expenditure amounted to ten billion, six hundred and fifty-three million dollars (\$10.653M). This resulted in an actual net cash outflow of eight hundred and twenty-six million dollars (\$826M).

The budgeted revenue for 2015 amounted to \$7,593.0M and budgeted expenditure amounted to \$6,689.0M, thus resulting in a budgeted surplus of \$904.0M. It is important to note however, that the net actual deficit of (\$826M) was arrived at with actual expenditure inclusive, of contributions to Consolidated Fund of \$6B.

The table below summarizes the above (3).

Description	Actual	Budgeted	Revised Budget (Not Approved)
Revenue	\$9,827	\$7,593	9,961
Expenditure	10,653	6,689	7,593
Surplus	(\$826)	\$904	\$2,422

I.S.O

The Finance Division continued to be proactive with respect to compliance with its responsibility towards the Quality Management System, with respect to purchasing and customer property.

SUMMARY CONCLUSION

The entire year of 2015 was distracted and disjointed. Industrial action, elections, hiatus in the operation of the Board, controversy involving the Chairman of the Board and then Commissioner, reassignment of Senior Managers, all unprecedented within the Commission. To have performed to the level which the record herein established as better than satisfactory in many areas such as in the technical and financial arenas, is a fair testament that the Commission can do much better if empowered to do so.

The issue of space and availability of assets in the field have been serious constraints. Certain attitudes and behaviour both within the GGMC and the sector as a whole have to be realigned if the relationship between the regulators and operators is to improve.

It is the opinion of the author that the mining sector of Guyana can and must reevaluate how adjustments from the fulcrum of what obtains presently would be done in order to sustain to the benefit of Guyana, a sector that is pivotal to the economy.