

*Record Guyana*



**GUYANA**

**Ministry of Agriculture and Natural Resources**

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**REPORT ON THE GEOLOGICAL  
SURVEY DEPARTMENT FOR  
THE YEAR 1965**

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1968

**GEOLOGICAL SURVEY DEPARTMENT**  
Ministry of Forests, Lands and Mines



ANNUAL REPORT 1965



P.O. Box 789,  
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Oil Concessions  
(Guyana)

GEOLOGICAL SURVEY DEPARTMENT  
ANNUAL REPORT FOR 1965

Contents		Page
I.	INTRODUCTION	1
II.	REVIEW OF THE YEAR	1
	a. Accommodation of Ministry of Forests, Lands & Mines	1
	b. Integration of Geology and Mines	2
	c. Staffing	3
	d. International Aid Personnel	4
	e. Training Tour	4
	f. Post graduate studies	5
	g. Other training	5
	h. Visits and tours of Inspection	5
	i. IVth Caribbean Geological Conference	6
	j. Advice to Caribbean Territories	6
III.	THE 1962-1965 UNITED NATIONS SPECIAL FUND-BRITISH GUYANA AERIAL GEOPHYSICAL SURVEY	7
	A. The Project	7
	B. Counterpart Field Operations	9
	1) Haimaralli	13
	2) Barama-Akarabisi	13
	3) Merume	13
	4) Kanukus	14
	5) Aranka	14
	6) Eagle Mountain	14
	7) Akaiwong (Middle Guyuni)	15
	8) Waiamu	15
	9) Eldorado-Kaburi	15
	10) Potaro-Ewang	15
	11) Honey Camp	15
	12) Matthew's Ridge	15
	13) Aremm	16
	14) Mariwa	16
	15) Groete Creek, Lower Essequibo	16
	16) Putareng	16
	17) Itaki	16
	18) Middle Barama (N.W.D.)	17
	19) Dukwarri Head (Upper Guyuni)	17
	20) Pomeroon Head	17
	21) Tikwah	17
	22) Kurupung	17
	1965 Operations	17
	Summary of Results of Counterpart Field Operations	18

CONTENTS (Cont'd)

	Page
Counterpart Finance	18
<b>IV. FIELD WORK 1965</b>	<b>19</b>
Wariri	20
Groete Creek	20
Yakishuru	21
Ianna	22
Pipiani	22
Kokerit	22
Tasawinni	22
Aranka	22
Takutu	24
The Aremu	25
Peter's Mine	27
Geophysical Survey at Kutuau and Waiamu	27
Area 33	28
Kutuau-Waiamu	28
Geophysical Expedition to Groete Creek	29
Geophysical Work at Area 33, Puruni	29
Mariwa	29
<b>V. RESEARCH PROJECT</b>	<b>30</b>
a) Palaeomagnetic Studies	30
b) Palynological Research Project	31
<b>VI. MINERAL DEVELOPMENT</b>	<b>31</b>
<u>BAUXITE</u>	31
Demerara Bauxite Company	31
Reynolds Metals Company	32
<u>MANGANESE</u>	33
<u>DIAMONDS</u>	33
<u>GOLD</u>	33
<u>OIL</u>	33
Coastal and offshore belt	33
<b>VII. HEADQUARTERS</b>	<b>34</b>
Drawing Office	34
Laboratory	34
Library	35
Publications	36
LIST OF PUBLISHED REPORTS 1965	36
STAFF AVAILABILITY DURING 1965	

31.

Study of the samples led to the conclusion that there may be two separate ages of intrusion of dolerites in the Roraima, the Chinakuruk group giving distinctly different results to those from the Kamarang. This is of great interest and resulted in a return visit by Professor Hargraves in October when sampling was undertaken at Tumatumari, Kaitear, Tukeit-Kangaruma, Eagle Mountain and Velgrad.

The publication of Professor Hargraves' work is awaited with great interest.

b) Palynological Research Project

The Geological Survey has been acting as coordinating agency for a pollen research scheme financed jointly by bauxite companies in British Guiana and Surinam. The companies concerned are Reynolds Metals Ltd., and the Demerara Bauxite Company in British Guiana at the Billion Maatschappij and Surinam Aluminium Co. of Surinam. The project is now approaching conclusion.

During the course of the scheme Mr. T.A. Wijnstra has visited the country and Surinam. The various contribution companies have provided samples for palynological analysis together with appropriate data, and the results of studies of Professor Th. van der Hammen for the Geological Survey of British Guiana itself have been made available to the project.

The results of the programme remain confidential until the contributing companies have had opportunity to study them fully. However it was agreed that the data will be published as soon as practicable and there is no doubt that it will represent a highly important contribution to the literature on the stratigraphy of the Guiana coastal sediments.

## VI. Mineral Development

### BAUXITE

#### Demerara Bauxite Company

Shipment of calcined bauxite by the Demerara Bauxite Company Ltd. reached a record figure of 485,000 long tons. In addition, the Company processed and shipped from its Mackenzie plants 275,000 tons of alumina and 880,000 tons of dried metallurgical grade bauxite.

Calcined bauxite went forward to manufacturers of abrasives and refractories in 30 countries. During the year 308 vessels lifted cargoes with a sales value of \$62 million from Mackenzie.

During 1965 Demba commissioned a \$3 million tailings recovery plant to recover additional quantities of usable bauxite from high silica material removed in the washing plant. The plant has a capacity of 300,000 tons annually.

A further major addition was the installation of a plant to produce synthetic mullite from which test quantities were produced.

A third bucket wheel excavation system for the removal of overburdens was commissioned in mid-year. The system, which includes conveyors for moving the overburden out of the mining area, cost \$4,000,000.

32.

A new evaporation unit was installed in the alumina plant to remove impurities from process liquor.

Recently, the company announced a \$38 million investment programme for 1966/67. Additional stripping equipment amounting to \$15 1/2 million and including two large bucket wheel excavators and a walking dragline are to be acquired. Capacity of these three machines is to be 15 million tons a year. An additional calcining kiln, Demba's seventh, is to be installed raising the company's annual capacity for calcined products to 700,000 tons. The cost of this installation and related facilities is estimated to be \$5 1/2 million.

The railway and vehicle bridge across the Demerara is now under construction and will enable the company to open up a new mining area in the West Bank.

In the exploration field an experimental programme to evaluate the suitability of seismic methods was introduced with satisfactory results. This technique is now being introduced into regular exploration programmes. In order to step up pace of exploration additional drilling equipment has been acquired. Surface exploration ceased as such, in areas covered by exclusive permission and was replaced by drilling activities.

In October a long term agreement was signed between the Company and the B.G. Government.

#### Reynolds Metals Company

This company shipped during 1965 a total of 376,389 long dry tons compared with 305,665 long dry tons for 1964. Shipments of chemical grade ore increased proportionately more than of metallurgical grade ore. The installation of a new dryer resulted in a sharp increase in production beginning September and at year end the production rate was equivalent to 600,000 tons per year, a rate which the Company expects to maintain during 1966.

Early in 1965 a long term agreement was signed between the Company and the British Government and the Company commenced implementation of a \$4 1/2 million expansion programme which is expected to be completed early in 1966.

In September of 1965 a severe subsidence of the Company's stockpile at Everton resulted in the loss of 20,000 tons of ore and damage to building structures and transportation facilities. At year end the Company announced their intention to build a plant at Everton to produce calcined bauxite for the refractory and abrasive industry. The cost of this plant with additional supporting facilities is estimated at \$6 million and construction is expected to commence early in 1966.

The U.S.A.I.D. feasibility survey of the Berbice Bar is expected to be completed early in 1966 and favourable results are anticipated.

MANGANESE

Manganese Mines Management, a subsidiary of Union Carbide, produced during 1965 at their Matthew's Ridge operations a total of 166,194 wet tons of manganese are compared with 116,881 wet tons for the previous year.

During the second half of the year exploration drilling was carried out on the Company's Pipiani concession in the Barama River.

DIAMONDS

During 1965 a total of 112, 874 carats of diamonds were produced an increase of approximately 4 % over the 1964 production.

Suction dredges continue to increase in numbers and 65 % of the 1965 diamond production came from dredges.

GOLD

Of the 2077 ounces of gold won during 1965, 893 ounces came from the North West District. Though there was a 1 % decrease in the colony production compared with 1964, this presents a more stable picture when compared with a 25 % decrease for the 1964 production compared with that for 1963.

Gold winning operations were mainly small scale and almost exclusively alluvial.

OIL

Coastal and offshore belt

The year 1965 saw a positive step in the investigation of the oil and gas potentials of the country. Guyana Shell Ltd. was granted an Oil Exploration Licence covering 9,600 square miles of on-shore and off-shore area in the north-east of the colony.

A crew of western Geophysical was contracted by Guyana Shell Ltd. to carry out a reconnaissance seismic programme. The programme which consisted of 2038 km. of line was commenced in August and completed in September. At the end of the year the results were still being processed.

The Continental Oil Company of British Guiana was granted an Oil Exploration Licence over 13,800 square miles of off-shore area in the north western sector of the country immediately adjacent to and west of the concession granted to the Guyana Shell Ltd. A seismic reconnaissance programme under contract to Western Geophysical was carried out but at year end the results were not available.