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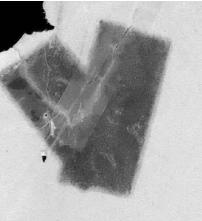
THE MINERAL RESOURCES AND MINING INDUSTRY OF THE MANDATED TERRITORY OF NEW GUINEA

bу

N.H. Fisher

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MINERAL RESOURCES SURVEY BRANCH.

THE MINERAL RESOURCES AND MINING INDUSTRY OF THE MAIDATED TERRITORY OF NEW GUINDA.

Mistorical

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Page

Sectorical Map of the Bulolo and Watub River Vellage, Morobe District.

Mineral Resources Survey Branch. MINERAL RESOURCES AND MINING INDUSTRY OF THE MANDATED 1945/35. Report No. Historical. Mining in the Mandated Territory of New Guinea has, up to the present, been almost entirely confined to the winning of gold, mostly from alluvial deposits. Prior to the last war Australian prospectors crossed the border, without the knowledge of the German authorities, and worked some of the richer patches along the Waria and Ono Rivers, near the Papuan Border. This production has, no doubt, been included in the records of the nearby Gira Goldfields in Papua. The history of gold mining proper in New Guinea dates from 1922 when William (Shark-eye) Park penetrated the Bulolo Valley and found payable gold at the mouth of Koranga Creek, three miles north-north-west of the present site of Wau. Owing mainly to difficulties of transport the progress of the field was slow for several years and only a few miners were getting profitable returns until 1928 when Royal and Glasson made their way up the side of the Edie Creek gorge and discovered the phenomenally rich alluvials in the comparatively flat bed of the creek above the gorge. A rush followed, aerodromes were built and plane transport superseded the long arduous haul by native carriers from the coast, and the dredging areas of the Eulolo and Watut Rivers were pegged. Prospectors went farther afield and opened up claims along both rivers and their tributaries over a distance of fifty miles or more, from the head of the Watut almost to Maralinan, when the river opens out onto wide flats prior to joining the Markham. Capital was interested, the Bulolo Valley alluvials were bored, more aerodromes cleared and plane transport developed sufficiently to enable all the necessary mants for the construction of large dredges to be flown in The ary parts for the construction of large dradges to be flown in. The first two dredges of the Bulolo Gold Dredging Company commenced operations in 1932 and the fleet was gradually increased until by 1940 eight dredges, operated by three hydro-electric powerhouses were in operation. Concurrently with the development of the placer ground, the smaller alluvial properties turned more and more to the use of large scale sluicing methods, water races were built and hydraulic sluicing, supplemented where necessary by the use of elevators, was widely employed, particularly by New Guinea Goldfields Limited, Koranga Gold Sludeing Limited and many other Companies and private claim and lease-holders. Outside the Bulolo and Watut Valleys, payable gold was found just over the coastal divide in Black Cat Creek and the Bitol River, near Salamana itself at Kela, in tributaries of the Wampit and Walm Rivers, in the headwaters of the Ramu and Purari rivers and near Mount Hagen. In 1935 the Sepik goldfield, embracing a large area southwest of Wewak, was opened up. In practically every ease, transport was entirely by aeroplane with costs varying from £10 per ton up to about £100 per ton in the case of inland areas such as Mount Hagen, and the subsequent high cost of supplies offset to some extent the advantages of cheap native labour. The goldfields proclaimed in the Mandated Territory are as follows:-Morobe goldfield. Proclaimed February, 1923, bouncaries amended 1930 and 1933; Now comprises practically all the area south of the Markhan River and includes the headwaters of the

% of Total }	23.3	66.6	10.1
% of Total)	.24.8	67.8	7 .4.
% of Total) to 30/6/44)	34.5	55.7	9.8

Dredging.

Three separate areas were being operated by Bulolo Geld Dredging Limited until January, 1942. The principal one, covering the largest area, and containing the deepest ground (up to 225 feet) extended from the bottom end of the Bulolo gorge, near the Bulolo powerhouse, down to three miles below Bulolo township, approximately ten miles in length and nearly $2\frac{1}{2}$ miles wide at the widest portion. At this point another smaller gorge limits dredge operations and the next area extends for four miles down to the Watut junction, up the Watut for two miles and below the junction through the rich Bulwa flats for $5\frac{1}{2}$ miles to below the mouth of the Baiune Greek. The third area is higher up the Bulolo Valley, from the mouth of Koranga Creek back up the river to the mouths of Sandy and Wau Creeks.

During 1941 the Company was in full production at the rate of 180,000 fine ounces per year and it was considered that the reserves were sufficient to last 10-15 years, though it might not be possible to keep all eight dredges working for the full period. The total amount yet to be recovered is perhaps 2,000,000 ounces fine gold. Average value of the ground worked during 1939-40 was a little over 2/- per cubic yard. More exact figures for reserves proved by drilling could doubtless be obtained from the Sydney office of Bulolo Gold Dredging Limited.

Alluvial.

Alluvial mining apart from dredging has been carried on along the Bulolo and Watut Rivers and their numerous tributaries, including Kodiak Creek, Quombo Creek, Crystal Creek, Binatang Creek, Little Wau Creek, Flat Creek, Koranga and Namie Creeks, Edie, Merri and Slate Creeks, Webiak Creek, Sandy Creek, Poverty Creek, and Kulolo Creek flowing into the Bulolo; Hidden Valley Creek, Kapoul Creek, Nauti Creek, Iroa Creek, Surprise Creek, Roaring Creek, Reedy's Creek, Subroar Creek and Bitap Creek flowing into the Watut; the Black Cat Creek and the Bitol River; in the Waim River; In Wongonbunger Creek, flowing into the Wampit River; at Kela near Salamaua; on the Waria and Ono Rivers; near Kalapit, Upper Markham River; in Yonki Creek, Biakira Creek, Efontera, Ornapinka, Barola Creeks, all tributaries of the Upper Ramu; on the Upper Dunantina, between Kalanatu and Bena-bena; and on Evunga and Ewinmong Creeks near Mount Hagen. In the Sepik Goldfield the principal streams were the Screw and the Parchee Rivers, and the beadwaters of the Atob and Anumb Rivers, but gold has been won from many other streams flowing from either side of the central divide which separates the streams flowing to the sea from those flowing into the Sepik River. A small quantity of alluvial gold has been won on the Tugi Tugi field, Tatau Island, in the Tabar Group east of New Ireland, and a very small quantity from the Kupei area, west of Kieta, on Boungainville Island.

The principal source of the gold of the Morobe district is the area at the head of Edie Greek, where it occurs as small rich stringers throughout an area of hydrothermally altered schist - known as "mudstone" - adjacent to intrusives of quartz porphyry, also hydrothermally altered and also carrying gold. These porphyries are of late Tertiary age and the gold associated with them is only 500-600 fine, but several other earlier porphyries

Kiets goldfield. Proclaimed October, 1924; A roughly triangular area including the township of Kieta and extending along the coast from latitude 6°S to 6°215 and inland to longitude 155°20°.

Sepik goldfield. Proclaimed May, 1937; Includes nearly all of the area between the Sepik River and the sea, except a small area of uncontrolled territory in the southwest corner.

The following provisional goldfields, each of square mile, have also been declared:-

Upper Ramu: Proclaimed January, 1930, revoked March, 1933, and included in the Morobe goldfield.

Upper Purari: Proclaimed January, 1933.

June, 1933.

Talele, New Britain: near Cape Lambert; Proclaimed

Tugi Tugi, Tateu Island, Tabar Group, off the east coast of New Ireland; Proclaimed June, 1934,

The gold mining operations are conveniently divided into three classes: Dredging (Bulolo Gold Dredging Limited); Alluvial workings apart from dredging; and Lode mining. The following table shows how the production up to the end of June, 1941, has been distributed between the three classes.

GOLD PRODUCTION OF THE MOROBE DISTRICT.

TABLE 1c

Year	Alluvial Fine Ozs	Dredging Fine Ozs.	Lode Fine Ozs.	Total Fine Oz	Value
Prior to	a many fam.			107 806	
30/6/1930	197,896			197,896	843,308
1930-31	29,824		34	29,858	154,046
1931-32	48,518		2,600	63,485	434,352
1932-33	46,236	62,635	13,042	121,913	925,899
1933-34	1,6,969	91,653	25,759	164,381	1,345,801
1934-35	41,185	124,681	29,736	195,602	4,730,644
1935-36	42,828	123,715	22,984	189,527	1,657,979
1936-37	49,077	136,867	30,152	216,096	1:901,989
1937-38	59,279	133,553	19,963	212,795	1,855,684
1938-39	48,216	159,769	21,228	229,213	2,116,117
1939-40	63,268	180,857	27,450	271,575	2,878,353
1940-41	63,329	173,833	13,873	256,035	2,733,880
TOTAL	739,625	1,196,930	211,821 2	., 148, 376	\$18,578,052

of similar composition elso introduced gold of varying but slightly greater fineness, apparently mainly in small stringers like the later occurrences. Away from the Wau-Edie Creek area most of the gold is derived from mineralisation associated with the extensive Morobe granodiorite batholith or related intrusives. All this granitic gold is of higher fineness, generally 850-900 parts per thousand.

The gold of the Sepik district is derived mainly from reconcentration of the gold contained in conglomerates of the Mio-Pliceene sedimentary series, but undoubtedly in the first place came from reefs and leaders in the gold basement rocks, which outcrop along the Torricelli ranges, especially in the deeper valleys.

The dredging claims and leases are far too numerous to list here, but the following are some of the principal producers from alluvial mining.

Name.

New Guinea Goldfields Ltd.

Koranga Gold Sluicing Ltd.

H.T. Allan.

Sandy Creek Gold Sluicing Ltd. Sandy and Poverty Creeks.

Leahy Bros.

Gold and Power Limited.

E. J. Thomas.

Mrs. D. R. Booth.

Bulolo Gold Dredging Ltd.

T: Zoffman.

A. J. Peadon.

J. Thurston.

Situation of Property.

Edie Creek, Koranga Creek, Bololo River.

Koranga Greek.

Anderson's and Bourke's Creek, Golden Ridges (tribute from M.G.G.Ltd.).

Upper Watut River.

· Mouth of Edie Creek.

11 11

Bulolo River, below Edie Creek.

Bulolo River near Fowerhouse, sluicingoperations.

Bulolo River, four miles below Bulolo township.

Yonki Creak, Upper Ramu.

Parchee River, Sepik District.

Following are some of the geological reports which . describe the occurrence of gold and the general geological conditions in the different localities. All these reports are accompanied by geological maps.

Report on the Tugi Tugi goldfields, Tabar Is. By, N.H.Fisher.
Report on the Lower Edie Area.
Notes on the Upper Watut River. Report on the Sandy Creek area.

Report on the Upper Langimar-Kareeba Area

Report on Gold Discovery at Wongonbungor Ck.,

Wampit River X

Report on the Talele Goldfield, New Britain &

Report on the Kupei Goldfield, Bougainville X

Report on the Coldbearing area of the Wewek 18 19 音響 Report on the Goldbearing area of the Wewak district. Report on the Benembi Plateau, Mount Hagen. Report on the Upper Bitoi-Black Cat, including notes on the area between Wau & Salamava. " L.C. Noakes, Report on the Upper Watut Area.

Report on the Chimbu-Hagen area.

Report on the Area between Wau and Garaina,

Waria River X " N.H.Fisher.

Report on the Island of New Britain \$\psi\$ " L.C.Woakes.

X Copies of these reports are in the possession of the Allied Geographical Section, Brisbane.

\$\psi\$ Published in Geological Bulletin, No. 3, Territory of New Guinea, a copy of which is forwarded herewith.

All the above reports and others which will be quoted later are on file in Canberra and, no doubt, arrangements could be made to supply copies if the need were considered urgent.

Enclosed with this report are a geological sketch map of the area south of the Markham River, which includes nearly all the Morobe Goldfield except the Ramu headwaters, scale 1/250000, approximately 4 miles to one inch; and a more detailed

Enclosed with this report are a geological sketch map of the area south of the Markham River, which includes nearly all the Morobe Goldfield except the Ramu headwaters, scale 1/250000, approximately 4 miles to one inch; and a more detailed geological map of the Bulolo and Watut River valleys on a scale of 1/50000, 4/5 mile to one inch. These plans show hearly all the localities in the Morobe goldfield, which are mentioned in this report and most of the others can be found on the published map of New Guinea and Papua.

Lode Mining.

The only workable lodes so far found are near the head of Edie Creek and at Golden Ridges, 2 miles north-west of Wau. The main veins at Edie Creek occupy a series of steeply-dipping fissures aligned in a northwest-southeast direction, comprising from the south-east end, Day Dawn South, Surman's Vein, Edie Lodes Nos. 4, 1, 5, 2 and 3, Karuka and Enterprise Lodes. Of these Edie No. 1 lies just within the southern edge of the Upper Edie porphyry, and all the others are in mudstone, schist, or volcanic agglomerate not far from the porphyry intrusive. The Day Dawn lode lies partly along the schist-porphyry contact and partly in a fissure zone in the schist on the north side of the main Edie porphyry body. One or two other veins have been found up Merri Ck. The outcrops of all these lodes consisted of soft manganiferous material with some quartz, and at deeper levels the lode material altered to quartz and/or calcite with some rhodocrosite, and a small proportion of sulphides. Values decreased generally from the surface downwards, particularly below the zone of oxidation.

At Golden Ridges 150,000 tons of manganiferous ore averaging over 1 oz. of gold per ton was found lying flat, almost on the surface, and higher up the hillside, at Upper Ridges, the outcrop of a similar flat-lying but rather lower grade body was found. This ore turned to calcite, rhodocrosite and quartz at shallow depth and dipped south-west at about 30° into the mountain. Country rock of these lodes is late Tertiary volcanic breccia. A similar, but steeply dipping, lode was found half a mile to the east at the head of Anderson's Creek. The Golden Peaks lode is a low grade manganiferous formation just below Golden Ridges. Another lode which has been worked in a small way is the Mount Kaindi lode near the top of the mountain of that name. Of all these lodes Golden Ridges and Day Dawn South have been worked out. Most of the gold of the Day Dawn mine has also been extracted, but various shoots of ore were still being worked in a small way.

Production at the Edie Creek Mine, which was owned and operated by New Guinea Goldfields Limited, ceased on March, 17th, 1941 on account of a strike and the lower levels were flooded. The mine, which includes workings on Edie Wos. 1, 2 and 5 and on Karuka lode, was not subsequently reopened, but reserves of ore are estimated at:-

Recoverable Grade 8 dwts. Au per ton. Wain Mine Karuka Mine 17844 7.0 30183 000/000 Total

The Enterprise Company had opened up some 60,000 tons of 7 dwt. ore, but had not commenced production and had no milling plant.

Operations were proceeding at Upper Ridges and Anderson's Creek, but exact figures for ere not yet mined cannot be given at the moment. These mines were estimated to contain 120,000 tons of 8-10 dwt. ore, but have been partly worked out since that estimate was made. An approximate estimate of ore reserves suggests that some 50.60000 ozs. recoverable gold remain in the Edie, Enterprise, Day Dawn and Upper Ridges Mines, but much of this will only be workable if conditions are exceptionally favourable in the future, as the cost of rehabilitation of the plant and mines and of the necessary replacements may be so high that ore reserves remaining will not warrant the expenditure.

A small reef formation carrying up to 10 dwts, of gold per ton has been found on the Talele goldfield, near Cape Lambert, New Britain, and a little alluvial recovered from adjacent streams but the area holds no promise of future production. Ten miles south-west of Kieta, on Bougainville Island, a small company was engaged for several years in working a low grade cupriferous lode, consisting of a stockwork of quartz veins in porphyry. Some attention was also given to some narrow reefs at Punkuna a few miles farther indamd, which carry moderate gold values, but operations returned little, if any, profit and total production was small. was small.

The following detailed reports on the geology of the various mines, accompanied by geological plans and sections, have been prepared.

Report on the Day Dawn South Lode

Report on the Day Dawn Mine

Report on Mount Kaindi Lode ų Report on Mount Kaindi Lode
Report on the Enterprise Mine
Report on the Upper Ridges Lode
Report on Anderson's Creek Lode
Report on the Edie and Maruka Lodes
Report on the Velaloo Lode, hower Watut
Report on the Golden Parallelogram Lode
Report on the Golden Deeps Lode
Report on the True Dream Lode, Talele Goldfield,
New Britain New Britain Report on the Kupel and Punkuna Lodes, Kieta gold-

A description of the one geology of the Day Dawn Mine has appeared in Economic Geology Vol. KXXIV No. 2, pp. 173189, and a paper on Metasomatism associated with Tertiary mineralisation in the New Guinea, published in Economic Geology, Vd. XXXIV
No. 8 pp. 890-904, gives a brief outline of the geology of the WauEdie Creek area and of the lode occurrences.

SILVER

Silver production from the Territory has been only in cidental to gold-mining operations. The alluvial from Mdie and Merri Creeks contained 40 to 50% of silver, and this proportion decreased downstream, due mainly to the addition of higher grade gold from granitic and other sources. Bullion obtained by cyanidation from Day Dawn South, Day Dawn, and New Guinea Goldfields

Limited's Mines at Edie Croek was very rich in silver, some of it containing only a small percentage of gold. The production of gold and silver from the Territory up to the present is shown in Table 2. Each district is listed separately.

PLATINUM and OSMIRIDIUM.

These minerals occur in sempentinous rocks in the Waria Valley and also in similar material in the basement rocks which are exposed in the core of the ranges in the Sepik district. Small quantities have been included in parcels of alluvial gold forwarded from the Waria and Ono Rivers and from the Sepik goldfield, but the total production amounts to only a few owness.

MERCURY.

Cimmaber has been found in alluvials of Upper Edie Creek and can be seen associated with pyrite in the Enterprise lode on the lower levels of the mine, but there is little possibility of its being extracted on a commercial scale.

MANGAMESE.

All the gold lodes contain a certain proportion of manganese, and their outcrops consisted of black soft earthy manganiferous material. Pyrolusite, psilomelane and manganite have been identified, and rhodocrosite is plentiful in the Upper Ridges lode and the No. 1 lode at Edie Creek. Most of the manganese has been mined and passed down the creeks as tailings. In any case little, if any, would have been suitable for industrial use even if the cost of transport had not been prohibitive.

COPPER.

Copper minerals have been reported from various parts of the Territory, e.g. Waria Valley, Central Wakanai in New Britain, and Bougainville, but have not been found in sufficient quantity to be of commercial interest.

IRON.

Small bodies of fairly high grade and one or two larger bodies of low grade iron ore outerop on and adjacent to Rangarere Plantation, near Cape Lamber: North Baining, New Britain. The ore consists of hematite and magnetite; and partly replaced sedimentary rocks and carries some pyrite. It was examined by Dr. R.L. Jack and Mr. K. Church of Broken Bill Pty. Ltd., but was considered by them not to have any promise as an iron ore producer. Reference - Report on Talele Goldfield & Environs by N.H. Fisher, in Geologica. Bulletin No. 3 of the Territory of New Guinea.

Boulders of solid ma netic iron ore carrying gold have been found in Yonki Creek and Earola Creek in the Upper Ramu area, but the source of these boulders has not been discovered.

IMAD and ZIMC:

Samples containing galena, sphalerite and other minerals have been obtained from various localities in the Morobe district and elsewhere, usually from near the contact of intrusive perphyries, but no defined lodes of any size have been found.

SULPNUR.

Sulphur occurs as the native element, which has been deposited by solfataric ac'ion around the craters of active and extinct volcances along the north coast of New Britain and New

tons, Wount Pago, 4000 tons, Mount Garbuna 1700 tons, with lesser amounts at the South Son, Talasea, Langila, Rabaul and Kairiru. Details of these deposits have been published in Geological Bulletin No. 3 of the Territory of New Guinea, in two papers.

1. Report on the Sulphur Deposits of New Britain.

2. Report on the Sulphur Deposits of Lolobau Island.

LIMESTONE.

Unlimited quantities of limestone of various types are found both on the Islands and on the mainland, the degree of compaction varying in a general way with age. The crushed material known as "coronace" which is used successfully in road-making in New Ireland, New Britain and elsewhere, is of Pleistocene to Recent age. Eccene to Miccone limestones are plentiful, however, and even earlier limestones, probably of Palaeozoic age, as at Rangarere, and at Quembo Creek and the Upper Bulolo River near Wau.

CLAY.

Clays suitable for brickwork and rough pottery are abundant in the Tertiary and Recent sedimentary deposits and these are to be found throughout the Madang and Sepik districts, in the Bulclo, Watut, Waria and Upper Ramu valleys as well as on the Islands of New Britain and New Treland. Owing to the prevalence of earthquakes the use of bricks in construction work cannot be advocated.

PHOSFHATE ROCK.

Phosphate rock has been reported from the Talele Islands, north of Rangarere, New Britain, but this writer was not able to locate any during a brief visit to the Islands.

COAL.

Seams of lightic coal up to two feet thick have been found in Upper Miocene strata at Matakan Plantation, west coast of New Ireland and on the Toriu River, west coast of Gazelle Peninsula, New Britain, south of Pondo. Proximate analyses are given below.

	Fixed Carbon	Volatile Hydro-	Moisture	Ash	Sulphur Tota	
Toriu River Matekan	27.06 27.02	35.47 35.94	20.06			100.0

The Matakan occurrence has been examined and reported on by Mr. L.C. Noakes, Assistant Geologist.

PETROLEUM.

An outline of the history of the search for oil in New Guinea and Papua has been given in the report on the Mining Industry and Mineral Resources of Papua. For more than ten years Oil Search Limited, and later Australasian Petroleum Company, have been engaged upon geological mapping, supplemented later by aerial photography, in the Sepik district, between the Sepik River and the sea, while Islands Exploration Limited mapped considerable areas in the Madang district between the coast and the Ramu River. A promising dome structure was found near Malmai, 42 miles south of Aitape, and several other anticlinal axes were mapped in adjacent areas. Subsequent istailed field work on the Malmai area revealed discouraging features and the search for oil in the Mandated Territory was relegated to second place pending the testing by drilling of more favourable locations in Papua.

CAMBERRA, A.C.T. 27th August, 1943. N.H.FISHER, Chief Geologist.

Table 2.

ESTIMATED GOLD AND SILVER PRODUCTION MANDATED TERRITORY OF NEW GUINEA.

All Quantities in Fine Ozs. NEW IRELAND TOTAL PRODUCTION KIETA NEW BRITAIN MOROBE GOLDFIELD MADANG SEPIK Year Tugi Tugi) (Talele) (Mt. Hagen) End-Gold Silver Gold Silver Gold Silver Gold Value £A Silver Value Total Value Gold Silver Gold Silver Silver Gold ing June 30 th Prior PERCON to Dec. 11,000 23,000 100,000 11,000 1,500 101,500 23,000 1926 Jan. 1927 to June 100,365 44,277 426,5**5**2 18**8**,176 92,640 92,640 10,191 436,743 1928 100,365 34,500 2,587 190,763 34,500 44.277 1929 30,254 128,580 22,800 130,290 22,800 1.710 30,254 1930 29,858 154,046 19,800 19,800 155,531 29,858 1931 434,352 1932 63,485 36,000 63,485 36,000 437,062 2,710 925,899 54,150 121,913 54, 150 931,589 1933 121,913 5,690 164,381 1,345,802 1,353,771 1,751,303 1,680,394 78,636 86,876 78,636 7,969 1934 164,381 58 87 2.2 5.6 17.7 8.65 196,498 1,738,561 H 05 1935 195,602 710 45 86,964 12,742 27 8.65 94,274 1,056 113 22 3.7 190,727 1,668,464 94,371 11,930 1936 189,527 500 829 645 540 512 222,816 1,961,125 123,820 13,572 223,880 1,952,344 172,201 18,040 237,705 2,193,438 148,040 16,003 25 4 6,097 598 487 29.7 1937 216,096 123,286 4.2 1,974,697 1,970,384 1938 212,795 171,188 24.2 485 159 10,109 •7 99 143 7,871 6,589 297 217 147,277 302 435 14.8 22 3.7 2,209,441 1939 229,213 124 278,940 2,954,199 195,300 23,306 10.8 21 2,977,505 1940 271,575 263,096 2,808,833 184,584 21,965 45 2,830,798 1941 256,034 183,818 747 245 6,238 1.6 7.6 July Dec. 110,277 1,178,548 69,020 8,212 1941 108,229 1,982 2,186,760 68,818 66 39 163 Total 2,256,604 1,410,645 2062 894 40.652 1789 347 59 17.3 2,301,472 20,158,919 1,423,826 159612 20,318,531 3334 89 Total Value Each District 8 152 .2 19,736,107 159,121 19,204 79 383,835 376 16, 243 10 3,379

Table 2.

ESTIMATED GOLD AND SILVER PRODUCTION MANDATED TERRITORY OF NEW GUINEA.

		·						ntiti	es in Fi		NEW BRI	PATN	16	H.sk la	nde			TOTAL I	RODUCTI	ON
Year End- ing June 30th	MOROBE (MADANG VMT. Ha Gold S	gen)	Gold S	ilver	Gold S	Silver	(Tugi	Tugi)	(Talel		Good M	+ Hoge Silv		Gold	Value &A	Silver	Value	Total Value
to Dec. 1926 Jan.	23,000	11,000								1 3						23,000	100,000	11,000	1,500	101,500
1929 1930 1931 1932 1933 1934 1936 1937 1938 1939	00,365 44,277 30,254 29,858 63,485 21,913 64,381 95,602 89,527 216,096 212,795 229,213 271,575	92,640 34,500 22,800 19,800 36,000 54,150 78,636 86,876 94,274 123,286 171,188 147,277	27 485 302 435	9 159 99 143 245	7,871	58 87 500 829 645 540	45 113 598 487 297 217	2.2 5.6 29.7 24.2 14.8 10.8	25 4 22 124	17.7 3.7 4.2 .7 3.7 21	8.65	•7		5		190,727 222,816 223,880 237,705 278,940	1,952,344 2,193,438 2,954,199	92,640 34,500 22,800 19,800 36,000 54,150 78,636 86,964 94,371 123,820 172,201 148,040 195,300 184,584	2,587 1,710 1,485 2,710 5,690 7,969 12,742 11,930 13,572 18,040 15,981 23,306	436,743 190,763 130,290 155,531 437,062 931,589 1,353,771 1,751,303 1,680,394 1,974,697 1,970,384 2,209,440 2,977,505 2,830,798
ALL THE	90, 192	183,818 57,351	66	22	1,541	240	. 1	` '				*	-		_	18,459	198,664	57,613	6,079	988,329
947-9	18,002	572,457	457			-1.										82,852	899, 444	56,644	13,311	
148	81,245	56,222	1,183	388	424	34	111	8								91,296	982,872	62,347		
49	89,764	62,117	451	148	915	14	166	6								. 84,958	1,210,275	57,982	17,938	1,228,2
50	83,344		735	241	753	17	726	5								87593	1,356,962	60,204	22,57	6 1, 37.9,5
51 tal 2	86,676	1,647,630	5,506	1,807	205	3,597	2,176	108	347	59.	17.3	1-4	L.			2,648,151	24,610,539	1,662,203	228, 59	24,839,13
		1,656,631																		
		227,754				432	21,376	16	3,379	8	152	. 2				199				
								10			re ava	elab	le only	y for	July	y - hov.	1941.			