

PT ANEKA TAMBANG (PERSERO) TBK

**LOGAM MULIA PRECIOUS METAL REFINERY
JAKARTA, INDONESIA**

PT Aneka Tambang (Persero) Tbk, a leading mining and minerals processing company in Indonesia, owns the **Logam Mulia Precious Metal Refinery**, Indonesia's only major gold refiner and bar manufacturer.

The refinery, located in east Jakarta, issues London Good Delivery 400 oz bars and 12 smaller cast and minted bars that are branded with the official stamp of Logam Mulia:

Cast: 400 oz, 1000 g, 250 g

Minted: 100 g, 50 g, 25 g, 10 g, 5 g, 4 g, 3 g, 2.5 g, 2 g, 1 g

The bars are traded within Indonesia, as well as internationally, notably kilobars that are exported mainly to South East Asia, Europe and Australia.

Indonesia, an archipelago of 17,508 islands that straddles the equator in South East Asia, has a population of 245 million, the 4th largest after China, India and the USA. Religious affiliations: Muslim (86%), Christian (9%) and Hindu (2%). Jakarta (9 million), on the island of Java, is the capital city.

According to GFMS Limited (London), Indonesia was the 8th largest gold producing country in 2009, having generated 157.5 tonnes of fine gold, mainly as a by-product of copper mining.

ACCREDITATION

1999 London Bullion Market Association (LBMA)

2005 Dubai Multi Commodities Centre (DMCC)

In 2000, Logam Mulia's Assay Laboratory was accredited to ISO Guide 17025 by the National Accreditation Committee.

BACKGROUND

PT Aneka Tambang (Persero) Tbk (commonly known as **Antam**) was established in 1968 through the merger of several mining-based commodity companies. It focuses on the mining and processing of nickel, gold and bauxite.

The company has operated nickel mines in Southeast Sulawesi (since 1934) and North Maluku (since 1978), and gold mines in West Java: at Pongkor (since 1994) and at Cibaliung in Banten (since 2009). The mining of bauxite, which previously relied on operations in Bintan Island (1968 – 2009), is now in development in Kalimantan.

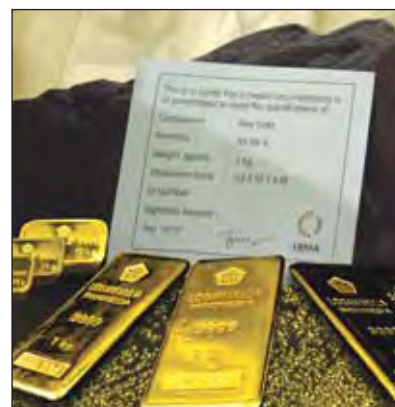
The company, incorporated in 1975, has been listed on the Indonesian Stock Exchange (since 1997) and on the Australian Stock Exchange (since 1999). Shares: Indonesian Government (65%), public (35%).



The Logam Mulia Precious Metal Refinery has refined gold in Jakarta since 1937.



Logam Mulia has manufactured London Good Delivery 400 oz bars since 1999.



Logam Mulia has manufactured kilobars for the international market since 1992.



The **Logam Mulia Precious Metal Refinery**, founded in Jakarta in 1930 by a Belgian gold merchant, Rudolf Theodoor Braakensiek, has refined gold and silver since 1937.

In 1949, this private enterprise became a legal entity called NV Essaieur en Affinage Bedrijf v/h RT Braakensiek.

In 1957, when the company was taken over by Bank Industri Negara, it changed its name to PT Logam Mulia.

In 1961, it became a government-owned company, subsequently incorporated as a business unit of PT Aneka Tambang (Persero) Tbk in 1968.

In 1979, it was relocated from central Jakarta to a large two-hectare site in east Jakarta.

The refinery accepts gold-bearing materials (mine doré, semi-refined bullion and scrap) for refining to specified purities up to 999.9.

Gold refining methods include pyrometallurgical chlorination (since 1997), electrolysis and electric furnace smelting.

The refinery normally generates around 30 tonnes of fine gold each year. Its annual refining capacity is approximately 75 tonnes.

In addition to gold (and silver) refining and bar manufacture, the refinery produces granules, customized bars, coins, medals, pendants and rings, as well as a range of raw material products for the jewellery industry.

Number of employees: 200 (Logam Mulia refinery), 2,000 (Antam).

Websites: www.logammulia.com (precious metals refinery)
www.antam.com



PT Aneka Tambang (Persero) Tbk has its headquarters in central Jakarta.



Antam has mined gold at its Pongkor mine in West Java since 1994.

TECHNICAL DESCRIPTION

| Weight | Type | Fineness | Shape | Dimensions mm | Year First Made in Current Dimensions | Example of Serial Numbering System |
|---------|--------|----------|-------------|----------------------------------|---------------------------------------|------------------------------------|
| 400 oz* | Cast | 999.9 | Rectangular | 238 x 78 x 42 217 x 58 (base) | 2010 | AA 0001 |
| 1000 g | Cast | 999.9 | Rectangular | 118.2 x 54.5 x 9.0 | 2005 | TF 077 |
| 250 g | Cast | 999.9 | Rectangular | 58.0 x 31.3 x 8.0 | 2005 | GU 6101 |
| 100 g | Minted | 999.9 | Rectangular | 50 x 30 x 3.65 | 2005 | Q 069 |
| 50 g | Minted | 999.9 | Rectangular | 42.5 x 25.5 x 2.53 | 2005 | S 043 |
| 25 g | Minted | 999.9 | Rectangular | 33.3 x 20 x 2.07 | 2005 | T 042 |
| 10 g | Minted | 999.9 | Rectangular | 27.5 x 16.5 x 1.22 | 2005 | B 087 |
| 5 g | Minted | 999.9 | Rectangular | 20 x 12.3 x 1.09 | 2005 | X 048 |
| 4 g | Minted | 999.9 | Rectangular | 20 x 12.3 x 0.83 | 2011 | - |
| 3g | Minted | 999.9 | Rectangular | 16.7 x 10 x 1.03 | 2005 | - |
| 2.5 g | Minted | 999.9 | Rectangular | 16.7 x 10 x 0.83 | 2005 | - |
| 2 g | Minted | 999.9 | Rectangular | 15.6 x 9.4 x 0.75 | 2005 | - |
| 1 g | Minted | 999.9 | Rectangular | 13 x 7.8 x 0.51 | 2005 | - |

Source: Logam Mulia Precious Metal Refinery. * 400 oz bar dimensions from 1999 until 2010 were: 200 x 83 x 43 mm, base 195 x 75 mm.

The same serial numbering system has been applied to small cast bars and minted bars (since 1981) and 400 oz bars (since 1999).



The refinery also manufactures an extensive range of customized cast and minted bars for banks and other clients.

It has an in-house design workshop and has manufactured its own master tools and dies since 1997.

HISTORY OF GOLD BAR MANUFACTURE

A Logam Mulia official stamp has been applied to the refinery's standard bars since 1957. Previously, bars had been marked with an official stamp bearing the name of R.T. Braakensiek, the refinery's founder.

Cast Bars

In addition to bars with irregular weights, 100 g cast bars are believed to have been first issued in 1957, followed by 50 g and 25 g bars in 1981, 1000 g bars in 1992 and 400 oz bars in 1999.

In 2005, when 100 g, 50 g and 25 g cast bars ceased to be issued, a new 250 g cast bar was introduced.

In 2010, the dimensions of the 400 oz bar were changed, and a year date was recorded on each bar, to meet the new requirements for London Good Delivery bars.

Minted Bars

Since 1981, when minted bars were first manufactured, the refinery has revised its range several times:

| | |
|---------------------|--|
| 1981 | 3 rectangular bars (vertical format) issued: 10 g, 5 g, 2 g. |
| 1994 ^{Est} | Replaced by 5 round bars: 10 g, 5 g, 2.5 g, 2 g, 1 g |
| 2005 | Replaced by 9 rectangular bars (horizontal format): 100 g, 50 g, 25 g, 10 g, 5 g, 3 g, 2.5 g, 2 g, 1 g |
| 2011 | The 9 rectangular bars were reissued in the same dimensions, but with a vertical format and laser watermark on the obverse sides. A new 4 g bar was also issued. |

Source: Logam Mulia Precious Metal Refinery

The reissue of the bars with a vertical format and laser watermark in 2011 was done to improve their quality and security.



The manufacture of kilobars is being automated during 2011.

OFFICIAL STAMP



On all bars manufactured by Logam Mulia since 1957.

CERTIFICATION MARKS



On 400 oz bars since 1999.



On the reverse side of kilobars and other small cast bars since 1994.

HISTORICAL CERTIFICATION MARK



On the reverse side of small cast bars from an unknown date until 1994.

On the reverse side of minted bars from 1981^{Est} until 2005.



CAST GOLD BARS



1000 g



250 g



The dimensions of the London Good Delivery 400 oz bar were modified in 2010.



MINTED GOLD BARS

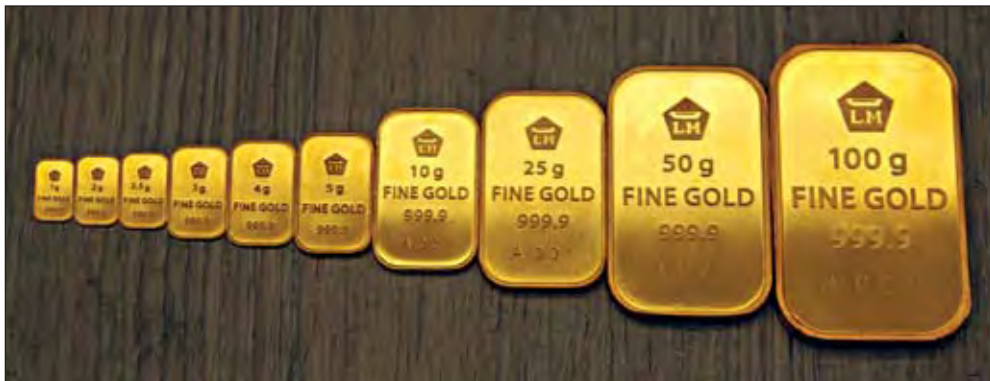


Obverse



Reverse

100 g



1 g – 100 g

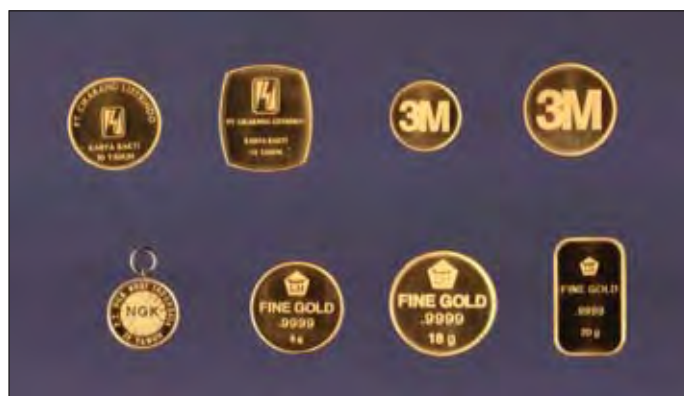
Logam Mulia reissued its range of minted bars with a vertical format in 2011.



Logam Mulia produces its own master tools and dies for the stamping of bars.



CUSTOMIZED GOLD BARS AND MEDALS



Logam Mulia manufactures customized bars and medals for banks and other clients.

LOGAM MULIA STATISTICS

GOLD REFINING
Refined gold output - Tonnes

| Category | 2006 | 2007 | 2008 | 2009 | 2010 |
|--------------|-------------|-------------|-------------|-------------|-------------|
| Mining | 14.2 | 18.1 | 19.1 | 16.1 | 20.5 |
| Scrap | 11.8 | 12.9 | 12.6 | 11.0 | 10.8 |
| Total | 26.0 | 30.0 | 31.7 | 27.1 | 31.3 |

In recent years, Logam Mulia has refined around 30 tonnes each year.

MINTED GOLD BAR PRODUCTION
Tonnes

| Category | 2006 | 2007 | 2008 | 2009 | 2010 |
|--------------|------------|------------|-------------|------------|-------------|
| Orders | 1.4 | 2.3 | 14.2 | 4.8 | 13.9 |
| Sales | 1.4 | 2.3 | 3.1 | 1.4 | 2.0 |
| Total | 2.8 | 4.6 | 17.3 | 6.2 | 15.9 |

Many minted bars are ordered and distributed through jewellery shops.

The most popular bars: 100 g, 25 g and 10 g.



Logam Mulia sold gold bars to approximately 10,000 private investors at its on-site shop in 2010.





Logam Mulia manufactures an extensive range of gold jewellery, including chains, pendants and rings.



Historical gold bar marked with the name of R.T. Braakensiek, the founder of the Logam Mulia Precious Metal Refinery.

The bar (499.8 g) was manufactured sometime between 1937 and 1957.



This supplement is indebted to the support of
PT Aneka Tambang (Persero) Tbk
Logam Mulia Precious Metal Refinery

World Gold Council
Indonesia Goldsmiths & Jewellers Association
Indonesia Jewellery Manufacturers Association

THE INDUSTRY COLLECTION OF GOLD BARS WORLDWIDE

The Industry Collection of Gold Bars Worldwide is a worldwide effort to create a unique collection of standard, innovative and unusual gold bars to support the promotion of gold.

Since 1993, manufacturers from across the globe have supported this international project by making their bars available. The Founder was **N.M. Rothschild & Sons (Australia) Limited**, associated with N.M. Rothschild & Sons Limited, London. The Custodian and Official Location is **The Perth Mint**, wholly owned by the Government of Western Australia.

The Curator is **Grendon International Research Pty Ltd (GIR)**. Apart from acting as a consultant within the gold industry, GIR has published several reference books on gold, including *The Industry Catalogue of Gold Bars Worldwide*.

Refer to disclaimer on website: www.goldbarsworldwide.com

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