DESCRIPTIVE MODEL OF LATERITE TYPE BAUXITE DEPOSITS

By Sam H. Patterson

APPROXIMATE SYNONYM Aluminum ore (Patterson, 1967).

DESCRIPTION Weathered residual material in subsoil formed on any rock containing aluminum.

GENERAL REFERENCE Patterson (1984).

GEOLOGICAL ENVIRONMENT

Rock Types Weathered rock formed on aluminous silicate rocks.

Textures Pisolitic, massive, nodular, earthy.

Age Range Mainly Cenozoic, one Cretaceus deposit known.

Depositional Environment Surficial weathering on well-drained plateaus in region with warm to hot and wet climates. Locally deposits in poorly drained areas low in Fe due to its removal by organic completing.

Tectonic Setting(s) Typically occurs on plateaus in tectonically stable areas.

Associated Deposit Types Overlain by thin “A” horizon soil, underlain by saprolite (parent rock in intermediate stages of weathering).

DEPOSIT DESCRIPTION

Mineralogy Mainly gibbsite and mixture of gibbsite and boehmite; gangue minerals hematite, goethite, anatase, locally quartz.

Texture/Structure Pisolitic, massive, earthy, nodular.

Alteration Aluminous rocks are altered by weathering to bauxite.

Ore Controls Thoroughly weathered rock, commonly erosional boundaries of old plateau remnants.

Weathering Intensive weathering required to form bauxite. Bauxite continues to form in present weathering environment in most deposits.

Geochemical Signature: Al, Ga.

EXAMPLES

Australia, Brazil, Guinea
examples are reviewed in Patterson (1967)

GRADE AND TONNAGE MODEL OF LATERITE TYPE BAUXITE DEPOSITS

By Dan L. Mosier

REFERENCES Patterson (1967) and numerous other papers.

COMMENTS A district has been defined as a deposit or a group of deposits in which each deposit is not separated by more than 20 km from an adjacent deposit. Using this rule, most district names in the published literature have been retained; however, some previously regarded districts have been divided into two or more districts, which therefore are named after the largest deposit in that district or a local place name. See figs. 191, 192.

DEPOSITS

Name	Country	Name	Country
Affoh	GHNA	Khushab (Sargohda)	PKTN
Almeirim	BRZL	Kibi	GHNA
Alumen	MZMB	Kolaba-Ratnagiri	INDA
Analavory	MDGS	Kolhapur	INDA
Anantagiri	INDA	Koro Plateau	CHAD
Asafo	GHNA	Kutch	INDA
Aurukum	AUQL	Los Pijiguaos	VNZL
Awaso	GHNA	Maikala Range	INDA
Ayekoye	GNEA	Mainpat	INDA
Bihar	INDA	Manantenina	MDGS
Bakhuis Mountains	SRNM	Manus Island	PPNG
Balea-Sitaouma	MALI	Marangaka	MDGS
Bamboutos	CMRN	Marchinbar Island	AUNT
Bangam	CMRN	Mariana	BRZL
Barao de Cocais-Caete	BRZL	Mazagao	BRZL
Barra do Pirai	BRZL	Mimoso do Sul	BRZL
Bhavnagar	INDA	Minim-Martap	CMRN
Bilaspur	INDA	Mitchell Plateau	AUWA
Bintan Island	INDS	Mlanje Mountain	MLWI
Blue Mountains- Oko Mountains	GUYN	Moengo	SRNM
Boe	GNBS	Mogi das Cruzes	BRZL
Born Repouso-Cambui	BRZL	Mokanji Hills	SRLN
Boolarra	AUVT	Monghyr	INDA
Caldas	BRZL	Moss Vale	AUNS
Cape Bougainvillea	AUWA	Mount Ejuanema-Nsisreso	AUNS
Caroline Islands	CARL	Mount Saddleback	AUWA
Cataguases	BRZL	Myalla	AUNT
Champagne (Oakwood)	AUNS	Nassau Mountains	SRNM
Chintapalli-Gurteciu	INDA	Nhamunda	BRZL
Chattering	AUWA	Nilgiri Hills	INDA
Croker Island	AUNT	North Weipa	AUQL
D’Analamaitso	MDGS	Northern Ireland	IRLD
D’Ankazobe	MDGS	Nuria	VNZL
Dabola	GNEA	NW Group	GUYN
Debele (Kindia)	GNEA	Nyinahin	GHNA
Del Park-Huntly	AUWA	Ourem	BRZL
Descoberto	BRZL	Ouse	AUTS
Divinolandia de Minas	BRZL	Palni Hills	INDA
East Maui	USHI	Paragominas	BRZL
Emmaville	AUNS	Paranam	SRNM
Fenoarivo	MDGS	Parish	AUNS
Fongo Tongo	CMRN	Pocos de Caldas-Aguas de Prata	BRZL
Fria-Kimbo	GNEA	Ramunia-Telok Ramunia	MLYS
Gambe	BRZL	Ranchi-Palamau	INDA
Gove	AUNT	St. Leonards	AUTS
Hampton	AUQL	Salem Hills	USOR
Iles de Los	GNEA	Saline-Pulaski	USAR
Intendencia de Arauca	CLBA	Sambalpur	INDA
Irituia	BRZL	Sangaredi	GNEA
Itanhandu-Resende	BRZL	Santa Barbara	BRZL
Jamirapat-Khuria	INDA	Sao Domingos do Capim	BRZL
Jamnagar (Saurashtra)	INDA	Sao Paulo	BRZL
Jarrahdale	AUWA	Shevaroy Hills	INDA
Kalahandi-Koraput	INDA	South Weipa	AUQL
Kauai	USHI	Tamborine Mountain	AUQL
Kaw Mountains	FRGN	Tougue	GNEA
Kerikeri	NZLD	Trombetas	BRZL
Kheda (Kaira)	INDA	Turtle Head	AUQL

Upata	VNZL	Wenlock River	AUQL
Valle del General	CORI	West Maui	USHI
Weipa-Andoom-Pera Head	AUQL	Weza	SAFR

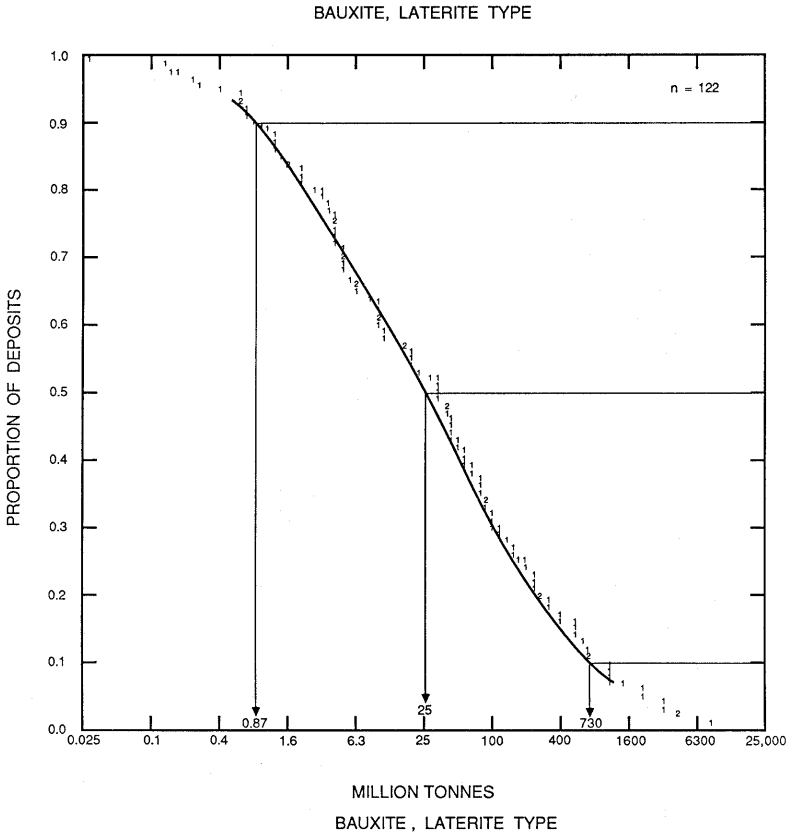

Figure 191. Tonnages of laterite-type bauxite deposits. Individual digits represent number of deposits.

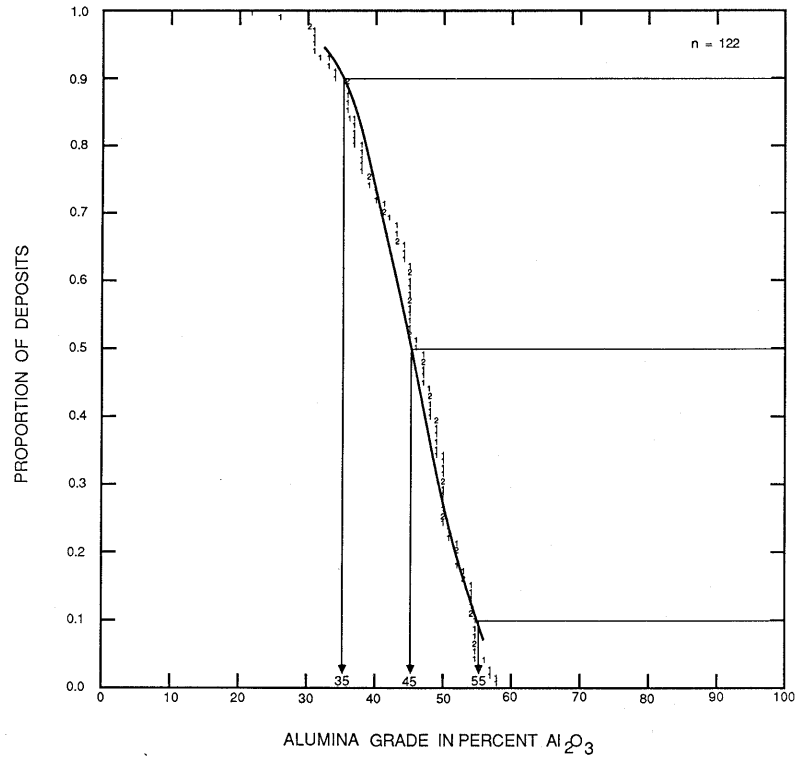

Figure 192. Alumina grades of laterite-type bauxite deposits. Individual digits represent number of deposits.