Proposed by:
F.R. Moormann et al., 1962
Revised by:
1. N. Chorphaka, 1987
2. A. Potichan, 2004

MAE RIM SERIES Field Symbol: Mr

Distribution: Occupies moderate extent in the North and small extent in the Central Highlands.

Setting: Mae Rim soils are formed on old gravelly and cobbly alluvium on the undulating to hilly relief of the dissected older terraces and alluvial fans. Slopes range from 3 to 35%. The climate is Tropical Savanna (Koppen `Aw'). The average annual precipitation range from 1,100 to 1,800 mm.

Drainage, Permeability and Runoff: Well drained. Permeability is estimated to be moderate.Runoff is slow to rapid.

Vegetation and Land Use: The soils are mainly covered by poor Dipterocarp forest with bunch grasses. They are sometimes used as a source of road building materials.

C**haracteristic Profile Features:** Mae Rim series is a member of the loamy-skeletal, mixed, isohyperthermic Typic (Kandic) Paleustuults. They are gravelly and cobbly soils. Gravels and cobbles occur within 50 cm of the soil surface. They are characterized by a brownish (gravelly) loamy sand or sandy loam A horizon, overlying a yellowish red or reddish yellow gravelly or very gravelly clay loam or clay (in deeper layers) argillic B horizon. Reaction in the solum ranges from slightly acid to very strongly acid, decreasing with depth.

Typifying Pedon: Profile code no. is N-35/28 (moist colours unless otherwise stated).

Location: Amphoe Mae Taeng Changwat Chiang Mai.
Sheet Name: Amphoe Mae Taeng **Sheet No.:** 4747 II
Coordinate: - **Elevation:** -
Relief: undulating **Slope:** 8-9 %
Physiography: disssected older terraces or alluvial fans?
Parent material: old gravelly and cobbly alluvium
Drainage: well drained **Permeability:** moderate
Runoff: moderate to rapid **Ground water depth:** >2 m
Flooding depth: - **Duration:** - **Frequency:** -
Annual rainfall: 1,183.5 mm **Mean temp.:** 25.4 ^{o}C **Climate type:** Tropical Savannah (Aw)
Natural vegetation or land use: dipterocarp forest
Other: cobbles are scattered on the soil surface.
Described by: - **Date:** 5 September, 1969
Revised by: Aniruth Potichan **Date:** 24 May, 2004

Horizon	Depth (cm)	Description
A	0-12	Very dark grayish brown (10YR3/2); sandy loam; weak fine subangular blocky structure; very friable, nonsticky and slightly plastic; many very fine and fine, few medium roots; neutral (field pH 7.0); abrupt and smooth boundary.
B	12-25	Light yellowish brown (10YR6/4); sandy loam with 2-15% gravel content; weak fine subangular blocky structure; very friable, sticky and slightly plastic; some spots of humus illuviation; common fine, very fine and few medium roots; moderately acid (field pH 6.0); clear and wavy boundary.
Bt1	25-43	Light yellowish brown to pink (10YR6/4-7.5YR7/4); sandy clay loam with 2-15% gravel content; very weak fine and medium subangular blocky structure; friable, slightly sticky and slightly plastic; patchy thin cutans on ped faces and thin continuous cutans in pores; few fine and medium roots; strongly acid (field pH 5.5); gradual and smooth boundary.

Bt2	43-91	Yellowish red (5YR5/8); clay with 35-50% gravel; moderate medium and coarse subangular blocky structure; friable to slightly firm, sticky and plastic; continuous thick cutans, mainly in pores and broken moderately thick cutans on ped faces; common fine and medium, few coarse roots; moderately acid (field pH 6.0); clear and smooth boundary.
Bt3	91-147+	Reddish yellow (5YR6/6) clay with 35-50% gravel and few weathered rounded cobbles, common fine red (2.5YR4/8), brownish yellow (10YR6/8) and gray (10YR6/1) mottles; moderate medium and coarse subangular blocky structure; firm, sticky and plastic; broken moderately thick cutans on ped faces and in pores; few fine and medium roots; moderately acid (field pH 6.0).

Type Location:

Mae Rim series was named for Amphoe Mae Rim, Changwat Chiang Mai.

Range of Profile Features:

The A horizon is from 10 to 20 cm thick, has 10YR or 7.5YR hues, values of 3 though 6 and chromas of 2 through 4. Structure is weak, fine blocky and pH values range from 5.5 to 7.0.

The B horizon has hues of 7.5YR, values of 6 though 4 chromas of 6 or 8. Structure is moderate, medium to coarse blocky. The B horizon is argillic showing evidence of illuviation in the form of cutans on ped faces and in pores. Values of pH range from 4.5 to 6.0. Gravels and cobbles are mainly composed of sandstone, quartite and quartz.

Similar Soil Series:

Tha Yang series (Ty): soil derived from residuum on hill slopes with a layer of angular rock fragments occurring within 50 cm of the surface.

Yala series (Ya): formed on old gravelly and cobbly alluvium but has an udic moisture regime (Typic Kandiudults).

Nam Chum series (Ncu): is in clayey-skeletal family and clay loam or clay in the deeper subsoil and higher pH value in the subsoil.

Principal Associated Soils:

These include Lat Ya and Tha Yang series on hills and footslopes and Mae Taeng, Korat and San Pa Tong series on adjacent terraces.

ANALYSIS RESULTS

(oven dry basis)

Profile code no.: N-35/28

Soil series: Mae Rim (Mr)

Lab No.	Depth (cm)	Horizon	Particle size distribution analysis (% by weight)								Texture		pH		$CaCO_3$ %	P, mg kg^{-1} Bray 2	K, mg kg^{-1} NH_4OAc
			USDA grading			Sand-fraction grading					Lab	Field	1:1	1:1			
			sand	silt	clay	vc	c	m	f	vf	result	estim^{n}	water	KCl			
P-1447	0-12	A	69.1	15.4	15.5						sl	sl	5.8	5.1		36.6	94
P-1448	12-25	B	68.4	21.1	10.5						sl	sgsl	5.4	4.0		35.7	45
P-1449	25-43	Bt1	59.3	17.7	23.0						scl	sgscl	5.3	3.9		3.5	45
P-1450	43-91	Bt2	41.1	18.4	40.5						c	vgc	5.1	3.9		4.3	80
P-1451	91-147+	Bt3	39.4	19.6	41.0						c	vgc	5.1	3.9		3.5	69

Depth (cm)	Air dried to oven dried	C %	N %	Exchange capacity and cations ($cmol_{(+)}$ kg^{-1})									Base satur^{n} (%)		ECEC $cmol_{(+)}$ kg^{-1} (B+D)	Al KCl extr. $cmol_{(+)}$ kg^{-1} (D)	Electrical condut^{y} ($EC \times 10^{6}$) dS m^{-1}
				Ca	Mg	K	Na	SUM cations (B)	Extr. acidity (A)	SUM (B+A)	CEC NH_4OAc (C)	CEC 100g Clay	B/Cx100	(Bx100)/ (B+A)			
0-12	1.0	0.94	0.11	3.30	0.80	0.20	0.10	4.40	4.40	8.80	6.2	40.0	71	50			0
12-25	0.5	0.24	0.04	0.50	0.20	0.10	0.10	0.90	2.80	3.70	2.1	20.0	43	24			0
25-43	1.0	0.09	0.02	0.40	0.10	0.40	0.10	1.00	2.40	3.40	2.6	11.3	38	29			0
43-91	1.5	0.16	0.03	0.70	0.60	0.20	0.10	1.60	6.70	8.30	8.9	22.0	18	19			0
91-147+	2.0	0.15	0.03	1.40	0.50	0.20	0.10	2.20	5.70	7.90	7.2	17.6	31	28			0

Surveyor:

Date: 5 September, 1969