Proposed by S. Charoenpong,1974
Revised by :
P. Vijarnsorn and staffs, 1988
W. Sirichuaychoo, 2004

WANG TONG SERIES **Field Symbol: Wat**

Distribution: Occupies a small extent in peninsular Thailand and some areas in Southeast Coast of Thailand.

Setting: Wang Tong soils derived from residuum of fine grain clastic rocks namely shale, phyllite or equivalent rocks and occurred on strath terrace (denudation surface). Relief is level to gently undulating with slopes ranging from 1 to 5 percent. The climate is Tropical Monsoon (Koppen 'Am') or Tropical Rain Forest (Koppen 'Af'). Average annual precipitation is above 2,000 mm. Average annual air temperature is from 26 ^{o}C to 28^{o}C.

Drainage, Permeability and Surface Runoff: Drainage is somewhat poorly drained, permeability is estimated to be slow and surface runoff is slow. Ground water level lies within l meter almost throughout rainy season. Due to land use, free water commonly cover the soil surface for 4 to 5 months a year.

Vegetation and Land Use: Parts are used for paddy rice. Where neglected, reverts to low secondary shrub and grasses.

Characteristic Profile Features: The Wang Tong series is a member of the fine, kaolinitic, isohyperthermic Typic (Aquic) Plinthudults (soil taxonomy, 2003). They are very deep soils and are characterized by a very dark grayish brown or grayish brown silt loam surface or A horizon overlying a brown or light yellowish brown clay loam or clay upper argillic B horizon which underlain by a gray or light gray clay lower argillic B or BC horizon accompany with plinthite that forms a continuous phase. Mottles of brownish and yellowish occur throughout subsoil. Strongly acid to moderately acid, reaction values range from 5.0 to 5.5 in the surface and very strongly acid, reaction values range from 4.5 to 5.0 in the subsoil.

Typifying Pedon: Wang Tong loam - scrub forest, from Ban Wang Tong, Tambon Nathon, Amphoe Thung Wa, Changwat Satun, 12 m above mean sea level, 1 to 3 percent slopes (sheet number 4922 I NW, coordinate 838724).

Profile Code Number: S-67/119, described by A. Pitayarak, 8 March 1974 (moist colors unless otherwise stated).

Horizon	Depth (cm)	Description
Ag1	0-9	Dark grayish brown to grayish brown (10YR4-5/2) silt loam; common fine distinct brown to dark brown (7.5YR4/4) mottles; weak medium subangular blocky structure; firm, slightly sticky and slightly plastic; common fine interstitial and few fine tubular pores; common fine roots; moderately acid (field pH 6.0); clear smooth boundary.
Ag2	9-17	Light brownish gray (10YR6/2) silt loam; common fine distinct brownish yellow (10YR6/6) mottles; weak medium subangular blocky structure; firm, slightly sticky and slightly plastic; few fine interstitial and tubular pores; common fine and few medium roots; very strongly acid (field pH 5.0); gradual smooth boundary.
ABg	17-30	Pale brown (10YR6/3) silt loam; common fine prominent red (2.5YR4/8) and common fine distinct strong brown (7.5YR5/8) mottles; weak fine and medium subangular blocky structure; firm, sticky and plastic; common fine interstitial and tubular pores; common medium and coarse roots; very strongly acid (field pH 4.5); gradual smooth boundary.
Btv	30-57	Light yellowish brown (10YR6/4) silty clay loam; many medium prominent red (2.5YR4/8) and many medium distinct brownish yellow (10YR6/6) mottles; moderate fine and medium subangular blocky structure; firm, sticky and plastic; broken to continuous moderately thick clay film on ped faces; common fine

interstitial and tubular pores; few fine roots; few pieces of charcoal; plinthite forming as constituents of more than 50% of the soil matrix; very strongly acid (field pH 4.5); gradual smooth boundary.

Btgv 57-100 Light gray to light brownish gray (10YR6/1-2) clay; many medium prominent red (2.5YR4/8) and common fine distinct brownish yellow (10YR6/6) mottled; moderate to strong fine and medium subangular blocky structure; slightly firm, sticky and plastic; broken moderately thick clay films on ped faces; common fine interstitial and tubular pores; plinthite forming as constituents of more than 50% of the soil matrix; very strongly acid (field pH 4.5).

Type Location:

Name of village, Ban Wang Tong, Tambon Nathon, Amphoe Thung Wa, Changwat Satun.

Range of Profile Features:

The surface or A horizon clay loam is from 10 to 15 cm in thickness and has 10YR hues, values 3 to 5 and chromas 2 or 3. Structure is weak fine and medium subangular blocky. Very strongly acid to strongly acid, reaction values range from 5.0 to 5.5.

The upper argillic B horizon has 10YR hue, values 5 or 6 and chromas 3 or 4. The lower argillic B or BC horizon has 10YR or 2.5 Y hues, values 6 or 7 and chromas less than 2. Mottles of brownish, yellowish and red (plinthite) occur throughout subsoil. Plinthite that forms a continuous phase. Texture of silty clay may occur. Structure is moderate fine to medium subangular blocky. Very strongly acid, reaction values range from 4.5 to 5.0.

Similar Soil Series:

Nam Krachai series (Ni): coarse-loamy, mixed, semiactive, isohyperthermic Typic Plinthaquults, lower position.

Klaeng series (Kl): very-fine, kaolinitic, isohyperthermic Typic Plinthaquults, matrix of gray occurs throughout subsurface horizon and the soils commonly distribute along coastal plain.

Principal Associated Soils:

These include Phayom Ngam series where adjacent to coastal plain.

Phayom Ngam series (Pym): fine-loamy, kaolinitic, isohyperthermic Kandic Plinthaquults.

ANALYSIS RESULTS Profile code No.: S-67/119

(oven dry basis) Soil series:Wang Tong series (Wat)

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			
Pe-1035	0-9	Ag1	26.5	64.5	9.0						sil	sil	5.2	4.1	0.0	2.3	62
Pe-1036	9-17	Ag2	19.5	68.0	12.5						sil	sil	5.0	3.8	0.0	1.6	21
Pe-1037	17-30	ABg	18.0	65.5	16.5						sil	sil	5.0	3.8	0.0	1.7	21
Pe-1038	30-57	Btv	17.5	47.5	35.0						sicl	sicl	5.2	3.8	0.0	2.0	29
Pe-1039	57-100	Btgv	17.5	32.5	50.0						c	c	5.2	3.8	0.0	1.7	35

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 conduct^{y} ($ECx10^{6}$) 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)			
0-9	1.3	3.27		1.60	0.70	0.10	0.30	2.70	8.00	10.70	8.2	91.1	33	25			0.14
7-17	1.4	0.51		0.60	0.20	0.10	0.30	1.20	4.50	5.70	4.2	33.6	29	21			0.04
17-30	1.4	0.37		0.60	0.20	0.05	0.30	1.15	6.80	7.95	5.7	34.5	20	14			0.03
30-57	2.6	0.40		0.80	0.30	0.10	0.30	1.50	11.10	12.60	9.0	25.7	17	12			0.03
57-100	2.5	0.16		0.60	0.20	0.10	0.30	1.20	12.70	13.90	11.8	23.6	10	9			0.25

Surveyor: A. Pittayarak Reported by: W. Sirichuaychoo

Date: March 8, 1974 Date: Dec. 10, 1998