

Proposed by: W. Van der Kevie, 1971
 Revised by:
 1. C. Changprai, 1987
 2. S. Udomsri, 2004

BANG PAKONG SERIES

Field Symbol: Bpg

Distribution: Occupies small extent in the southeast Central Plain, Southeast Coastal region and moderate extent along the west coast of Peninsular Thailand.

Setting: Bang Pakong soils are formed from marine sediments and occur in tidal swamps. Relief is flat. Slopes are about 0-1 %. Elevation is 1 m or less above sea level. The climate are both Tropical Savanna (Köppen 'Aw') and Tropical Monsoon (Köppen 'Am'). Annual precipitation ranges from 1,000 mm to 3,000 mm Mean annual temperature is 27° C.

Drainage, Permeability and Surface Runoff: Very poorly drained. Runoff and permeability are slow. Groundwater level remains at or near the surface throughout the year and the soil are regularly flooded by sea water.

Vegetation and Land Use: Mangrove forest is the characteristic vegetation. The soils are not cultivated, but the wood is used for making charcoal and fish ponds are constructed.

Characteristic Profile Features: Bang Pakong series is a member of Fine, mixed, acid, isohyperthermic Typic Sulfaquents. They are deep soils with characterized by a brown to very dark gray clay A horizon overlying a dark gray reduced clay C horizon. Brown, yellowish red and gray mottles occur in the A horizon. The soil has *n*-values higher than 0.7 in all horizons. Reaction is mildly to moderately alkaline when the soil is in reduced condition, but on oxidation becomes extremely acid due to the high sulphur content.

Typifying Pedon: Profile code number is SE-13/0

Location: Bang Pakong Soil Conservation Station, Ban Khong Dan, Amphoe Bang Bo Changwat Samut Prakan.

Sheet Name: Amphoe Bang Bo

Sheet No.: 5136 II

Coordinate: 980950

Elevation: 1 m (MSL)

Relief: level to nearly level

Slope: 0-1%

Physiography: active tidal flats

Parent material: recent marine sediments

Drainage: very poorly drained

Permeability: slow

Runoff: slow

Ground water depth: near surfaces

Flooding depth: - cm

Duration: through the year

Frequency:

Annual rainfall: 1,314.6 mm

Mean temp: 27.9 °C

Climate type: Tropical Savannah

Natural vegetation and/or land use: Mangrove Forest, Rhizophora

Other: Electric conductivity of the surfaces water was 42.24 dsm⁻¹ and many crab holes were observed

Described by:

Date:-

Revised by: S. Udomsri

Horizon	Depth (cm)	Description
Ag	0-5	Brown (7.5YR4/2) nearly ripe clay; many coarse dark gray mottles; mildly alkaline (field pH 7.5).
ACg	5-30	Dark gray (10YR4/1) half ripe clay; few fine distinct brown mottles along root channels; many fine roots; moderately alkaline (field pH 8.0).
Cg1	30-100	Dark gray (5Y4/1) nearly unripe clay; many fine fibrous and few coarse roots, partly decomposed roots; strongly alkaline (field pH 8.5).
Cg2	100-160 ⁺	Dark greenish gray (5GY4/1) and dark gray (5Y4/1); nearly unripe clay; strongly alkaline (field pH 8.5).

(Pedon No. 5 published in the tour guide for the Second International Symposium on Acid Sulphate Soils in Thailand 1981).

Type Location: Name of Amphoe, Amphoe Bang Pakong Changwat Samut Prakan

Range of Profile Features:

The A horizon is from 5 to 40 cm thick, has 10YR and 7.5YR hues, values of 4 or 3 and chromas of 3 or less. Structure is weak medium blocky or massive. Field pH values range from 5.0 to 8.0.

The C horizon is usually dark gray (5Y 4/1), but may be dark greenish gray (5GY 4/1). Structure may be weak coarse blocky in the upper part of the C horizon, but become nearly unripe or unripe with depth. Layers of undecomposed organic material may occur in the deeper subsoil. Field pH values range from 7.0 to 8.0.

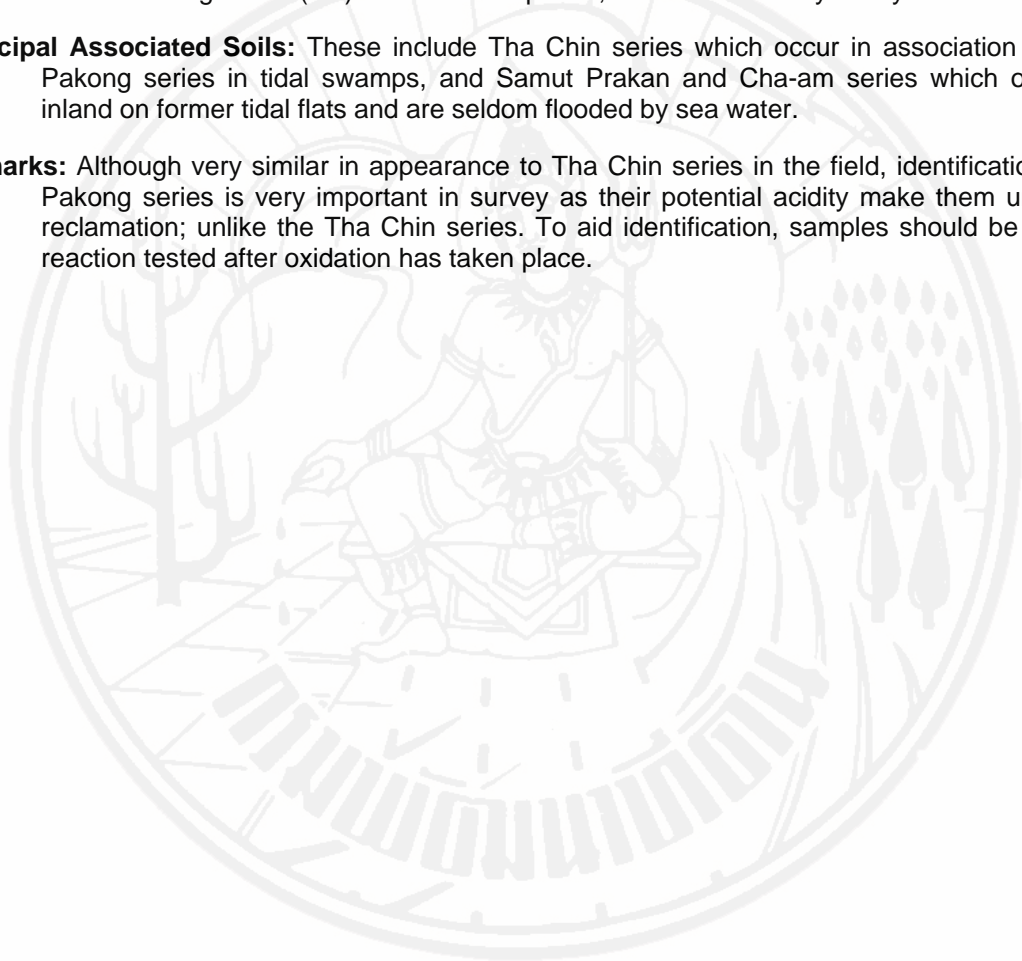
Similar Soil Series:

Tha Chin series (Tc): has a similar profile, but has a relatively low sulphur content and is not potentially acid, that is, reaction does not become extremely acid on oxidation.

Thakua Thung series (Tkt): has a similar profile, but has a fine-silty family.

Principal Associated Soils: These include Tha Chin series which occur in association with Bang Pakong series in tidal swamps, and Samut Prakan and Cha-am series which occur more inland on former tidal flats and are seldom flooded by sea water.

Remarks: Although very similar in appearance to Tha Chin series in the field, identification of Bang Pakong series is very important in survey as their potential acidity make them unsuited for reclamation; unlike the Tha Chin series. To aid identification, samples should be taken and reaction tested after oxidation has taken place.



ANALYSIS RESULTS

Profile code No. : SE-13/0

(oven dry basis)

Soil series : Bang Pakong (Bpg)

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 ₄ OAc
			USDA grading			Sand-fraction grading					Lab	Field	1:1	1:1			
			sand	silt	clay	vc	c	m	f	vf	result	estim ¹	water	KCl			
P 885	5-100	Cg1	3.0	42.0	55.0						sic	c	3.5	3.5		77.0	1,370
P 886	100-160	Cg2	1.0	25.0	74.0						c	c	6.8	6.8		95.0	1,720

Depth (cm)	Air dried to oven dried	C %	N %	Exchange capacity and cations (cmol ₍₊₎ kg ⁻¹)								Base satur ¹ (%)		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 ₄ OAc (C)	CEC 100g Clay	B/Cx100				(Bx100)/(B+A)
				5-100		2.64	0.10	8.00	27.80	2.40	51.60	89.80	20.90				110.70
100-160		2.49	0.13	10.60	27.00	3.70	52.40	93.70	5.30	99.00	32.80	44.3	100	95		35.00	

