Soil Profile Description

Soil name: Si Thon series **Profile code No.:** St

Classification: col, Aquic (Fluventic) Haplustepts

Sheet Name: **Sheet No.:**

Coordinate: approx. 175 m.

48Q 347385E 1832957N **Elevation:** MSL

Relief: Flat **Slope:** 2 %

Physiography: lower part (depression) of peneplain

Parent material: alluvium

Drainage: somewhat poorly drained **Permeability:** slow

Runoff: low **Ground water depth:** at 200 cm

Flooding depth: - **Duration: -** **Frequency: -**

Annual rainfall: mm **Mean Temp.:** °C **Climate type:** Tropical savanna (Aw)

Natural vegetation or land use: Rice

Other:

Described by: N. Janjirawuttikul et al. **Date:** May 6, 2025

Horizon	Depth (cm)	Description
Apg	0-28	Dark gray (10YR4/1) 70% and brown (7.5YR 5/2) 30%, common medium distinct yellowish brown (10YR5/8) and common medium distinct brownish yellow (10YR6/6) mottles; sandy loam; very fine single grained, moderate fine to medium and strong coarse to very coarse subangular blocky structure, friable, slightly sticky and slightly plastic; common very fine to fine vesicular pores and few fine to medium tabular pores; many very fine to fine roots; slightly alkaline (field pH 7.5); abrupt and smooth boundary to Bg1.
Bg1	28-58	Brown (7.5YR5/2) 30%, (7.5YR 5/4) 40% and light brown (7.5YR 6/4) 30%; few medium distinct strong brown (7.5YR4/6) mottles; sandy loam; very fine single grained; loose, non-sticky and non-plastic; many very fine to fine vesicular pores; slightly alkaline (field pH 7.5); clear and smooth boundary to Bw1.

Horizon	Depth (cm)	Description
Bw1	58-90	Light brown (7.5YR 6/4) 40% and pink (7.5YR 7/4) 60%; sandy loam; very fine single grained; loose, non-sticky and non-plastic; many very fine to fine vesicular pores; neutral (field pH 7.0); gradual and smooth boundary to Bw2.
Bw2	90-120	Brown (7.5YR 5/4) 60% and pink (7.5YR 7/4) 60%; loamy sand; very fine single grained; loose, non-sticky and non-plastic; common very fine to fine vesicular pores; neutral (field pH 7.0); clear and smooth boundary to Bw2.
Bw3	120-150	Pink (7.5YR 7/4); many coarse distinct yellowish brown (10YR5/8) mottles; loamy sand; very fine single grained; loose, non-sticky and non-plastic; common very fine to fine vesicular pores; neutral (field pH 7.0); clear and smooth boundary to BC.
BC	150-175	Light brown (7.5YR 6/4) 70% and light brownish gray (10 YR 6/2) 30%; common medium distinct yellowish brown (10YR5/8) and brownish yellow (10 YR 6/8) mottles; loamy sand; very fine single grained; loose, non-sticky and non-plastic; common very fine to fine vesicular pores; very strong acid (field pH 5.0); abrupt and smooth boundary to C
C	175-200	Gray (2.5Y 6/1) 45%, light yellowish brown (2.5Y 6/3) 30% and pink (7.5 YR 7/4) 25%; few medium distinct brownish yellow (10 YR 6/6) mottles; clay; moderate very fine to medium subangular blocky structure; slightly sticky and slightly plastic; few medium to coarse roots; strongly acid (field pH 5.5).

ANALYSIS RESULTS Profile code No.

Depth (cm)	Horizon	Partide size distribution analysis (% by weight)								Texture		pH		$CaCO_3$ %	P (mg kg^{-1})		K (mg kg^{-1}) NH4OAc	Density bulk (Mg m^{-3})	Field moist (% by weight)	Water content (% by weight)		Available water capacity	Saturated Hydraulic conductivity		P > 2 mm (% by wt.).
		USDA grading			Sand-fraction grading					Lab	Field	1:1	1:1		Bray 2	Olsen									
		sand	silt	clay	vc	c	m	f	vf	result	estim^{n}	water	KCl							1/3 atm.	15 atm.		(cm hr^{-1})	Class	

Depth (cm)	Air dried to oven dried	Moisture (%)	C (%)	OM (%)	N (%)	Exchange capacity and cations ($cmol_{(+)}/kg$)					Extr. acidity	CEC		Base satur^{n} (%)		ECEC ($cmol_{(+)}/kg$)	Al KCl extr. (cmol(+)kg-1)	Electrotical con. (ds/m)		Fe-EDTA (%)	Fe2O3 DCB (%)
						Ca	Mg	Na	K	SUM		NH_4OAc	100g clay	NH_4OAc	By SUM			Ece	Ec 1:5		

MINERALOGY OF THE CLAY FRACTION

Soil series:

Depth (cm)	Horizon	Kaolinite	Illite	Montmorillonite	Vermiculite	7A° clay	0.7&1.0 nm clay	1.0&1.4nm clay	Quartz	Anatest	Hematite	Gibbsite	Other

MINERALOGY OF THE CLAY FRACTION

Soil series:

Depth (cm)	Horizon	Quartz	Feldspar	Mica	Goethite	Hematite	Ilmenite	Anatase	Gibbsite	Calcite	Magnetite	7A° clay	10A° clay	Others

tr = trace, x = small, xx = moderate, xxx = large, xxxx = dominant, nd = not determine

MINERALOGY OF THE CLAY FRACTION

Soil series:

Depth (cm.)	Horizon	ชนิดและปริมาณของแร่ธรรมชาติ (whole soil)					ชนิดและแร่ดินเหนียวในดินใน กลุ่มแร่ดินเหนียวเคโอลีไนต์ อิลไลต์ มอนต์มอริลไลไนต์ คลอไรต์ เวอร์มิคิวไลต์ แร่ดินเหนียวสอดชั้น								
		Smectite	Kaolinite	Illite	Quartz	Feldspar	smectite	Kaolinite	Illite	interstratified clay minerals	Quartz	Chlorite	Vermiculite	Goethite	Gibbsite

tr = trace, x = small, xx = moderate, xxx = large, xxxx = dominant, nd = not determine