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Correlation Between the Soil Classification Brazilian System (2006), WRB (ISSSWG RB, 2006) And Soil Taxonomy (USDA, 1999) of Indian Dark Earth Of Western Amazonia

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In the Amazon region are found areas with thick and altered soils surface horizon and higher chemical fertility than the surrounding non-anthropogenic soil locally known as Indian Dark Earth (IDE). These areas are associated with some soil groups such as Oxisols, Ultisols, Inceptisols, Spodosols and others. Due to the absence of a specific group in the soil classification system to TPI and with the aim of incentive the use of these systems, this study has aim to correlate the different soil profiles with anthropic horizon through of Soils Classification Brazilian System – SiBCS (EMBRAPA, 2006), of World Reference Base for Soil Resources – WRB (ISSSWG RB, 2006) and of Soil Taxonomy (USDA, 1999). The profiles chosen are of Iranduba city (P01, P02 and P03), Rio Preto da Eva (P04), near Manacapuru city (P05) and Parintins (P06) located in Amazon State – Brazil. All profiles have anthropic A superficial horizon that is the same epipedon anthropic of ST and hortic horizon of WRB (P01, P02 and P06). Due has 50 cm of thick the anthropic horizon of P06 was considered diagnostic of Anthrosols group. Still through of WRB, the superficial horizon of P03 and P04 were considered umbric horizon and of P05 represents mollic horizon. The P01, P02 and P03 (Argissolo in the SiBCS) through of ST and WRB, are equivalents respectively the Kandiodalf and Lixisol (P01) and Kandiodult and Acrisol (P02 e P03). These profiles presents textural B horizon (Bt) that may have higher clay content than the overlying horizon. This horizon is equivalent the argillic horizon (ST) and argic horizon (WRB). The latossolic horizon (Bw) found in the P04 is equivalent the oxic horizon (ST) and ferralic horizon (WRB). The differences between the systems is in relation minimum thickness of horizon and the presence altered minerals, that may be 50cm and 4% (SiBCS) and 30cm and 10% (ST and WRB). The Latossolo group (SiBCS) of this profile is equivalent the Kandiodox (ST) and Ferralsol (WRB). The Neossolo Flúvico (P05) is equivalent the Udifluent (ST) and Fluvisol (WRB). This profile received the suffix Thapto (ST and WRB) and *bu* (*A_{bu}* in the SiBCS) due presents buried anthropic horizon with thickness of 65cm. For be used to soil survey and for don't accept that an anthropic influence is very important in the soil classification, these classification systems have it shown little efficient in the distinction of ancient anthropic soils.

Table. Correlation of different soils profiles with anthropic horizon of cities in Amazon State/Brazil through of Soils Classification Brazilian System (SiBCS), of World Reference Base for Soil Resources (WRB) and Soil Taxonomy (ST).

Hz*	Prof cm	Cor Úmida	Areia %	Argila %	pH H ₂ O	P Mg dm ⁻³	CTC (pH 7,0) cmol _c kg ⁻³	V** %	C g kg ⁻¹
P01 Argissolo Amarelo Eutrófico típico A antrópico ¹ Anthropic Xanthic Kandialf ² , Haplic Lixisol (Humic, Hypereutric) ³									
Au	0-10	10YR 2/1	23	37	5,22	539	30,21	64	64,13
A2u	10-45	10YR 4/1	18	52	5,46	716	25,10	61	47,01
AB	45-65	10YR 4/1	12	67	5,32	893	17,98	55	26,16
BA	65-89	10YR 6/6	9	75	5,33	323	14,41	56	11,44
Bt	89-120+	10YR 7/8	5	88	5,18	208	10,57	58	4,64
P02 Argissolo Amarelo Distrófico típico A antrópico Anthropic Xanthic Kandiuult, Haplic Acrisol (Humic, Clayic)									
Au	0-10	10YR 3/1	21	35	6,16	542	26,72	85	73,03
A2u	10-35	10YR 4/1	13	58	5,28	633	19,10	54	24,01
AB	35-64	10YR 4/1	9	69	5,14	416	17,13	45	24,27
B	64-95	10YR 6/8	4	82	4,92	223	10,88	44	5,30
P03 Argissolo Vermelho-Amarelo Distrófico antrópico Anthropic Kandiuult, Umbric Acrisol (Humic, Hyperdystric)									
Au	0-6	5YR 2/2	90	7	5,34	25	10,73	22	18,28
A2u	6-52	5YR 2/1	79	17	5,40	26	3,48	41	19,76
E	52-(70-78)	10YR 4/1	82	13	5,10	12	2,30	10	1,77
Bt/E	(70-78)-(103-130)	5YR 5/8	59	38	4,88	5	2,53	11	2,68
Bt1	(103-130)-140	5YR 6/8	54	44	4,71	3	1,81	11	1,72
Bt2	140-200+	5YR 6/8	55	41	4,67	2	2,21	8	1,12
P04 Latossolo Amarelo Distrófico antrópico Anthropic Xanthic Kandiuox, Umbric Ferralsol (Dystric, Xanthic)									
Au	0-14	10YR 4/1	20	49	5,74	631	26,09	68	56,99
A2u	14-45	10YR 3/1	14	57	5,18	746	20,78	46	33,45
AB	45-65	10YR 4/1	10	71	5,20	585	18,96	44	23,85
BA	65-75	10YR 5/4	7	78	5,04	269	13,59	46	15,21
Bw	75-125+	10YR 6/8	4	86	4,84	246	10,14	46	7,19
P05 Neossolo Flúvico Ta Eutrófico típico A antrópico Thapto-Anthropic Udifluent, Mollic Fluvisol (Eutric) (Thapto-Anthrosolic)									
A	0-25	10YR 3/3	27	20	6,28	81	14,22	88	9,86
C1	25-80	10YR 3/4	44	11	6,35	83	9,96	91	1,96
2C2	80-110	10YR 4/4	22	19	6,11	90	17,58	91	4,71
Au	110-175	10YR 3/1	34	21	6,26	379	13,78	88	3,94
3C3	175-200+	10YR 4/3	56	10	6,52	214	11,03	98	0,88
P06 Neossolo Quartzarênico Órtico típico A antrópico Anthropic Quartzipsamment Hortic Anthrosol (Dystric, Arenic)									
Au	0-5	10YR 3/2	93	4	4,39	68	-	11	11,12
A2u	5-27	10YR 3/2	86	8	4,13	104	-	2	12,32
A3	27-56	10YR 4/2	85	9	4,28	102	-	2	9,41
A4	56-(66-78)	10YR 4/3	87	9	4,35	103	-	2	6,35
AC	(66-78)-(102-110)	5YR 5/6	87	8	4,35	136	-	2	3,54
C	(102-110)-150+	5YR 5/8	86	9	4,46	109	-	2	3,68

* Horizonte; ** Saturação de bases ¹ SiBCS; ² ST; ³ WRB