

MEMOIR I

THE SOILS OF WEST-SARAWAK
(EAST-MALAYSIA)

by

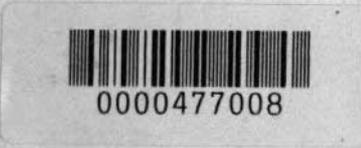
J. P. ANDRIESSE
SOIL SURVEYOR

VOLUME II—MAPS

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KEY OF THE DETAILED-RECONNAISSANCE SOIL MAP OF WEST SARAWAK

MOUNTAIN AND HILL SOILS

FLOODPLAIN SOILS

COASTAL SOILS

Mapping Unit	Predominant	Subordinate	Parent Material	Landscape
ON IGNEOUS ROCKS				
1	a. Heavy-textured LATERITIC SOILS—Tarat Family— <i>Tarat series</i> (deep and shallow phases) and <i>Antayan series</i> (At). b. Heavy-textured SKELETAL SOILS—Sedong Family— commonly associated with bouldery and rocky land.	<i>Sedong series</i> <i>Tarat series</i>	Basic to intermediate igneous rocks.	Moderately steep mountainous to hilly terrain. Steep mountainous terrain.
2	a. Medium to heavy-textured RED-YELLOW PODZOLIC SOILS—Abok Family— <i>Gumbang series</i> (generally shallow). b. As a.; commonly associated with bouldery and rocky land and SKELETAL SOILS— <i>Kapit Family</i> .		Acid to intermediate porphyritic and fine grained acid igneous rocks; commonly associated with bouldery and rocky land.	Moderately steep mountainous and hilly terrain. Steep mountainous terrain.
3	a. Light to medium-textured RED-YELLOW PODZOLIC SOILS— <i>Abok Family, Goding series</i> and <i>Jagoi series</i> (Jg). b. As a.; commonly associated with bouldery and rocky land and SKELETAL SOILS— <i>Kapit Family, Buri series</i> .		Coarse grained acid to intermediate igneous rocks (granite and granodiorite).	Moderately steep mountainous and hilly terrain. Steep mountainous terrain.
4	a. Heavy to medium-textured RED-YELLOW PODZOLIC SOILS. Undifferentiated <i>Abok Family, Serin series</i> (Sn) on arkose, <i>Bayur series</i> (By) on schist, <i>Keladan series</i> (Kl) on silicified volcanic rocks. b. <i>Abok Family</i> soils as (a); commonly associated with bouldery and rocky land and SKELETAL SOILS.		Acid igneous and metamorphic rocks.	Moderately to strongly dissected hilly terrain. Steep mountainous terrain.
5	a. Medium-textured GREY-WHITE PODZOLIC SOILS— <i>Lingga series</i> (Lg). b. As a.; commonly associated with bouldery and rocky land and SKELETAL SOILS.		Microgranite.	Moderately steep mountainous terrain. Steep mountainous terrain.

Mapping Unit	Predominant	Subordinate	Parent Material	Landscape
ON RECENT RIVERINE ALLUVIUM				
15	a. Heavy-textured, well drained RECENT ALLUVIAL SOILS— <i>Sedauu Family</i> . b. Light-textured, well drained RECENT ALLUVIAL SOILS— <i>Kayan Family</i> .		From undifferentiated, mainly fine grained rock types. Mainly from sandstones; partly from granites.	Flat to gently undulating upper riverine valleys and levees.
16	a. Heavy-textured, poorly to very poorly drained GLEYSOILS— <i>Bijat Family</i> . b. Light-textured, poorly to very poorly drained GLEYSOILS— <i>Tatau Family</i> .	RECENT ALLUVIAL SOILS— <i>Sedauu Family</i> and <i>Kayan Family</i> (15a and 15b).	From varied, mainly fine grained rock types. From varied, coarse grained rock types; subordinate from marine sands.	Flat, waterlogged interior valleys and middle to lower riverine floodplains, and incipient levees.
17	Heavy-textured GLEYSOILS— <i>Bijat Family, Paya Megok series</i> in association with RECENT ALLUVIAL SOILS— <i>Paku series</i> .	Tatau Family, Mundi series on light-textured old alluvium.	From undifferentiated, mainly fine grained rock types.	Flat to gently undulating limestone flats.

Mapping Unit	Predominant	Subordinate	Parent Material	Landscape
ON RECENT MARINE ALLUVIUM				
24	Light-textured undeveloped RECENT ALLUVIAL SOILS— <i>Kabong Family—</i> <i>Siru series</i> .			Flat to gently sloping beaches and beach ridges.
ON SUBRECENT MARINE ALLUVIUM				
25	Light-textured weakly developed RECENT ALLUVIAL SOILS— <i>Sematan Family—</i> <i>Sematan series</i> .	<i>Rambangan series</i>		Flat to gently sloping subrecent beach ridges.
26	Light-textured PODZOLS— <i>Jerijeh Family</i> .	REGOSOLS— <i>Kilong series</i> (Kg)		Flat to gently sloping subrecent beach ridges.

Mapping Unit	Predominant	Subordinate	Parent Material	Landscape
ON OLD ALLUVIUM				
18	a. Heavy-textured, poorly to very poorly drained GLEYSOILS— <i>Semadoh Family—</i> <i>Embang series</i> . b. Light-textured, poorly to very poorly drained GLEYSOILS— <i>Tatau Family—</i> <i>Gong series</i> .			Flat interior valleys, on subsided terraces in limestone flats and on old coastal plain remnants.

Mapping Unit	Predominant	Subordinate	Parent Material	Landscape
ON RECENT DELTAIC AND ESTUARINE DEPOSITS				
27	a. Heavy-textured unripe to semi-ripe SALINE GLEY SOILS— <i>Rajang Family</i> . b. Light-textured unripe to semi-ripe SALINE GLEY SOILS— <i>Belat Family</i> .	<i>Pendam Family</i> (28)		Flat to gently sloping estuarine and deltaic tidal floodplains.
28	a. Heavy-textured ripe SALINE GLEY SOILS— <i>Pendam Family</i> . b. Light-textured ripe SALINE GLEY SOILS— <i>Nonok Family</i> .	<i>Pajang Family</i> (27)		Flat to gently sloping estuarine and deltaic tidal floodplains.

Mapping Unit	Predominant	Subordinate	Parent Material	Landscape
ON SEDIMENTARY ROCKS				
6	a. Heavy-textured RED-YELLOW PODZOLIC SOILS— <i>Merit Family</i> , (deep and shallow phases). b. As a.; but shallow phases are dominant.	<i>Bekenu Family</i> (7)	Argillaceous rocks.	Moderately to very strongly dissected hilly terrain. Very steeply dissected terrain.
7	a. Medium-textured RED-YELLOW PODZOLIC SOILS— <i>Bekenu Family</i> . b. As a.; shallow phases are dominant.	<i>Merit Family</i> (6a)	Medium grained arenaceous rocks.	Moderately to very steeply dissected hilly terrain.
8	a. Light-textured RED-YELLOW PODZOLIC SOILS— <i>Nyalau Family</i> , (deep and shallow phases). b. As a.; but shallow phases are dominant, commonly associated with SKELETAL SOILS— <i>Kapit Family</i> .	<i>Bekenu Family</i> (7)	Coarse grained arenaceous rocks.	Cuesta terrain of moderate to strong relief. Cuesta terrain of strong relief.
9	a. Light to medium-textured GREY-WHITE PODZOLIC SOILS— <i>Saratok Family</i> , commonly associated with <i>Nyalau Family</i> . b. As a.; commonly associated with SKELETAL SOILS— <i>Kapit Family</i> .	<i>Silantek Family</i> (10)	Coarse to medium grained quartzitic arenaceous rocks.	Cuesta terrain of moderate relief. Cuesta terrain of strong relief.
10	a. Light-textured upland PODZOLS— <i>Silantek Family</i> , commonly associated with <i>Saratok Family</i> (9). b. As a.; but <i>Bako Family</i> , and <i>Meluan Family</i> (12) are dominant.		Coarse grained quartzitic arenaceous rocks.	Gentle dipslopes in cuesta terrain.
11	Medium to heavy-textured GREY-WHITE PODZOLIC SOILS— <i>Kerait Family, Rukam series</i> (Rk) and <i>Kerait series</i> (Kt).	<i>Merit Family</i> (6)	Metamorphosed argillaceous rocks.	Generally, gently to moderately dissected hilly terrain.

Mapping Unit	Predominant	Subordinate	Parent Material	Landscape
ON MIXED MATERIALS — INTERIOR VALLEY ASSOCIATION				
19	a. Heavy-textured soils, residual and alluvial, comprising units 15a, 16a and units 6 and 7. b. Light-textured soils, residual and alluvial, comprising units 15b, 16b and units 8 and 9.	Light-textured soils comprising units 15b, 16b, and units 8 and 9. Heavy-textured soils comprising units 15a, 16a, and units 6 and 7.		Slightly dissected old valley floors; and flats at present floodplain level and terrace remnants.

Mapping Unit	Predominant	Subordinate	Parent Material	Landscape
BASIN SWAMP SOILS				
29	a. Shallow PEAT SOILS (less than 40")— <i>Mukah Family—</i> overlying heavy-textured mineral soils. b. Shallow PEAT SOILS (less than 40")— <i>Igan Family—</i> overlying light-textured mineral soils.		Organic deposits.	Margins of large basins, and isolated interior valleys.
30	Moderately deep PEAT SOILS— <i>Anderson Family—</i> (depth phase 1, 40"-80").		Organic deposits.	Margins of large basin swamps and middle riverine interior valleys.
31	Deep PEAT SOILS— <i>Anderson Family</i> (depth phases 2 and 3, more than 80").		Organic deposits.	Centres of large basin swamps and middle riverine interior valleys.

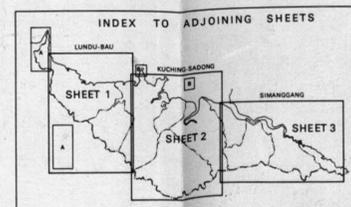
TERRACE AND FAN SOILS

Mapping Unit	Predominant	Subordinate	Parent Material	Landscape
ON LIGHT-TEXTURED OLD ALLUVIUM				
20	Lowland PODZOLS— <i>Miri Family</i> and <i>Buso Family</i> .	<i>Triboh Family</i> (21)		Flat to gently undulating terrace summits. (riverine and marine).
21	GREY-WHITE PODZOLIC SOILS— <i>Triboh Family</i> .	<i>Miri Family</i> and <i>Buso Family</i> (20)		Flat to gently undulating riverine terraces and local colluvial footslopes.
22	REGOSOLS— <i>Gaya Family</i> on gravel deposits, <i>Kilong series</i> (Kg) on old marine sands.			Generally flat to gently undulating terraces.

Mapping Unit	Predominant	Subordinate	Parent Material	Landscape
ON FAN DEPOSITS				
23	a. Heavy-textured RECENT ALLUVIAL SOILS mixed with or underlain by gravels and boulders— <i>Ramun Family—</i> <i>Ramun series</i> and <i>Terbat series</i> . b. Light-textured RECENT ALLUVIAL SOILS mixed with gravels and boulders— <i>Lundu series</i> .		From basic igneous rocks. From granites and sandstones mainly.	Dissected footslopes and moderately to gently sloping colluvial fans.

Mapping Unit	Predominant	Subordinate	Parent Material	Landscape
ON MISCELLANEOUS ROCKS				
12	SKELETAL SOILS— <i>Meluan Family</i> , commonly associated with bouldery and rocky land.		Igneous and sedimentary rocks.	Very steep mountainous terrain and crests.
13	SKELETAL SOILS— <i>Meluan Family</i> .	Shallow phases of BROWN FOREST SOILS— <i>Kabuloh Family</i>	Limestone.	Very steep mountainous terrain.

Mapping Unit	Predominant	Subordinate	Parent Material	Landscape
ON MIXED MATERIALS — Compound units				
14	a. GREY-WHITE PODZOLIC SOILS and RED-YELLOW PODZOLIC SOILS of heavy-texture— <i>Kerait Family</i> , associated with <i>Merit Family</i> (6) and <i>Bekenu Family</i> (7). On terrace remnants are <i>Triboh Family</i> (21) and lowland PODZOLS (20). b. GREY-WHITE PODZOLIC SOILS and RED-YELLOW PODZOLIC SOILS of light-texture— <i>Saratok Family</i> (9) and <i>Nyalau Family</i> (8). On terrace remnants are <i>Triboh Family</i> (21) and lowland PODZOLS (20).	Unit 16, 18, 29 and 30.	Argillaceous rocks and terrace materials. Recent alluvium and organic deposits.	Generally, moderately to weakly dissected low hilly terrain with interspersed valleys. Generally weakly dissected low hilly terrain with interspersed valleys.



This map forms an essential part of 'Memoir on the Soils of West-Sarawak' by J.P. Andriess and for full details the text of this memoir should be consulted.

Remarks: Mapping units are at different hierarchic levels, the majority being associations of either families, series within one family or series of different families. The remainder are units of single families or series.

Mapping Unit	Predominant	Subordinate	Parent Material	Landscape
Compound units—				
32	a. Undifferentiated swamp deposits, comprising soils of units 16a, 29a to 31. b. As a, but comprising soils of units 16b, 29b to 31.		Organic and mineral deposits.	Small basin swamps and interior valley.
33	DISTURBED SOILS. Mining land and town areas.			

SYMBOLS

The majority of mapping units have no letter coding and the range of soils in these units are as stipulated in the KEY. Where one family is dominant in part of a mapping unit a single letter code is used. Where one series can be isolated as dominant a two-letter code is used.

A — Abok Family	At — Antayan series (in unit 1)
B — Bekenu Family	Bg — Begunan series (in unit 6)
J — Jerijeh Family	By — Bayur series (in unit 4)
K — Kerait Family	Jg — Jagoi series (in unit 2)
M — Merit Family	Kg — Kilong series (in unit 22)
N — Nyalau Family	Kl — Keladan series (in unit 4)
O — Anderson Family	Kt — Kerait series (in unit 11)
P — Podzols (Miri and Buso Families)	Pw — Padawan series (in unit 6)
S — Saratok Family	Rk — Rukam series (in unit 11)
T — Terraces (Sabangang and Lupar Families)	Sn — Serian series (in unit 4)
L — Limbang Family	St — Sebat series (in unit 15)
R — Ramun Family	Lg — Lingga series
	Mx — indicates mixed occurrences of unit 15a and 15b.

Occurs within the mapping units thus designated but only as a minor component within the unit as a whole.
The family may however, be dominant over restricted areas within the unit.

Of scattered occurrence as families above but sufficiently widespread where indicated for their extent to be bounded on the map.

KEY OF THE DETAILED-RECONNAISSANCE SOIL MAP OF WEST SARAWAK

MOUNTAIN AND HILL SOILS

Mapping Unit	Predominant	Subordinate	Parent Material	Landscape
ON IGNEOUS ROCKS				
1	a. Heavy-textured LATERITIC SOILS—Tarat Family—Tarat series (deep and shallow phases) and <i>Antayan series</i> (At). b. Heavy-textured SKELETAL SOILS—Sedong Family , commonly associated with bouldery and rocky land.	<i>Sedong series</i> <i>Tarat series</i>	Basic to intermediate igneous rocks.	Moderately steep mountainous to hilly terrain. Steep mountainous terrain.
2	a. Medium to heavy-textured RED-YELLOW PODZOLIC SOILS—Abok Family—Gumbang series (generally shallow). b. As a.; commonly associated with bouldery and rocky land and SKELETAL SOILS—Kapit Family .		Acid to intermediate porphyritic and fine grained acid igneous rocks; commonly associated with bouldery and rocky land.	Moderately steep mountainous and hilly terrain. Steep mountainous terrain.
3	a. Light to medium-textured RED-YELLOW PODZOLIC SOILS—Abok Family, Gading series and Jagoi series (Jg). b. As a.; commonly associated with bouldery and rocky land and SKELETAL SOILS—Kapit Family, Buri series .		Coarse grained acid to intermediate igneous rocks (granite and granodiorite).	Moderately steep mountainous and hilly terrain. Steep mountainous terrain.
4	a. Heavy to medium-textured RED-YELLOW PODZOLIC SOILS—Undifferentiated Abok Family, Serin series (Sn) on arkose, <i>Bayur series</i> (By) on schist, <i>Keladan series</i> (Kl) on silicified volcanic rocks. b. Abok Family soils as (a); commonly associated with bouldery and rocky land and SKELETAL SOILS .		Acid igneous and metamorphic rocks.	Moderately to strongly dissected hilly terrain. Steep mountainous terrain.
5	a. Medium-textured GREY-WHITE PODZOLIC SOILS—Lingga series (Lg). b. As a.; commonly associated with bouldery and rocky land and SKELETAL SOILS .		Microgranite.	Moderately steep mountainous terrain. Steep mountainous terrain.

ON SEDIMENTARY ROCKS

6	a. Heavy-textured RED-YELLOW PODZOLIC SOILS—Merit Family , (deep and shallow phases). b. As a.; but shallow phases are dominant.	Bekenu Family (7)	Argillaceous rocks.	Moderately to very strongly dissected hilly terrain. Very steeply dissected terrain.
7	a. Medium-textured RED-YELLOW PODZOLIC SOILS—Bekenu Family . b. As a.; shallow phases are dominant.	Merit Family (6a)	Medium grained arenaceous rocks.	Moderately to very steeply dissected hilly terrain.
8	a. Light-textured RED-YELLOW PODZOLIC SOILS—Nyalau Family , (deep and shallow phases). b. As a.; but shallow phases are dominant, commonly associated with SKELETAL SOILS—Kapit Family .	Bekenu Family (7)	Coarse grained arenaceous rocks.	Cuesta terrain of moderate to strong relief. Cuesta terrain of strong relief.
9	a. Light to medium-textured GREY-WHITE PODZOLIC SOILS—Saratok Family , commonly associated with <i>Nyalau Family</i> . b. As a.; commonly associated with SKELETAL SOILS—Kapit Family .	Silantek Family (10)	Coarse to medium grained quartzitic arenaceous rocks.	Cuesta terrain of moderate relief. Cuesta terrain of strong relief.
10	a. Light-textured upland PODZOLS—Silantek Family , commonly associated with <i>Saratok Family</i> (9). b. As a.; but Bako Family and Meluan Family (12) are dominant.		Coarse grained quartzitic arenaceous rocks.	Gentle dipslopes in cuesta terrain.
11	Medium to heavy-textured GREY-WHITE PODZOLIC SOILS—Kerait Family, Rukam series (Rk) and <i>Kerait series</i> (Kc).	Merit Family (6)	Metamorphosed argillaceous rocks.	Generally, gently to moderately dissected hilly terrain.

ON MISCELLANEOUS ROCKS

2	SKELETAL SOILS—Meluan Family , commonly associated with bouldery and rocky land.		Igneous and sedimentary rocks.	Very steep mountainous terrain and crests.
3	SKELETAL SOILS—Meluan Family .	Shallow phases of BROWN FOREST SOILS—Kabuloh Family	Limestone.	Very steep mountainous terrain.

ON MIXED MATERIALS — Compound units

4	a. GREY-WHITE PODZOLIC SOILS and RED-YELLOW PODZOLIC SOILS of heavy-texture— Kerait Family , associated with <i>Merit Family</i> (6) and <i>Bekenu Family</i> (7). On terrace remnants are <i>Triboh Family</i> (21) and lowland PODZOLS (20). b. GREY-WHITE PODZOLIC SOILS and RED-YELLOW PODZOLIC SOILS of light-texture— <i>Saratok Family</i> (9) and <i>Nyalau Family</i> (8). On terrace remnants are <i>Triboh Family</i> (21) and lowland PODZOLS (20).	Unit 16, 18, 29 and 30.	Argillaceous rocks and terrace materials. Recent alluvium and organic deposits.	Generally, moderately to weakly dissected low hilly terrain with interspersed valleys. Generally weakly dissected low hilly terrain with interspersed valleys.
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FLOODPLAIN SOILS

Mapping Unit	Predominant	Subordinate	Parent Material	Landscape
ON RECENT RIVERINE ALLUVIUM				
15	a. Heavy-textured, well drained RECENT ALLUVIAL SOILS—Seduu Family . b. Light-textured, well drained RECENT ALLUVIAL SOILS—Kayan Family .		From undifferentiated, mainly fine grained rock types. Mainly from sandstones; partly from granites.	Flat to gently undulating upper riverine valleys and levees.
16	a. Heavy-textured, poorly to very poorly drained GLEYSOILS—Bijat Family . b. Light-textured, poorly to very poorly drained GLEYSOILS—Tatau Family .	RECENT ALLUVIAL SOILS—Seduu Family and Kayan Family. (15a and 15b).	From varied, mainly fine grained rock types. From varied, coarse grained rock types; subordinate from marine sands.	Flat, waterlogged interior valleys and middle to lower riverine floodplains, and incipient levees.
17	Heavy-textured GLEYSOILS—Bijat Family, Paya Megok series in association with RECENT ALLUVIAL SOILS—Paku series .	Tatau Family, Mundai series on light-textured old alluvium.	From undifferentiated, mainly fine grained rock types.	Flat to gently undulating limestone flats.
ON OLD ALLUVIUM				
18	a. Heavy-textured, poorly to very poorly drained GLEYSOILS—Semadoh Family—Embang series . b. Light-textured, poorly to very poorly drained GLEYSOILS—Tatau Family—Gong series .			Flat interior valleys; on subsided terraces in limestone flats and on old coastal plain remnants.
ON MIXED MATERIALS — INTERIOR VALLEY ASSOCIATION				
19	a. Heavy-textured soils, residual and alluvial, comprising units 15a, 16a and units 6 and 7. b. Light-textured soils, residual and alluvial, comprising units 15b, 16b and units 8 and 9.	Light-textured soils comprising units 15b, 16b, and units 8 and 9. Heavy-textured soils comprising units 15a, 16a, and units 6 and 7.		Slightly dissected old valley floors; and flats at present floodplain level and terrace remnants.

TERRACE AND FAN SOILS

Mapping Unit	Predominant	Subordinate	Parent Material	Landscape
ON LIGHT-TEXTURED OLD ALLUVIUM				
20	Lowland PODZOLS—Miri Family and Buso Family .	Triboh Family (21)		Flat to gently undulating terrace summits. (riverine and marine).
21	GREY-WHITE PODZOLIC SOILS—Triboh Family .	Miri Family and Buso Family (20)		Flat to gently undulating riverine terraces and local colluvial footslopes.
22	REGOSOLS—Gaya Family on gravel deposits, <i>Kilong series</i> (Kg) on old marine sands.			Generally flat to gently undulating terraces.
ON FAN DEPOSITS				
23	a. Heavy-textured RECENT ALLUVIAL SOILS mixed with or underlain by gravels and boulders— <i>Ramun Family—Ramun series</i> and <i>Terbat series</i> . b. Light-textured RECENT ALLUVIAL SOILS mixed with gravels and boulders— <i>Lundu series</i> .		From basic igneous rocks. From granites and sandstones mainly.	Dissected footslopes and moderately to gently sloping colluvial fans.

COASTAL SOILS

Mapping Unit	Predominant	Subordinate	Parent Material	Landscape
ON RECENT MARINE ALLUVIUM				
24	Light-textured undeveloped RECENT ALLUVIAL SOILS—Kabong Family—Siru series .			Flat to gently sloping beaches and beach ridges.
ON SUBRECENT MARINE ALLUVIUM				
25	Light-textured weakly developed RECENT ALLUVIAL SOILS—Sematan Family—Sematan series .	<i>Rambangan series</i>		Flat to gently sloping subrecent beach ridges.
26	Light-textured PODZOLS—Jerijeh Family .	REGOSOLS—Kilong series. (Kg)		Flat to gently sloping subrecent beach ridges.
ON RECENT DELTAIC AND ESTUARINE DEPOSITS				
27	a. Heavy-textured unripe to semi-ripe SALINE GLEY SOILS—Rajang Family . b. Light-textured unripe to semi-ripe SALINE GLEY SOILS—Belat Family .	<i>Pendam Family</i> (28) <i>Rojang Family</i> (27)		Flat to gently sloping estuarine and deltaic tidal floodplains.
28	a. Heavy-textured ripe SALINE GLEY SOILS—Pendam Family . b. Light-textured ripe SALINE GLEY SOILS—Nonok Family .			Flat to gently sloping estuarine and deltaic tidal floodplains.

BASIN SWAMP SOILS

Mapping Unit	Predominant	Subordinate	Parent Material	Landscape
29	a. Shallow PEAT SOILS (less than 40")— Mukah Family —overlying heavy-textured mineral soils. b. Shallow PEAT SOILS (less than 40")— Igan Family —overlying light-textured mineral soils.		Organic deposits.	Margins of large basins, and isolated interior valleys.
30	Moderately deep PEAT SOILS—Anderson Family —(depth phase 1, 40"–80").		Organic deposits.	Margins of large basin swamps and middle riverine interior valleys.
31	Deep PEAT SOILS—Anderson Family (depth phases 2 and 3, more than 80").		Organic deposits.	Centres of large basin swamps and middle riverine interior valleys.
Compound units—				
32	a. Undifferentiated swamp deposits, comprising soils of units 16a, 29a to 31. b. As a, but comprising soils of units 16b, 29b to 31.		Organic and mineral deposits.	Small basin swamps and interior valleys.
33	DISTURBED SOILS. Mining land and town areas.			

Remarks: Mapping units are at different hierarchic levels, the majority being associations of either families, series within one family or series of different families. The remainder are units of single families or series.

SYMBOLS

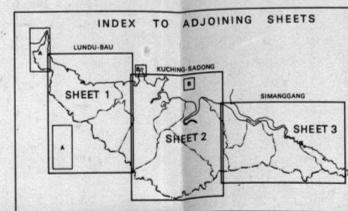
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M — Merit Family	Kg — Kilong series (in unit 22)
N — Nyalau Family	Kl — Keladan series (in unit 4)
O — Anderson Family	Kc — Kerait series (in unit 11)
P — Podzols (Miri and Buso Families)	Pw — Padawan series (in unit 6)
S — Saratok Family	Rk — Rukam series (in unit 11)
T — Terraces (Sabangang and Lupar Families)	Sn — Serian series (in unit 4)
L — Limbang Family	St — Sebat series (in unit 15)
R — Ramun Family	Lg — Lingga series

Of scattered occurrence as families above but sufficiently widespread where indicated for their extent to be bounded on the map.

Mx — indicates mixed occurrences of unit 15a and 15b.

Occurs within the mapping units thus designated but only as a minor component within the unit as a whole.
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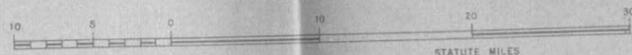


This map forms an essential part of 'Memoir on the Soils of West-Sarawak' by J.P. Andriess and for full details the text of this memoir should be consulted.

MAP 1

SOIL SURVEY COVERAGE OF WEST SARAWAK (1970)

Scale 1:500,000



KEY

- Detailed surveys (scale >1:5,000).
- Semi Detailed surveys (scale 1:5,000 - 1:25,000).
- Reconnaissance surveys (scale 1:50,000).
- Reconnaissance surveys (scale 1:50,000), previously not reported.
- 25/2 Reference number of soil survey reports issued by Soils Division, Dept. of Agriculture, Sarawak.
- MS Miscellaneous surveys without reference numbers

LEGEND

Divisional headquarters	
District headquarters	
Sub-District headquarters	
Government station and bazaar	
Other town	
International boundary	
Divisional boundary	
District boundary	
Motorable road	
River and stream	

The approval of the Director of National Mapping, Malaysia, is necessary before this map or any portion thereof may be copied.

Base map derived from Land and Survey Department (Sarawak Series No. 8, 1968 Compilation).

Compiled by J. P. Andriess
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Enquiries on aspects of this map should be addressed to the Director of Agriculture, Sarawak.