

WOSSAC: 23716  
631.474  
(911.14)

Report No. 120

**Report on a Semi-Detailed Soil Survey  
of the  
SUNGEI SAEH AREA**

**4th Division**

by  
**Ahmad Haji Ebon  
(A. A. O. Soil Survey)**

**September, 1968.**

**Soil Survey Division  
Research Branch**

**Dept. of Agriculture  
Sarawak**

631.474(911.14)

# HUNTING TECHNICAL SERVICES

Report No. 120

Report on a Semi-Detailed Soil Survey of Sg. Saeh Area, 4th Division.

Vegetation and Land Use

Method of Survey

Soils

Soil Family

Soil Family

Soil Family

by

Soil Family

Ahmad Haji Ebon

Soil Family

(AAO - Soil Survey)

Soil Survey

Soil Survey

Map 1

Map 2

Map 3

Soil Survey Division,  
Research Branch.

July, 1968.

Department of Agriculture,  
Sarawak.

Contents

Page

Introduction

1

Vegetation and Land Use

1

Method of Survey

1

SOILS:

Seduai Family

2

Bijat Family

2

Sebandi Family

3

Mukah Family

3

Anderson Family

3

Conclusions

4

Maps in back folder

Map 1 Soil

Map 2 Drainage requirement

Map 3 Vegetation and Land Use.

## Introduction

The Drainage and Irrigation Department has been carrying out investigations on several areas in the Fourth Division with a view to providing drainage improvement for wet padi. The area around Sungei Saeh in the Sibuti District is one of the areas currently under investigation. While the Drainage and Irrigation Department is still working in this area, the Fourth Division Development Committee has requested a semi-detailed soil survey of the area.

The flat alluvial land on both sides of Sg. Saeh measures approximately 3,200 acres and is located east of Niah town about two miles up the Niah River (see location map on Map 1). Except for Sungei Niah which forms the western boundary, the area is encircled by foothills. Being an alluvial area, the topography is almost flat except for a few low isolated hills, which are likely to be a continuation of the hill range that circles the area. The area is drained by Sungei Saeh and its tributaries.

The survey was carried out in November/December, 1967, by the reporter aided by an Agricultural Assistant, Basmawi bin Mahli.

Since there was no contoured map of 1:10,000 scale available, the field map was compiled from enlarged photographs (Sortie 14/67. Photo Nos. 0981 and 0982) from which a mosaic was made. The acreage on the final map of 1:20,000 therefore should not be taken as 100% accurate.

Three maps are provided, Map 1 shows the soils distribution, Map 2, the drainage requirements and the development potential and Map 3, the vegetation and land use pattern of the area.

### Vegetation and Landuse

Map 3 indicates the vegetation pattern of the area in 1967 as seen from the aerial photographs of 25th May, 1967. All the areas marked under padi do not necessarily mean that they are under annual cultivation. The grass and the low shrubs covering the area indicates that the area must have been used for padi under a shifting cultivation system.

Areas under secondary growth are areas covered by shrubs of up to 10 years old. While those mapped as old secondary growth are areas of more than 10 years old. The primary forest is either regenerated old secondary forest or true primary forest of poor quality, the difference is difficult to indicate in this area.

Seedling rubber is only found on the bank of Sungei Niah on Seduau soils.

### Method of Survey

The method adopted is standard for Sarawak. Aerial photographs of the area were first studied on which tentative soil boundaries (as distinguished from the different pattern of vegetation) were marked. The field work was to confirm or amend the soil boundaries.

In November/December 1967 the Drainage and Irrigation Department cut a few rentises in the area. These were used by the survey team as base rentises from which many side-rentises were cut. The distance between the rentises ranged approximately from 2,000 to 3,000 feet apart.

### Soils

The soils of this area are derived mainly from alluvial deposits and the soils comprise mainly Gley soils.

A summary of the soils in the area can be found in the following table:

GREAT SOIL GROUP	SOIL FAMILY
Recent Alluvial soil	Seduau
Gley soils	Bijat, Sebandi
Peat soils	Mukah, Anderson

#### Seduau Family (50 acres)

This is found on the river bank of Sg. Niah and is covered by seedling rubber. It may also occur along Sg. Saeh but was not met in any rentis.

The common characteristics of the Seduau soil are: a brownish yellow clay loam to clay with some indication of light textured layers intermixed with the heavy layers in the profile. Few fine reddish brown mottles occur at lower depth but disappear towards the surface. Where the family merge into the Bijat soils, mottles are prominent in the top 25 inches.

This soil can support a wide variety of crops.

#### Bijat Family (575 acres)

The soils of this family are found extensively along the upper part of Sg. Saeh and also along the Sg. Niah backing the Seduau family. The greater part of these soils at one stage of another has been used for the cultivation of padi. Towards the eastern part of the areas, the Bijat soils have been mapped as an association of Sebandi/Bijat (660 acres.)

Bijat soils are characterised by a light grey clay mottled faintly in the top layer but with abundant and prominent mottles at depth. The mottles are medium to coarse at about below 20 inches. In areas close to the river, the mottles occur deeper down the profiles than those in profile away from the river.

This soils type is suitable for the cultivation of padi and with improved drainage it can easily support other annual and perennial crops.

Sebandi Family (770 acres)

This soil family is found backing the Bijat soil, and along the foothills. Most of the area under this soil type has been used for rice cultivation at one stage or another.

The characteristics of Sebandi soil are light grey clay covered with peat top soils up to 10 inches. Unlike the Bijat, the mottling in this soil occurs only along old root channels. The mottles are fine but distinct. In area where the soil is submerged mottling is totally absent. The clay found then is white to light grey. The drainage condition is very poor.

With improved drainage, Sebandi soil is ideal for padi cultivation.

Mukah Family (580 acres)

This soil is classified as Peat soil and is found in the poorly drained parts of the alluvial basins. The area is covered by either old secondary forest or secondary growth of about 5-10 years old.

The common characteristics of Mukah soil is a peat topsoil ranging from 10 to 40 inches thick on light grey to white clay. Drainage condition is very poor.

Like Sebandi and Bijat soils, Mukah soil is also good for padi but only after proper drainage improvement.

A small area of 15 acres of Mukah/Anderson association is mapped in the northern part of the area.

Anderson Family (510 acres)

This is another type of soil which belongs to the Peat soils and it is commonly covered by primary forest or old secondary forest.

The soil comprises deep woody peat in different stages of decomposition, ranging from well decomposed top soil in formerly cultivated areas to raw woody peat under primary jungle. It is waterlogged throughout the season.

In the southwest corner of the area, an Anderson variant with a clay layer found in between the peat is found.

Anderson soil is regarded as unsuitable for agriculture.

Conclusions

Out of the 3,200 acres under investigation, a total of 2,585 acres of Bijat, Sebandi and Mukah soils are recommended for padi cultivation, 565 acres of Mukah/Anderson and Anderson soil are unsuitable for padi and 50 acres of Seduau soil along Sg. Niah are suitable for any type of crop.

Further details on drainage requirements are shown on Map 2, reference should be made to the Appendix in the Soil Survey Report No. 119 on Sg. ~~Sach~~ Bok Area.

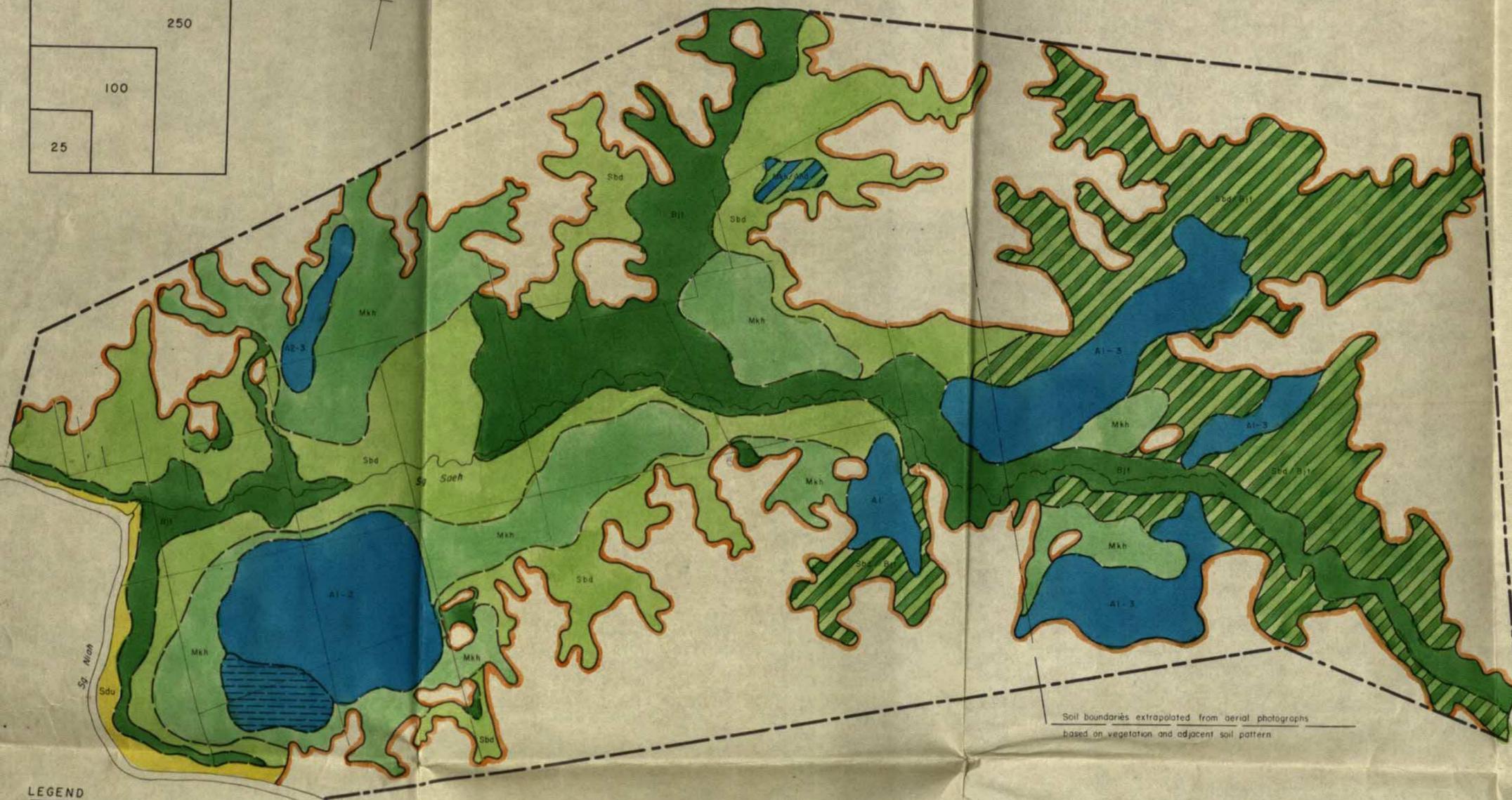
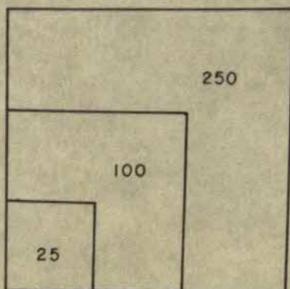
# SUNGEI SAEH

Miri District

4<sup>th</sup> Division

MAP I.  
Soils

ACREAGE SCALE

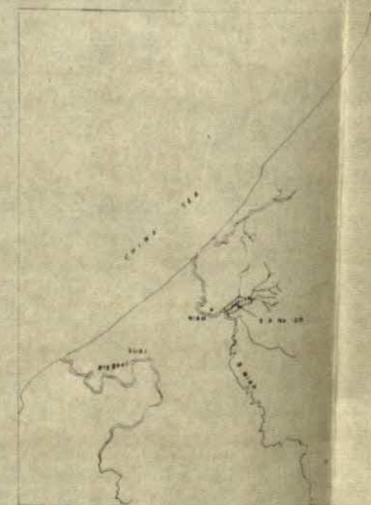


Soil boundaries extrapolated from aerial photographs based on vegetation and adjacent soil pattern.

## LEGEND

- Survey boundary
- Soil boundary
- Boundary between flat and hilly land.
- Rentises.
- Stream

## LOCATION



ORIGIN	MAPPING UNIT	SOIL FAMILY	MAIN SOIL CHARACTERISTICS	APPROX. ACREAGE
ALLUVIAL DEPOSIT	Sdu	SEDUAU	Well to imperfectly drained yellow clay loam on clay	50
	Bjt	BJAT	Poorly drained light grey alluvial clay.	575
	Bjt/Sbd	BJAT/SEBANDI	Poorly drained light grey clay with peat top soil up to 10 inches thick.	660
	Sbd	SEBANDI		770
ORGANIC DEPOSIT	Mkh	MUKAH	Poorly drained light grey clay with peat top soil ranging from 10-40" thick.	580
	Mkh/And	MUKAH/ANDERSON		15
	And	ANDERSON	Peat ranging from 40-120" +	510
	And		Variant of Anderson soil with clay layer 10-20" thick found at 10 inches from the surface.	40

SCALE 1:20,000



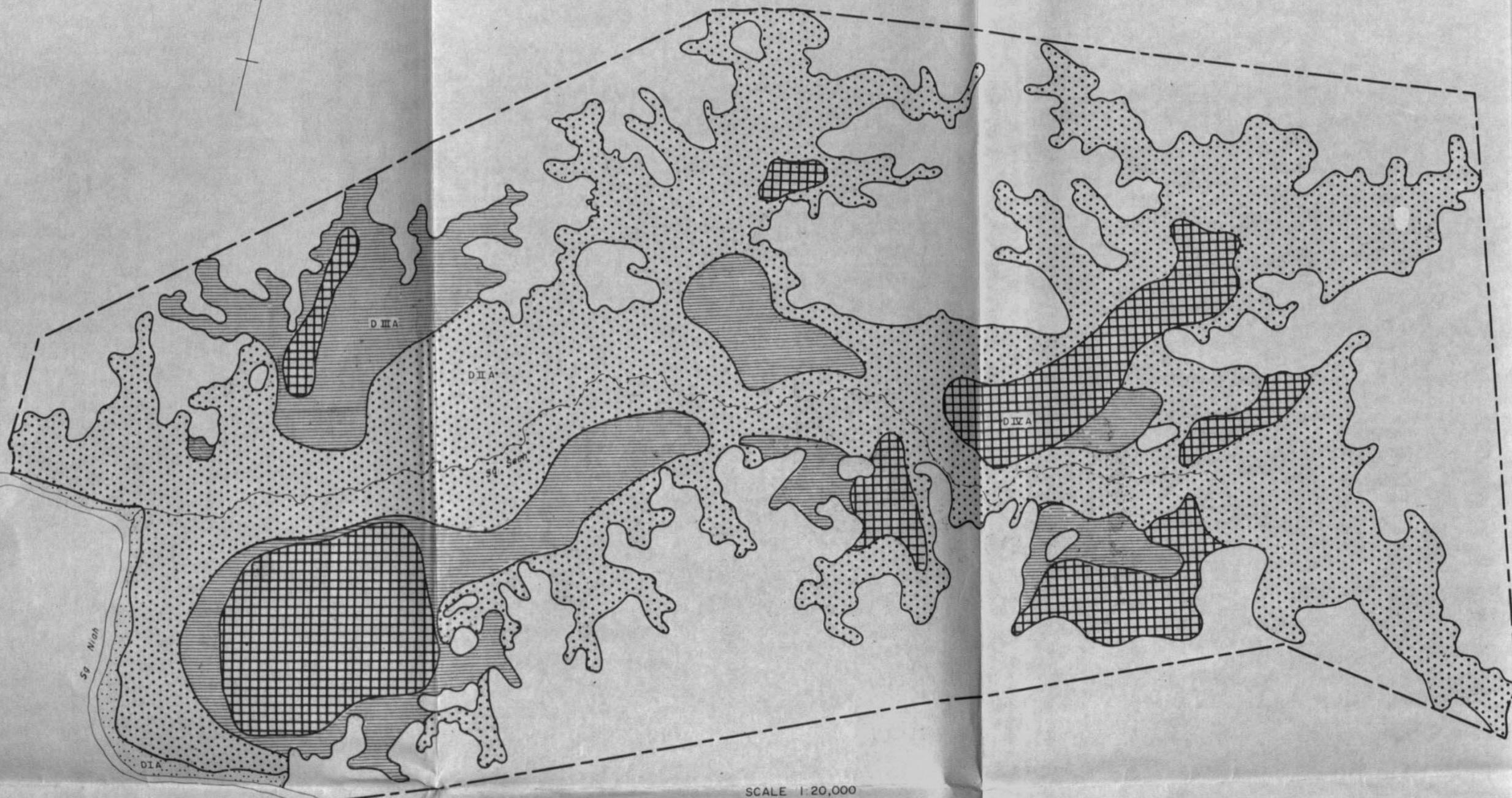
# SUNGEI SAEH

Miri District

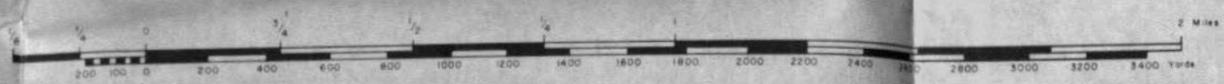
4th Division

MAP 2

Drainage Requirement



SCALE 1:20,000



MAPPING SYMBOL	RATING	DRAINAGE REQUIREMENT	APPROX. ACREAGES
	CLASS D I	No drainage improvement required.	50
	CLASS D II	Minor drainage improvement required.	2050
	CLASS D III	Moderate drainage improvement required.	580
	CLASS D IV	Major drainage improvement required.	520

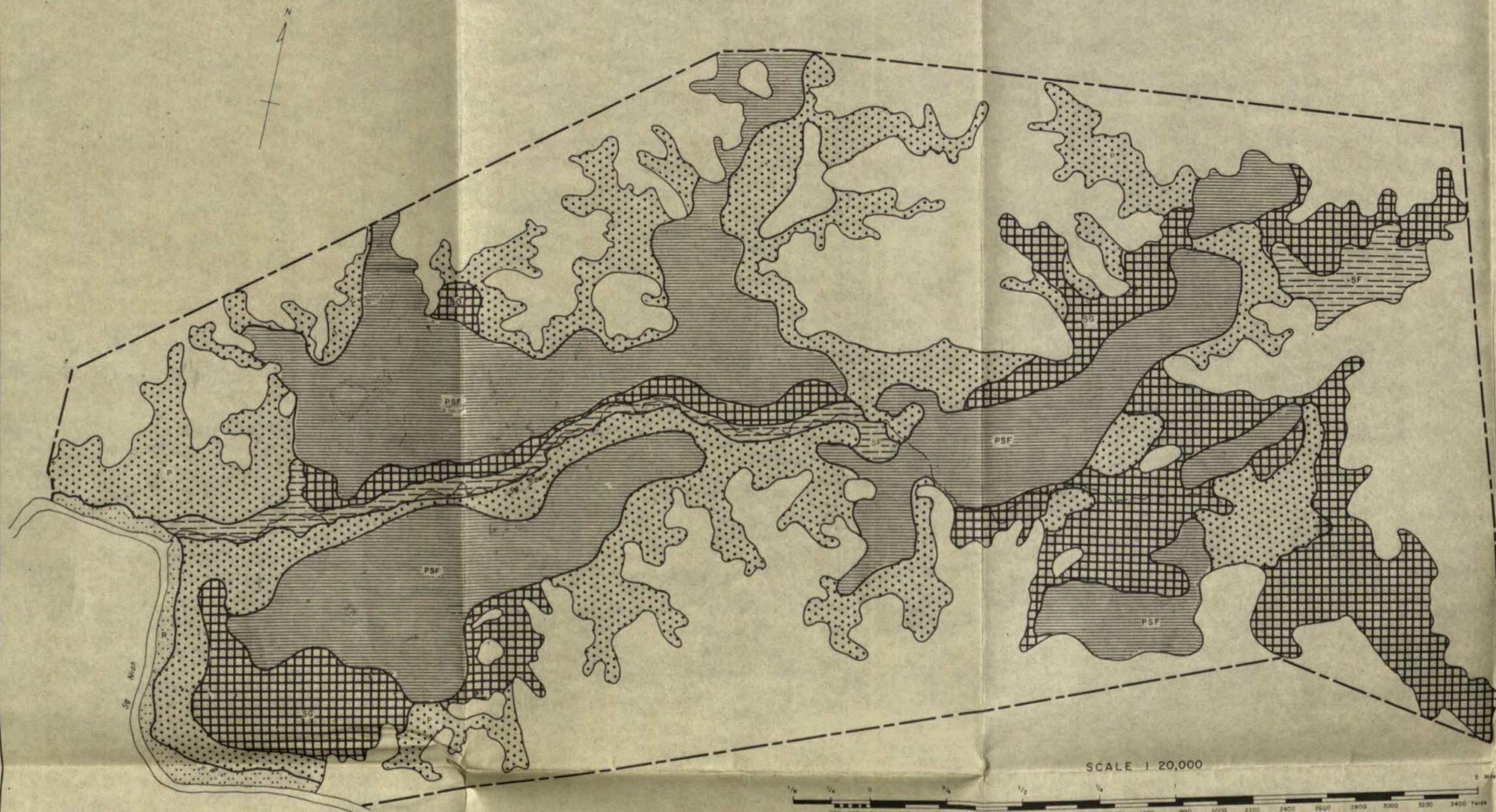
# SUNGEI SAEH

Miri District

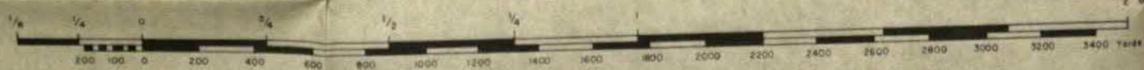
4th Division

MAP 3

Vegetation & Land Use

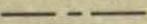


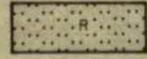
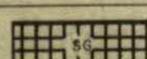
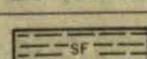
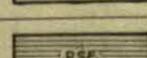
SCALE 1 20,000



## KEY

### LEGEND

-  Survey boundary
-  Vegetation and land use boundary
-  Boundary between flat and hilly land.

MAPPING UNIT		ACREAGES
	Rubber	50
	Padi	1100
	Secondary growth less than 10 years old	750
	Secondary forest more than 10 years old	120
	Poor swamp forest	1180

