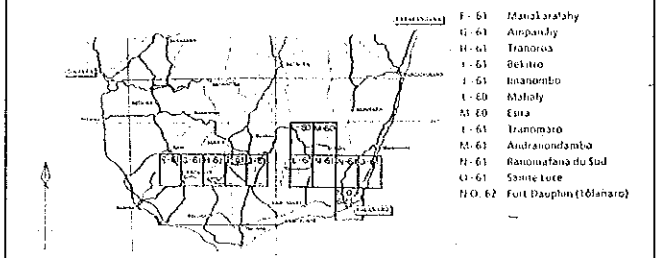


GEOLOGICAL MAP AND PROFILE
OF THE MAHALY DISTRICT (6)



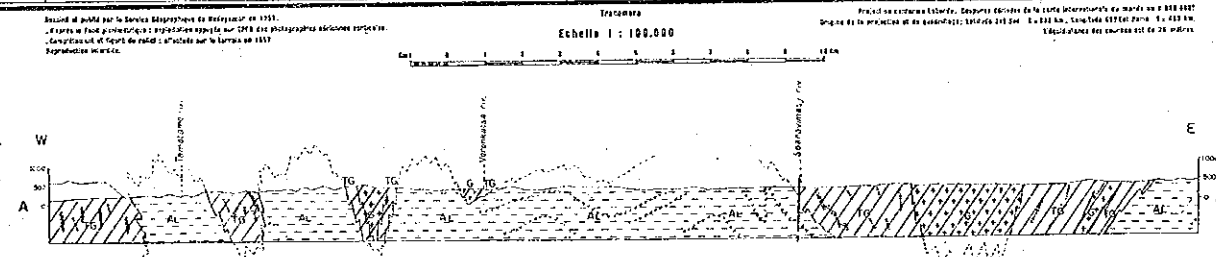
- 1-61 Manakalafy
- 1-62 Ampangy
- 1-63 Tranoroa
- 1-64 Bekiso
- 1-65 Inanontio
- 1-66 Mahaly
- 1-67 Esia
- 1-68 Tsammasio
- 1-69 Andriamambao
- 1-70 Ranomafana du Sud
- 1-71 Sainte Lucie
- 1-72 Fort Dauphin (Ménar)

JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEBRUARY 1992

Scale 1:100,000

LEGEND

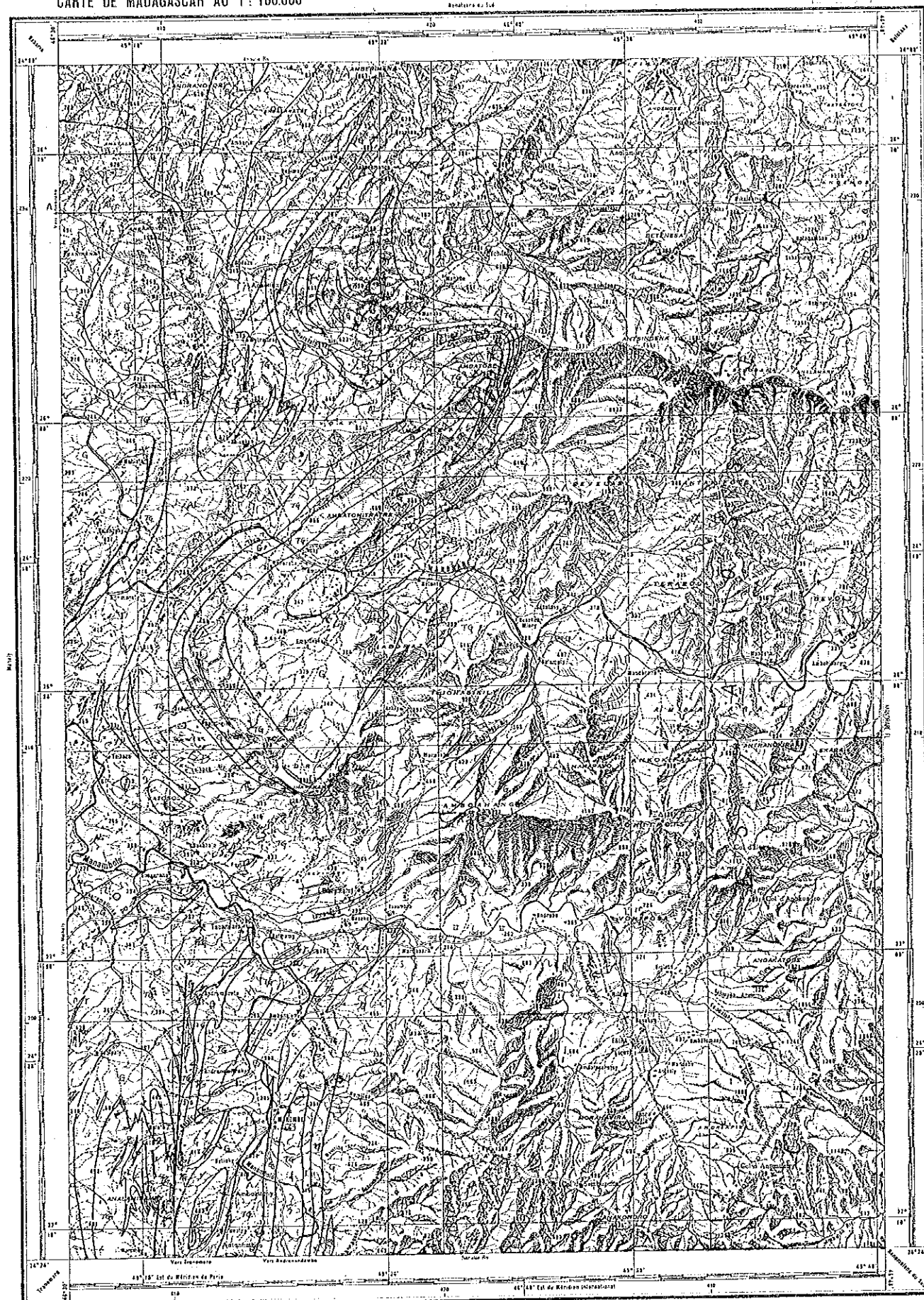
- | | | | | | |
|--|-------------------------|---|------------------------|---------------------------|----------------|
| Quaternary | Alluvium | Andriamambo Series: Mudstone, sandstone | Rhyolite dike | Microgranite | Microsyenite |
| Neogene | Basalt, dolerite dike | Granite dike | Granite | Gabbro | |
| Recent igneous rocks | Labradorite | Augen gneiss | Serpentinite | Orthogneiss | |
| Old igneous rocks | Concordant granite | Anisyenite Granite | Granite gneiss | Pyroclastic granite | Alkali granite |
| | Pyroxenite | Stratiiform granite, migmatitic granite | Charnockite | Dunite | |
| Pre-Cambrian Crystalline Schist | Graphite | Quartzite | Marble | Amphibolite | |
| Common facies in different formations | Gneiss (Vohibory Group) | Leptinite (Vohibory Group) | Gneiss (Anpanby Group) | Leptinite (Anpanby Group) | |
| Vohibory System (Vohibory Group) | Gneiss (AG) | Leptinite (LL) | Marble (MG) | Amphibolite (AmG) | |
| Graphite System (Anpanby Group) | Leptinite (TL) | Marble (AmG) | Amphibolite (AmG) | Amphibolite (AmG) | |
| Androyen System | Leptinite (AL) | Marble (MG) | Amphibolite (AmG) | Amphibolite (AmG) | |
| Fort Dauphin Group | Leptinite (L) | Marble (MG) | Amphibolite (AmG) | Amphibolite (AmG) | |
| | Leptinite (Lgc) | Marble (MG) | Amphibolite (AmG) | Amphibolite (AmG) | |
| | Leptinite (Lgq) | Marble (MG) | Amphibolite (AmG) | Amphibolite (AmG) | |
| Structures | Dip < 45° | Dip > 45° | Vertical | Horizontal | Anticline |
| Overturned anticline | Overturned syncline | Schistosity | Plunging axis | Visible fault | Synchue |
| Mylonite | Pegmatite | Quartz vein | Anticline | Visible fault | Synchue |
| Mine | Tunnel | Open pit | Anticline | Visible fault | Synchue |
| Fluoropite | Muskovite | Quartz | Rose quartz | Graphite | Graphite vein |
| Cu | Mn | Beryl | Tourmaline | Euxenite | Amethyst |
| Chrysolite | Kaolin | Jasper | Apatite | Fluorite | Thorite |
| Corundum | Allantite | Sapphire | Sheelite | Tantalite | Magnetite |
| Beusite | Cassiterite | Pyrite | Pyrite, molybdenite | Ilmenite | |
| Zircon | Monazite | Rhenite-Zircon Monazite sand | | | |
| Limestone | Quarry | Hot spring | | | |



FEUILLE M-60
CARTE DE MADAGASCAR AU 1:100.000

ESIRA

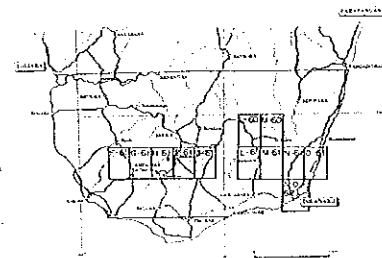
PROVINCE DE FIANARANTSOA
DISTRICT DE MOHONY VO VO
CANTON DE MOHONY
PROVINCE DE TOLEARN
DISTRICT DE MOHONY
POSTE ADMINISTRATIF DE MOHONY
CANTON DE MOHONY



Échelle 1 : 100.000

PL. 3-1-7

THE MINERAL EXPLORATION IN THE SOUTHERN AREA THE DEMOCRATIC REPUBLIC OF MADAGASCAR (PHASE I) GEOLOGICAL MAP AND PROFILE OF THE ESIRA DISTRICT (7)



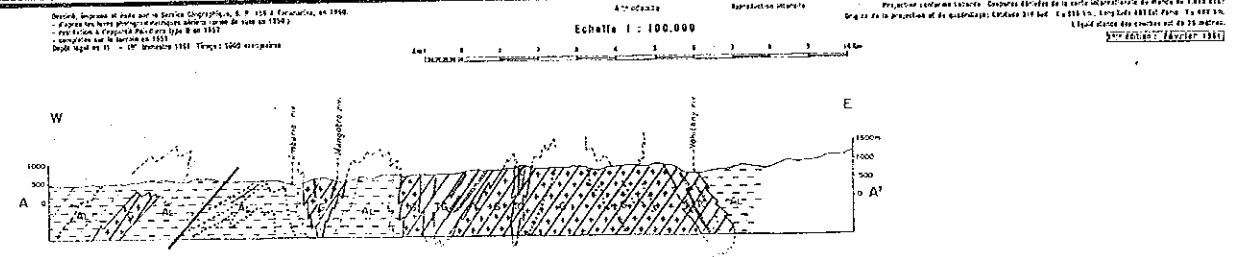
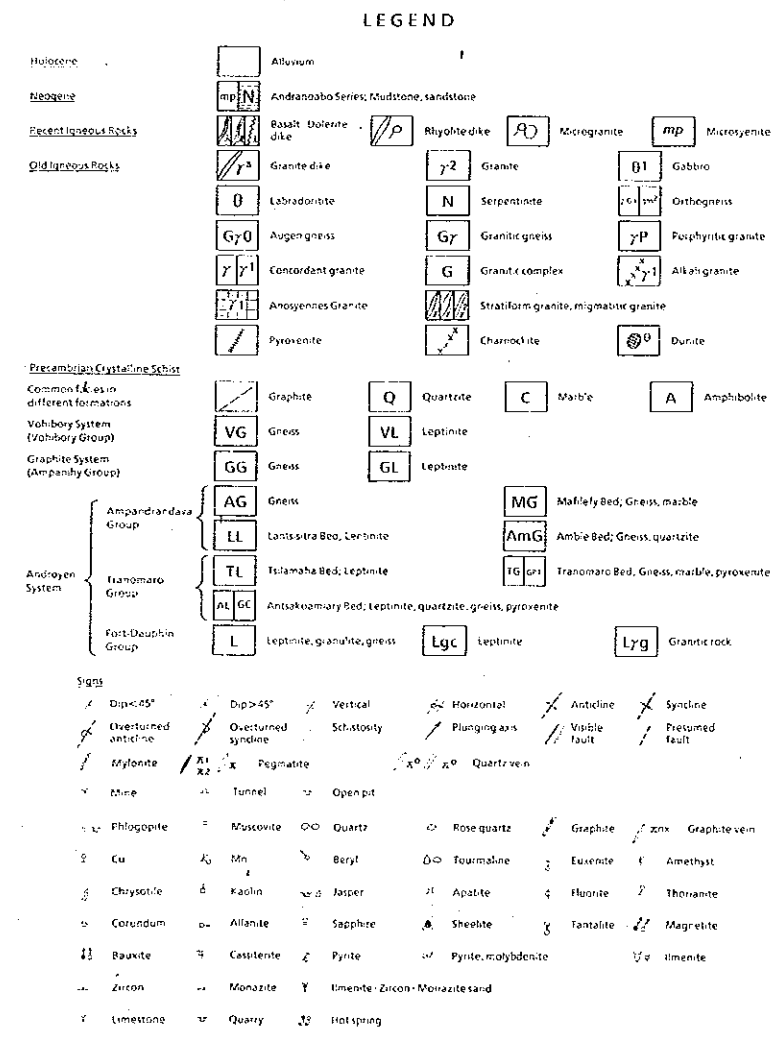
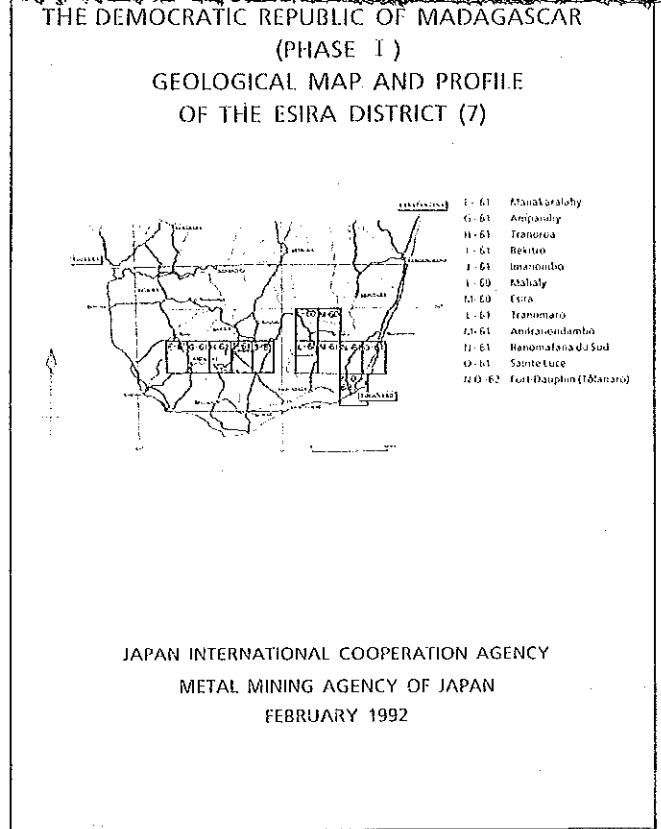
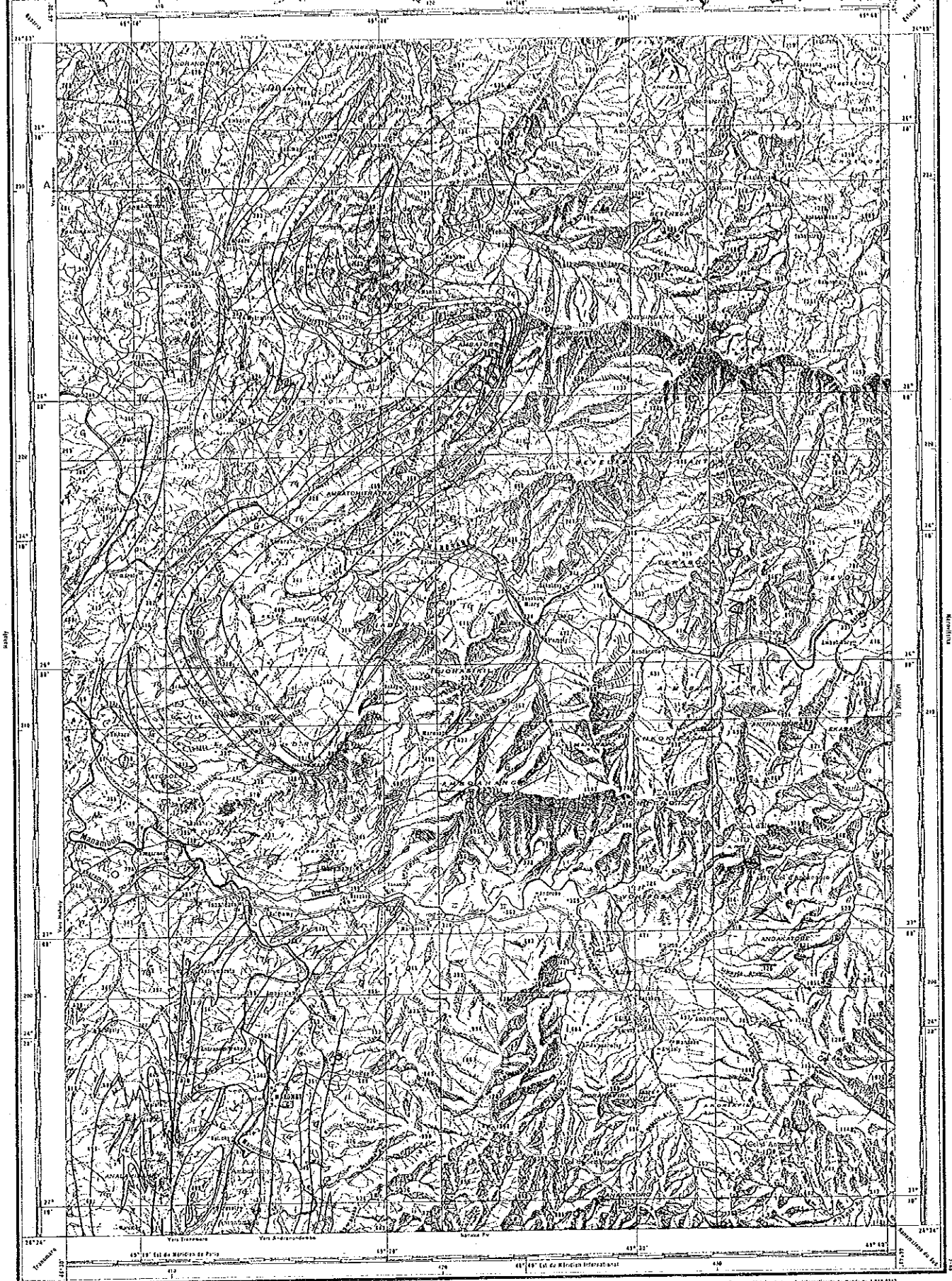
- F-61 Manakalaha
- G-61 Ampahy
- H-61 Franica
- I-61 Bekiro
- J-61 Inanontan
- K-61 Zahely
- L-61 Ivra
- M-61 Tranomaso
- N-61 Andranondambo
- O-61 Ranomafana du Sud
- P-61 Sainte-Luce
- FG-62 Fort Dauphin (Tolansari)

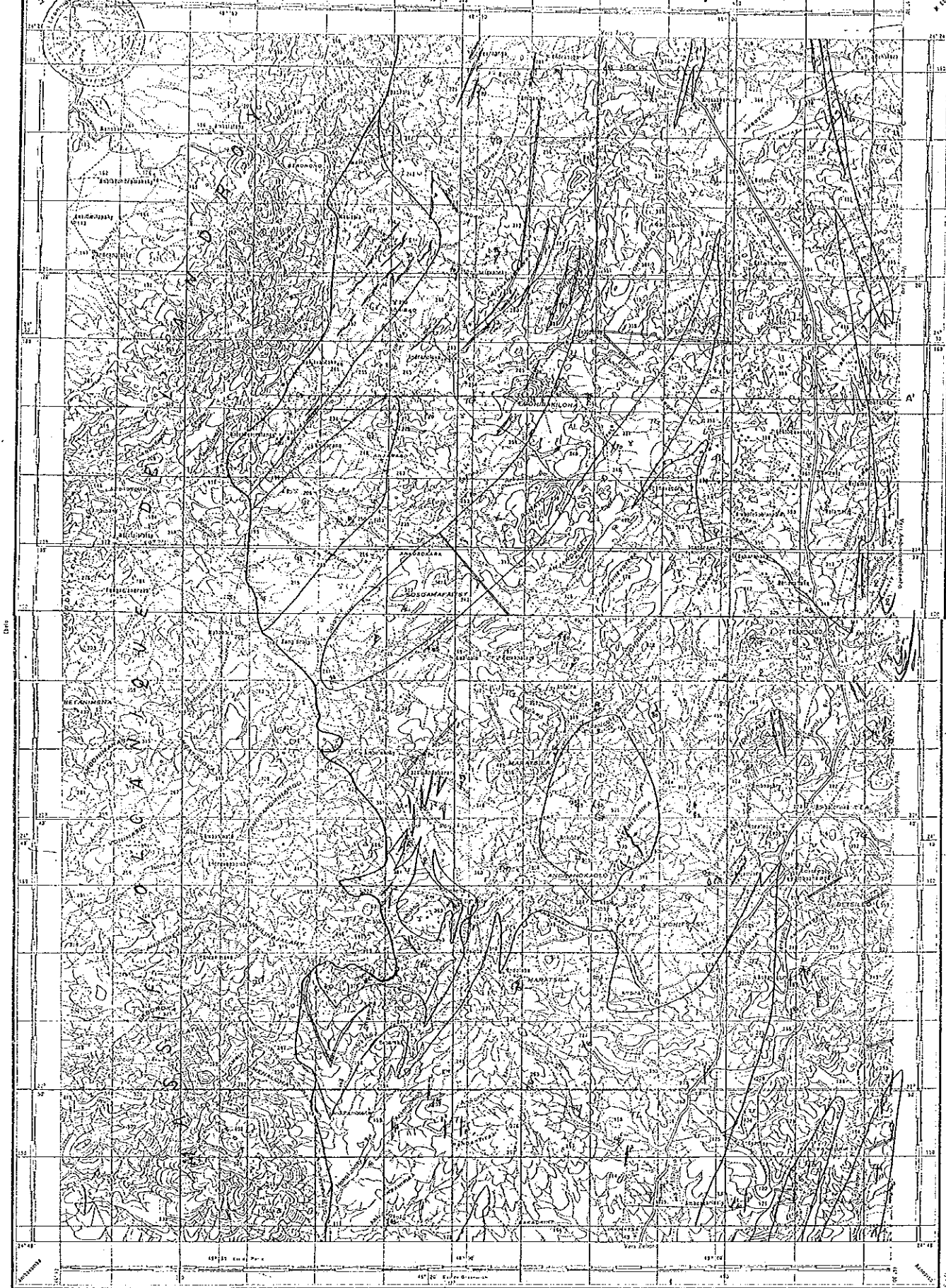
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEBRUARY 1992

Scale 1:100,000

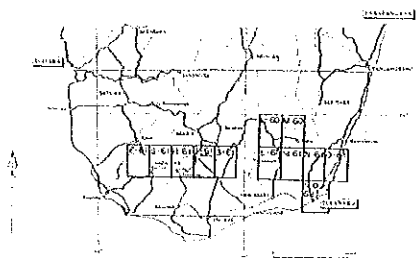
LEGEND

Holocene		Blank	Aluvium				
Recent		mp	Andranombo Series, Mudstone, sandstone				
Recent igneous Rocks		Basalt	Dufrenoye dike	Rhyolite dike	Microgranite	Microsyenite	
Quaternary Rocks		G	Granite dike	G	Granite	G	Gabbro
		O	Labradorite	N	Serpentine	O	Ophiogneiss
		Gy	Augengneiss	Gy	Granitic gneiss	P	Porphyritic granite
		P	Concordant granite	G	Granitic complex	G	Alkali granite
		P	Arnyennes Granite	P	Stratiform granite, migmatitic granite		
		P	Pyroxenite	P	Charnockite	D	Dunite
Precambrian Crystalline Schist							
Common facies in different formations		G	Graphite	Q	Quartzite	C	Marble
Vohibory System (Vohibory Group)		VG	Gneiss	VL	Leptinite	A	Amphibolite
Graphite System (Ampahy Group)		GG	Gneiss	GL	Leptinite		
Androyen System		AG	Gneiss	MG	Malifely Bed; Gneiss, marble		
Ampanandrian Group		LL	Lantsitra Bed; Leptinite	AmG	Ambe Bed; Gneiss, quartzite		
Franomaro Group		TL	Tsamaha Bed; Leptinite	FG	Franomaro Bed; Gneiss, marble, pyroxenite		
Anisakamary Bed		AL	Anisakamary Bed; Leptinite, quartzite, gneiss, pyroxenite				
Fort Dauphin Group		L	Leptinite, granulite, gneiss	Lgc	Leptinite	Lyg	Granitic rock
Structures							
Dip < 45°	Dip > 45°	Vertical	Horizontal	Anticline	Syncline		
Overturned anticline	Overturned syncline	Schistosity	Plunging axis	Visible fault	Presumed fault		
Mylonite	Pegmatite	Quartz vein	Quartz vein				
Mine	Tunnel	Open pit					
Phlogopite	Muscovite	Quartz	Rose quartz	Graphite	Graphite vein		
Cu	Mn	Beryl	Tourmaline	Eukenite	Amethyst		
Chrysolite	Kaolin	Jasper	Apatite	Fluorite	Thiovanite		
Corundum	Alfante	Sapphire	Sheelite	Tantalite	Magnetite		
Baunite	Castroite	Pyrite	Pyrite, molybdenite	Bismite			
Zircon	Monazite	Ilmenite	Zircon	Manganese sand			





(PHASE 1)
**GEOLOGICAL MAP AND PROFILE
 OF THE TRANOMARO DISTRICT (8)**



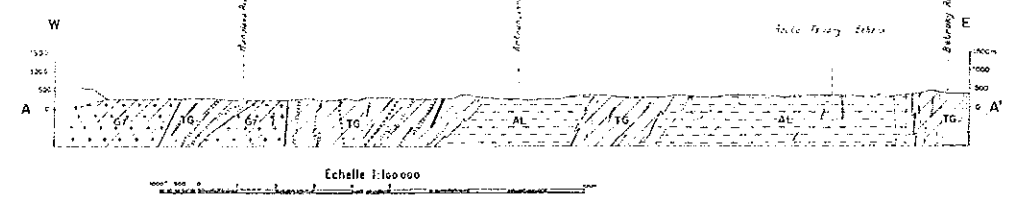
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- 8-01 Amparidy
- 9-01 Tranomaro
- 1-01 Bekitso
- 1-01 Anankombo
- 1-01 Mahaly
- 21-01 Tava
- 1-01 Tranomaro
- 22-01 Andranomambao
- 21-01 Ranomafana d.sud
- 0-01 Sente Lote
- 22-01 Fort Dauphin (Mamoro)

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 METAL MINING AGENCY OF JAPAN
 FEBRUARY 1992

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LEGEND

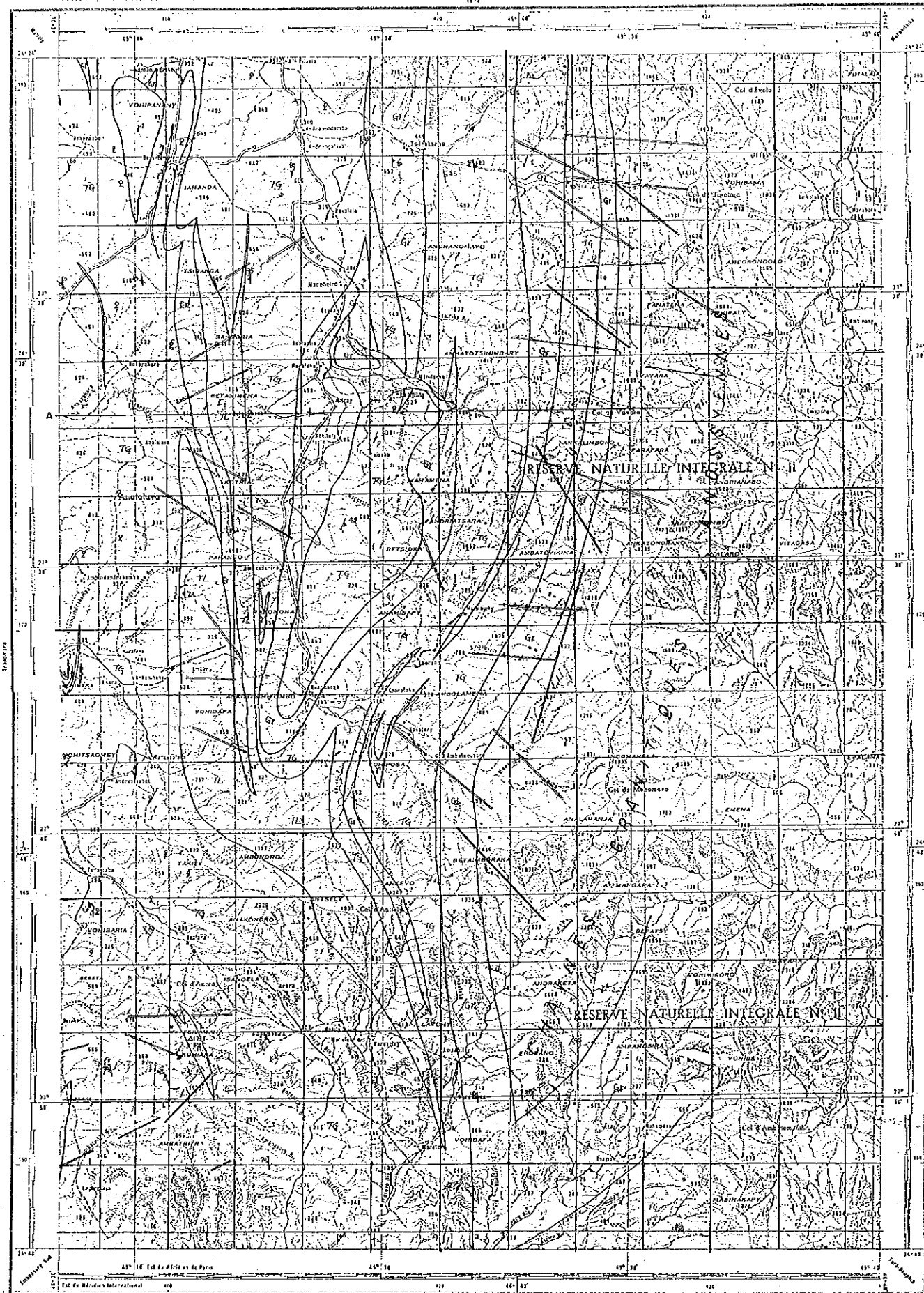
- | | | |
|--|--|--|
| <ul style="list-style-type: none"> Fluvium Recent in-situ Rocks Distant in-situ Rocks Epicambrian Crystalline Series Common facies in different formations Ushibeny System (Ushibeny Group) Graphite System (Ampanahy Group) Ampandrandava Group Transomaro Group Fort Dauphin Group Sizes Minerals Structures Other | <ul style="list-style-type: none"> Alluvium Andranomambao Series, Muskeene, sandstone Rasaik-Defense dike Granite dike Lafacovite Augen gneiss Concordant granite Anosyennes Granite Pyroxenite Graphite Gneiss Gneiss Gneiss Lentostira Bed; Leptinite Tsilamaha Bed; Leptinite Antsalomany Bed; Leptinite, quartzite, gneiss, pyroxenite Leptinite, granulite, gneiss Dip > 45° Overturned anticline Mylonite Zone Phlogopite Co Chrysothile Corundum Rauvite Zircon Limestone Dip > 45° Overturned syncline Peridotite Tunnel Muscovite Mn Kaolin Allanite Cassiterite Monazite Quarry Vertical Scissosity Peridotite Open pit Quartz Beryl Jasper Sapphire Pyrite Ilmenite Zircon-Monazite sand Hot spring Horizontal Flunging fault Quartz vein Graphite Pot quartz Tourmaline Apatite Sheelite Fyrite, molybdenite Anticline Visible fault Graphite vein Amethyst Thornstone Magnetite Rhombohite | <ul style="list-style-type: none"> Microgranite Granite Serpentinite Granite gneiss Granite complex Stratiform granite, migmatite granite Charnockite Diorite Marble Amphibolite Maficly Bed; Gneiss, marble Amf Bed; Gneiss, quartzite Transomaro Bed; Gneiss, marble, pyroxenite Leptinite Leptinite Granitic rock |
|--|--|--|



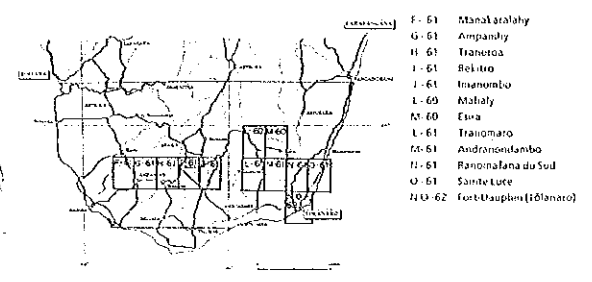
FEUILLE M-61
CARTE DE MADAGASCAR AU 1 : 100.000

ANDRANONDAMBO

PROVINCE DE TOULON
DIRECTION GENERALE
POSTE ANDRANONDAMBO
1 - Centre de service
2 - Centre de service
3 - Centre de service
4 - Centre de service
5 - Centre de service
6 - Centre de service
7 - Centre de service
8 - Centre de service
9 - Centre de service
10 - Centre de service



PL. 3-1-9
THE MINERAL EXPLORATION
IN
THE SOUTHERN AREA
THE DEMOCRATIC REPUBLIC OF MADAGASCAR
(PHASE I)
GEOLOGICAL MAP AND PROFILE
OF THE ANDRANONDAMBO DISTRICT (9)



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEBRUARY 1992

Scale 1 : 100,000

LEGEND

<p>Recent to Quaternary Rocks</p> <ul style="list-style-type: none"> Aluvium Andranondambo Series; Mudstone, sandstone Basalt - Dolomite d'oe Granite d'oe Labradorite Augen gneiss Concordant granite Anosyennes Granite Pyroxenite 	<p>Pre-Cambrian Crystalline Schists</p> <ul style="list-style-type: none"> Graphite Gneiss Gneiss Gneiss Lantaisira Bed; Leptinite Isalamaha Bed; Leptinite Antsalomary Bed; Leptinite, quartzite, gneiss, pyroxenite Leptinite, granulate, gneiss 	<p>Common facies in different formations</p> <ul style="list-style-type: none"> Rhyolite d'oe Granite Serpentine Granitic gneiss Granitic complex Stratiform granite, migmatitic granite Charnockite Quartzite Leptinite Leptinite Gneiss Leptinite Gneiss Leptinite Leptinite 	<p>Androgen System</p> <ul style="list-style-type: none"> Microgranite Gabbro Orthogneiss Porphyritic granite Alkali granite Dunite Marble Amphibolite Mafely Bed, Gneiss, marble Ambre Bed, Gneiss, quartzite Tranomaro Bed, Gneiss, marble, pyroxenite Leptinite Granitic rock
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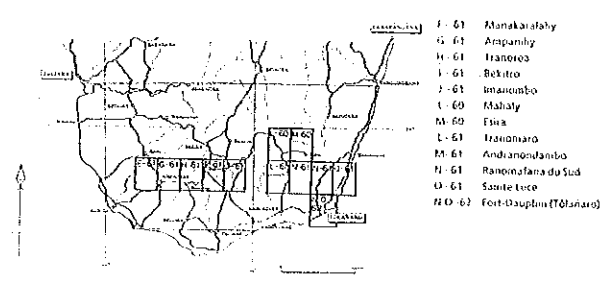
Signs

Dip < 45°	Dip > 45°	Vertical	Horizontal	Anticline	Syncline
Disturbed anticline	Disturbed syncline	Schistosity	Plunging axis	Visible fault	Presumed fault
Mylonite	Pegmatite	Quartz vein			

Mineral Symbols

u	Phlogopite	o	Muscovite	o	Quartz	o	Orthoquartz	o	Graphite	o	Graphite vein
o	Cu	o	Mn	o	Beryl	o	Tourmaline	o	Euxenite	o	Amethyst
o	Chrysothite	o	Keohin	o	Jasper	o	Apatite	o	Fluorite	o	Thornauite
o	Corundum	o	Almandine	o	Sapphire	o	Sheelite	o	Tantalite	o	Magnetite
o	Baunite	o	Cassiterite	o	Pyrite	o	Pyrite, molybdenite	o		o	limonite
o	Zircon	o	Monazite	o	Ilmenite	o	Zircon Monazite sand	o		o	

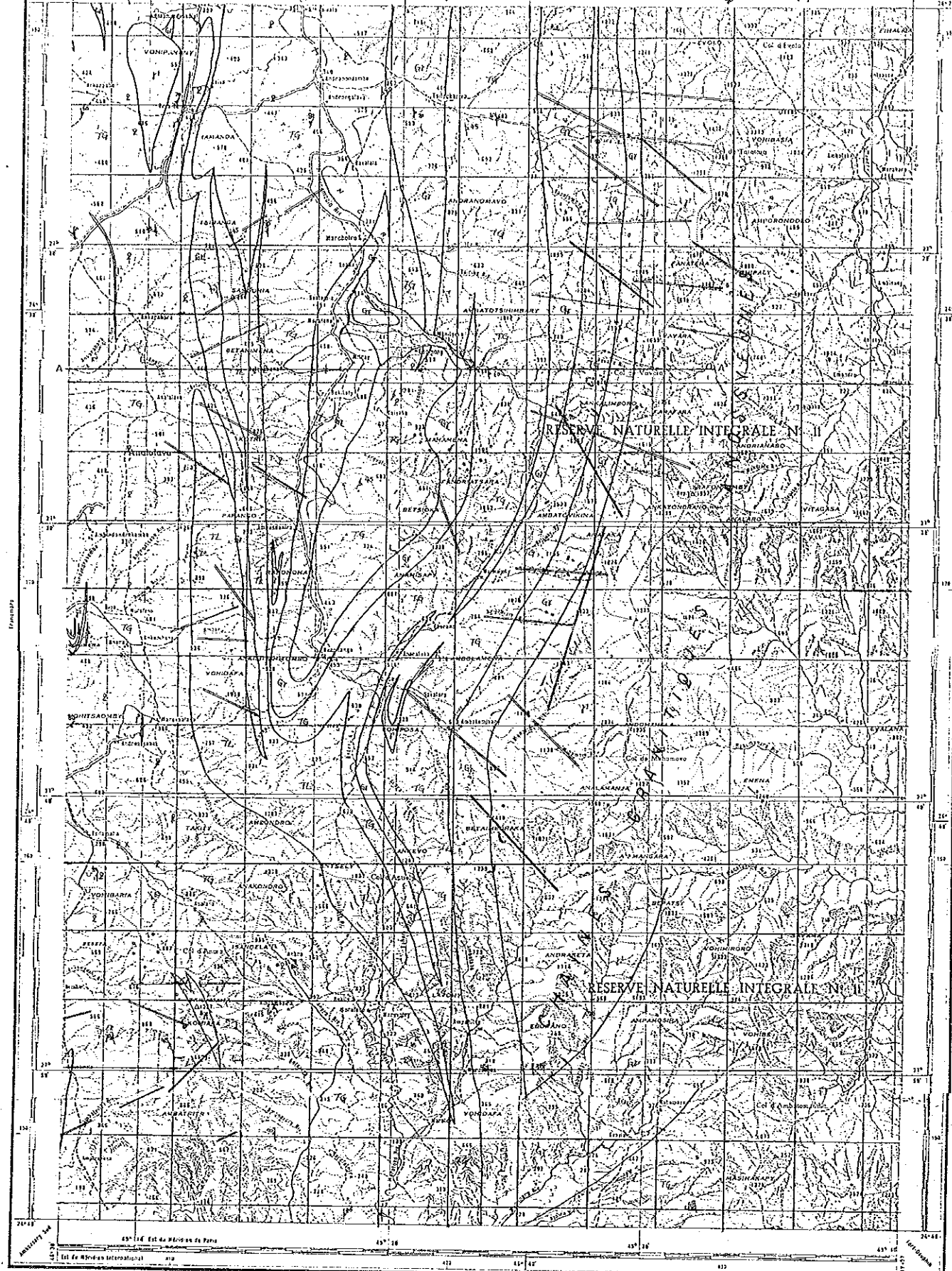
(PHASE I)
GEOLOGICAL MAP AND PROFILE
OF THE ANDRANONDAMBO DISTRICT (9)



- F-61 Anankafahy
- G-61 Anpanihy
- H-61 Ananosy
- I-61 Bekitro
- J-61 Inanombo
- K-61 Mahaly
- L-61 Enka
- M-61 Anandriano
- N-61 Andranondambo
- O-61 Ranomafana du Sud
- P-61 Sakale Luce
- HO-61 Fort-Dauphin (Tolanaro)

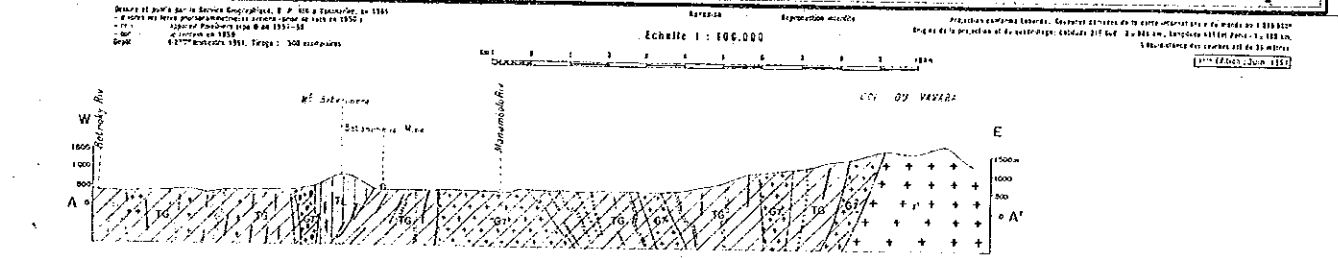
JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEBRUARY 1992

Scale 1 : 100,000



LEGEND

- | | | | | | | |
|---------------------------------------|---|--|---------------------|---------------------|----------------|----------|
| Holocene | Atlixium | Basalt-Dolerite dike | Rhyolite dike | Microgranite | Microsyenite | |
| Neogene | Andranombo Series; Mudstone, sandstone | Granite dike | Granite | Gabbro | | |
| Recent igneous rocks | | Labradorite | Serpentine | Orthogneiss | | |
| Old igneous rocks | | Augen gneiss | Granitic gneiss | Porphyritic granite | | |
| | | Concordant granite | Granite complex | Alkali granite | | |
| | Anoxymes Granite | Stratiform granite, migmatitic granite | | | | |
| | Pyroxenite | Charnockite | Dunite | | | |
| Precambrian Crystalline Schist | | | | | | |
| Common facies in different formations | Graphite | Quartzite | Marble | Amphibolite | | |
| Vohibery System (Vohibery Group) | Gneiss | Leptinite | | | | |
| Graphite System (Anpanihy Group) | Gneiss | Leptinite | | | | |
| Androgen System | AG Gneiss | MG Maléfy Bed; Gneiss, marble | | | | |
| | LL Lantistrata Bed; Leptinite | AmG Ambo Bed; Gneiss, quartzite | | | | |
| | TL Tsimaha Bed; Leptinite | TG Tranomaro Bed; Gneiss, marble, pyroxenite | | | | |
| | AL GC Antsakoomay Bed; Leptinite, quartzite, gneiss, pyroxenite | | | | | |
| Fort Dauphin Group | L Leptinite, granulite, gneiss | Lgc Leptinite | Lyg Granitic rock | | | |
| Symbols | Dip < 45° | Dip > 45° | Vertical | Horizontal | Anticline | Syncline |
| Overturned anticline | Overturned syncline | Schistosity | Plunging axis | Visible fault | Presumed fault | |
| Mylonite | Pegmatite | Quartz vein | | | | |
| Mine | Tunnel | Open pit | | | | |
| Phlogopite | Muscovite | Quartz | Rose quartz | Graphite | Graphite vein | |
| Cu | Mn | Feryl | Tourmaline | Euxenite | Amethyst | |
| Chrysolite | Kaolin | Jasper | Apatite | Fluorite | Thorianite | |
| Corundum | Allanite | Sapphire | Sheelite | Tantalite | Magnetite | |
| Bauxite | Cassiterite | Pyrite | Pyrite, molybdenite | | | |
| Zircon | Monazite | Ilmenite - Zircon - Monazite sand | | | | |
| Limestone | Quarry | Hot spring | | | | |

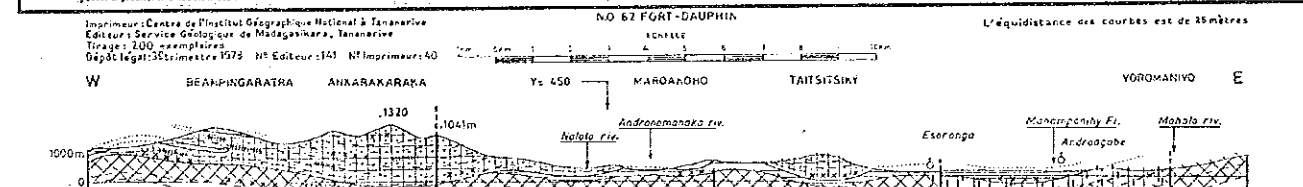
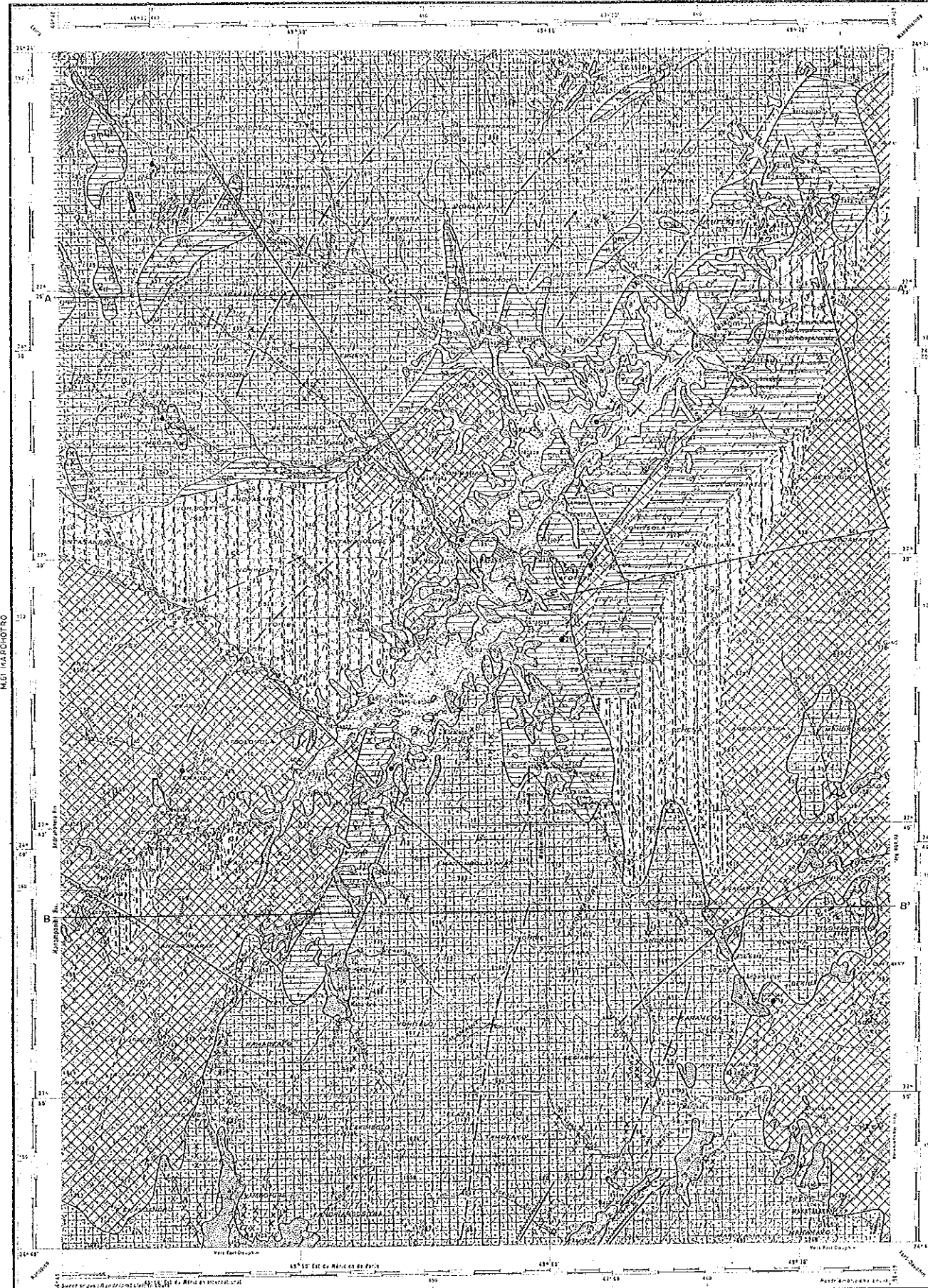


MADAGASIKARA 1/100,000
Service Géologique

RANOMAFANA DU SUD

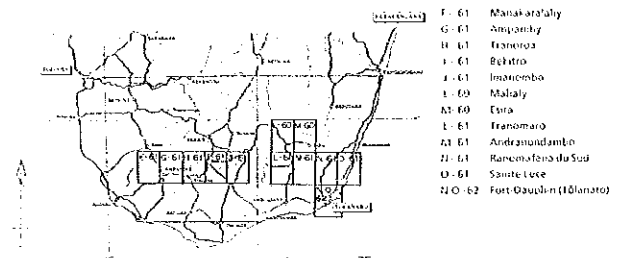
N. 61

RAZAFIMANANTSOA
LEVERS 1971
RAKOTOMANGA ANDRE
RANORIANARISOA J.O.
ÉCHELLE GÉOLOGIQUE: 1/100,000
ÉCHELLE TOPOGRAPHIQUE: 1/50,000
ÉCHELLE GÉOMÉTRIQUE: 1/100,000



PL. 3-1-10

THE MINERAL EXPLORATION IN THE SOUTHERN AREA THE DEMOCRATIC REPUBLIC OF MADAGASCAR (PHASE I) GEOLOGICAL MAP AND PROFILE OF THE RANOMAFANA DU SUD DISTRICT (10)

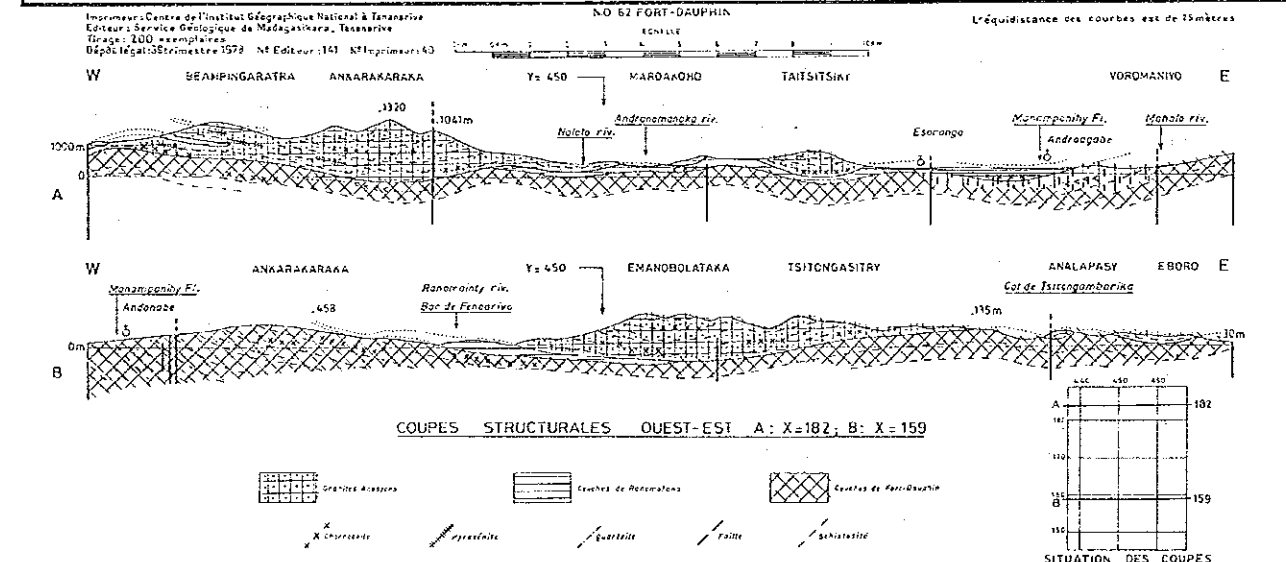
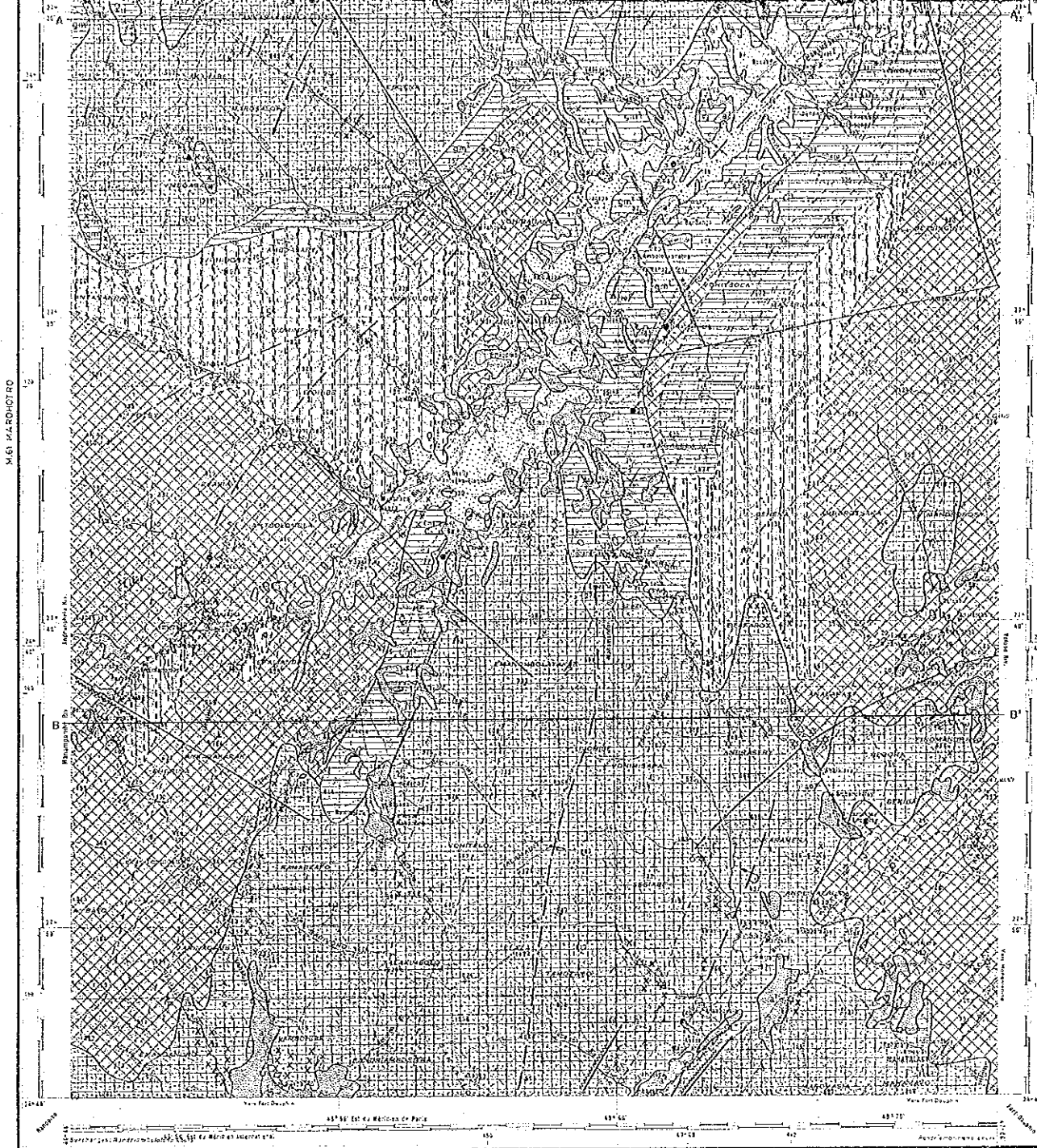


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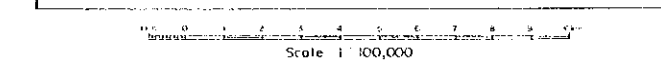
Scale 1:100,000

LEGEND

Highways	Alluvium	Basalt, dolerite dike	Rhyolite dike	Microgranite	Metavolcanite
Reservoir	Andriambo Series, Mudstone, sandstone	Granite dike	Granite	Gabbro	
Recent igneous rocks		Labradorite	Serpentine	Orthogneiss	
Old igneous rocks		Augen gneiss	Glaucophane gneiss	Porphyritic granite	
		Concordant granite	Granitic complex	Albite granite	
		Anosyennes Granite	Stratiform granite, migmatite granite		
		Pyroxenite	Charnockite	Dunite	
PreCambrian Crystalline Schist		Graphite	Quartzite	Marble	Amphibolite
Common facies in different formations		VG Gneiss	VL Leptinite		
Vohibory System (Vohibory Group)		GG Gneiss	GL Leptinite		
Graphite System (Gompany Group)		AG Gneiss	MG Marble Bed, Gneiss, marble		
Ampandrando Group		LL Lantsoha Bed, Leptinite	AmG Amibe Bed, Gneiss, quartzite		
Ranomafana Group		TL Tsilamaha Bed, Leptinite	TR Transomaha Bed, Gneiss, marble, pyroxenite		
Fort Dauphin Group		AL Antsakoamary Bed, Leptinite, quartzite, gneiss, pyroxenite			
		L Leptinite, granite, gneiss	Lgc Leptinite	Lyg Granite rock	
Symbols					
Dip < 45°	Dip > 45°	Vertical	Horizontal	Anticline	Syncline
Overturned anticline	Overturned syncline	Subtly	Plunging axis	Visible fault	Presumed fault
Mylonite	Pegmatite	Quartz vein			
Mine	Tunnel	Open pit			
Phlogopite	Muscovite	Quartz	Rose quartz	Graphite	Graphite vein
Cu	Zn	Beryl	Tourmaline	Euaxite	Amethyst
Claystone	Faun	Jasper	Apatite	Fluorite	Ilmenite
Enurudum	Allanite	Sapphire	Shellite	Tantalite	Magnetite
Bauxite	Castroite	Pyrite	Pyrite, molybdenite		
Zircon	Monazite	Granite Zircon	Monazite sand		



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEBRUARY 1992



LEGEND

Quaternary	Alluvium	Andriamaho Series, Mudstone, sandstone	Rhyolite dike	Microgranite	Microgranite
Recent igneous rocks	Basalt, tholeiite dike	Granite dike	Labiadinite	Augee gneiss	Concordant granite
Old igneous rocks	Pyroxenite	Granite	Serpentine	Granitic gneiss	Granite complex
Precambrian Crystalline rocks	Graphite	Quartzite	Marble	Amphibolite	
Common facies in different formations	Gneiss	Leptinite			
Vohibory System (Vohibory Group)	Gneiss				
Graphite System (Ampanihy Group)	Gneiss				
Androyen System	<ul style="list-style-type: none"> Ampanihy Group: Gneiss Transomaro Group: Leptinite Fort-Dauphin Group: Leptinite, granulite, gneiss 	<ul style="list-style-type: none"> Maliely Bed, Gneiss, marble Ambre Bed, Gneiss, quartzite Transomaro Bed, Gneiss, marble, pyroxenite 			
Symbols	<ul style="list-style-type: none"> Dip <math>45^\circ</math> Overturned anticline Mylonite Mine Philopagate Cu Chrysolite Corundum Rapakite Zircon Limestone 	<ul style="list-style-type: none"> Dip <math>45^\circ</math> Overturned syncline Pegmatite Tunnel Muscovite Mn Kaolin Albanite Monazite Quarry 	<ul style="list-style-type: none"> Vertical Schistosity Quartz vein Quartz Rose quartz Tourmaline Euxenite Amethyst Thorianite Thonante Magnetite Ilmenite Hot spring 	<ul style="list-style-type: none"> Horizontal Plunging axis Quartz vein Graphite Graphite vein 	<ul style="list-style-type: none"> Anticline Syncline Visible fault Fractured fault

MADAGASIKARA 1/100.000
Service Géologique

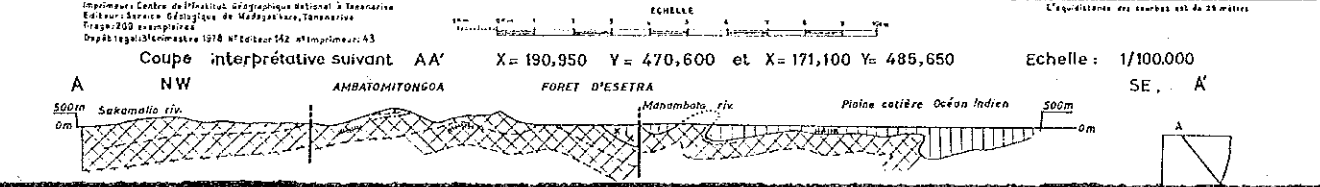
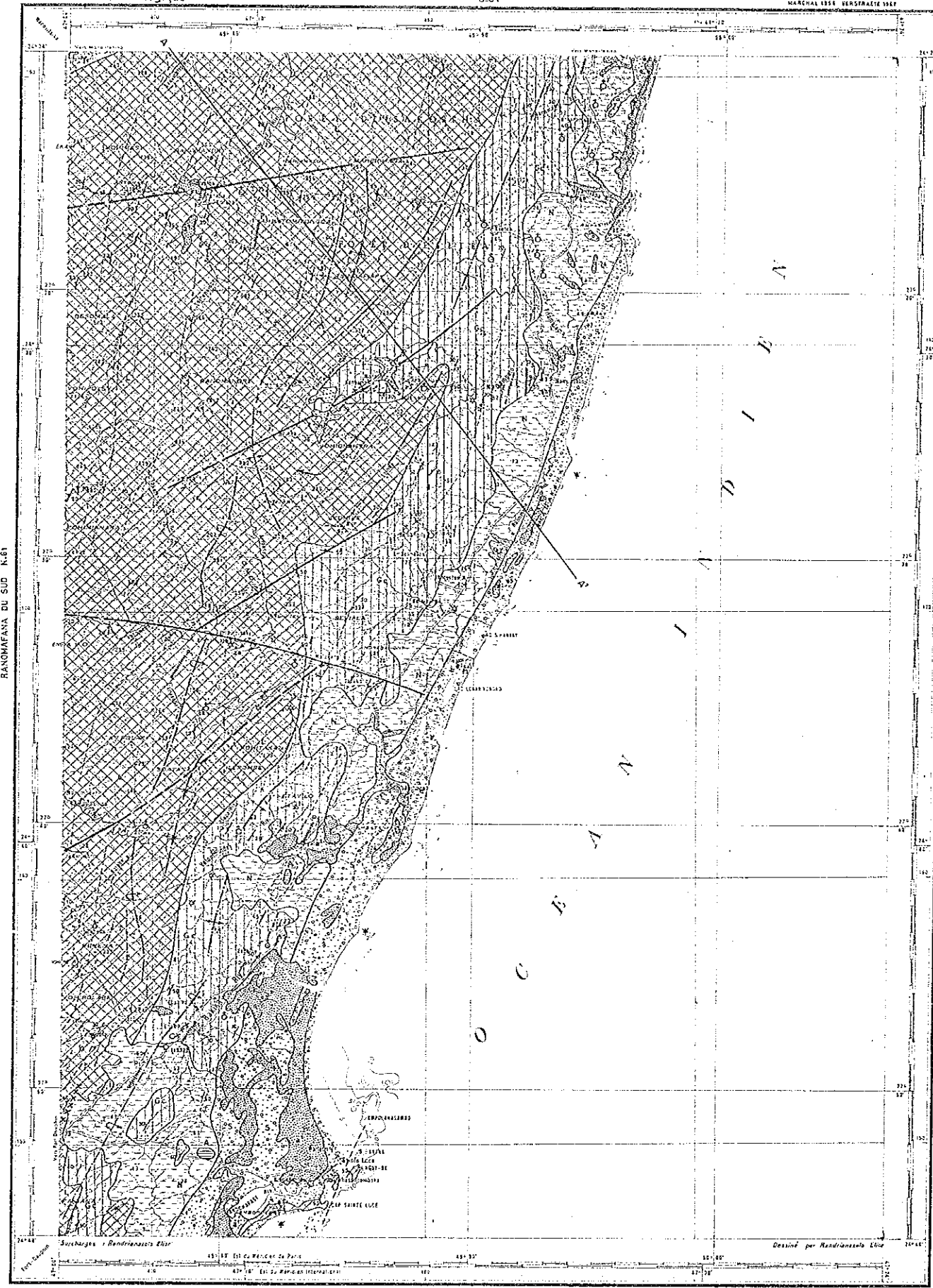
SAINTE LUCE

0.61

LEVERS 1972

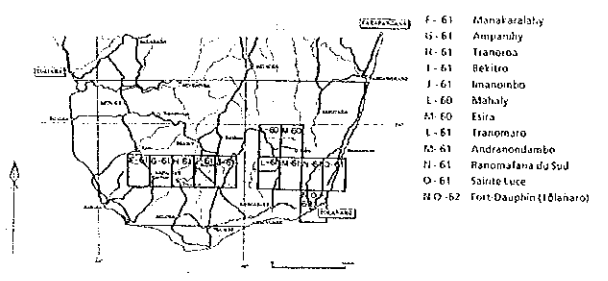
G. BAZOT
RAZAFIMANANTSOA
C. RAMANITRIRAIANA

Carte géologique au 1/100.000
Échelle: 1:100.000
Mars 1972



PL. 3-1-11

THE MINERAL EXPLORATION IN THE SOUTHERN AREA THE DEMOCRATIC REPUBLIC OF MADAGASCAR (PHASE I) GEOLOGICAL MAP AND PROFILE OF THE SAINTE LUCE DISTRICT (11)



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEBRUARY 1992

Scale 1:100,000

LEGEND

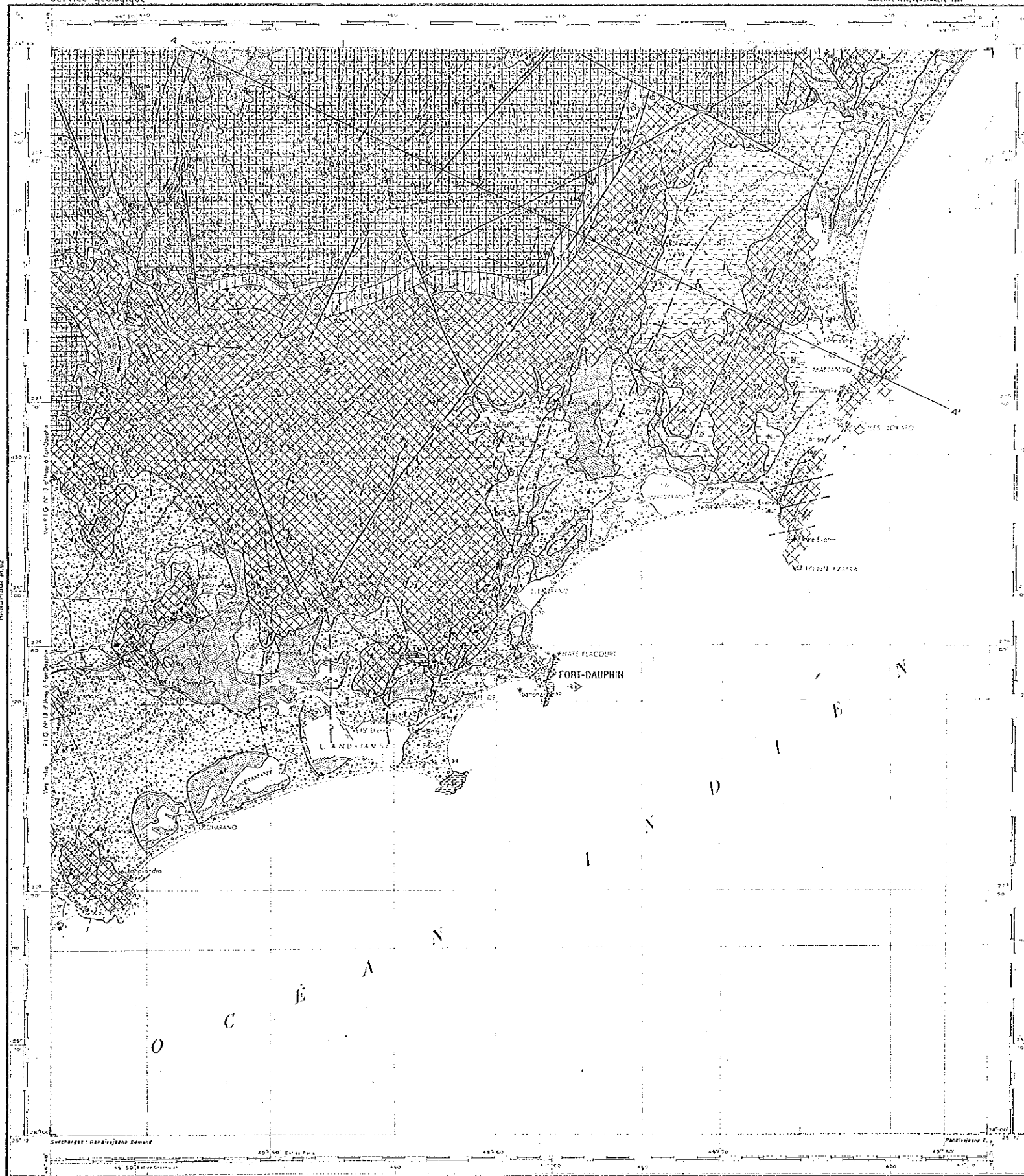
Hydrogen	Alluvium	Basalt-Dolomite dike	Rhyolite dike	Microgranite	Microsyenite
Diorite	Andranobato Series: Mudstone, sandstone	Granite dike	Granite	Gabbro	Orthogneiss
Recent igneous rocks	Basalt-Dolomite dike	Labradorite	Serpentine	Porphyritic granite	Alkali granite
Quaternary rocks	Granite dike	Augen gneiss	Granitic gneiss	Granitic complex	Stratiform granite, migmatitic granite
	Labradorite	Concordant granite	Amogonyes Granite	Pyroxenite	Charnockite
	Gabbro	Orthogneiss	Porphyritic granite	Alkali granite	Quartzite
Precambrian Crystalline Schist	Graphite	Quartzite	Marble	Amphibolite	
Common facies in different formations	Gneiss	Leptinite			
Vohibory System (Vohibory Group)	AG Gneiss	LL Lantsoitra Bed, Leptinite	TL Tsilamaha Bed, Leptinite	AL OC Antsakoamiary Bed, Leptinite, quartzite, gneiss, pyroxenite	L Leptinite, granite, gneiss
Graphite System (Ampandry Group)	MG Mafily Bed, Gneiss, marble	AmG Ambie Bed, Gneiss, quartzite	TG Tranomaro Bed, Gneiss, marble, pyroxenite	Lgc Leptinite	Lyg Granitic rock
Androyen System					
Fort-Dauphin Group					
Schist	Dip < 45°	Dip > 45°	Vertical	Horizontal	Anticline
	Disturbed anticline	Disturbed syncline	Schistosity	Plunging axis	Visible fault
	Mylonite	Pegmatite	Quartz vein		
	Mine	Tunnel	Open pit		
	Philoposite	Muscovite	Quartz	Rose quartz	Graphite
	Cu	Mn	Beryl	Tourmaline	Euverite
	Chrysolite	Kaolin	Jasper	Apatite	Fluorite
	Corundum	Allanite	Sapphire	Sheelite	Tanzanite
	Spinel	Castorite	Pyrite	Pyrite molybdenite	Magnetite
	Zircon	Monazite	Ilmenite	Zircon-Monazite sand	

MADAGASIKARA 1/100,000
Service géologique

FORT DAUPHIN

NO-62

VERSTRAETE 1967
G. BAZOT
LEVERS 1972
HAZAFIMANANTSOA
RAMANITRIRAISANA
RAKOTOARIVONY



Imprimeur: Centre de l'Institut Géographique National à Tananarive.
Éditeur: Service Géologique de Madagascar, Tananarive.
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A NW. COUPE INTERPRÉTATIVE SUIVANT A-A' X=146,650 Y=442,000 et X=131,800 Y=472,500. Echelle: 1/100,000 SE. A'



PL. 3-1-12

THE MINERAL EXPLORATION IN THE SOUTHERN AREA THE DEMOCRATIC REPUBLIC OF MADAGASCAR (PHASE I) GEOLOGICAL MAP AND PROFILE OF THE FORT-DAUPHIN (TOLAÑARO) DISTRICT (12)

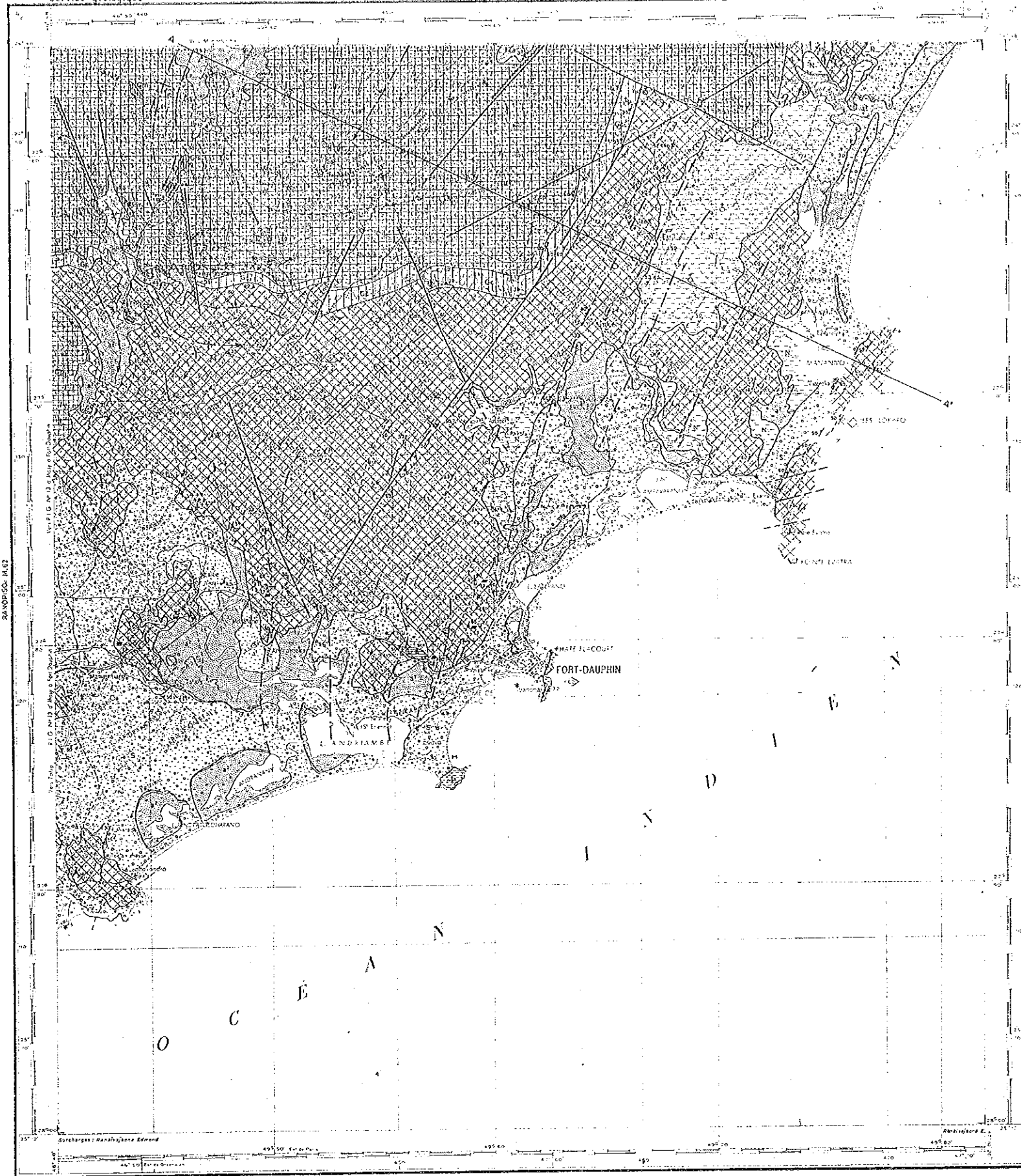
F-61 Manakarahy
G-61 Ampangahy
H-61 Franoripa
I-61 Bekiro
J-61 Inanombo
L-61 Atahaly
M-61 Esira
N-61 Franomaro
O-61 Andranondambo
P-61 Ranomafana du Sud
Q-61 Sainte Lucie
R-61 Fort Dauphin (Tolañaro)

JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
FEBRUARY 1992

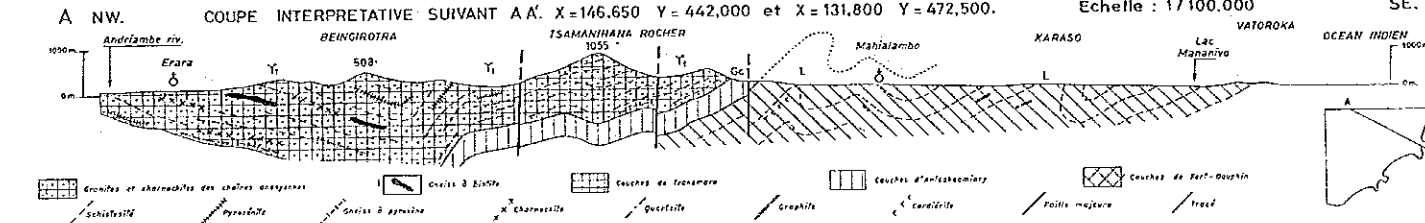
Scale 1 : 100,000

LEGEND

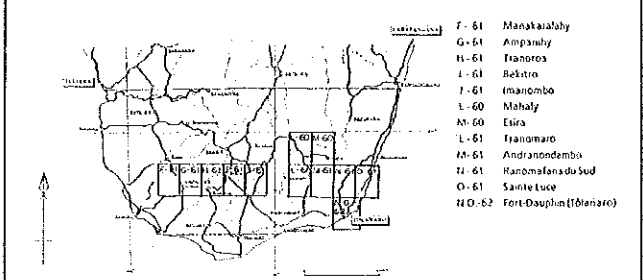
Holocene	□ Alluvium	□ Rhyolite dike	□ Microgranite	□ Mirogranite
Neogene	□ Andranombo Series, Mudstone, sandstone			
Recent Tertiary Rocks	□ Basalt-Dolerite dike			
Old Tertiary Rocks	□ Granite dike	□ Granite	□ Gabbro	
	□ Labradorite	□ Serpentine	□ Oshogness	
	□ Augen gneiss	□ Granitic gneiss	□ Porphyritic granite	
	□ Concordant granite	□ Granitic complex	□ Alkaline granite	
	□ Anogenes Granite	□ Strati form granite, migmatite granite		
	□ Pyroxenite	□ Charnockite	□ Dunite	
Precambrian Crystalline Schist				
Common facies in different formations	□ Graphite	□ Quartzite	□ Marble	□ Amphibolite
Vohibory System (Vohibory Group)	□ Gneiss	□ Leptinite		
Graphite System (Ampangahy Group)	□ Gneiss	□ Leptinite		
Androyen System	□ Gneiss	□ Marble Bed, Gneiss, marble		
Andranondambo Group	□ Lantasia Bed, Leptinite	□ Amie Bed, Gneiss, quartzite		
Franomaro Group	□ Tsilama Bed, Leptinite	□ Franomaro Bed, Gneiss, marble, pyroxenite		
Fort Dauphin Group	□ Antsakoamiary Bed, Leptinite, quartzite, gneiss, pyroxenite			
	□ Leptinite, granulite, gneiss	□ Leptinite	□ Granitic rock	
Structures	□ Dip < 45°	□ Dip > 45°	□ Vertical	□ Horizontal
□ Quaternary anticline	□ Quaternary syncline	□ Schistosity	□ Plunging axis	□ Anticline
□ Mylonite	□ Pegmatite	□ Quartz vein	□ Fault	□ Syncline
□ Mine	□ Tunnel	□ Open pit	□ Visible fault	□ Presumed fault
□ Phlogopite	□ Muscovite	□ Quartz	□ Rose quartz	□ Graphite
□ Cu	□ Mn	□ Beryl	□ Tourmaline	□ Euxenite
□ Chrysoberyl	□ Kaolin	□ Jasper	□ Apatite	□ Fluorite
□ Citrondum	□ Allantite	□ Sapphire	□ Sphalerite	□ Tantalite
□ Bauxite	□ Cassiterite	□ Pyrite	□ Pyrite, molybdenite	□ Magnetite
□ Zircon	□ Monazite	□ Ilmenite	□ Zircon	□ Monazite sard



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THE SOUTHERN AREA
 THE DEMOCRATIC REPUBLIC OF MADAGASCAR
 (PHASE I)
 GEOLOGICAL MAP AND PROFILE
 OF THE FORT-DAUPHIN (TÔLANARO) DISTRICT (12)



JAPAN INTERNATIONAL COOPERATION AGENCY
 METAL MINING AGENCY OF JAPAN
 FEBRUARY 1992

Scale 1 : 100,000

LEGEND

Holocene	Alluvium	Andrianaobo Series: Mudstone, sandstone	Basalt - Dolerite dike	Rhyolite dike	Microgranite	Microsyenite
Recent igneous rocks						
Old igneous rocks						
Pre-cambrian Crystalline Schists						
Common facies in different formations						
Vohibory System (Vohibory Group)						
Graphite System (Ampanihy Group)						
Androyen System						
Fort-Dauphin Group						

Symbols

Dip < 45°	Dip > 45°	Vertical	Horizontal	Anticline	Syncline
Overturned anticline	Overturned syncline	Schistosity	Flunging axis	Visible fault	Presumed fault
Mylonite	Pegmatite	Quartz vein			
Mine	Tunnel	Open pit			
Phlogopite	Muscovite	Quartz	Rose quartz	Graphite	Graphite vein
Cu	Mn	Beryl	Tourmaline	Leucite	Anorthite
Chrysolite	Kaolin	Jasper	Apatite	Fluorite	Thorianite
Corundum	Alumina	Sapphire	Sheldite	Tantalite	Magnetite
Basalt	Cassiterite	Pyrite	Pyrite, molybdenite	Uraninite	
Zircon	Monazite	Ilmenite	Zircon	Monazite sand	
Limestone	Quarry	Hot spring			

