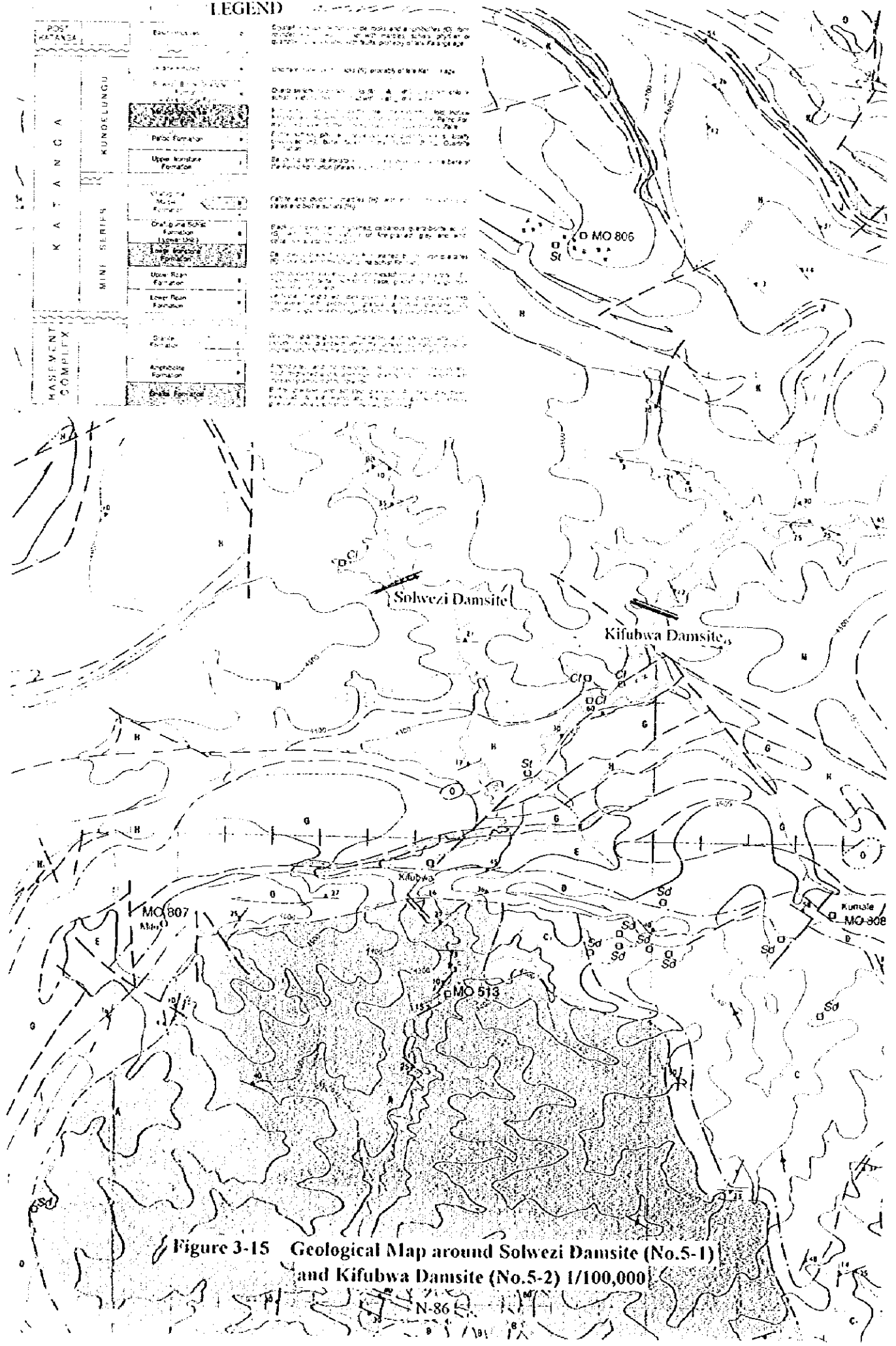


**LEGEND**

POST HATANGA	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
KATANGA	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
KUNDELUNGU	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
MINI SERIES	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
HASEVENTI COMPLEX	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.
	Basaltic tuff	Dark grey to black, fine to medium grained, and aphanitic, for most part, with mottled, shaly, pyritic or quartzitic, and siliceous, but porous, in places.



**Figure 3-15 Geological Map around Solwezi Damsite (No.5-1) and Kifubwa Damsite (No.5-2) 1/100,000**

N-86

LEGEND

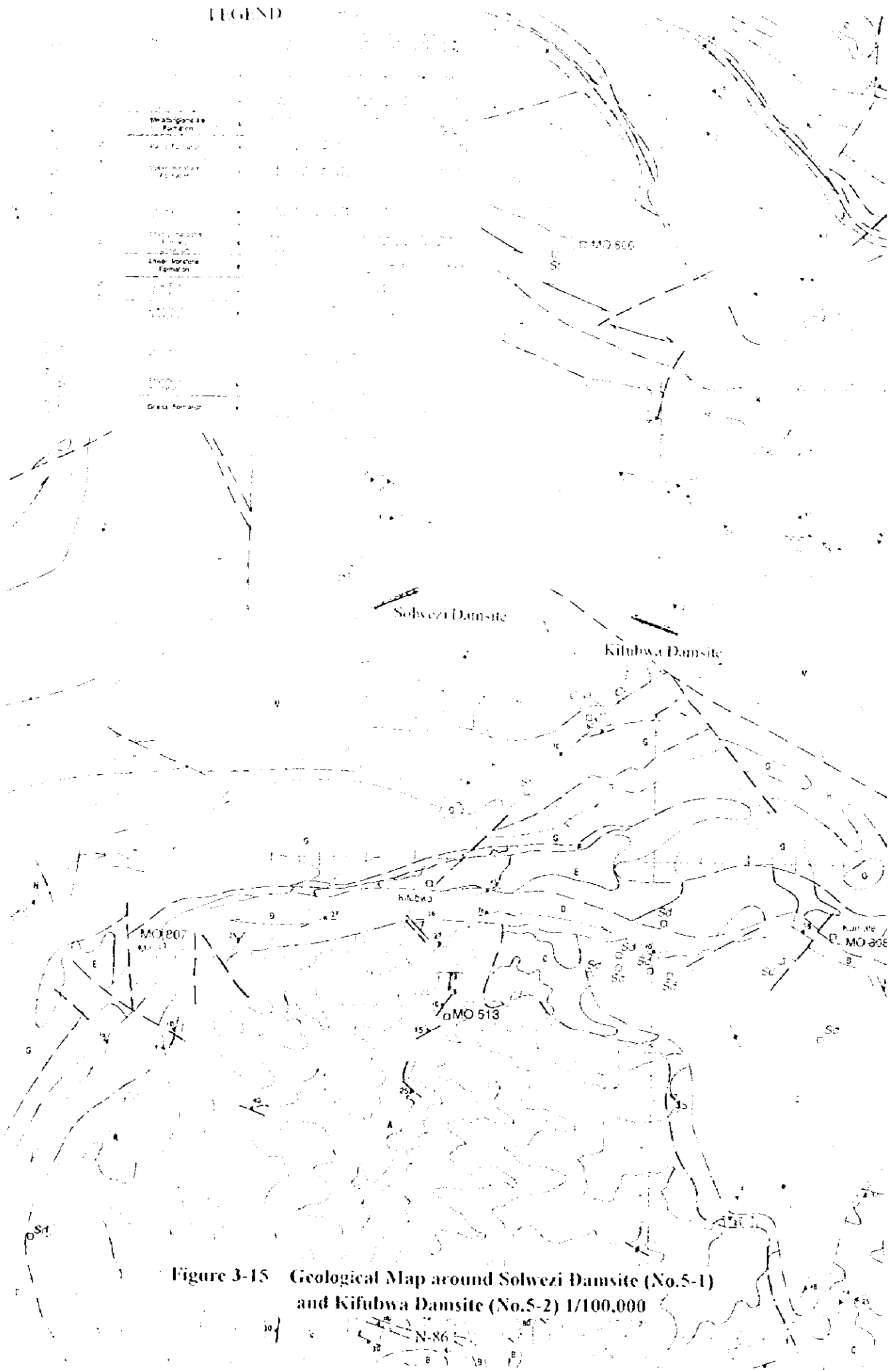
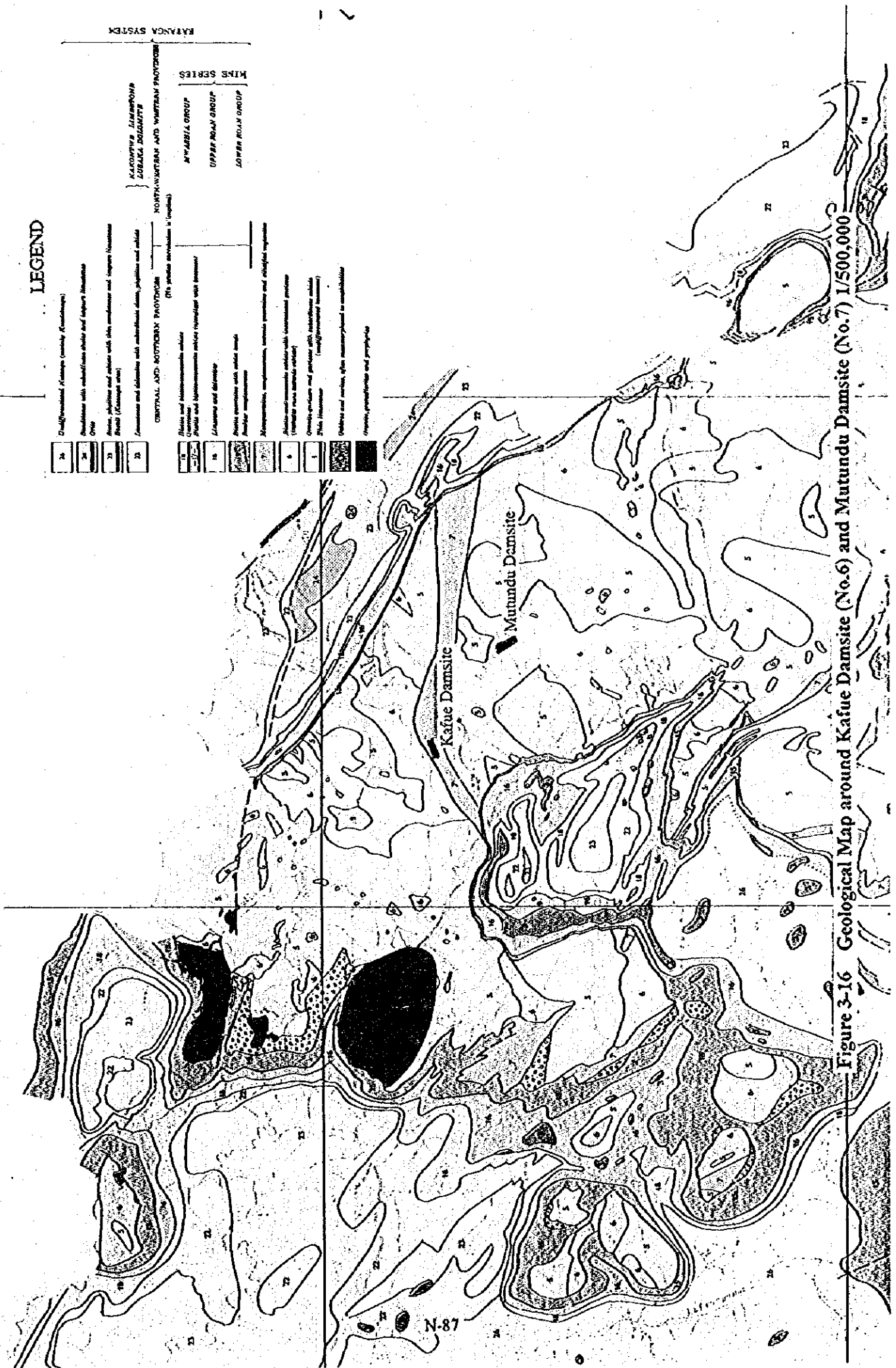


Figure 3-15 Geological Map around Solwezi Damsite (No.5-1) and Kifubwa Damsite (No.5-2) 1/100,000



**LEGEND**

24	Unconsolidated fluvial (mostly floodplains)
23	Residual soils with subhorizontal shales and lignite interbeds
22	OMV
21	Shale, siltstone and sandstone with thin sandstone and lignite (Nampoko Shale) (Kafue site)
20	Limestone and shales with subhorizontal shales, siltstone and shales
CENTRAL AND NORTHERN PROVINCES	
(N. grade maximum 1' contour)	
19	Shale and siltstone with shales
18	Shale and siltstone with shales and lignite (Kafue site)
17	Limestone and shales
16	Shale siltstone with shales and shales
15	Shale siltstone
14	Siltstone, sandstone, massive sandstone and shales
13	Shale and siltstone with shales and shales (Kafue site)
12	Shale siltstone and shales (Kafue site)
11	Shale siltstone and shales (Kafue site)
10	Shale siltstone and shales (Kafue site)
9	Shale siltstone and shales (Kafue site)
8	Shale siltstone and shales (Kafue site)
7	Shale siltstone and shales (Kafue site)
6	Shale siltstone and shales (Kafue site)
5	Shale siltstone and shales (Kafue site)
4	Shale siltstone and shales (Kafue site)
3	Shale siltstone and shales (Kafue site)
2	Shale siltstone and shales (Kafue site)
1	Shale siltstone and shales (Kafue site)
0	Shale siltstone and shales (Kafue site)

KALONDIWA LILIMPOHO ZOBAKA BODIMPTI

NORTHERN PROVINCES AND WESTERN PROVINCES

KINS SERIES

UPPER KINS GROUP

LOWER KINS GROUP

Figure 3-16 Geological Map around Kafue Dam site (No.6) and Mutundu Dam site (No.7) 1/500,000





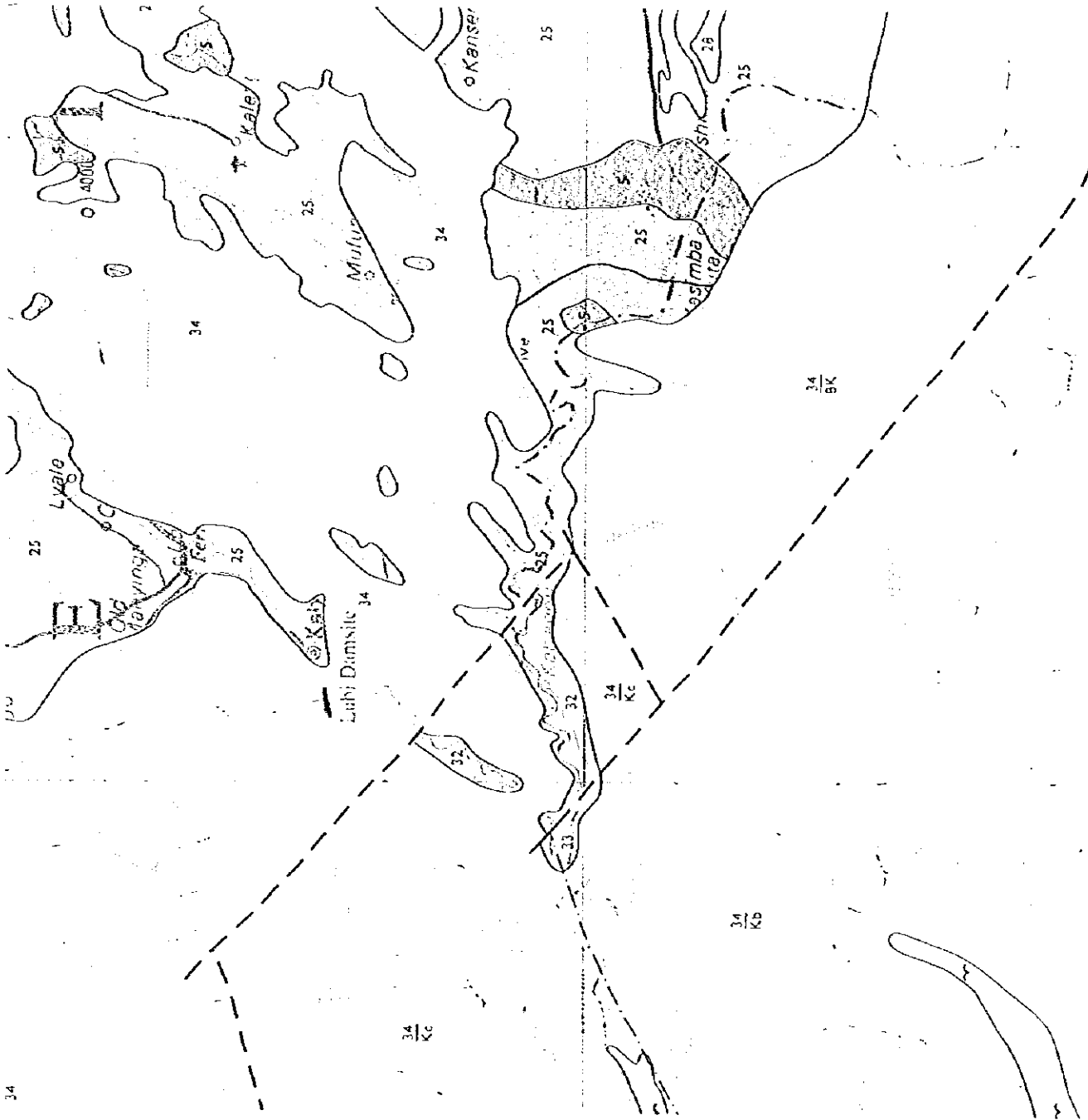


Figure 3-17 Geological Map around Lubi Dam site (No.8) 1/1,000,000

**LEGEND**

	Alluvial, colluvial, loess	<b>TERTIARY TO RECENT</b>
<p>N-88</p>		





**LEGEND**

- 1. Contour interval: 20 meters
- 2. Contour interval: 10 meters
- 3. Contour interval: 5 meters
- 4. Contour interval: 2.5 meters
- 5. Contour interval: 1.25 meters
- 6. Contour interval: 0.625 meters
- 7. Contour interval: 0.3125 meters
- 8. Contour interval: 0.15625 meters
- 9. Contour interval: 0.078125 meters
- 10. Contour interval: 0.0390625 meters
- 11. Contour interval: 0.01953125 meters
- 12. Contour interval: 0.009765625 meters
- 13. Contour interval: 0.0048828125 meters
- 14. Contour interval: 0.00244140625 meters
- 15. Contour interval: 0.001220703125 meters
- 16. Contour interval: 0.0006103515625 meters
- 17. Contour interval: 0.00030517578125 meters
- 18. Contour interval: 0.000152587890625 meters
- 19. Contour interval: 0.0000762939453125 meters
- 20. Contour interval: 0.00003814697265625 meters
- 21. Contour interval: 0.000019073486328125 meters
- 22. Contour interval: 0.0000095367431640625 meters
- 23. Contour interval: 0.00000476837158203125 meters
- 24. Contour interval: 0.000002384185791015625 meters
- 25. Contour interval: 0.0000011920928955078125 meters
- 26. Contour interval: 0.00000059604644775390625 meters
- 27. Contour interval: 0.000000298023223876953125 meters
- 28. Contour interval: 0.0000001490116119384765625 meters
- 29. Contour interval: 0.00000007450580596923828125 meters
- 30. Contour interval: 0.000000037252902984619140625 meters
- 31. Contour interval: 0.0000000186264514923095703125 meters
- 32. Contour interval: 0.00000000931322574615478515625 meters
- 33. Contour interval: 0.000000004656612873077392578125 meters
- 34. Contour interval: 0.0000000023283064365386962890625 meters
- 35. Contour interval: 0.00000000116415321826934814453125 meters
- 36. Contour interval: 0.000000000582076609134674072265625 meters
- 37. Contour interval: 0.0000000002910383045673370361328125 meters
- 38. Contour interval: 0.00000000014551915228366851806640625 meters
- 39. Contour interval: 0.000000000072759576141834259033203125 meters
- 40. Contour interval: 0.0000000000363797880709171295166015625 meters
- 41. Contour interval: 0.00000000001818989403545856475830078125 meters
- 42. Contour interval: 0.000000000009094947017729282379150390625 meters
- 43. Contour interval: 0.0000000000045474735088646191895751953125 meters
- 44. Contour interval: 0.00000000000227373675443230959478759765625 meters
- 45. Contour interval: 0.000000000001136868377216154797393798828125 meters
- 46. Contour interval: 0.0000000000005684341886080773986968994140625 meters
- 47. Contour interval: 0.00000000000028421709430403869934844970703125 meters
- 48. Contour interval: 0.000000000000142108547152019349674224853515625 meters
- 49. Contour interval: 0.000000000000071054273576009674837112427265625 meters
- 50. Contour interval: 0.0000000000000355271367880048374185562136328125 meters
- 51. Contour interval: 0.00000000000001776356839400241870927810681640625 meters
- 52. Contour interval: 0.000000000000008881784197001209354639053403203125 meters
- 53. Contour interval: 0.00000000000000444089209850060467731952670161015625 meters
- 54. Contour interval: 0.00000000000000222044604925030233865976335080578125 meters
- 55. Contour interval: 0.000000000000001110223024625151169329881675402890625 meters
- 56. Contour interval: 0.0000000000000005551115123125755846494408377014453125 meters
- 57. Contour interval: 0.00000000000000027755575615628779232472041885072265625 meters
- 58. Contour interval: 0.000000000000000138777878078143896162360209425361328125 meters
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- 63. Contour interval: 0.00000000000000000433680868994199675507375654453902878125 meters
- 64. Contour interval: 0.000000000000000002168404344970998377536878272269514403125 meters
- 65. Contour interval: 0.0000000000000000010842021724854991887683941361347572215625 meters
- 66. Contour interval: 0.00000000000000000054210108624274959438419706806737861078125 meters
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- 69. Contour interval: 0.00000000000000000006776263578034369929802463350842232634765625 meters
- 70. Contour interval: 0.0000000000000000000338813178901718496490123167542111631878125 meters
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- 74. Contour interval: 0.000000000000000000002117582368135740603126979722221197742988125 meters
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- 81. Contour interval: 0.00000000000000000000001654361225106047461192172157985310716641015625 meters
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- 83. Contour interval: 0.00000000000000000000000413590306276511865298043039496327691662890625 meters
- 84. Contour interval: 0.000000000000000000000002067951531382559326490215197481638458314453125 meters
- 85. Contour interval: 0.0000000000000000000000010339757656912796632451075987408192291672265625 meters
- 86. Contour interval: 0.00000000000000000000000051698788284563983162255379937040961458361328125 meters
- 87. Contour interval: 0.000000000000000000000000258493941422819915811276899685204807291806640625 meters
- 88. Contour interval: 0.000000000000000000000000129246970711405957905638449842602403645903125 meters
- 89. Contour interval: 0.0000000000000000000000000646234853557029789528192249213012018229515625 meters
- 90. Contour interval: 0.0000000000000000000000000323117426778514894764096124606506009114765625 meters
- 91. Contour interval: 0.000000000000000000000000016155871338925744738204806230325300457878125 meters
- 92. Contour interval: 0.000000000000000000000000008077935669462872369102403115126502289390625 meters
- 93. Contour interval: 0.00000000000000000000000000403896783473143868455120155627511447196953125 meters
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- 97. Contour interval: 0.0000000000000000000000000002524354896707149177794500972671972481103125 meters
- 98. Contour interval: 0.0000000000000000000000000001262177448353574588897250486335986240556640625 meters
- 99. Contour interval: 0.00000000000000000000000000006310887241767872944488252432929811202783203125 meters
- 100. Contour interval: 0.000000000000000000000000000031554436208839364722441261645598056013916015625 meters

Figure 3-17 Geological Map around Lubi Dam site (No.8) 1/1,000,000



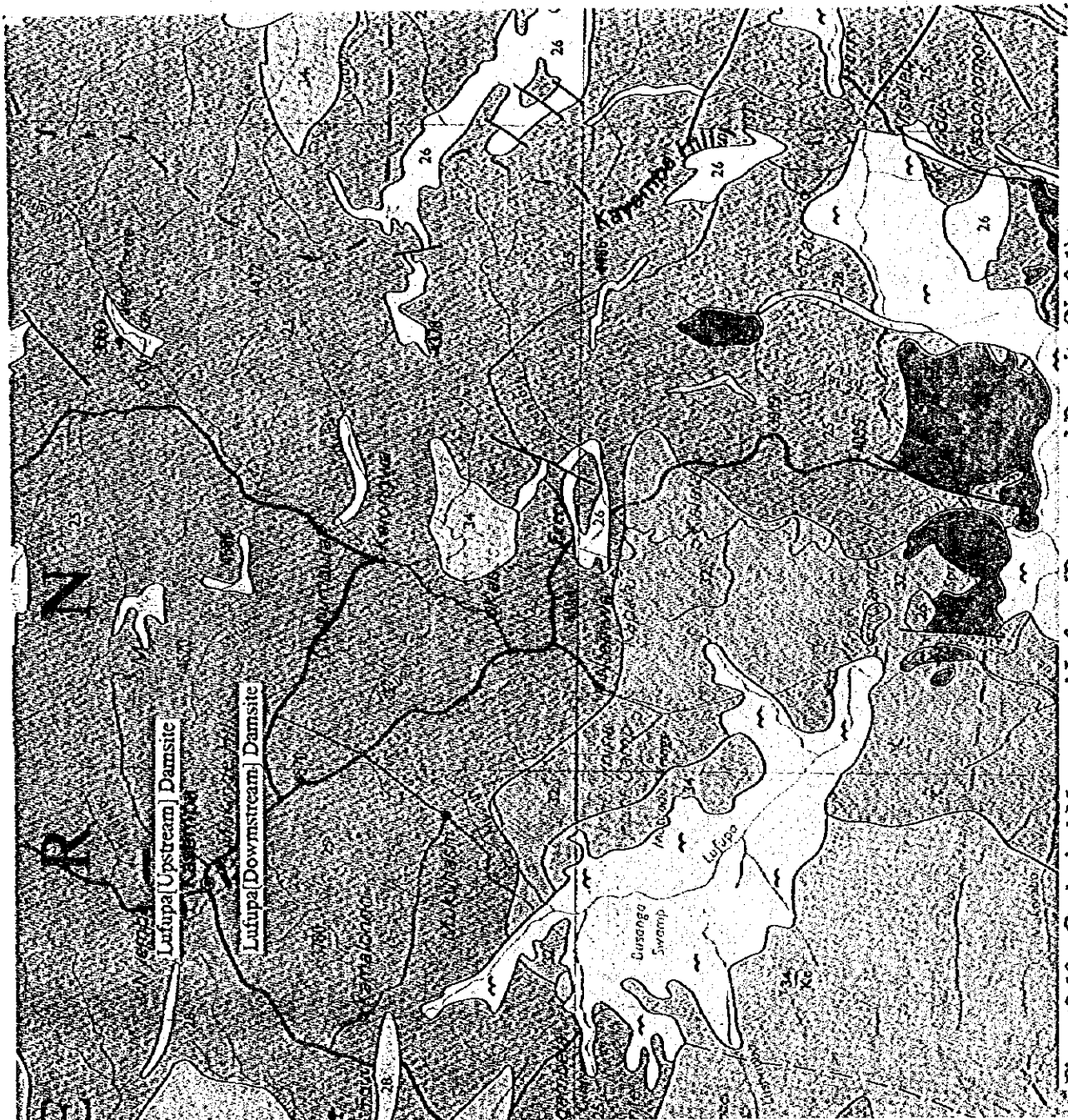
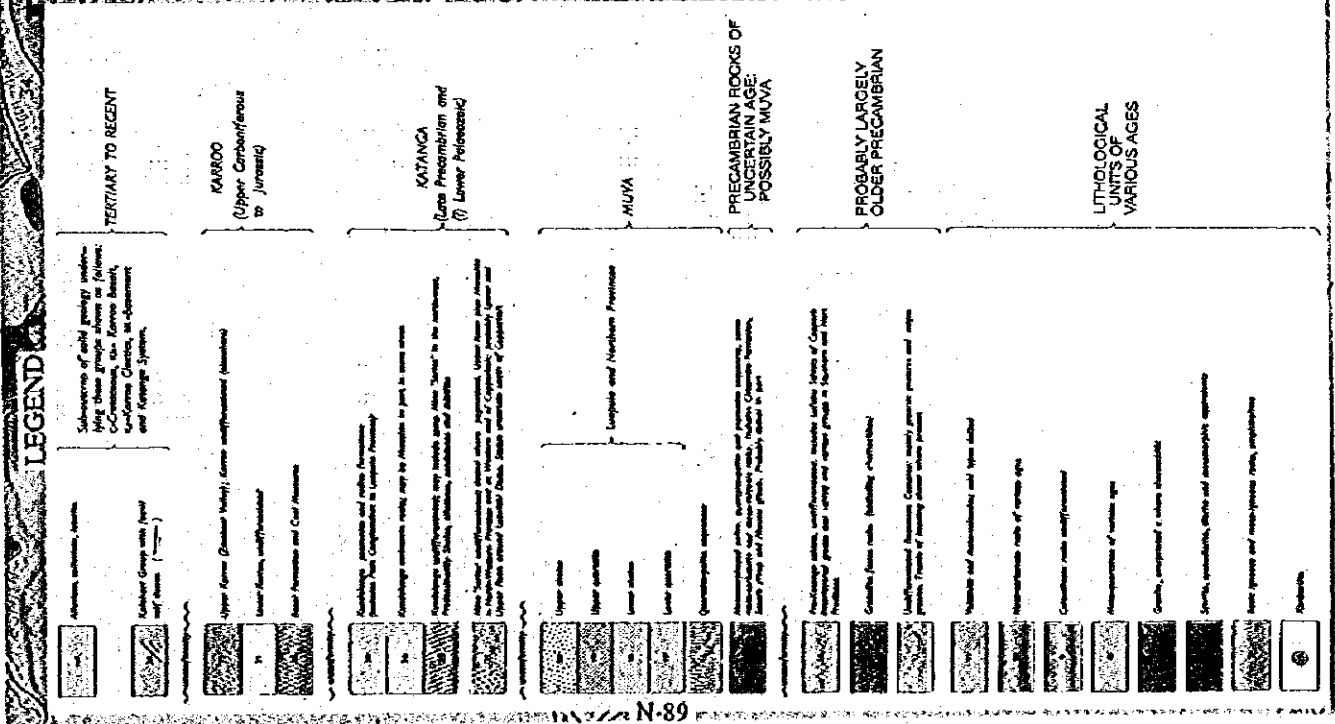


Figure 3-18 Geological Map around Lufupa [Downstream] Dam Site (No.9-1) and Lufupa [Upstream] Dam Site (No.9-2) 1/1,000,000



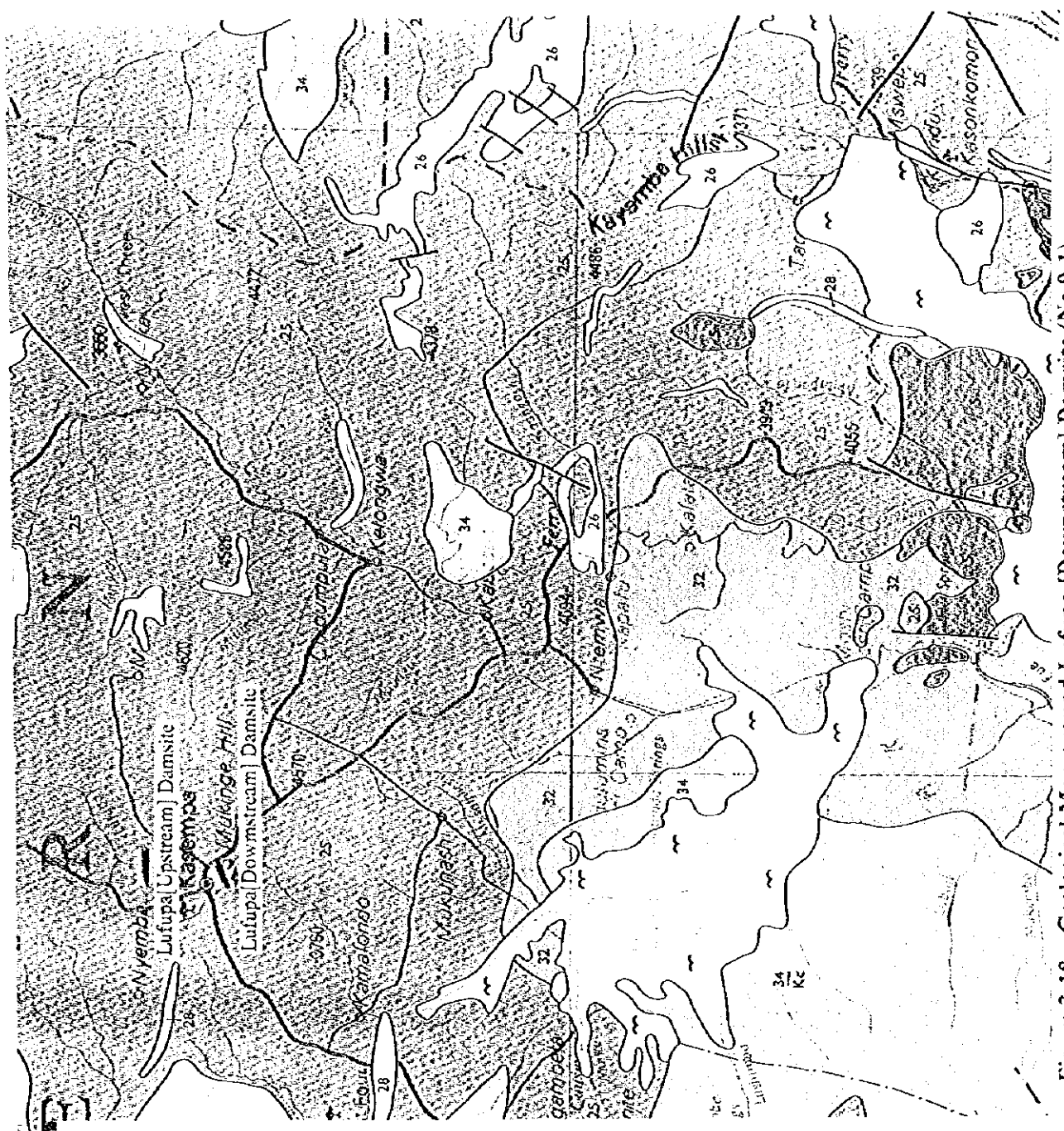
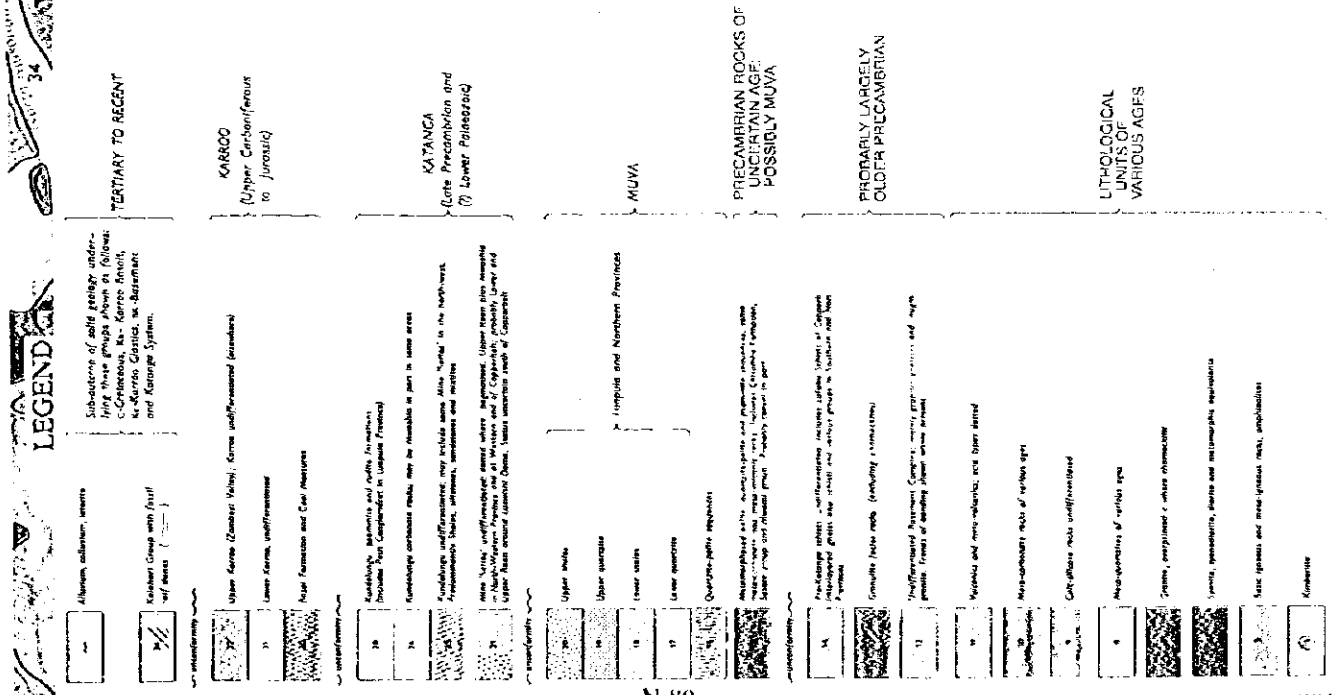


Figure 3-18 Geological Map around Lufupa [Downstream] Damsite (No.9-1) and Lufupa [Upstream] Damsite (No.9-2) 1/1,000,000



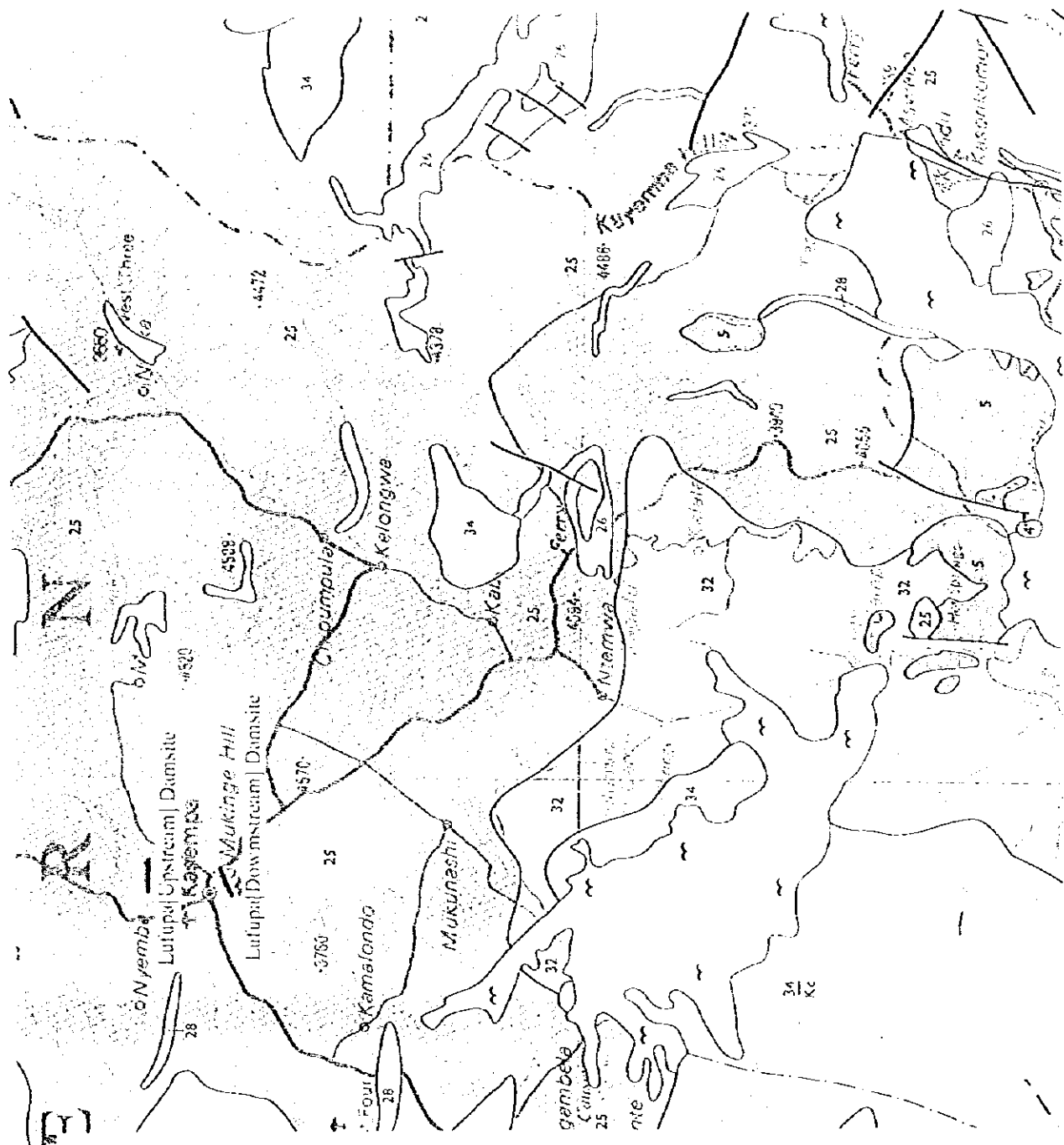
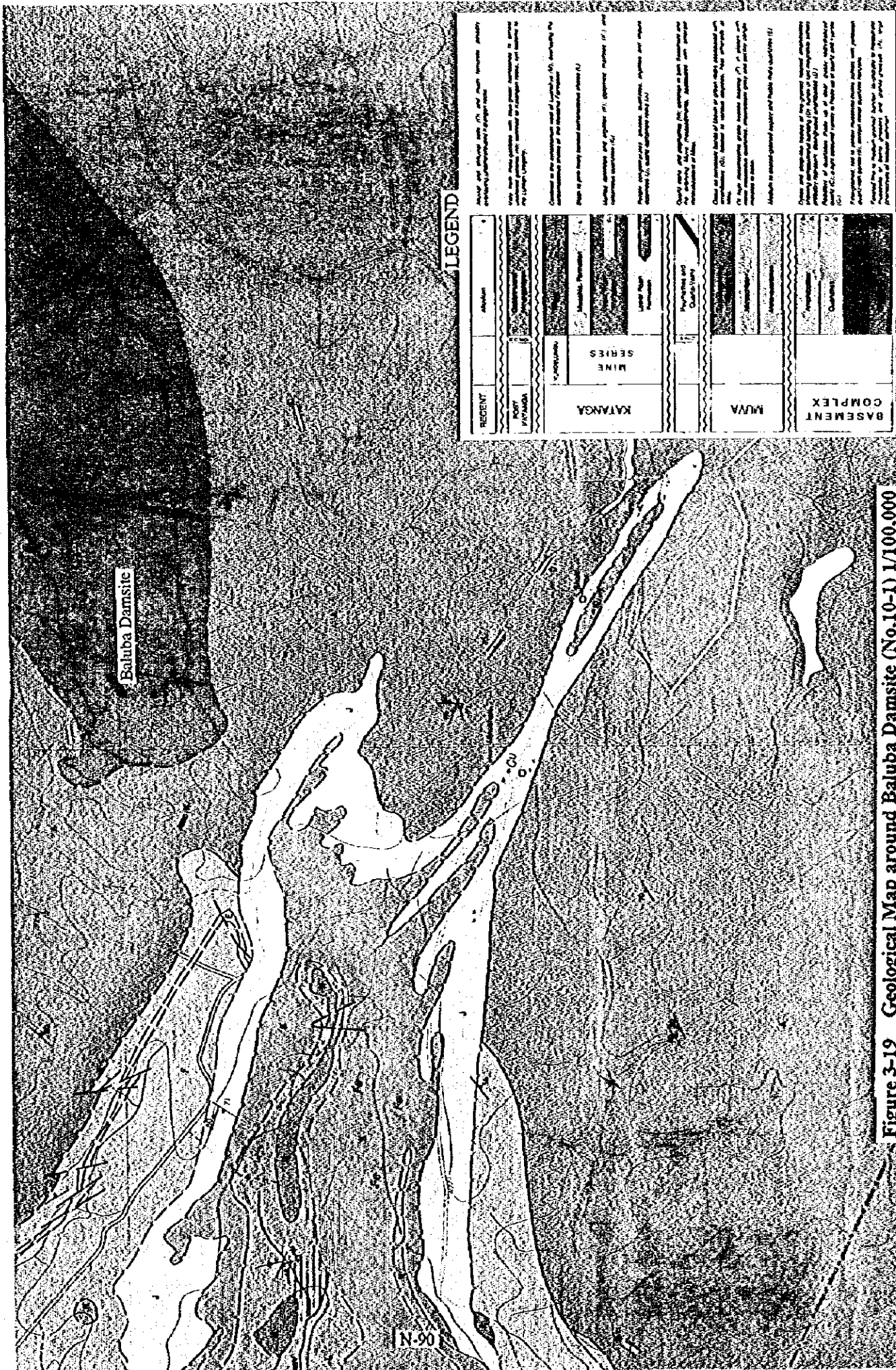


Figure 3-18 Geological Map around Lufupa [Downstream] Dam Site (No.9-1) and Lufupa [Upstream] Dam Site (No.9-2) 1/1,000,000

**LEGEND**

- Boundary to Ascend
- Railway
- Main Road
- Secondary Road
- Trough
- Dam Site
- Watercourse
- River
- Stream
- Canal
- Lake
- Wetland
- Sand
- Gravel
- Silt
- Clay
- Shale
- Sandstone
- Limestone
- Gneiss
- Schist
- Quartzite
- Slate
- Marble
- Granite
- Basalt
- Andesite
- Diorite
- Gabbro
- Basaltic Andesite
- Basaltic Gabbro
- Basaltic Gabbro with Sill
- Basaltic Gabbro with Dyke
- Basaltic Gabbro with Sill and Dyke
- Basaltic Gabbro with Sill and Dyke with Vein
- Basaltic Gabbro with Sill and Dyke with Vein and Sill
- Basaltic Gabbro with Sill and Dyke with Vein and Sill and Dyke
- Basaltic Gabbro with Sill and Dyke with Vein and Sill and Dyke and Vein
- Basaltic Gabbro with Sill and Dyke with Vein and Sill and Dyke and Vein and Sill
- Basaltic Gabbro with Sill and Dyke with Vein and Sill and Dyke and Vein and Sill and Dyke



**LEGEND**

RECENT	Recent alluvium (A1) and other recent deposits (A2) (See text for details)
POST-TERTIARY	Recent alluvium (A1) and other recent deposits (A2) (See text for details)
KATANGA	Recent alluvium (A1) and other recent deposits (A2) (See text for details)
	Recent alluvium (A1) and other recent deposits (A2) (See text for details)
	Recent alluvium (A1) and other recent deposits (A2) (See text for details)
MUVA	Recent alluvium (A1) and other recent deposits (A2) (See text for details)
	Recent alluvium (A1) and other recent deposits (A2) (See text for details)
BASEMENT COMPLEX	Recent alluvium (A1) and other recent deposits (A2) (See text for details)
	Recent alluvium (A1) and other recent deposits (A2) (See text for details)

Figure 3-19 Geological Map around Baluba Dam site (No. 10-1) 1/100,000

N-90

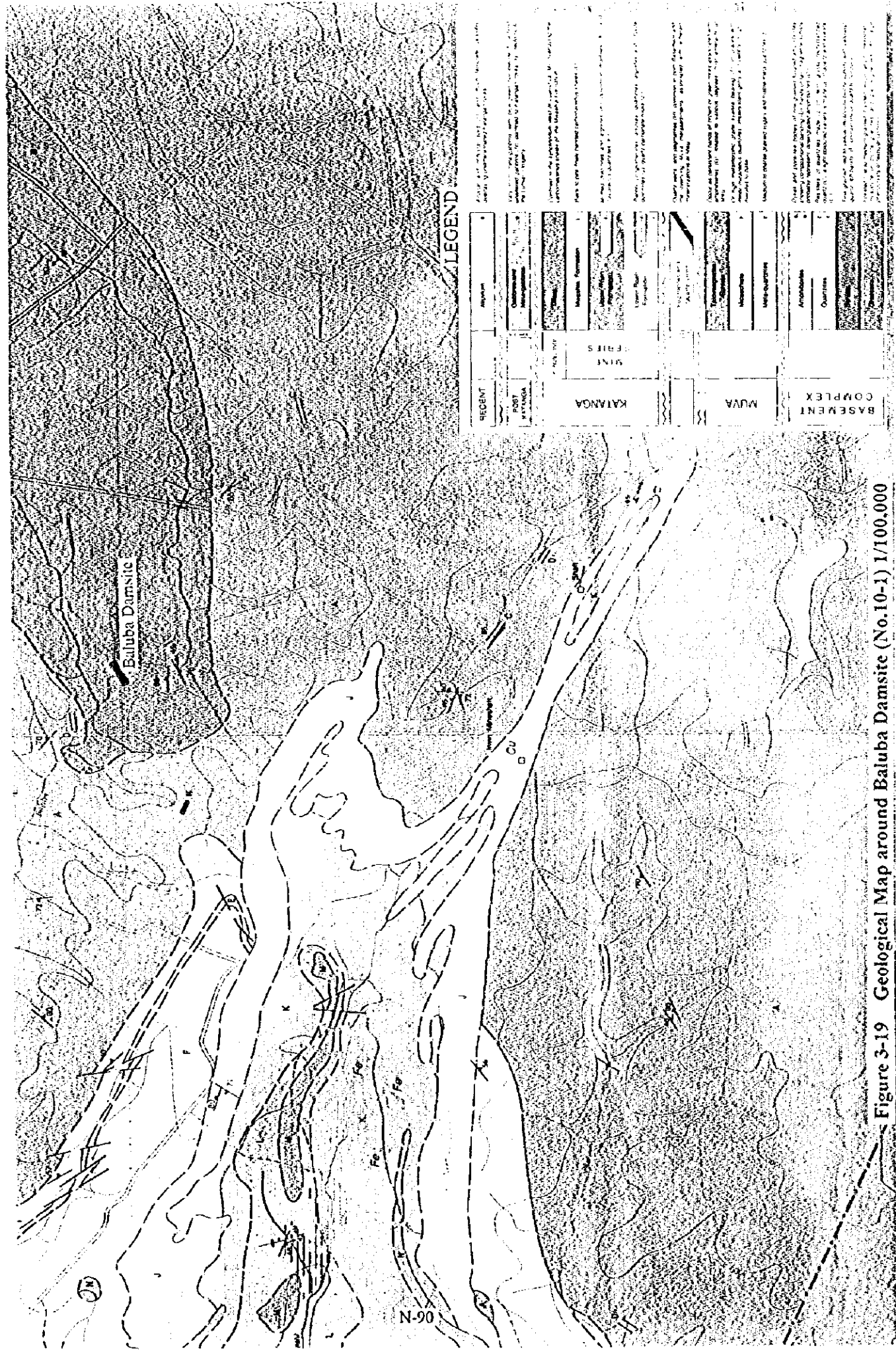


Figure 3-19 Geological Map around Baluba Dam site (No.10-1) 1/100,000

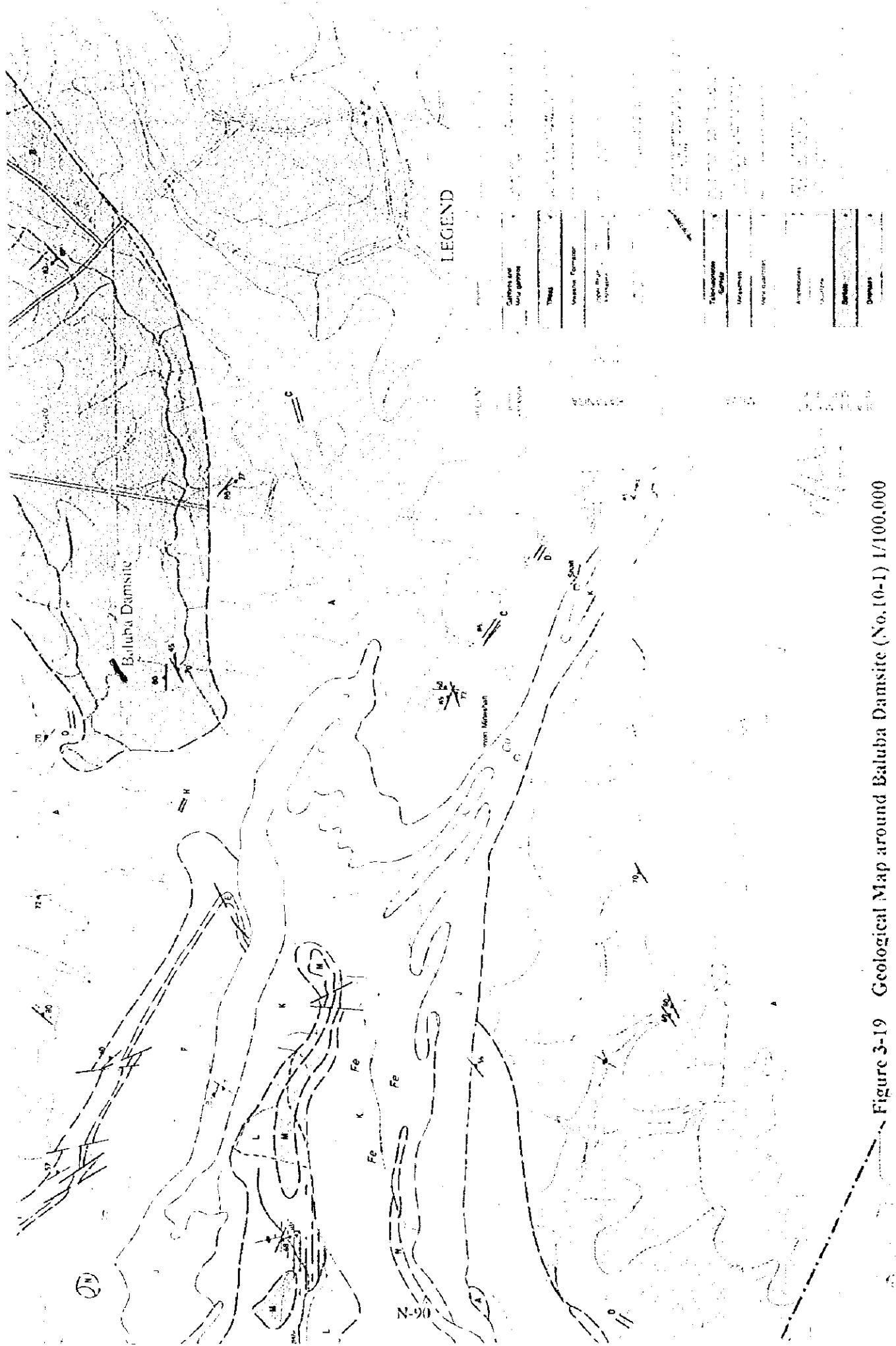
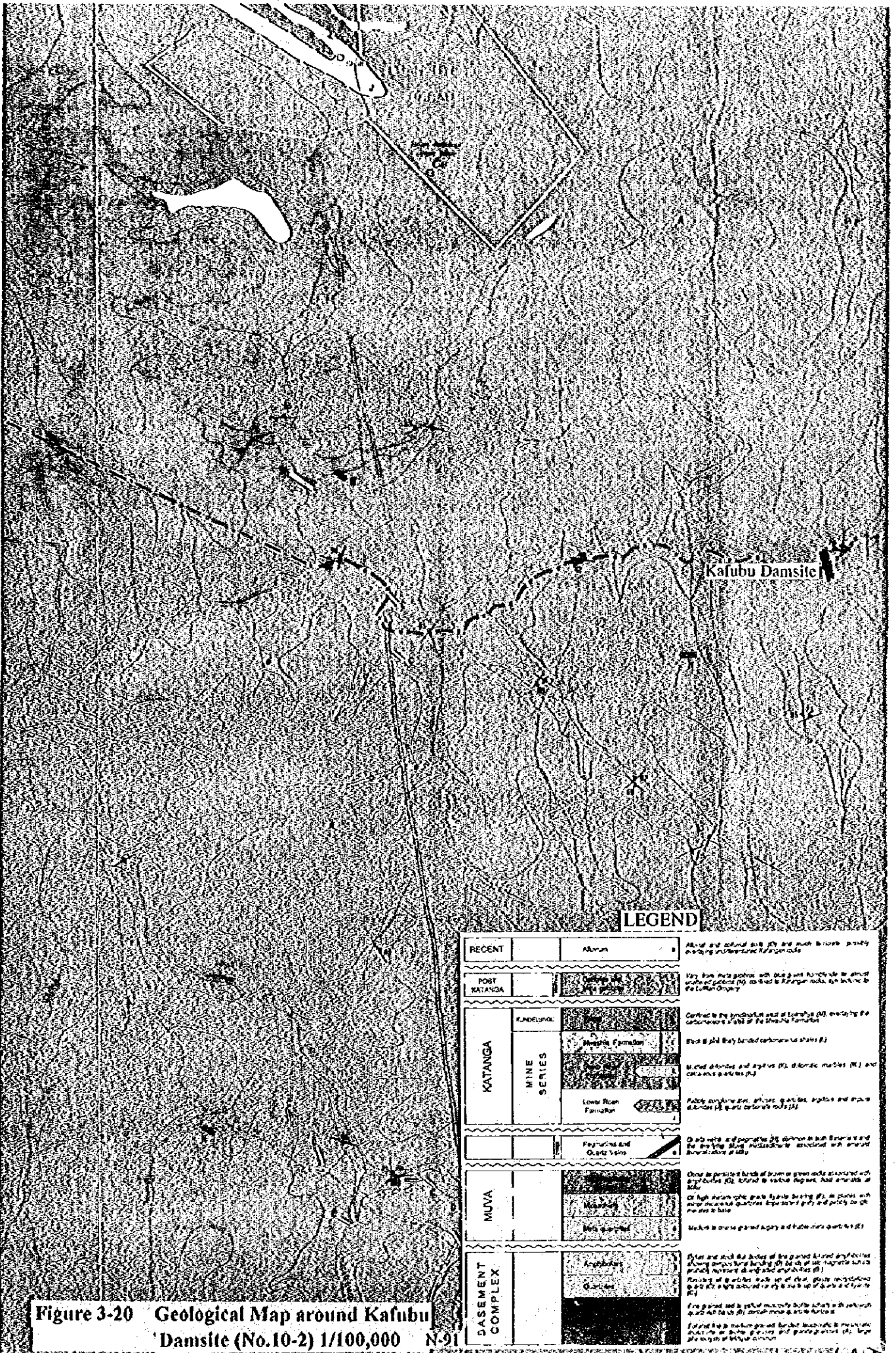


Figure 3-19 Geological Map around Baluba Dam site (No.10-1) 1/100,000

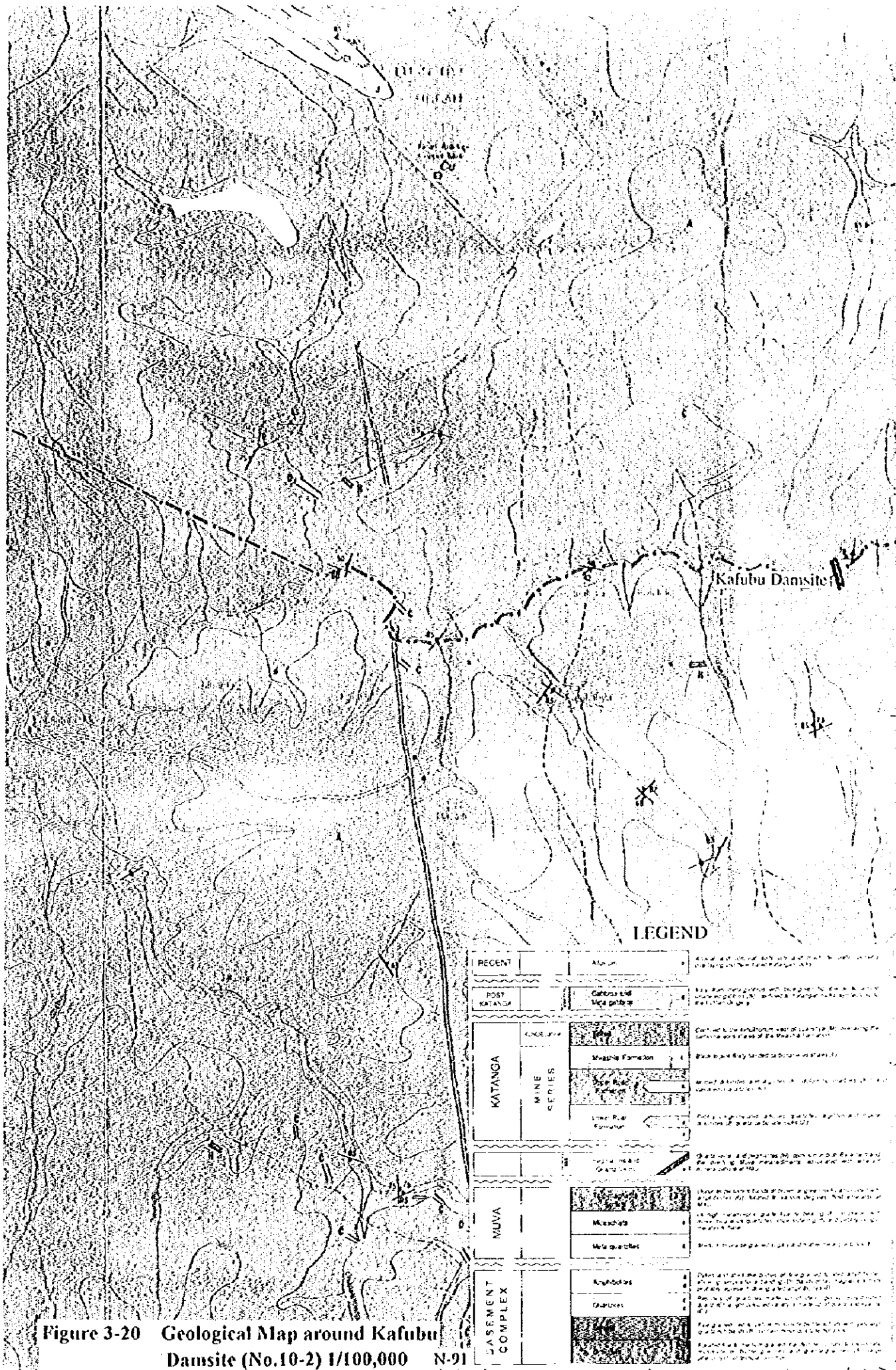


Kafubu Dam site

**LEGEND**

RECENT	Albion	Alluvial and colluvial deposits and much loess, possibly including interglacial till deposits.	
	Post Katanga	Very fine, fine grained, with clay and silty shale in places and some sandstone (K) overlain by Katanga Group.	
KATANGA	KATANGA GROUP	Messina Formation	Continues to the production end of the Katanga (K) overlain by the Katanga Group.
		Messina Formation	Red & pink clay shales and carbonaceous shales (K).
		Lower Katanga Formation	Metals, dolomite and argillite (K), dolomite, marbles (K) and calcareous sandstone (K).
		Lower Katanga Formation	Reddish sandstone, argillite, quartzite, argillite and shale dolomite (K), quartzite (K) and marbles (K).
	Fractures and Quartz Veins	Quartz veins and fractures (K) common in both Katanga and the Katanga Group. Associated with mineral thermal waters (K).	
MUNA	MUNA GROUP	Munah	Dark to purple shales of brown to green color, associated with quartzite (K), dolomite, marbles, and argillite (K).
		Munah	Of high metamorphic grade (K) and argillite (K) in places with much calcareous dolomite, argillite and quartzite (K).
		Munah	Metals in brown to purple shales and argillite (K).
BASEMENT COMPLEX	BASEMENT COMPLEX	Argillite	Dark and reddish shales of the Munah Group, argillite, and quartzite (K) and argillite (K) overlain by the Katanga Group.
		Quartzite	Dark and reddish shales of the Munah Group, argillite, and quartzite (K) and argillite (K) overlain by the Katanga Group.

Figure 3-20 Geological Map around Kafubu Dam site (No.10-2) 1/100,000 N-91



Kafubu Damsite

LEGEND

RECENT	Alluvium	Recent alluvium with sand and gravel, locally containing pebbles and boulders.
POST-KATANGA	Caliche and Micaceous	Very fine-grained silty clay with micaceous and micaceous shaly partings, locally containing pebbles and boulders.
KATANGA MINE SERIES	Topsoil	Thin, brownish, silty, micaceous topsoil, locally containing pebbles and boulders of the Katanga formation.
	Mwamba Formation	Black, fine-grained, micaceous shales.
	Lower River Formation	Light brown, micaceous, silty shales, locally containing pebbles and boulders.
	Upper River Formation	Light brown, micaceous, silty shales, locally containing pebbles and boulders.
	Granite	Granite, dykes, and pegmatites, locally containing pebbles and boulders.
MUVA	Muschaka	Light brown, micaceous, silty shales, locally containing pebbles and boulders.
	Muquelles	Black, fine-grained, micaceous shales.
		Basement Complex
BASEMENT COMPLEX	Gabbros	Dark, aphyre, micaceous, silty shales, locally containing pebbles and boulders.
	Quartzites	Light brown, micaceous, silty shales, locally containing pebbles and boulders.
		Basement Complex

Figure 3-20 Geological Map around Kafubu Damsite (No. 10-2) 1/100,000 N-91



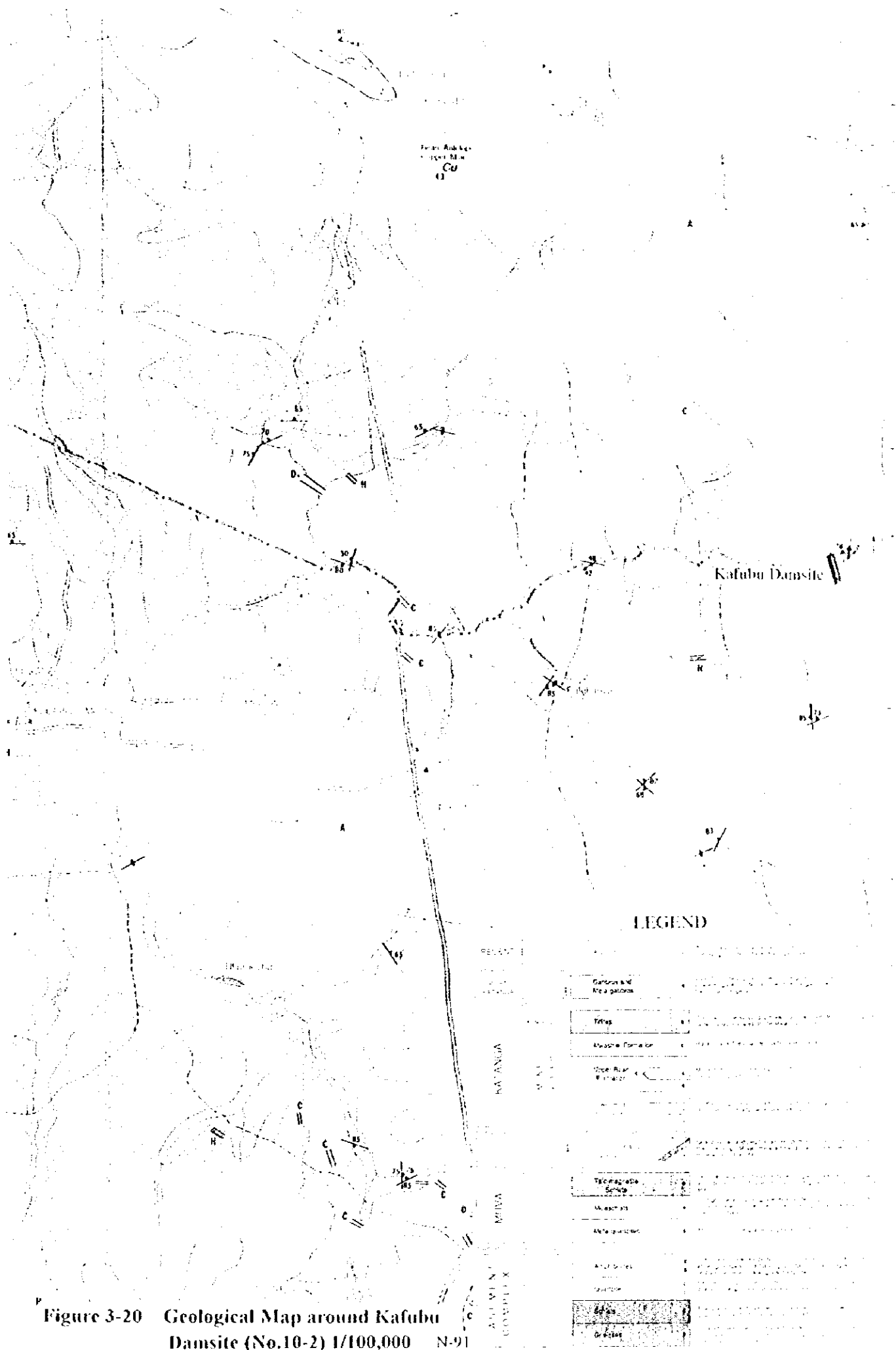


Figure 3-20 Geological Map around Kafubu Damsite (No. 10-2) 1/100,000 N-91

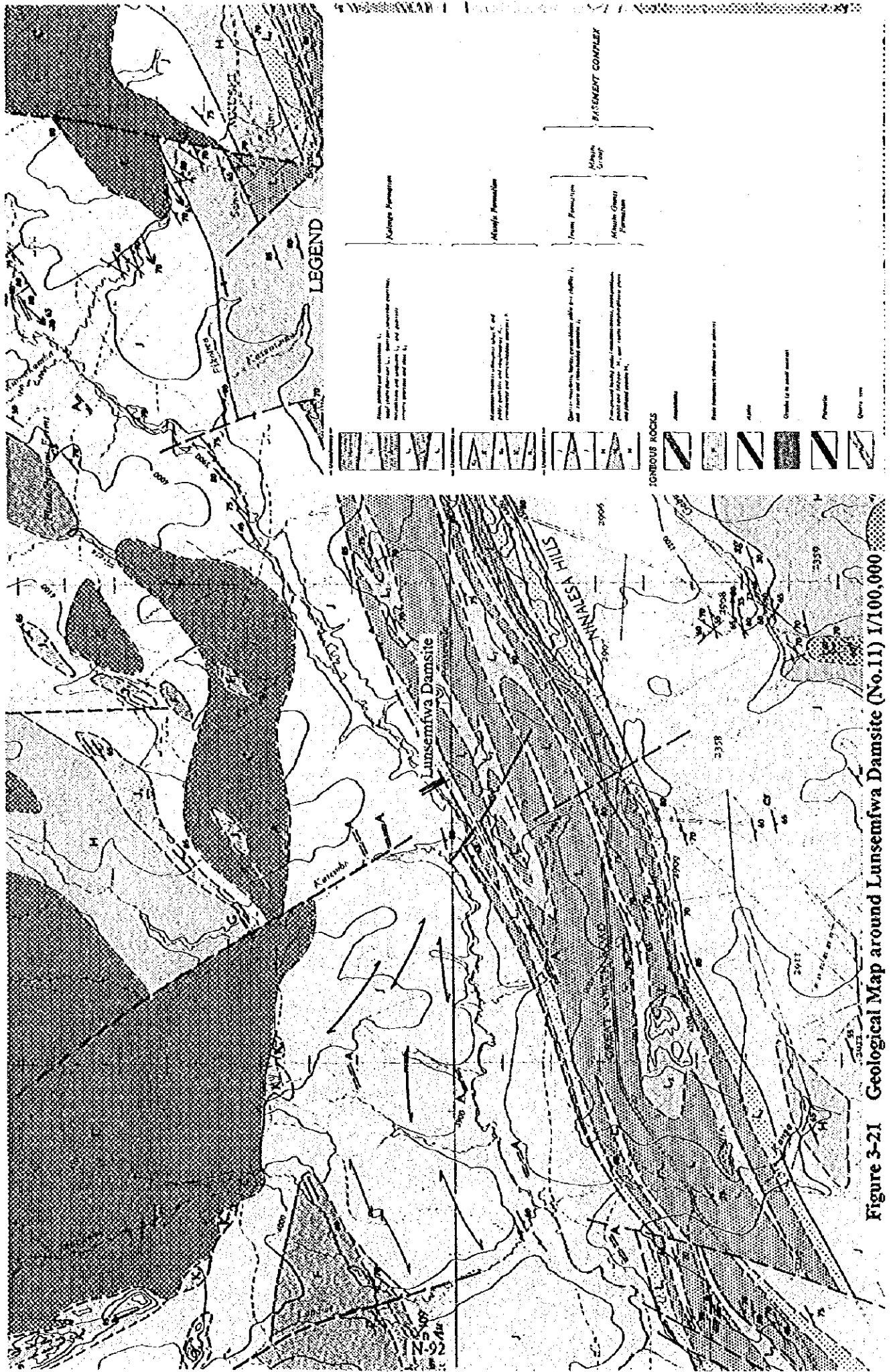


Figure 3-21 Geological Map around Lunsemfwa Dam site (No.11) 1/100,000

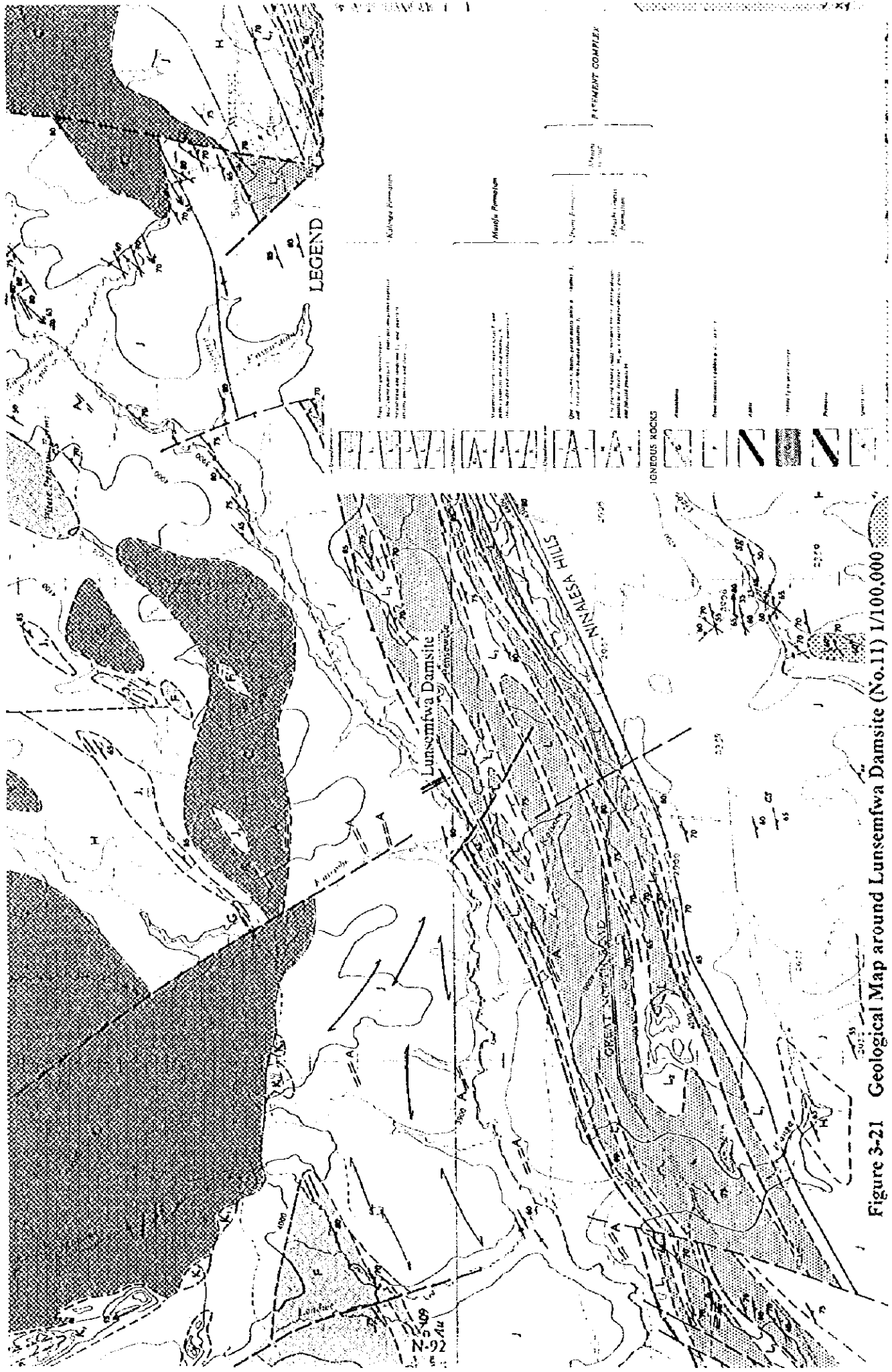


Figure 3-21 Geological Map around Lunsemfwa Damsite (No.11) 1/100,000

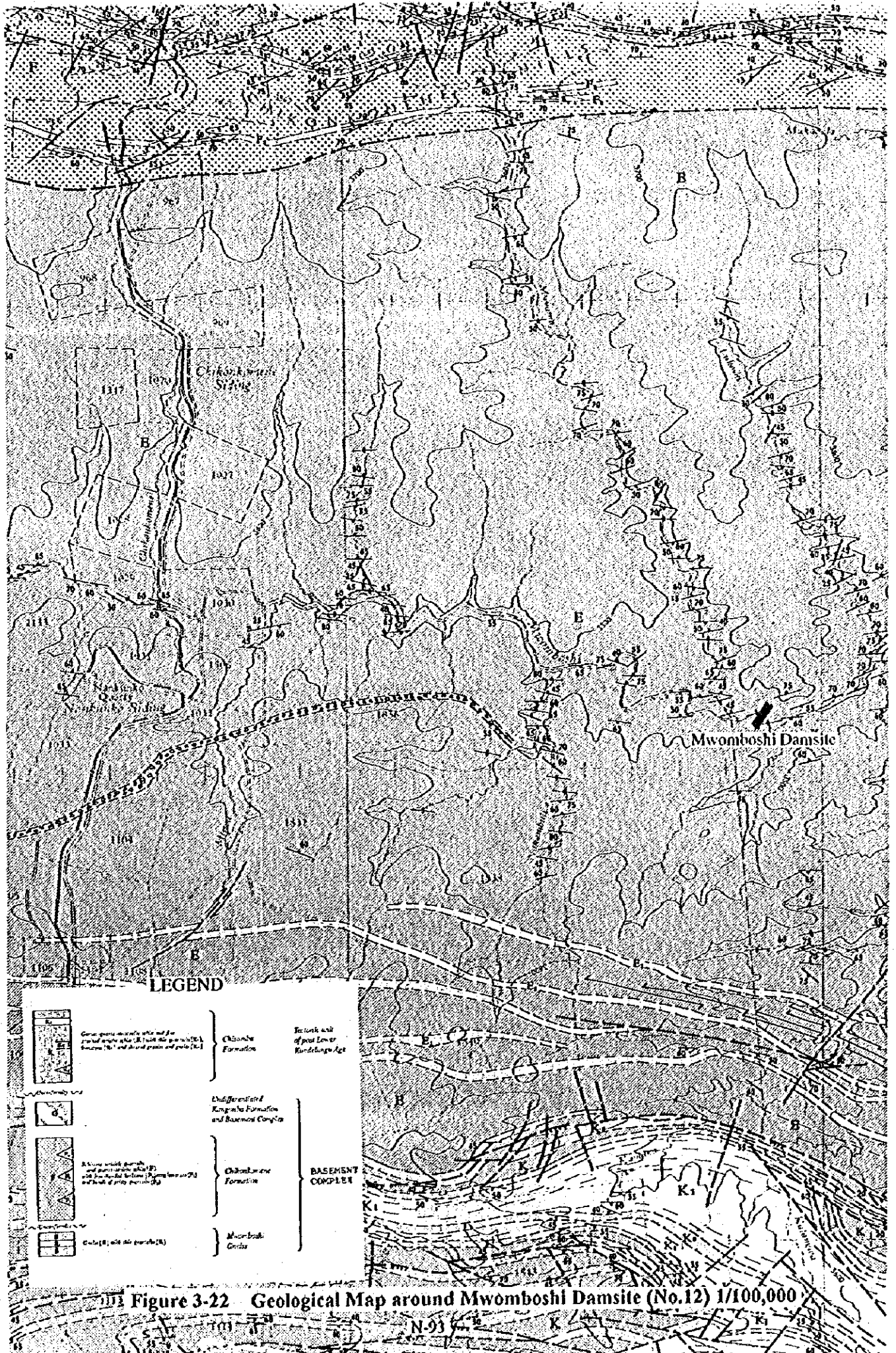
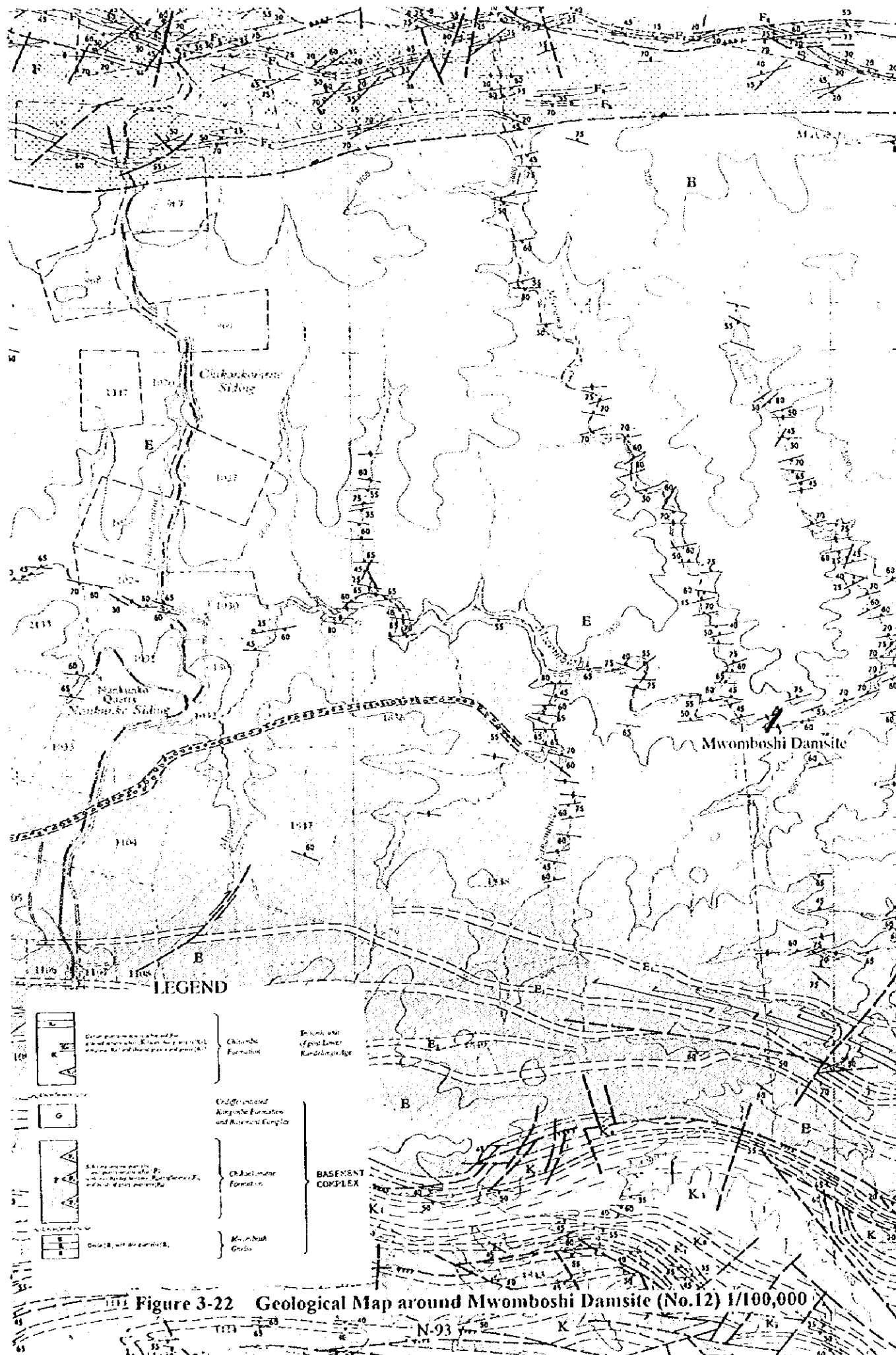


Figure 3-22 Geological Map around Mwomboshi Damsite (No.12) 1/100,000



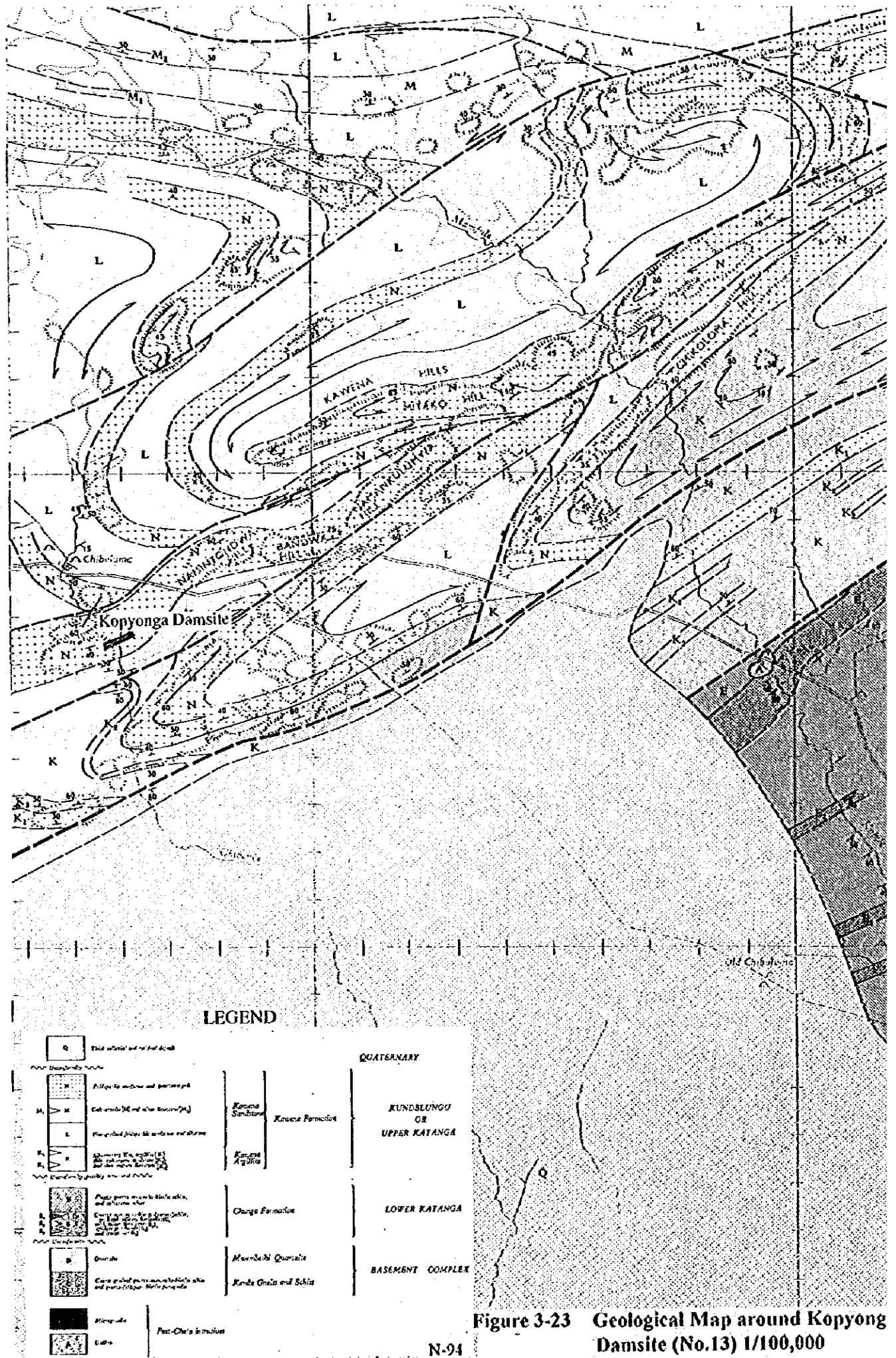
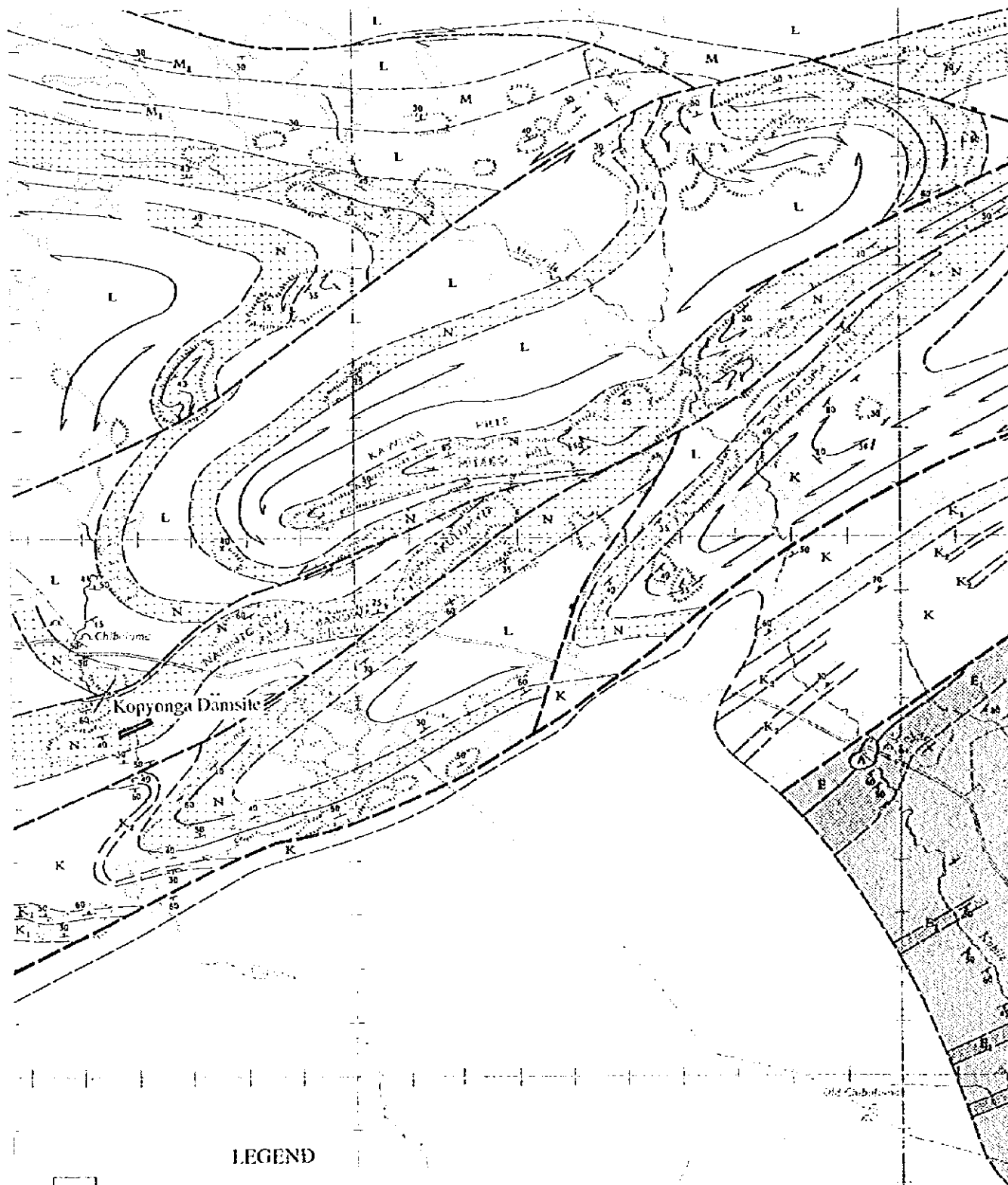


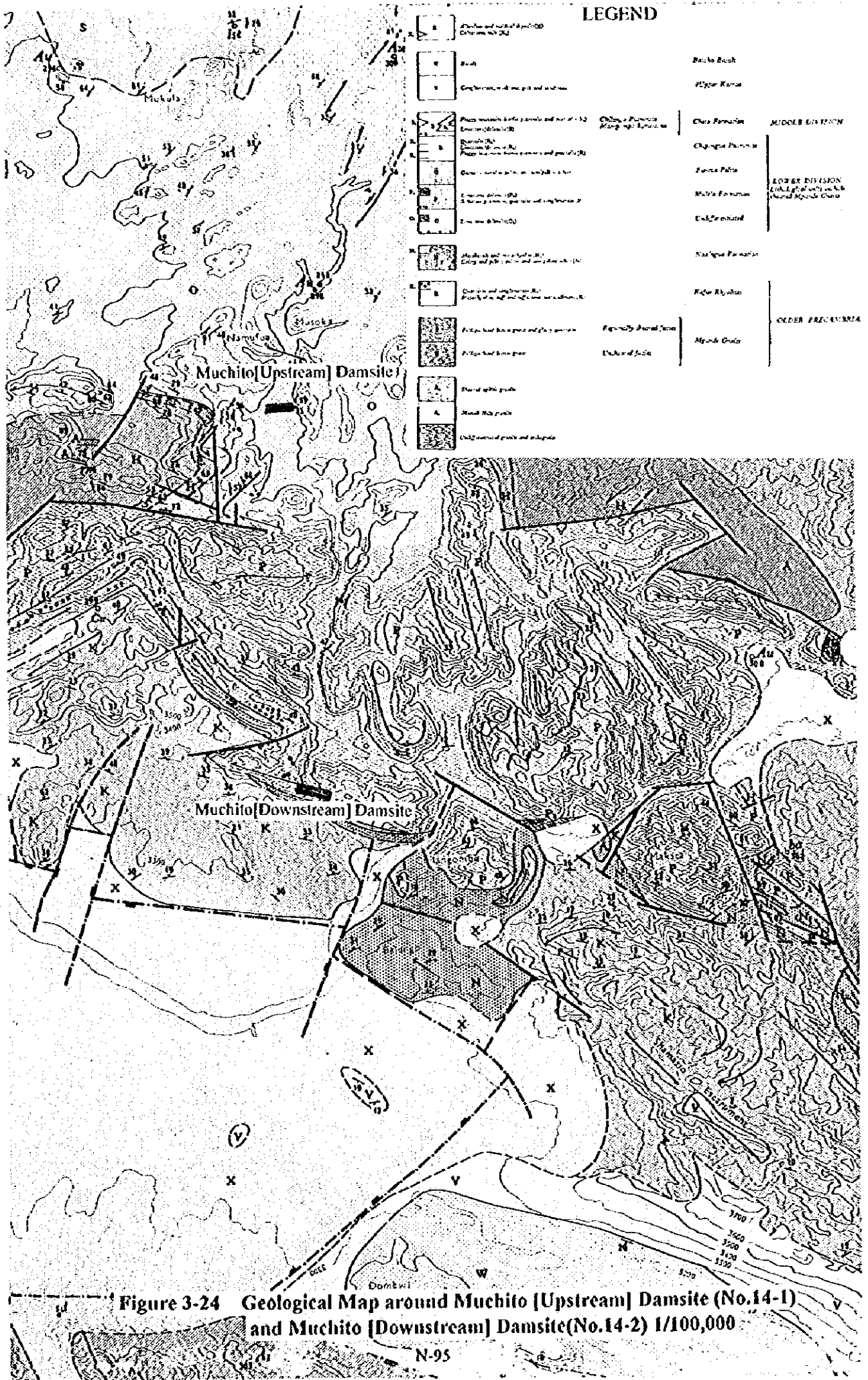
Figure 3-23 Geological Map around Kopyong Damsite (No.13) 1/100,000



**LEGEND**

	Topographical contour lines		
	Drainage lines		
	Kibira Sandstone and Breccia	Kibira Sandstone Kibira Formation	QUATERNARY
	Kibira Argillite		
	Chaga Formation		FUNDLUNGU OR UPPER KATANGA
	Mwendeki Quartzite		LOWER KATANGA
	Kende Gneiss and Schist		BASEMENT COMPLEX
	Alluvium		
	Clay		

**Figure 3-23 Geological Map around Kopyong Damsite (No.13) 1/100,000**



**LEGEND**

	Division and sub-division (Q1-Q4)			
	Beach		Beach Beach	
	Engineering work, grid and section		Hydro Canal	
	River terrace and terrace level	Chino Formation <i>Mariposa Limestone</i>	Chino Formation	MIDDLE Eocene
	River terrace and terrace level		Chingapa Formation	LOWER DIVISION <i>Changpa Limestone</i> Mudstone
	River terrace and terrace level		Ferrite Pelite	
	River terrace and terrace level	Mudstone		
	River terrace and terrace level		Enkferhated	
	River terrace and terrace level		Nassipa Formation	
	River terrace and terrace level		Kiwa Rhyolite	
	River terrace and terrace level	Especially Mapped Area		UPPER Pliocene
	River terrace and terrace level	Unkard of faults		
	River terrace and terrace level		Miyuki Gneiss	
	River terrace and terrace level			

**Figure 3-24 Geological Map around Muchito [Upstream] Damsite (No.14-1) and Muchito [Downstream] Damsite (No.14-2) 1/100,000**