

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  
MINISTRY OF AGRICULTURE  
ROYAL GOVERNMENT OF BHUTAN

**THE STUDY  
ON  
GROUNDWATER DEVELOPMENT  
IN  
WANGDUEPHODRANG DISTRICT**

**FINAL REPORT  
VOLUME IV: DRAWINGS**

March 1996

PACIFIC CONSULTANTS INTERNATIONAL  
CHUO KAIHATSU CORPORATION

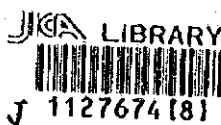
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In this report, project costs are estimated based on July 1995 prices with an exchange rate of  
US\$1.00=Nu.30.85=J.Yen100.00

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FINAL REPORT**

**VOLUME IV: DRAWINGS**

**LIST OF DRAWINGS**

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Volume I	Executive Summary
Volume II	Main Report
Volume III	Supporting Report
<u>Volume IV</u>	<u>Drawings</u>
Volume V	Data Book

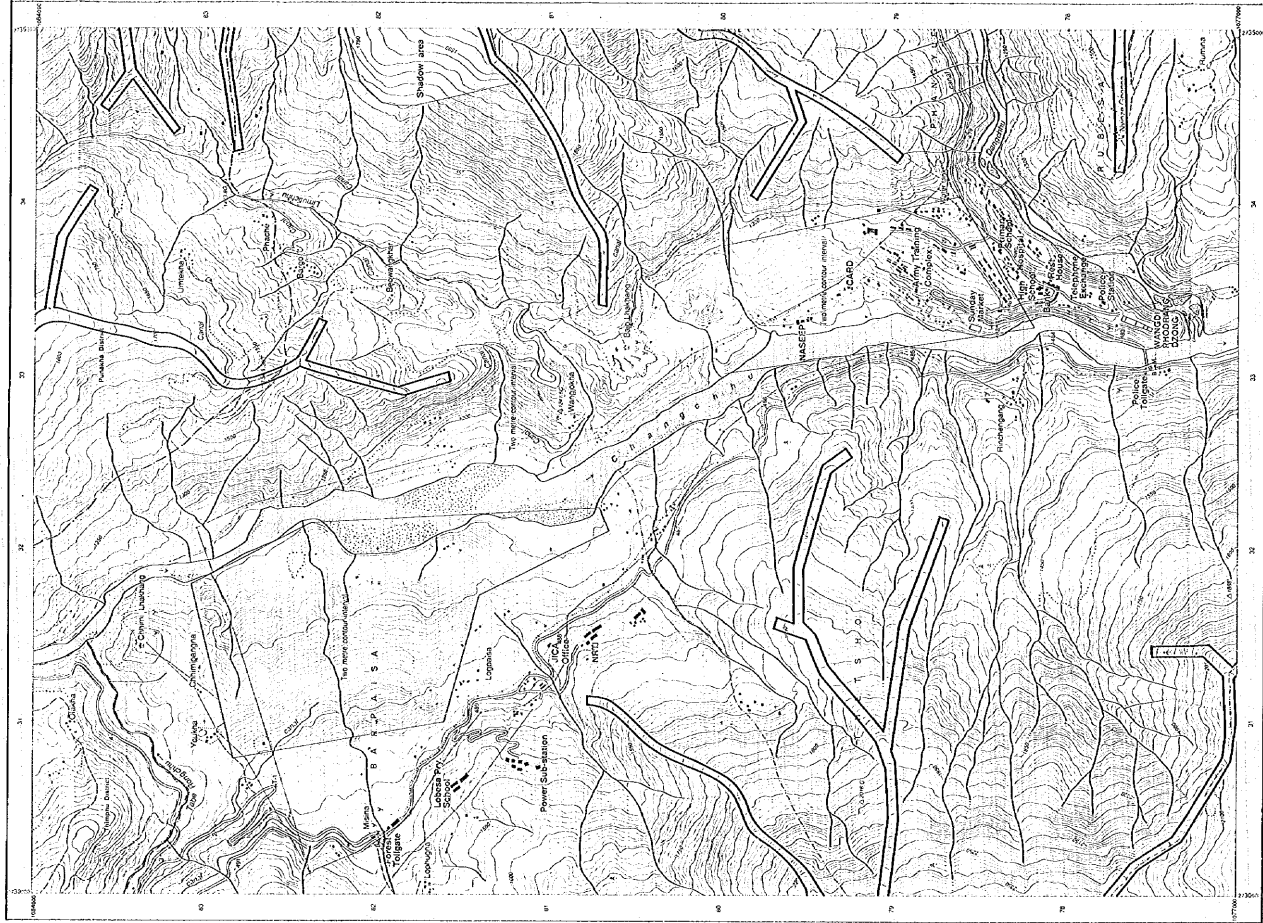




# MAP - I DRAINAGE SYSTEM MAP (2/2)



THE NATIONAL WATERWAY AUTHORITY  
 FEDERAL GOVERNMENT OF NIGERIA  
 WATERWAYS DEVELOPMENT DIVISION



SCALE 1 : 10 000



Administrative Index



Index



- LEGEND**
- Contour Lines
  - Open Drainage
  - Control Point
  - B.O.M. Bench Mark
  - Stream Gauge
  - Tree

- River/Streams
- Canal
- Drainage
- Subsoil
- Subsoil/Drain
- Tree



Administrative Index

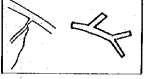


Index



**LEGEND**

- RIVERS
- and
- STREAMS
- MAIN DIVIDE



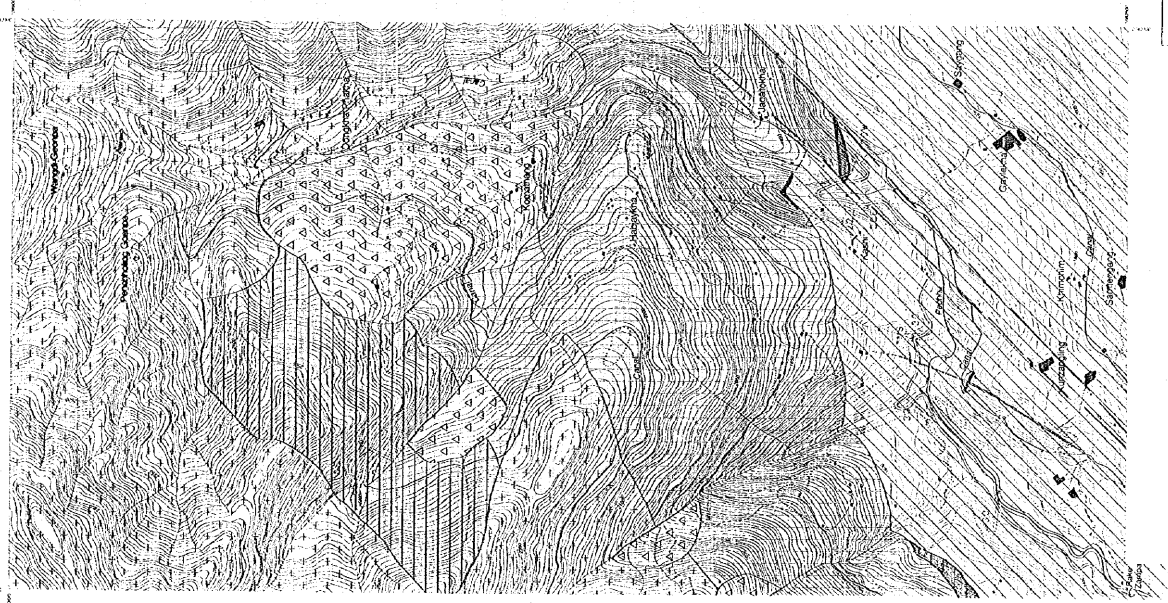






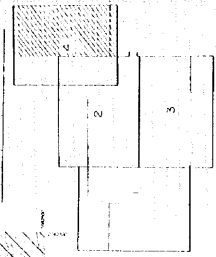
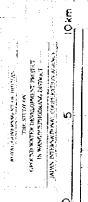
# MAP- III

# GEOLOGICAL MAP



### LEGEND

- liuit
- antiform
- synform
- dip, strike
- gully intrusion
- graticle line
- low terrace
- medio terrace 2
- medio terrace 1
- high terrace 2
- high terrace 1
- stepped block
- colluvium
- fan, conglomerate
- younger mud-flow deposits
- mud flow deposits
- granite, granitic gneiss
- gneiss
- limestone
- quartzite, quartzite member
- schist, phyllite, metasediments



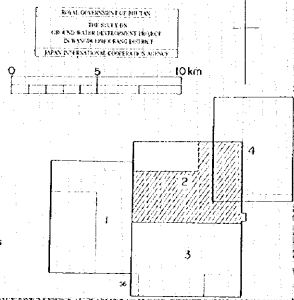


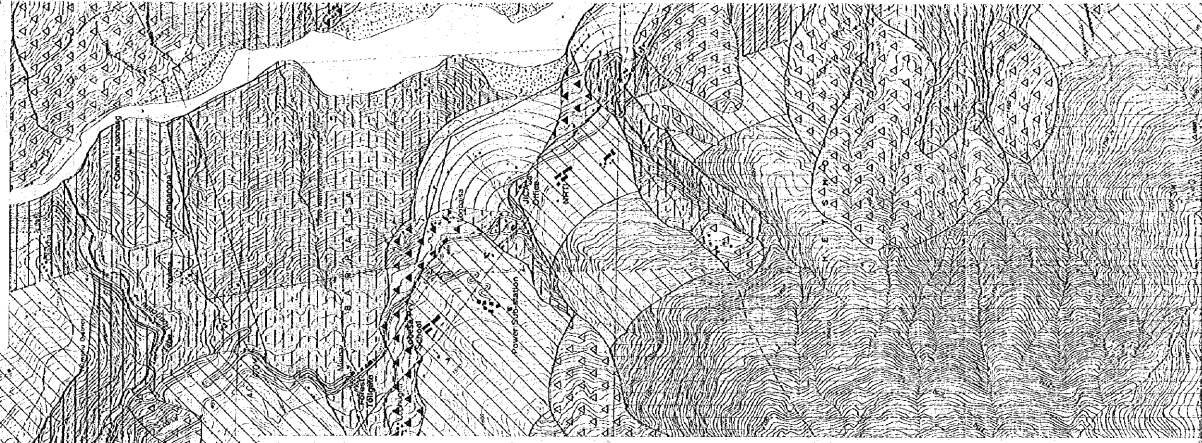
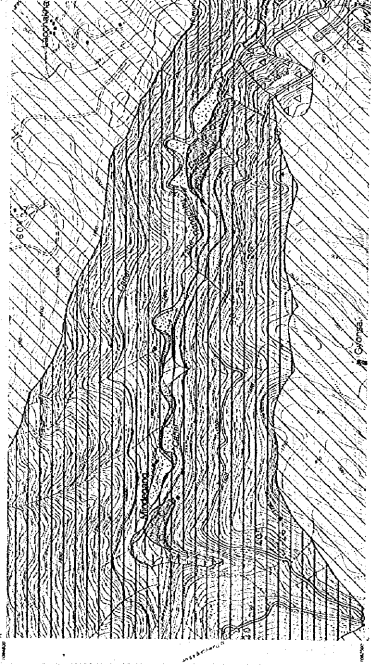
# MAP- III

# GEOLOGICAL MAP

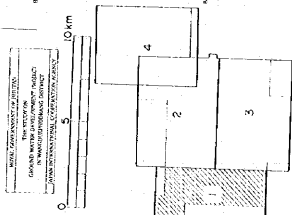
### LEGEND

	fault		high terrace 2		mud flow deposits
	anticline		high terrace 1		granite, granitic gneiss
	synform		dip, strike		gneiss
	gully intrusion		folded block		limestone
	profile line		colluvium		quartzite, quartzose member
	low terrace		fan, conglomerate		schist, phyllite, metasediments
	middle terrace 2				
	middle terrace 1				



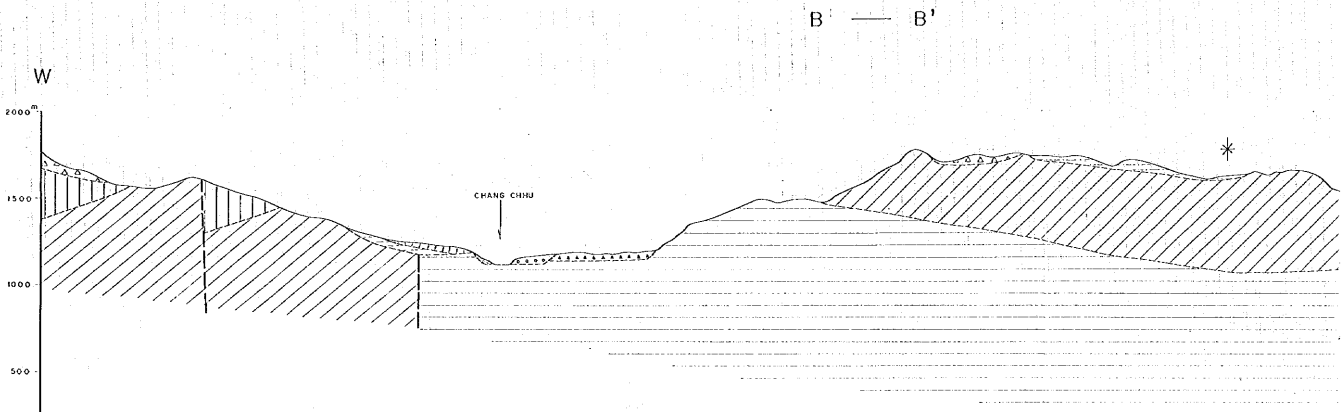
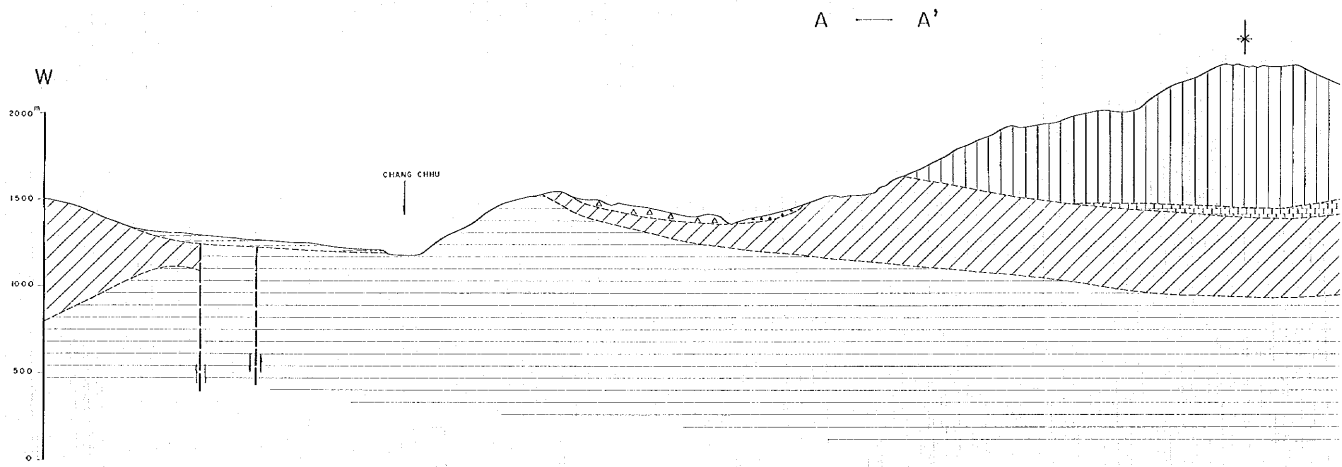


### MAP-III GEOLOGICAL MAP

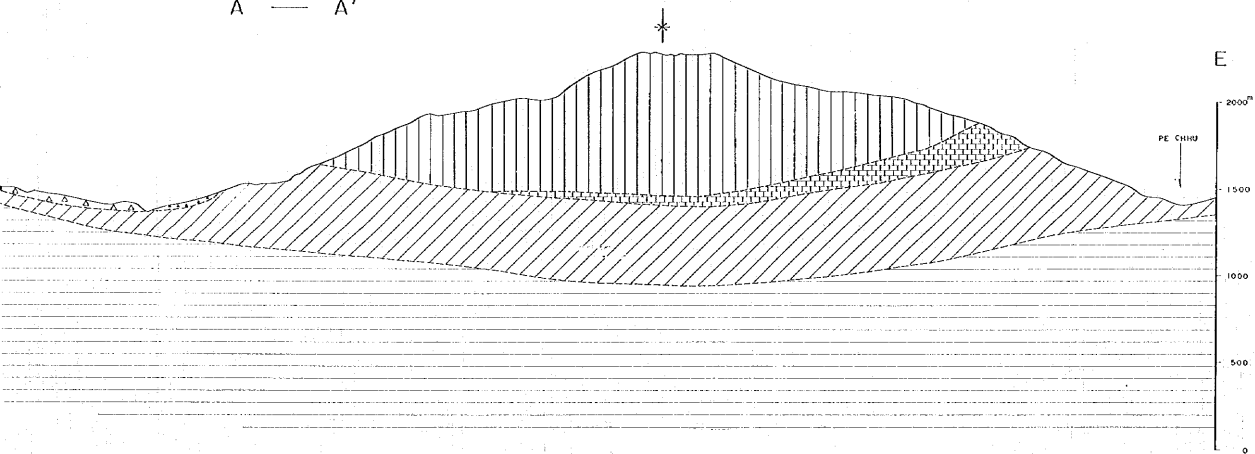


- LEGEND**
- fault
  - ↔ antiform
  - ↔ synform
  - ↔ dip, strike
  - gully, intrusion
  - profile line
  - low terrace
  - middle terrace 2
  - middle terrace 1
  - high terrace 2
  - high terrace 1
  - slide block

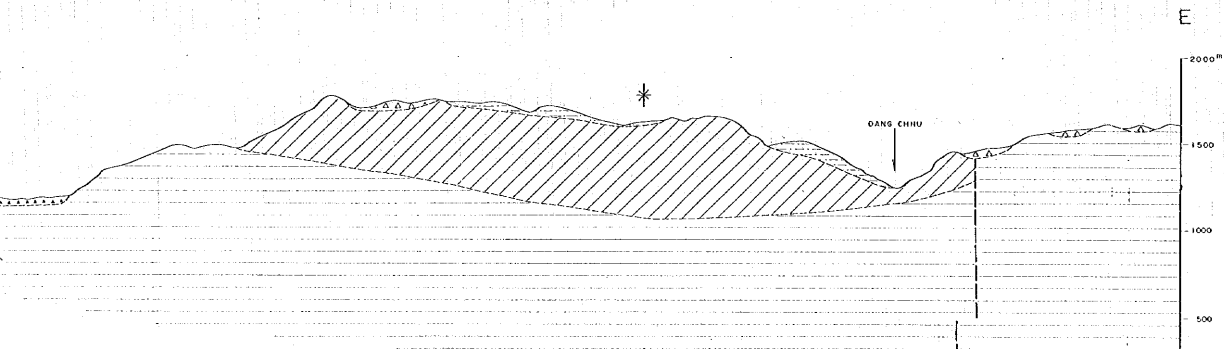
- colluvium
- tan, conglomerate
- younger mud/low deposits
- mud/low deposits
- granite, granitic gneiss
- gneiss
- limestone
- quartzite, quartzose monzon
- schist, phyllite, metasediments

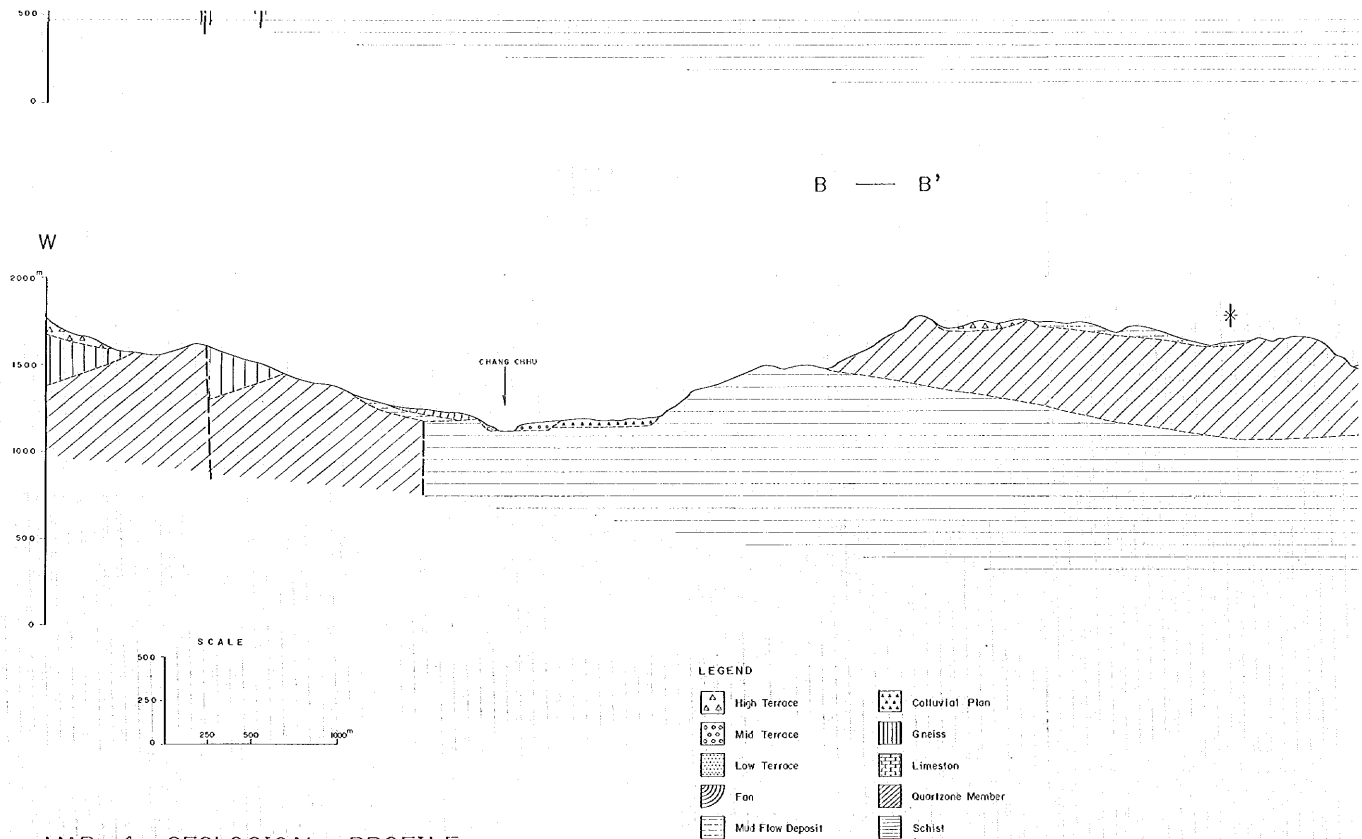


A — A'



B — B'



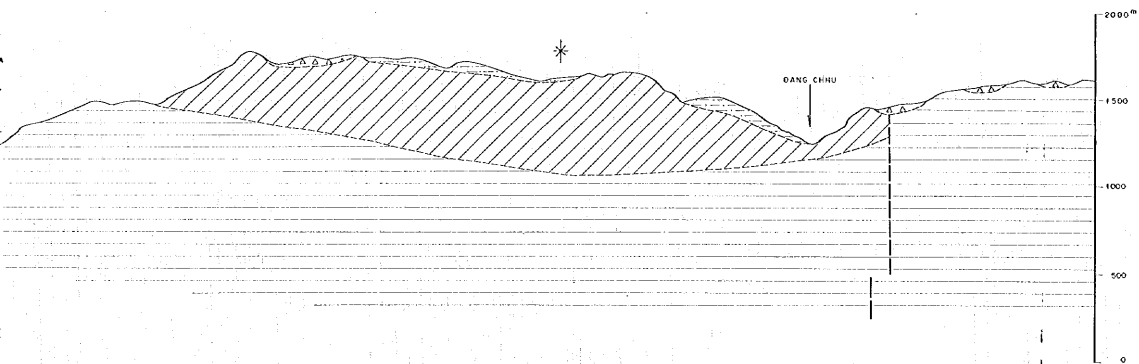


MAP-4 GEOLOGICAL PROFILE













B — B'

E



LEGEND

- |   |                  |   |                  |
|---|------------------|---|------------------|
|  | High Terrace     |  | Colluvial Fan    |
|  | Mid Terrace      |  | Gneiss           |
|  | Low Terrace      |  | Limestone        |
|  | Fan              |  | Quartzite Member |
|  | Mud Flow Deposit |  | Schist           |