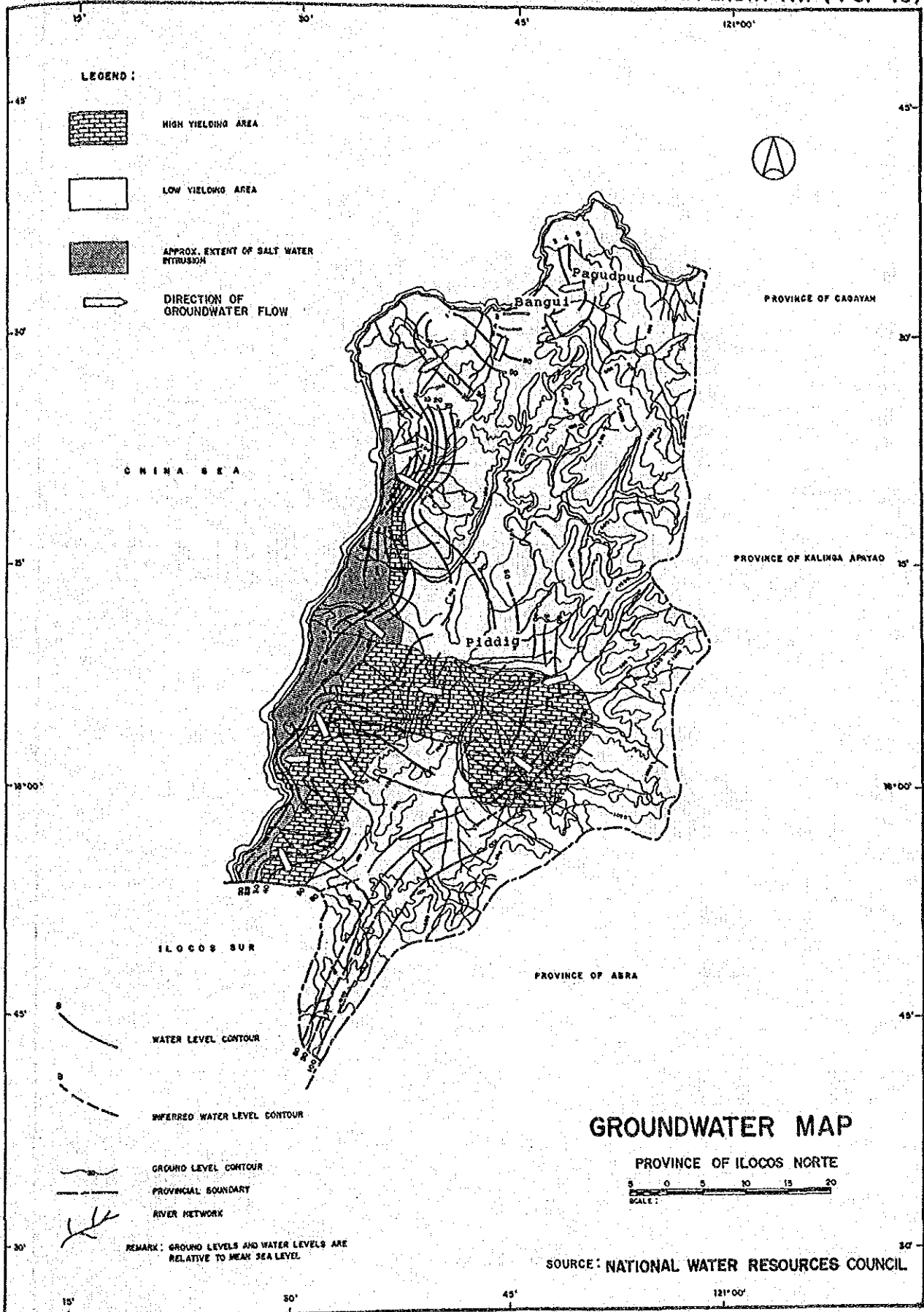


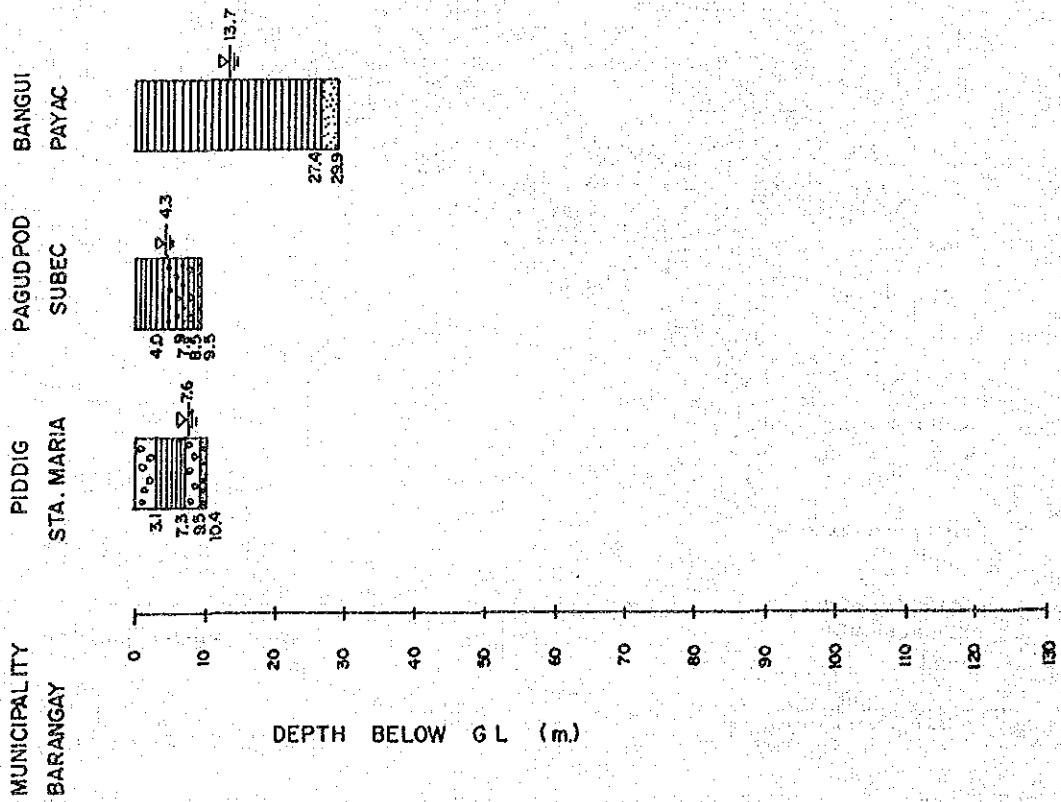
## **APPENDICES**

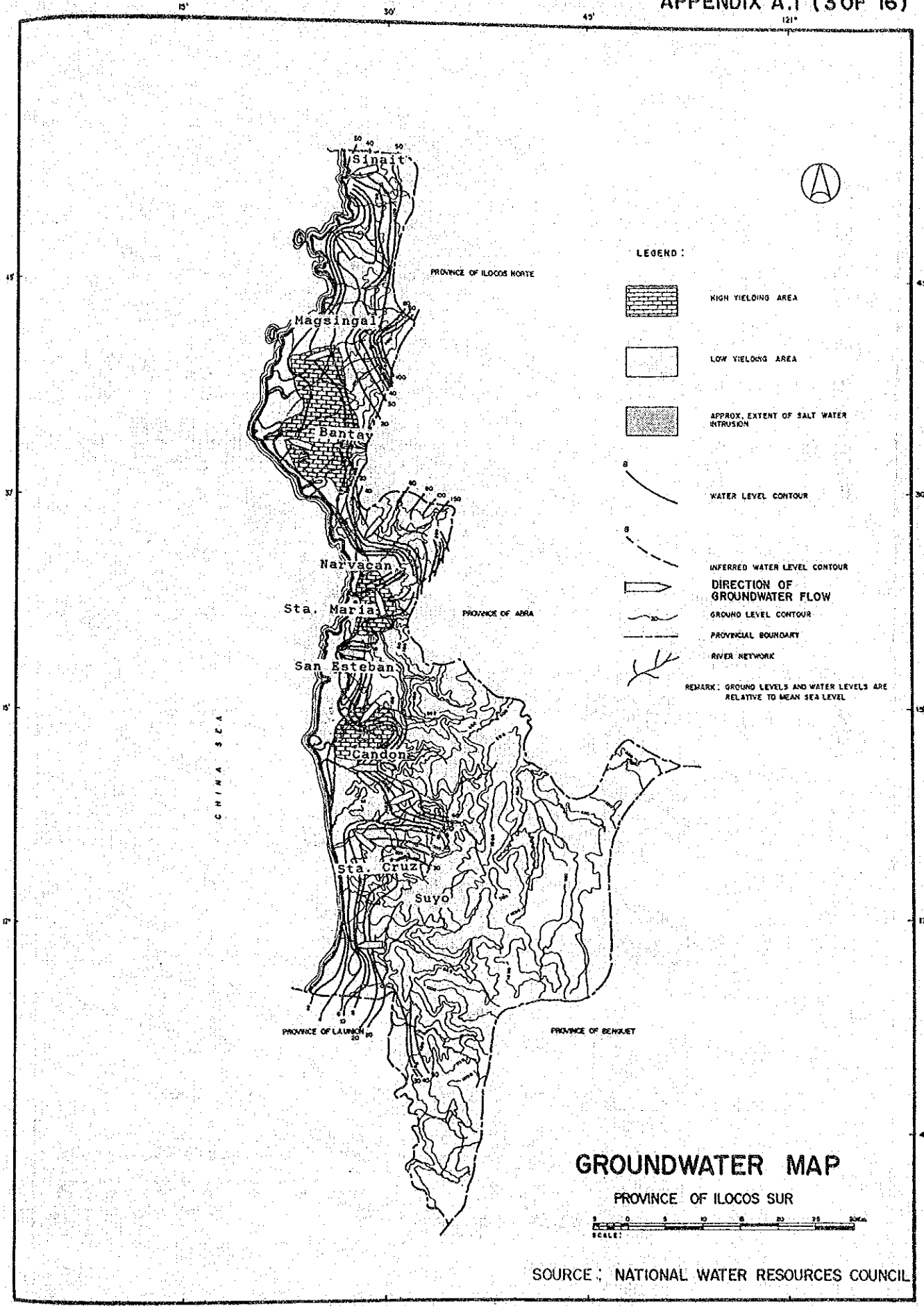




PROVINCE OF ILOCOS NORTE

WELL LOGS

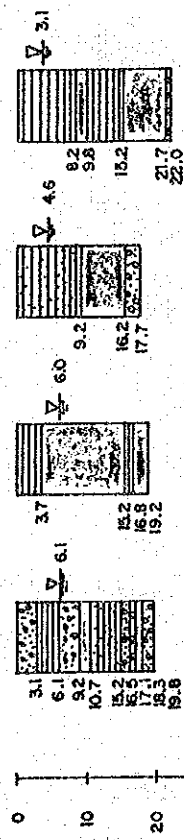




PROVINCE OF ILOCOS SUR

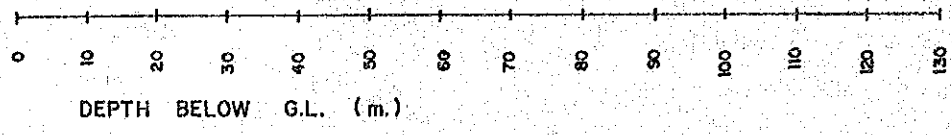
WELL LOGS

MUNICIPALITY	BARANGAY	MAGSINGAL	NARVACAN	STA. MARIA	SAN ESTEBAN
	CARAISON		AMBULOGAN	AG - AGRAO	SAN NICOLAS

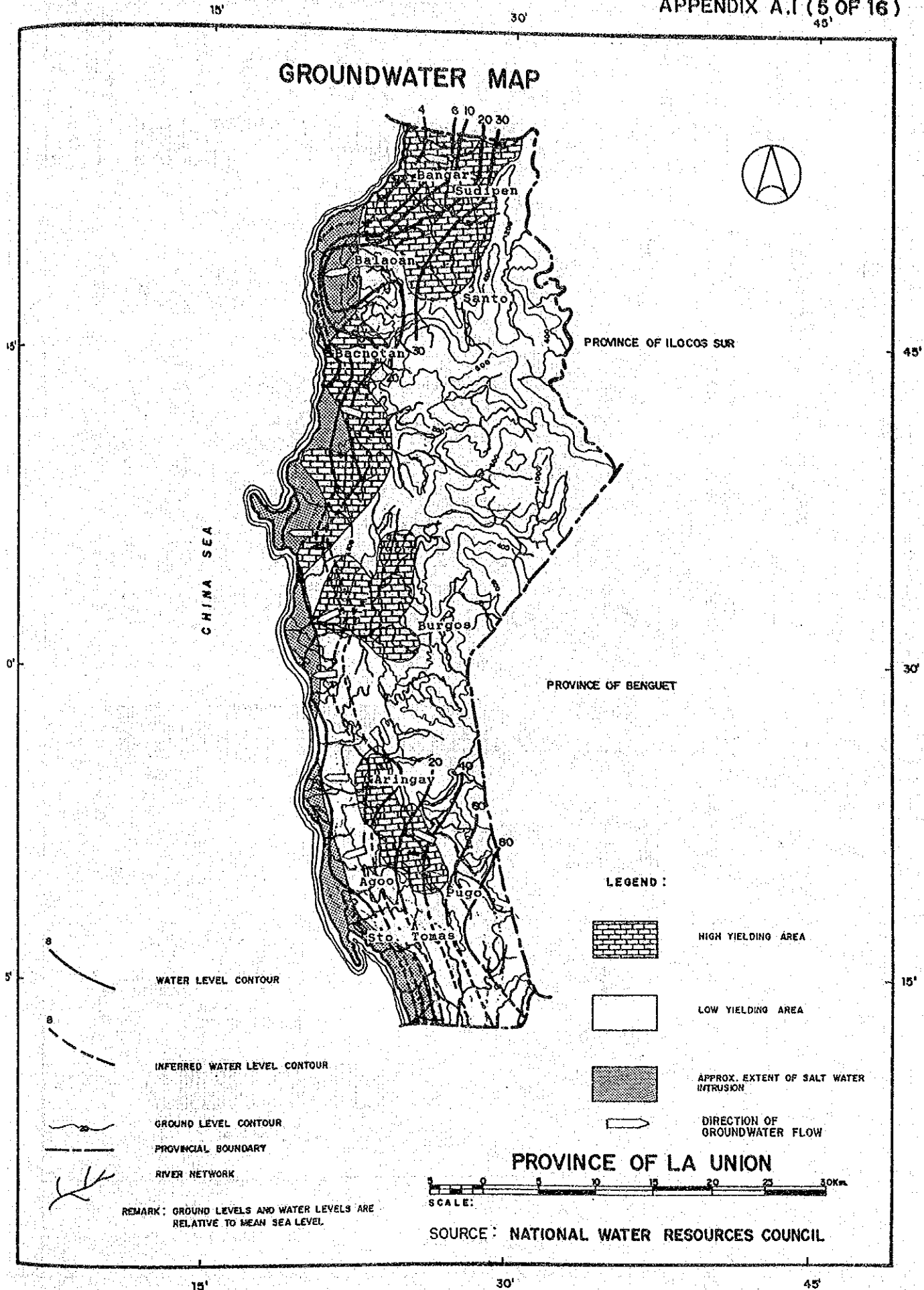


LEGEND :

- TOP SOIL
- BOULDER
- GRAVEL
- GRAVEL WITH BOULDER
- SAND AND GRAVEL
- SAND
- SANDY CLAY
- CLAY
- CLAY WITH BOULDER
- ADOBE
- STATIC WATER LEVEL (MBGS)



# GROUNDWATER MAP



WATER LEVEL CONTOUR  
 INFERRED WATER LEVEL CONTOUR  
 GROUND LEVEL CONTOUR  
 PROVINCIAL BOUNDARY  
 RIVER NETWORK

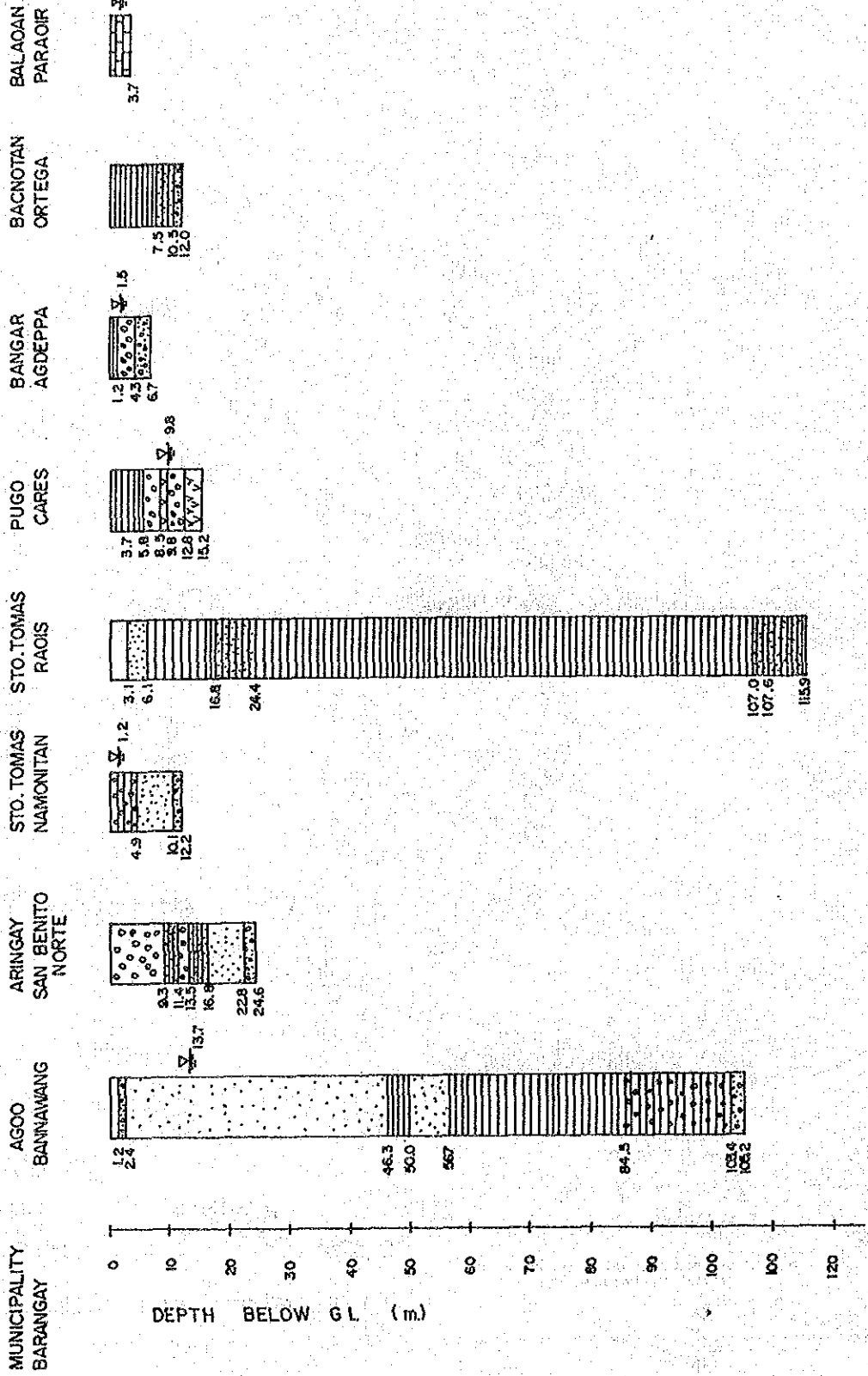
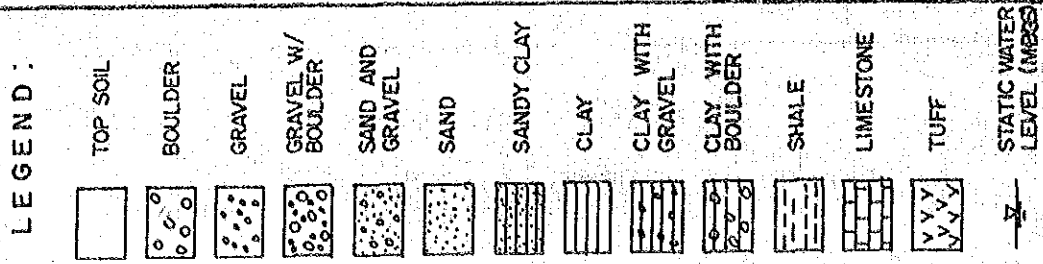
**LEGEND :**  
 HIGH YIELDING AREA  
 LOW YIELDING AREA  
 APPROX. EXTENT OF SALT WATER INTRUSION  
 DIRECTION OF GROUNDWATER FLOW

REMARK: GROUND LEVELS AND WATER LEVELS ARE RELATIVE TO MEAN SEA LEVEL.

**PROVINCE OF LA UNION**  
 SCALE: 0 5 10 15 20 25 30km

SOURCE: NATIONAL WATER RESOURCES COUNCIL

WELL LOGS PROVINCE OF LA UNION

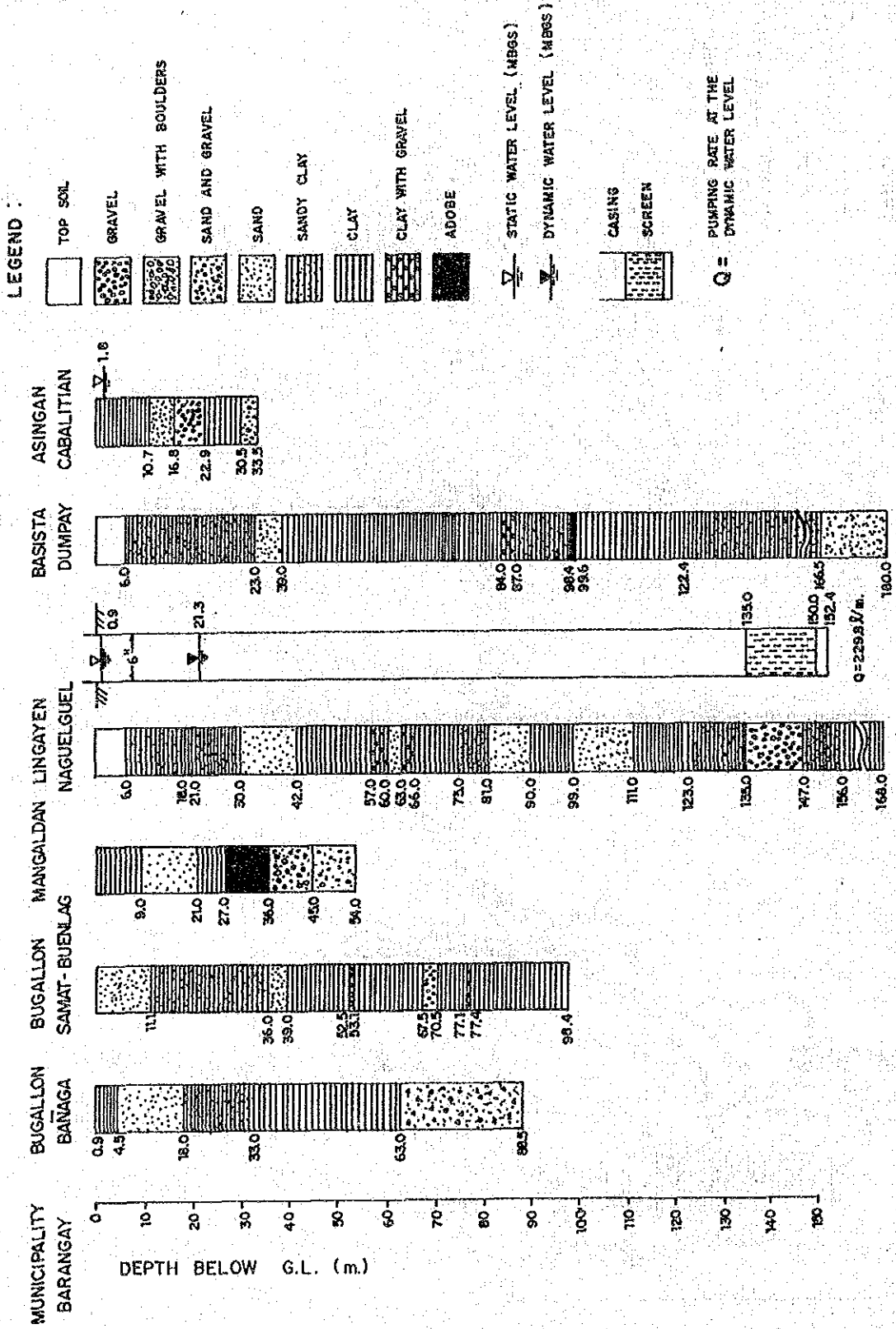




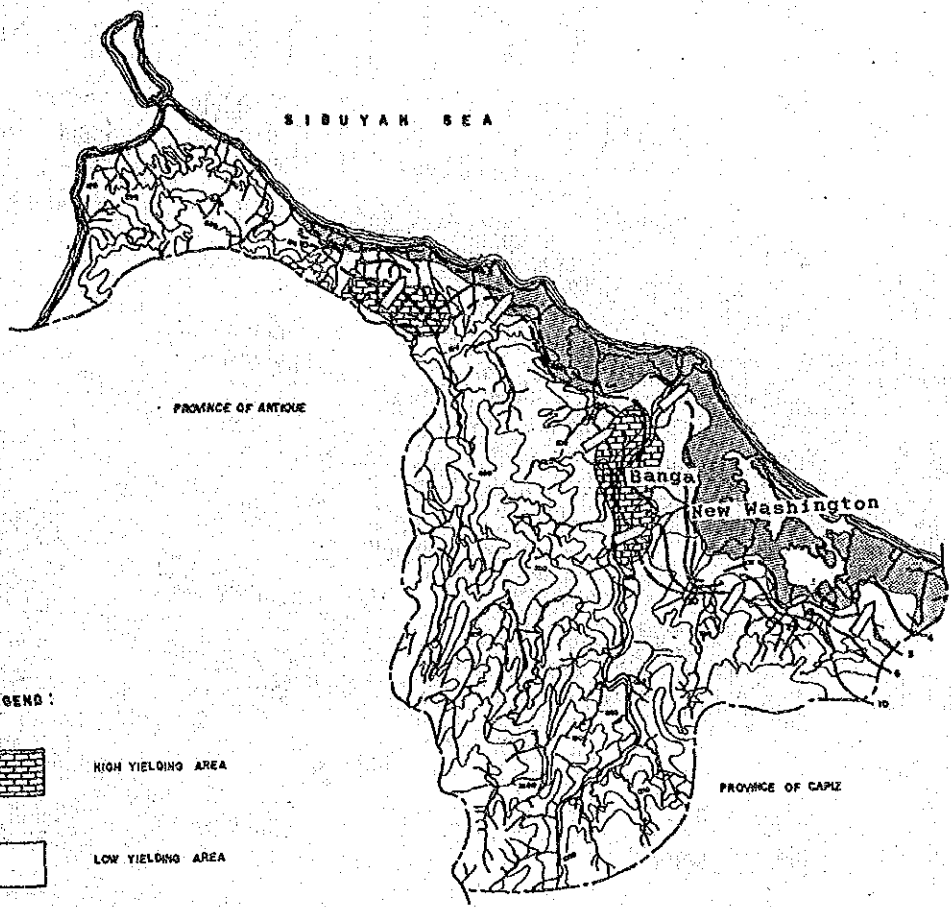


PROVINCE OF PANGASINAN










WELL LOGS



45° 122°00' 15°



LEGEND :

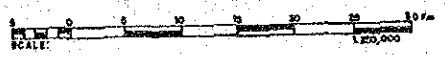
-  HIGH YIELDING AREA
-  LOW YIELDING AREA
-  APPROX. EXTENT OF SALT WATER INTRUSION
-  WATER LEVEL CONTOUR
-  INFERRED WATER LEVEL CONTOUR
-  GROUND LEVEL CONTOUR
-  PROVINCIAL BOUNDARY
-  RIVER NETWORK
-  DIRECTION OF GROUNDWATER FLOW

REMARK: GROUND LEVELS AND WATER LEVELS ARE RELATIVE TO MEAN SEA LEVEL

### GROUNDWATER MAP



PROVINCE OF AKLAN

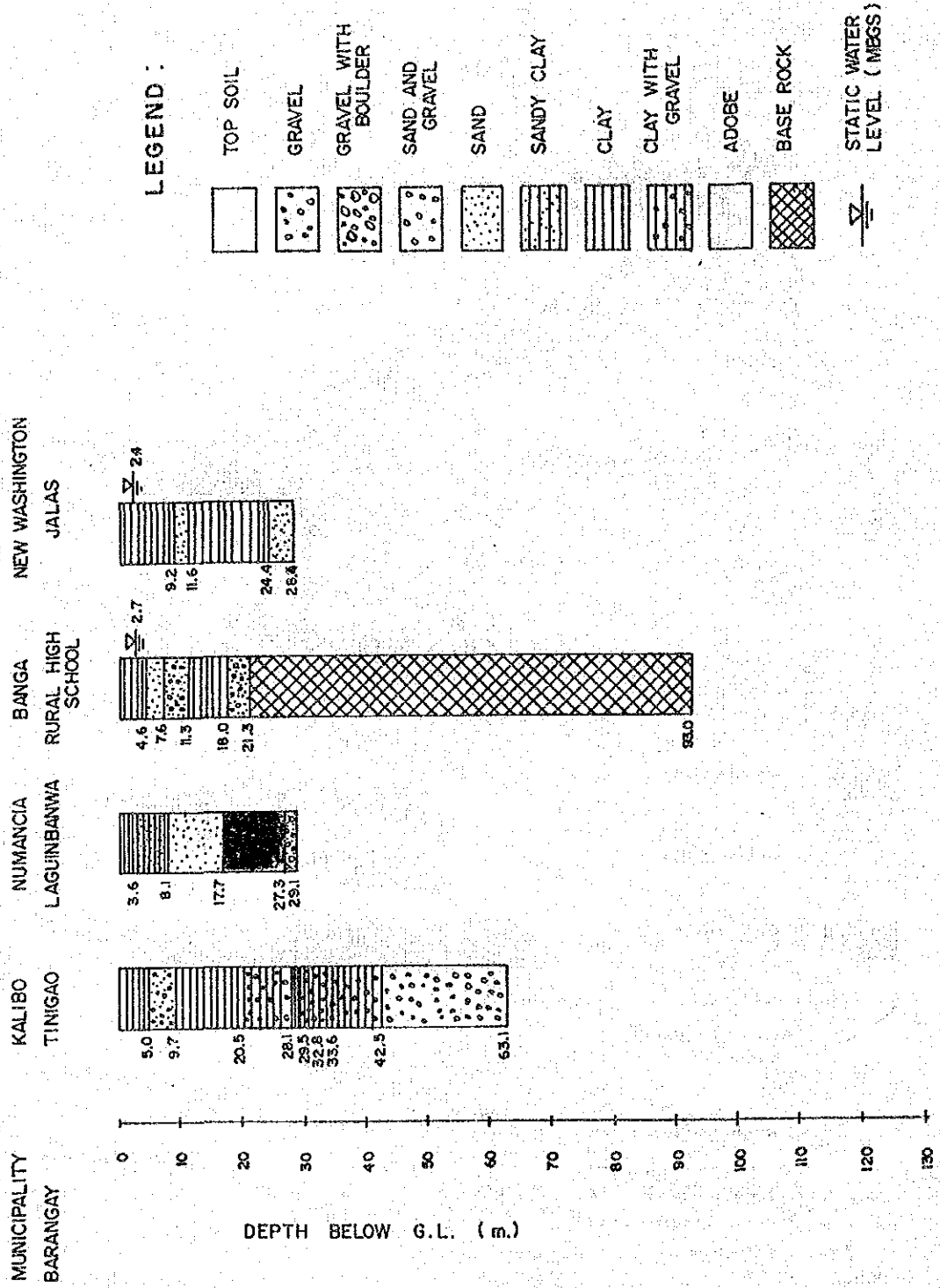


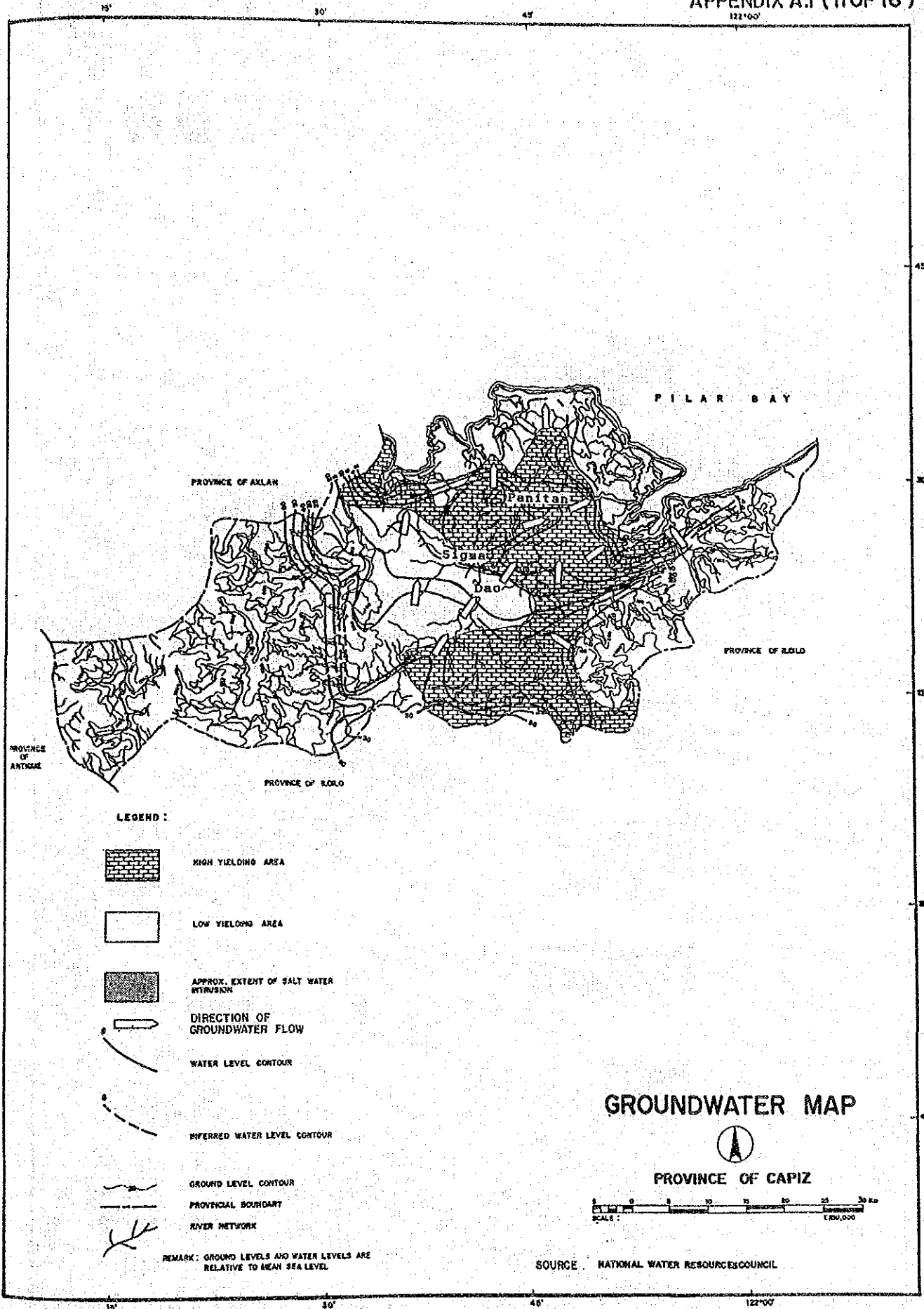
SOURCE : NATIONAL WATER RESOURCES COUNCIL

45° 122°00' 15° 30'

PROVINCE OF AKLAN

WELL LOGS



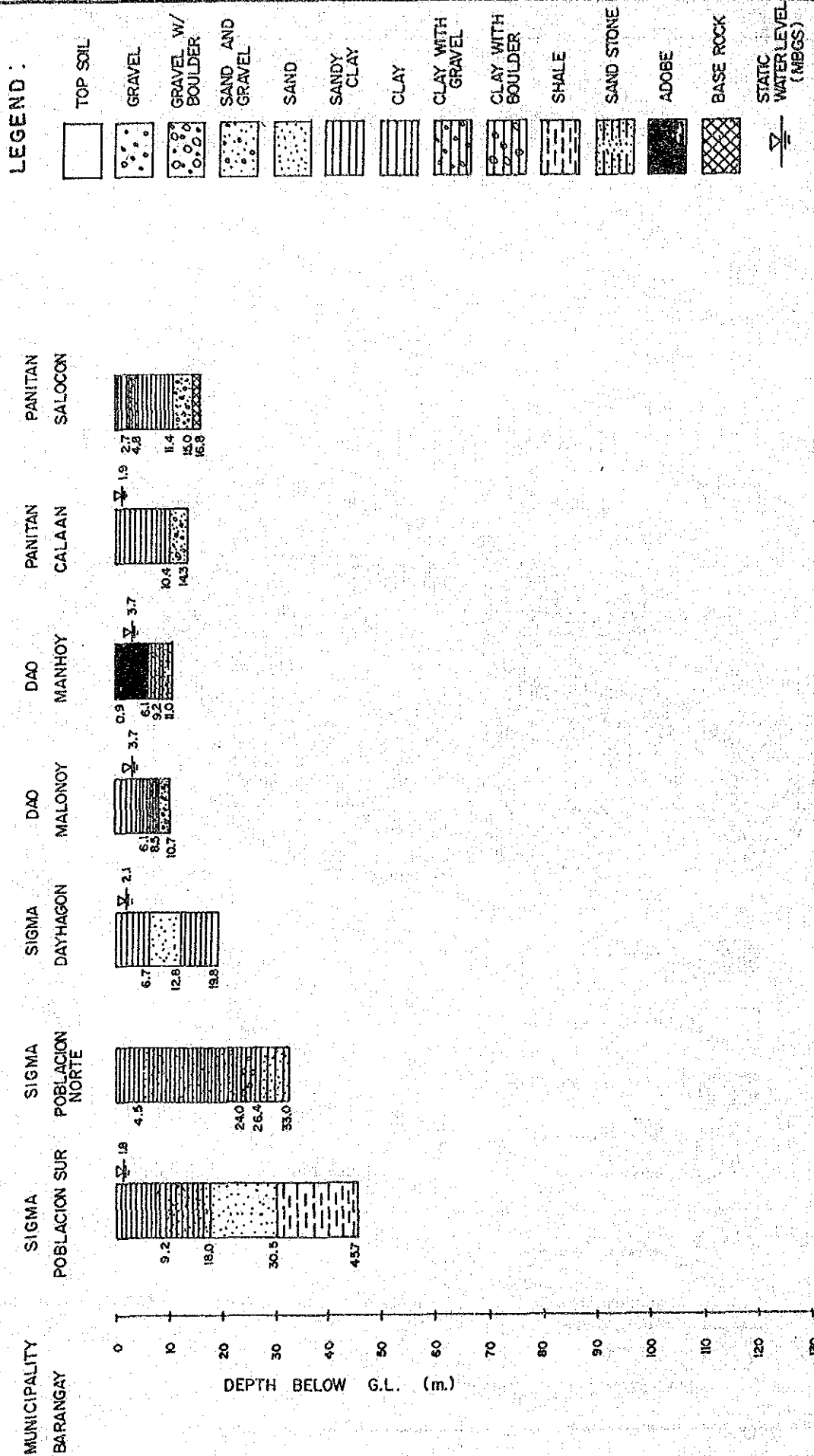


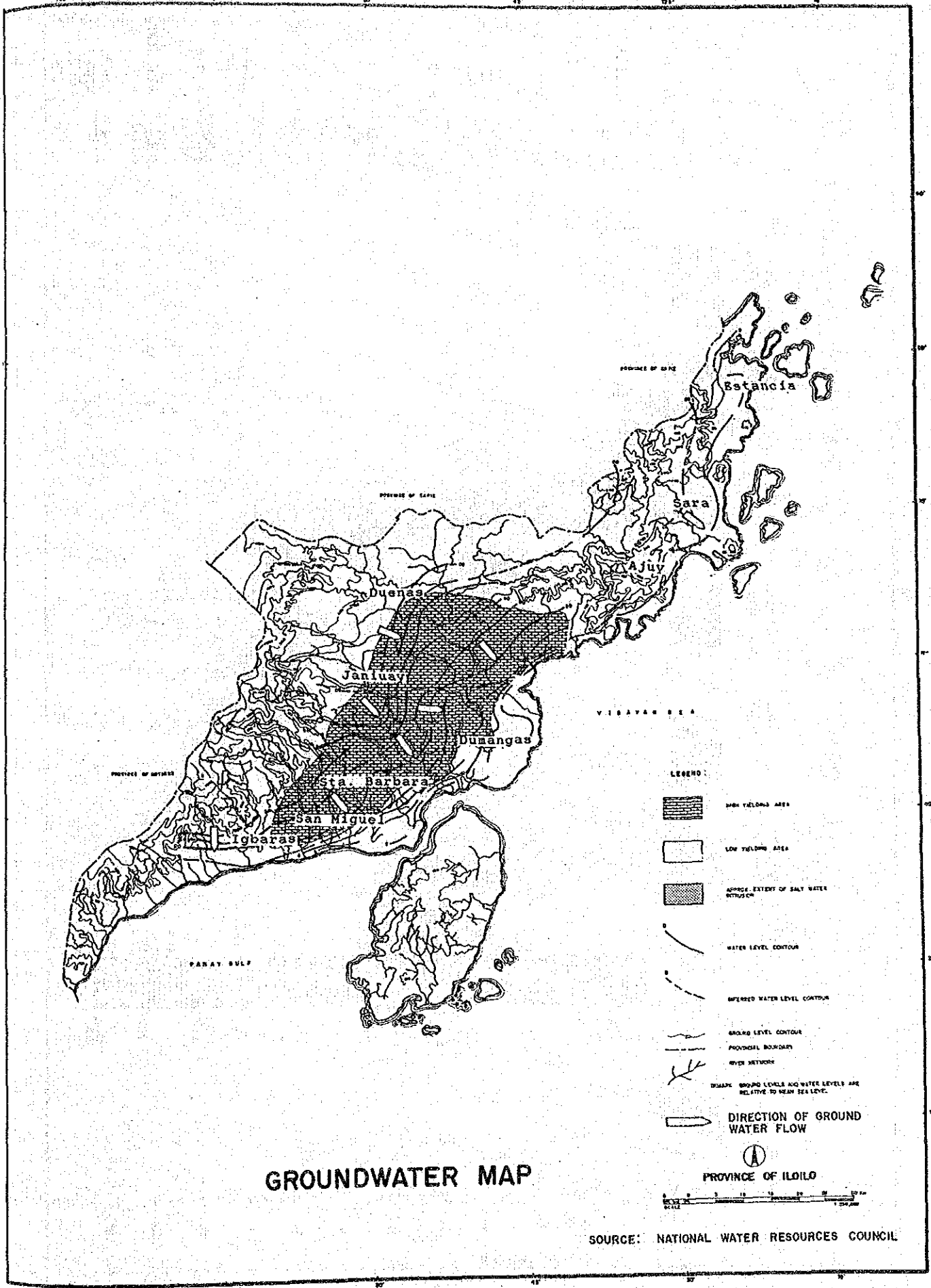
REMARK: GROUND LEVELS AND WATER LEVELS ARE RELATIVE TO MEAN SEA LEVEL

SOURCE: NATIONAL WATER RESOURCES COUNCIL

PROVINCE OF CAPIZ

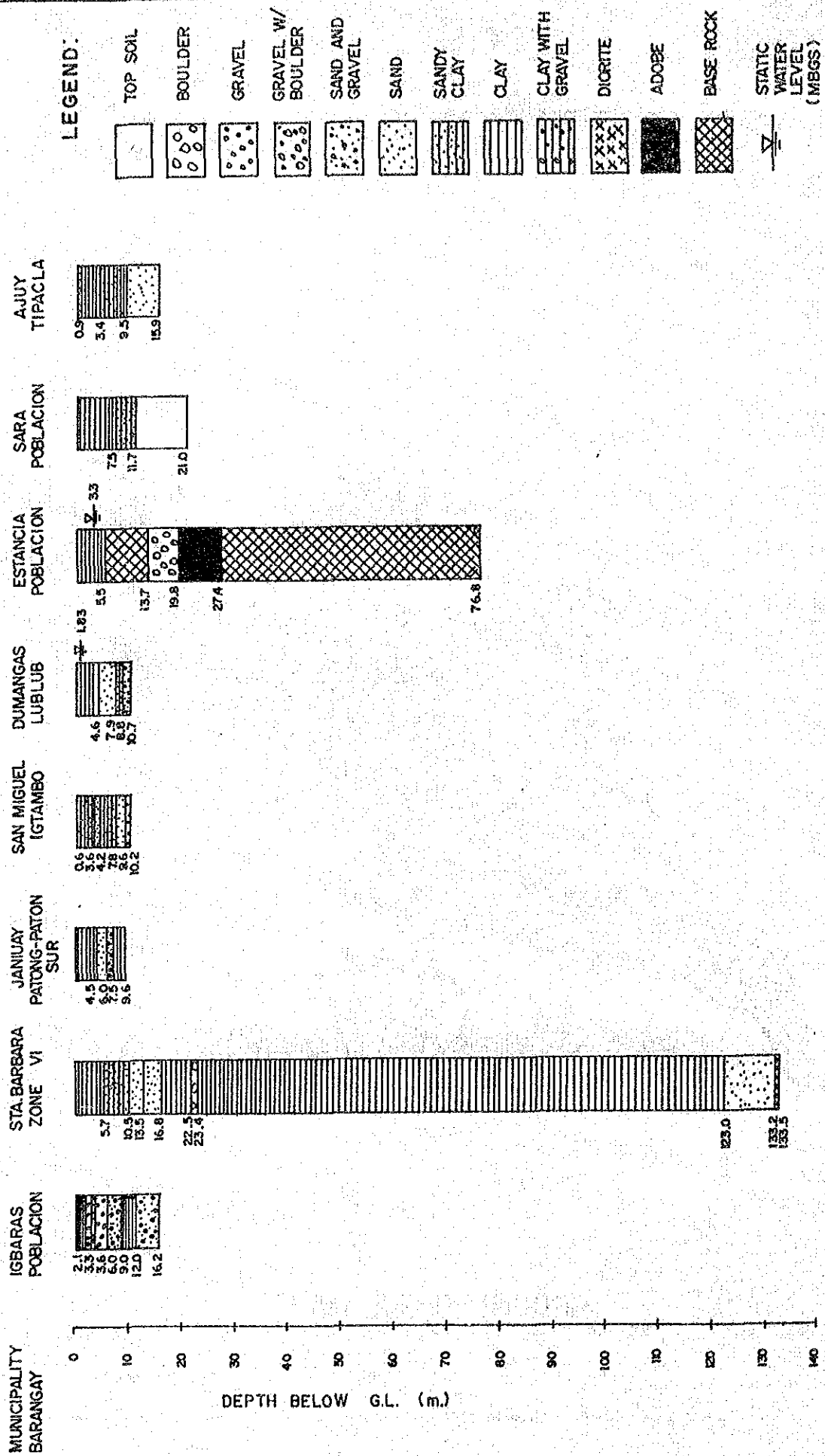
WELL LOGS



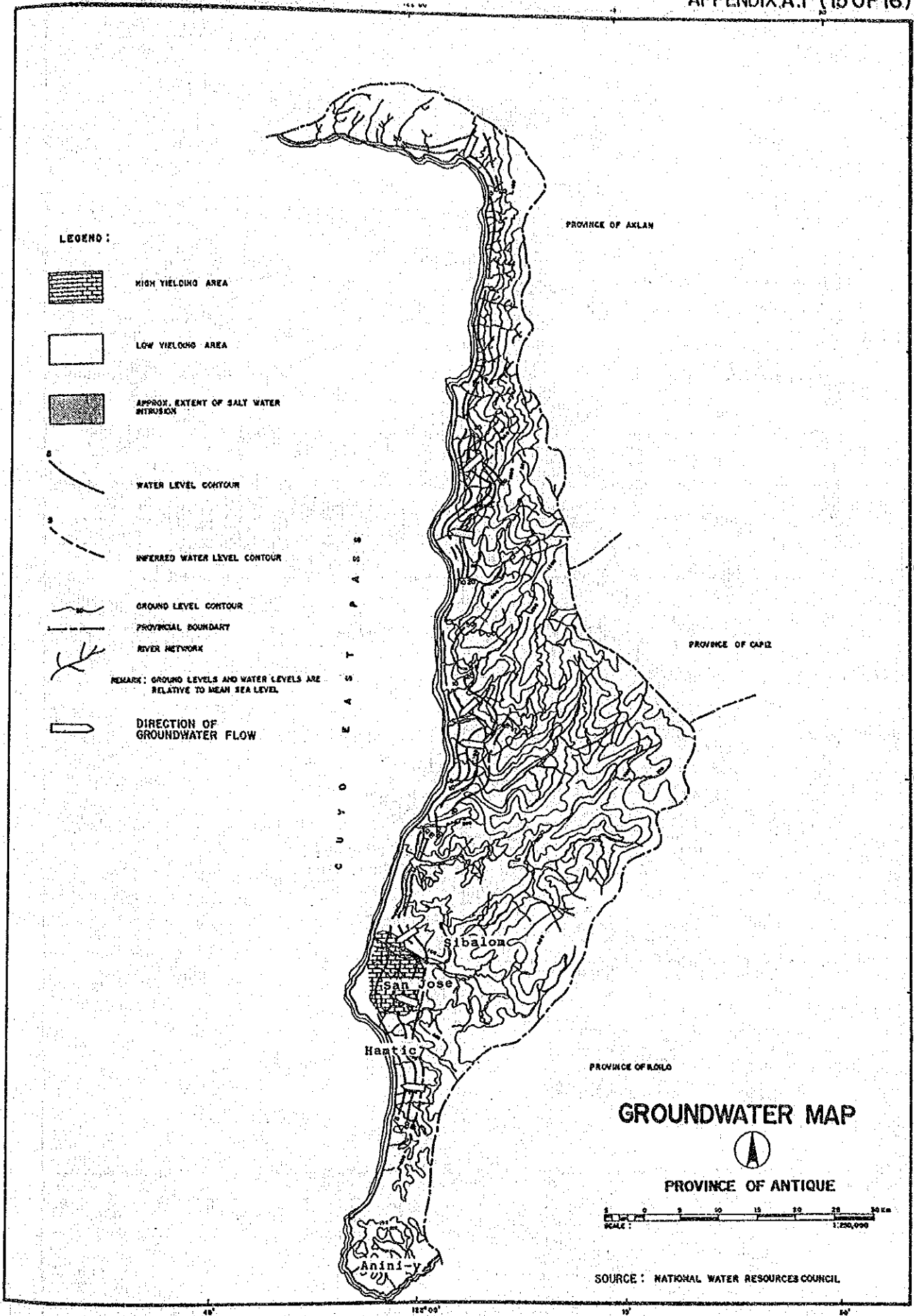


PROVINCE OF ILOILO

WELL LOGS

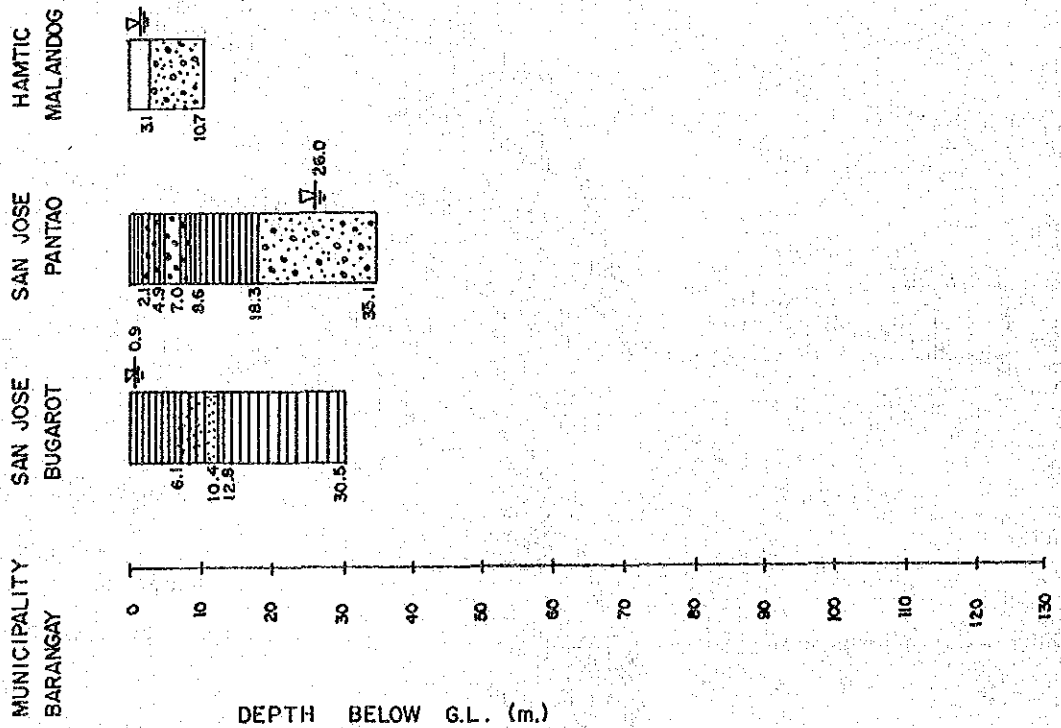




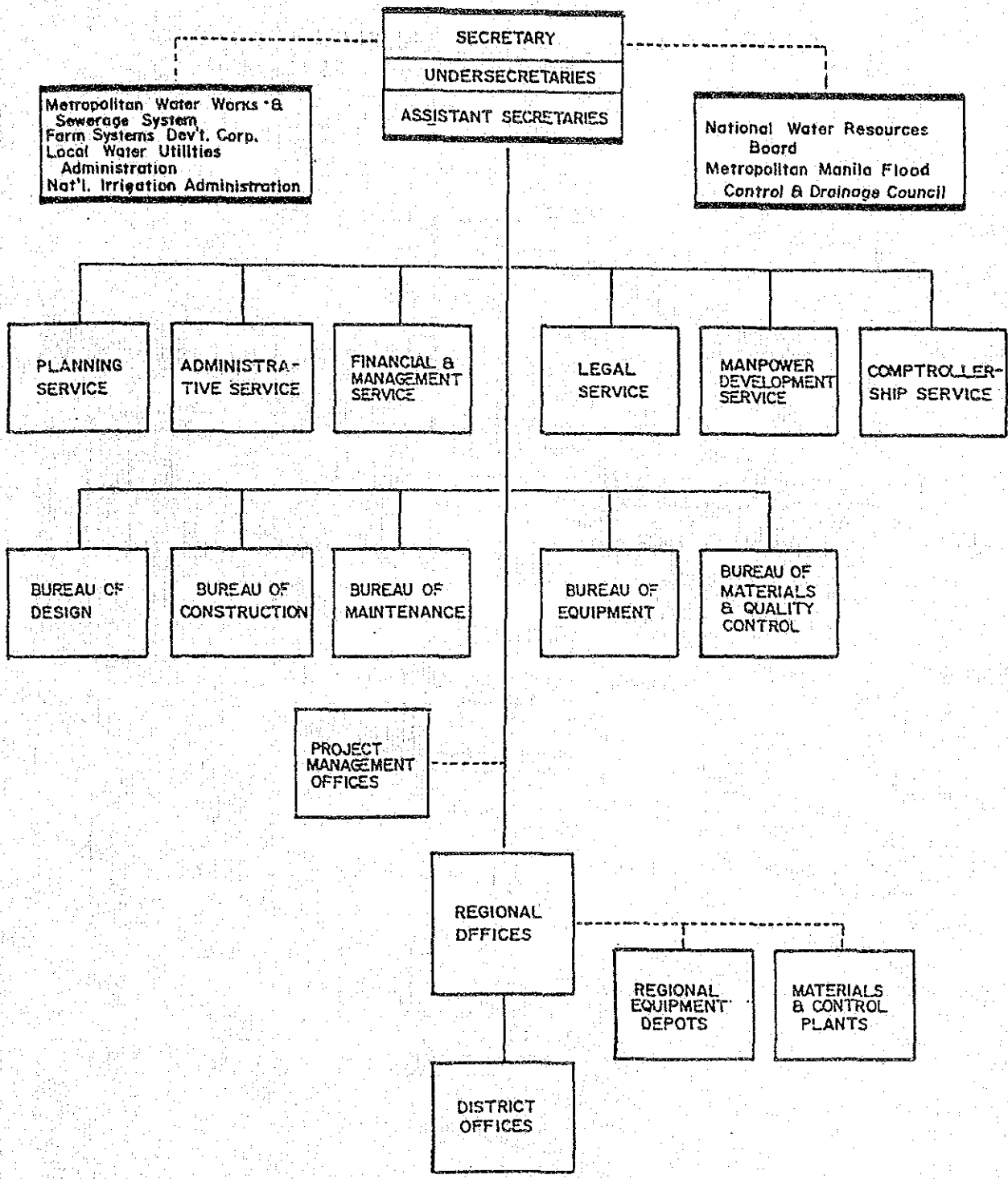


PROVINCE OF ANTIQUE

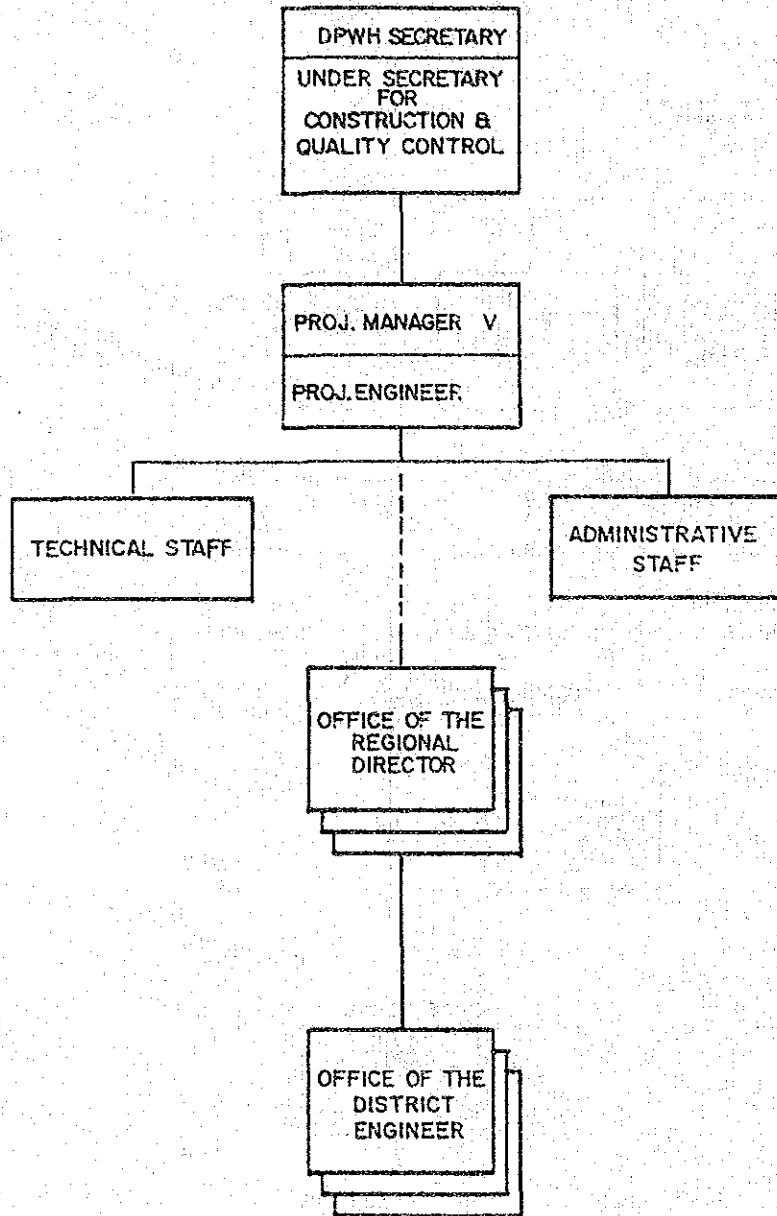
WELL LOGS



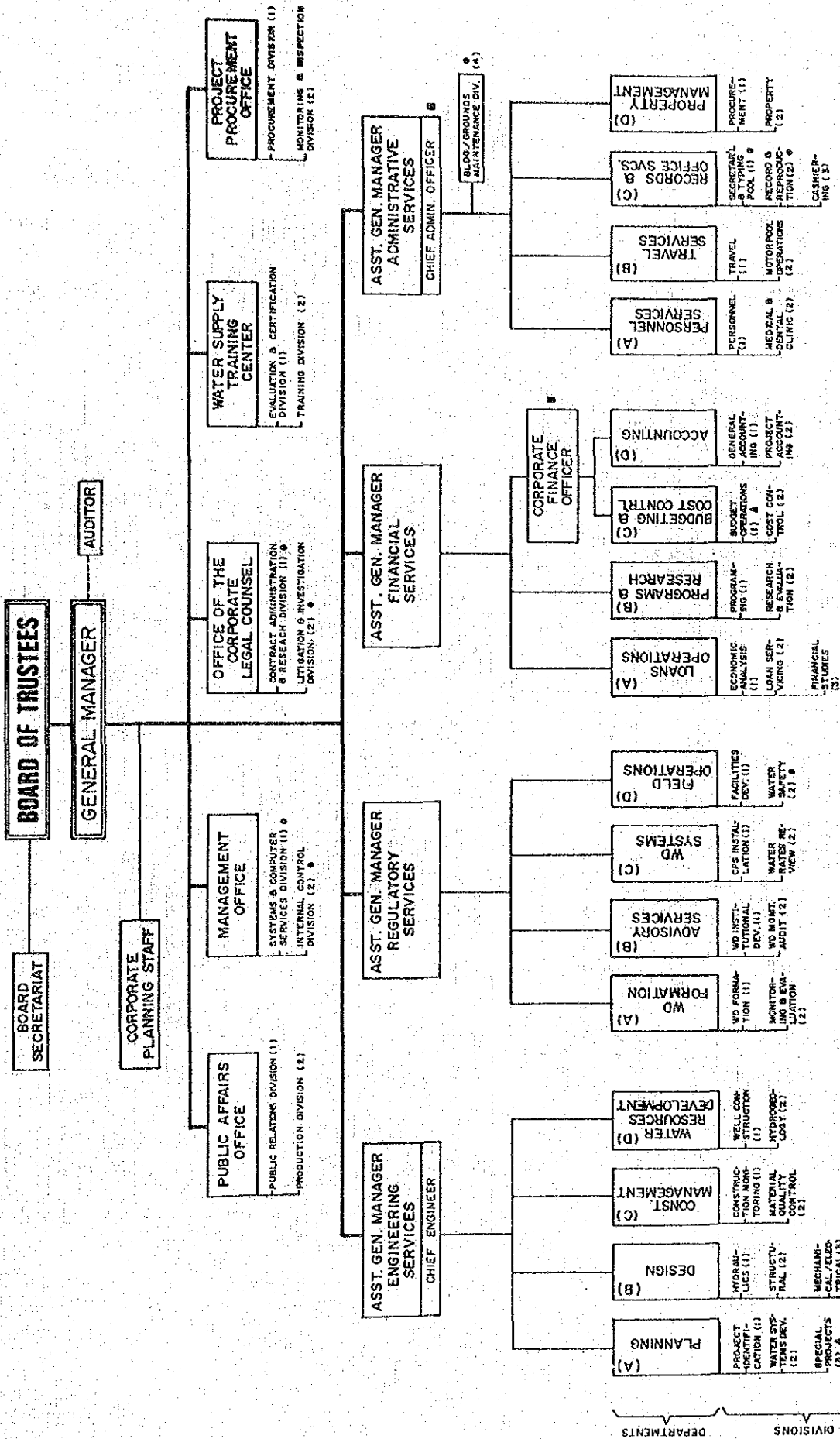
# DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS ORGANIZATIONAL CHART



PROJECT MANAGEMENT OFFICE  
FOR  
RURAL WATER SUPPLY  
ORGANIZATIONAL CHART

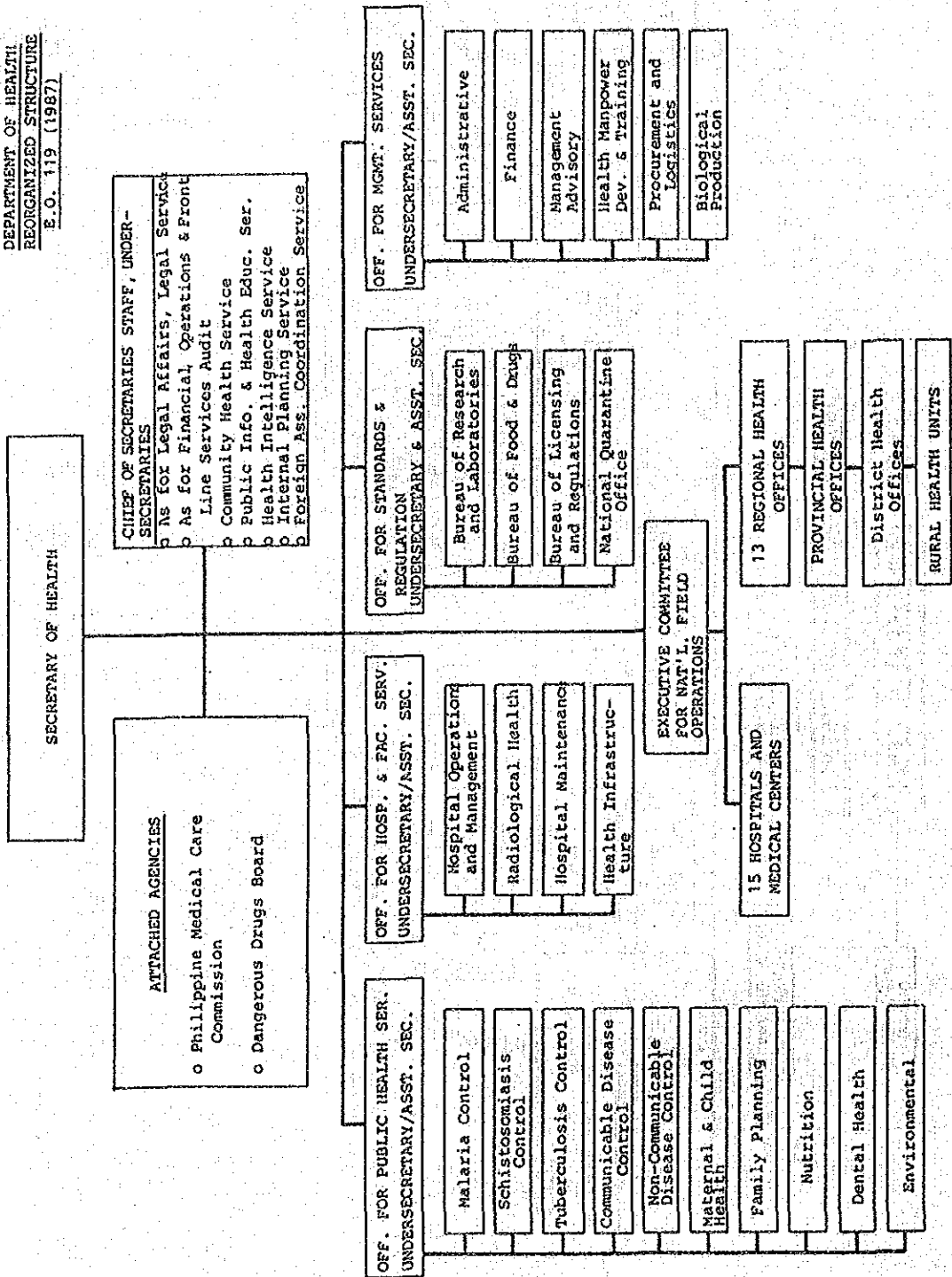


# ORGANIZATION CHART OF LWUA



# ORGANIZATION CHART OF DOH

DEPARTMENT OF HEALTH  
REORGANIZED STRUCTURE  
E.O. 119 (1987)



RESPONSIBILITY OF ENVIRONMENTAL HEALTH SERVICES, DOH

FUNCTIONS OF THE ENVIRONMENTAL HEALTH SERVICES

The Environmental Health Services is charged with formulation of plans, programs, policies, operating standards and techniques for Environmental Health and Sanitation; it also provides consultative and advisory services and training to implementing agencies; monitors and evaluates E.H. programs and projects and develops/ conducts researches and special projects in environmental health.

ENVIRONMENTAL SANITATION DIVISION

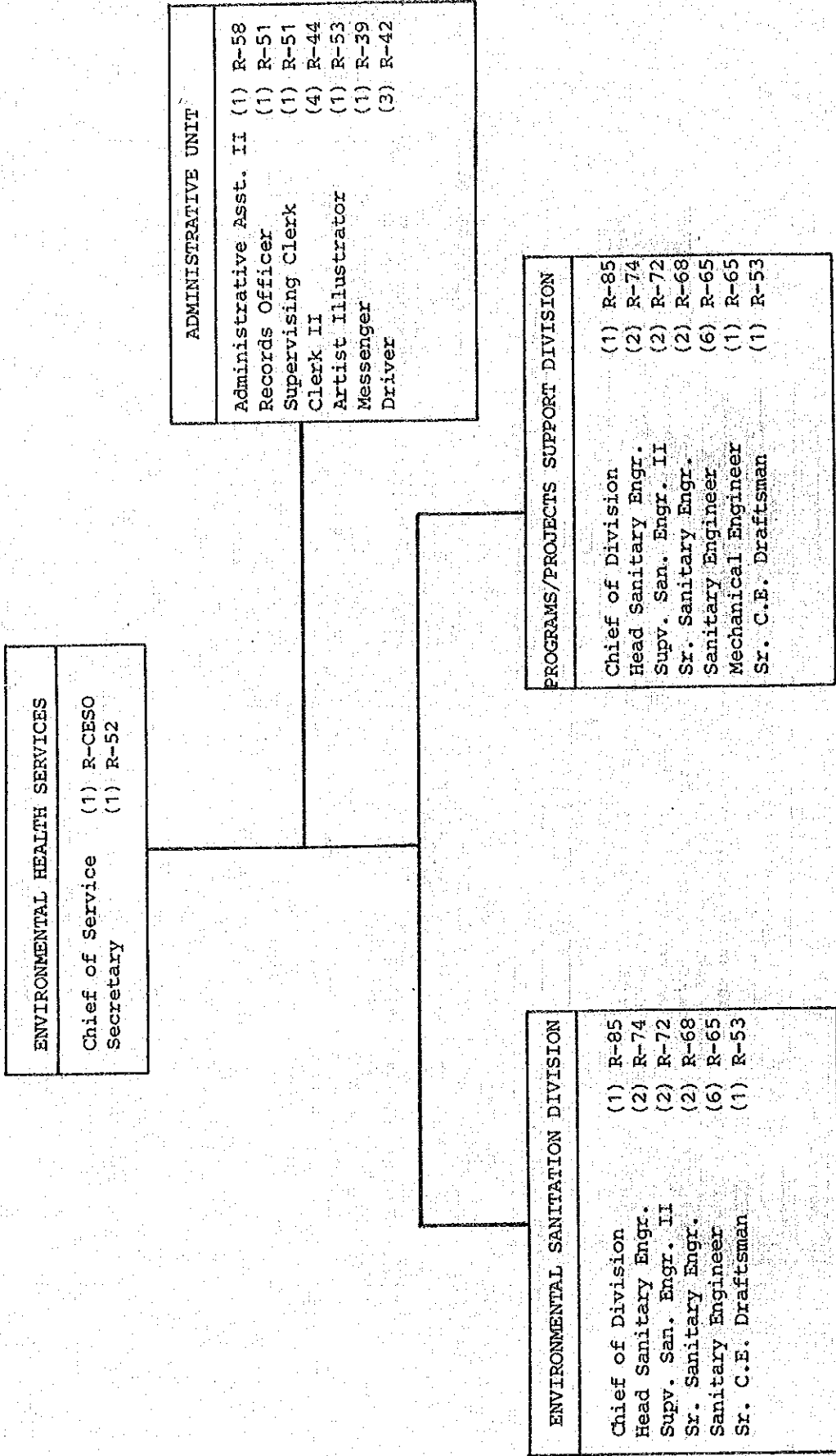
I. Plans/Programs Development:

1. Develop long term, medium terms and annual national plans and programs for Environmental Sanitation on the following areas of concern:
  - a. Water Supply Sanitation
  - b. Excreta & Sewage Collection & Disposal
  - c. Food Sanitation
  - d. Solid Waste Management
  - e. Insect and Rodent Control
  - f. Slaughterhouses and Market Sanitation
  - g. Public Places Sanitation
    - Public Land Transports and Terminals
    - Swimming and Bathing Places
    - Hotels and Lodging Places
    - Recreational Establishments
    - Tensorial and Beauty Establishments
    - Funeral Parlors & Embalming Establishments
  - h. School Sanitation
  - i. Housing Sanitation
2. Provide technical, consultative and advisory services to upper and lower level units and agencies relative to Environmental Sanitation Services.

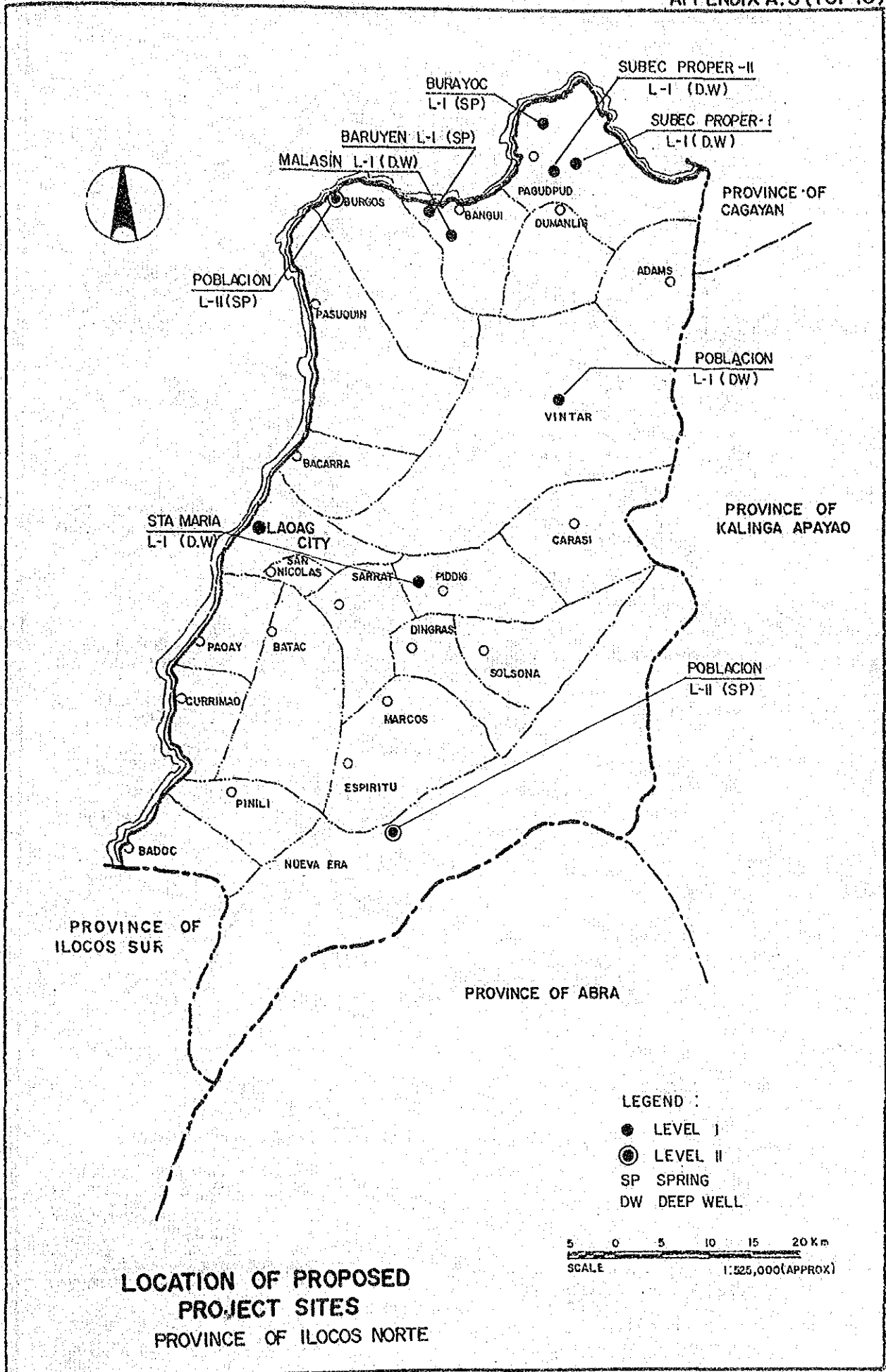
PROGRAMS/PROJECTS SUPPORT DIVISION

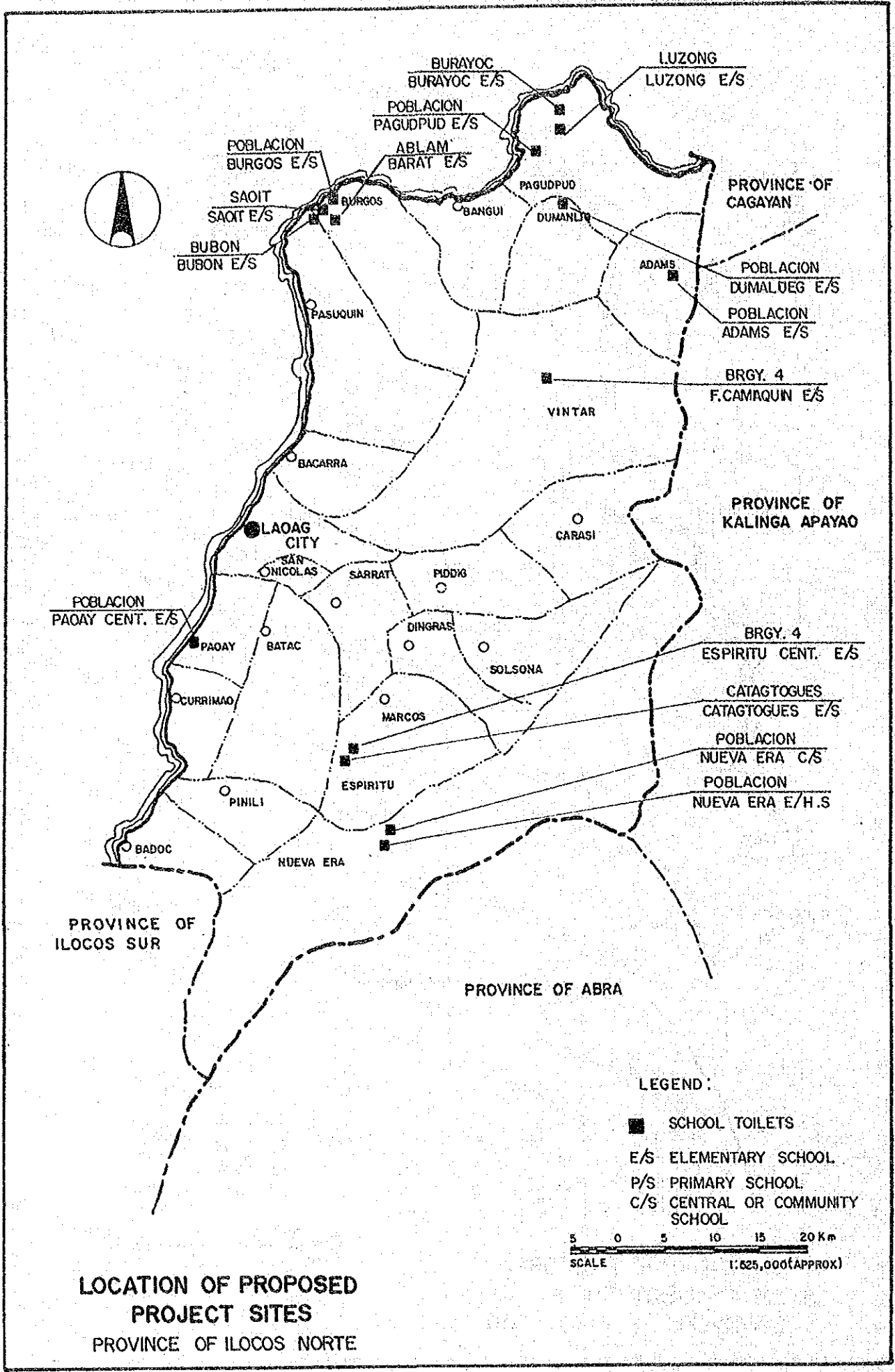
1. Project development related to Environmental Health.
2. Conduct studies of existing condition of the environment and develop relevant projects to improve such conditions.
3. Formulate policies, standards, guidelines for effective implementation of Environmental Sanitation program.
4. Formulate implementing rules and regulations based on the Sanitation Code of the Philippines.
5. Promote and strengthen the enforcement mechanisms of the rules and regulations.
6. Monitor and evaluate progress implementation of programs and projects.
7. Develop training programs of environmental health personnel at all levels.
8. Develop IEC materials on E.H. for dissemination at all levels.
9. Establish intra and inter coordination and cooperation with related government agencies and NGOs.
10. Recommend projects for funding and logistic support from international, bilateral agencies and GOP.

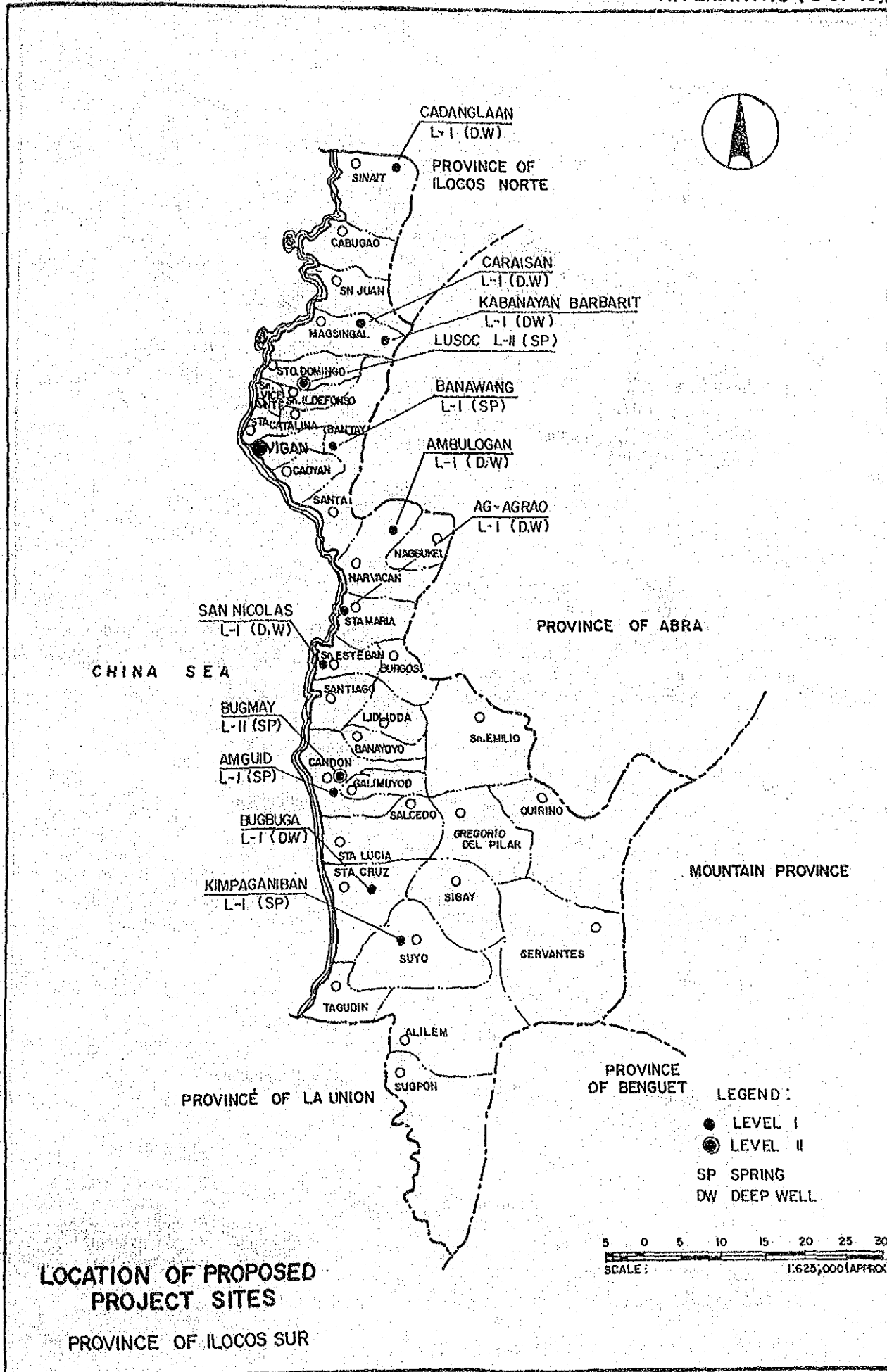
STAFFING PATTERN OF ENVIRONMENTAL HEALTH SERVICES, DOH

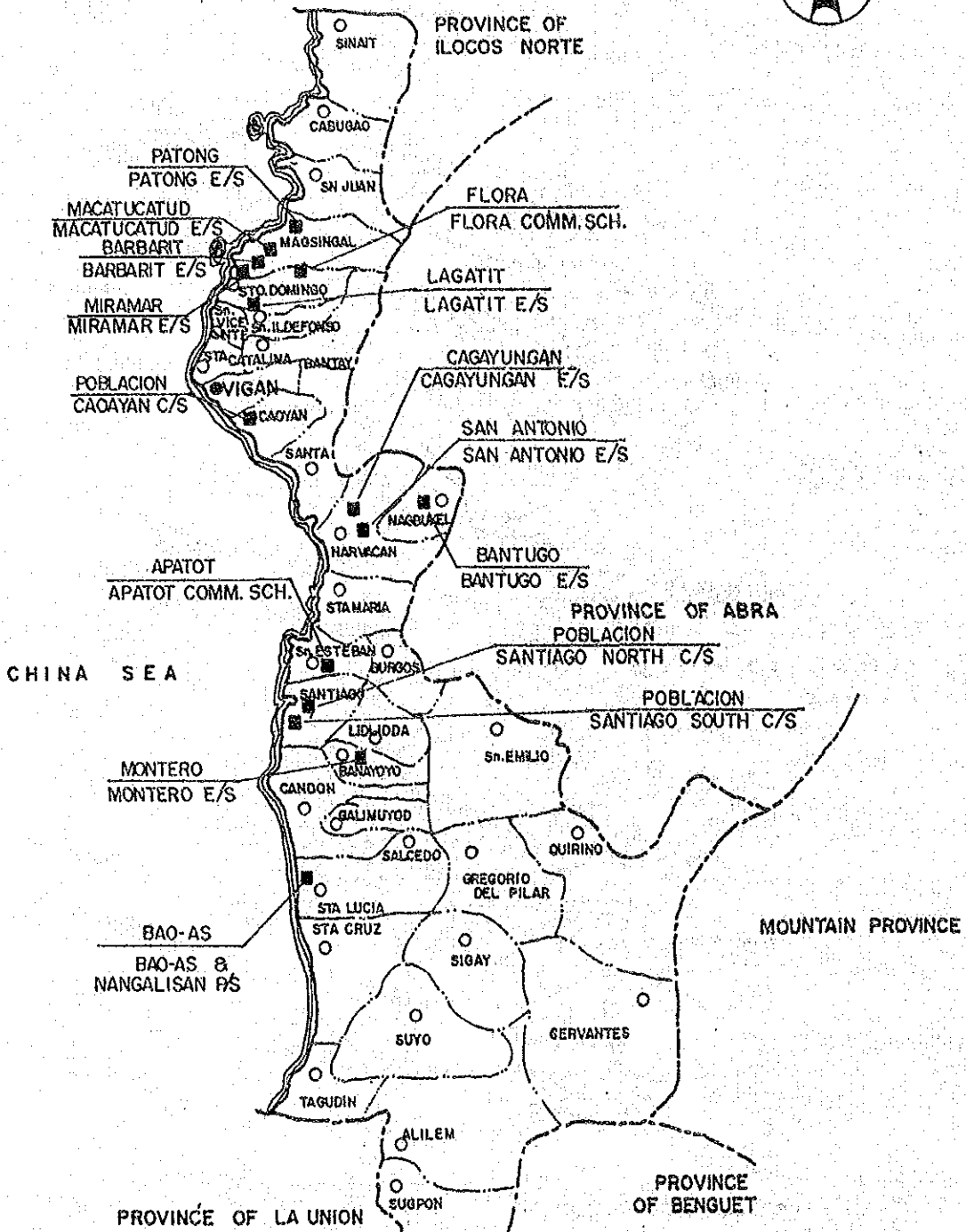
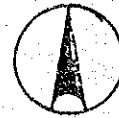




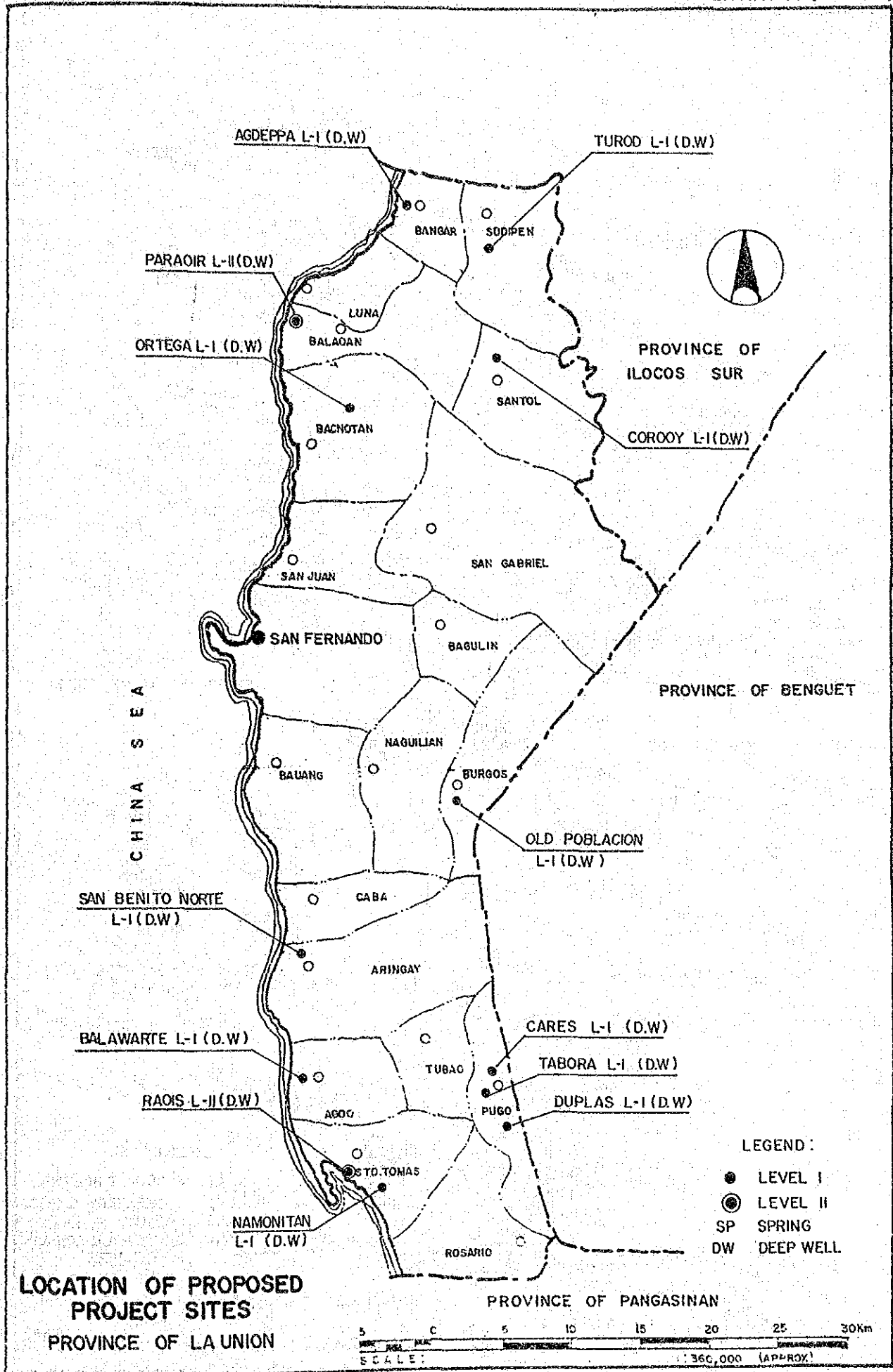


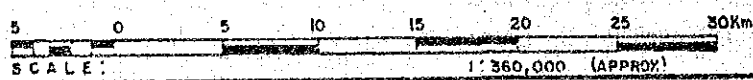
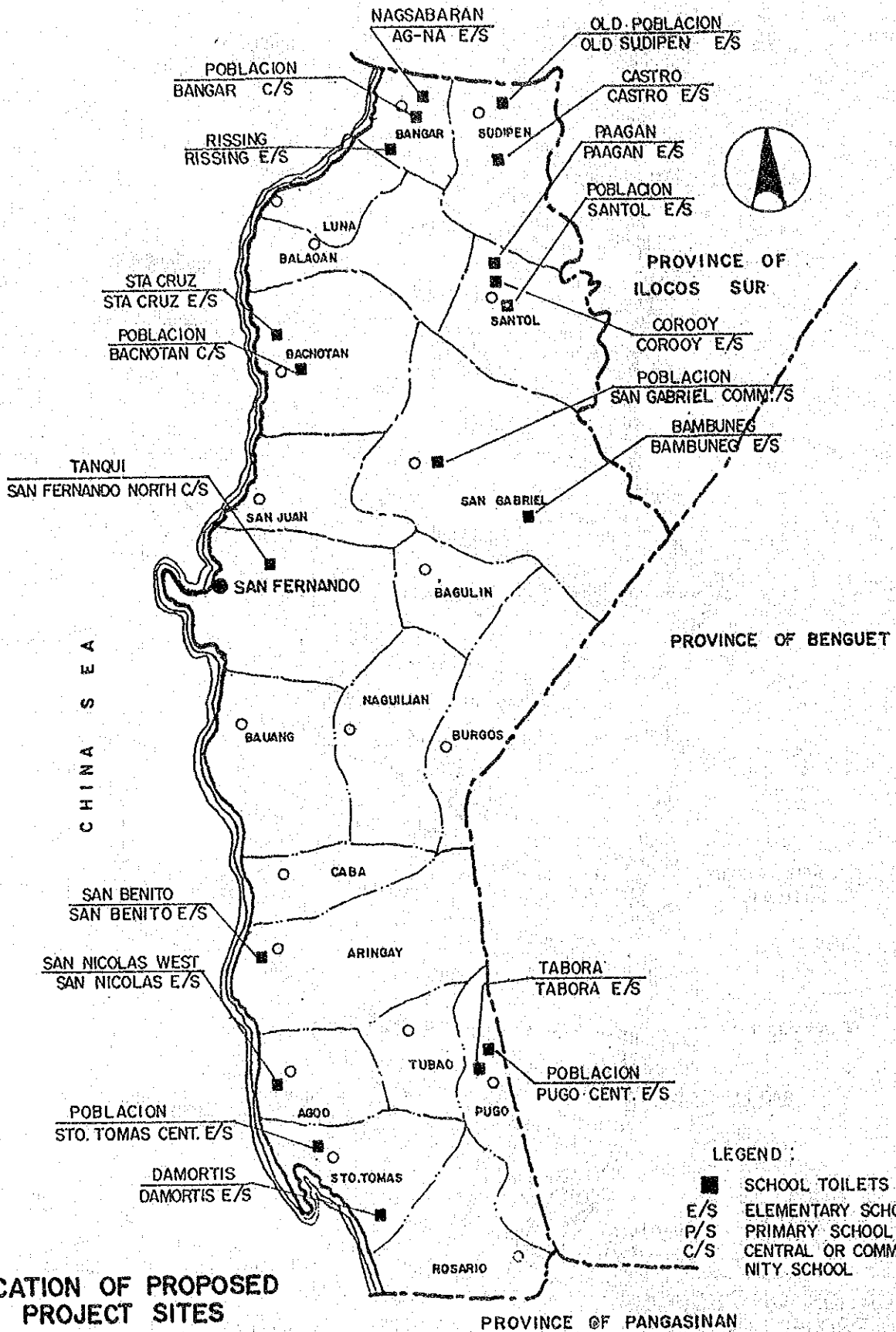




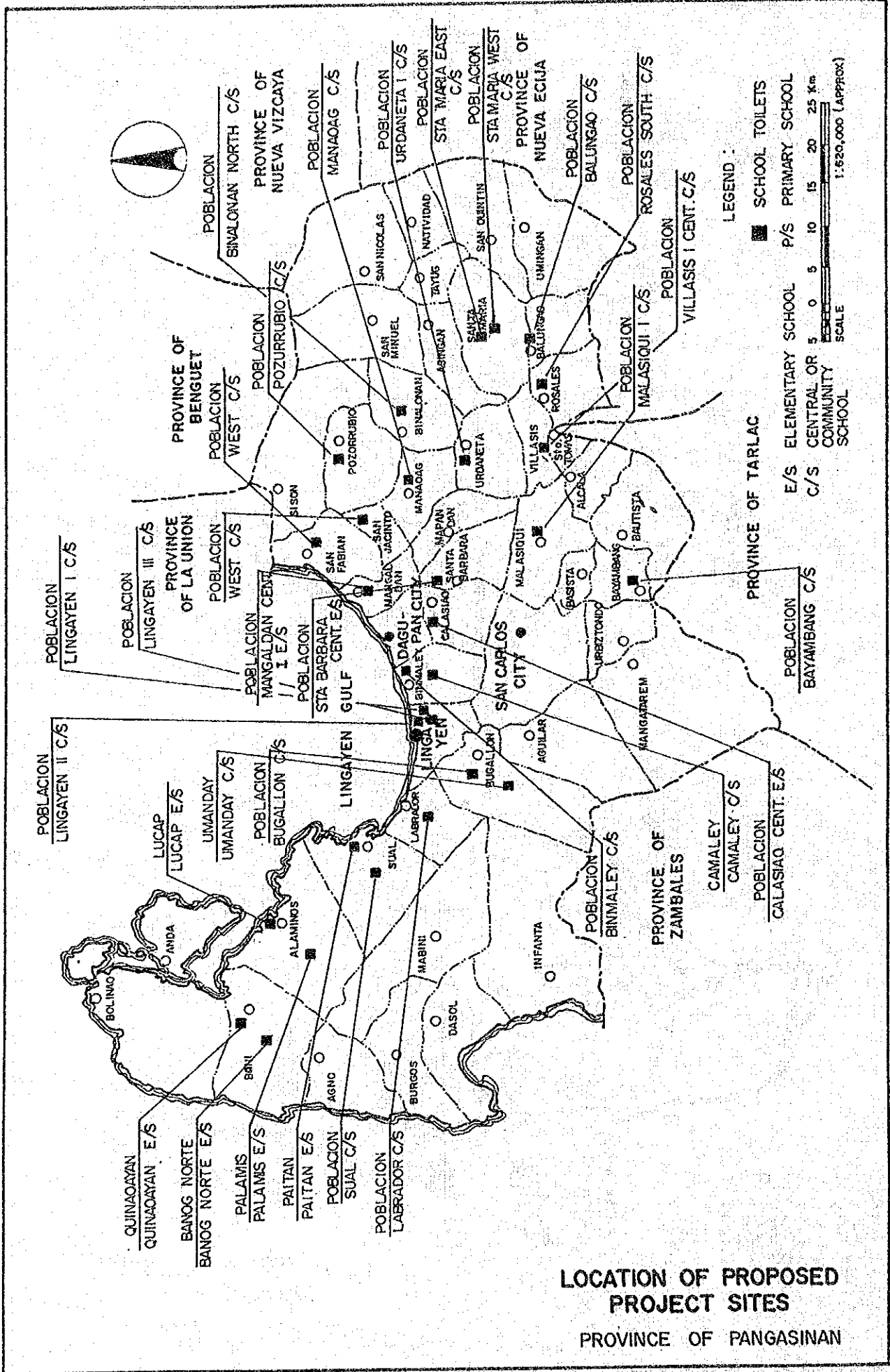


**LOCATION OF PROPOSED PROJECT SITES**  
**PROVINCE OF ILOCOS SUR**

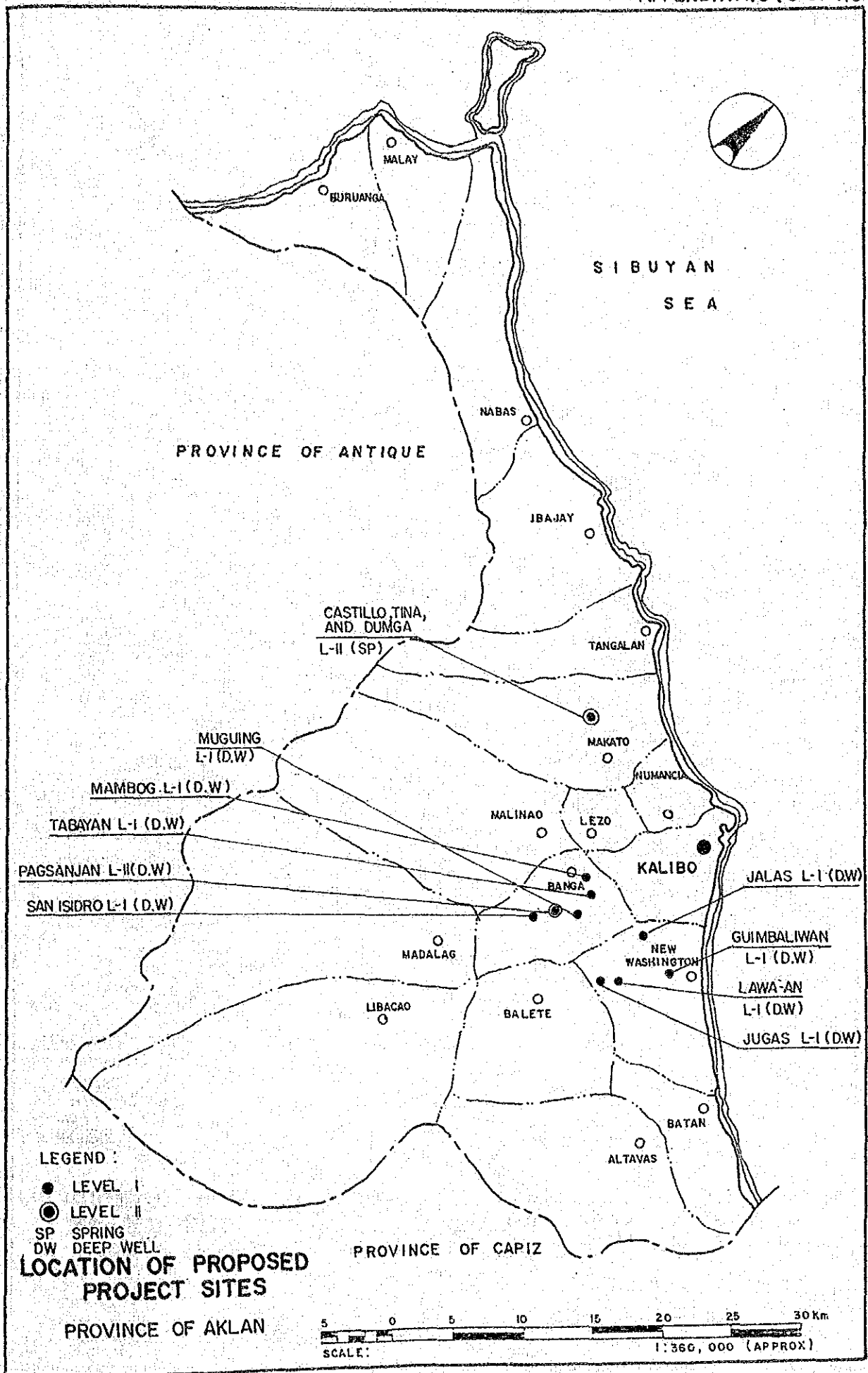


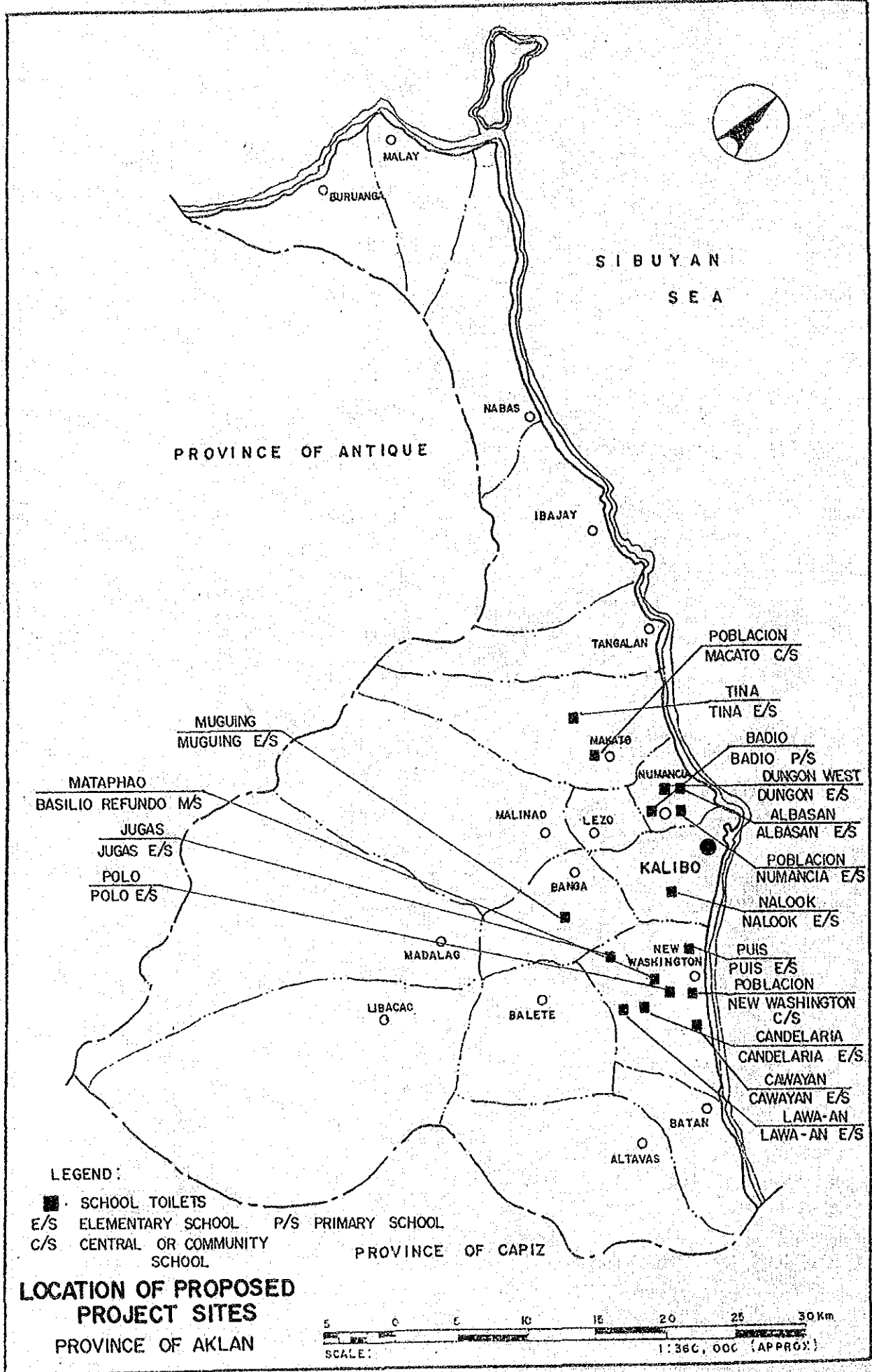






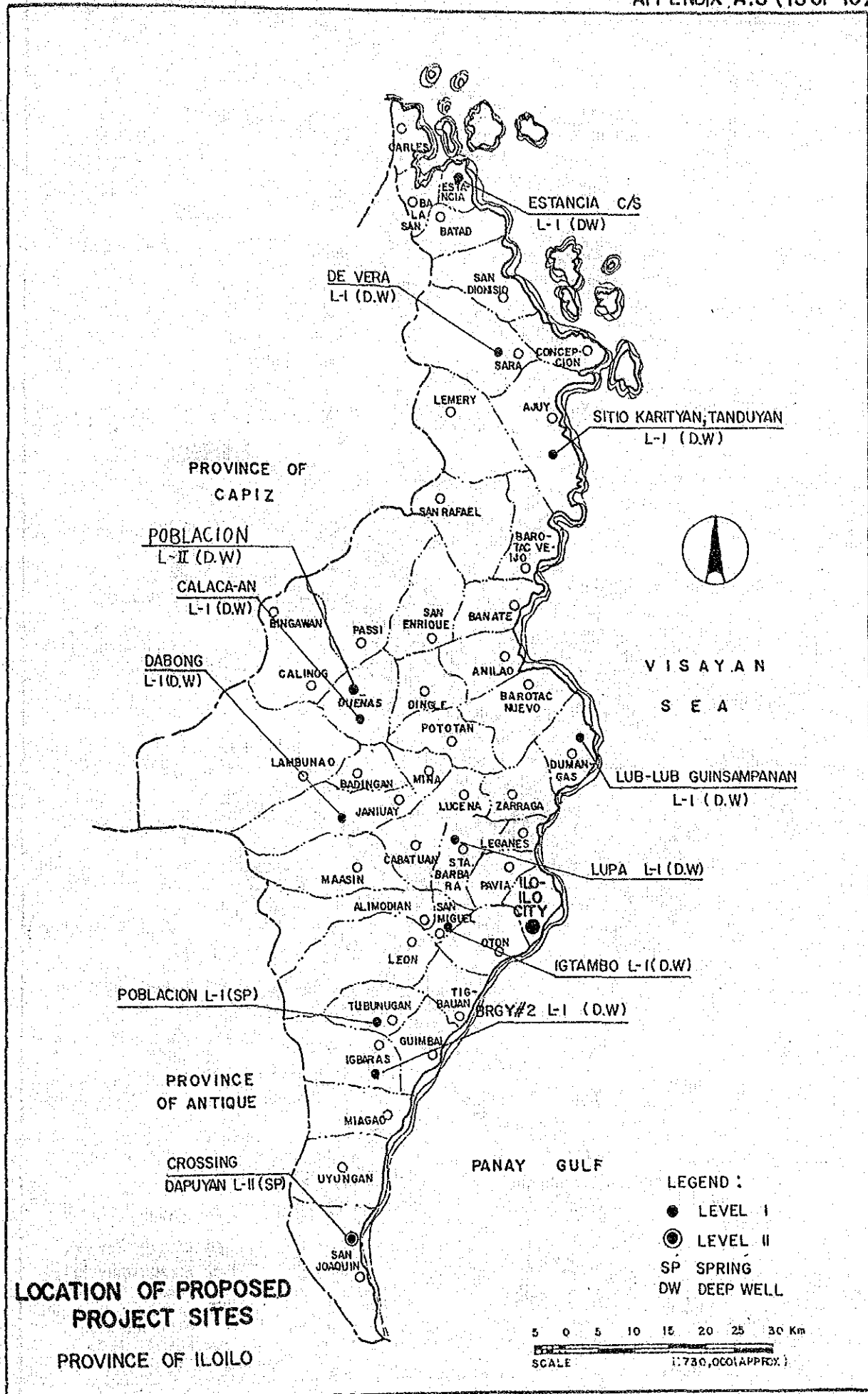


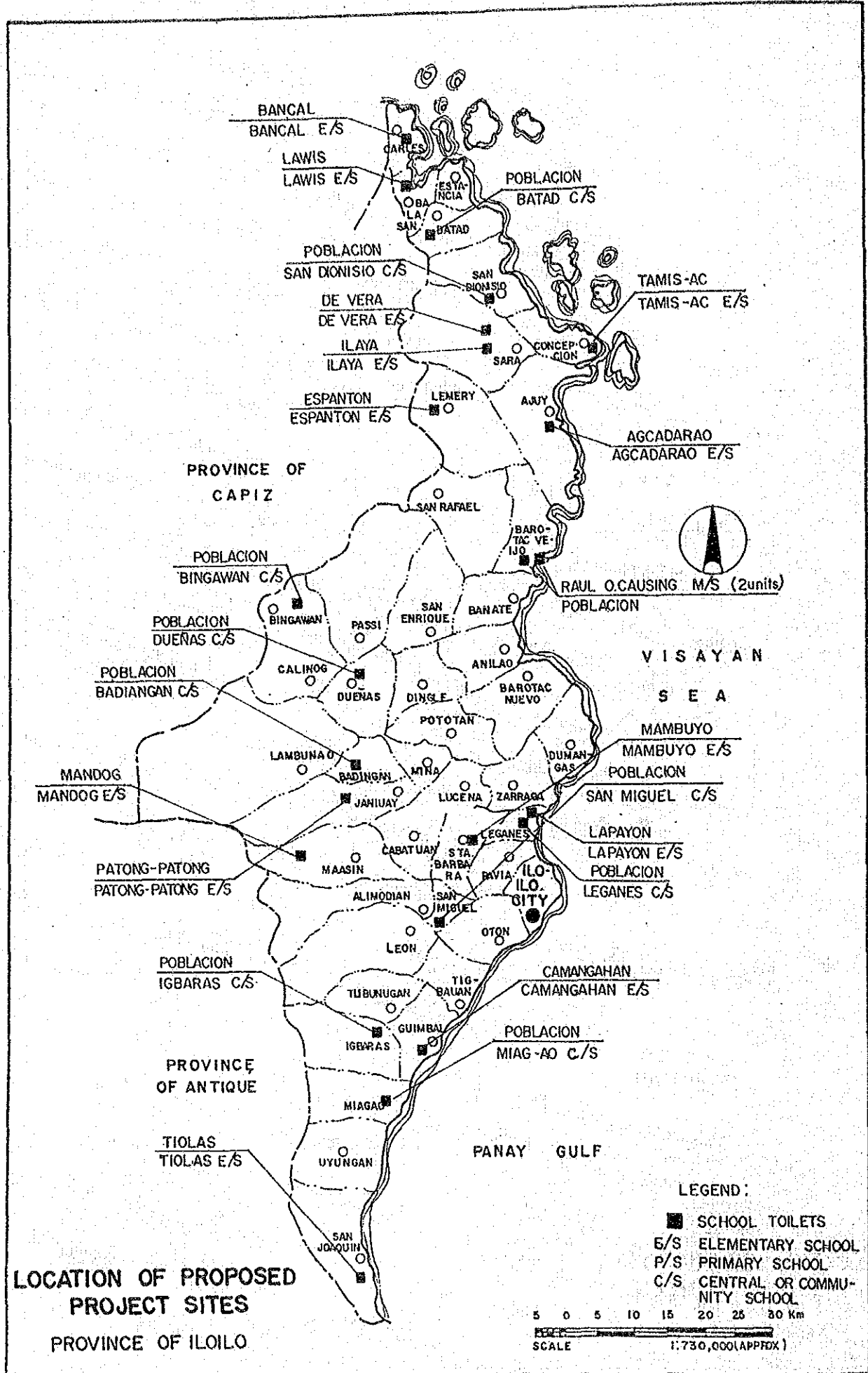


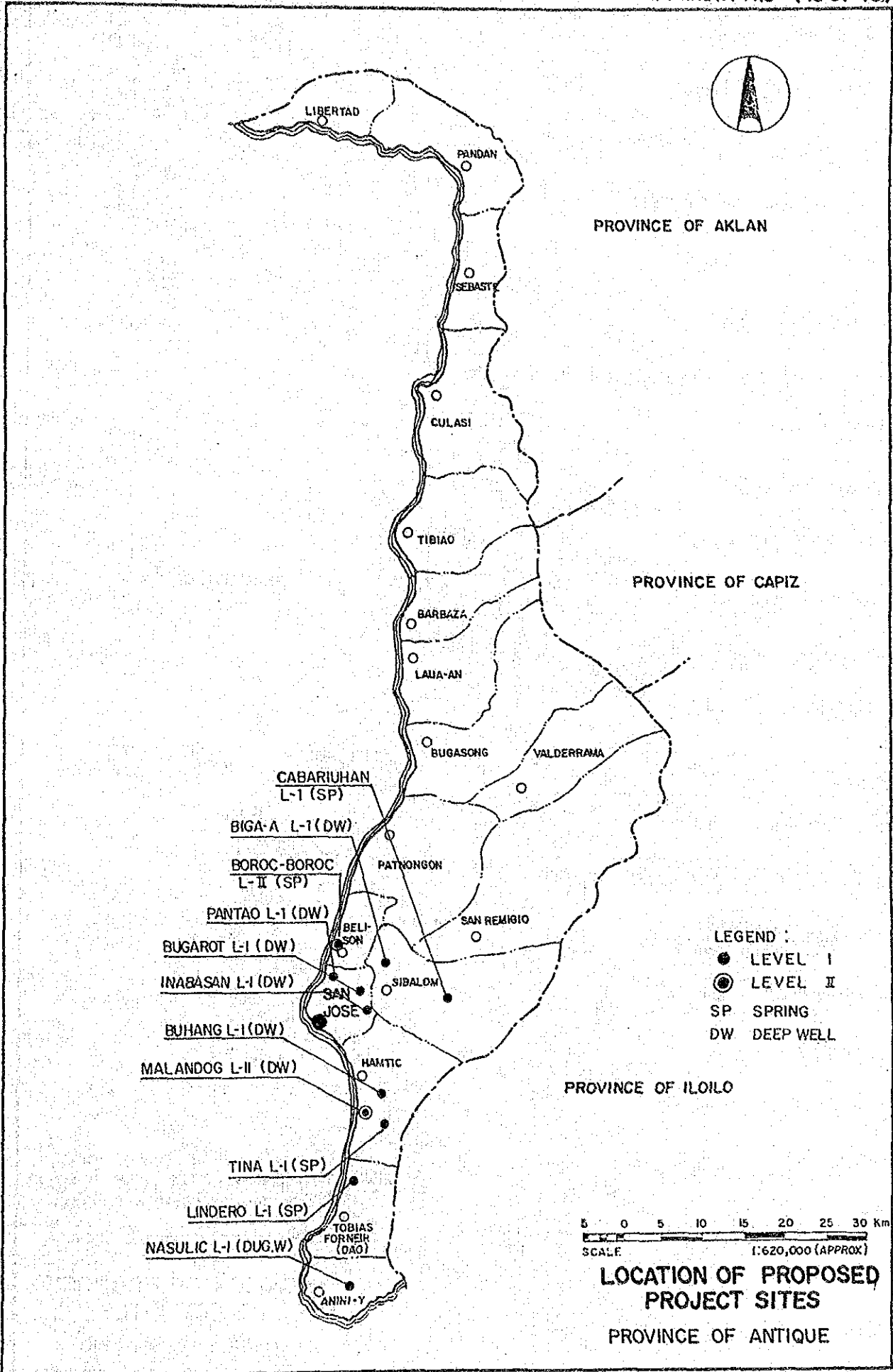


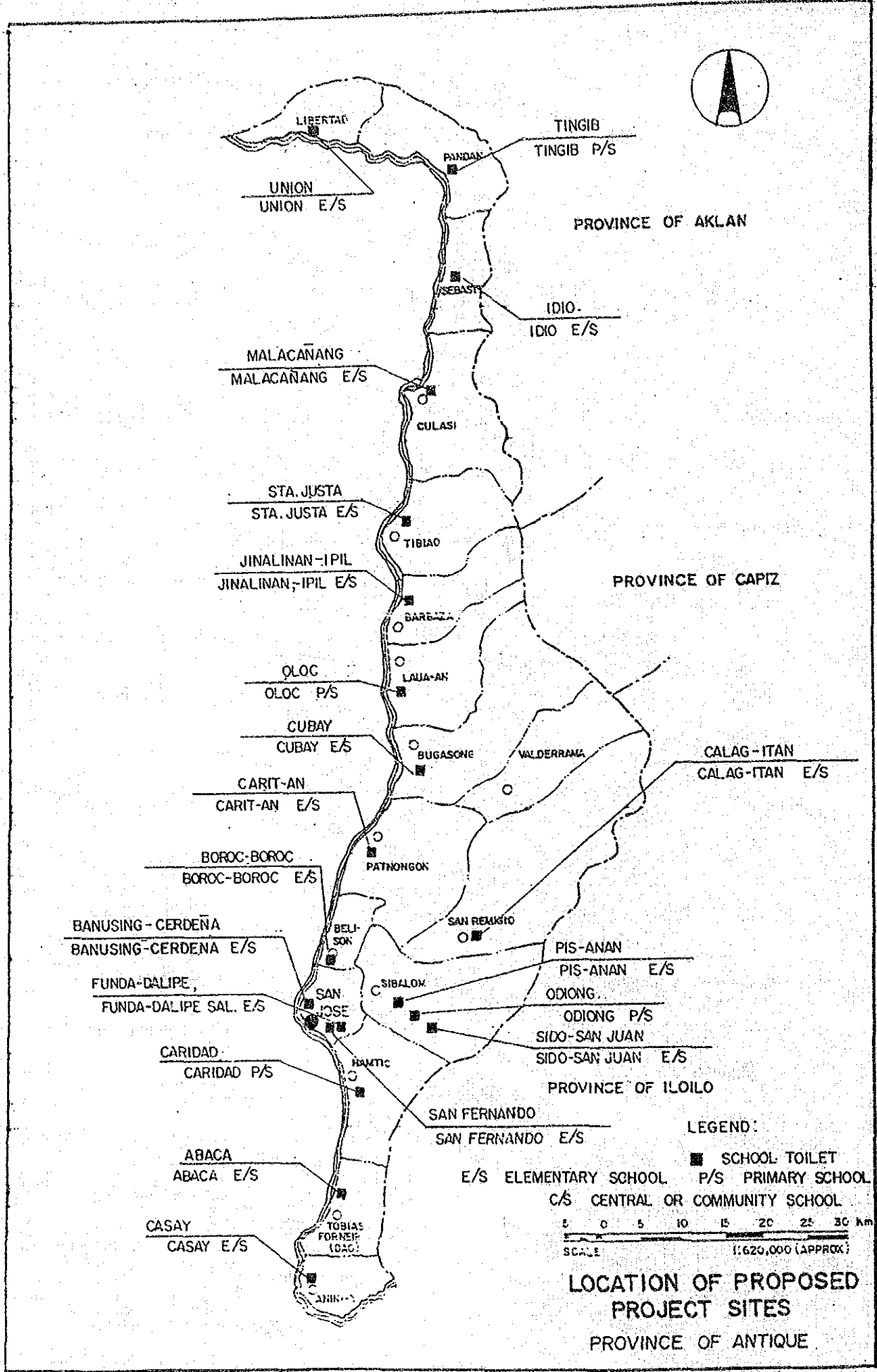










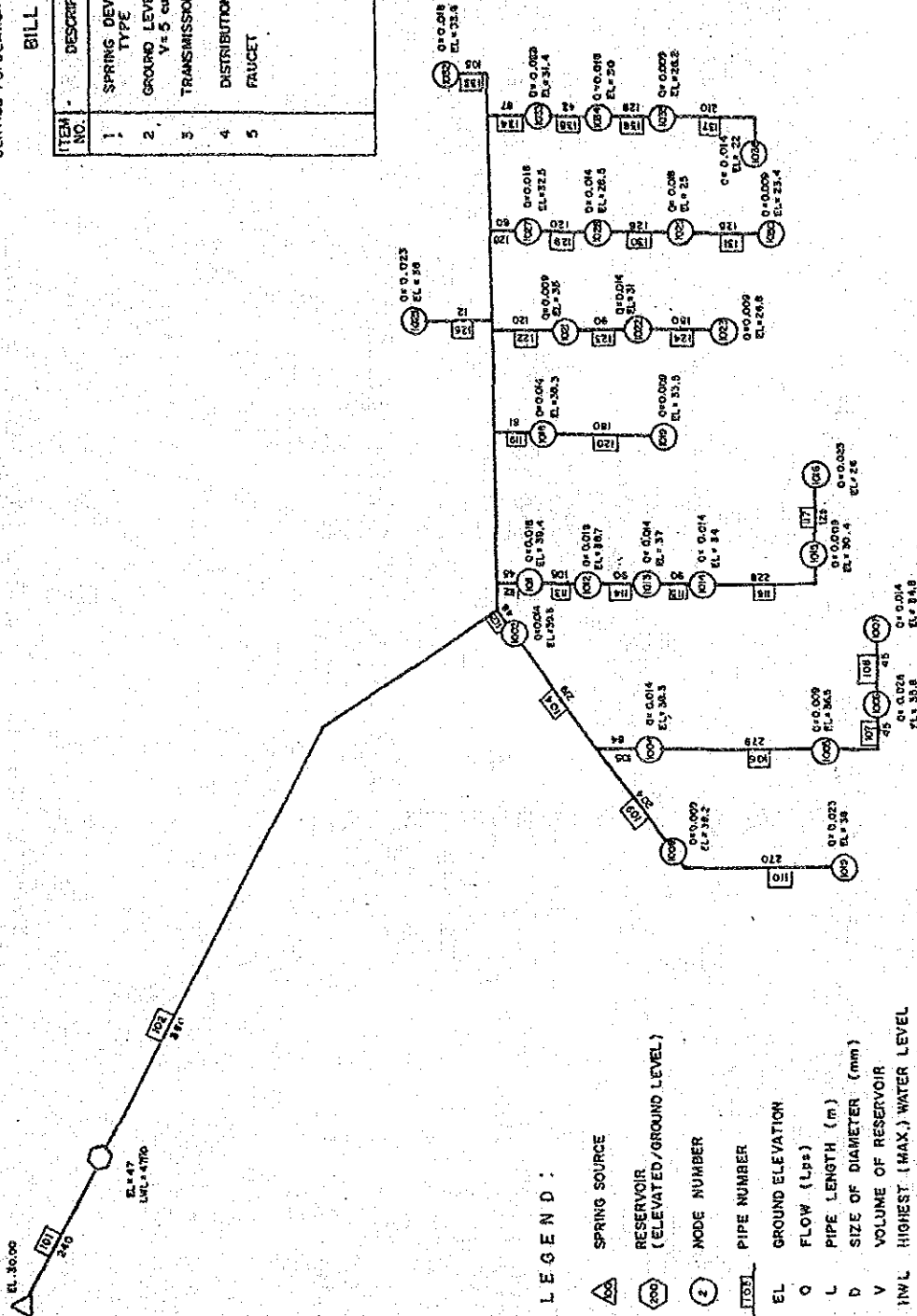




DESIGN CONDITIONS:  
 WATER SOURCE : SPRING  
 SERVICE POPULATION = 500-1000

BILL OF QUANTITY

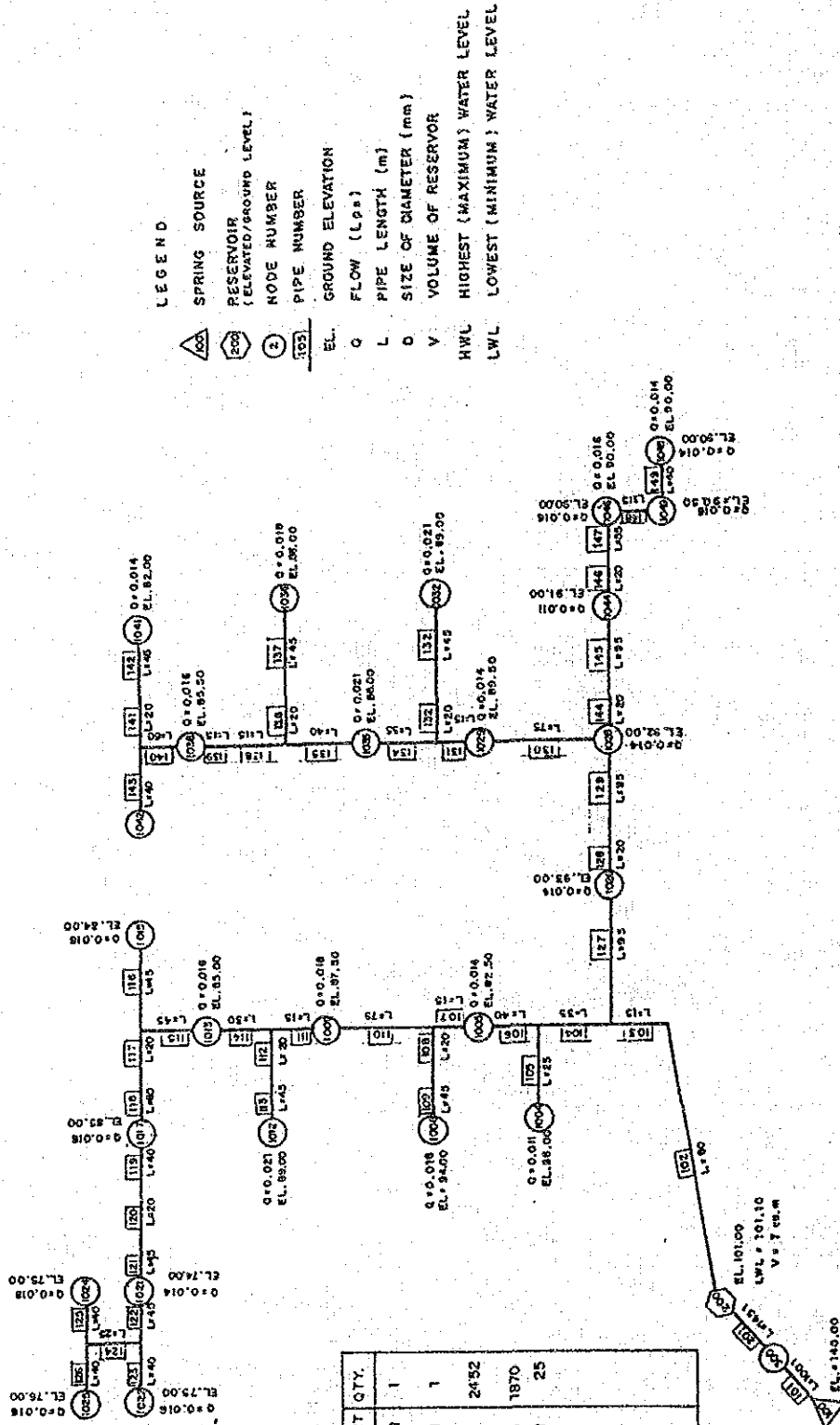
ITEM NO.	DESCRIPTION	UNIT	QTY.
1	SPRING DEVELOPMENT TYPE A	unit	1
2	GROUND LEVEL RESERVOIR V = 5 cum.	unit	1
3	TRANSMISSION LINE	m	240
4	DISTRIBUTION LINE	m	3564
5	FAUCET	unit	28



LEGEND :

- SPRING SOURCE
- RESERVOIR (ELEVATED/GROUND LEVEL)
- NODE NUMBER
- PIPE NUMBER
- EL GROUND ELEVATION
- Q FLOW (Lps)
- L PIPE LENGTH (m)
- D SIZE OF DIAMETER (mm)
- V VOLUME OF RESERVOIR
- INL HIGHEST (MAX.) WATER LEVEL
- LWL LOWEST (MIN.) WATER LEVEL

TYPICAL SCHEMATIC DIAGRAM FOR LEVEL II SYSTEM



**LEGEND**

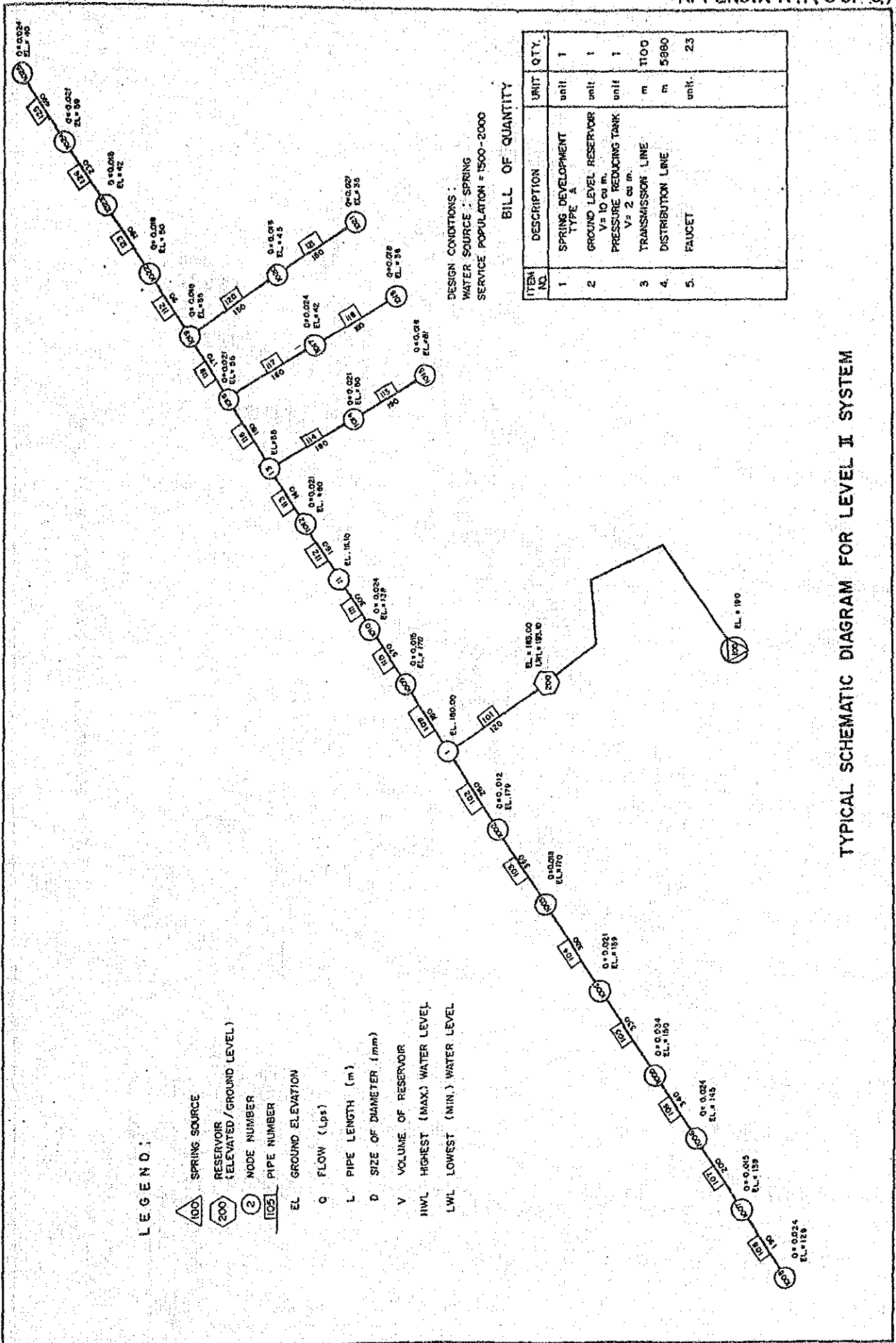
SPRING SOURCE  
 RESERVOIR (ELEVATED/GROUND LEVEL)  
 NODE NUMBER  
 PIPE NUMBER  
 EL. GROUND ELEVATION  
 Q FLOW (Lps)  
 L PIPE LENGTH (m)  
 D SIZE OF DIAMETER (mm)  
 V VOLUME OF RESERVOIR  
 HWL HIGHEST (MAXIMUM) WATER LEVEL  
 LWL LOWEST (MINIMUM) WATER LEVEL

DESIGN CONDITIONS:  
 WATER SOURCE : SPRING  
 SERVICE POPULATION : 1000 - 1500

**BILL OF QUANTITY**

ITEM NO.	DESCRIPTION	UNIT	QTY.
1	SPRING DEVELOPMENT TYPE A	unit	1
2	GROUND LEVEL RESERVOIR V = 7 cu m.	unit	1
3	TRANSMISSION LINE	m	2452
4	DISTRIBUTION LINE	m	1870
5	FAUCET	unit	25

TYPICAL SCHEMATIC DIAGRAM FOR LEVEL II SYSTEM



**LEGEND:**

- SPRING SOURCE
- RESERVOIR (ELEVATED/GROUND LEVEL)
- NODE NUMBER
- PIPE NUMBER
- EL GROUND ELEVATION
- Q FLOW (Lps)
- L PIPE LENGTH (m)
- D SIZE OF DIAMETER (mm)
- V VOLUME OF RESERVOIR
- HWL HIGHEST (MAX.) WATER LEVEL
- LWL LOWEST (MIN.) WATER LEVEL

DESIGN CONDITIONS:  
 WATER SOURCE : SPRING  
 SERVICE POPULATION = 1500-2000

**BILL OF QUANTITY**

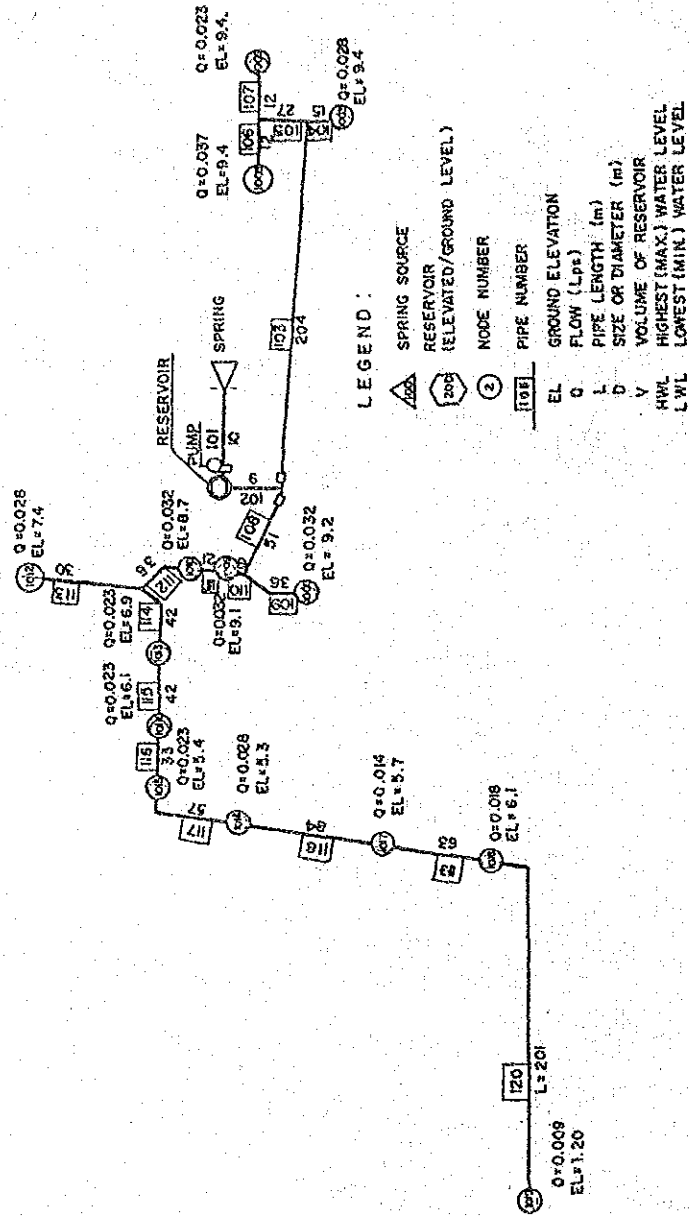
ITEM NO.	DESCRIPTION	UNIT	QTY.
1	SPRING DEVELOPMENT TYPE A	unit	1
2	GROUND LEVEL RESERVOIR V = 10 cu m.	unit	1
3	PRESSURE REDUCING TANK V = 2 cu m.	unit	1
3	TRANSMISSION LINE	m	1100
4	DISTRIBUTION LINE	m	5980
5	FAUCET	unit	23

TYPICAL SCHEMATIC DIAGRAM FOR LEVEL II SYSTEM

DESIGN CONDITIONS:  
 WATER SOURCE: DEEP WELL  
 SERVICE POPULATION = 500 - 1000

BILL OF QUANTITY

ITEM NO.	DESCRIPTION	UNIT	QTY.
1	DEEP WELL CONST. CASING Ø 150mm, DEPTH=92m	unit	1
2	PUMPING FACILITIES SUBMERSIBLE 1 Hp	unit	1
3	ELEVATED WATER TANK V = 5 cu m.	unit	1
4	TRANSMISSION LINE	m	10
5	DISTRIBUTION LINE	m	581
6	FAUCET	unit	14

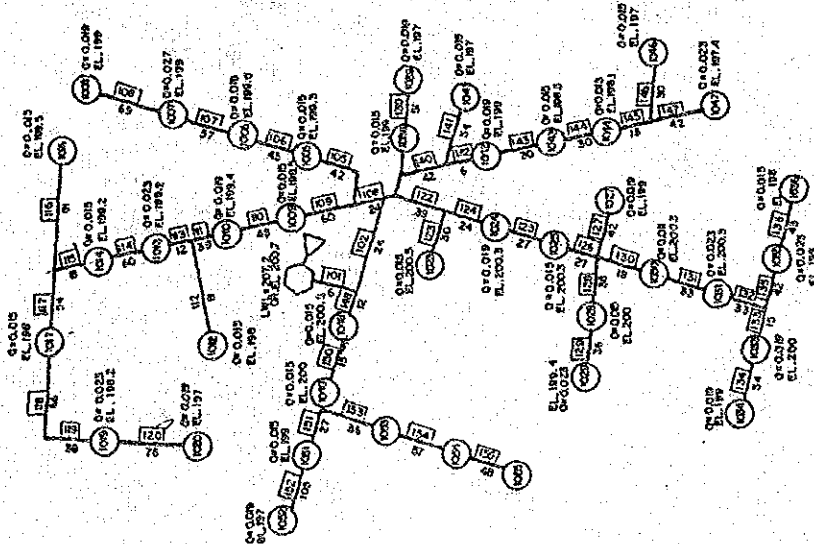


TYPICAL SCHEMATIC DIAGRAM FOR LEVEL II SYSTEM

DESIGN CONDITIONS:  
 WATER SOURCE : DEEP WELL  
 SERVICE POPULATION : 1000-1500

BILL OF QUANTITY

ITEM NO.	DESCRIPTION	UNIT	QTY.
1	DEEP WELL CONST CASING Ø150mm, DEPTH=90m	unit	1
2	PUMPING FACILITIES SURVEYSIBLE 2hp	unit	1
3	ELEVATED WATER TANK V= 75 cu m.	unit	1
4	TRANSMISSION LINE	m	10
5	DISTRIBUTION LINE	m	2148
6	FAUCET	unit	40



LEGEND :

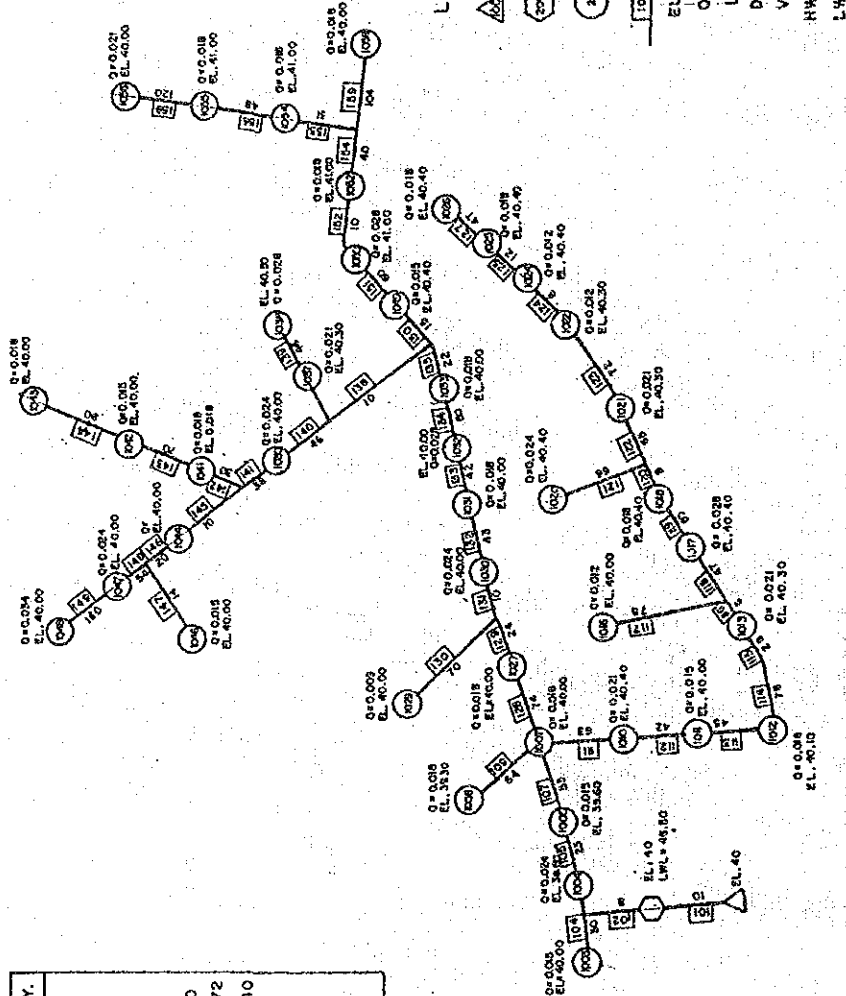
- SPRING SOURCE
- RESERVOIR (ELEVATED/GROUND LEVEL)
- NODE NUMBER
- PIPE NUMBER
- EL GROUND ELEVATION
- Q FLOW (Lps)
- L PIPE LENGTH (m)
- D SIZE OF DIAMETER (mm)
- V VOLUME OF RESERVOIR
- HWL HIGHEST (MAX.) WATER LEVEL
- LWL LOWEST (MIN.) WATER LEVEL

TYPICAL SCHEMATIC DIAGRAM FOR LEVEL II SYSTEM

DESIGN CONDITIONS:  
 WATER SOURCE: 7 DEEP WELL  
 SERVICE POPULATION = 1500 - 2000

BILL OF QUANTITY

ITEM NO.	DESCRIPTION	UNIT	QTY.
1	DEEP WELL - CONST. CASING Ø 150mm, DEPTH=50m	unit	1
2	PUMPING FACILITIES SUBMERSIBLE 2 Hp	unit	1
3	ELEVATED WATER TANK V = 25 cu m.	unit	10
4	TRANSMISSION LINE	m	2472
5	DISTRIBUTION LINE	m	40
6	FAUCET	unit	40



- LEGEND:
- ▲ SPRING SOURCE
  - (R) RESERVOIR (ELEVATED / GROUND LEVEL)
  - (N) NODE NUMBER
  - 105 PIPE NUMBER
  - EL GROUND ELEVATION
  - 0 FLOW (Lps)
  - L PIPE LENGTH (m)
  - D SIZE OF DIAMETER (mm)
  - V VOLUME OF RESERVOIR
  - HWL HIGHEST (MAX) WATER LEVEL
  - LWL LOWEST (MIN) WATER LEVEL

TYPICAL SCHEMATIC DIAGRAM FOR LEVEL II SYSTEM