

THE PRE-FEASIBILITY STUDY
ON
THE SAN KAMPAENG GEOTHERMAL DEVELOPMENT PROJECT
IN THE KINGDOM OF THAILAND

DETAILED SKETCH
OF
GEOTHERMAL MANIFESTATION

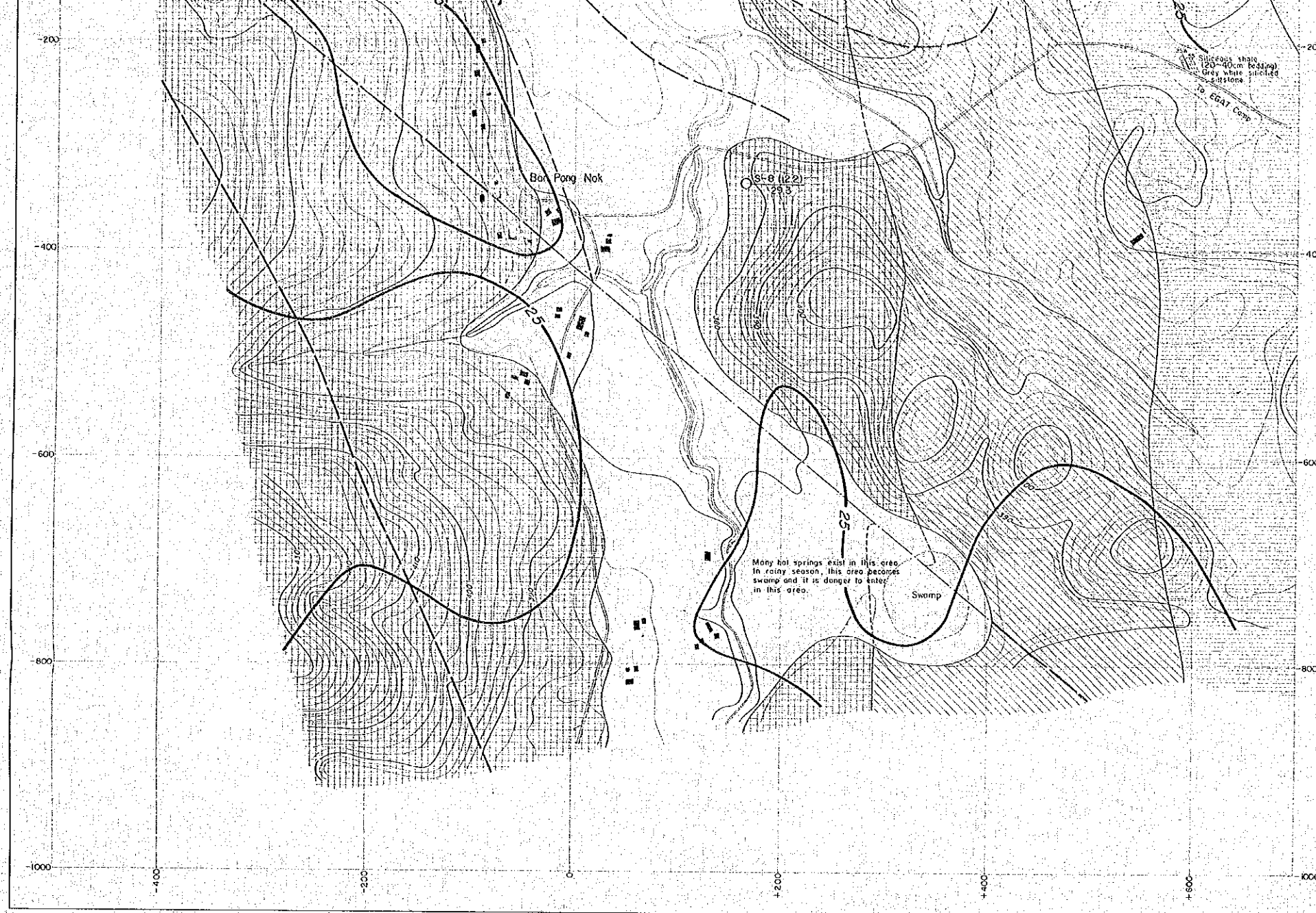
JAPAN INTERNATIONAL COOPERATION AGENCY
ELECTRICITY GENERATING AUTHORITY OF THAILAND
DEPARTMENT OF MINERAL RESOURCES
CHIANG MAI UNIVERSITY

MARCH 1983



LEGEND

- Alluvial deposit
- Sandstone >> Chert
- Siltstone >> Sandstone
- Chert >> Sandstone
- Shale >> Sandstone >> Chert
- Sandstone
- Fault
- Anticline
- Siltstone
- Shale
- Bedding plane
- Drill hole Hole No (Depth m)
Temp of 10^m depth
- Hot spring
- Temperature contour at 1^m depth
- Temperature contour at 10^m depth



- Besting plane
- S-1 (108.5) 62.5 Drill hole Hole No (Depth m) Temp at 10^m depth
- 23 Hot spring
- 30° Temperature contour at 10^m depth
- 60° Temperature contour at 10^m depth

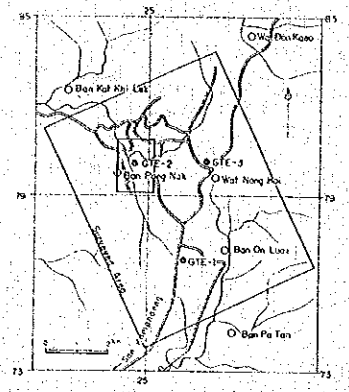
Temperatures of drill holes

No	Depth (m)	Depth (m)		Depth (m)		Depth (m)		Depth (m)	
		Temp (°C)	Temp (°C)	Temp (°C)	Temp (°C)	Temp (°C)	Temp (°C)	Temp (°C)	Temp (°C)
S-1	11.8	0	5	10	10.5				
S-2	12.5	0	93.8	113.7	117.1				
S-3	18.5	0	5	10	15	17.1			
S-4	12.5	0	5	10	12.3	58.3			
S-5	12.3	0	5	10	11.72				
S-6	12.3	0	5	10	12				
S-7	12.3	0	5	10	12.2				
S-8	12.2	0	5	10	11.5				
S-9	12.2	0	5	10	11.3				
S-10	24.0	0	5	10	11.5				
S-11	24.0	0	5	10	15	20	24		
S-12	10.0			10			30.3		
S-13	31.5	0	10	21					
S-14	24.0	0	5	10	15	20			
S-15	24.0	0	5	10	15	20			
S-16	24.5	0	5	10	15	20			
S-17									
S-18	24.0	0	5	10	15	20	24		
S-19	24.0	0	5	10	15	20			

List of hot springs

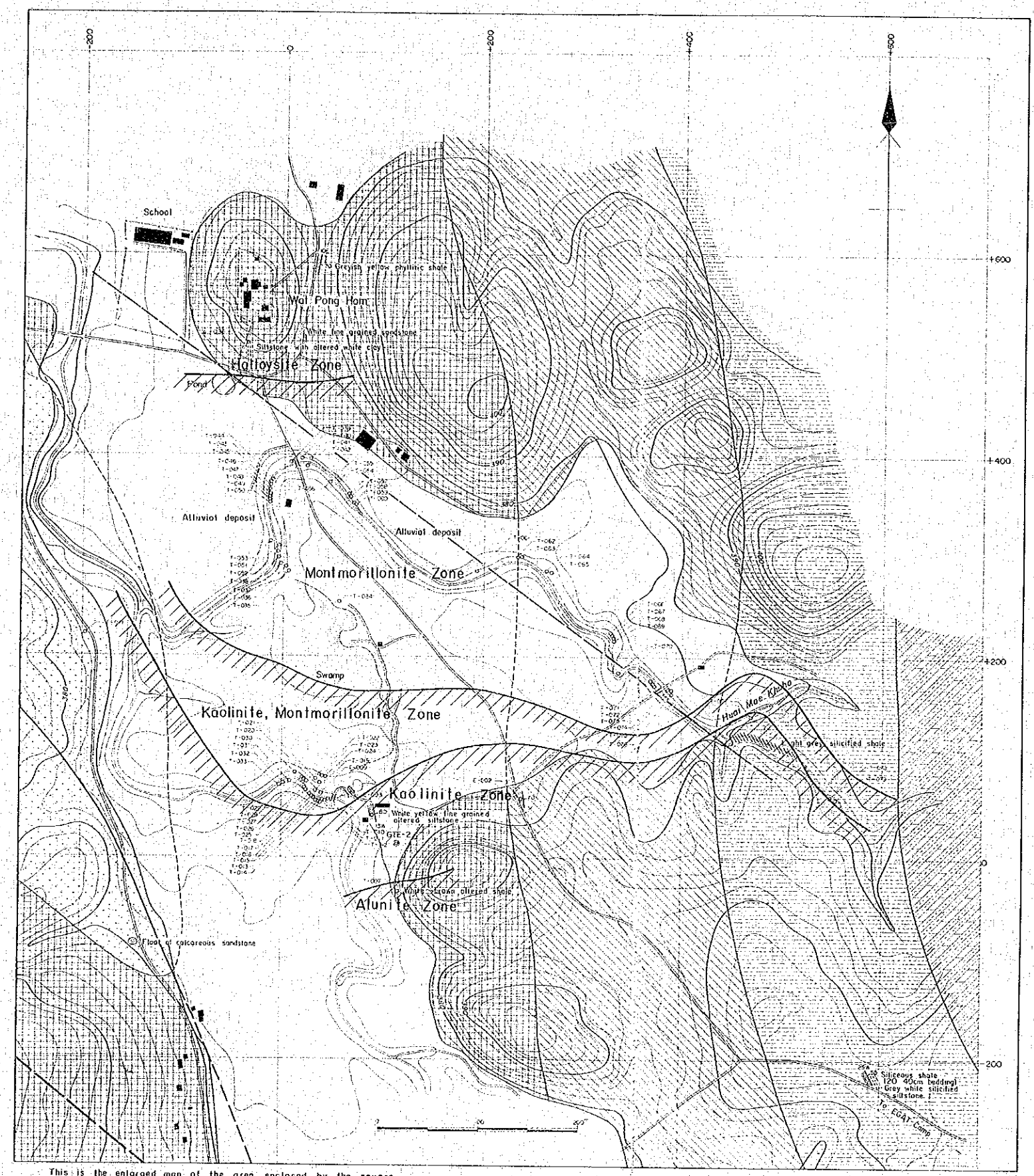
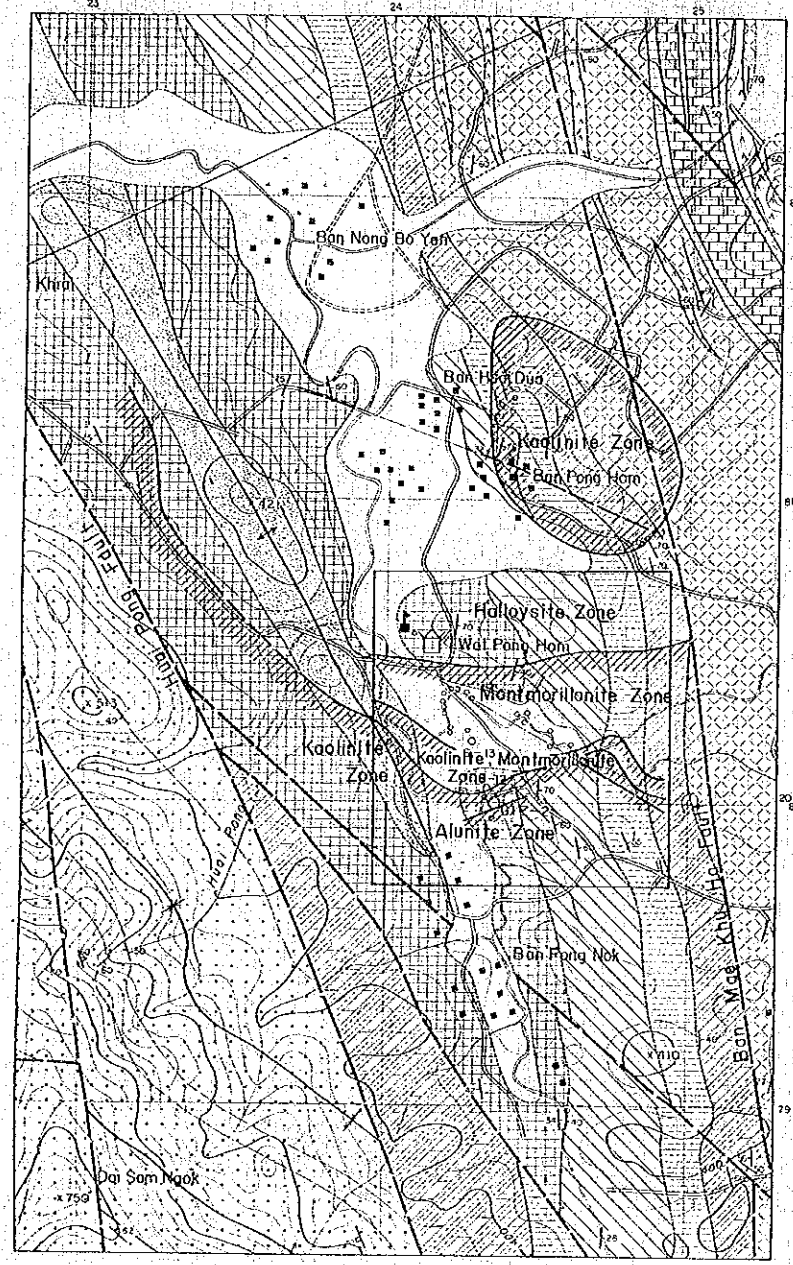
Hot spring No.	Sketch No.	Temper (°C)	Flow rate (l/min)	Sample (X-Ray) No.	Remark	Hot spring No.	Sketch No.	Temper. (°C)	Flow rate (l/min)	Sample (X-Ray) No.	Remark
2	35	1.0	T-032		34	89	1.5	T-049			
3	96	0.3	T-031		35	92	1.0	T-048			
4	98	0.1	T-030		36	94	0.3	T-047			
5	89	0.1	T-029		37	92	0.2	T-046			
6	83	0.2	T-028		38	98	1.0	T-045	Bubbled noise		
7	81	0.1	T-027		39	98	1.0	T-045	Bubbled noise		
8	76	0.3	T-026		40	83	1.0	T-044	Bubbled noise		
9	79	0.2	T-025		41	94	1.5	T-039	Jet noise		
10	81	0.3	T-018		42	72	1.2	T-040	Jet noise		
11	80	0.6	T-017		43	84	0.5	T-042	Jet noise		
12	79	0.3	T-016		44	90	1.0	T-041	Jet noise		
13	87	2.5	T-015		45	98	1.0	T-056			
14	66	0.3	T-013		46	90	1.5	T-055			
15	88	0.4	T-014		47			T-054			
16	83	0.4	T-012		48	89	1.2	T-057	Bubbled noise		
17	72	0.3	T-011		49	83	0.8	T-058	Bubbled noise		
18	81	0.7	T-010		50	85	0.5	T-059	Bubbled noise		
19	83	0.4	T-019		51	90	0.3	T-060	Bubbled noise		
20	88	2.0	T-009		52	76	0.1	T-061			
21	85	1.2	T-021		53	78	0.1	T-062			
22	92	1.0	T-020		54	88	1.0	T-063			
23	86	0.7	T-022		55	95	0.4	T-054	Geysir jet noise		
24	84	1.0	T-023		56	73		T-065			
25	79	0.2	T-024		57	73	0.2	T-066			
GTC-2	58.5	5-6		Depth: 500m	58	81	0.3	T-067			
S-12	100	2		Depth: 105m	59	75	0.4	T-068			
S-2	27-100	3		Depth: 125m	60	81	0.4	T-069			
S-13	255	1		Depth: 31.5m	61	70	0.1	T-070			
S-1	82	0.3	T-034	Depth: 110m	62	98	0.8	T-071			
26	78	0.3	T-035		63	91	0.3	T-072			
27	67	0.3	T-036		64	94	0.3	T-073			
28	87	0.2	T-037		65	82		T-074			
29	16	0.8	T-038		66	82	0.3	T-075			
30	90	0.1	T-052	Bubbled noise	67	85	0.1	T-076			
31	72	0.2	T-051		68	72	0.2	T-078			
32	93	0.4	T-053		69	72	0.1	T-079			

ZONAL DISTRIBUTION MAP OF ALTERATION ZONE



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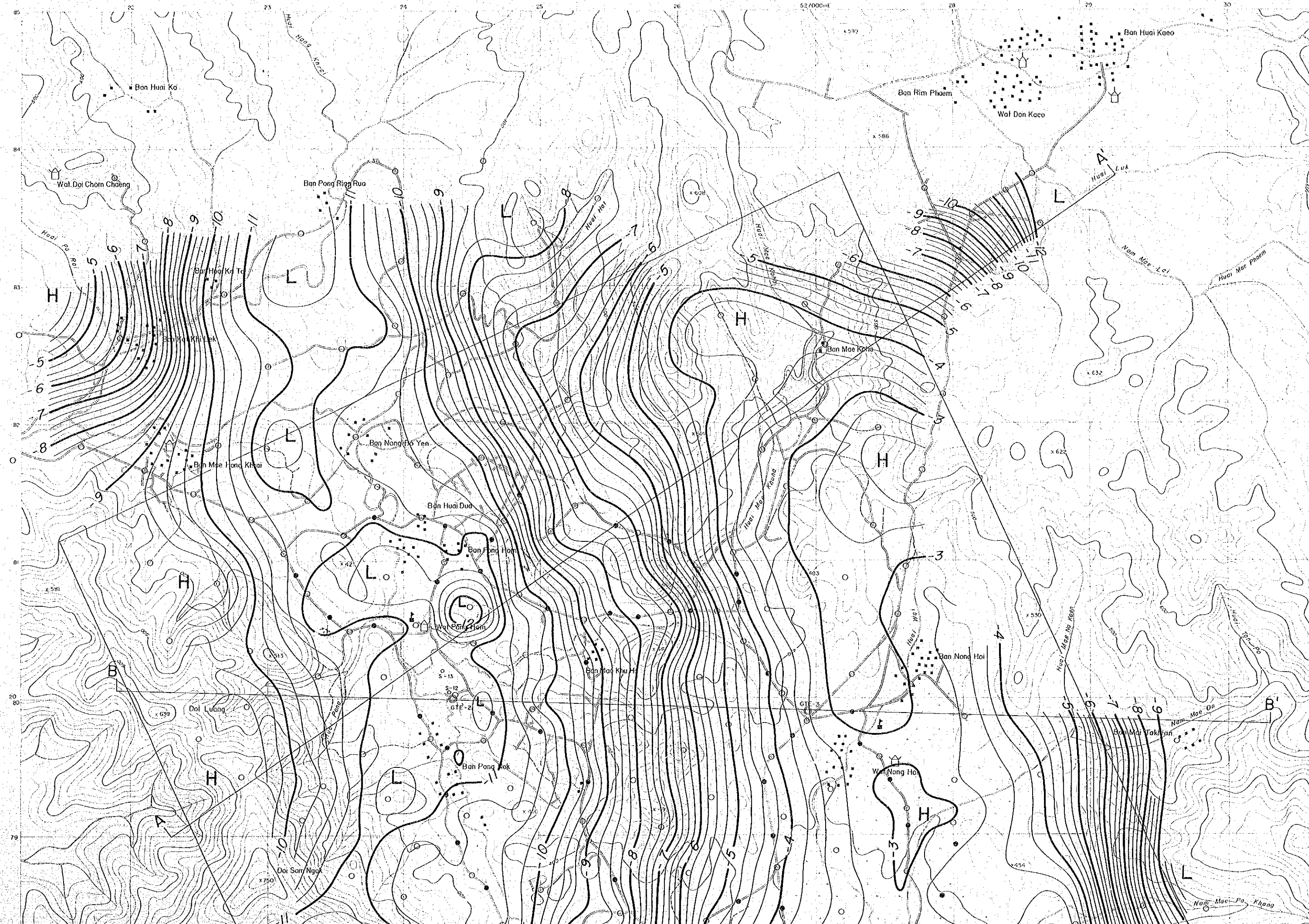
MARCH 1983



- LEGEND
- Alteration Zone:
 - Halloysite Zone
 - Montmorillonite Zone
 - Kaolinite Zone
 - Alunite Zone
 - Geological Features:
 - Basalt
 - Basaltic tuff breccia, Lapach tuff
 - Basalt
 - Basalt
 - Siltstone & sandstone
 - Siltstone
 - Chert
 - Siltstone & chert
 - Chert & siltstone
 - Thinly bedded siliceous shale
 - Limestone
 - Shale
 - Siltstone
 - Basaltic gneiss
 - Structural Features:
 - Basal plane
 - Joint
 - Fault
 - Quartz vein
 - Fracture
 - Structure line
 - Structure line
 - Other:
 - Alteration Zone

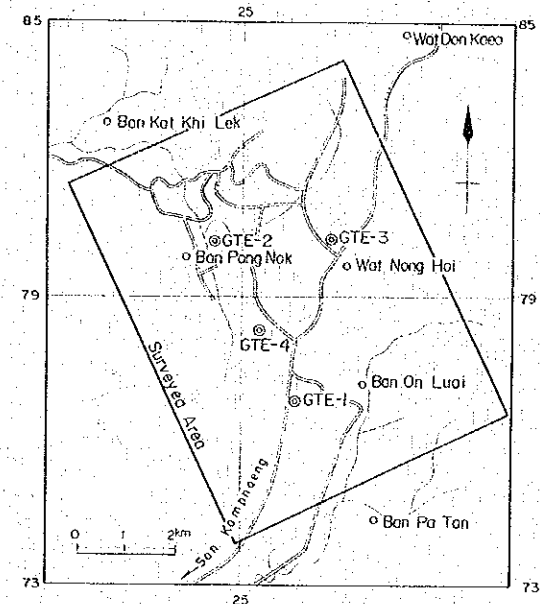
This is the enlarged map of the area, enclosed by the square, of the map on the left.

52/000m



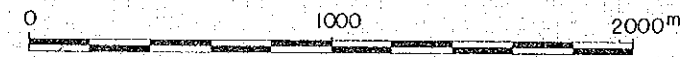
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BOUGUER ANOMALY ($\rho = 2.6$)



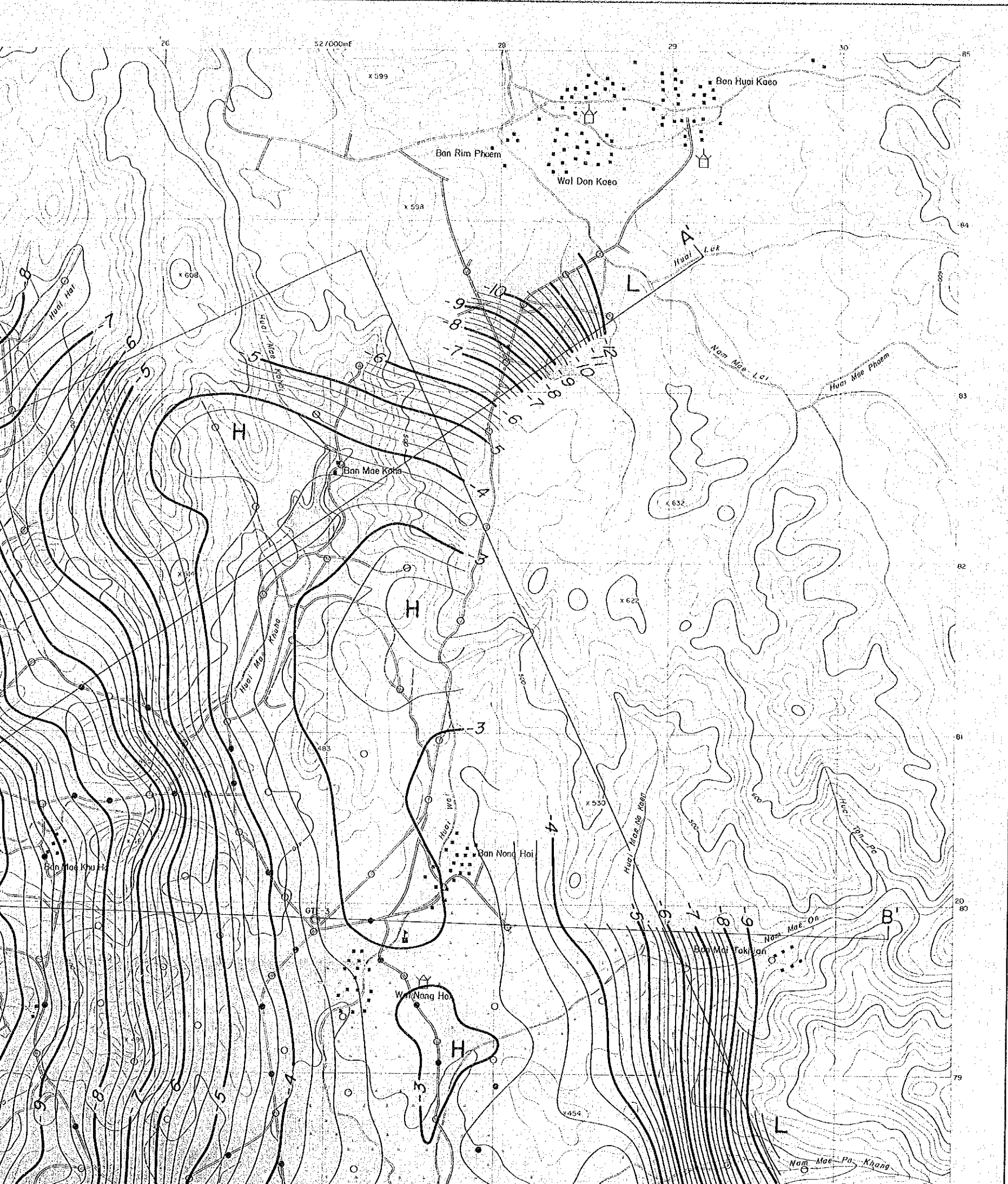
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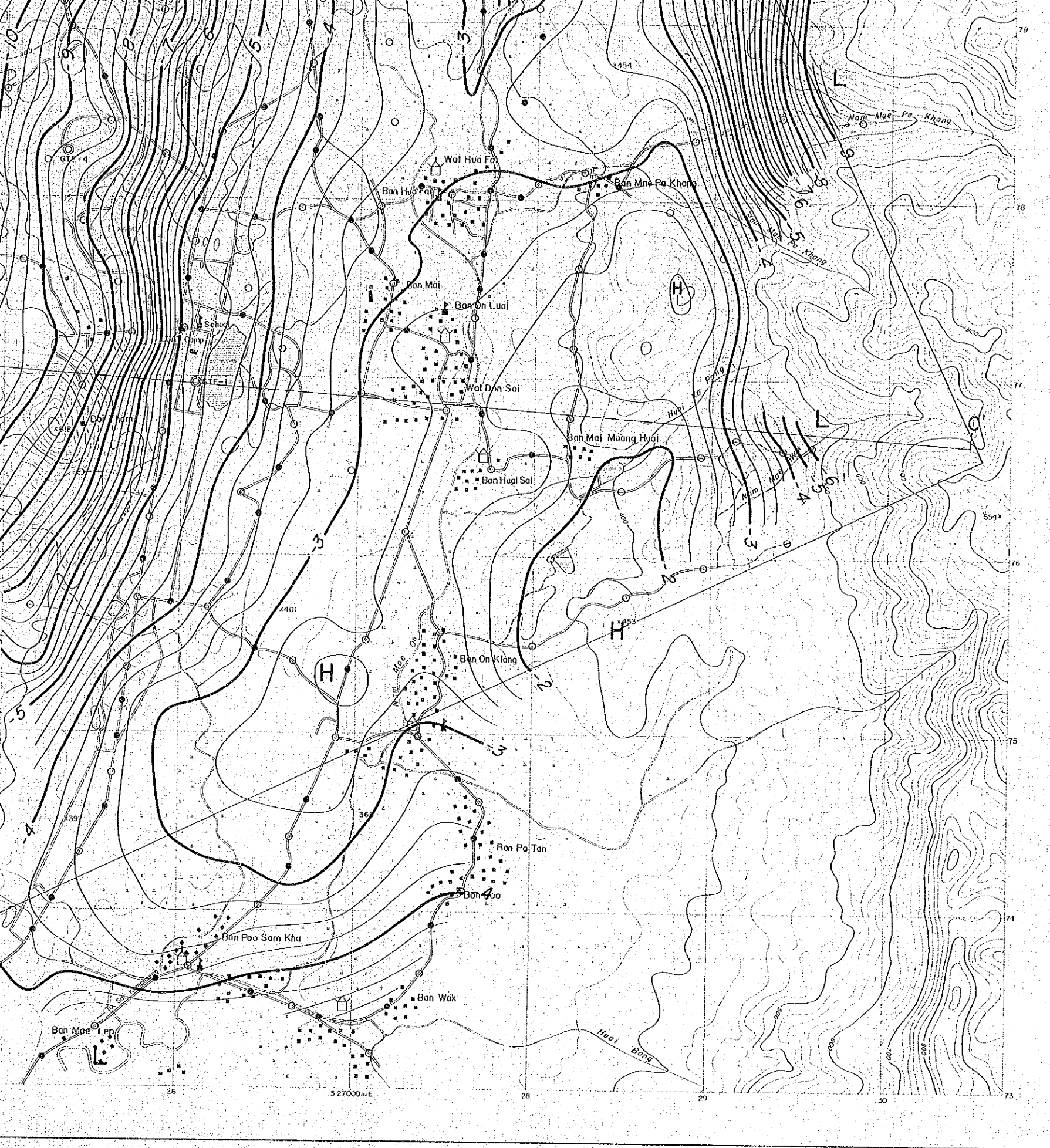
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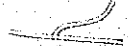
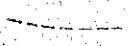
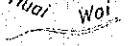















LEGEND

- Wide road
- Narrow path
- Stream
- Wat
- School
- Rice field

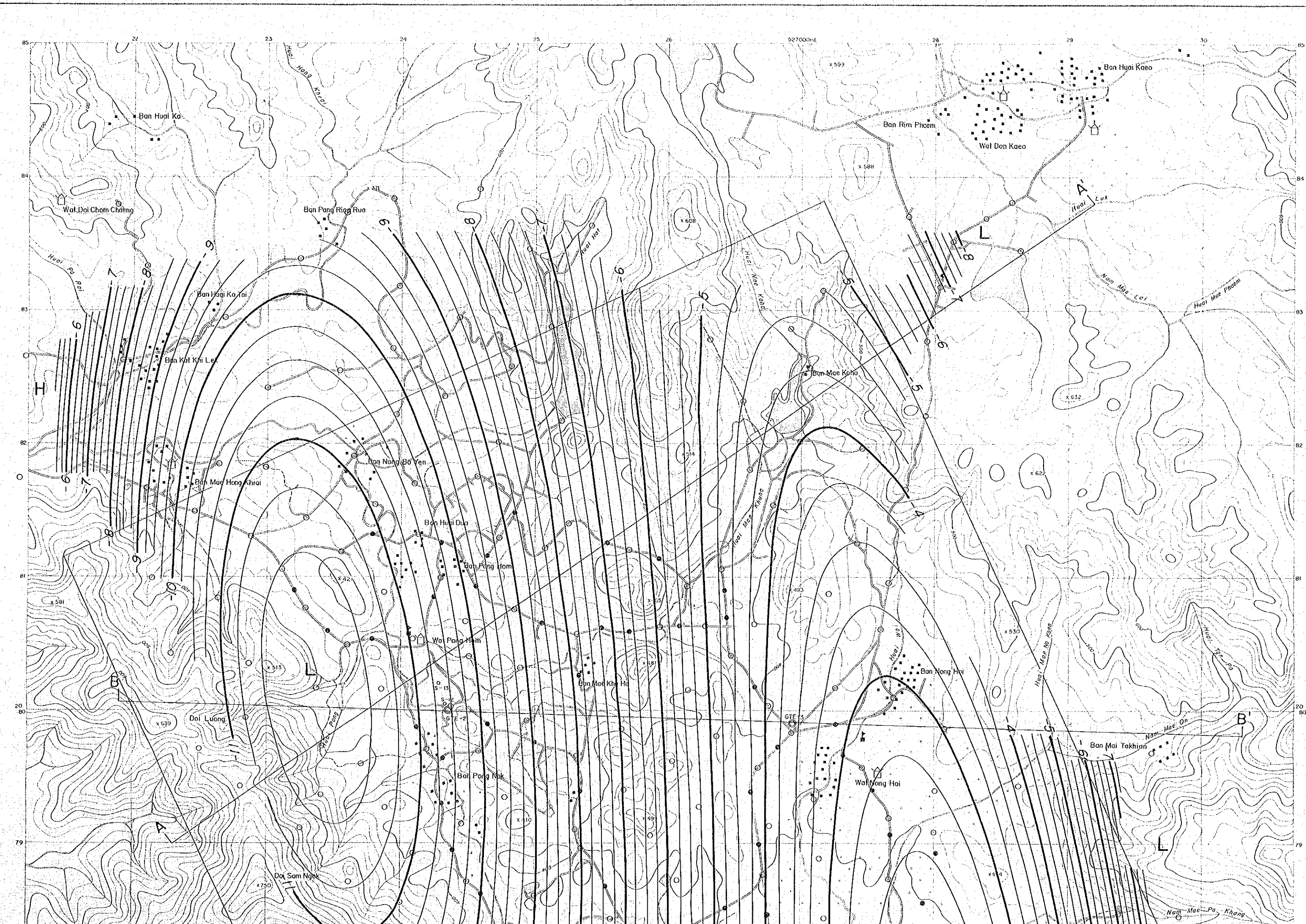


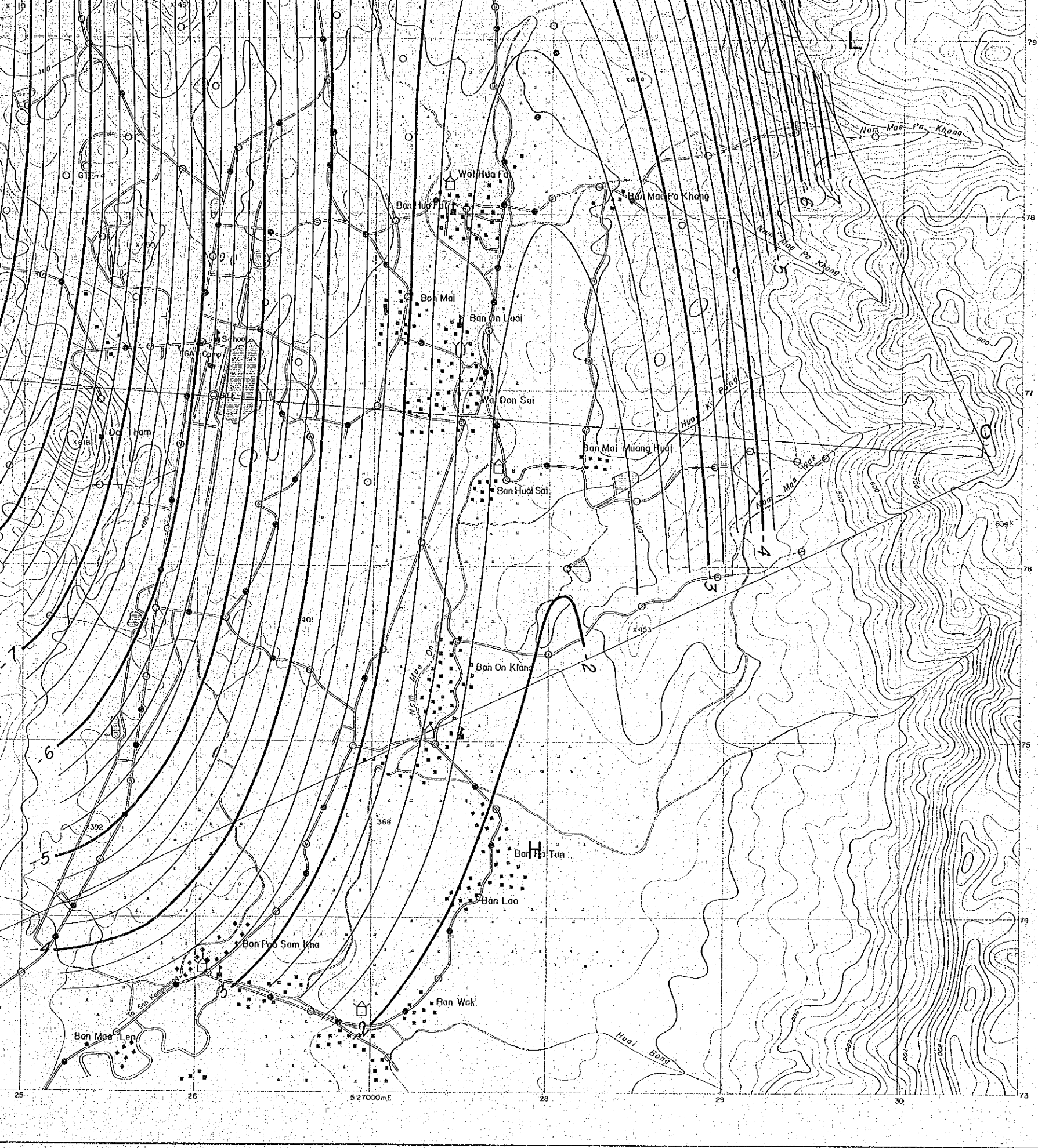


-  Wide road
-  Narrow path
-  Stream
-  Village
-  Wat
-  School
-  Rice field
-  Dam (water reserve)

-  Gravity station surveyed by JICA
-  Gravity station surveyed by DMR
-  Drill hole
-  1.0 mgal
-  0.25 mgal
-  H High gravity anomaly
-  L Low gravity anomaly
-  Profile of underground Structure

26 27 28 29 30
 73 74 75 76 77 78 79
 5 270000m E





- Wide road
- Narrow path
- Stream
- Village
- Wat
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- 1.0 mgal } Contour line
- 0.25 mgal }
- High gravity anomaly
- Low gravity anomaly
- Profile of underground structure

527000mE