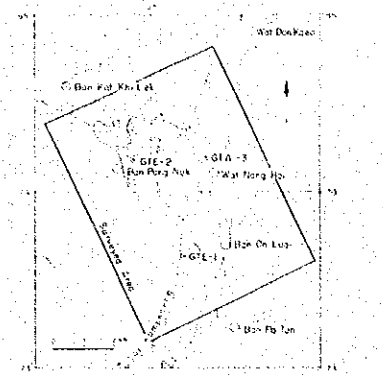


THE SAN KAMPHAENG  
IN THE  
GEOL.

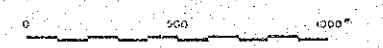
JAPAN ELECTRICITY  
DEPARTMENT



THE PRE-FEASIBILITY STUDY  
ON  
THE SAN KAMPAENG GEOTHERMAL DEVELOPMENT PROJECT  
IN THE KINGDOM OF THAILAND  
**GEOLOGICAL ROUTE MAP**

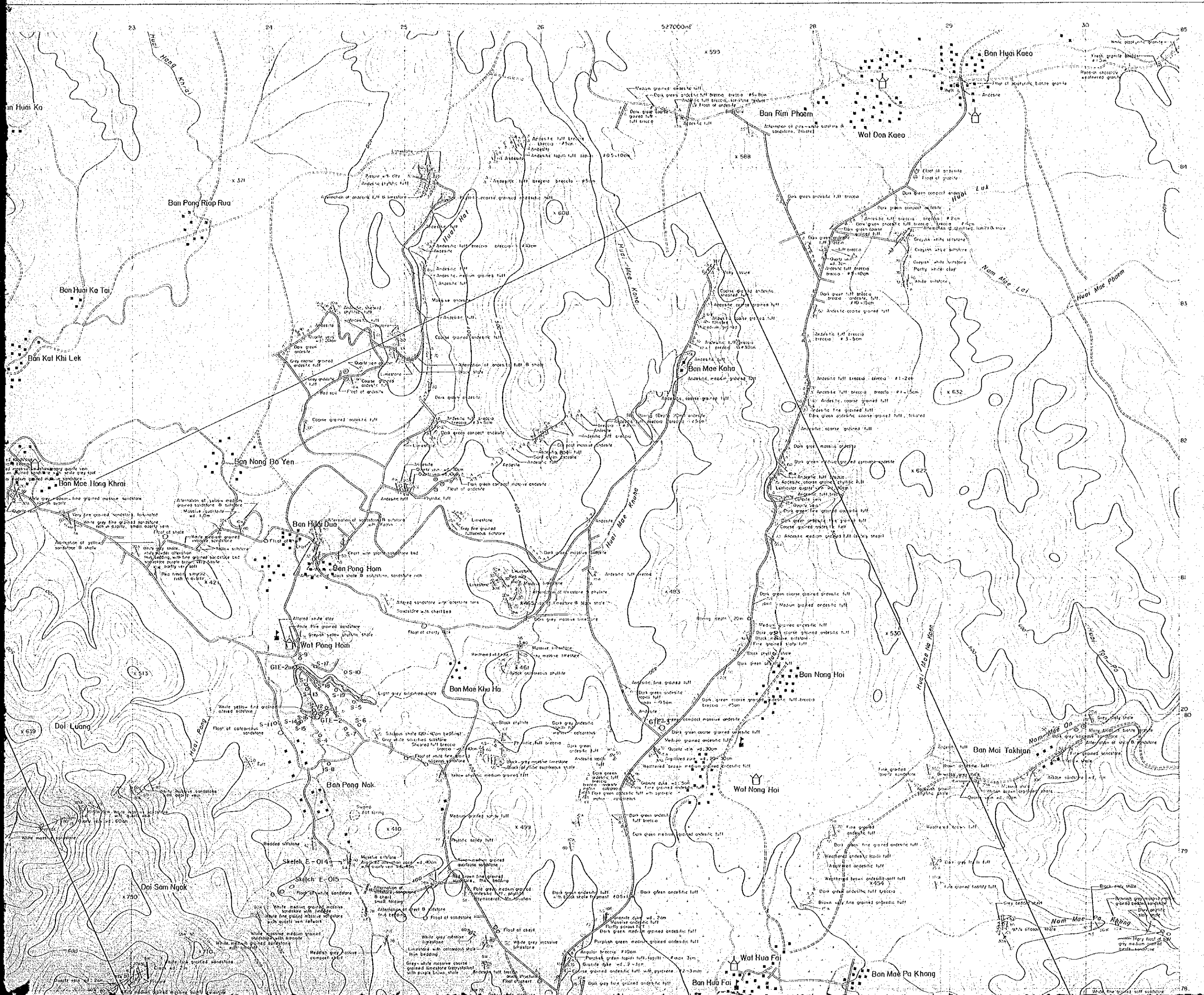


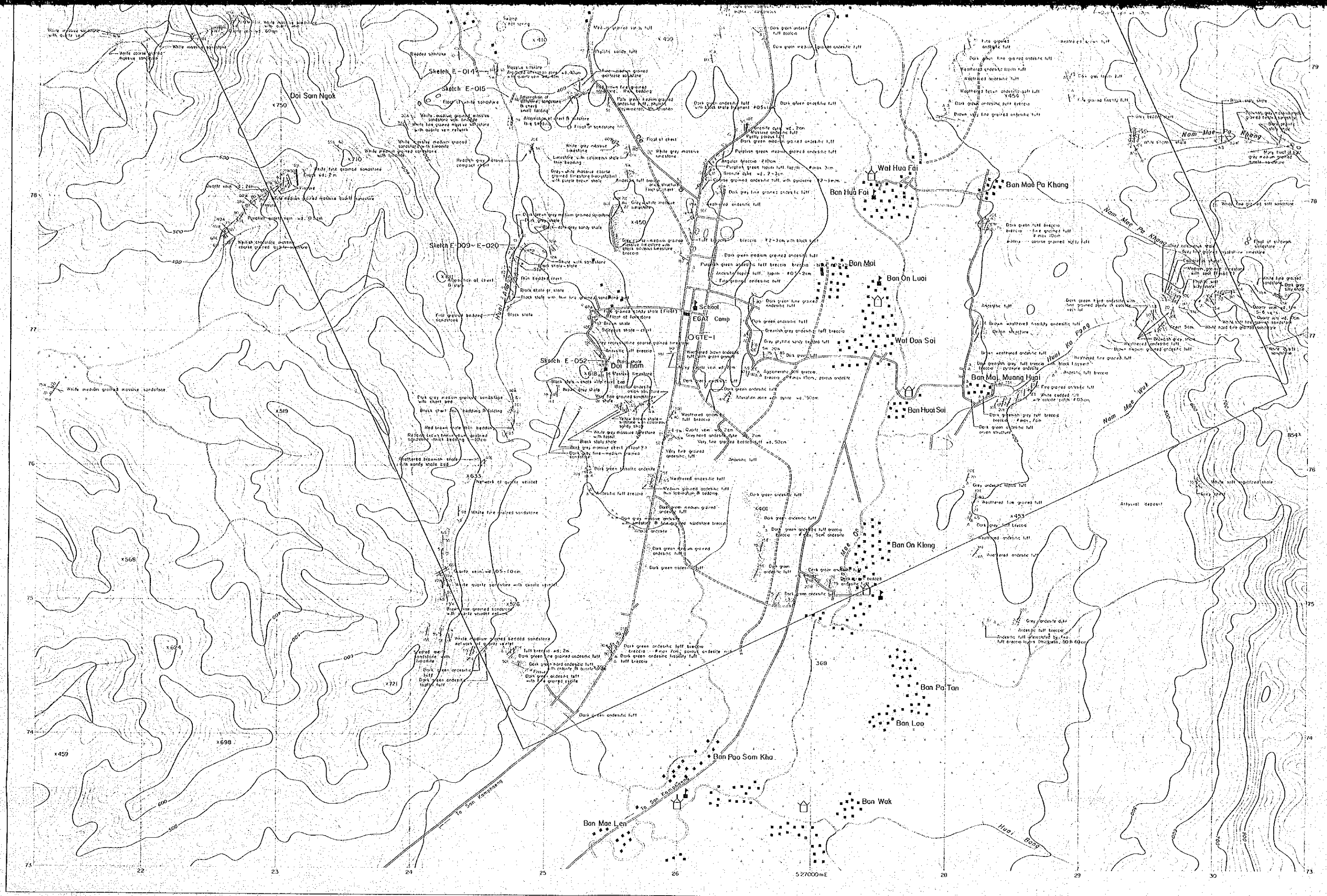
JAPAN INTERNATIONAL COOPERATION AGENCY  
ELECTRICITY GENERATING AUTHORITY OF THAILAND  
DEPARTMENT OF MINERAL RESOURCES  
CHIANG MAI UNIVERSITY  
MARCH 1983



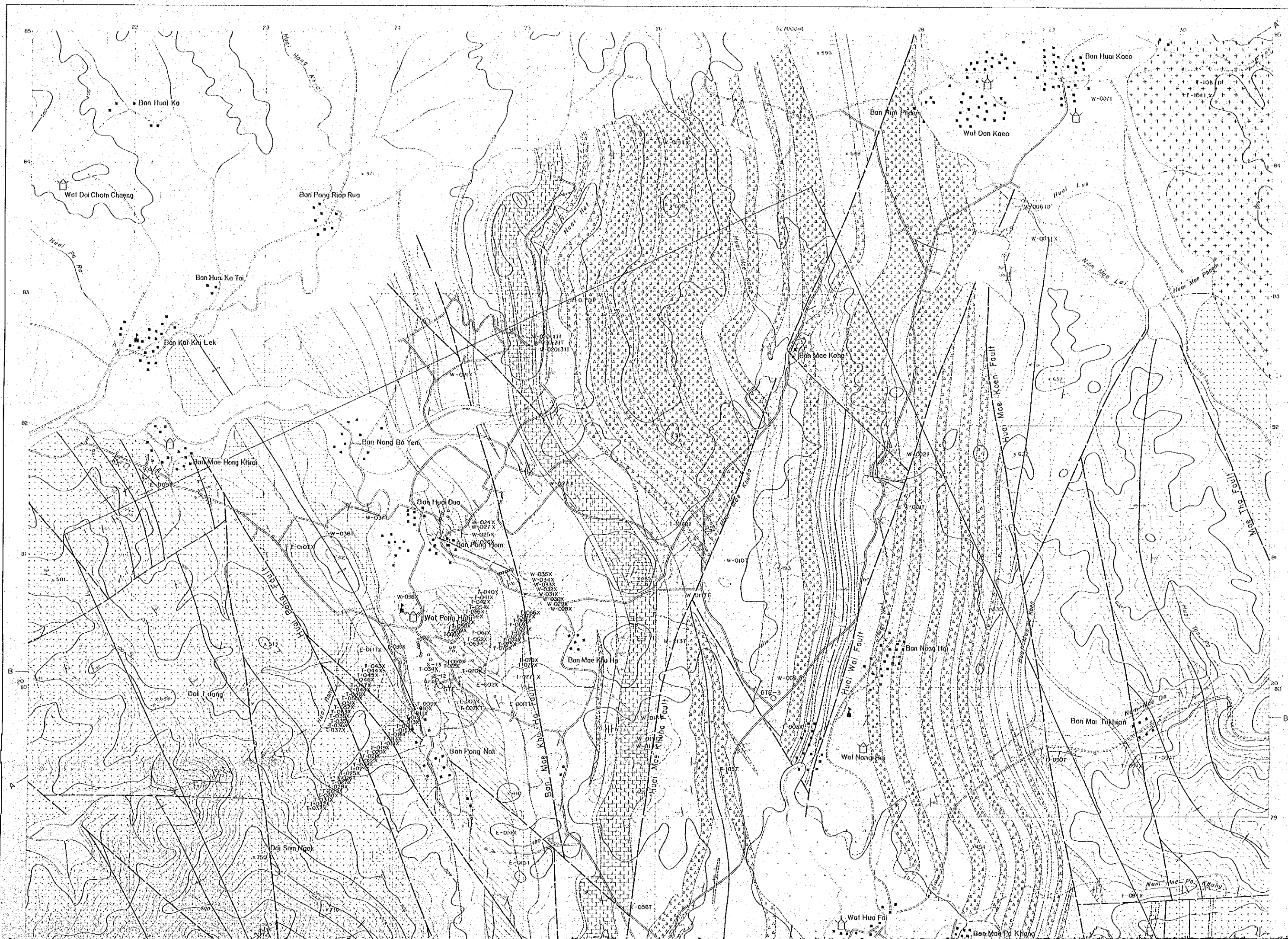
**LEGEND**

- Basaltic tuff - fine to coarse grained
- Basaltic lapilli tuff, tuff breccia
- Basalt
- Siltstone
- Shale
- Chert
- Sandstone
- Limestone
- Granite
- Bedding plane
- Joint
- Fissure
- Quartz vein
- Anticline axis
- Syncline axis
- Overturned folding axis
- Geothermal manifestation
- Drill hole
- Sketch E-014 ..... Detailed sketch







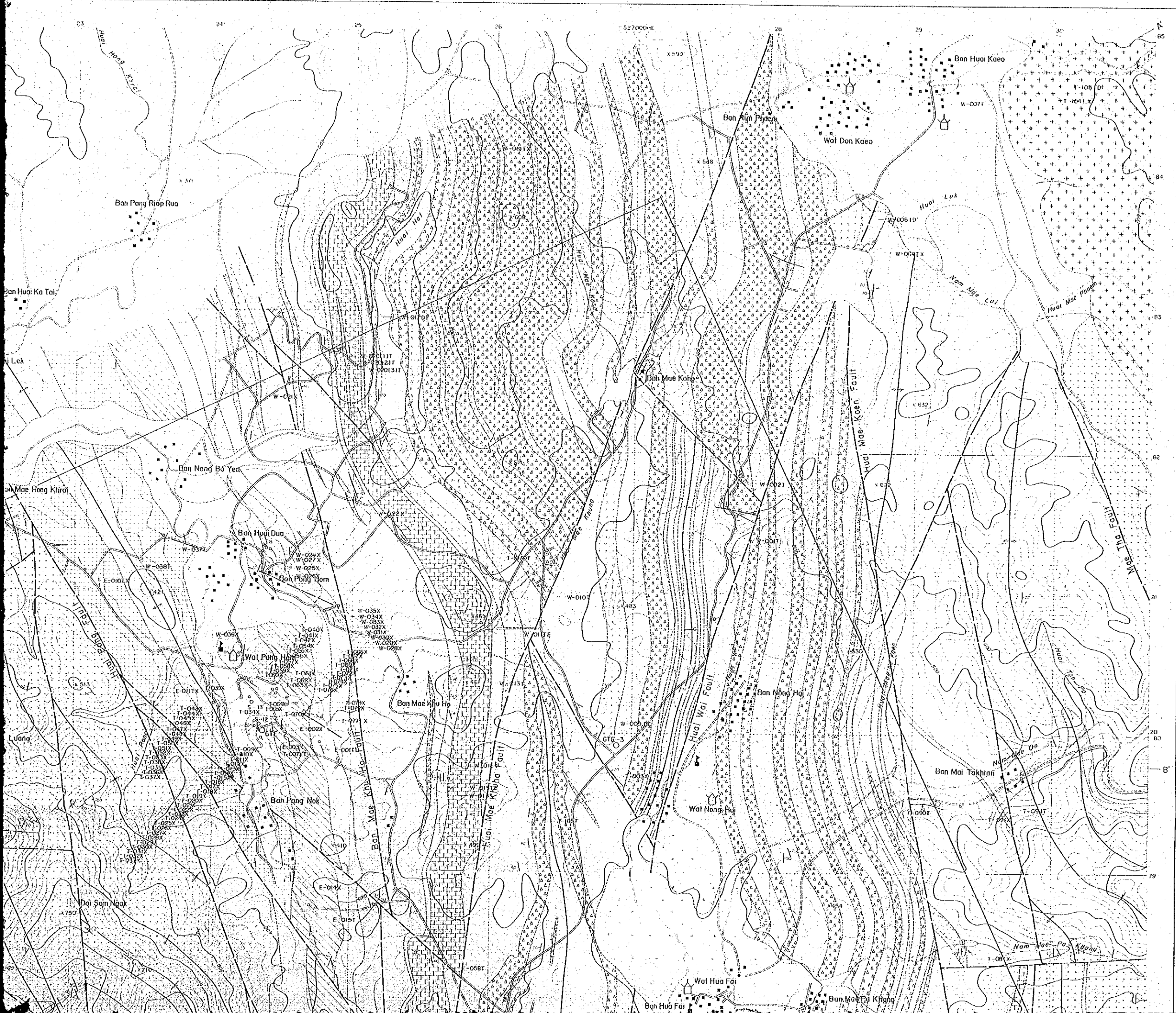


THE SAN KAMPHAENG  
IN  
JAPAN INTERNATIONAL  
ELECTRICITY CO., LTD.  
DEPARTMENT OF  
GEOLOGY



- Altoveum
- Permian Niu Lam Formation
- Carboniferous Mae Tho Formation

- W-001
- W-002
- W-003
- W-004
- W-005
- W-006
- W-007
- W-008
- W-009
- W-010
- W-011
- W-012
- W-013
- W-014
- W-015
- W-016
- W-017
- W-018
- W-019
- W-020
- W-021
- W-022
- W-023
- W-024
- W-025
- W-026
- W-027
- W-028
- W-029
- W-030
- W-031
- W-032
- W-033
- W-034
- W-035
- W-036
- W-037
- W-038
- W-039
- W-040
- W-041
- W-042
- W-043
- W-044
- W-045
- W-046
- W-047
- W-048
- W-049
- W-050
- W-051
- W-052
- W-053
- W-054
- W-055
- W-056
- W-057
- W-058
- W-059
- W-060
- W-061
- W-062
- W-063
- W-064
- W-065
- W-066
- W-067
- W-068
- W-069
- W-070
- W-071
- W-072
- W-073
- W-074
- W-075
- W-076
- W-077
- W-078
- W-079
- W-080
- W-081
- W-082
- W-083
- W-084
- W-085
- W-086
- W-087
- W-088
- W-089
- W-090
- W-091
- W-092
- W-093
- W-094
- W-095
- W-096
- W-097
- W-098
- W-099
- W-100
- W-101
- W-102
- W-103
- W-104
- W-105
- W-106
- W-107
- W-108
- W-109
- W-110
- W-111
- W-112
- W-113
- W-114
- W-115
- W-116
- W-117
- W-118
- W-119
- W-120
- W-121
- W-122
- W-123
- W-124
- W-125
- W-126
- W-127
- W-128
- W-129
- W-130
- W-131
- W-132
- W-133
- W-134
- W-135
- W-136
- W-137
- W-138
- W-139
- W-140
- W-141
- W-142
- W-143
- W-144
- W-145
- W-146
- W-147
- W-148
- W-149
- W-150
- W-151
- W-152
- W-153
- W-154
- W-155
- W-156
- W-157
- W-158
- W-159
- W-160
- W-161
- W-162
- W-163
- W-164
- W-165
- W-166
- W-167
- W-168
- W-169
- W-170
- W-171
- W-172
- W-173
- W-174
- W-175
- W-176
- W-177
- W-178
- W-179
- W-180
- W-181
- W-182
- W-183
- W-184
- W-185
- W-186
- W-187
- W-188
- W-189
- W-190
- W-191
- W-192
- W-193
- W-194
- W-195
- W-196
- W-197
- W-198
- W-199
- W-200



PL. 011-4

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

**LOCATION MAP  
of SAMPLES**

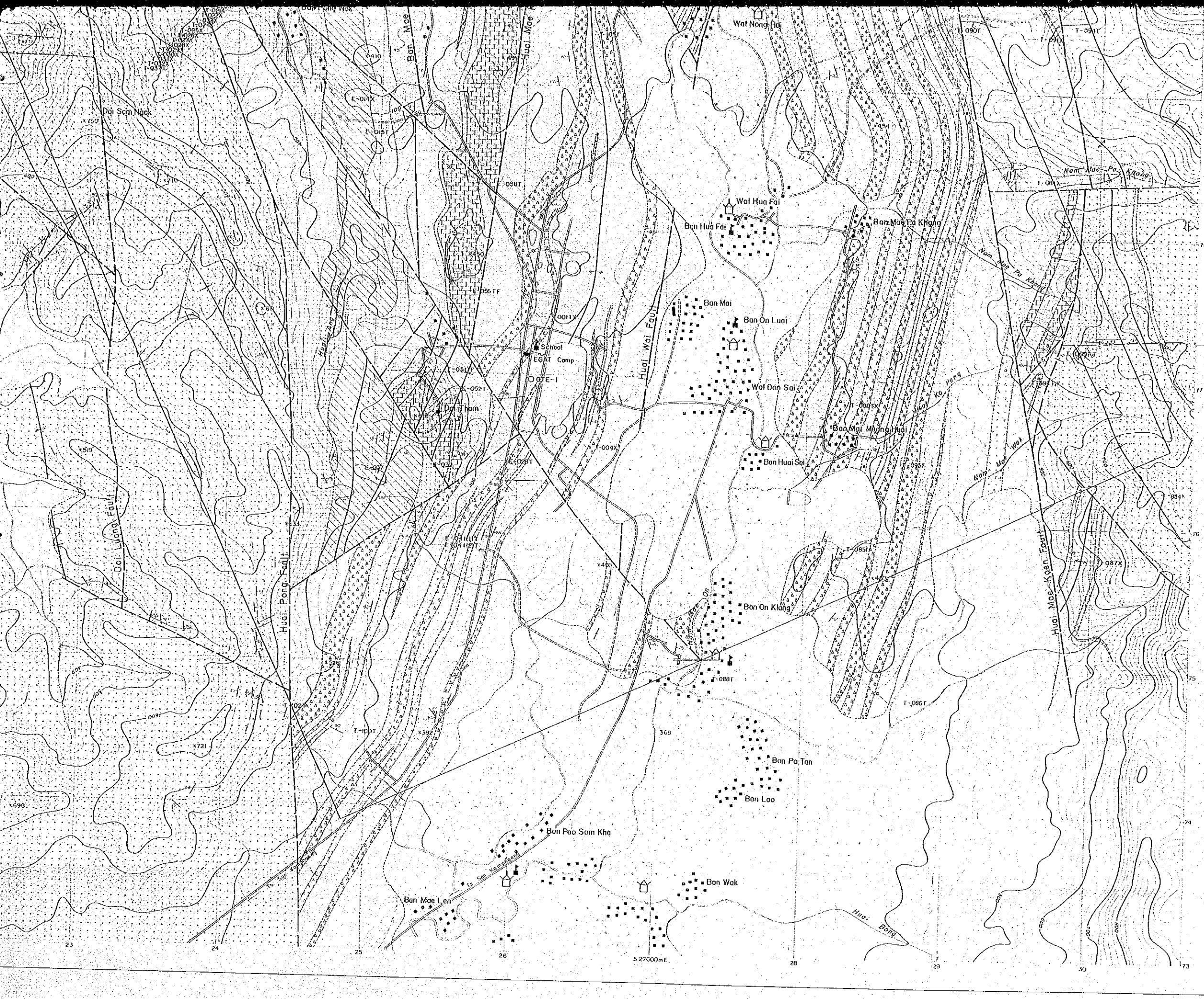
JAPAN INTERNATIONAL COOPERATION AGENCY  
ELECTRICITY GENERATING AUTHORITY OF THAILAND  
DEPARTMENT OF MINERAL RESOURCES  
CHANG MAI UNIVERSITY

MARCH 1982

**LEGEND**

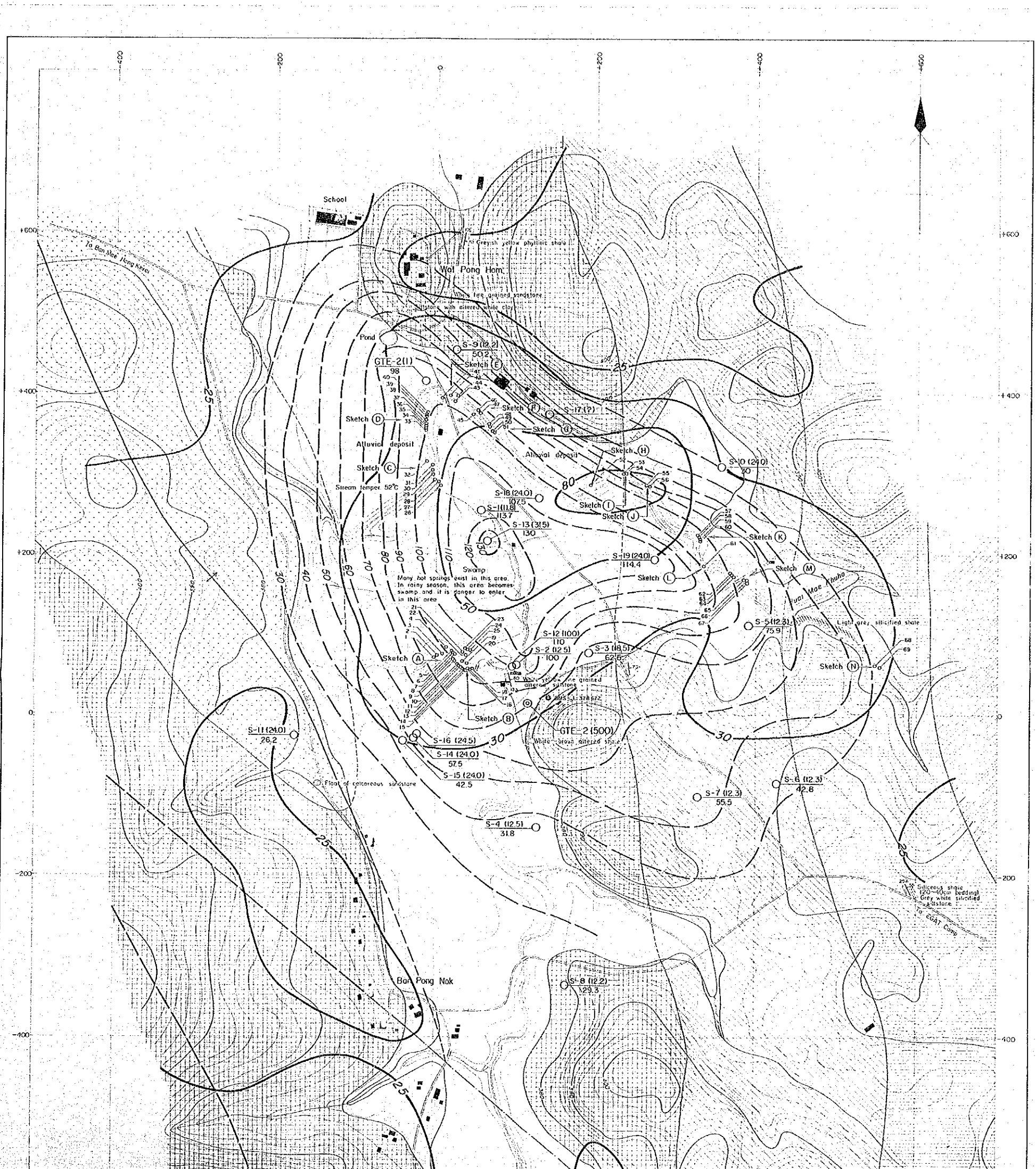
- |           |  |                                     |
|-----------|--|-------------------------------------|
| Altiavium |  | Alluvial deposit                    |
|           |  | Basaltic tuff                       |
|           |  | Basaltic tuff breccia, Lapilli tuff |
|           |  | Basalt                              |
|           |  | Sandstone                           |
|           |  | Sandstone > Sandstone               |
|           |  | Sandstone                           |
|           |  | Chert                               |
|           |  | Sandstone > Chert                   |
|           |  | Chert > Sandstone                   |
|           |  | Shale > Sandstone > Chert           |
|           |  | Limestone                           |
|           |  | Shale                               |
|           |  | Sandstone                           |
|           |  | Porphyritic granite                 |
|           |  | Bedding plane                       |
|           |  | Joint                               |
|           |  | Fracture                            |
|           |  | Quartz vein                         |
|           |  | Fault                               |
|           |  | Anticline axis                      |
|           |  | Syncline axis                       |
|           |  | Unconformity                        |
- W-035T Sample for strain section  
W-036X Sample for X-ray diffraction test  
W-037D Sample for mineralogy determination  
W-038P Photograph





W-0351 Sample for trace section  
W-036X Sample for gamma diffusion test  
W-0370 Sample for isotopic age determination  
W-038P Photograph





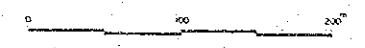
PL. II.11-5

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

DETAILED SKETCH  
OF  
GEOTHERMAL MANIFESTATION

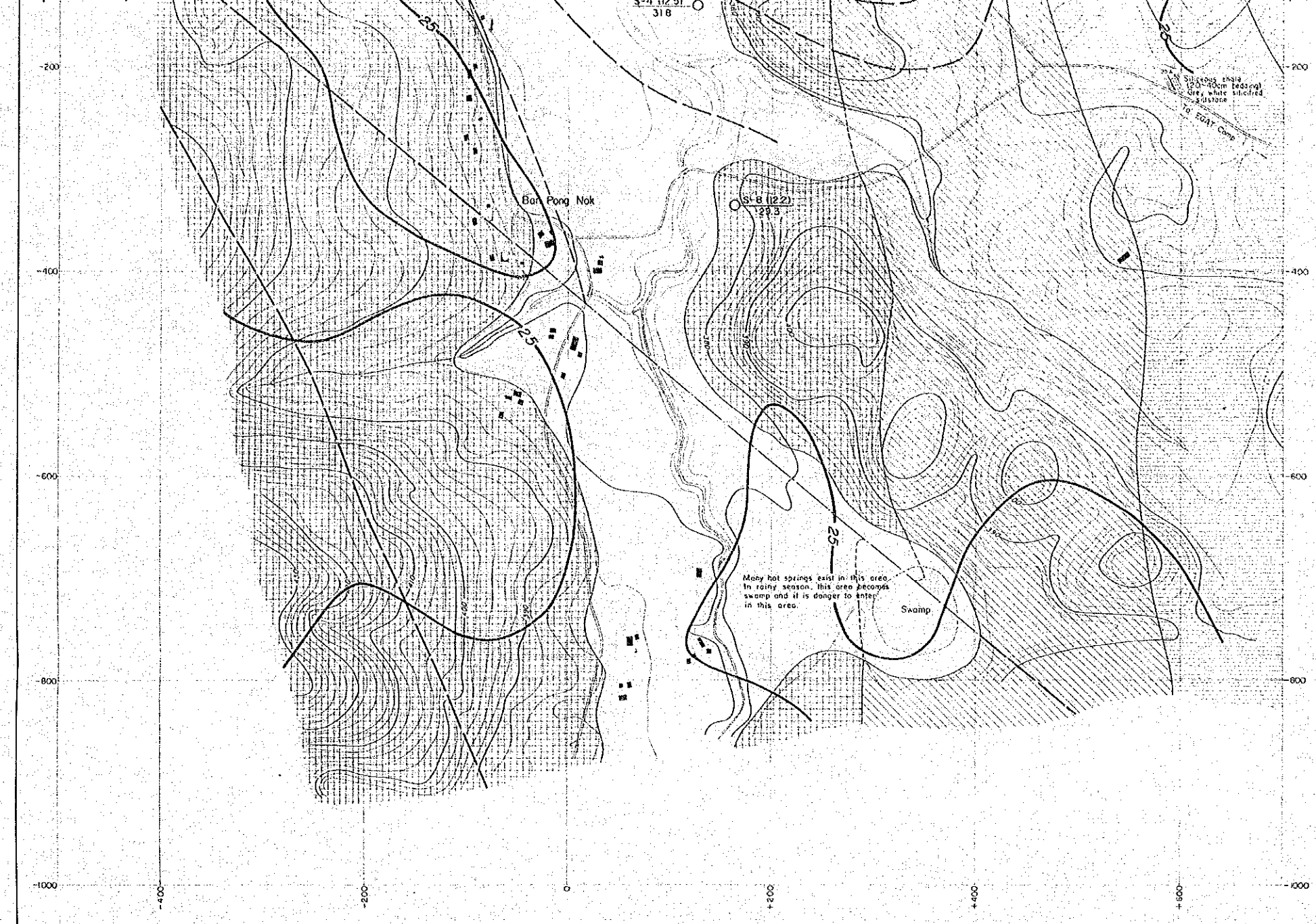
JAPAN INTERNATIONAL COOPERATION AGENCY  
ELECTRICITY GENERATING AUTHORITY OF THAILAND  
DEPARTMENT OF MINERAL RESOURCES  
CHIANG MAI UNIVERSITY

MARCH 1985



**LEGEND**

- Alluvial deposit
- Sandstone >> Chert
- Siltstone >> Sandstone
- Chert >> Sandstone
- Slate >> Sandstone > Chert
- Sandstone
- Fault
- Anticline
- Siltstone
- Shale
- Bedding plane
- Drill hole Hole No. (Depth m)  
Temp. at 10<sup>m</sup> depth
- Hot spring
- Temperature contour at 1<sup>m</sup> depth
- Temperature contour at 10<sup>m</sup> 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	5	10	11.1				
S-3	10.5	0	5	10	15	17.1			
S-4	12.5	0	5	10	12.3				
S-5	12.3	0	5	10	11.75				
S-6	12.3	0	5	10	12				
S-7	12.3	0	5	10	11.5				
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	15	20	23		
S-11	24.0	27.1	27.0	26.2	29.0	29.8	30.3		
S-12	10.0	0	5	10	11.0	21			
S-13	31.5	0	5	10	13.0	13.0	20		
S-14	24.0	0	5	10	15	20			
S-15	24.0	34.3	31.0	42.5	44.3	53.7			
S-16	24.5	0	5	10	15	20			
S-17	24.0	0	5	10	15	20			
S-18	24.0	63.0	86.9	107.5	113.2				
S-19	24.0	65.0	95.1	114.4	117.9	117.4	116.9		

List of hot springs

Hot spring ID	Sketch No	Temper. (C)	Flow rate (l/min)	Sample (X-Ray) No	Remarks	Hot Spring No	Sketch No	Temper. (C)	Flow rate (l/min)	Sample (X-Ray) No	Remarks
2	95	1.0	T-032		34	98	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-045			
6	93	0.2	T-028		38	98	1.0	T-045	Bubbled noise		
7	81	0.1	T-027		39	99	1.0	T-043	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			
11	80	0.8	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	81	2.5	T-015		45	98	1.0	T-038			
14	66	0.3	T-013		46	90	1.5	T-035			
15	88	0.4	T-014		47	89	1.2	T-054			
16	83	0.4	T-012		48	89	1.2	T-057	Bubbled noise		
17	77	0.3	T-011		49	83	0.9	T-058	Bubbled noise		
18	81	0.7	T-010		50	81	0.7	T-059	Bubbled noise		
19	83	0.4	T-019		51	90	0.5	T-050	Bubbled noise		
20	89	2.0	T-009		52	76	0.1	T-061			
21	65	1.2	T-021		53	78	0.1	T-052			
22	92	2.0	T-020		54	88	1.0	T-063			
23	86	0.7	T-022		55	95	0.4	T-064	Geyser jet noise		
24	86	1.0	T-023		56	73	0.2	T-065			
25	79	0.2	T-024		57	73	0.2	T-066			
GIF-2	68.5	5-6		Depth: 500m	58	81	0.3	T-067			
S-12	105.4	2		Depth: 105m	59	75	0.4	T-068			
S-2	97-100	3		Depth: 125m	60	81	0.4	T-069			
S-13	99.5	3		Depth: 115m	61	70	0.1	T-070			
S-11	82	0.3	T-034	Depth: 110m	62	98	0.6	T-071			
26	76	0.3	T-015		63	94	0.3	T-072			
27	67	0.3	T-036		64	94	0.3	T-073			
28	82	0.2	T-037		65	82	0.3	T-074			
29	76	0.8	T-030		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	83	0.4	T-053		69	72	0.1	T-079			

