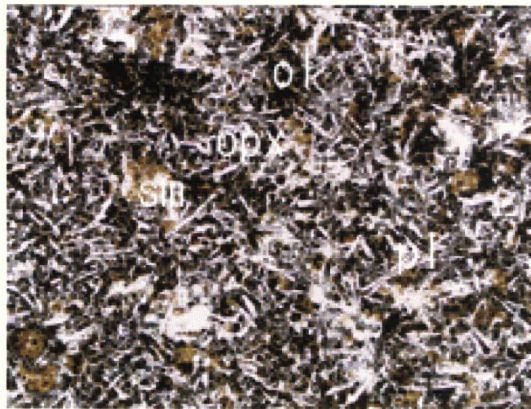
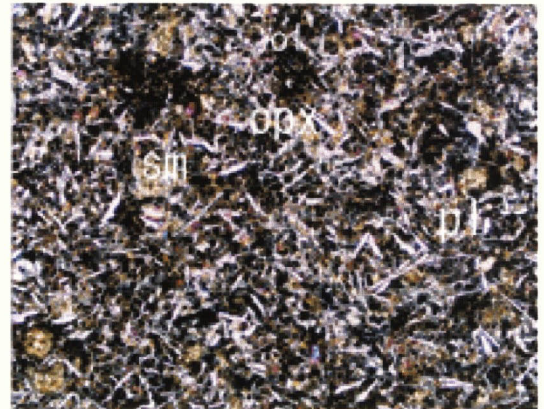


Appendix 8 Microscopic Photographs of Thin Section

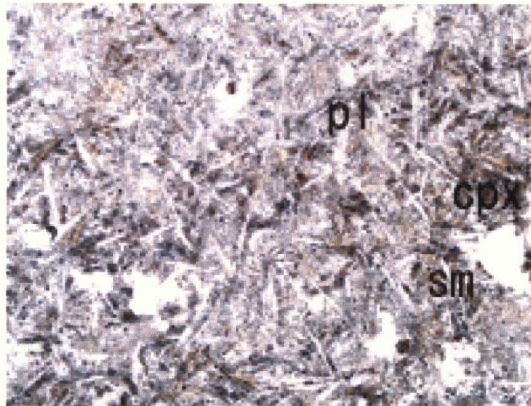


open ← 1mm →

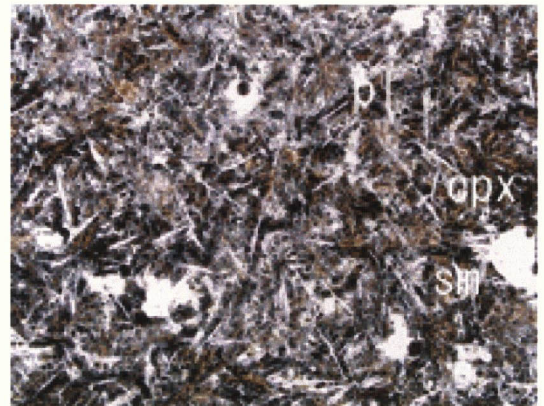


cross ← 1mm →

**Ore Showing: W1, 01SFBS12 T01, Pyroxene Olivine Basalt**

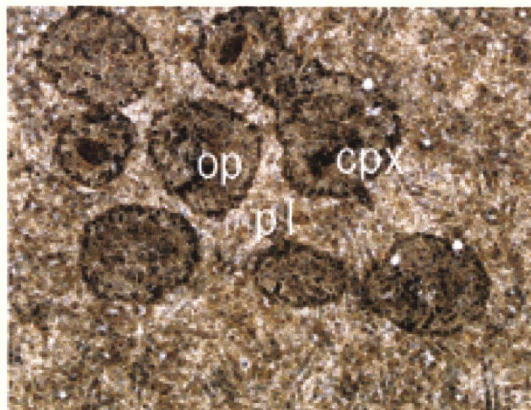


open ← 1mm →

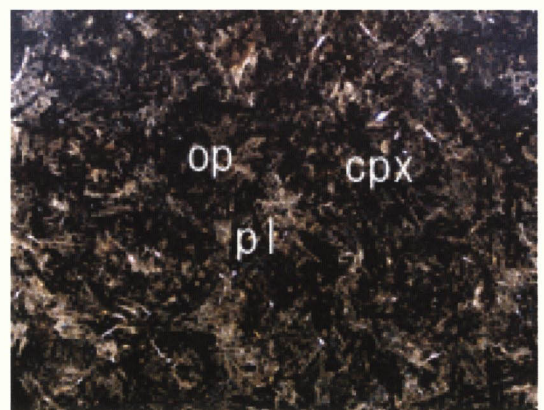


cross ← 1mm →

**Ore Showing: W4, 01SFBS09 T01, Pyroxene Basalt**

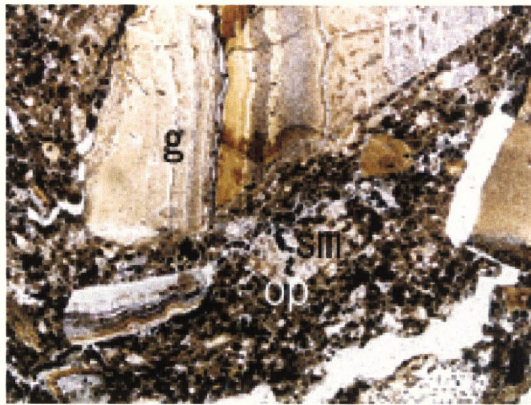


open ← 1mm →

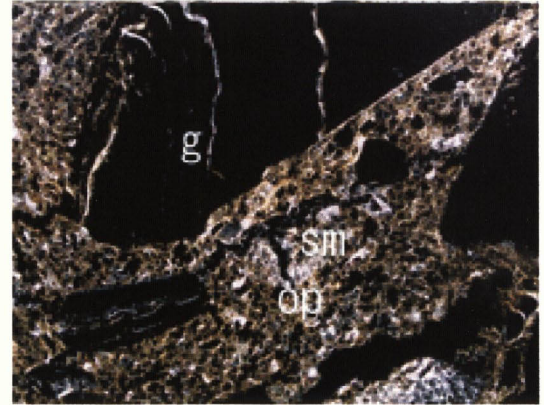


cross ← 1mm →

**Ore Showing: W5, 01SFBS11 T01, Pyroxene Basalt**

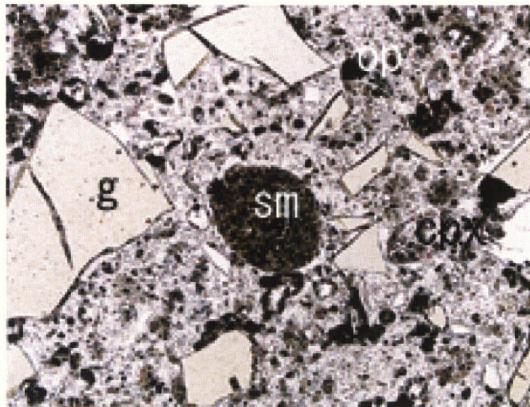


open ← 1mm →

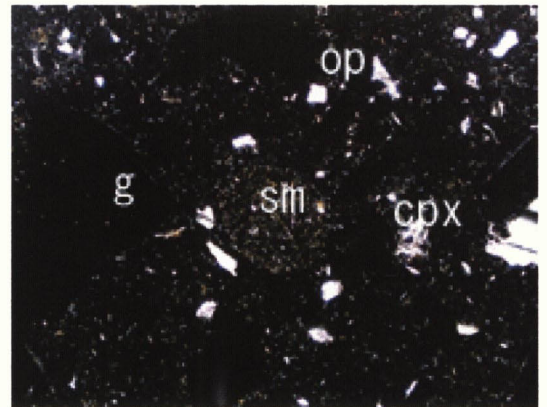


cross ← 1mm →

Ore Showing : W6, 01SFBS10 T01, Altered hyaloclastite

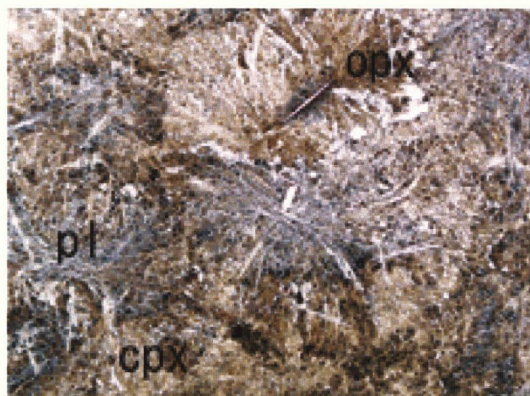


open ← 1mm →

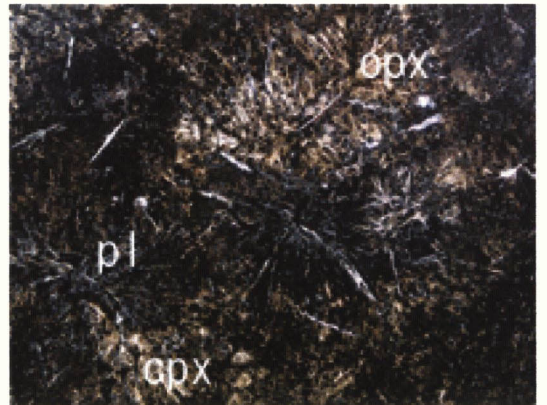


cross ← 1mm →

Ore Showing: W6, 01SFBS25 T01, hyaloclastite

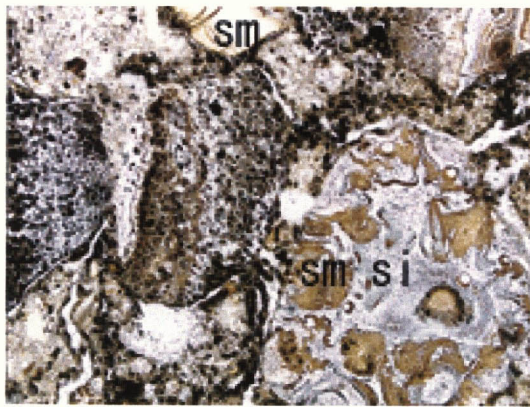


open ← 1mm →



cross ← 1mm →

Ore Showing: W7, 01SFBS06 T01, Pyroxene Basalt

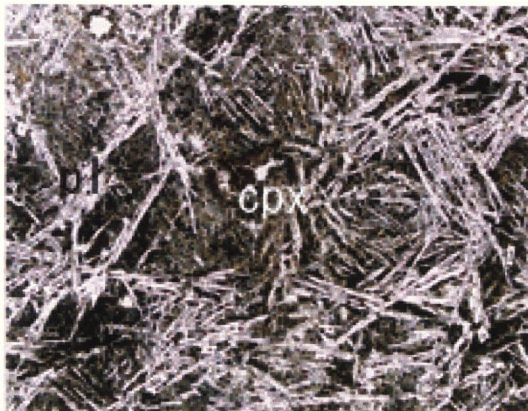


open ←————→ 1mm

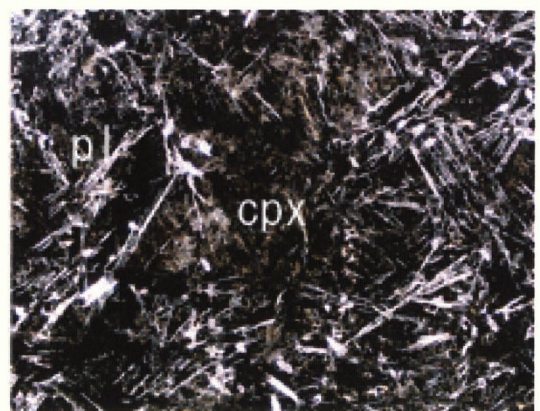


cross ←————→ 1mm

**Ore Showing: W7, 01SBMS06 T03, hyaloclastite**

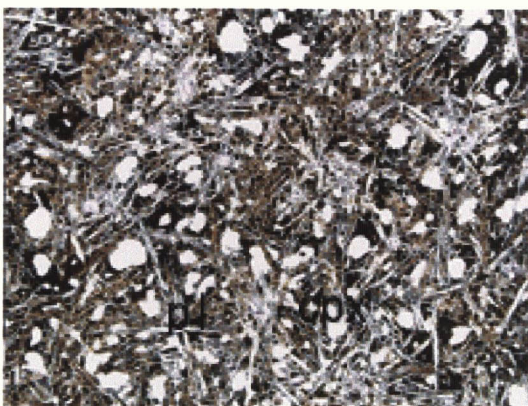


open ←————→ 1mm



cross ←————→ 1mm

**Ore Showing: E4, 01SBMS21 T01, Olivine Pyroxene basalt**

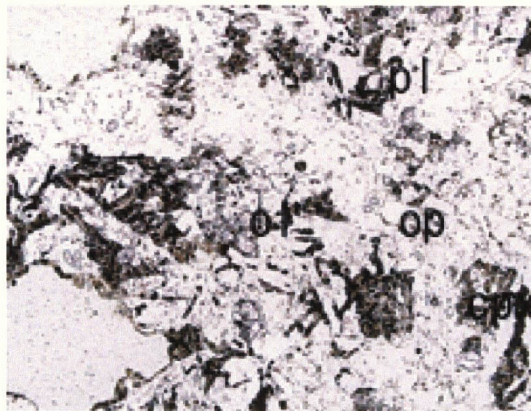


open ←————→ 1mm

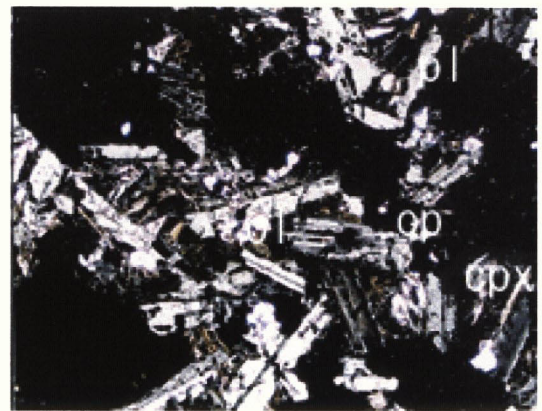


cross ←————→ 1mm

**Ore Showing: E11, 01SBMS18 T01, Pyroxene Olivine basalt**



open ← 1mm →



cross ← 1mm →

Ore Showing: E12, 01SFBMS22 T01, Olivine Pyroxene basalt

Legend

<b>cpx</b> :	clinopyroxene	<b>opx</b> :	Orthopyroxene
<b>pl</b> :	Plagioclase	<b>ol</b> :	Olivine
<b>sm</b> :	Smectite	<b>si</b> :	Silica mineral
<b>op</b> :	Opaque mineral	<b>g</b> :	Glass

## Appendix 9 Analytical Method

Chemical analysis of rocks

(1) Analyzed elements and limits of detection

Chemical analysis of the rocks was carried out for 15 major components and 35 major elements. The analyzed elements and the limits of detection are listed in Table 1

**Table 1. Analyzed elements and limits of detection**

Major elements (15components)	SiO <sub>2</sub> , TiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , Fe <sub>2</sub> O <sub>3</sub> , FeO, MnO, MgO, CaO, Na <sub>2</sub> O, K <sub>2</sub> O, P <sub>2</sub> O <sub>5</sub> , CO <sub>2</sub> , H <sub>2</sub> O <sup>+</sup> , H <sub>2</sub> O <sup>-</sup> , LOI	Detection limit : 0.01%
Minor elements (35components)	Sr, Ba, Zr, V, Y	Detection limit : 1ppm
	Rb, Nb	Detection limit : 0.1ppm
	La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu	Detection limit : 0.01ppm

(2) Analytical methods

Analytical methods used for various elements are shown in Table 2. In preparation for analysis, the pyrite crystals on the surface were carefully removed, desalted thoroughly, and was dried to constant weight.

**Table 2 Analytical methods**

Analyzed elements	Analytical methods
SiO <sub>2</sub> , TiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , Fe <sub>2</sub> O <sub>3</sub> , MnO, MgO, CaO, Na <sub>2</sub> O, K <sub>2</sub> O, P <sub>2</sub> O <sub>5</sub> , FeO	ICP emission spectroscopy
CO <sub>2</sub> , H <sub>2</sub> O <sup>+</sup> , H <sub>2</sub> O <sup>-</sup> , LOI	Titration
	High frequency induced infrared absorption spectroscopy (LECO)
Rb, Sr, Ba, Zr, V, Nb, Y, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu	ICP mass spectroscopy

(3) Chondrite values

Chondrite values of Wakita et al., were used for normalization.

**Table 3 REE value**

La	0.340	Tb	0.047
Ce	0.910	Dy	0.300
Pr	0.121	Ho	0.080
Nd	0.640	Er	0.200
Sm	0.195	Tm	0.032
Eu	0.073	Yb	0.220
Gd	0.260	Lu	0.034

Wakita *et al.* (1971)

(4) Analyzed values of typical basalt

For Comparing North Fiji with another type of tectonic environment, following value was used for making the spider diagram.

**Table 4 Composition of Major element and REE of various type of basalt**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
SiO <sub>2</sub>	47.79	50.04	49.68	49.79	47.73	46.68	46.18	42.22	50.30	52.84	50.36
TiO <sub>2</sub>	0.87	0.81	0.95	2.76	3.30	3.48	2.06	4.53	0.85	0.83	1.46
Al <sub>2</sub> O <sub>3</sub>	16.77	14.98	14.36	13.75	15.53	16.09	14.47	9.98	18.88	18.40	16.36
Fe <sub>2</sub> O <sub>3</sub>	10.33	10.41	10.52	2.47		12.38	11.52	12.56	9.56	3.27	9.07
FeO				8.88	10.67					6.24	
MnO	0.18	0.17	0.19	0.17	0.14	0.15	0.19	0.17	0.15	0.15	0.16
MgO	10.35	8.82	10.33	7.39	8.37	6.06	9.99	8.80	5.91	4.38	7.36
CaO	10.98	12.70	12.33	11.31	8.71	11.43	9.68	11.56	10.59	9.87	10.84
Na <sub>2</sub> O	2.46	1.82	1.94	2.39	2.89	1.49	2.63	2.89	2.95	2.35	3.39
K <sub>2</sub> O	0.07	0.13	0.30	0.53	1.20	1.54	0.61	4.77	0.44	0.39	0.45
P <sub>2</sub> O <sub>5</sub>	0.06	0.10	0.11	0.27	0.66	0.68	0.44	0.55	0.14	0.11	0.20
Rb	1	1.5	6.1	10.1	62.0	26.4	13.7	115	7.7	9.3	6
Sr	114	100	132	404	792	700	285	1411	437	288	212
Ba	8	32.7	104	132	760	373	298	1376	146	129	77
Nb	1	3	12	20	46.0	84.5	15.1	209	2.0	3.2	8
Zr	50	42	53	170	255	277	167	280	59	50.5	130
Y	25	22	20	28	26	42.4	31	15	16	16.1	30
La	1.48	2.56	6.5	14.4	41.2	55.8	19.3	141.8	6.09	6.29	7.83
Ce	5.12	6.71	13.6	36.7	84.5	111	41.2	277.1	15.3	13.18	19.0
Nd	4.75	4.95	7.33	23.4	40.2	52.6	23	105.6	9.3	7.34	13.1
Sm	1.80	1.66	2.01	5.79	8.08	10.29	5.6	14.0	2.36	2.00	3.94
Eu	0.79	0.67	0.75	2.00	2.66	3.10	1.94	3.5	0.92	0.752	1.44
Gd				6.01	7.20	8.76	5.7	8.1		2.41	4.87
Dy	3.70	2.92	3.19	4.95	5.44	6.95	5.25	4.9		2.59	5.24
Er	2.49	1.86	2.08	2.39	2.42	3.48	3.08	1.6		1.64	3.20
Yb	2.43	1.79	1.99	1.89	1.81	2.72	2.78	1.2	1.60	1.62	3.02
Lu			0.390	0.265	0.247	0.396	0.42		0.26	0.256	



2. Ore assay

Ore assay was carried out for 10 components. The analyzed elements, the limits of detection and analytical methods are listed in Table 5 & 6.

**Table5. Analyzed elements and limits of detection**

Analysis elements 10components	Cu, Ni	Detection limit : 0.005%
	Co	Detection limit : 0.002%
	Fe	Detection limit : 0.1%
	As, S, Zn	Detection limit : 0.01%
	Pb	Detection limit : 0.02%
	Au	Detection limit : 0.1g/t
	Ag	Detection limit : 0.3g/t

**Table 6 Analytical methods**

Analytical Element	Analytical Method
Cu, Ni, Co	ICP emission spectroscopy
Fe, As, Pb, Zn, Ag	Atomic absorption method
S	High frequency induced infrared absorption spectroscopy (LECO)
Au	Fire assay- Atomic absorption method

### 3. X-ray Diffraction Analysis

Sample was first dried naturally, pulverized in agate mortar, and standard holder was used.

For identifying the abundance of mineral, quartz index (Q.I) was also calculated.

$$Q.I. = I_m/I_q \times 100$$

$I_m$  : X-ray intensity of each mineral

$I_q$  : X-ray intensity of quartz

#### **Specification of X-ray diffusion**

X-ray analysis machine : Rigaku Co., Ltd. RINT2100

X-ray : Cu K-ALPHA 1 / 40 kV / 40 mA

Holder : Standard Holder

Scatter Slit : 1 deg.

Scan mode : continuous

Scan speed : 4.000 ° /min

Scan step : 0.050 °

Coverage of scan : 2.000 ~ 70.000 °

#### 4. Geochemical analysis

Geochemical analysis was carried out for 28 components. The analyzed elements and the limits of detection are listed in Table 7.

**Table7. Analyzed elements and limits of detection**

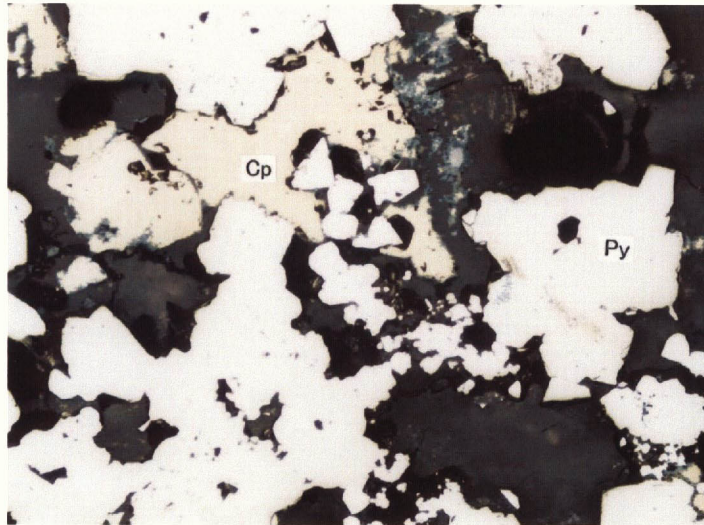
Analysis elements 28components	Al, Ca, Fe, K, Mg, Na, Ti, Cu (re-analyzed) , Zn (re-analyzed)	Detection limit : 0.01%
	Ba, P, W	Detection limit : 10ppm
	Mn	Detection limit : 5ppm
	Bi, Pb, Zn	Detection limit : 2ppm
	As, Co, Cr, Cu, Mo, Ni, Sr, V, Ag (re-analyzed)	Detection limit : 1ppm
	Be, Cd	Detection limit : 0.5ppm
	Ag, Sb	Detection limit : 0.2ppm
	Hg	Detection limit : 0.01ppm
	Au	Detection limit : 5ppb

Analytical Method is described table8.

Table 8. Analytical Method

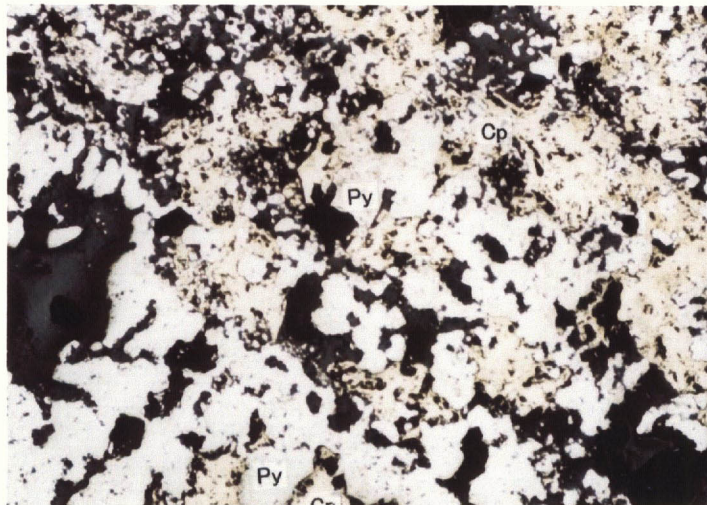
Element	Method
Au	Fire assay- Atomic absorption method
Ag, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sr, Ti, V, W, Zn	ICP emission spectroscopy
Hg	Atomic absorption method
Ag, Cu, Zn (re-analyzed)	Atomic absorption method

Appendix 10 Microscopic Photographs of Thin Section of Ore



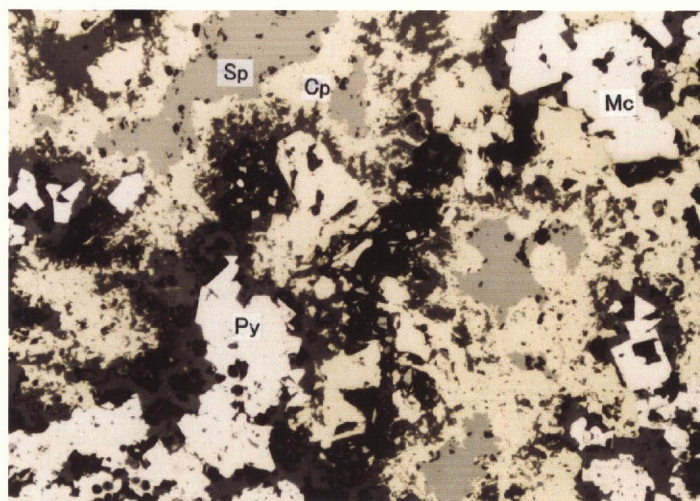
2mm

Ore Showing : W1, BMS hole : 01SFBS12, Sample No. : PL01  
Sample Name : Massive Sulfide (Mound)



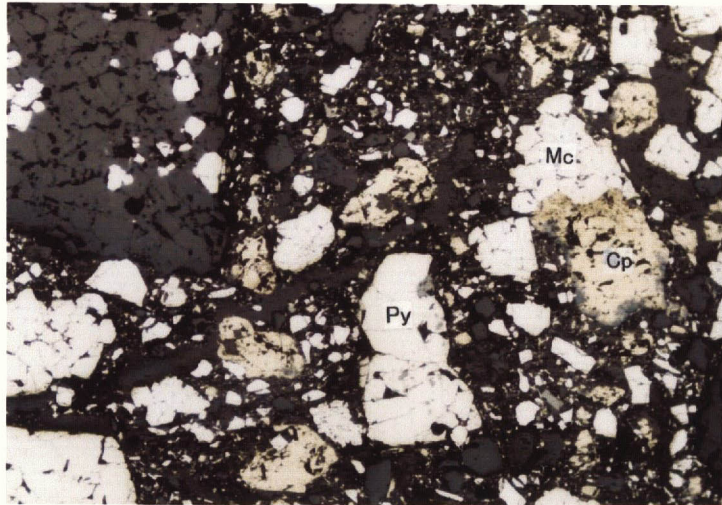
2mm

Ore Showing : W3, BMS hole : 01SFBS08, Sample No. : PL01  
Sample name : Massive Sulfide (Mound)

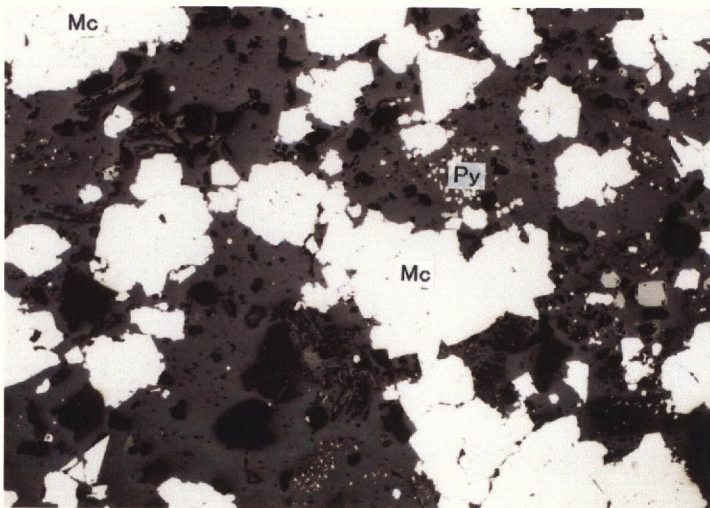


1mm

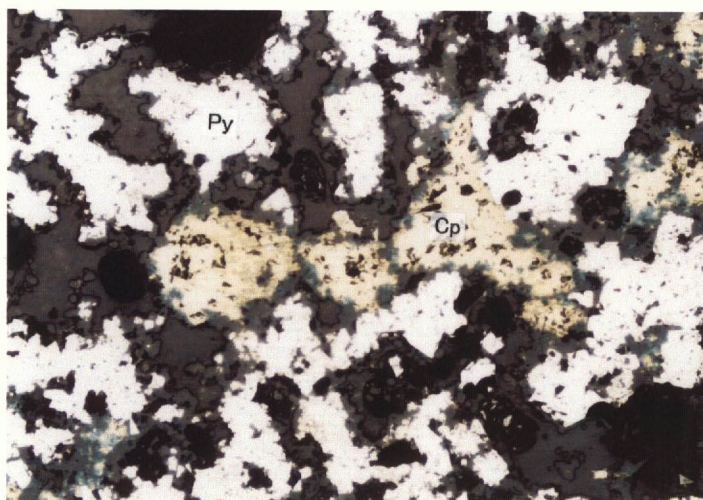
Ore Showing : W3, BMS hole : 01SFBS24, Sample No. : PL01  
Sample Name : Massive Sulfide (Mound)



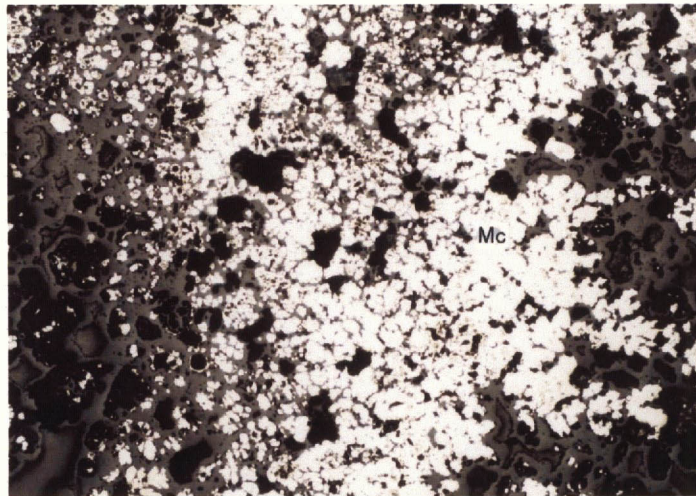
Ore Showing : W3, BMS hole : 01SFBS24, Sample No. : PL05  
Sample Name : Altered Hyaloclastite



Ore Showing : W4, BMS hole : 01SFBS09, Sample No. : PL01  
Sample Name : Vein within basalt (Stockwork zone)

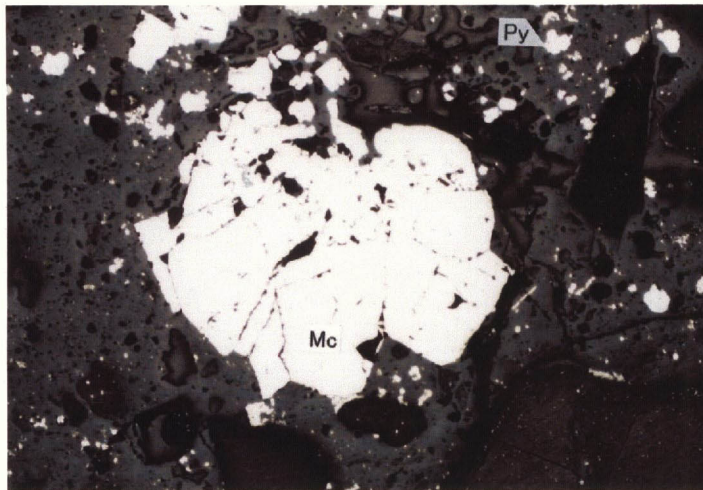


Ore Showing : W6, BMS hole : 01SFBS10, Sample No. : PL03  
Sample Name : Massive Sulfide (Mound)



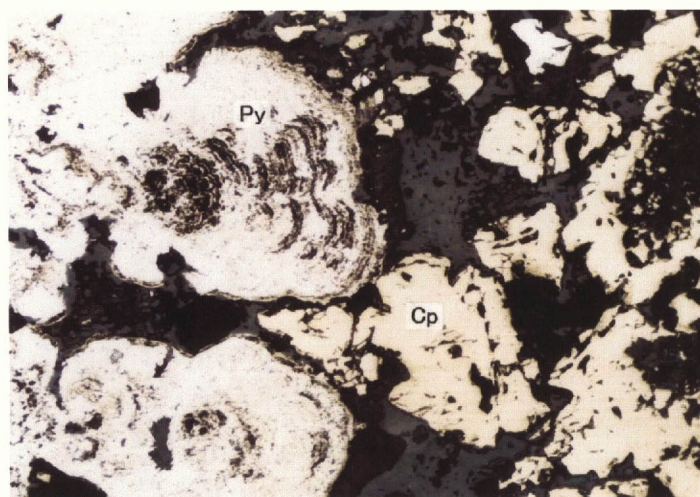
2mm

Ore Showing : W6, BMS hole : 01SFBMS26, Sample No. : PL01  
Sample Name : Massive Sulfide (Mound)



2mm

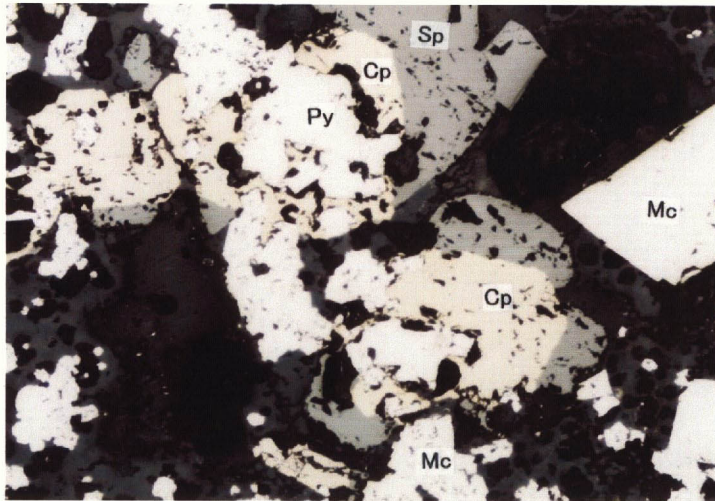
Ore Showing : W7, BMS hole : 01SFBMS06, Sample No. : PL01  
Sample Name : Vein within Basalt (Stockwork zone)



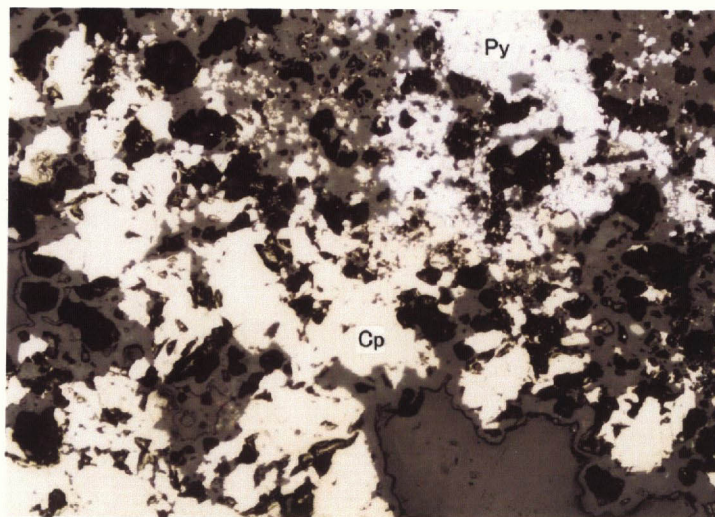
1mm

Ore Showing : E1, BMS hole : 01SFBMS14, Sample No. : PL01  
Sample Name : Massive Sulfide (Chimney)





Ore Showing : E4, BMS hole : 01SFBMS20, Sample No. : PL03  
 Sample Name : Massive Sulfide (Chimney)



Ore Showing : E12, BMS hole : 01SFBMS23, Sample No. : PL01  
 Sample Name : Massive Sulfide (Mound)



Ore Showing : E13, BMS hole : 01SFLC17, Sample No. : PL01  
 Sample Name : Massive Sulfide (Chimney)

Appendix 11 The Result of Environmental Survey

**2001 SOPAC (FIJI area) Samples List of Environmental Survey  
Water Quality and Microorganisms Survey Samples**

Station No.	Sampling date GMT	Bottom arrival time GMT	Location (upper 10m from the bottom)		Water depth C.TD(m)	Properties and the number of samples		
			Latitude	Longitude		Methane	Water bacteria	Suspended solid
01SFRO01	10-Dec-01	1:41	16°57'22" S	173°55'10" E	1,663	2	2	1
					1,713	2	2	1
					1,763	2	2	1
					1,863	2	2	1
					1,913	2	2	1
1,953	2	2	1					
01SFRO02	10-Dec-01	4:25	16°57'50" S	173°54'91" E	1,673	2	2	1
					1,723	2	2	1
					1,773	2	2	1
					1,873	2	2	1
					1,923	2	2	1
1,963	2	2	1					
01SFRO03	10-Dec-01	7:01	16°57'51" S	173°55'10" E	1,663	2	2	1
					1,713	2	2	1
					1,762	2	2	1
					1,863	2	2	1
					1,913	2	2	1
1,953	2	2	1					
01SFRO04	11-Dec-01	3:13	16°57'51" S	173°55'30" E	1,678	2	2	1
					1,728	2	2	1
					1,778	2	2	1
					1,878	2	2	1
					1,928	2	2	1
1,968	2	2	1					
01SFRO05	11-Dec-01	5:46	16°57'81" S	173°55'11" E	1,666	2	2	1
					1,716	2	2	1
					1,766	2	2	1
					1,866	2	2	1
					1,916	2	2	1
1,956	2	2	1					

## 2001 SOPAC (FIJI area) Samples List of Environmental Survey

### Sediment and Benthic Organisms Survey Samples

Station No.	Sampling date GMT	Bottom touch time GMT	Location		Water depth MBS(m)	MC core collection rate collection no. set up no.	Sediment depth (cm)	Sediment quality	Sediment color (ref. Munsell)	Properties and the number of sediment samples			Properties and the number of bottommost water samples									
			Latitude	Longitude						Microbenthos	Sed. bacteria	Total sulfide	Organic carbon	Methane	Water bacteria							
01SFI C09	16-Dec-01	21:41	16 57.3980' S	173 55.0496' E	1.980		Collapsed layer	Brown clay	5YR3.2	1	2	1	1									
							0-1(relative)	Brown clay	10YR4.4	1	2	1	1									
							1-2(relative)	Brown clay	10YR4.4	1	2	1	1									
							2-3(relative)	Brown clay	10YR4.4	1	2	1	1									
							3-4(relative)	Brown clay	10YR4.4	1	2	1	1									
01SFM C04	16-Dec-01	23:35	16 57.3957' S	173 55.0495' E	1.978		Bottommost w.	Brown clay	5YR4.2	1	lost	lost	lost	2	2							
							0-1	Brown clay	5YR4.2	1	lost	lost	lost									
							1-2	Brown clay	5YR4.2	1	lost	lost	lost									
							2-3	Brown clay	5YR4.2	1	lost	lost	lost									
							3-4	Brown clay	5YR4.2	1	2	1	1									
							4-5	Brown clay	5YR4.2	1	2	1	1									
							5-6	Brown clay	5YR4.2	1	2	1	1									
							6-7	Brown clay	5YR4.2	1	2	1	1									
							7-8	Brown clay	5YR4.2	1	2	1	1									
							01SFI C12	19-Dec-01	22:16	16 57.5692' S	173 54.5972' E	1.895		Collapsed layer	Brown clay	7.5YR3.3	1	2	1	1		
0-1(relative)	Brown clay	5YR3.3	1	2	1	1																
1-2(relative)	Brown clay	5YR3.3	1	2	1	1																
2-3(relative)	Brown clay	5YR3.3	1	2	1	1																
3-4(relative)	Brown clay	5YR3.3	1	2	1	1																
4-5(relative)	Brown clay	5YR3.3	1	2	1	1																
01SFM C05	19-Dec-01	0:33	16 57.5690' S	173 54.5937' E	1.895									Bottommost w.	Brown clay	7.5YR3.3	2	2	1	1	2	2
														0-1	Brown clay	7.5YR3.3	2	2	1	1		
														1-2	Brown clay	7.5YR3.3	2	2	1	1		
														2-3	Brown clay	7.5YR3.3	2	2	1	1		
							3-4	Brown clay	7.5YR3.3	2	2	1	1									
							4-5	Brown clay	7.5YR3.3	2	2	1	1									
							5-6	Brown clay	7.5YR3.3	2	2	1	1									
							6-7	Brown clay	7.5YR3.3	2	2	1	1									
							7-8	Brown clay	7.5YR3.3	2	2	1	1									
							8-9	Brown clay	7.5YR3.3	2	2	1	1									
01SFM C06	21-Dec-01	6:45	16 57.6444' S	173 55.0206' E	1.981		9-10	Brown clay	7.5YR3.3	2	2	1	1	lost	lost							
							Bottommost w.	Brown clay	10YR3.2	1	-	-	-									
							0-1	Brown clay	7.5YR3.3	1	-	-	-									
							1-2	Brown clay	7.5YR3.3	1	-	-	-									
							2-3	Brown clay	7.5YR3.3	1	-	-	-									
							3-4	Brown clay	7.5YR3.3	1	-	-	-									
							4-5	Brown clay	7.5YR3.3	1	-	-	-									
							5-6	Brown clay	7.5YR3.3	1	-	-	-									
							01SFM C07	21-Dec-01	21:39	16 57.6258' S	173 55.0364' E	1.978		Bottommost w.	Brown clay	10YR3.2	1	2	1	1	2	2
														0-1	Brown clay	10YR3.2	1	2	1	1		
1-2	Brown clay	10YR3.2	1	2	1	1																
2-3	Brown clay	10YR3.2	1	2	1	1																
3-4	Brown clay	7.5YR2.3	1	2	1	1																
4-5	Brown clay	7.5YR3.3	1	2	1	1																
5-6	Brown clay	7.5YR3.3	1	2	1	1																
6-7	Brown clay	7.5YR3.3	1	2	1	1																
7-8	Brown clay	7.5YR3.3	1	2	1	1																
8-9	Brown clay	7.5YR3.3	1	2	1	1																

Appendix 12 Weather and Sea-state Data

## Appendix 12 Weather and Sea-state Data

Table-1. Monthly Distribution of Wind Direction (W.D)

W.D	CALM	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	un known	Total
F.Q	11	0	0	1	3	7	90	180	103	66	50	10	7	0	0	0	0	0	528
%	2.08	0.00	0.00	0.19	0.57	1.33	17.05	34.09	19.51	12.50	9.47	1.89	1.33	0.00	0.00	0.00	0.00	0.00	100.00

F.Q:Frequency

Table-2. Monthly Distribution of Wind Velocity (W.V)

(W.D. m/sec)

W.V	CALM	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20-	Total
F.Q	11	0	4	11	41	43	74	94	84	87	53	21	4	1	0	0	0	0	0	0	0	0	528
%	2.08	0.00	0.76	2.08	7.77	8.14	14.02	17.80	15.91	16.48	10.04	3.98	0.76	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00

\*) CALM: 0.0m/sec

W.D 0: 0.1m/sec~1.0m/sec

W.D 3: 3.0m/sec~4.0m/sec

W.D 20- : 20.0m/sec<

Table-3 Monthly Distribution of Weather

Weather	fine	cloudy	rain	unk now n	total	ligh t day
F.Q	20	2	0		22	15
%	90.91	9.09	0.00	0.00	100.00	68.18

\*) rain: r, d, p, q > 5times in the day

fine: other than rain day and b, bc > half day

cloudy: other fine & rain day and r, d, p, q, c, o > half

light rain : fine or cloudy and r, d, p, q day

Table-4 Monthly frequency Distribution of Atmospheric (A.P)

A.P	980	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996
F.Q	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A.P	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014
F.Q	0	0	0	9	24	41	57	95	110	83	55	36	16	2	0	0	0	0
%	0.00	0.00	0.00	1.70	4.55	7.77	10.80	17.99	20.83	15.72	10.42	6.82	3.03	0.38	0.00	0.00	0.00	0.00
A.P	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030-	un known	Total
F.Q	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	528
%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00

\*) A.P1000: 1000.0mb~1001.0mb

A.P-980: <980mb

A.P: 1030- : 1030.0mb<

Table-5 Monthly Frequency Distribution of Swell1 Direction (W.D)

W.D	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	un known	Total
F.Q	9	29	6	0	11	12	92	44	70	18	3	0	0	0	0	0	234	528
%	1.70	5.49	1.14	0.00	2.08	2.27	17.42	8.33	13.26	3.41	0.57	0.00	0.00	0.00	0.00	0.00	44.32	100.00

Table-6 Monthly Frequency Distribution of Swell1 Cycle (S.C)

(S.C: Sec)

S.C	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	un known	Total
F.Q	0	0	0	0	0	95	90	71	24	14	0	0	0	0	0	0	234	528
%	0.00	0.00	0.00	0.00	0.00	17.99	17.05	13.45	4.55	2.65	0.00	0.00	0.00	0.00	0.00	0.00	44.32	100.00

Table-7 Monthly Frequency Distribution of Swell1 Height (S.H) (S.H: m)

S.H	0	1	2	3	4	5	6	7	8	9	10	un known	Total
F.Q	0	86	182	26	0	0	0	0	0	0	0	234	528
%	0.00	16.29	34.47	4.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44.32	100.00

Table-8 Monthly Frequency Distribution of Degree of Cloudiness (D.C)

D.C	0	1	2	3	4	5	6	7	8	9	10	unkno wn	Total
F.Q	0	5	32	210	115	68	29	47	24	0	0	0	528
%	0.00	0.95	6.06	39.77	21.78	12.50	5.49	8.90	4.55	0.00	0.00	0.00	100.00

Table-9 Monthly Frequency Distribution of Swell 2 Direction (S.D)

S.D	N	N N	N E	E N	E	E S	S E	S S	S	S S	S W	W S	W	W N	N W	N W	unkno wn	Total
F.Q	4	17	16	6	14	2	25	36	24	0	8	0	0	0	0	4	372	528
%	0.76	3.22	3.03	1.14	2.65	0.38	4.73	6.82	4.55	0.00	1.52	0.00	0.00	0.00	0.00	0.76	70.45	100.00

Table-10 Monthly Frequency Distribution of Swell 2 Cycle (S.C)

(S.C: Sec)

S.C	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	unkno wn	Total
F.Q	0	0	0	0	6	73	63	12	2	0	0	0	0	0	0	0	372	528
%	0.00	0.00	0.00	0.00	1.14	13.83	11.93	2.27	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	70.45	100.00

Table-11 Monthly Frequency Distribution of Swell 2 Height (S.H) (S.H: m)

S.H	0	1	2	3	4	5	6	7	8	9	10	unkno wn	Total
F.Q	0	147	9	0	0	0	0	0	0	0	0	372	528
%	0.00	27.84	1.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	70.45	100.00

Appendix 13 The result of heat flow measurements



## Appendix 13 The result of heat flow measurements

Heat flow measurement was conducted at 3 points (01SFLC15, 01SFLC12, 01SFLC09) for obtaining the terrestrial heat flow (refer to table 1-1). The results of geothermal data are given in Table 2-1 ~ 3 and figure 1-1 ~ 3.

### The Construction of Heat Flow equipment

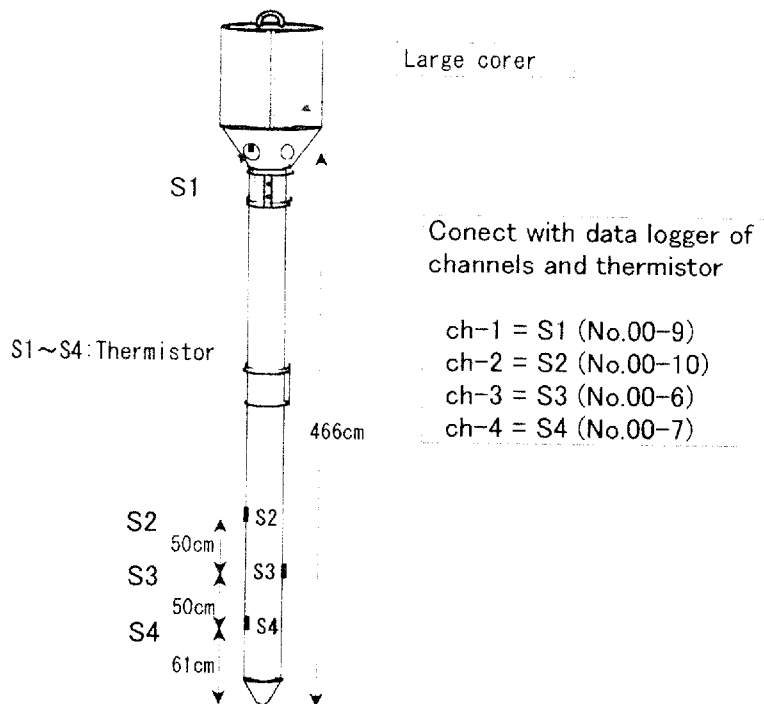


Table 1-1 Location of Heat flow measurement

No	Point	Date	Position		Measurement interval (Minute)	Time of bottom touch	Time of bottom release	intrusion depth(cm)	sample	Remarks
			Latitude (S)	Longitude (E)						
3	01SFLC09	12/17	16° 57.3980'	173° 55.0496'	10	21:41	21:52	90~100	Brown mud sediment	
6	01SFLC12	12/20	16° 57.5692'	173° 54.5972'	15	22:17	22:33	115~120	calcareous clay	
9	01SFLC15	12/21	16° 57.6359'	173° 55.0153'	15	4:48	5:04	165~170	Brown clay	

Table 2-1 Result of geothermal Measurement (01SFLC15)

```

:CH1 sensor NO: 00-9
:CH2 sensor NO: 00-A
:CH3 sensor NO: 00-6
:CH4 sensor NO: 00-7
:*****
:** NTS DATA LOGGER STATUS DATA **
:*****
:
:Timer Set : 01/12/21 02:41:45
:UNIT Set : 01/12/21 02:56:17
:Start Time : 01/12/21 03:40:00
:Stop Time : 03/12/21 02:53:00
:LogOutTime : 01/12/21 06:45:29
:Wait Time : 0060
:AD Interval: 0020
:MAX Channel: 04
:

```

```

:*****
:** NTS LOGGER SERMISTER DATA **
:*****
:

```

	CH-1	CH-2	CH-3	CH-4
12/21 04:39:40	9.3	0.8	0.7	-51.8
12/21 04:40:00	3.724	3.762	3.841	4.185
12/21 04:40:20	9.2	0.9	0.6	-51.8
12/21 04:40:40	3.695	3.73	3.811	4.156
12/21 04:41:00	9.1	0.6	0.4	-51.8
12/21 04:41:20	3.676	3.717	3.797	4.144
12/21 04:41:40	9.1	1.0	0.5	-51.8
12/21 04:42:00	3.654	3.679	3.754	4.105
12/21 04:42:20	9.0	0.8	0.6	-51.8
12/21 04:42:40	3.612	3.634	3.705	4.059
12/21 04:43:00	8.9	0.9	0.8	-51.8
12/21 04:43:20	3.565	3.591	3.666	4.024
12/21 04:43:40	8.8	0.7	0.6	-51.8
12/21 04:44:00	3.53	3.563	3.637	3.995
12/21 04:44:20	8.8	0.8	0.7	-51.8
12/21 04:44:40	3.505	3.55	3.619	3.975
12/21 04:45:00	8.7	0.8	0.6	-51.8
12/21 04:45:20	3.477	3.517	3.591	3.951
12/21 04:45:40	8.6	0.8	0.6	-51.8
12/21 04:46:00	3.471	3.512	3.589	3.949
12/21 04:46:20	8.5	0.7	0.6	-51.8
12/21 04:46:40	3.469	3.503	3.58	3.941
12/21 04:47:00	8.5	0.8	0.7	-51.8
12/21 04:47:20	3.464	3.499	3.573	3.935
12/21 04:47:40	8.4	0.8	0.7	-51.8
12/21 04:48:00	3.456	3.493	3.571	3.932
12/21 04:48:20	8.3	0.7	0.7	-51.8
12/21 04:48:40	3.463	3.491	3.57	3.93
12/21 04:49:00	8.3	0.8	0.7	-51.8
12/21 04:49:20	3.461	3.491	3.567	3.931
12/21 04:49:40	8.2	0.8	0.7	-51.8
12/21 04:50:00	3.455	3.489	3.563	3.926
12/21 04:50:20	8.2	0.8	0.7	-51.8
12/21 04:50:40	3.456	3.486	3.562	3.924
12/21 04:51:00	8.1	0.8	0.7	-51.8
12/21 04:51:20	3.451	3.486	3.564	3.926
12/21 04:51:40	8.1	0.8	0.7	-51.8
12/21 04:52:00	3.449	3.484	3.561	3.921
12/21 04:52:20	8.0	0.8	0.6	-51.8
12/21 04:52:40	3.447	3.482	3.563	3.921
12/21 04:53:00	8.0	0.7	0.7	-51.8
12/21 04:53:20	3.446	3.477	3.556	3.916
12/21 04:53:40	7.9	0.9	1.0	-51.8
12/21 04:54:00	3.443	3.476	3.553	3.91
12/21 04:54:20	8.4	0.4	2.9	-51.8
12/21 04:54:40	3.536	3.614	4.048	4.502
12/21 04:55:00	8.3	0.4	2.9	-51.8
12/21 04:55:20	3.534	3.648	4.204	4.634
12/21 04:55:40	8.3	0.4	2.9	-51.8
12/21 04:56:00	3.533	3.641	4.2	4.622
12/21 04:56:20	8.2	0.3	2.9	-51.8
12/21 04:56:40	3.534	3.63	4.18	4.598
12/21 04:57:00	8.2	0.4	2.9	-51.8
12/21 04:57:20	3.535	3.626	4.166	4.586
12/21 04:57:40	8.1	0.3	2.9	-51.8
12/21 04:58:00	3.534	3.619	4.15	4.566
12/21 04:58:20	8.1	0.3	2.9	-51.8
12/21 04:58:40	3.533	3.616	4.136	4.56
12/21 04:59:00	8.1	0.3	2.9	-51.8
12/21 04:59:20	3.53	3.611	4.127	4.552
12/21 04:59:40	8.0	0.3	2.9	-51.8
12/21 05:00:00	3.534	3.608	4.12	4.554
12/21 05:00:20	8.0	0.4	2.9	-51.8
12/21 05:00:40	3.532	3.607	4.115	4.551
12/21 05:01:00	8.0	0.3	2.9	-51.8
12/21 05:01:20	3.531	3.606	4.112	4.555
12/21 05:01:40	8.0	0.3	2.9	-51.8
12/21 05:02:00	3.532	3.607	4.107	4.555
12/21 05:02:20	7.9	0.3	2.9	-51.8
12/21 05:02:40	3.532	3.606	4.107	4.559

					CH-1	CH-2	CH-3	CH-4
12/21 04:51:20	7.9	0.3	2.9	-51.8	3.534	3.606	4.107	4.562
12/21 04:51:40	7.9	0.3	2.9	-51.8	3.531	3.608	4.106	4.561
12/21 04:52:00	7.9	0.3	2.9	-51.8	3.534	3.609	4.104	4.568
12/21 04:52:20	7.9	0.3	2.8	-51.8	3.532	3.61	4.104	4.57
12/21 04:52:40	7.8	0.3	2.9	-51.8	3.532	3.613	4.104	4.575
12/21 04:53:00	7.8	0.3	2.9	-51.8	3.534	3.612	4.106	4.578
12/21 04:53:20	7.8	0.3	2.9	-51.8	3.536	3.616	4.106	4.581
12/21 04:53:40	7.8	0.3	2.9	-51.8	3.536	3.616	4.107	4.585
12/21 04:54:00	7.8	0.3	2.9	-51.8	3.536	3.616	4.107	4.588
12/21 04:54:20	7.8	0.3	2.9	-51.8	3.535	3.617	4.106	4.59
12/21 04:54:40	7.8	0.3	2.9	-51.8	3.536	3.617	4.108	4.593
12/21 04:55:00	7.7	0.3	2.9	-51.8	3.537	3.621	4.11	4.602
12/21 04:55:20	7.7	0.3	2.9	-51.8	3.538	3.62	4.11	4.603
12/21 04:55:40	7.7	0.3	2.9	-51.8	3.536	3.621	4.111	4.606
12/21 04:56:00	7.7	0.3	2.9	-51.8	3.537	3.624	4.115	4.609
12/21 04:56:20	7.7	0.3	2.9	-51.8	3.536	3.626	4.115	4.616
12/21 04:56:40	7.7	0.3	2.9	-51.8	3.538	3.626	4.118	4.617
12/21 04:57:00	7.7	0.3	2.9	-51.8	3.537	3.629	4.118	4.621
12/21 04:57:20	7.6	0.3	2.9	-51.8	3.539	3.631	4.12	4.625
12/21 04:57:40	7.6	0.3	2.9	-51.8	3.537	3.631	4.122	4.627
12/21 04:58:00	7.6	0.3	2.9	-51.8	3.534	3.633	4.122	4.633
12/21 04:58:20	7.6	0.3	2.9	-51.8	3.537	3.635	4.125	4.633
12/21 04:58:40	7.6	0.3	2.9	-51.8	3.536	3.636	4.127	4.638
12/21 04:59:00	7.6	0.3	2.9	-51.8	3.535	3.637	4.128	4.64
12/21 04:59:20	7.6	0.3	2.9	-51.8	3.536	3.64	4.13	4.643
12/21 04:59:40	7.5	0.3	2.9	-51.8	3.535	3.64	4.13	4.648
12/21 05:00:00	7.5	0.3	2.9	-51.8	3.535	3.642	4.132	4.652
12/21 05:00:20	7.5	0.3	2.9	-51.8	3.535	3.644	4.134	4.652
12/21 05:00:40	7.5	0.3	2.9	-51.8	3.535	3.643	4.135	4.656
12/21 05:01:00	7.5	0.3	2.9	-51.8	3.535	3.644	4.135	4.661
12/21 05:01:20	7.5	0.3	2.9	-51.8	3.533	3.646	4.136	4.661
12/21 05:01:40	7.5	0.3	2.9	-51.8	3.534	3.646	4.139	4.664
12/21 05:02:00	7.5	0.3	2.8	-51.8	3.534	3.648	4.137	4.67
12/21 05:02:20	7.5	0.3	2.8	-51.8	3.534	3.65	4.138	4.675
12/21 05:02:40	7.4	0.3	2.9	-51.8	3.536	3.652	4.139	4.676
12/21 05:03:00	7.4	1.8	5.3	-51.8	3.536	3.616	4.141	4.684
12/21 05:03:20	7.4	1.3	0.6	-51.8	3.534	3.512	3.742	4.221
12/21 05:03:40	7.4	1.0	0.9	-51.8	3.531	3.488	3.629	4.094
12/21 05:04:00	7.4	1.0	0.9	-51.8	3.531	3.483	3.602	4.052
12/21 05:04:20	7.4	0.9	1.0	-51.8	3.534	3.481	3.587	4.017
12/21 05:04:40	7.4	1.0	1.0	-51.8	3.538	3.481	3.581	4.004
12/21 05:05:00	7.4	1.1	0.8	-51.8	3.545	3.483	3.581	3.994
12/21 05:05:20	7.3	1.0	0.9	-51.8	3.552	3.492	3.587	3.994
12/21 05:05:40	7.3	1.1	0.8	-51.8	3.56	3.497	3.589	3.989
12/21 05:06:00	7.3	1.0	0.8	-51.8	3.584	3.515	3.606	3.996
12/21 05:06:20	7.3	1.0	0.9	-51.8	3.6	3.531	3.621	4.009
12/21 05:06:40	7.3	1.0	0.7	-51.8	3.625	3.552	3.642	4.023
12/21 05:07:00	7.3	1.0	0.7	-51.8	3.672	3.595	3.683	4.053
12/21 05:07:20	7.3	1.0	0.7	-51.8	3.703	3.626	3.716	4.085
12/21 05:07:40	7.2	1.0	0.9	-51.8	3.74	3.662	3.752	4.117
12/21 05:08:00	7.2	1.1	0.9	-51.8	3.755	3.681	3.771	4.13
12/21 05:08:20	7.2	1.1	0.9	-51.8	3.789	3.71	3.8	4.155
12/21 05:08:40	7.2	1.0	1.0	-51.8	3.802	3.726	3.815	4.169
12/21 05:09:00	7.2	1.0	0.8	-51.8	3.831	3.745	3.836	4.19
12/21 05:09:20	7.2	0.9	0.6	-51.8	3.871	3.785	3.876	4.221
12/21 05:09:40	7.2	0.9	0.7	-51.8	3.906	3.824	3.917	4.258
12/21 05:10:00	7.2	0.9	0.9	-51.8	3.95	3.863	3.956	4.296
12/21 05:10:20	7.2	1.0	0.7	-51.8	3.994	3.905	3.997	4.327

Table 2-2 Result of geothermal Measurement (01SFLC12)

:CH1 sensor NO: 00-9  
 :CH2 sensor NO: 00-A  
 :CH3 sensor NO: 00-6  
 :CH4 sensor NO: 00-7

\*\*\*\*\*  
 \*\* NTS DATA LOGGER STATUS DATA \*\*  
 \*\*\*\*\*

:  
 ;Timer Set : 01/12/19 21:08:25  
 ;UNIT Set : 01/12/19 21:10:51  
 ;Start Time : 01/12/19 21:30:00  
 ;Stop Time : 03/12/19 21:08:00  
 ;LogOutTime : 01/12/19 23:57:44  
 ;Wait Time : 0060  
 ;AD Interval: 0020  
 ;MAX Channel: 04  
 :

\*\*\*\*\*  
 \*\* NTS LOGGER SERMISTER DATA \*\*  
 \*\*\*\*\*

	CH-1	CH-2	CH-3	CH-4
12/19 22:09:40	8.1	0.5	0.4	-51.8
12/19 22:10:00	8.0	0.5	0.3	-51.8
12/19 22:10:20	7.9	0.5	0.5	-51.8
12/19 22:10:40	7.8	0.3	0.6	-51.8
12/19 22:11:00	7.7	0.5	0.6	-51.8
12/19 22:11:20	7.6	0.4	0.6	-51.8
12/19 22:11:40	7.5	0.4	0.5	-51.8
12/19 22:12:00	7.5	0.3	0.5	-51.8
12/19 22:12:20	7.4	0.5	0.4	-51.8
12/19 22:12:40	7.3	0.4	0.3	-51.8
12/19 22:13:00	7.2	0.3	0.4	-51.8
12/19 22:13:20	7.2	0.4	0.4	-51.8
12/19 22:13:40	7.1	0.3	0.4	-51.8
12/19 22:14:00	7.0	0.4	0.4	-51.8
12/19 22:14:20	7.0	0.4	0.4	-51.8
12/19 22:14:40	6.9	0.4	0.3	-51.8
12/19 22:15:00	6.8	0.4	0.4	-51.8
12/19 22:15:20	6.8	0.4	0.3	-51.8
12/19 22:15:40	14.7	0.8	6.6	-51.8
12/19 22:16:00	13.7	-----	-----	-80.7
12/19 22:16:20	13.1	-----	-----	-80.7
12/19 22:16:40	13.4	-----	-----	-80.7
12/19 22:17:00	13.7	-----	-----	-80.6
12/19 22:17:20	13.4	-----	-----	-80.6
12/19 22:17:40	12.8	-----	-----	-80.6
12/19 22:18:00	12.8	-----	-----	-80.6
12/19 22:18:20	12.8	-----	-----	-80.6
12/19 22:18:40	12.7	-----	-----	-80.5
12/19 22:19:00	13.3	-----	-----	-80.6
12/19 22:19:20	12.9	-----	-----	-80.5
12/19 22:19:40	12.7	-----	-----	-80.5
12/19 22:20:00	13.3	-----	-----	-80.5
12/19 22:20:20	12.6	-----	-----	-80.5
12/19 22:20:40	13.0	-----	-----	-80.5
12/19 22:21:00	13.0	-----	-----	-80.4
12/19 22:21:20	13.1	-----	-----	-80.3
	3.829	3.781	3.875	4.351
	3.823	3.771	3.863	4.342
	3.774	3.725	3.814	4.292
	3.735	3.691	3.778	4.253
	3.715	3.667	3.752	4.225
	3.68	3.633	3.721	4.2
	3.655	3.606	3.697	4.175
	3.642	3.593	3.682	4.157
	3.631	3.582	3.675	4.152
	3.624	3.562	3.645	4.123
	3.603	3.549	3.641	4.119
	3.602	3.548	3.637	4.111
	3.596	3.548	3.639	4.112
	3.596	3.543	3.635	4.112
	3.592	3.54	3.631	4.103
	3.587	3.535	3.629	4.097
	3.582	3.525	3.617	4.085
	3.569	3.519	3.613	4.082
	3.566	3.513	3.605	4.073
	3.513	3.286	3.795	4.427
	3.512	3.289	3.817	4.43
	3.51	3.295	3.82	4.411
	3.511	3.301	3.815	4.395
	3.514	3.301	3.81	4.381
	3.513	3.305	3.807	4.376
	3.502	3.307	3.805	4.368
	3.5	3.306	3.804	4.355
	3.501	3.308	3.803	4.351
	3.503	3.307	3.8	4.35
	3.503	3.309	3.799	4.345
	3.502	3.308	3.797	4.346
	3.503	3.31	3.795	4.343
	3.505	3.312	3.795	4.339
	3.506	3.316	3.795	4.336
	3.505	3.315	3.793	4.335
	3.506	3.316	3.793	4.33

					CH-1	CH-2	CH-3	CH-4
12/19 22:21:40	13.0	-----	-----	-80.4	3.506	3.315	3.79	4.33
12/19 22:22:00	12.9	-----	-----	-80.4	3.507	3.316	3.793	4.331
12/19 22:22:20	12.5	-----	-----	-80.3	3.509	3.317	3.789	4.331
12/19 22:22:40	12.6	-----	-----	-80.3	3.507	3.318	3.792	4.328
12/19 22:23:00	13.0	-----	-----	-80.3	3.508	3.319	3.792	4.328
12/19 22:23:20	13.1	-----	-----	-80.3	3.508	3.318	3.792	4.322
12/19 22:23:40	12.6	-----	-----	-80.3	3.506	3.317	3.793	4.322
12/19 22:24:00	12.7	-----	-----	-80.3	3.507	3.318	3.793	4.326
12/19 22:24:20	12.7	-----	-----	-80.3	3.507	3.319	3.793	4.322
12/19 22:24:40	13.0	-----	-----	-80.3	3.507	3.316	3.794	4.321
12/19 22:25:00	12.9	-----	-----	-80.3	3.507	3.315	3.795	4.325
12/19 22:25:20	12.4	-----	-----	-80.3	3.505	3.317	3.793	4.32
12/19 22:25:40	13.0	-----	-----	-80.2	3.507	3.316	3.795	4.321
12/19 22:26:00	13.0	-----	-----	-80.2	3.504	3.313	3.796	4.319
12/19 22:26:20	12.9	-----	-----	-80.3	3.503	3.315	3.796	4.32
12/19 22:26:40	13.0	-----	-----	-80.3	3.504	3.314	3.796	4.316
12/19 22:27:00	12.9	-----	-----	-80.2	3.506	3.315	3.797	4.319
12/19 22:27:20	12.3	-----	-----	-80.2	3.508	3.315	3.797	4.319
12/19 22:27:40	13.0	-----	-----	-80.2	3.507	3.314	3.797	4.317
12/19 22:28:00	12.3	-----	-----	-80.2	3.507	3.315	3.798	4.321
12/19 22:28:20	12.7	-----	-----	-80.2	3.506	3.314	3.798	4.317
12/19 22:28:40	12.7	-----	-----	-80.2	3.505	3.313	3.796	4.318
12/19 22:29:00	13.1	-----	-----	-80.2	3.505	3.313	3.797	4.321
12/19 22:29:20	12.3	-----	-----	-80.2	3.503	3.314	3.797	4.321
12/19 22:29:40	13.1	-----	-----	-80.2	3.505	3.313	3.796	4.318
12/19 22:30:00	13.0	-----	-----	-80.1	3.503	3.313	3.795	4.314
12/19 22:30:20	12.8	-----	-----	-80.1	3.504	3.315	3.796	4.318
12/19 22:30:40	13.0	-----	-----	-80.1	3.504	3.315	3.798	4.316
12/19 22:31:00	13.1	-----	-----	-80.1	3.501	3.316	3.797	4.32
12/19 22:31:20	12.3	-----	-----	-80.1	3.501	3.314	3.796	4.318
12/19 22:31:40	12.3	55.3	-----	-80.0	3.507	3.323	3.792	4.393
12/19 22:32:00	13.7	2.7	1.4	-51.8	3.512	3.331	3.796	4.4
12/19 22:32:20	13.8	2.9	2.8	-51.8	3.517	3.285	3.72	4.189
12/19 22:32:40	13.8	2.9	2.6	-51.8	3.519	3.299	3.675	4.127
12/19 22:33:00	13.8	3.0	2.6	-51.8	3.536	3.309	3.658	4.097
12/19 22:33:20	13.8	3.0	2.7	-51.8	3.544	3.32	3.649	4.091
12/19 22:33:40	13.8	2.8	2.7	-51.8	3.583	3.351	3.657	4.101
12/19 22:34:00	13.8	2.6	2.8	-51.8	3.603	3.376	3.668	4.113
12/19 22:34:20	13.8	2.8	2.8	-51.8	3.623	3.394	3.678	4.126
12/19 22:34:40	13.8	2.6	2.7	-51.8	3.66	3.432	3.704	4.151
12/19 22:35:00	13.8	2.6	3.0	-51.8	3.676	3.455	3.723	4.169
12/19 22:35:20	13.8	2.5	2.8	-51.8	3.715	3.487	3.749	4.19
12/19 22:35:40	13.8	2.5	3.1	-51.8	3.746	3.521	3.776	4.219
12/19 22:36:00	13.8	2.5	3.1	-51.8	3.761	3.542	3.799	4.239
12/19 22:36:20	13.8	2.3	2.7	-51.8	3.843	3.617	3.855	4.288
12/19 22:36:40	13.7	2.3	2.8	-51.8	3.863	3.64	3.887	4.321
12/19 22:37:00	13.7	2.5	2.8	-51.8	3.867	3.645	3.898	4.336
12/19 22:37:20	13.7	2.2	2.8	-51.8	3.907	3.68	3.927	4.361
12/19 22:37:40	13.7	2.4	3.6	-51.8	3.935	3.703	3.957	4.39
12/19 22:38:00	13.7	2.3	3.0	-51.8	3.99	3.75	3.999	4.432
12/19 22:38:20	13.7	2.1	2.6	-51.8	4.003	3.784	4.024	4.455
12/19 22:38:40	13.7	2.2	2.8	-51.8	4.051	3.82	4.061	4.49
12/19 22:39:00	13.7	1.9	2.6	-51.8	4.063	3.839	4.084	4.51
12/19 22:39:20	13.7	1.9	2.6	-51.8	4.124	3.894	4.128	4.556
12/19 22:39:40	13.7	2.0	3.0	-51.8	4.147	3.914	4.156	4.582
12/19 22:40:00	13.7	2.0	2.8	-51.8	4.179	3.947	4.19	4.612
12/19 22:40:20	13.7	2.1	3.2	-51.8	4.209	3.978	4.222	4.644

Table 2-3 Result of geothermal Measurement (01SFLC09)

```

;CH1 sensor NO: 00-9
;CH2 sensor NO: 00-A
;CH3 sensor NO: 00-6
;CH4 sensor NO: 00-7
;*****
;** NTS DATA LOGGER STATUS DATA **
;*****
;
;Timer Set : 01/12/16 20:26:18
;UNIT Set : 01/12/16 20:30:35
;Start Time : 01/12/16 20:59:00
;Stop Time : 03/12/16 20:26:00
;LogOutTime : 01/12/17 02:39:42
;Wait Time : 0060
;AD Interval: 0020
;MAX Channel: 04
;
;*****
;** NTS LOGGER SERMISTER DATA **
;*****
;

```

	CH-1	CH-2	CH-3	CH-4
12/16 21:29:40	9.1	1.1	0.9	-51.8
12/16 21:30:00	8.9	1.0	0.7	-51.8
12/16 21:30:20	8.8	0.8	0.4	-51.8
12/16 21:30:40	8.7	1.1	-0.3	-51.8
12/16 21:31:00	8.6	0.9	0.4	-51.8
12/16 21:31:20	8.5	0.5	0.4	-51.8
12/16 21:31:40	8.4	0.7	0.4	-51.8
12/16 21:32:00	8.4	1.2	-0.3	-51.8
12/16 21:32:20	8.3	0.9	0.4	-51.8
12/16 21:32:40	8.2	0.9	0.1	-51.8
12/16 21:33:00	8.1	0.6	0.7	-51.8
12/16 21:33:20	8.0	0.6	0.2	-51.8
12/16 21:33:40	7.9	0.6	0.6	-51.8
12/16 21:34:00	7.9	0.7	0.7	-51.8
12/16 21:34:20	7.8	0.5	0.2	-51.8
12/16 21:34:40	7.7	0.7	0.4	-51.8
12/16 21:35:00	7.7	0.6	0.4	-51.8
12/16 21:35:20	7.6	0.7	0.5	-51.8
12/16 21:35:40	7.5	0.5	0.1	-51.8
12/16 21:36:00	7.4	0.5	0.2	-51.8
12/16 21:36:20	7.4	0.7	0.3	-51.8
12/16 21:36:40	7.3	0.6	0.4	-51.8
12/16 21:37:00	7.3	0.5	0.1	-51.8
12/16 21:37:20	7.2	0.6	0.4	-51.8
12/16 21:37:40	7.2	0.6	0.3	-51.8
12/16 21:38:00	7.1	0.4	0.1	-51.8
12/16 21:38:20	7.1	0.4	-0.0	-51.8
12/16 21:38:40	7.0	0.7	0.5	-51.8
12/16 21:39:00	7.0	0.5	0.2	-51.8
12/16 21:39:20	6.9	0.6	0.3	-51.8
12/16 21:39:40	6.9	0.5	0.2	-51.8
12/16 21:40:00	6.8	0.5	0.2	-51.8
12/16 21:40:20	6.8	0.5	0.1	-51.8
12/16 21:40:40	6.9	-2.6	-1.4	-51.8
12/16 21:41:00	6.9	-2.5	-1.4	-51.8
12/16 21:41:20	6.9	-2.5	-1.3	-51.8

					CH-1	CH-2	CH-3	CH-4
12/16 21:41:40	6.9	-2.6	-1.4	-51.8	3.564	3.468	3.656	4.506
12/16 21:42:00	6.8	-2.6	-1.4	-51.8	3.566	3.467	3.648	4.487
12/16 21:42:20	6.8	-2.5	-1.4	-51.8	3.564	3.467	3.643	4.468
12/16 21:42:40	6.8	-2.6	-1.4	-51.8	3.564	3.467	3.636	4.459
12/16 21:43:00	6.8	-2.6	-1.4	-51.8	3.563	3.468	3.632	4.444
12/16 21:43:20	6.7	-2.6	-1.4	-51.8	3.564	3.467	3.629	4.428
12/16 21:43:40	6.7	-2.6	-1.4	-51.8	3.566	3.469	3.627	4.432
12/16 21:44:00	6.7	-2.6	-1.4	-51.8	3.567	3.468	3.626	4.421
12/16 21:44:20	6.7	-2.6	-1.4	-51.8	3.567	3.469	3.624	4.42
12/16 21:44:40	6.7	-2.6	-1.4	-51.8	3.565	3.468	3.622	4.412
12/16 21:45:00	6.6	-2.6	-1.4	-51.8	3.565	3.469	3.62	4.409
12/16 21:45:20	6.6	-2.6	-1.4	-51.8	3.563	3.469	3.618	4.408
12/16 21:45:40	6.6	-2.6	-1.4	-51.8	3.565	3.469	3.618	4.399
12/16 21:46:00	6.6	-2.6	-1.4	-51.8	3.567	3.469	3.615	4.393
12/16 21:46:20	6.6	-2.6	-1.4	-51.8	3.568	3.469	3.616	4.401
12/16 21:46:40	6.5	-2.6	-1.4	-51.8	3.565	3.468	3.615	4.392
12/16 21:47:00	6.5	-2.6	-1.4	-51.8	3.565	3.467	3.615	4.389
12/16 21:47:20	6.5	-2.6	-1.4	-51.8	3.565	3.469	3.613	4.386
12/16 21:47:40	6.5	-2.6	-1.4	-51.8	3.565	3.469	3.613	4.387
12/16 21:48:00	6.5	-2.6	-1.4	-51.8	3.564	3.469	3.613	4.383
12/16 21:48:20	6.5	-2.6	-1.4	-51.8	3.565	3.471	3.611	4.383
12/16 21:48:40	6.4	-2.6	-1.4	-51.8	3.565	3.468	3.613	4.382
12/16 21:49:00	6.4	-2.6	-1.4	-51.8	3.564	3.468	3.609	4.384
12/16 21:49:20	6.4	-2.6	-1.4	-51.8	3.565	3.468	3.612	4.379
12/16 21:49:40	6.4	-2.6	-1.4	-51.8	3.566	3.469	3.609	4.376
12/16 21:50:00	6.4	-2.6	-1.4	-51.8	3.566	3.467	3.609	4.376
12/16 21:50:20	6.4	-2.6	-1.4	-51.8	3.567	3.467	3.607	4.379
12/16 21:50:40	6.4	-2.6	-1.4	-51.8	3.568	3.466	3.607	4.374
12/16 21:51:00	6.3	-2.6	-1.4	-51.8	3.566	3.465	3.605	4.372
12/16 21:51:20	6.3	-2.4	-1.4	-51.8	3.568	3.464	3.605	4.373
12/16 21:51:40	6.3	-2.4	-1.5	-51.8	3.57	3.465	3.604	4.368
12/16 21:52:00	6.3	3.3	0.1	-51.8	3.568	3.463	3.595	4.367
12/16 21:52:20	6.3	0.2	0.2	-51.8	3.566	3.461	3.584	4.317
12/16 21:52:40	6.3	0.8	0.4	-51.8	3.564	3.46	3.58	4.304
12/16 21:53:00	6.2	0.7	0.4	-51.8	3.578	3.467	3.587	4.302
12/16 21:53:20	6.2	0.7	0.3	-51.8	3.59	3.481	3.597	4.314
12/16 21:53:40	6.2	0.7	0.2	-51.8	3.594	3.486	3.604	4.318
12/16 21:54:00	6.2	0.6	0.3	-51.8	3.599	3.489	3.606	4.322
12/16 21:54:20	6.2	0.7	0.2	-51.8	3.613	3.501	3.617	4.328
12/16 21:54:40	6.2	0.7	0.3	-51.8	3.626	3.516	3.632	4.354
12/16 21:55:00	6.1	0.6	0.4	-51.8	3.65	3.536	3.651	4.37
12/16 21:55:20	6.1	0.7	0.3	-51.8	3.68	3.56	3.674	4.394
12/16 21:55:40	6.1	0.7	0.1	-51.8	3.716	3.598	3.71	4.432
12/16 21:56:00	6.1	0.5	0.1	-51.8	3.747	3.633	3.744	4.46
12/16 21:56:20	6.1	0.8	0.3	-51.8	3.787	3.669	3.784	4.495
12/16 21:56:40	6.0	0.8	0.3	-51.8	3.799	3.689	3.803	4.515
12/16 21:57:00	6.0	0.6	0.3	-51.8	3.802	3.699	3.81	4.52
12/16 21:57:20	6.0	0.8	0.3	-51.8	3.868	3.745	3.856	4.568
12/16 21:57:40	6.0	0.8	0.4	-51.8	3.921	3.79	3.903	4.617
12/16 21:58:00	6.0	0.8	0.3	-51.8	3.978	3.845	3.96	4.672
12/16 21:58:20	6.0	0.8	0.2	-51.8	4.001	3.889	3.993	4.703
12/16 21:58:40	6.0	0.6	0.1	-51.8	4.008	3.901	4.011	4.719
12/16 21:59:00	6.0	0.8	0.0	-51.8	4.025	3.914	4.021	4.735
12/16 21:59:20	6.0	0.8	0.1	-51.8	4.092	3.974	4.074	4.801
12/16 21:59:40	6.0	0.9	0.4	-51.8	4.114	4.005	4.111	4.829
12/16 22:00:00	6.0	0.8	0.3	-51.8	4.164	4.044	4.152	4.869
12/16 22:00:20	6.0	0.8	0.2	-51.8	4.207	4.095	4.192	4.915



# 01SFLC15

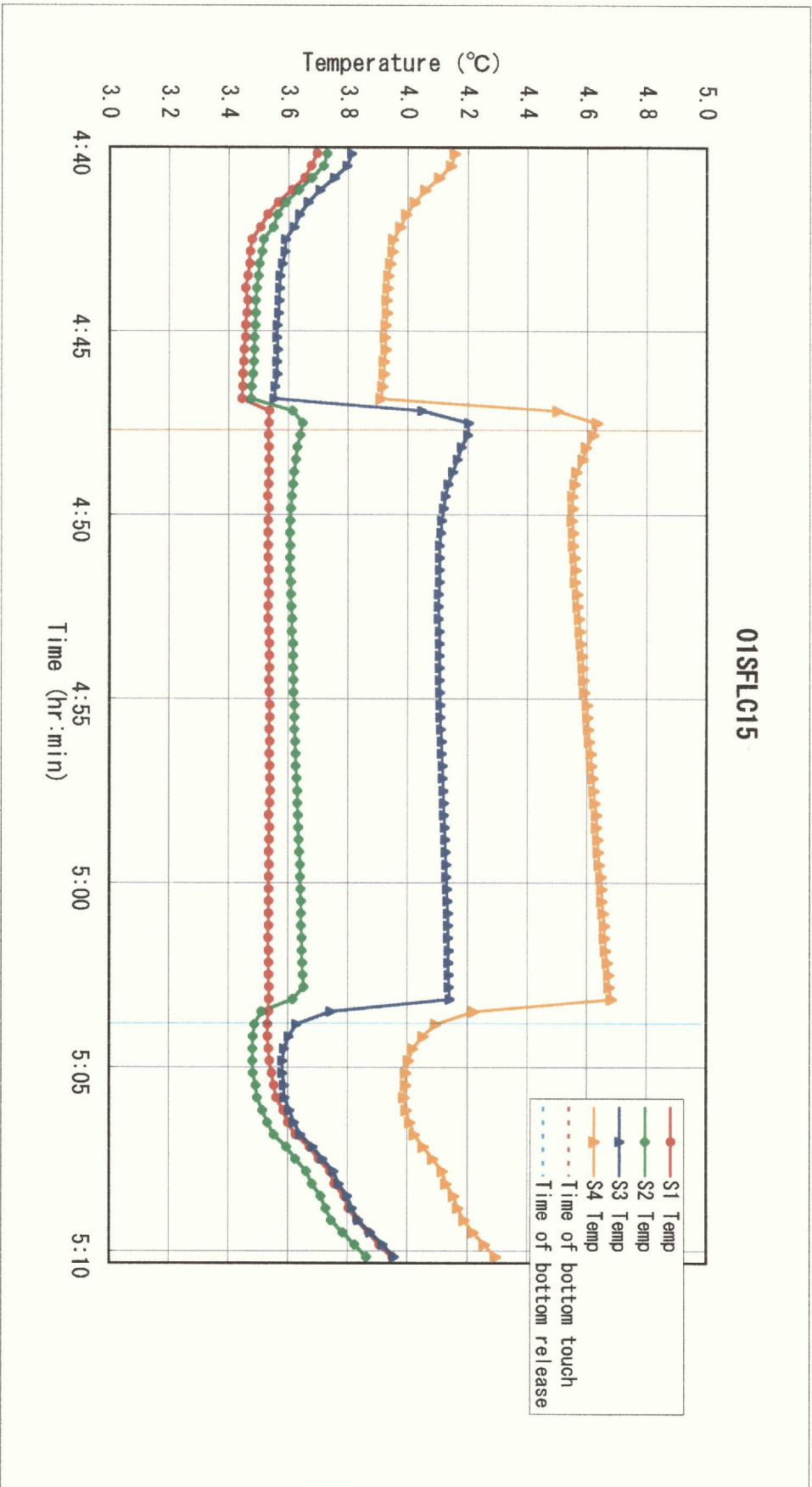


Figure 1— 1 Geothermal data of 01SFLC15

01SFLG12

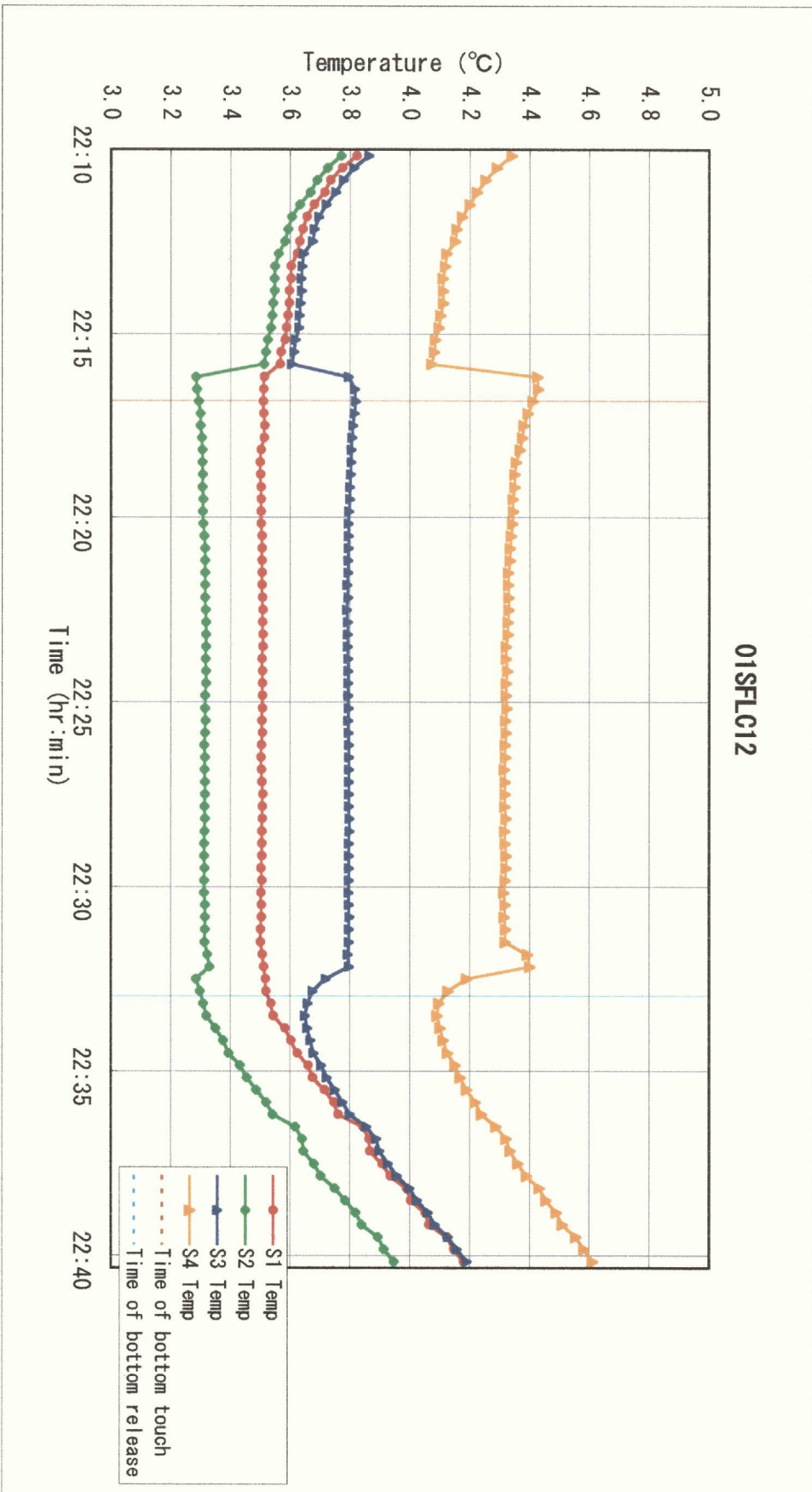


Figure 1—2 Geothermal data of 01SFLG12

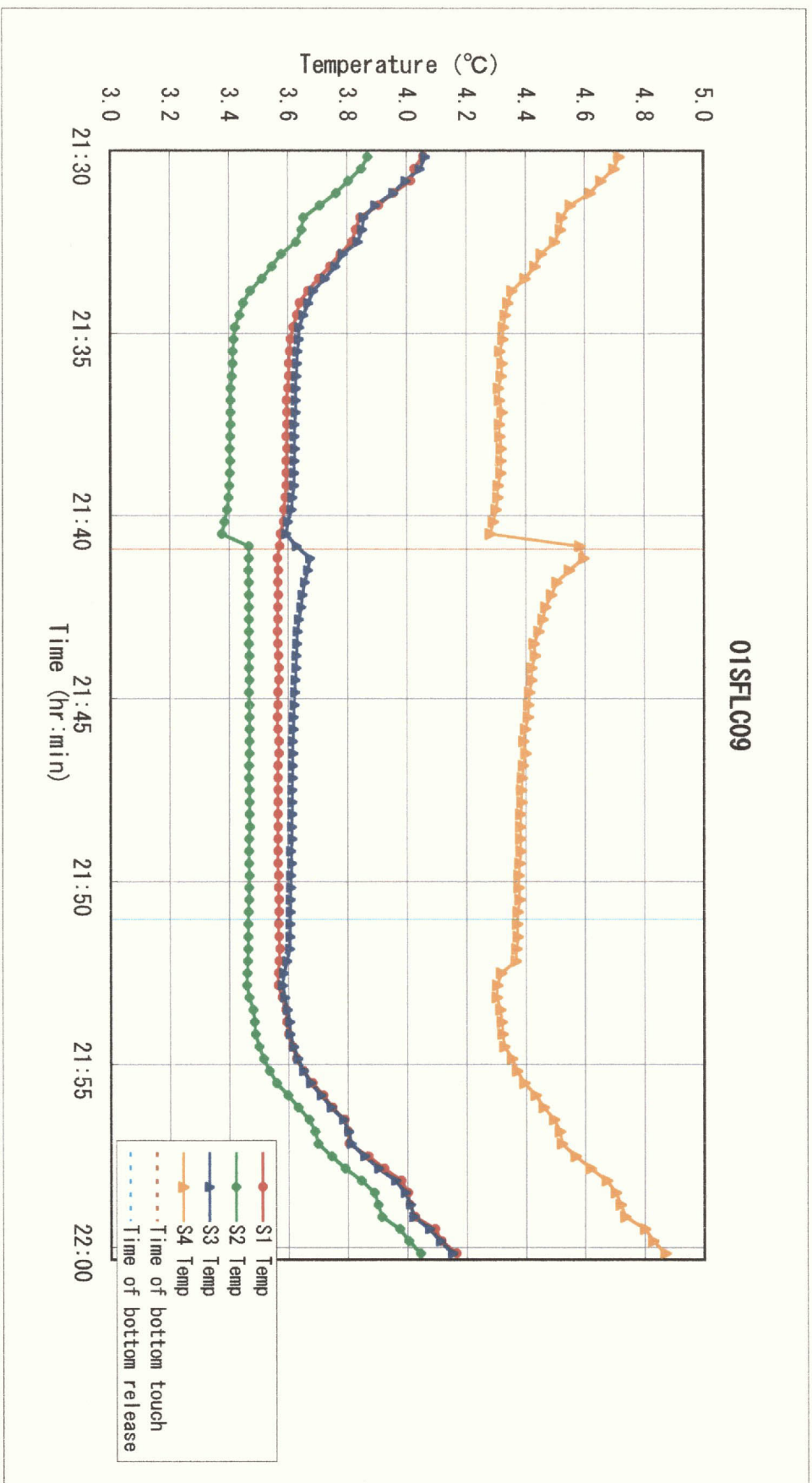
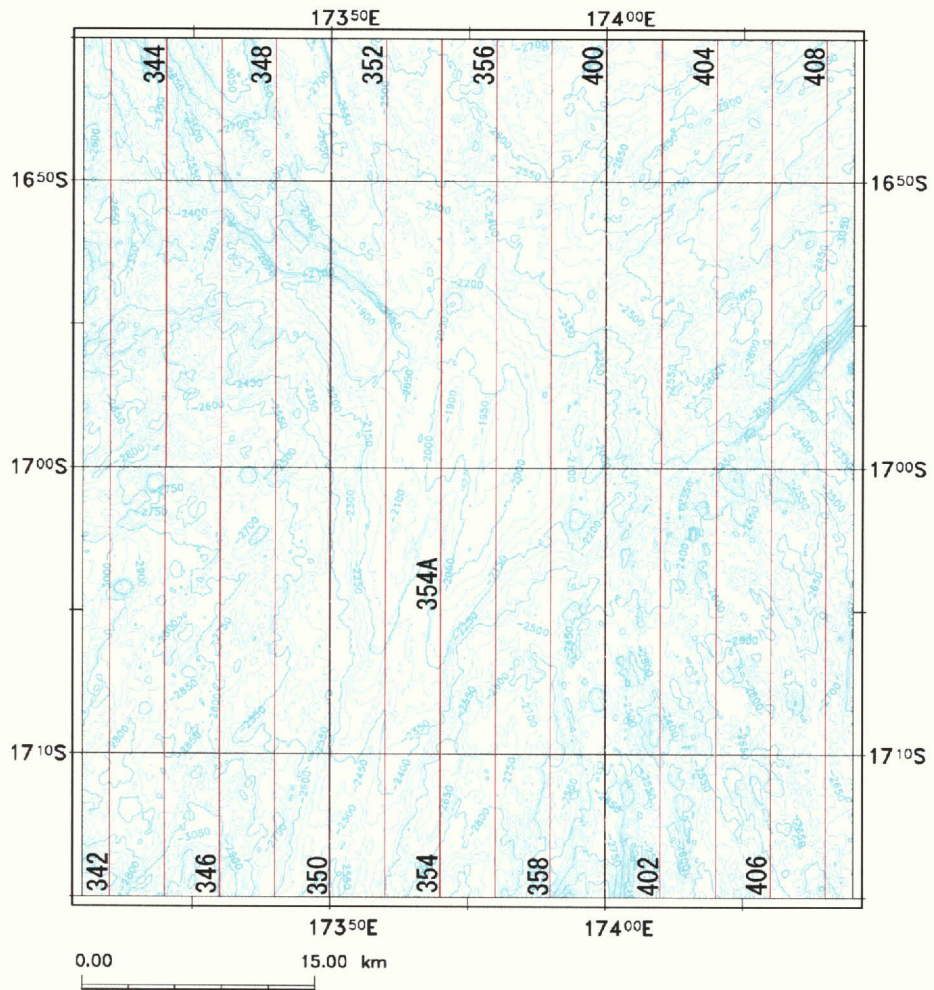


Figure 1—3 Geothermal data of 01SFLC09

Appendix 14 Location Map of Track Line



Appendix 14 Location Map of Track Line