

CLIMATOLOGICAL DATA FOR THE PERIOD 1951-1975

Station MAE HONG SON
 Index Station 48 300
 Latitude 19° 18' N.
 Longitude 97° 50' E.

Elevation of station above MSL. 26726 meters
 Height of barometer above MSL. 26917 meters
 Height of thermometer above ground 1.50 meters
 Height of wind vane above ground 15.00 meters
 Height of raingauge 068 meters

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Pressure (+1000 or 900 mbs.)													
Mean	1398	1182	0968	0745	0591	0494	0596	0537	0701	1034	1288	1407	0915
Ext Max	2575	2224	2131	1752	1505	1341	1451	1370	1472	1922	2310	2400	2575
Ext Min.	0427	0256	9828	9747	9615	9509	9576	9530	9726	0106	0432	0387	9509
Mean daily range	580	631	672	647	525	389	365	392	465	505	509	546	519
Temperature (C)													
Mean	206	222	261	297	287	271	266	262	265	262	243	214	254
Mean Max.	298	328	361	377	349	318	309	308	316	320	311	295	323
Mean Min.	140	139	170	221	239	237	235	232	231	221	193	157	201
Ext Max.	345	370	395	424	414	394	360	345	355	354	352	339	424
Ext Min.	60	82	110	156	204	205	212	205	197	160	98	72	60
Relative Humidity (%)													
Mean	74.0	66.0	55.0	55.0	71.0	81.0	83.0	85.0	85.0	82.0	79.0	77.0	74.0
Mean Max	95.0	93.2	86.0	80.5	89.6	93.6	94.4	95.7	95.5	95.5	95.1	95.1	92.4
Mean Min.	42.6	32.5	26.6	30.5	49.3	65.3	69.0	71.2	68.6	63.9	56.3	49.4	52.1
Ext. Min.	17.0	14.0	11.0	13.0	22.0	41.0	48.0	43.0	45.0	42.0	33.0	29.0	11.0
Dew Point (C)													
Mean	15.0	14.3	14.8	18.0	22.1	23.3	23.2	23.5	23.5	22.7	20.1	16.6	19.8
Evaporation (mm)													
Mean - Piche	49.7	63.2	106.7	122.5	75.6	41.1	37.5	32.0	30.4	32.2	34.2	37.1	66.22
- pan													No Observation
Cloudiness (0-8)													
Mean	2.8	1.9	1.9	2.8	5.6	6.7	6.9	7.0	6.3	5.2	3.8	3.2	4.5
Visibility (km)													
0700 L-S-T	15	41	32	51	96	90	84	7.8	7.3	51	2.9	1.6	55
Mean	97	88	51	67	11.3	10.3	98	96	102	10.5	106	102	94
Wind (Knots)													
Prevailing wind	E	E	E,S	S	S	S	S	S	S	S	E	E	-
Mean Wind Speed	1.2	1.8	2.4	2.9	2.3	1.9	2.0	1.7	1.4	1.1	1.0	1.0	-
Max. Wind Speed	40W	33SW	54S	66W	60W	43S	33S	33 _{SSW}	40NE	40NE	33E	18SE	-
Rainfall (mm)													
Mean	13.2	19	93	45.7	178.1	183.0	204.1	262.8	219.9	96.3	30.4	9.0	125.37
Mean rainy days	13	04	14	48	157	200	223	248	195	118	4.6	1.8	128.4
Greatest in 24 hr	41.0	14.7	34.5	51.4	98.1	84.2	110.7	94.8	130.4	108.7	62.1	30.4	130.4
Day/Year	10/75	13/56	30/58	24/64	31/68	6/73	25/59	17/66	7/56	27/65	6/72	11/75	7/56
Number of days with													
Haze	128	226	27.7	222	29	1.2	01	02	1.9	5.3	5.0	8.0	109.9
Hog	267	115	1.7	0.1	0.3	0.1	0.4	0.5	3.6	12.4	20.9	26.2	104.4
Hail	00	00	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Thunderstorm	06	06	2.5	8.5	14.8	7.2	4.9	5.5	10.8	9.5	2.1	0.4	67.5
Squall	00	00	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.3

Remark : 1 Pressure 1955 - 1975
 2. Ext Min. Temperature 1954 - 1975

CLIMATOLOGICAL DATA FOR THE PERIOD 1951-1975

Station CHIANG MAI
 Index Station 48 327
 Latitude 18° 47' N.
 Longitude 98° 59' E.

Elevation of station above MSL. 31313 meters
 Height of barometer above MSL. 31412 meters
 Height of thermometer above ground 1.22 meters
 Height of wind vane above ground 15.00 meters
 Height of raingauge 080 meters

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Pressure (+1000 or 900 mds.)													
Mean	14.21	11.57	09.40	07.33	05.87	04.70	04.86	05.12	07.52	10.78	13.31	14.72	09.68
Ext. Max.	27.10	24.30	21.40	18.10	14.20	12.10	13.10	13.10	16.30	19.00	23.00	24.70	27.10
Ext. Min.	04.20	01.40	09.40	06.70	06.90	05.30	04.90	05.10	06.90	01.30	04.10	03.90	04.90
Mean daily	659	710	711	687	583	469	445	464	520	541	556	608	579
Temperature (°C)													
Mean	20.0	22.2	25.6	28.3	28.0	27.1	26.7	26.2	26.2	25.5	23.4	20.6	25.0
Mean Max.	29.0	32.1	34.9	36.2	34.1	32.2	31.4	30.7	31.0	30.9	29.8	28.5	31.8
Mean Min.	13.0	13.8	17.2	21.1	23.2	23.6	23.3	23.2	22.8	21.6	18.6	14.7	19.7
Ext. Max.	34.7	37.3	39.6	41.5	41.4	37.9	36.4	35.4	34.7	35.3	33.7	33.5	41.5
Ext. Min.	3.7	7.3	10.0	13.2	19.6	19.1	21.1	20.0	19.3	13.3	6.0	5.0	3.7
Relative Humidity (%)													
Mean	74.0	65.0	58.0	60.0	72.0	79.0	80.0	84.0	84.0	82.0	80.0	77.0	75.0
Mean Max.	94.9	90.8	83.8	83.0	89.9	93.0	93.4	94.7	95.0	95.1	95.1	95.2	92.0
Mean Min.	43.0	32.8	30.1	36.6	51.1	60.8	62.7	66.9	65.3	60.6	54.6	48.8	51.1
Ext. Min.	19.0	12.0	9.0	15.0	22.0	40.0	41.0	48.0	46.0	32.0	30.0	30.0	9.0
Dew Point (°C)													
Mean	14.6	14.1	15.5	19.1	22.0	23.3	22.8	23.0	22.8	21.9	19.3	15.9	19.5
Evaporation (mm)													
Mean - piche	746	1032	1510	1558	1014	664	619	492	494	560	566	630	988.5
- pan	1084	137.0	180.6	197.2	176.2	136.7	128.5	117.8	126.4	129.1	104.4	99.7	1642.0
Cloudiness (0-8)													
Mean	2.6	2.0	2.2	3.3	5.6	6.6	6.9	7.1	6.4	5.2	3.9	3.3	4.6
Visibility (km)													
0700 L.S.T	5.4	4.9	3.9	5.3	10.2	11.5	11.5	10.8	10.2	8.2	6.8	5.8	7.9
Mean	8.3	7.2	5.8	7.0	11.2	12.1	11.9	11.4	11.6	11.3	10.8	9.7	9.9
Wind (Knots)													
Prevailing wind	S	S	S	S	S	S	S	S	S	N	N	N	-
Mean Wind Speed	19	24	29	36	35	31	27	24	24	22	18	17	-
Max Wind Speed	45N	54W	54S	63SE	60SE	13wsw	38wsw	56N	52N	34E	30NE	37ESE	-
Rainfall (mm)													
Mean	108	7.2	20.2	51.1	162.0	152.3	172.4	248.9	262.3	128.1	40.0	15.6	1270.9
Mean rainy days	1.5	0.9	2.2	5.5	15.4	17.4	19.7	23.3	18.2	11.2	5.0	2.2	122.5
Greatest in 24 hr	33.7	47.7	69.8	78.0	113.3	96.3	79.5	166.5	131.6	144.9	61.6	75.0	166.5
Day/Year	26/51	18/53	23/70	29/57	20/70	7/53	30/70	14/68	23/67	8/54	27/53	23/61	14/68
Number of days with													
Haze	27.9	27.6	30.3	26.4	7.5	0.5	0.5	0.5	2.1	8.9	14.2	20.5	166.9
Fog	6.6	4.5	4.9	4.6	2.5	0.2	0.0	0.1	0.3	3.6	9.0	9.8	4.62
Hail	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Thunderstorm	0.4	0.6	3.9	11.2	20.2	9.8	10.0	11.3	14.1	9.6	1.6	0.3	93.0
Squall	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Remark : Temperature 1952 - 1975
 Evaporation 1965 - 1975

CLIMATOLOGICAL DATA FOR THE PERIOD

Station CHIANG RAI Index Station 48 303 Latitude 19° 53' N Longitude 90° 50' E.	Elevation of st Height of barom. Height of therm Height of wind Height of raing.						
	Jan	Feb	Mar	Apr	May	Jun	Jul
Pressur (+1000 or 900 mbs.)							
Mean	1503	1207	0994	0786	0616	0458	0473
Ext. Max	2973	2411	2531	2114	1702	1291	1462
Ext. Min	0379	9940	9756	9448	9574	9291	9402
Mean daily range	668	728	741	690	569	448	436
Temperature (°C)							
Mean	196	218	247	275	276	271	267
Mean Max.	275	307	332	350	335	316	309
Mean Min.	118	126	156	195	219	228	227
Ext. Max.	321	348	380	413	412	380	386
Ext. Min.	15	65	96	114	176	185	190
Relative Humidity (%)							
Mean	77.0	69.0	64.0	64.0	74.0	80.0	82.0
Mean Max.	96.0	94.2	91.1	86.1	92.9	94.5	94.9
Mean Min.	49.8	39.2	36.3	39.6	54.5	64.0	66.5
Ext. Min	18.0	13.0	13.0	13.0	21.0	41.0	45.0
Dew Point (°C)							
Mean	148	149	166	192	221	233	232
Evaporation (mm)							
Mean-piche	47.0	61.8	87.3	106.3	77.2	51.5	47.0
-pan	108.2	134.3	171.7	202.3	166.7	125.4	112.2
Cloudiness (0-8)							
Mean	31	24	28	38	55	65	67
Visibility (km)							
0700 L.S.T.	35	47	31	46	95	102	93
Mean	76	65	38	55	108	108	101
Wind (Knots)							
Prevailing wind	E	S	S	S	S	S	S
Mean Wind Speed	24	28	30	4.0	41	38	36
Max. Wind Speed	30N	44N	47 ^{SE,Nw} NNW	55N	63NW	40W	50SW
Rainfall (mm)							
Mean	17.8	7.1	29.5	76.2	217.1	250.0	299.7
Mean rainy days	21	1.2	34	84	161	189	213
Greatest in 24 hr	601	244	108.2	70.4	90.4	129.3	100.4
Day/Year	30/58	26/63	23/70	5/70			
Number of days with							
Haze	17.8	24.8	29.5	23.8	32	01	00
Fog	17.7	6.9	4.7	1.2	0.4	0.2	0.2
Hail	00	0.1	0.3	0.7	0.2	0.0	0.0
Thunderstorm	0.7	0.7	3.8	10.2	18.6	17.0	14.8
Squall	0.1	0.1	0.2	0.9	0.8	0.3	0.3

Remark. Evaporation: 1. Piche 1957 -
2 Pan 1961 -

CAL DATA FOR THE PERIOD 1951-1975

Elevation of station above MSL. 31313 meters
 Height of barometer above MSL. 31412 meters
 Height of thermometer above ground 122 meters
 Height of wind vane above ground 15.00 meters
 Height of raingauge 0.80 meters

Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
0940	0733	0587	0470	0486	0512	0752	1078	1331	1472	0968
2140	1810	1420	1210	1310	1310	1630	1900	2300	2470	2710
9940	9670	9690	9530	9490	9510	9690	0130	0410	0390	9490
7.11	6.87	5.83	4.69	4.45	4.64	5.20	5.41	5.56	6.08	5.79
25.6	28.3	28.0	27.1	26.7	26.2	26.2	25.5	23.4	20.6	25.0
34.9	36.2	34.1	32.2	31.4	30.7	31.0	30.9	29.8	28.5	31.8
17.2	21.1	23.2	23.6	23.3	23.2	22.8	21.6	18.6	14.7	19.7
39.6	41.5	41.4	37.9	36.4	35.4	34.7	35.3	33.7	33.5	41.5
100	132	196	191	21.1	200	193	133	60	50	3.7
580	600	720	790	800	840	840	820	800	770	750
838	830	899	930	934	947	950	951	951	952	920
301	366	51.1	608	62.7	669	653	60.6	54.6	48.8	51.1
90	150	220	400	41.0	480	460	320	300	300	90
15.5	19.1	220	233	228	230	228	219	193	15.9	19.5
510	1558	1014	664	61.9	492	494	560	566	630	988.5
806	197.2	1762	1367	128.5	117.8	1264	1291	1044	997	16420
22	3.3	56	66	69	71	64	52	39	33	46
39	53	102	11.5	11.5	108	102	8.2	68	58	79
58	7.0	112	12.1	119	11.4	11.6	11.3	108	9.7	9.9
S	S	S	S	S	S	S	N	N	N	-
29	36	35	3.1	27	24	24	22	18	1.7	-
54S	63SE	60SE	13sw	38sw	56N	52N	34E	30NE	37ESE	-
202	51.1	1620	1523	1724	2489	262.3	128.1	400	156	12709
22	5.5	154	174	197	233	182	11.2	5.0	2.2	122.5
69.8	78.0	1133	963	79.5	1665	1316	1449	61.6	75.0	1665
1/70	29/57	20/70	7/53	30/70	14/68	23/67	8/54	27/53	23/61	14/68
303	264	75	05	05	05	21	89	142	205	1669
49	4.6	25	02	00	0.1	03	36	90	98	46.2
0.1	0.2	00	00	00	00	00	00	00	00	0.3
39	11.2	20.2	98	100	113	141	96	16	03	930
00	03	00	00	00	00	00	00	00	00	0.3

temperature 1952 - 1975

vaporation 1965 - 1975

CLIMATOLOGICAL DATA FOR THE PERIOD 1951-1975

Station CHIANG RAI	Elevation of station above MSL.	394.28 meters
Index Station 48 303	Height of barometer above MSL.	395.03 meters
Latitude 19° 53' N.	Height of thermometer above ground	125 meters
Longitude 90° 50' E.	Height of wind vane above ground	1300 meters
	Height of raingauge	060 meters

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Pressur (+1000 or 900 mbs.)													
Mean	1503	1207	0994	0786	0616	0458	0473	0499	0746	1154	1428	1587	0954
Ext. Max	2973	2411	2531	2114	1702	1291	1462	1482	1808	2100	2550	2806	2973
Ext. Min	0379	9940	9756	9448	9574	9291	9402	9466	9638	0036	0375	0252	9291
Mean daily range	668	728	741	690	569	448	436	447	503	519	365	596	578
Temperature (C)													
Mean	196	218	247	275	276	271	267	262	262	251	227	196	246
Mean Max.	275	307	332	350	335	316	309	303	307	301	286	266	307
Mean Min.	118	126	156	195	219	228	227	225	221	203	171	133	185
Ext. Max.	321	348	380	413	412	380	386	352	370	350	336	317	413
Ext. Min.	15	65	96	114	176	185	190	185	183	116	50	28	15
Relative Humidity (%)													
Mean	77.0	69.0	64.0	64.0	74.0	80.0	82.0	85.0	83.0	81.0	80.0	80.0	76.0
Mean Max.	96.0	94.2	91.1	86.1	92.9	94.5	94.9	95.7	95.8	95.9	96.4	96.4	94.2
Mean Min.	49.8	39.2	36.3	39.6	54.5	64.0	66.5	69.4	66.6	62.6	58.5	55.0	55.2
Ext. Min	18.0	13.0	13.0	13.0	21.0	41.0	45.0	45.0	37.0	31.0	31.0	26.0	13.0
Dew Point (C)													
Mean	148	149	166	192	221	233	232	233	230	215	188	156	197
Evaporation (mm)													
Mean - piche	47.0	61.8	87.3	106.3	77.2	51.5	47.0	40.8	40.7	43.4	40.4	41.4	68.4.8
- pan	108.2	134.3	171.7	202.3	166.7	125.4	112.2	94.8	107.5	117.0	105.6	101.7	145.7.4
Cloudiness (0-8)													
Mean	31	24	28	38	55	65	67	68	60	49	40	25	47
Visibility (km)													
0700 L.S.T.	35	47	31	46	95	102	93	83	8.1	6.3	49	3.1	6.3
Mean	76	65	38	5.5	108	108	101	9.5	10.4	10.2	9.8	8.3	8.6
Wind (Knots)													
Prevailing wind	E	S	S	S	S	S	S	S	S	N	E	E	-
Mean Wind Speed	24	28	30	40	41	38	36	33	33	3.1	27	24	-
Max. Wind Speed	30N	44N	47 ^{SE} _{SW}	55N	63NW	40W	50SW	33S	35S	30N	30SE	33S	-
Rainfall (mm)													
Mean	17.8	7.1	29.5	76.2	217.1	250.0	299.7	442.5	263.5	129.4	41.2	21.1	179.5.1
Mean rainy days	21	1.2	3.4	8.4	16.1	18.9	21.3	23.7	17.3	10.9	4.6	2.7	130.6
Greatest in 24 hr	60.1	24.4	108.2	70.4	90.4	129.3	100.4	134.4	117.2	106.9	72.1	57.8	134.4
Day/Year	30/58	26/63	23/70	5/70									
Number of days with													
Haze	178	248	295	238	32	0.1	0.0	0.1	0.7	4.9	6.9	13.1	124.9
Fog	17.7	6.9	4.7	1.2	0.4	0.2	0.2	0.4	2.6	9.9	14.6	20.2	77.0
Hail	0.0	0.1	0.3	0.7	0.2	0.0	0.0	0.1	0.0	0.4	0.0	0.0	1.8
Thunderstorm	0.7	0.7	3.8	10.2	18.6	17.0	14.8	15.9	13.8	7.2	1.6	0.4	104.7
Squall	0.1	0.1	0.2	0.9	0.8	0.3	0.3	0.2	0.4	0.1	0.1	0.1	3.6

Remark: Evaporation: 1. Piche 1957 - 1975
 2. Pan 1961 - 1975

2 GEOLOGY

LIST OF CORE DRILLING

Hole No.	Location	Elevation of Top of Hole (m)	Coordinate	Direction of Hole	Length of Hole (m)	Remarks
MAE PAI NO.6	Damsite	446.217	E. 397,644.3813 N.2,140,218.3685	90°	200.0	*
	Damsite	228.963	E. 397,575.46 N.2,140,564.47	90°	200.0	*
	Damsite	387.794	E. 397,526.53 N.2,140,759.47	90°	200.0	*
MAE CHAEM NO.5	Damsite	480		90°	56.0 (not completed)	*
	Damsite	332.807	E. 443,832.620 N.2,014,696.427	45°	140.0	*
	Damsite	480		90°	150.0	*
	Intake	464.404	E. 443,874.507 N.2,014,399.53	90°	65.0	
	Powerhouse	343.373	E. 444,595.389 N.2,014,562.147	90°	24.0	

* Water pressure test hole

GEOLOGIC LOG OF DRILL HOLE

Mae Pai No.6 PROJECT HOLE No DH-1 (SHEET 1 OF 10)

LOCATION Dam Axis, Left Abutment DEPTH OF HOLE 2000 m COMMENCED Jun-1-1979
 ELEVATION 446.217 m DEPTH OF OVERBURDEN 1.2 m COMPLETED Oct-31-1979
 COORDINATE N. 2730.218, 3685 LENGTH OF ROCK DRILLING 198.8 m DRILLED BY N.E.A.
 ANGLE FROM HORIZONTAL 90° TOTAL LENGTH OF CORE 197.4 m LOGGED BY K Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 98.7 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE				WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING			
0m			0 → 100							0	40
0.0 ~ 1.2m											
1.2 ~ 4.00m								134 (l/min)			
4.00 ~ 9.00m								134 (l/min)			
9.00 ~ 8.40m								148 (l/min)			
8.40 ~ 2000m								16.4 (l/min)			
								16.8 (l/min)			
								21.6 (l/min)			
								24.7 Lu (Pmax=7.30kg/cm ²)			

▶ driller's note 4
 1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain
 1 (hard) - 5 (soft)
 1 (fresh) - 5 (decomposed)

core loss
 RQD

GEOLOGIC LOG OF DRILL HOLE

Mae Pai No.6 PROJECT HOLE No DH-1 (SHEET 2 OF 10)

LOCATION Dam Axis Left Abutment DEPTH OF HOLE 2000 m COMMENCED Jun-1-1979

ELEVATION 446.217 m DEPTH OF OVERBURDEN 1.2 m COMPLETED Oct-31-1979

COORDINATE N 27° 44' 38" E 3813 LENGTH OF ROCK DRILLING 198.8 m DRILLED BY N. E. A

ANGLE FROM HORIZONTAL 90° TOTAL LENGTH OF CORE 197.4 m LOGGED BY K. Ishikawa

BEARING OF ANGLE HOLE _____ CORE RECOVERY 98.7%

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE				DESCRIPTION	WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION	
					COLOR	WEATHERING	HARDNESS	CORE CUTTING					
2.0m			0-100%							0	2.0m	446.217	
1	Argillite		0-100%		greenish grey (brownish)	3	2	2	20.00~28.00m	170 Lu (Pmax=963kg/cm²)			446.217
2									Siliceous.				
3									Included greenish patch.				
4									Bedding plane dips 10~20°.				
5									Weathered. Cracks stained.				
6													
7													
8													
9													
30													
1	Argillite		0-100%		greenish grey	2	4	4	28.00~32.20m	12.0 Lu (Pmax=10.42kg/cm²)			446.217
2									Slightly weathered.				
3									Cracks stained.				
4									Sheared zone at 31.80 ~ 32.20m.				
5													
6													
7													
8													
9													
40													
1	Argillite		0-100%		greenish grey (brownish)	3	4	4	32.20~37.80m	8.1 Lu (Pmax=13.12kg/cm²)			446.217
2									Slightly weathered.				
3									Cracks stained.				
4									Generally hard and not so cracky.				
5									Good rock.				
6													
7													
8													
9													
40													
1	Argillite		0-100%		greenish grey (brownish)	2	3	3	37.80~44.00m	18.3 Lu (Pmax=12.19kg/cm²)			446.217
2									Somewhat cracky.				
3													
4													
5													
6													
7													
8													
9													
40													

P driller's note 4

1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain

1 (hard) - 5 (soft)

1 (fresh) - 5 (decomposed)

core loss

RQD

GEOLOGIC LOG OF DRILL HOLE

Mae Pai No 6 PROJECT HOLE No DH-1 (SHEET 3 OF 10)

LOCATION Dam Axis Left Abutment DEPTH OF HOLE 200.0 m COMMENCED Jun-1-1979
 ELEVATION 446.217 m DEPTH OF OVERBURDEN 1.2 m COMPLETED Oct-31-1979
 COORDINATE _____ LENGTH OF ROCK DRILLING 198.8 m DRILLED BY N.E.A
 ANGLE FROM HORIZONTAL 90° TOTAL LENGTH OF CORE 197.4 m LOGGED BY K. Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 98.7%

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION				
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION							
4.05			0-100%								4.05	4.05				
1	Argillite				greenish grey (brownish)					3						
2													2	2	2	13.9 Lu (Pmax=14.52 kg/cm ²)
3													2	3	3	
4													3	4	4	44.00~47.40m Cracky. Cracks stained. Sheared zone at 45.00 ~45.56m
5	Argillite				greenish grey					4						
6													4	4	5	12.1 Lu (Pmax=13.35 kg/cm ²)
7													2	3	4	46.3~46.70m Core loss
8													3	3	4	47.40~55.00m
9													2	3	3	Sometimes included greenish patch.
50													2	2	2	Bedding plane dips 50~60°
1	Argillite				greenish grey					2						
2													2	3	3	5.7 Lu (Pmax=18.55 kg/cm ²)
3													2	3	3	0.3 Lu (Pmax=19.53 kg/cm ²)
4													2	3	3	
5													2	2	2	55.00~64.60m
6	Argillite				greenish grey					1						
7													1	1	1	1.4 Lu (Pmax=19.69 kg/cm ²)
8													1	1	1	Fresh and hard. Good rock. Cracks stained a little. Spotted plagioclase sized 2~5m/m at 56.50m.
9													1	1	1	
60											60	60				

driller's note 4
 1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain
 core loss
 RQD
 1 (hard) - 5 (soft)
 1 (fresh) - 5 (decomposed)

GEOLOGIC LOG OF DRILL HOLE

Mae Pai No.6 PROJECT HOLE No DH-1 (SHEET 4 OF 10)
 LOCATION Dam Axis. Left Abutment DEPTH OF HOLE 2000 m COMMENCED Jun - 1 - 1979
 ELEVATION 446.217 m DEPTH OF OVERBURDEN 1.2 m COMPLETED Oct - 31 - 1979
 COORDINATE _____ LENGTH OF ROCK DRILLING 198.8 m DRILLED BY N. E. A
 ANGLE FROM HORIZONTAL 90 ° TOTAL LENGTH OF CORE 97.4 m LOGGED BY K. Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 98.7%

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE			DESCRIPTION	WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION						
					COLOR	WEATHERING	HARDNESS					CORE CUTTING					
60m			0 ~ 100%						0	60m	43						
1	Argillite				greenish grey	1	1	2		2.3 Lu (Pmax=19.92kg/cm ²)	1						
2						1	1	2		0.8 Lu (Pmax=20.33 kg/cm ²)	2						
3						2	2	3		64.60~66.10m Somewhat cracky.	0.7 Lu (Pmax=20.64kg/cm ²)		3				
4						2	3	3	66.10~80.00m Generally good rock. Slightly weathered at 68.60~71.00m. Cracks no stained at 66.10~68.60 ^m and 76.00~80.00m. Bedding plane dips 40~70° Micro folding remarkable.	0.5 Lu (Pmax=20.9kg/cm ²)	4						
5						1	1	1			0.3 Lu (Pmax=21.25kg/cm ²)		5				
6						2	2	3		0.6 Lu (Pmax=21.54kg/cm ²)	6						
7						1	1	2			0.6 Lu (Pmax=21.84kg/cm ²)		7				
8																	
9																	
80																	

driller's note
 1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain
 1 (hard) - 5 (soft)
 1 (fresh) - 5 (decomposed)
 core loss
 RGP

GEOLOGIC LOG OF DRILL HOLE

Mae Pai No.6 PROJECT HOLE No. DH-1 (SHEET 5 OF 10)

LOCATION Dam Axis, Left Abutment DEPTH OF HOLE 2000 m COMMENCED Jun-1 - 1979

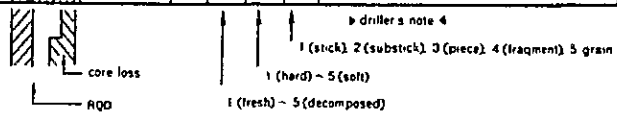
ELEVATION 446.217 m DEPTH OF OVERBURDEN 1.2 m COMPLETED Oct-31 - 1979

COORDINATE _____ LENGTH OF ROCK DRILLING 98.8 m DRILLED BY N.E.A

ANGLE FROM HORIZONTAL 90 ° TOTAL LENGTH OF CORE 97.4 m LOGGED BY K. Ishikawa

BEARING OF ANGLE HOLE _____ CORE RECOVERY 98.7 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE	WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION																															
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION																																				
0			0 - 100 %									0	40	80m																															
1	Argillite				greenish grey			2	Good rock. Partially cracks stained. Bedding plane dips 40° in general. Micro folding remarkable.	03 Lu (Pmax=22.15kg/cm ²)		1	2	40																															
2															05 Lu (Pmax=22.44kg/cm ²)	2	3	4																											
3																			08 Lu (Pmax=22.72kg/cm ²)	2	4	5																							
4																							06 Lu (Pmax=23.03kg/cm ²)	1	5	6																			
5																											06 Lu (Pmax=23.33kg/cm ²)	1	6	7															
6																															03 Lu (Pmax=23.64 kg/cm ²)	2	7	8											
7																																			02 Lu (Pmax=23.95kg/cm ²)	1	8	9							
8																																							1	9	10	100			
9																																											1	10	100
100																																													

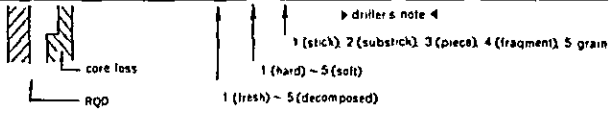


GEOLOGIC LOG OF DRILL HOLE

Mae Pai Na6 PROJECT HOLE No DH-1 (SHEET 6 OF 10)

LOCATION Dam Axis, Left Abutment DEPTH OF HOLE 200.0 m COMMENCED Jun-1 - 1979
 ELEVATION 446.217 m DEPTH OF OVERBURDEN 1.2 m COMPLETED Oct-31 - 1979
 COORDINATE _____ LENGTH OF ROCK DRILLING 198.8 m DRILLED BY N. E. A
 ANGLE FROM HORIZONTAL 90 ° TOTAL LENGTH OF CORE 197.4 m LOGGED BY K. Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 98.7 %

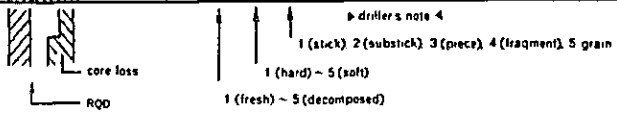
DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION		
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION					
10.0m			0 - 100 %							0	10.0m	43		
1	Argillite			greenish grey	1	1	1	1	Good rock. Cracks stained a little.	LUGEON		4		
2													2	0.5 Lu (Pmax=24.24 kg/cm²)
3													2	0.3 Lu (Pmax=24.54 kg/cm²)
4													3	0.4 Lu (Pmax=24.84 kg/cm²)
5													2	0.8 Lu (Pmax=24.11 kg/cm²)
6													3	0.3 Lu (Pmax=25.44 kg/cm²)
7													2	0.2 Lu (Pmax=25.75 kg/cm²)
8													3	
9													2	
10													3	
11	2													
12	3													
13	2													
14	3													
15	2													
16	3													
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117	2													
118	3													
119	2													
120	3													



GEOLOGIC LOG OF DRILL HOLE

Mae Pai No 6 PROJECT HOLE No. DH-1 (SHEET 7 OF 10)
 LOCATION Dan Axis Left Abutment DEPTH OF HOLE 200.0 m COMMENCED Jun - 1 - 1979
 ELEVATION 446.217 m DEPTH OF OVERBURDEN 1.2 m COMPLETED Oct - 31 - 1979
 COORDINATE _____ LENGTH OF ROCK DRILLING 198.8 m DRILLED BY N.E.A
 ANGLE FROM HORIZONTAL 90° TOTAL LENGTH OF CORE 197.4 m LOGGED BY K Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 98.7%

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	COLOR	WEATHER- ING	HARD- NESS	CORE CUTTING	OBSERVATION OF CORE		WATER TABLE	WATER PRESSURE TEST	DEPTH	ELEVATION
									DESCRIPTION	LEAKAGE OF DRILLING WATER				
120.0			0 = 100%									LUGEON	120.0	43
1	Argillite				greenish grey	1	1	2	Good rock	0.4 Lu	(Pmax=26.04 kg/cm ²)	1		
2								3	Cracks stained a little.			2		
3								2	Brittle along bedding plane at 122.4~122.7m					
4								3		4				
5								2	Bedding plane dips 30~50°	0.3 Lu	(Pmax=26.34 kg/cm ²)	3		
6								3						
7								2						
8								0.6 Lu	(Pmax=26.81 kg/cm ²)	8				
9								1.8 Lu	(Pmax=26.85 kg/cm ²)	1				
10								0.4 Lu	(Pmax=27.43 kg/cm ²)	4				
11								2.0 Lu	(Pmax=27.30 kg/cm ²)	7				
12								2.1 Lu	(Pmax=27.45 kg/cm ²)	9				
13														
14.0														

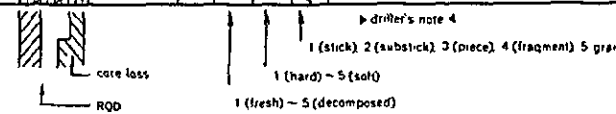


GEOLOGIC LOG OF DRILL HOLE

Mae Pal No.6 PROJECT HOLE No DH-1 (SHEET 8 OF 10)

LOCATION Dom Axis, Left Abutment DEPTH OF HOLE 200.0 m COMMENCED Jun-1 -1979
 ELEVATION 446217 m DEPTH OF OVERBURDEN 1.2 m COMPLETED Oct-31 -1979
 COORDINATE _____ LENGTH OF ROCK DRILLING 198.8 m DRILLED BY N E A
 ANGLE FROM HORIZONTAL 90° TOTAL LENGTH OF CORE 197.4 m LOGGED BY K. Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 98.7%

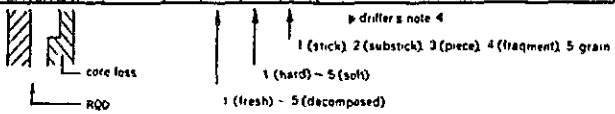
DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	COLOR	WEATHERING	HARDNESS	CORE CUTTING	OBSERVATION OF CORE DESCRIPTION	WATER TABLE		DEPTH	ELEVATION	
										WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER			
14.0m			0 → 100%							LUGEON		14.0m	E 1	
1	Argillite				greenish grey			2	Good rock. Cracks no stained. Bedding plane dips 30 ~ 60°.	0.3 Lu (Pmax=28.84kg/cm²)		1		
2								3				2		
3								1				3		3
4								2				2		4
5														5
6														6
7								2				3		7
8														8
9														9
15.0														15.0
1			1	0.6 Lu (Pmax=28.81 kg/cm²)		1								
2			2			2								
3			3			3								
4			4			4								
5			5	0.9 Lu (Pmax=29.05 kg/cm²)		5								
6			6			6								
7			7			7								
8			8	0.9 Lu (Pmax=29.35 kg/cm²)		8								
9			9			9								
16.0			16.0			16.0								



GEOLOGIC LOG OF DRILL HOLE

Mae Pai No.6 PROJECT HOLE No DH-1 (SHEET 9 OF 10)
 LOCATION Dam Axis Left Abutment DEPTH OF HOLE 200.0 m COMMENCED Jun - 1 - 1979
 ELEVATION 446.217 m DEPTH OF OVERBURDEN 1.2 m COMPLETED Oct - 31 - 1979
 COORDINATE _____ LENGTH OF ROCK DRILLING 198.8 m DRILLED BY N. F. A
 ANGLE FROM HORIZONTAL 90 ° TOTAL LENGTH OF CORE 197.4 m LOGGED BY K. Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 98.7 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE		DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION	WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER		
160m			0 - 100									0	160m
1	Argillite				greenish grey			3	Good rock.	Q7 Lu (Pmax=2999 kg/cm²)		1	
2								Cracks no stained. Bedding plane dips 60°		2			
3													
4								Somewhat cracky at 1630 ~ 1660m.		3			
5										2			
6										2 3			
7											Q4 Lu (Pmax=3063 kg/cm²)	7	
8												8	
9											Q4 Lu (Pmax=3092 kg/cm²)	9	
170												170	
1								Q7 Lu (Pmax=3116 kg/cm²)		1			
2										2			
3										3			
4										4			
5								Q3 Lu (Pmax=3146 kg/cm²)		5			
6										6			
7								Q6 Lu (Pmax=3164 kg/cm²)		7			
8										8			
9								Q5 Lu (Pmax=3190 kg/cm²)		9			
180										180			



GEOLOGIC LOG OF DRILL HOLE

Mae Pai No 6 PROJECT HOLE No DH-1 (SHEET 10 OF 10)

LOCATION Dam Axis, Left Abutment DEPTH OF HOLE 200.0 m COMMENCED Jun-1 -1979
 ELEVATION 446.27 m DEPTH OF OVERBURDEN 1.2 m COMPLETED Oct-31 -1979
 COORDINATE _____ LENGTH OF ROCK DRILLING 198.8 m DRILLED BY N.E.A
 ANGLE FROM HORIZONTAL 90 ° TOTAL LENGTH OF CORE 197.4 m LOGGED BY K Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 98.7 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTA TION KIND OF BIT CASING	OBSERVATION OF CORE				DESCRIPTION	WATER TABLE		DEPTH	ELEVATION
					COLOR	WEATHER ING	HARD NESS	CORE CUTTING		WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER		
180m			0 = 100%								0	180m	43
1	Argillite						2	Good rock Cracks no stained. Bedding plane dips 50~60°.	1.0 Lu (Pmax=32.08kg/cm ²)	↑	1	43	
2							2				2		
3							2						
4							3						
5						1	2				1		1.1 Lu (Pmax=32.53kg/cm ²)
6													
7													
8							2						0.5 Lu (Pmax=32.79kg/cm ²)
9													
190							3				2		
1	Argillite						2	Somewhat cracky at 192.0~ 200.0m.	↑	1	43		
2							3						
3							2						
4						1	4			2		5.3 Lu (Pmax=28.88kg/cm ²)	
5													
6													
7							2			3		5.6 Lu (Pmax=28.74kg/cm ²)	
8													
9													
200													

▶ Driller's note 4
 1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain
 1 (hard) - 5 (soft)
 1 (fresh) - 5 (decomposed)

core loss
RQD

GEOLOGIC LOG OF DRILL HOLE

Mae Pai No6 PROJECT HOLE No. DH-2 (SHEET 1 OF 10)

LOCATION Dam Axis, Riverbed DEPTH OF HOLE 2000 m COMMENCED Oct - 31 - 1979
 ELEVATION 228963 m DEPTH OF OVERBURDEN 00 m COMPLETED Mar - 28 - 1980
 COORDINATE E 97, 575.45 N 2, 30, 364.47 LENGTH OF ROCK DRILLING 2000 m DRILLED BY N.E.A
 ANGLE FROM HORIZONTAL 90 ° TOTAL LENGTH OF CORE 2000 m LOGGED BY K Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 100.0 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION	
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION				
0m			0 → 100 %							LUGEON	0	43	
0-12	Quartzite	light grey				2	2	3	0.0 ~ 12.00m	0.4 (l/min)			
1									2				Slightly weathered. Cracks stained.
2									3				
3									2				
4									3				
5									2				
6									3				
7									2				
8									3				
9									2				
9.55-9.75	Quartzite	light grey				1	1	2	9.55 ~ 9.75m	2.8 Lu (Pmax = 4.3 kg/cm ²)			
10									2				Somewhat brittle.
1									3				
2									2				
3									3				
4									2				
5									3				
6									2				
7									3				
8									2				
12.00-16.00	Quartzite	light grey				1	1	2	12.00 ~ 16.00m	3.7 Lu (Pmax = 4.3 kg/cm ²)			
1									2				Massive. Good rock. Cracks stained
2									3				
3									2				
4									3				
5									2				
6									3				
7									2				
8									3				
9									2				
16.00-2000	Quartzite	light grey				1	1	2	16.00 ~ 2000m	4.5 Lu (Pmax = 6.17 kg/cm ²)			
1									2				Good rock. Bedding plane dips 50 ~ 60° Interbedded greenish parts. Cracks somewhat stained.
2									3				
3									2				
4									3				
5									2				
6									3				
7									2				
8									3				
9									2				
20													

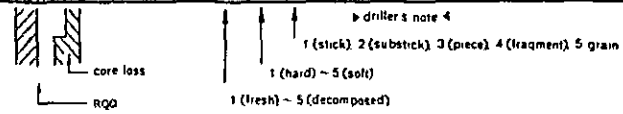
drillers note 4
 1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain
 1 (hard) ~ 5 (soft)
 1 (fresh) ~ 5 (decomposed)

GEOLOGIC LOG OF DRILL HOLE

Mae Paj No.6 PROJECT HOLE No DH-2 (SHEET 2 OF 10)

LOCATION Dam Axis, Riverbed DEPTH OF HOLE 200.0 m COMMENCED Oct-31-1979
 ELEVATION 2289.63 m DEPTH OF OVERBURDEN 0.0 m COMPLETED Mar-28-1980
 COORDINATE N 2140.564 47 LENGTH OF ROCK DRILLING 200.0 m DRILLED BY NEZ
 ANGLE FROM HORIZONTAL 90° TOTAL LENGTH OF CORE 200.0 m LOGGED BY K Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 100.0 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTA TION KIND OF BIT CASING	OBSERVATION OF CORE				WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHER ING	HARD- NESS	CORE CUTTING			
20m			0 → 100 %							20m	4
1										1	
2										2	
3									1.1 Lu (Pmax=8.30 kg/cm ²)	3	
4										4	
5									1.6 Lu (Pmax=8.30 kg/cm ²)	5	
6										6	
7										7	
8									1.5 Lu (Pmax=8.30 kg/cm ²)	8	
9										9	
30	Quartzite				light grey					30	
1										1	
2									1.9 Lu (Pmax=10.29 kg/cm ²)	2	
3										3	
4					grey					4	
5									1.0 Lu (Pmax=10.30 kg/cm ²)	5	
6										6	
7										7	
8					light grey				1.2 Lu (Pmax=10.30 kg/cm ²)	8	
9										9	
40										40	



GEOLOGIC LOG OF DRILL HOLE

Mae Pai No6 PROJECT HOLE No.0H-2 (SHEET 3 OF 10)

LOCATION Dam Axis Riverbed DEPTH OF HOLE 2000 m COMMENCED Oct-31-1979
 ELEVATION 228.963 m DEPTH OF OVERBURDEN 00 m COMPLETED Mar-28-1980
 COORDINATE _____ LENGTH OF ROCK DRILLING 2000 m DRILLED BY N. E. A
 ANGLE FROM HORIZONTAL 90 ° TOTAL LENGTH OF CORE 2000 m LOGGED BY K Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 1000 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE	WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION					
40.0			0-100									0	40.0	43
1	Quartzite	light grey			light grey		2	4	40.00~60.00 m	1.6 Lu (Pmax=10.30 kg/cm ²)	1	40	43	
2									Good rock.					
3									Crack somewhat stained.					
4														
5														
6														
7														
8														
9														
50														
1														
2														
3														
4														
5														
6														
7														
8														
9														
60														

driller's note 4

1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain

1 (hard) ~ 5 (soft)

1 (fresh) ~ 5 (decomposed)

core loss

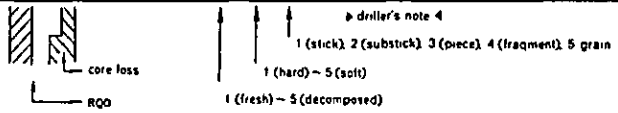
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GEOLOGIC LOG OF DRILL HOLE

Mae Pai No6 PROJECT HOLE No. DH-2 (SHEET 4 OF 10)

LOCATION Dam Axis Riverbed DEPTH OF HOLE 2000 m COMMENCED Oct-31-1979
 ELEVATION 228.963 m DEPTH OF OVERBURDEN 00 m COMPLETED Mar-28-1980
 COORDINATE _____ LENGTH OF ROCK DRILLING 2000 m DRILLED BY NEA
 ANGLE FROM HORIZONTAL 90 ° TOTAL LENGTH OF CORE 2000 m LOGGED BY K. Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 100.0 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE				WATER TABLE	WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING					
6.0m			0 ~ 100 %								0	6.0m	228.963
1	Quartzite				light grey	1	1	2	2	Good rock. Cracks somewhat stained. Bedding plane dips 30~60°.	1.3 Lu (Pmax=1398kg/cm ²)	1	
2													
3													
4													
5													
6													
7													
8													
9													
10													
11											11		
12											12		
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75											75		
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77											77		
78											78		
79											79		
80											80		



GEOLOGIC LOG OF DRILL HOLE

Mae Pai No 6 PROJECT HOLE No DH-2 (SHEET 5 OF 10)

LOCATION <u>Dam Axis Riverbed</u>	DEPTH OF HOLE <u>200.0</u> m	COMMENCED <u>Oct-31-1979</u>
ELEVATION <u>228963</u> m	DEPTH OF OVERBURDEN <u>0.0</u> m	COMPLETED <u>Mar-28-1980</u>
COORDINATE _____	LENGTH OF ROCK DRILLING <u>200.0</u> m	DRILLED BY <u>N.E.A</u>
ANGLE FROM HORIZONTAL <u>90°</u>	TOTAL LENGTH OF CORE <u>200.0</u> m	LOGGED BY <u>K Ishikawa</u>
BEARING OF ANGLE HOLE _____	CORE RECOVERY <u>100.0</u> %	

DEPTH	ROCK NAME	LOG	CORE RECOVERY	OBSERVATION OF CORE					WATER TABLE		DEPTH	ELEVATION
				CEMENTATION KIND OF BIT CASING	COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION	WATER PRESSURE TEST		
0m			0-100%								0	228963
1	Argillite				greenish grey	1	1	2	Good rock. Cracks stained a little. Bedding plane dips 40~60°.	No Test 1.7 Lu (Pmax=13.95kg/cm ²) 2 Lu (Pmax=13.97kg/cm ²) 1.2 Lu (Pmax=13.97kg/cm ²) 1.7 Lu (Pmax=13.95kg/cm ²) 1.5 Lu (Pmax=13.96kg/cm ²)	0	228963
2								3			1	
3								2			2	
4								2			2	
5								3			2	
6								3			2	
7								2			2	
8								3			2	
9								2			2	
10								3			2	
95.50 ~ 100.40m								2	Somewhat cracky. Cracks no stained Sheared at 98.0~99.0m.	1.5 Lu (Pmax=13.96kg/cm ²)	6	228963
7	3	3	7									
8	3	4	8									
9	1	2	9									
100								3			100	228963

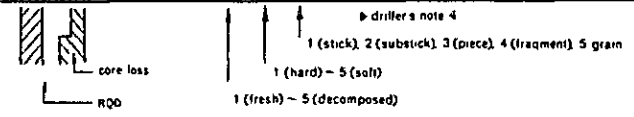
> driller's note <
 1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain
 1 (hard) - 5 (soft)
 1 (fresh) - 5 (decomposed)

GEOLOGIC LOG OF DRILL HOLE

Mae Pai No. 6 PROJECT HOLE No. DH-2 (SHEET 6 OF 10)

LOCATION Dam Axis, Riverbed DEPTH OF HOLE 200.0 m COMMENCED Oct - 31 - 1979
 ELEVATION 228 963 m DEPTH OF OVERBURDEN 00 m COMPLETED Mar - 28 - 1980
 COORDINATE _____ LENGTH OF ROCK DRILLING 200.0 m DRILLED BY N. E. A
 ANGLE FROM HORIZONTAL 90 ° TOTAL LENGTH OF CORE 200.0 m LOGGED BY K. Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 100.0 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	COLOR	WEATHERING	HARDNESS	OBSERVATION OF CORE		WATER TABLE	WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION					
								DESCRIPTION	CORE CUTTING										
100m			0 ~ 100 %									0	100m						
1	Argillite		100%		greenish grey	1	1	3	100.40 ~ 120.00m	1.2 Lu (Pmax=13.97 kg/cm ²)			1						
2								Good rock.											
3																			
4								Bedding plane dips 20 ~ 30°.											
5															1.7 Lu (Pmax=13.94 kg/cm ²)				
6								1.7 Lu (Pmax=13.94 kg/cm ²)											
7															0.9 Lu (Pmax=13.98 kg/cm ²)				
8								0.3 Lu (Pmax=13.99 kg/cm ²)											
9															0.6 Lu (Pmax=13.99 kg/cm ²)				
10								1.2 Lu (Pmax=13.96 kg/cm ²)											
11																			
12																			



GEOLOGIC LOG OF DRILL HOLE

Mae Pai No.6 PROJECT HOLE No. DH-2 (SHEET 7 OF 10)

LOCATION Dam Axis Riberbed DEPTH OF HOLE 2000 m COMMENCED Oct-31-1979
 ELEVATION 228 963 m DEPTH OF OVERBURDEN 00 m COMPLETED Mar-28-1980
 COORDINATE _____ LENGTH OF ROCK DRILLING 2000 m DRILLED BY N.E.A
 ANGLE FROM HORIZONTAL 90 ° TOTAL LENGTH OF CORE 2000 m LOGGED BY K.Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 1000 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF CASING	OBSERVATION OF CORE				WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION	
					COLOR	WEATHERING	HARDNESS	CORE CUTTING				DESCRIPTION
12.0m			0-100							0	12.0m	
1	Argillite	[Pattern]	[Pattern]	[Pattern]	greenish grey	1	3	1200~1240m	[Pressure Graph]	[Scale]	[Elevation Scale]	
2							4	Somewhat cracky.				0.5 Lu
3							2	Cracks no stained.				(Pmax=13.99kg/cm ²)
4							3					
5							2					
6							3	124.00~12800m				0.7 Lu
7							2	Good rock.				(Pmax=13.99kg/cm ²)
8							3	Cracks no stained.				
9							2					
10							3	128.00~13360m				1.2 Lu
11	2	Generally cracky	(Pmax=13.96kg/cm ²)									
12	3	Brittle along bedding plane										
13	2	Bedding dips 30~60°										
14	3	Cracks stained a little.	4.1 Lu									
15	2		(Pmax=13.59kg/cm ²)									
16	3											
17	2	133.60~141.00m	2.4 Lu									
18	3	Good rock	(Pmax=13.85kg/cm ²)									
19	2	Cracks no stained.										
20	3	Bedding plane dips 40~50°	2.2 Lu									
21	2		(Pmax=13.87kg/cm ²)									
22	3											
23	2											
24	3		2.4 Lu									
25	2		(Pmax=13.85 kg/cm ²)									

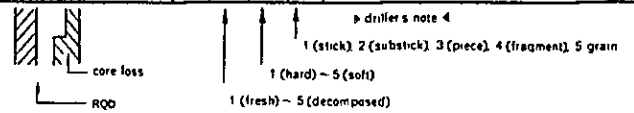
↓ driller's note 4
 1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain
 core loss
 RQD
 1 (hard) - 5 (soft)
 1 (fresh) - 5 (decomposed)

GEOLOGIC LOG OF DRILL HOLE

Mae Pai No.6 PROJECT HOLE No DH-2 (SHEET 8 OF 10)

LOCATION Dam Axic. Riverbed DEPTH OF HOLE 2000 m COMMENCED Oct-31-1979
 ELEVATION 228.963 m DEPTH OF OVERBURDEN 00 m COMPLETED Mar-28-1980
 COORDINATE _____ LENGTH OF ROCK DRILLING 200.0 m DRILLED BY N.E.A.
 ANGLE FROM HORIZONTAL 90 ° TOTAL LENGTH OF CORE 2000 m LOGGED BY K.Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 1000 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE				WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION											
					COLOR	WEATHERING	HARDNESS	CORE CUTTING				DESCRIPTION										
140m			0 → 100						0	140m	140											
									LUGEON													
1	Argillite				greenish grey				1.9 Lu (Pmax=13.90 kg/cm ²)	1	141.00 ~ 150.00m Included spotted plagioclase Good rock. Cracks no stained.											
2												2	2.0 Lu (Pmax=13.89 kg/cm ²)	1	Small druse at 147.0 ~ 148.0m.							
3												1										
4												2										
5												1										
6												2				1.7 Lu (Pmax=13.91 kg/cm ²)	1	150.00 ~ 160.00m Good rock. Cracks no stained. Bedding plane dips 30 ~ 50°				
7												2							1.2 Lu (Pmax=13.95 kg/cm ²)	2		
8												1										
9												2									1.9 Lu (Pmax=13.89 kg/cm ²)	1
10												1										
11	2																					
12	1																					
13	2																					
14	1																					
15	2																					
16	1																					
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156	1																					
157	2																					
158	1																					
159	2																					
160	1																					



GEOLOGIC LOG OF DRILL HOLE

Mae Pai No6 PROJECT HOLE No DH-2 (SHEET 9 OF 10)

LOCATION Dam Axis. Riverbed DEPTH OF HOLE 200.0 m COMMENCED Oct-31-1979
 ELEVATION 228.963 m DEPTH OF OVERBURDEN 0.0 m COMPLETED Mar-28-1980
 COORDINATE _____ LENGTH OF ROCK DRILLING 200.0 m DRILLED BY N.E.A
 ANGLE FROM HORIZONTAL 90° TOTAL LENGTH OF CORE 2000 m LOGGED BY K. Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 100.0 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION			
16.0m			0-100								16.0m	4
1	Argillite	greenish grey							160.00 ~ 180.00m	4 Lu (Pmax=1394 kg/cm ²)	1	
2									Good rock.		2	
3									Cracks no stained		3	
4									Bedding plane dips		2	
5									40~80°.		3	
6									Micro folding		2	
7									remarkable.		3	
8											2	
9											3	
10											2	
11								07 Lu (Pmax=13.99 kg/cm ²)	170			
12								09 Lu (Pmax=13.98 kg/cm ²)	7			
13								07 Lu (Pmax=13.99 kg/cm ²)	9			
14								1.7 Lu (Pmax = 1390 kg/cm ²)	2			
15								1.1 Lu (Pmax=1396 kg/cm ²)	5			
16								1.4 Lu (Pmax=13.94 kg/cm ²)	8			
17												
18												

driller's note 4
 1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain
 core loss
 RQD
 1 (hard) ~ 5 (soft)
 1 (fresh) ~ 5 (decomposed)

GEOLOGIC LOG OF DRILL HOLE

Mae Pai No.6 PROJECT HOLE No DH-2 (SHEET 10 OF 10)

LOCATION Dam Axis Riverbed DEPTH OF HOLE 2000_m COMMENCED Oct-31-1979
 ELEVATION 228 963 _m DEPTH OF OVERBURDEN 00_m COMPLETED Mar-28-1980
 COORDINATE _____ LENGTH OF ROCK DRILLING 200.0_m DRILLED BY N.E.A
 ANGLE FROM HORIZONTAL 90° TOTAL LENGTH OF CORE 200.0_m LOGGED BY K. Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 100.0_%

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION	
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION				
180m			0 → 100							0	180m	43	
1	Argillite	greenish grey							180~200.00m Partially cracky, but good rock in general. Cracks no stained. Bedding plane dips 30~50°	Lu (Pmax=1386 kg/cm ²)	1		
2											2		2
3											3		3
4											3		3
5											3		3
6											3		3
7											2		2
8											3		3
9											2		2
190													
1									Lu (Pmax=1396 kg/cm ²)	1			
2									Lu (Pmax=1399 kg/cm ²)	2			
3									Lu (Pmax=1397 kg/cm ²)	3			
4									Lu (Pmax=1392 kg/cm ²)	4			
5									Lu (Pmax=1397 kg/cm ²)	5			
6										6			
7										7			
8										8			
9										9			
200										200			

Bottom of hole

driller's note

1 (shck) 2 (subshck) 3 (piece) 4 (fragment) 5 grain

1 (hard) - 5 (soft)

1 (fresh) - 5 (decomposed)

core loss

RQD

GEOLOGIC LOG OF DRILL HOLE

Mae Pai No.6 PROJECT HOLE No. DH-3 (SHEET 1 OF 10)

LOCATION Dam Axis Right Abutment DEPTH OF HOLE 2000 m COMMENCED May-28-1979
 ELEVATION 387.794 m DEPTH OF OVERBURDEN 75 m COMPLETED Oct-14-1979
 COORDINATE E. 397,955.37 N. 2,140,759.37 LENGTH OF ROCK DRILLING 1925 m DRILLED BY N E A
 ANGLE FROM HORIZONTAL 90° TOTAL LENGTH OF CORE 1957 m LOGGED BY Kishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 97.9 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE				WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING			
0m			0-100%							0m	43
0-7.5m	Overburden	△			brownish grey				0.0~10m Weathered rock fragment sized Q2~2cm.	34 Lu (Pmax=415kg/cm ²)	1
7.5-1790m	Quartzite	△			pale brown				10~750m Fine grained core Partially included rock fragment.	30 Lu (Pmax=445kg/cm ²)	2
7.5-1790m	Quartzite	△			pale reddish brown				7.50~1790m Weathered and cracky. Cracks stained.	24 Lu (Pmax=4.75kg/cm ²)	3
7.5-1790m	Quartzite	△				3	3		Bedding plane dips 40~60°.	26 Lu (Pmax=505kg/cm ²)	4
7.5-1790m	Quartzite	△				3	3			26 Lu (Pmax=535kg/cm ²)	5
7.5-1790m	Quartzite	△				4	4			23 Lu (Pmax=765kg/cm ²)	6
7.5-1790m	Quartzite	△				3	3			2.8 Lu (Pmax=795kg/cm ²)	7
7.5-1790m	Quartzite	△				2	2		1790~20.35m Slightly weathered Cracks stained		8
7.5-1790m	Quartzite	△				4	4				9
20m											20

driller's note 4

1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain

1 (hard) - 5 (soft)

1 (fresh) - 5 (decomposed)

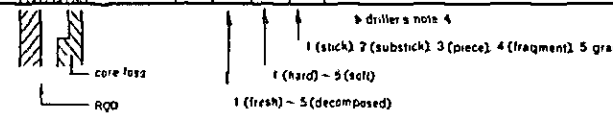
core loss

RQD

GEOLOGIC LOG OF DRILL HOLE

Mae Pai No.6 PROJECT HOLE No DH-3 (SHEET 2 OF 10)
 LOCATION Dam Axis Right Abutment DEPTH OF HOLE 200.0 m COMMENCED May 28 - 1979
 ELEVATION 387.794 m DEPTH OF OVERBURDEN 7.5 m COMPLETED Oct 14 - 1979
 COORDINATE N. 2,140,759.47 LENGTH OF ROCK DRILLING 192.5 m DRILLED BY N. E. A
 ANGLE FROM HORIZONTAL 90° TOTAL LENGTH OF CORE 195.7 m LOGGED BY K. Ichikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 97.9%

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTA TION KIND OF BIT CASING	OBSERVATION OF CORE			DESCRIPTION	WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION					
					COLOR	WEATHER ING	HARD NESS									
2.0m			0 = 100%							2.0m	4.3					
1	Quartzite				light grey	2	2	2	20.35~30.50m Weathered and cracky. Cracks stained	52 Lu (Pmax=10.19 kg/cm ²)	1					
2						3	3	3			2					
3						3	3	3			3					
4	Quartzite				brownish light grey	3	3	4	22.85~23.50m Core loss. 20.35 ~ 24.20m and 24.80 ~28.00m Cracks filled with brownish clay films.	90 Lu (Pmax=10.33 kg/cm ²)	3					
5						2	2	3			4					
6											4			4		
7											3			3		
8											3			3		
9											2			2		
10											3			4		
11															39.4 Lu (Pmax=7.74 kg/cm ²)	8
12															2.4 Lu (Pmax=12.37 kg/cm ²)	1
13						Alternation of Qzt and Argillite							light grey ~ dark grey	2	3	3
14				2					2							
15				1					2							
16										1.1 Lu (Pmax=12.09 kg/cm ²)		7				
17												6				
18												5				
19												4				
20												3				

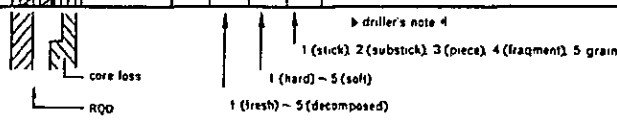


GEOLOGIC LOG OF DRILL HOLE

Mae Pai No.6 PROJECT HOLE No DH-3 (SHEET 3 OF 10)

LOCATION <u>Dam Axis, Right Abutment</u>	DEPTH OF HOLE <u>200.0</u> m	COMMENCED <u>May-28-1979</u>
ELEVATION <u>387.794</u> m	DEPTH OF OVERBURDEN <u>7.5</u> m	COMPLETED <u>Oct-14-1979</u>
COORDINATE _____	LENGTH OF ROCK DRILLING <u>192.5</u> m	DRILLED BY <u>NEA</u>
ANGLE FROM HORIZONTAL <u>90</u> °	TOTAL LENGTH OF CORE <u>195.7</u> m	LOGGED BY <u>K. Ishikawa</u>
BEARING OF ANGLE HOLE _____	CORE RECOVERY <u>97.9</u> %	

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION				
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION							
40m			0 ~ 100 %								40m					
1	Argillite	grey			brownish light grey	3	2	3	40.25 ~ 44.80m	Wethered and cracky.	89.6 (l/min)	40m				
2									4	4	42.60 ~ 43.00m			Slicken side at	24.5 (l/min)	
3											3			2	44.80 ~ 49.00m	Fresh and hard Good rock
4									1	1					3	2
5											3			3		
6									2	2					3	51.40 ~ 52.60m
7											1			1		2
8									2	2					3	
9																
60																



GEOLOGIC LOG OF DRILL HOLE

Mae Pai No.6 PROJECT HOLE No DH-3 (SHEET 4 OF 10)

LOCATION Dam Axis Right Abutment DEPTH OF HOLE 2000 m COMMENCED May -28 -1979
 ELEVATION 387.794 m DEPTH OF OVERBURDEN 7.5 m COMPLETED Oct -14 -1979
 COORDINATE _____ LENGTH OF ROCK DRILLING 1925 m DRILLED BY N.E.A
 ANGLE FROM HORIZONTAL 90 ° TOTAL LENGTH OF CORE 1957 m LOGGED BY K. Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 97.9 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE				DESCRIPTION	WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION								
					COLOR	WEATHERING	HARDNESS	CORE CUTTING												
60m			0 → 100							0	60m	43								
1	Argillite		100		greenish pale grey (brownish)	2	2	2	2	08 Lu (Pmax=1921kg/cm ²)	1	40								
2																				
3																				
4																				
5																				
6																				
7													66.55 ~ 70.00m Weathered.	3	3	2	3	2	14.5 Lu (Pmax=1451kg/cm ²)	7
8																				
9													70.00 ~ 80.00m Slightly weathered. Partially cracky, but good rock in general.	2	2	2	2	2	41.5 (L/min) (0 ~ 72m)	1
1																				
2	pale grey	1	1	1	1	1	73.8 (L/min) (0 ~ 75m)	3												
3																				
4	greenish pale grey	2	2	2	2	2	04 Lu (Pmax=1834kg/cm ²)	6												
5																				
6	grey	1	1	1	1	1	1.1 Lu (Pmax=1938kg/cm ²)	7												
7																				
8	greenish pale grey (brownish)	2	2	2	2	2	2	8												
9																				
80										80										

driller's note 4
 1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain
 1 (hard) - 5 (soft)
 1 (fresh) - 5 (decomposed)

GEOLOGIC LOG OF DRILL HOLE

Mae Pai No.6 PROJECT	HOLE No DH-3 (SHEET 6 OF 10)	
LOCATION <u>Dam Axis, Right Abutment</u>	DEPTH OF HOLE <u>200.0</u> m	COMMENCED <u>May 28 - 1979</u>
ELEVATION <u>387.794</u> m	DEPTH OF OVERBURDEN <u>75</u> m	COMPLETED <u>Oct -14 - 1979</u>
COORDINATE _____	LENGTH OF ROCK DRILLING <u>192.5</u> m	DRILLED BY <u>N.E.A</u>
ANGLE FROM HORIZONTAL <u>90°</u>	TOTAL LENGTH OF CORE <u>195.7</u> m	LOGGED BY <u>K.Ishikawa</u>
BEARING OF ANGLE HOLE _____	CORE RECOVERY <u>97.9</u> %	

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE				DESCRIPTION	WATER TABLE		DEPTH	ELEVATION	
					COLOR	WEATHERING	HARDNESS	CORE CUTTING		WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER			
10.0m			0 → 100%								0	100m		
1	Argillite		100%		greenish pale grey (brownish)					9960~12000m	0.6 Lu		1	
2						2	1	3	Slightly weathered in partial, but hard and not so cracky in general.	(Pmax=20.40 kg/cm ²)		2		
3								2	Good rock.	0.5 Lu		3		
4						3	2		Cracks somewhat stained.	(Pmax=20.44 kg/cm ²)		4		
5								3	Bedding plane dips 30~50°.	0.4 Lu		5		
6						2				(Pmax=19.99 kg/cm ²)		6		
7										0.4 Lu		7		
8								1	2	(Pmax=20.19 kg/cm ²)		8		
9						1				1.9 Lu		9		
10										(Pmax=20.04 kg/cm ²)		10		
11						3	3	3		0.7 Lu		11		
12						2			1	(Pmax=20.29 kg/cm ²)		12		
13	1			2	2.6 Lu		13							
14	2	2			(Pmax=19.98 kg/cm ²)		14							
15	1			1			15							

p driller's note 4

1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain

1 (hard) ~ 5 (soft)

1 (fresh) ~ 5 (decomposed)

core loss

RQD

GEOLOGIC LOG OF DRILL HOLE

Mae Pai No.6 PROJECT HOLE No DH-3 (SHEET 7 OF 10)

LOCATION Dam Axis Right Abutment DEPTH OF HOLE 2000 m COMMENCED May-28 -1979
 ELEVATION 387.794 m DEPTH OF OVERBURDEN 75 m COMPLETED Oct-14 -1979
 COORDINATE _____ LENGTH OF ROCK DRILLING 1925 m DRILLED BY N. E. A
 ANGLE FROM HORIZONTAL 90° TOTAL LENGTH OF CORE 1957 m LOGGED BY K Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 97.9%

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION		
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION					
120m			0-100%							0	120m			
1	Argillite	[Pattern]	[Pattern]	[Pattern]	greenish light grey	1	1	1	2	12000~14000m	0.7 Lu (Pmax=2042kg/cm ²)	1		
2										Fresh and hard.		2		
3										Good rock.		3		
4										Cracks stained a little.		4		
5										Bedding plane dips 30~50°.		5		
6												6		
7												7		
8												8		
9												9		
130														
1											1			
2											2			
3											0.5 Lu (Pmax=2073kg/cm ²)	3		
4												4		
5												5		
6												0.3 Lu (Pmax=2154kg/cm ²)	6	
7												7		
8												8		
9												0.4 Lu (Pmax=2251kg/cm ²)	9	
140											140			

driller's note 4

1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain

core loss

RQD

1 (hard) ~ 5 (soft)

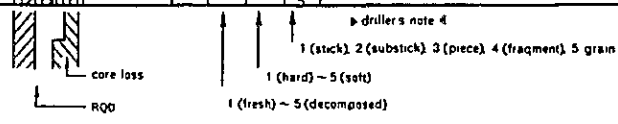
1 (fresh) ~ 5 (decomposed)

GEOLOGIC LOG OF DRILL HOLE

Mae Pai No6 PROJECT HOLE No. DH-3 (SHEET 8 OF 10)

LOCATION Dam Axis Right Abutment DEPTH OF HOLE 200.0 m COMMENCED May-28-1979
 ELEVATION 387.794 m DEPTH OF OVERBURDEN 7.5 m COMPLETED Oct-14-1979
 COORDINATE _____ LENGTH OF ROCK DRILLING 92.5 m DRILLED BY N. E. A.
 ANGLE FROM HORIZONTAL 90 ° TOTAL LENGTH OF CORE 195.7 m LOGGED BY K. Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 97.9 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE	WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION		
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION							
14.0m			0 → 100 %									0	14.0m	4.3		
1	Quartzite		0 → 100 %		greenish light grey (partially brownish)					140.00 ~ 160.00m		0	14.0m	4.3		
2						1	1	2	Some parts slightly weathered and cracky. But generally fresh and not so cracky. Good rock. Locally cracks stained.						Q4 Lu (Pmax=22.74 kg/cm ²)	
3							3	2								
4						3	2									
5								1	3						Good rock. Locally cracks stained.	Q4 Lu (Pmax=20.04 kg/cm ²)
6						2	2	3								
7															Good rock. Locally cracks stained.	Q4 Lu (Pmax=20.09 kg/cm ²)
8						1										
9						2										
10								2	2						Good rock. Locally cracks stained.	Q5 Lu (Pmax=20.04 kg/cm ²)
11						1		1	2							
12								2							Good rock. Locally cracks stained.	Q4 Lu (Pmax=20.04 kg/cm ²)
13																
14						1										
15															Good rock. Locally cracks stained.	Q4 Lu (Pmax=20.29 kg/cm ²)
16						2	3									

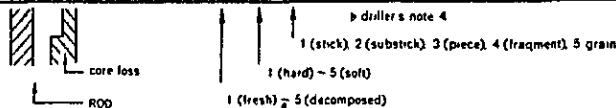


GEOLOGIC LOG OF DRILL HOLE

Mae Pai No6 PROJECT HOLE No DH-3 (SHEET 9 OF 10)

LOCATION Dam Axis Right Abutment DEPTH OF HOLE 200.0 m COMMENCED May-28-1979
 ELEVATION 387.794 m DEPTH OF OVERBURDEN 7.5 m COMPLETED Oct-14-1979
 COORDINATE _____ LENGTH OF ROCK DRILLING 192.5 m DRILLED BY N E A
 ANGLE FROM HORIZONTAL 90° TOTAL LENGTH OF CORE 195.7 m LOGGED BY K Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 97.9 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE				WATER TABLE	WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING					
160m			D=100%								0	160m	
1	Quartzite		100%		greenish light grey	1	1	3	160.00 ~ 180.00 m	0.3 Lu (Pmax=21.99 kg/cm ²)		1	
2								2	Fresh and hard.				
3								3	Good rock				
4								2	Cracks stained a little.				
5								3					
6								2					
7								2					
8								3					
9								2					
170													
1	Quartzite		100%		greenish light grey	1	1	3		0.4 Lu (Pmax=21.54 kg/cm ²)		2	
2								2					
3								3					
4								2					
5								3					
6								2					
7								3					
8								2					
9								2					
180											180		



GEOLOGIC LOG OF DRILL HOLE

Mae Pai No.6 PROJECT HOLE No DH-3 (SHEET 10 OF 10)

LOCATION Dam Axis Right Abutment DEPTH OF HOLE 2000 m COMMENCED May-28 - 1979
 ELEVATION 387794 m DEPTH OF OVERBURDEN 75 m COMPLETED Oct -14 - 1979
 COORDINATE _____ LENGTH OF ROCK DRILLING 192.5 m DRILLED BY N.E.A
 ANGLE FROM HORIZONTAL 90 ° TOTAL LENGTH OF CORE 195.7 m LOGGED BY K. Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 97.9 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTA FOOT KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHER- ING	HARD- NESS	CORE CUTTING	DESCRIPTION			
18.0m			0 = 100							0	18.0m	
1	Quartzite	[Hatched pattern]	[Hatched pattern]	[Hatched pattern]	greenish pale grey	1	1	2	180.00 ~ 200.00m	03 Lu (Pmax=23.79 kg/cm ²)	1	
2									Fresh and hard		2	
3									Good rock.		3	
4									Cracks stained		4	
5									a little.		5	
6											6	
7											7	
8											8	
9											9	
190											190	
1		1										
2		2										
3		3										
4		4										
5		5										
6		6										
7		7										
8		8										
9		9										
200		200										

driller's note 4
 1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain
 core loss
 RQD
 1 (hard) ~ 5 (soft)
 1 (fresh) ~ 5 (decomposed)

GEOLOGIC LOG OF DRILL HOLE

Mae Chaem No.5 PROJECT HOLE No. 5-1 (SHEET 1 OF 3)

LOCATION Dam Axis Left Abutment DEPTH OF HOLE _____ m COMMENCED _____

ELEVATION 480 m DEPTH OF OVERBURDEN 0.75 m COMPLETED _____

COORDINATE _____ LENGTH OF ROCK DRILLING _____ m DRILLED BY _____

ANGLE FROM HORIZONTAL 90° TOTAL LENGTH OF CORE _____ m LOGGED BY K. Ishikawa

BEARING OF ANGLE HOLE _____ CORE RECOVERY _____ %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE				DESCRIPTION	WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING				
0m			0-100%							0	Om	
0.75	QB	△										
1		+									1	
2	Granite	+			light grey						2	
3		+						2			3	
4		+									4	
5		+									5	
6	Gn	+			grey	2	2	3			6	
7		+						2			7	
8		+						2			8	
9		+						4			9	
10		+						2			10	
11		+						3			11	
12		+			light grey	3	3	4			12	
13	Granite	+						2			13	
14		+									14	
15		+						1			15	
16		+				2	2	2			16	
17		+									17	
18		+						1			18	
19		+									19	
20		+						2			20	

driller's note 4
 1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain
 1 (hard) - 5 (soft)
 1 (fresh) - 5 (decomposed)
 core loss
 RQD


GEOLOGIC LOG OF DRILL HOLE

Mae Chaem No.5 PROJECT

DMC
HOLE No 5-1 (SHEET 2 OF 3)

LOCATION <u>Dam Axis Left Abutment</u>	DEPTH OF HOLE _____ m	COMMENCED _____
ELEVATION <u>480 m</u>	DEPTH OF OVERBURDEN <u>0.75 m</u>	COMPLETED _____
COORDINATE _____	LENGTH OF ROCK DRILLING _____ m	DRILLED BY _____
ANGLE FROM HORIZONTAL <u>90°</u>	TOTAL LENGTH OF CORE _____ m	LOGGED BY <u>K. Ishikawa</u>
BEARING OF ANGLE HOLE _____	CORE RECOVERY _____ %	

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF CASING	OBSERVATION OF CORE					WATER TABLE		DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION	WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER		
20.5			8 ~ 100									0	480
1	Granite	+			light grey			2					
2	Granite	+			light grey			2					
3	Gn	#			grey	2	2	2	2270 ~ 2340m Gneissosity dips 30~40°				
4	Pg	-			brownish light grey			3	2340 ~ 2480m Pegmatite				
5	Gn	#			grey			2	2480 ~ 3920m Gneiss Medium grained. Gneissosity dips 20~30°				
6	Gn	#			grey			3					
7								2	2560 ~ 2585m Core loss				
8		#						2	Cracks stained Somewhat brittle along gneissosity.				
9		#						2					
30	Gneiss	#						3					
1	Gneiss	#			grey	2	2	3					
2	Gneiss	#			grey			2					
3	Gneiss	#						3					
4	Gneiss	#						2					
5	Gneiss	#						3					
6	Gneiss	#						3	3530 ~ 3574m Core loss				
7	Gneiss	#			grey	2	2	2					
8	Gneiss	#						4					
9	Gn	#			grey	2	2	2	3800 ~ 3820m Core loss				
40	Gr	+			light grey	2	2	2	3920 ~ 4310m Granite Medium grained.				



 core loss

 ROD

 1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain

 1 (hard) ~ 5 (soft)

 1 (fresh) ~ 5 (decomposed)

 driller's note 4

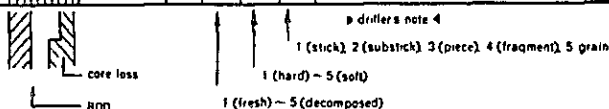
GEOLOGIC LOG OF DRILL HOLE

Mae Chaem No 5 PROJECT

HOLE No ^{DMC} 5-1 (SHEET 3 OF 3)

LOCATION Dam Axis, Left Abutment DEPTH OF HOLE _____ m COMMENCED _____
 ELEVATION 480 m DEPTH OF OVERBURDEN 0.75 m COMPLETED _____
 COORDINATE _____ LENGTH OF ROCK DRILLING _____ m DRILLED BY _____
 ANGLE FROM HORIZONTAL 90 ° TOTAL LENGTH OF CORE _____ m LOGGED BY K. Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY _____ %


DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE				DESCRIPTION	WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING				
4.0m			0-100%							0	4.0m	4.0
1	Granite	+	[Hatched]		light grey		1	Cracks stained.			1	
2		+				2			2			
3		+				3			3			
4	Gneiss	+	[Hatched]		grey	2	2	43.10~50.70m Gneiss Medium grained. Gneissosity dips 20~30° Biotite concentrates at 48.30~48.70m Cracks stained.			4	
5		+				2			5			
6		+								6		
7		+								7		
8		+							3	8		
9					3	9						
50	Gn	+			grey	2	2	49.00~49.95m Core loss			50	
1	Gr	+	[Hatched]		light grey		1	50.70~56.00m Granite. Medium grained Hard and good rock.			1	
2		+				2			2			
3	Pegmatite	+	[Hatched]		light grey	1	2	Pegmatite vein at 52.40~54.20m.			3	
4		+				3			4			
5	Gr	+	[Hatched]		light grey		1	Not completed.			5	
6		+							6			
7											7	
8											8	
9											9	
60											60	

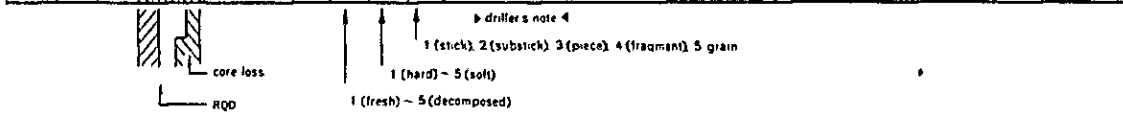


GEOLOGIC LOG OF DRILL HOLE

Mae Chaem No.5 PROJECT HOLE No. ^{DMC} 5-2 (SHEET 1 OF 7)

LOCATION Riverbed (left side) DEPTH OF HOLE 140.0 m COMMENCED May-21-1980
 ELEVATION 332.807 m DEPTH OF OVERBURDEN 40.4 m COMPLETED Jun-22-1980
 COORDINATE N 2014.695 427 LENGTH OF ROCK DRILLING 99.6 m DRILLED BY _____
E 443.832 620 TOTAL LENGTH OF CORE 106.2 m LOGGED BY K. Ishikawa
 ANGLE FROM HORIZONTAL 45° CORE RECOVERY 75.9 %
 BEARING OF ANGLE HOLE _____

DEPTH 0m	ROCK NAME	LOG	CORE RECOVERY	CEMENTA TION KIND OF CASING	OBSERVATION OF CORE				WATER TABLE 	WATER PRESSURE TEST	DEPTH	ELEVATION
					COLOR	WEATHER ING	HARD- NESS	CORE CUTTING				
0			0 = 100 %								0	
1	Topsoil				dark brown				0.0~210m Silty fine graind sand Included fine pebble. Somewhat humic.		1	
2					brown				2.10~800m Silt. Homogeneous grain. Included mica flakes		2	
3					pale brown						3	
4											4	
5											5	
6											6	
7											7	
8											8	
9											9	
10											10	
11											11	
12											12	
13											13	
14											14	
15											15	
16											16	
17											17	
18											18	
19											19	
20											20	



GEOLOGIC LOG OF DRILL HOLE

DMC

Mae Choem No5 PROJECT HOLE No. 5-2 (SHEET 2 OF 7)

LOCATION Riverbed (left side) DEPTH OF HOLE 140.0 m COMMENCED May-21 -1980
 ELEVATION 332.807 m DEPTH OF OVERBURDEN 40.4 m COMPLETED Jun -22 -1980
 COORDINATE _____ LENGTH OF ROCK DRILLING 99.6 m DRILLED BY _____
 ANGLE FROM HORIZONTAL 45° TOTAL LENGTH OF CORE 106.2 m LOGGED BY K. Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 75.9 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION			
2.0m			0-100%								2.0m	
1												
2												
3												
4												
5												
6												
7												
8												
9												
30												
1												
2												
3												
4												
5												
6												
7												
8												
9												
40												

Silt - Fine grained sand

pale yellowish brown

grey-dk grey

grey

35.00~35.90m
Silty fine grained Sand.

35.90~38.00m
Boulder of Gneiss.
Sticky core sized 10~30cm.

38.00~40.40m
Medium grained Sand.
Included pebble or boulder
sized 0.2~10cm at 39.50~
40.40m

driller's note 4
 1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain
 1 (hard) ~ 5 (soft)
 1 (fresh) ~ 5 (decomposed)

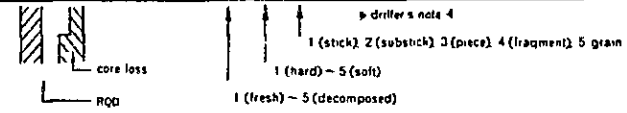
core loss
RQD

GEOLOGIC LOG OF DRILL HOLE

Mae Chaem No.5 PROJECT HOLE No. 5-2 (SHEET 3 OF 7)

LOCATION Riverbed (leftside) DEPTH OF HOLE 140.0 m COMMENCED May-21-1980
 ELEVATION 332.807 m DEPTH OF OVERBURDEN 40.4 m COMPLETED Jun-22-1981
 COORDINATE _____ LENGTH OF ROCK DRILLING 99.6 m DRILLED BY _____
 ANGLE FROM HORIZONTAL 45° TOTAL LENGTH OF CORE 106.2 m LOGGED BY K. Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 75.9%

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE				DESCRIPTION	WATER TABLE			DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING		WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER			
40m			0-100%									40.4m		
1	Pg	T			light grey		3	2	40.40~40.89m Pegmatite.					
2	Gneiss	#			dark grey		2	3	40.87~44.55m Gneiss. Medium grained. Gneissosity dips 40~60°.					
3	Gneiss	#			dark grey	2	3	2	Biotite somewhat weathered. Generally dense and hard rock deeper than 41.3m.	17	2	Lu		
4	Gneiss	#			dark grey	2	3	2						
5	Pegmatite	T			light grey		2	2	44.65~46.80m Pegmatite. Coarse grained. Crystal size 1~3cm.					
6	Pegmatite	T			light grey		3	3		9	1	Lu		
7	Gn	#			dark grey		2	2	46.80~49.40m Gneiss Medium grained.					
8	Gneiss	#			dark grey		1	1	47.70~48.00m Core loss					
9	Gneiss	#			dark grey		1	1						
50	Pegmatite	#			light grey		2	2	49.40~53.0m Pegmatite. Coarse grained.	5	4	Lu	50	
1	Pegmatite	#			light grey	1	2	2						
2	Pegmatite	#			light grey		3	3	53.0~53.30m Leucocratic medium grained Granite					
3	Gn	#			light grey		2	2	53.30~56.30m Gneiss. Medium grained. Weak gneissosity.					
4	Gneiss	#			light grey		3	3		5	1	Lu		
5	Gneiss	#			light grey		2	2	56.30~56.80m Pegmatite Included large Biotite					
6	Pg	T			light grey		3	3						
7	Gneiss	#			dark grey		2	2	56.80~61.00m Gneiss. Medium grained. Weak gneissosity. Sometimes included pegmatite vein.	4	8	Lu		
8	Gneiss	#			dark grey		3	3						
9	Gneiss	#			dark grey		2	2						
60												60		

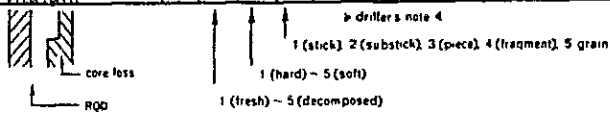


GEOLOGIC LOG OF DRILL HOLE

Mae Chaem No5 PROJECT HOLE No ^{DMC} 5-2 (SHEET 4 OF 7)

LOCATION River bed (left side) DEPTH OF HOLE 140.0m COMMENCED May-21 -1980
 ELEVATION 332.807 m DEPTH OF OVERBURDEN 40.4m COMPLETED Jun-22 -1980
 COORDINATE _____ LENGTH OF ROCK DRILLING 99.6m DRILLED BY _____
 ANGLE FROM HORIZONTAL 45 ° TOTAL LENGTH OF CORE 106.2m LOGGED BY K Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 75.9%

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTA TION KIND OF BIT CASING	OBSERVATION OF CORE				WATER TABLE	WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHER-ING	HARD-NESS	CORE CUTTING					
60m			0 ~ 100								0	60m	43
1	Gn	+			dark grey	1	2	3					
2	Pegmatite	T			light grey	2	3	2		2.8 Lu			
3	Pegmatite	T			light grey	2	3	2					
4	Gn	+			grey	2	3	2					
5	Gn	+			grey	2	3	2					
6	Pegmatite	T			light grey	1	3	1		0.3 Lu			
7	Pegmatite	T			light grey	1	3	1					
8	Pegmatite	T			light grey	1	3	1					
9	Pegmatite	T			light grey	1	3	1					
10	Pegmatite	T			light grey	1	3	1					
11	Pegmatite	T			light grey	1	3	1		0.05 Lu			
12	Pegmatite	T			light grey	1	3	1					
13	Pegmatite	T			light grey	1	3	1					
14	Pegmatite	T			light grey	1	3	1					
15	Pegmatite	T			light grey	1	3	1					
16	Pegmatite	T			light grey	1	3	1					
17	Pegmatite	T			light grey	1	3	1					
18	Pegmatite	T			light grey	1	3	1					
19	Pegmatite	T			light grey	1	3	1					
20	Pegmatite	T			light grey	1	3	1					
21	Pegmatite	T			light grey	1	3	1					
22	Pegmatite	T			light grey	1	3	1					
23	Pegmatite	T			light grey	1	3	1					
24	Pegmatite	T			light grey	1	3	1					
25	Pegmatite	T			light grey	1	3	1					
26	Pegmatite	T			light grey	1	3	1					
27	Pegmatite	T			light grey	1	3	1					
28	Pegmatite	T			light grey	1	3	1					
29	Pegmatite	T			light grey	1	3	1					
30	Pegmatite	T			light grey	1	3	1					
31	Pegmatite	T			light grey	1	3	1					
32	Pegmatite	T			light grey	1	3	1					
33	Pegmatite	T			light grey	1	3	1					
34	Pegmatite	T			light grey	1	3	1					
35	Pegmatite	T			light grey	1	3	1					
36	Pegmatite	T			light grey	1	3	1					
37	Pegmatite	T			light grey	1	3	1					
38	Pegmatite	T			light grey	1	3	1					
39	Pegmatite	T			light grey	1	3	1					
40	Pegmatite	T			light grey	1	3	1					
41	Pegmatite	T			light grey	1	3	1					
42	Pegmatite	T			light grey	1	3	1					
43	Pegmatite	T			light grey	1	3	1					
44	Pegmatite	T			light grey	1	3	1					
45	Pegmatite	T			light grey	1	3	1					
46	Pegmatite	T			light grey	1	3	1					
47	Pegmatite	T			light grey	1	3	1					
48	Pegmatite	T			light grey	1	3	1					
49	Pegmatite	T			light grey	1	3	1					
50	Pegmatite	T			light grey	1	3	1					
51	Pegmatite	T			light grey	1	3	1					
52	Pegmatite	T			light grey	1	3	1					
53	Pegmatite	T			light grey	1	3	1					
54	Pegmatite	T			light grey	1	3	1					
55	Pegmatite	T			light grey	1	3	1					
56	Pegmatite	T			light grey	1	3	1					
57	Pegmatite	T			light grey	1	3	1					
58	Pegmatite	T			light grey	1	3	1					
59	Pegmatite	T			light grey	1	3	1					
60	Pegmatite	T			light grey	1	3	1					



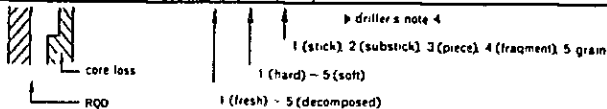
GEOLOGIC LOG OF DRILL HOLE

Mae Chaem No.5 PROJECT

DMC
HOLE No. 5-2 (SHEET 5 OF 7)

LOCATION Riverbed (left side) DEPTH OF HOLE 140.0 m COMMENCED May-21 - 1980
 ELEVATION 332.807 m DEPTH OF OVERBURDEN 40.4 m COMPLETED Jun-22 - 1980
 COORDINATE _____ LENGTH OF ROCK DRILLING 996 m DRILLED BY _____
 ANGLE FROM HORIZONTAL 45° TOTAL LENGTH OF CORE 106.2 m LOGGED BY K. Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 75.9%

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE		DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION	WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER		
80m			0 → 100									0	80m
1	Pg	T			dark light grey			2	80.00~81.00m Pegmatite				
2	Gn	#			dark grey			2 1	81.00~81.90m Gneiss. Medium grained. Gneissosity dips 60~70°				
3		T							81.90~89.00m Pegmatite Included large Biotite locally.	0.01	Lu		
4		T			light grey			2					
5	Pegmatite	T						3					
6		T						2	Good rock Cracks on stained	0.06	Lu		
7		T						3					
8		T						2		0.04	Lu		
9		T						3					
10		X							Core loss				
11		#			light grey			2 3	87.50~91.80m Gneiss. Medium grained. Gneissosity dips 40~50° Pegmatite Granite at 90.36~90.56m				
12		#							91.80~96.00m Gneiss Coarse grained Gneissosity dips 70~80° Some Quartz veins 2~5cm thick. Good rock. Cracks on stained.	0.04	Lu		
13	Gneiss	#			dark grey			2 1					
14		#							96.00~97.20m Gneiss Fine graind. Biotite rich. Gneissosity dips 60~70°	0.11	Lu		
15		#							97.20~100.20m Granite. Medium grained. Good rock. Cracks no stained.				
16	Granite	+			grey			1					
17		+											
18		+											
19		+											
100													100

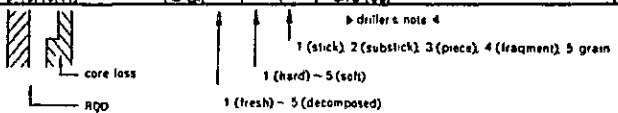


GEOLOGIC LOG OF DRILL HOLE

Mae Chaem No.5 PROJECT HOLE No. ^{DMC} 5-2 (SHEET 6 OF 7)

LOCATION Riverbed (left side) DEPTH OF HOLE 140.0 m COMMENCED May 21 - 1980
 ELEVATION 332.807 m DEPTH OF OVERBURDEN 40.4 m COMPLETED Jun 22 - 1980
 COORDINATE _____ LENGTH OF ROCK DRILLING 99.6 m DRILLED BY _____
 ANGLE FROM HORIZONTAL 45° TOTAL LENGTH OF CORE 106.2 m LOGGED BY K. Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 75.9 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF CASING	OBSERVATION OF CORE					WATER TABLE	WATER PRESSURE TEST	DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION				
10.0			0-100%								0	4.3	
1	Gr	+			dk grey				Granite cuts Gneiss at 20-30° dip. 100.20~100.90m Gneiss. Gneissosity dips 70° 100.90~101.35m Granite. Medium grained. 101.35~102.10m Gneiss. Gneissosity dips 70°	0.05 Lu	1		
2	Gneiss	+									2		
3	Gneiss	+									3		
4		+							10310~11590m Granite. Medium grained Massive. Weak gneissose texture at 106.00~10630m.	0.07 Lu	4		
5		+									5		
6		+									6		
7		+									7		
8		+							Pegmatic Granite vein at 103.20~103.35m and 108.00~108.50m.	No Test	8		
9	Granite	+			grey						9		
10		+							Vertical crack somewhat stained at 108.50~ 108.80m. Good rock.		10		
11		+									11		
12		+									12		
13		+									13		
14		+									14		
15		+									15		
16		+									16		
17		+									17		
18	Pegmatite	+			pale green				115.90~118.44m Pegmatite Chloritization.		18		
19	Gr	+			dk grey				118.44~118.80m Gneiss. Medium grained.	0.05 Lu	19		
20	Gr	+			dk grey				118.80~119.50m Granite. Massive.		20		
21	Gr	+			dk grey				119.50~120.70m Gneiss.		21		



GEOLOGIC LOG OF DRILL HOLE

Mae Chaem No.5 PROJECT HOLE No ^{DMC} 5-2 (SHEET 7 OF 7)
 LOCATION Riverbed (left side) DEPTH OF HOLE 140.0 m COMMENCED May-21-1980
 ELEVATION 332 807 m DEPTH OF OVERBURDEN 40.4 m COMPLETED Jun-22-1980
 COORDINATE _____ LENGTH OF ROCK DRILLING 99.6 m DRILLED BY _____
 ANGLE FROM HORIZONTAL 45 ° TOTAL LENGTH OF CORE 106.2 m LOGGED BY K. Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 75.9 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION	
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION				
120m			0 → 100								40	120m	43
1	Gneiss	#			dark grey		2		Gneissosity dips 10~40°			1	
2	Gr	+							121.20~122.10m Granite, Medium grained. Pegmatite, Grains of 121.67-122.10m	004 Lu		2	
3									122.10~126.20m Gneiss Coarse grained. Porphyroblastic plagioclase.			3	
4	Gneiss	#			grey		1					4	
5										009 Lu		5	
6												6	
7	Gr	+			dk grey		2		126.20~126.80m Gneissosity dips 30°			7	
8									126.80~127.60m Granite, Medium grained, Massive. Cracks somewhat stained.	006 Lu		8	
9	Pegmatite	-					2		127.60~131.10m Pegmatite. Biotite poor.			9	
130	Pegmatite	-			light grey		1					130	
1										011 Lu		1	
2	Gneiss	#			light grey				131.10~136.00m Gneiss Medium grained. Weak gneissosity. Gneissosity dips 40~60° Biotite poor.			2	
3										008 Lu		3	
4									core loss			4	
5	Gneiss	#			light grey							5	
6												6	
7	Pg	-							136.00~137.40m Pegmatite. Massive.	008 Lu		7	
8												8	
9	Gneiss	#			grey				137.40~140.00m Gneiss, Medium grained. Weak gneissosity. Quartz veins locally developed	006 Lu		9	
140									140.0m			140	

driller's note 4 Bottom of hole.

1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain

1 (hard) - 5 (soft)

1 (fresh) - 5 (decomposed)

core loss
RQD

GEOLOGIC LOG OF DRILL HOLE

Mae Chaem No.5 PROJECT HOLE No ^{DMC} 5-3 (SHEET 1 OF 8)

LOCATION Dam Axis, Right Abutment DEPTH OF HOLE 150.0 m COMMENCED - -

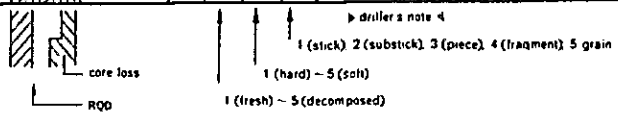
ELEVATION 480 m DEPTH OF OVERBURDEN 0.0 m COMPLETED - -

COORDINATE _____ LENGTH OF ROCK DRILLING 150.0 m DRILLED BY _____

ANGLE FROM HORIZONTAL 90° TOTAL LENGTH OF CORE 147.95 m LOGGED BY K. Ishikawa

BEARING OF ANGLE HOLE _____ CORE RECOVERY 98.6 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION			
0m			0 ~ 100 %								0	480m
0.0~0.40m	Gr	+			dark grey	3	3	3	0.0~0.40m Granite, Medium grained			
0.40~0.55m	Gr	+			dark grey	3	3	3	0.40~0.55m Gneiss, Granite, Medium grained Massive.			
0.55~0.95m	Gneiss	+			dark grey	3	3	3	0.95~3.10m Gneiss, Medium grained. Gneissosity dips 30~50°. Weak gneissosity at 1.15 ~ 1.60m			
3.10~6.20m	Granite	+			grey	2	2	1	3.10~6.20m Granite Medium grained Massive.			
6.20~9.00m	Gneiss	+			dark grey	3	3	1	6.20~9.00m Gneiss Medium grained Gneissosity dips 30~40°			
9.00~12.00m	Granite	+			grey	2	2	1	9.00~12.00m Granite, Medium grained. Massive. Gneiss interbedded at 9.50 ~ 9.55m. Cracks stained up to 9.30m.			
12.00~12.70m	Gn	+			dark grey	3	3	3	12.00~12.70m Gneiss.			
12.70~14.50m	Granite	+			grey	2	2	2	12.70~14.50m Granite, Medium to fine grained. Massive.			
14.50~14.90m	Gr	+			dark grey	3	3	3	14.50~14.90m Gneiss.			
14.90~16.35m	Granite	+			grey	2	2	3	14.90~16.35m Granite, Medium grained. Gneiss interbedded at 15.70~15.85m. Cracks somewhat stained up to 16.35m.			
16.35~25.40m	Gneiss	+			dark grey	3	3	2	16.35~25.40m Gneiss, Medium grained. Weak gneissosity at 17.60~19.00m. Brown clay films at 17.00, 17.70 and 19.30m. Cracks stained.			



GEOLOGIC LOG OF DRILL HOLE

Mae Chaem No.5 PROJECT HOLE No. ^{DMC} 5-3 (SHEET 2 OF 8)

LOCATION Dam Axis Right Abutment DEPTH OF HOLE 150.0m COMMENCED

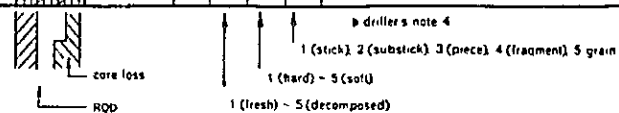
ELEVATION 480 m DEPTH OF OVERBURDEN 0.0m COMPLETED

COORDINATE LENGTH OF ROCK DRILLING 150.0m DRILLED BY

ANGLE FROM HORIZONTAL 90° TOTAL LENGTH OF CORE 4795 m LOGGED BY K. Ishikawa

BEARING OF ANGLE HOLE CORE RECOVERY 98.6%

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BITTING CASING	OBSERVATION OF CORE			DESCRIPTION	WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS				
20m			0-100%							40	20m
1	Gneiss	+			dark grey	3	2	Gneissosity dip 20~30° Brown clay films at 21.10~21.20, 20.70 and 21.85m			1
2	Gneiss	+			dark grey						2
3	Gneiss	+			dark grey						3
4	Gneiss	+			dark grey						4
5	Gneiss	+			dark grey						5
6	Gr	+			light grey			25.40~26.50m Granite. Medium grained			6
7	Gneiss	+			dark grey		1	26.50~32.20m Gneiss. Medium grained. Gneissosity dips 30~40°			7
8	Gneiss	+			dark grey			Brittle along gneissosity Cracks stained.			8
9	Gneiss	+			dark grey	3					9
30	Gneiss	+			dark grey	2					30
1	Gneiss	+			dark grey						1
2	Gneiss	+			dark grey						2
3	Gr	+			grey		2	32.20~32.75m Granite. Fine grained. Granite cuts gneiss at 10~20° angle.			3
4	Gneiss	+			dark grey			32.75~38.30m Gneiss. Medium grained. Gneissosity dips 40~60°			4
5	Gneiss	+			dark grey	2		Brittle along gneissosity, Cracks stained.			5
6	Gneiss	+			dark grey	3	3				6
7	Gneiss	+			dark grey		2				7
8	Gneiss	+			dark grey						8
9	Gr	+			grey		3	38.30~38.75m Gr. Medium grained. Massive			9
40	Gn	+			dark grey	2	1	38.75~46.00m Gneiss. Medium grained			40



GEOLOGIC LOG OF DRILL HOLE

Mae Chaem No.5 PROJECT HOLE No ^{DMC} 5-3 (SHEET 3 OF 8)

LOCATION Dam Axis Right Abutment DEPTH OF HOLE 1500 m COMMENCED - -

ELEVATION 480 m DEPTH OF OVERBURDEN 00 m COMPLETED - -

COORDINATE LENGTH OF ROCK DRILLING 1500 m DRILLED BY

ANGLE FROM HORIZONTAL 90 ° TOTAL LENGTH OF CORE 14795 m LOGGED BY K. Ishikawa

BEARING OF ANGLE HOLE CORE RECOVERY 98.6 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE				WATER TABLE	WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION		
					COLOR	WEATHERING	HARDNESS	CORE CUTTING						DESCRIPTION	
0m			0 → 100 %								0	480m	4.3		
1	Gneiss	+	+	+	dark grey	2	1	1	Gneissosity dips 50~60°	+	+	+	+		
2							2							Cracks stained.	
3							2								Generally hard and good rock.
4							1								
5							2								
6							2								
7	Granite	+	+	+	grey	1	1	46.00 ~ 65.00m Granite. Medium grained Massive. Coarse grained Granite at 46.10~46.30m.	+	+	+	+			
8							2						Cracks somewhat stained		
9							2							Good rock.	
10							2								
11							2								
12							1								
13							2								
14							4								
15							3								
16							4								Fault clay at 55.45 ~ 55.60m. Dip 30° Remained original rock texture.
17	2														
18	3														
19	2														
20	1														
21	2														
22	2														
23	2														
24	2														
25	2														

← driller's note ←

1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 gram

1 (hard) - 5 (soft)

1 (fresh) - 5 (decomposed)

core loss

RQP

GEOLOGIC LOG OF DRILL HOLE

Mae Chaem No5 PROJECT HOLE No. ^{DMC} 5-3 (SHEET 4 OF 8)

LOCATION Dam Axis, Right Abutment DEPTH OF HOLE 150.0 m COMMENCED - -

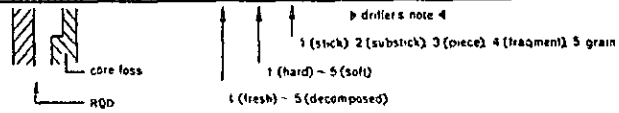
ELEVATION 480 m DEPTH OF OVERBURDEN 0.0 m COMPLETED - -

COORDINATE _____ LENGTH OF ROCK DRILLING 150.0 m DRILLED BY _____

ANGLE FROM HORIZONTAL 90 ° TOTAL LENGTH OF CORE 147.95 m LOGGED BY K. Ishikawa

BEARING OF ANGLE HOLE _____ CORE RECOVERY 98.6 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE				WATER TABLE	WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING					
60m			0 ~ 100								0	60m	480
1	Granite	+	[Pattern]		light grey		1	Fault clay at 63.00m. Dip 80° Cracks stained a little.				1	
2		2					2						
3		3					3						
4		2					2						
5		3					3						
6	Gneiss	+	[Pattern]		dark grey		3	65.20 ~ 68.75m Gneiss. Medium grained. Gneissosity dips 30°. Brittle along gneissosity Cracks somewhat stained.				6	
7		2					2						
8		3					3						
9	Granite	+	[Pattern]		grey		1	68.75 ~ 98.30m Granite. Medium grained. Massive. Cracks somewhat stained. Good rock				9	
10		1					1						
11		3					3						
12		2					2						
13		4					4						
14		3					3						
15		2					2						
16		1					1						
17		4					4						
18		3					3						
19	2	2											
20	3	3											
21	1	1											
22	4	4											
23	3	3											
24	2	2											
25	3	3											
26	1	1											
27	4	4											
28	3	3											
29	2	2											
30	3	3											
31	1	1											
32	4	4											
33	3	3											
34	2	2											
35	3	3											
36	1	1											
37	4	4											
38	3	3											
39	2	2											
40	3	3											
41	1	1											
42	4	4											
43	3	3											
44	2	2											
45	3	3											
46	1	1											
47	4	4											
48	3	3											
49	2	2											
50	3	3											
51	1	1											
52	4	4											
53	3	3											
54	2	2											
55	3	3											
56	1	1											
57	4	4											
58	3	3											
59	2	2											
60	3	3											



GEOLOGIC LOG OF DRILL HOLE

Mae Chaem No.5 PROJECT HOLE No. ^{DMC} 5-3 (SHEET 5 OF 8)

LOCATION Dam Axis Right Abutment DEPTH OF HOLE 150.0 m COMMENCED - -

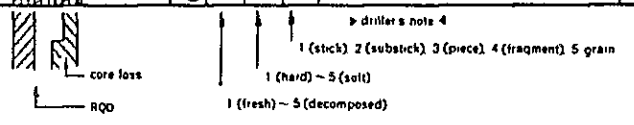
ELEVATION 480 m DEPTH OF OVERBURDEN 0.0 m COMPLETED - -

COORDINATE _____ LENGTH OF ROCK DRILLING 150.0 m DRILLED BY _____

ANGLE FROM HORIZONTAL 90 ° TOTAL LENGTH OF CORE 47.95 m LOGGED BY K Ishikawa

BEARING OF ANGLE HOLE _____ CORE RECOVERY 98.6 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION			
0m			0 ~ 100								0	480
1	Granite	+	+		grey	1	1	1	2	Cracks stained a little		1
2									4			2
3												
4									2			
5												
6												
7												
8												
9												
10	Gneiss	+	+		dark grey	2	2	2	2	98.30~103.6m Gneiss. Medium grained. gneissosity dips 40~60° Craks stained a little.		9
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
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47												
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49												
50												



GEOLOGIC LOG OF DRILL HOLE

Mae Cham No.5 PROJECT DMC
HOLE No. 5-3 (SHEET 6 OF 8)

LOCATION Dam Axis Right Abutment DEPTH OF HOLE 150.0 m COMMENCED - -
 ELEVATION 480 m DEPTH OF OVERBURDEN 0.0 m COMPLETED - -
 COORDINATE _____ LENGTH OF ROCK DRILLING 150.0 m DRILLED BY _____
 ANGLE FROM HORIZONTAL 90° TOTAL LENGTH OF CORE 147.95 m LOGGED BY K. Ishikawa
 BEARING OF ANGLE HOLE _____ CORE RECOVERY 98.6 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION	
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION				
100m			0-100%							LUGEON	100m	43	
1	Gneiss	+			dark grey		2	2	Pale greenish grey clay film at 105.45m			1	
2													
3													
4													
5													
6	Gr	+				1	2	105.70 ~ 107.40m Granite. Medium grained. Massive.			6	7	
7													
8	Gneiss	+				2	3	107.40 ~ 110.00m Gneiss. Medium grained. Gneissosity dips 40°.			8	9	
9													
10	Gr	+				1	1	110.00 ~ 111.50m Granite. Medium grained. Massive.			110	11	
11													
12	Gneiss	+			grey		3	111.50 ~ 117.65m Gneiss. Medium grained. Gneissosity dips 30~40°. Cracks stained a little			12	2	3
13													
14													
15													
16													
17	Granite	+				1	1	117.65 ~ 129.80m Granite. Medium grained			17	8	
18													
19	Granite	+				1	1				19	9	
20													

driller's note 4
 1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain
 1 (hard) ~ 5 (soft)
 1 (fresh) ~ 5 (decomposed)

core loss
 HQO

GEOLOGIC LOG OF DRILL HOLE

Mae Chaem No 5 PROJECT HOLE No ^{DMC} 5-3 (SHEET 7 of 8)

LOCATION Dam Axis.Right Abutment DEPTH OF HOLE 150.0 m COMMENCED - -

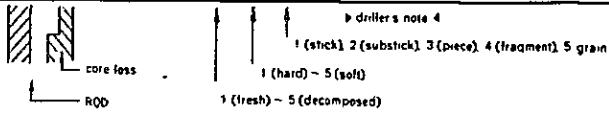
ELEVATION 480 m DEPTH OF OVERBURDEN 0.0 m COMPLETED - -

COORDINATE _____ LENGTH OF ROCK DRILLING 150.0 m DRILLED BY _____

ANGLE FROM HORIZONTAL 90° TOTAL LENGTH OF CORE 479.5 m LOGGED BY K Ishikawa

BEARING OF ANGLE HOLE _____ CORE RECOVERY 98.6 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					DESCRIPTION	WATER TABLE WATER PRESSURE TEST LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	LUGEON				
12.0m			0 ~ 100 %								0	12.0m	480
1	Granite	+			light grey	1	1	2	Fresh and hard. Good rock			1	
2		+		1									
3		+		2									
4		+		1									
5		+		3									
6		+		2									
7		+											
8		+											
9		+											
13.0	Gn	+		grey	2	3	3	129.80~135.80m Gneiss. Medium grained.				13.0	
1		X						130.50~131.70m Core loss				1	
2	Gneiss	+		grey	1	1	2	Biotite concentrates at 129.80~130.50m Generally gneissosity not so remarkable				2	
3		+					3						
4		+					3						
5		+					2						
6	Gn	+		grey			2	135.00~135.25m Core loss.				6	
7	Granite	+		light grey	1	1	2	135.80~139.50m Granite. Medium grained. Interbedded gneiss at 137.25~137.50m.				7	
8		+											
9		+											
14.0	Gn	+					2	139.50~140.70m Gneiss				14.0	



GEOLOGIC LOG OF DRILL HOLE

PROJECT: Mae Chaem No 5 HOLE No ^{DMC} 5-3 (SHEET 8 OF 8)

LOCATION Dam Axis, Right Abutment DEPTH OF HOLE 150.0 m COMMENCED - -

ELEVATION 480 m DEPTH OF OVERBURDEN 0.0 m COMPLETED - -

COORDINATE _____ LENGTH OF ROCK DRILLING 150.0 m DRILLED BY _____

ANGLE FROM HORIZONTAL 90 ° TOTAL LENGTH OF CORE 147.95 m LOGGED BY K Ichikawa

BEARING OF ANGLE HOLE _____ CORE RECOVERY 98.6 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE				WATER TABLE	WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING					
140m			0 ~ 100 %									140m	480
1	Gn	+			light grey	1	2	2	Gneissosity dips 20~30°			1	
2	Gr	+			light grey	1	2	3	140.70~150.00m Granite Medium grained			2	
3		X							141.70~142.30m Core loss			3	
4	Granite	+						2	Cracks no stained Fresh and hard. Good rock			4	
5	Granite	+						1	Interbedded gneiss at 147.00~147.70m and 148.10~148.50m			5	
6	Granite	+						3				6	
7	Gn	+						2			7		
8	Gn	+						2			8		
9	Granite	+						1			9		
150									150.0m Bottom of hole			150	

driller's note 4

1 (stick) 2 (substick) 3 (piece) 4 (fragment) 5 grain

1 (hard) ~ 5 (soft)

1 (fresh) ~ 5 (decomposed)

core loss

RQD

GEOLOGIC LOG OF DRILL HOLE

Mae Chaem No.5 PROJECT HOLE No. ^{DMC}5-4 (SHEET 1 OF 4)

LOCATION Intake DEPTH OF HOLE 65.0 m COMMENCED - -

ELEVATION 464.404 m DEPTH OF OVERBURDEN 3.0 m COMPLETED - -

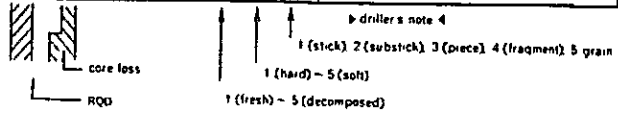
COORDINATE N. 2014 399.53 LENGTH OF ROCK DRILLING 62.0 m DRILLED BY - -

E. 443.829.507 TOTAL LENGTH OF CORE 63.5 m LOGGED BY K. Ishikawa

ANGLE FROM HORIZONTAL 90 ° CORE RECOVERY 97.7 %

BEARING OF ANGLE HOLE - -

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE	WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION					
0m			0 → 100 %									0	464.404	
0.00 ~ 3.00m	Residual soil	+			brown				00~3.00m Coarse grained sand with fine grained gravel. Gravel size max.10m/m.					
3.00 ~ 9.10m	Gneiss	+			dark grey	3	3	3	3.00~9.10m Gneiss. Medium grained. Somewhat weathered. Cracks stained. Brown clay films at 4.90 and 8.60m. Cracks somewhat open upto 9.00m.					
9.10 ~ 11.60m	Granite	+			grey			2	9.10~11.60m Granite. Medium grained.					
11.60 ~ 18.50m	Gneiss	+			dark grey	2	2	3	11.60~18.50m Gneiss. Medium grained. Cracks somewhat stained.					
18.50 ~ 26.90m	Granite	+			light grey			2	18.50~26.90m Granite. Medium grained. Cracks somewhat stained.					



GEOLOGIC LOG OF DRILL HOLE

Mae Chaem No5 PROJECT HOLE No ^{DMC} 5-4 (SHEET 2 OF 4)

LOCATION Intake DEPTH OF HOLE 65.0 m COMMENCED - -

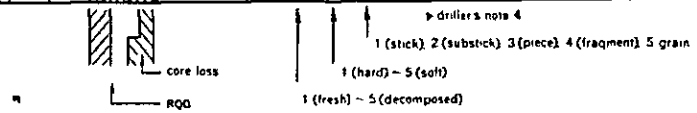
ELEVATION 464.404 m DEPTH OF OVERBURDEN 3.0 m COMPLETED - -

COORDINATE _____ LENGTH OF ROCK DRILLING 62.0 m DRILLED BY _____

ANGLE FROM HORIZONTAL 90° TOTAL LENGTH OF CORE 63.5 m LOGGED BY K. Ishikawa

BEARING OF ANGLE HOLE _____ CORE RECOVERY 97.7 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE					WATER TABLE	WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION	
					COLOR	WEATHERING	HARDNESS	CORE CUTTING	DESCRIPTION						
20m			0 → 100										20m	437	
1	Granite	+	+		light grey	2	2	3					1		
2		+	+			2	2	3					2		
3		+	+					4						3	
4		+	+											4	
5		+	+					2						5	
6		+	+				1	1						6	
7		+	+		grey			3	26.90 ~ 28.65m Granite. Medium grained Cutted by leucocratic granite at 10~20° angle.				7		
8		+	+					2					8		
9		+	+					3	28.65 ~ 40.05m Gneiss. Medium grained. Gneissosity dips 40~50°.				9		
30		+	+					3					30		
1	Gneiss	+	+		dark grey				Cracks stained up to 35.00m				1		
2		+	+										2		
3		+	+			2	2	2					3		
4		+	+										4		
5		+	+										5		
6		+	+										6		
7		+	+										7		
8		+	+										8		
9		+	+										9		
40		+	+									40			



GEOLOGIC LOG OF DRILL HOLE

Mae Chaem No5 PROJECT HOLE No ^{DMC} 5-4 (SHEET 3 OF 4)

LOCATION Intake DEPTH OF HOLE 650 m COMMENCED

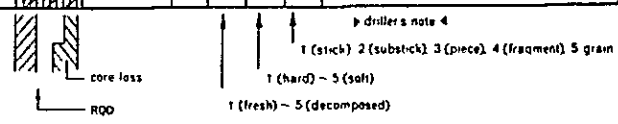
ELEVATION 464 405 m DEPTH OF OVERBURDEN 30 m COMPLETED

COORDINATE LENGTH OF ROCK DRILLING 620 m DRILLED BY

ANGLE FROM HORIZONTAL 90° TOTAL LENGTH OF CORE 63.5 m LOGGED BY K Ishikawa

BEARING OF ANGLE HOLE CORE RECOVERY 97.7 %

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BITTING CASING	OBSERVATION OF CORE				DESCRIPTION	WATER TABLE	WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION
					COLOR	WEATHERING	HARDNESS	CORE CUTTING						
40m			0-100									0	40	40m
1	Gr	+			grey		1	1	40.05~41.25m Granite. Medium grained. Horizontal contact with Gneiss				1	
2		+							41.25~52.15m Gneiss Medium grained Gneissosity dips 30-40°				2	
3		+											3	
4		+						2	Cracks somewhat stained.				4	
5		+			dark grey				Good rock.				5	
6		+											6	
7	Gneiss	+					2						7	
8		+											8	
9		+						1					9	
50		+											50	
1		+											1	
2		+											2	
3	Gr	+			grey		1	1	52.15 ~ 53.10m Granite Medium grained. Contact with Gneiss at 30° angle.				3	
4		+							53.10 ~ 65.00m Gneiss. Medium grained Gneissosity dips 30°				4	
5		+											5	
6		+			dark grey			2	Cracks somewhat stained.				6	
7	Gneiss	+					2		Good rock.				7	
8		+											8	
9		+											9	
60													60	



GEOLOGIC LOG OF DRILL HOLE

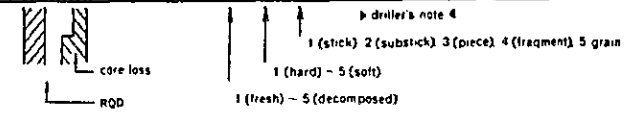
Mae Chaem No5 PROJECT

HOLE No. ^{DMC}5-4 (SHEET 4 OF 4)

LOCATION <u>In Ia ko</u>	DEPTH OF HOLE <u>65.0</u> m	COMMENCED <u>- -</u>
ELEVATION <u>464.405</u> m	DEPTH OF OVERBURDEN <u>3.0</u> m	COMPLETED <u>- -</u>
COORDINATE <u> </u>	LENGTH OF ROCK DRILLING <u>62.0</u> m	DRILLED BY <u> </u>
ANGLE FROM HORIZONTAL <u>90</u> °	TOTAL LENGTH OF CORE <u>63.5</u> m	LOGGED BY <u>K. Ishikawa</u>
BEARING OF ANGLE HOLE <u> </u>	CORE RECOVERY <u>97.7</u> %	

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE				WATER TABLE	WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER	DEPTH	ELEVATION	
					COLOR	WEATHERING	HARDNESS	CORE CUTTING						
60m			0 → 100									0	43	
1	Gneiss	#										1		
2		#										2		
3		#				1	2	2				3		
4		#											4	
5		#											5	
6												6		
7												7		
8												8		
9												9		
10												10		
11												11		
12												12		
13												13		
14												14		
15												15		
16												16		
17												17		
18												18		
19												19		
20												20		

65.0m
Bottom of hole.

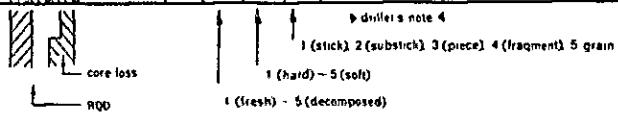


GEOLOGIC LOG OF DRILL HOLE

Mae Chaem No 5 PROJECT DMC
 HOLE No 5-5 (SHEET 1 OF 2)

LOCATION Power house DEPTH OF HOLE 24.0 m COMMENCED - -
 ELEVATION 343 373 m DEPTH OF OVERBURDEN 345 m COMPLETED - -
 COORDINATE N 2014, 562 147 LENGTH OF ROCK DRILLING 2055 m DRILLED BY - -
E 444, 595 389 TOTAL LENGTH OF CORE 221 m LOGGED BY K Ishikawa
 ANGLE FROM HORIZONTAL 90 ° CORE RECOVERY 921 %
 BEARING OF ANGLE HOLE - -

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE				DESCRIPTION	WATER TABLE		DEPTH	ELEVATION	
					COLOR	WEATHERING	HARDNESS	CORE CUTTING		WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER			
0m			0 ~ 100 %								0	40	0m	43
1	Residual soil	+			pale brown				00~3 45m					
2		00~340m												
3		340~345 Weathered rock fragment sized 2~5cm												
4	Granite	+			greyish white	4	4	2	345~700m					
5		Granite. Medium grained. Massive												
6		Strongly weathered.												
7		Broken by hands.												
8		Cracks a little stained												
9		700~1200m												
10		Somewhat weathered												
11	Cracks a little stained.													
12	Granite	+			greyish white	2	3	2	12.00~24.00m					
13		Fresh and hard.												
14		Good rock												
15		12.00~24.00m												
16		Deeper than 16.0m												
17		cracks no stained												
18		1												
19		2												
20		1												



GEOLOGIC LOG OF DRILL HOLE

Mal Chaem No5 PROJECT HOLE No ^{DMC} 5-5 (SHEET 2 OF 2)

LOCATION Power house DEPTH OF HOLE 240 m COMMENCED - -

ELEVATION 343.373 m DEPTH OF OVERBURDEN 345 m COMPLETED - -

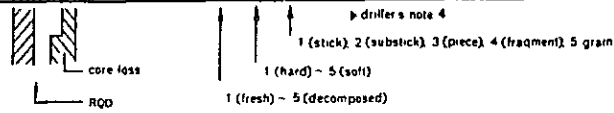
COORDINATE E 204 562 147 LENGTH OF ROCK DRILLING 2055 m DRILLED BY - -

N 444 595 389 TOTAL LENGTH OF CORE 221 m LOGGED BY K. Ishikawa

ANGLE FROM HORIZONTAL 90 ° CORE RECOVERY 921 %

BEARING OF ANGLE HOLE - - - -

DEPTH	ROCK NAME	LOG	CORE RECOVERY	CEMENTATION KIND OF BIT CASING	OBSERVATION OF CORE				DESCRIPTION	WATER TABLE		DEPTH	ELEVATION	
					COLOR	WEATHERING	HARDNESS	CORE CUTTING		WATER PRESSURE TEST	LEAKAGE OF DRILLING WATER			
20m			0 → 100 %									20m		
1	Granite	+			greyish white			2				1		
2		+			1	2						2		
3		+						1					3	
4		+								24.0m			4	
5								Bottom of hole			5			
6											6			
7											7			
8											8			
9											9			
0											0			



3 OTHER REFERENCES

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	TITLE	PUBLISHER
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2.	"ECONOMIC STUDY OF DAMSITES" NAM PAI PROJECT	Eng. Consultants Inc. DENVER Dec. 1971
3.	"FIELD RECONNAISSANCE OF NAM PAI DAMSITES" NAM PAI PROJECT	Eng. Consultants Inc. DENVER Jan. 1972
4.	"INVENTORY OF HYDROPOWER POTENTIAL IN THAILAND" Kingdom of Thailand, Water Resources Planning Subcommittee of National Economic and Social Development Board and NEA	Sverdrup & Parcel and Associates, Inc. Southeast Asia Technology Company, Ltd.
5.	"ANNUAL REPORT 1979" EGAT	EGAT, 1978
6.	"BHUMIBOL DAM AND HYDROPOWER PLANT" Report No. 152-20-2321	EGAT, Public Communications Dept. Nov. 1980
7.	"POWER FOR PROGRESS" Report No. 152-20-2325	EGAT Information Div. Public Communication Dept. Nov. 1980
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TITLE	PUBLISHER
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15. Figures showing condition of geological drill hole - 13 sheets	NEA
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17. "CHAO PHYA IRRIGATION IMPROVEMENT PROJECT" STAGE I CREDIT 379-TH PROJECT COMPLETION REPORT	ILACO R.I.D. Min. of Agriculture and Co-operatives Oct. 1978

TITLE	REPUBLISHER
18. "CHAO PHYA IRRIGATION IMPROVEMENT PROJECT II" TECHNICAL NOTE NO.50 RESULTS OF BENEFIT MONITORING IN THE PILOT AND STAGE I AREAS 1978/79	ILACO/EMPIRE M & T Land Development Department Min. of Agriculture and Co-operatives
19. "CHAO PHYA IRRIGATION IMPROVEMENT PROJECT II" TECHNICAL NOTE NO.52 RESULTS OF BENEFIT MONITORING IN THE PILOT AND STAGE I AREAS Wet Season 1979/80	ILACO/EMPIRE M & T Land Development Department Min. of Agriculture and Co-operatives
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