No.51

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINERALS AND GEOSCIENCE DEPARTMENT MALAYSIA

THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

FINAL REPORT

VOLUME 4 DATA BOOK

MARCH 2002

CTI Engineering International Co., Ltd.

OYO CORPORATION

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All the Malaysian Ringgit amounts including project costs shown in this report are indicated in 2001 price unless otherwise indicated. Those amount are estimated based on the foreign prices by applying currency exchange rates as of 30th of November 2001; namely, US$1 = RM3.8000 = 123.98 Japanese Yen.

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Sector D	**SURFACE WATER STATUS**
Sector E	**GROUNDWATER QUALITY**
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Sector G	**GROUNDWATER MODELLING**
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DATA BOOK

SECTOR C

WATER DEMAND AND SUPPLY

DATA BOOK C.3.1

LIST OF WELLS FOR THE HYDRO CENSUS

Data Book Table C.3.1 (1) List of Wells for the Hydro Census

Total well JMG Selangor - 103 (starting from ID 1 until ID 103)
Total new well found belongs to villager - 18 (starting from ID 104 until ID 121)
Total well for reviewed - 121

ID	JMG ID	YEAR	DISTRICT	SITE_ NAME	NORTH	EAST	WELL OWNER	ADDRESS	TYPE OF WELL	USAGE	STATUS	DISCHARGE	AQUIFER MATERIAL
1			a		305748	391760	JMG	Ladang Kelapa Sawit Sungai Lang	Monitoring	Test Well	Active		Alluvium
2	PB0168		a		310900	388900	PKNS		Monitoring	Test Well	unknown		Alluvium
3	PB0179		a		311200	389400	PKNS		Monitoring	Test Well	unknown		Alluvium
4	PB0184		a		321700	386200	Lovytex Sdn. Bhd.		Monitoring	Test Well	unknown		Alluvium
5	PB0189		b		331200	422400	S.M. Vokasional		Monitoring	Test Well	unknown		Alluvium
6	PB0199		b		340200	419400	Syarikat KSH		Monitoring	Test Well	unknown		Alluvium
7			c	LED1	320172	404414	JMG	Highway of KLIA-Subang-Nilai	Monitoring	Test Well	Active		na
8	PB0053	1987	a	BK1	325800	392300	JMG	Kg. Bukit Kemandul	Monitoring	Test Well	unknown	0.91	Sandstone
9	PB0075	1987	a	TM8	310700	380700	JMG	Kg. Tg. Medan, Banting	Monitoring	Test Well	unknown	1.64	Clay + Sand
10			c	PN2A	321284	403620	JMG	Highway of KLIA-Subang-Nilai	Monitoring	Test Well	Active		Sand + Clay
11	PB0070	1987	a	DB4	299950	392300	JMG	Kg. Dasar Batu	Monitoring	Test Well	unknown	0	Sand
12	PB0068	1987	a	DB2	297500	391600	JMG	Kg. Darat Batu	Monitoring	Test Well	unknown		Clay + Aluvium
13	PB0069	1987	a	DB3	297600	392000	JMG	Kg. Darat Batu	Monitoring	Test Well	unknown	0	Clay + Aluvium
14	PB0243	1994	a	LK10	325350	381000	JMG	Kg. Sijangkang	Monitoring	Test Well	unknown		Clay + Sand
15	PB0255	1994	a	LK22	312200	395100	JMG	Ladang Brookslands Telok Datuk Kuala Langat	Monitoring	Test Well	Active		Sand/Gravel
16	PB0253	1994	a	TD2 (LK20)	311179	391311	JMG (No: MWS5, BM9, MWD5, BS4346)	Kg. Sg. Lang Tengah, 42700 Banting, Kuala Langat, Selangor.	Monitoring	Test Well	Active		Sand
17	PB0254	1994	a	TD3 (LK21)	309500	398500	JMG	Sg. Kelambu, Kuala Langat	Monitoring	Test Well	Active		Sand
18	PB0256	1994	a	LK23	314900	397000	JMG	Jln. Bukit Perah, Kuala Langat	Monitoring	unknown	unknown		Sand
19	PB0257	1994	a	TD6 (LK24)	315900	404400	JMG	Ladang Sg. Lenang, Telok Datok, Kuala Langat	Monitoring	Test Well	unknown		Sand/Gravel
20	PB0258	1994	a	TD7 (LK25)	315900	392450	JMG	Ladang Sg. Sedu, Kuala Langat	Monitoring	Test Well	unknown		Sand/Gravel
21	PB0201		b		419500	340200	Solid Gd. Helmet	Solid Gd. Helmet	Monitoring	Test Well	unknown		Alluvium
22	PB0208		b		341600	401700	Schulz Sdn. Bhd.	Schulz Sdn. Bhd.	Monitoring	Test Well	unknown		Alluvium
23	PB0210		b		329500	416000	Rahmat Perusahaan	Rahmat Perusahaan	Monitoring	Test Well	unknown		Alluvium
24	PB0229		b		318200	370500	JMG		Monitoring	Test Well	unknown		Alluvium

Legend: District a - Kuala Langat, b - Hulu Langat, c - Sepang

Data Book Table C.3.1 (2) List of Wells for the Hydro Census

ID	JMG ID	YEAR	DISTRICT	SITE_ NAME	NORTH	EAST	WELL OWNER	ADDRESS	TYPE OF WELL	USAGE	STATUS	DISCHARGE	AQUIFER MATERIAL
25	PB0043	1982	a	No. 1	317800	384400	Jomalina	Jomalina, Telok Panglima Garang, Banting	Production	Domestic	unknown	45.5	Limestone
26	PB0033	1986	a	No. 1	314796	412678	Guthrie Ladang Ampar Tenang	Ladang Ampar Tenang, Peti Surat 4 Dengkil, 43800 Sepang, Selangor.	Production	Domestic	Active	7.7	Sandstone + Shal
27	PB0389	1998	b	S5	333700	421000	JMG	Sek. Men. Agama Persekutuan Kajang	Production	Domestic	Active	3.33	Sand
28	PB0268	1998	b	PW1	319453	432413	Sekolah Agama Sesapan Batu Minangkabau	Sekolah Agama Sesapan Batu Minangkabau, 43700 Beranang, Selangor.	Production	Domestic	Abandoned	5.46	Granite
29			c	SEL6	316300	408900		Kg. Chemperai	Production	Domestic	unknown	18.18	Alluvial
30			c	SEL8	316300	408900		Kg.Chemperai	Production	Domestic	unknown	18.18	Alluvial
31			b	SEL12	335600	419800		Taman Cuepacs, Cheras	Production	Domestic	unknown	Dry	Alluvial
32			b	SEL13	338100	419800		Tmn. Cannaught	Production	Domestic	unknown	Dry	Alluvial
33			c	SEL14	316800	411200		Surau Al-Fallah, Kg Lalang, Dengkil.	Production	Domestic	unknown	0.91	Alluvial
34			c	SEL15	309500	417000		Salak Tinggi, Sepang	Production	Domestic	unknown	1.36	Alluvial
35	PB0296		c	SEL16	317300	410800		Batu 30, Jln. Sepang, 43800 Dengkil, Selangor.	Production	Domestic	unknown	18.18	Alluvial
36			a	SEL17	316255	410957	Perumaham PKNS Bt. 29, Jalan Sepang.	Perumahan PKNS Bt 29, Jln Sepang 43800 Dengkil, Selangor.	Production	Domestic (Pump)	Abandoned		Alluvial
37			c	SEL22	313600	404100		Dengkil	Production	Domestic	unknown	0.91	Alluvial
38			c	SEL24	318669	408810	Madrasah Tahfiz Al-Quran	Madrasah Tahfiz Al-Quran, Kg. Dato' Ahmad Razali, 43800 Dengkil, Kuala Langat, Selangor.	Production	Domestic	Active	7,300m^3/day	Alluvium
39			b	SEL34	332200	421800	Sek.Keb.Sg. Kantan, Kajang	Sek.Keb.Sg. Kantan, 43000 Kajang, Selangor.	Monitoring	Test Well	Active	1.36	Alluvial
40			b	SEL36	332834	421161		Lot 11268, Jalan Melor 1, Sg. Kantan, Kajang	Production	Domestic	Abandoned	Dry	Alluvial
41			b	SEL39	328600	418400		Jln. Melor Sg. Ramal Luar, Kajang	Production	Domestic	Abandoned	Dry	Alluvial
42			a	SEL40	313121	403590	Masjid Al-Sabarin	Kg. Bukit Changgang, 42700 Banting, Selangor.	Production	Domestic	Abandoned	Dry	Alluvial
43			b	SEL41	329800	421500		Madrasah Al-Altaqwa Tmn. Sri Langat	Production	Domestic	unknown	11.36	Alluvial
44			b	SEL44	328500	421600		Surau Al Hidayah, Seksyen 5	Production	Domestic	unknown	11.36	Alluvial
45			b	SEL45	323668	428065	Asrama Darul Izzah	Asrama Darul Izzah, Teras Jernang, 43000 Bangi, Selangor.	Production	Domestic (Pump)	Active	3.63	Alluvial
46			b	SEL47	320966	428097		Masjid Jamek, Bangi Lama	Production	Domestic	Abandoned	Dry	Alluvial
47			b	SEL48	321000	422900		Taman Aman, Bangi Lama	Production	Domestic	unknown	Dry	Alluvial
48			c	SEL52	319226	402661	Masjid Kg. Jenderam Hilir	Masjid Kg. Jenderam Hilir, 43800 Dengkil, Selangor.	Production	Domestic	Active	1.36	Alluvial
49			b	SEL53	326230	421095		Kg. Sg. Tangkas, Bangi	Production	Domestic	Abandoned	Dry	Alluvial
50			b	SEL54	321530	420405		Kg. Bahagia, Bangi Lama	Production	Domestic	unknown	0.5	Alluvial
51			b	SEL55	321000	422900		Fasa 11, Taman Aman, Bangi Lama	Production	Domestic	unknown	1.36	Alluvial

Legend: District a - Kuala Langat, b - Hulu Langat, c - Sepang

Data Book Table C.3.1 (3) List of Wells for the Hydro Census

ID	JMG ID	YEAR	DISTRICT	SITE_ NAME	NORTH	EAST	WELL OWNER	ADDRESS	TYPE OF WELL	USAGE	STATUS	DISCHARGE	AQUIFER MATERIAL
52			c	SEL56	318800	411400		Kg. Semarang, Dengkel	Production	Domestic	unknown	Dry	Alluvial
53			b	SEL59	333500	420300		Batu 13, Jalan Cheras, Kajang	Production	Domestic	unknown	8.18	Alluvial
54			c	SEL60	326269	420267		No. 27, Kampung Datok Abu Bakar Baginda, 43000 Sepang, SelangorBangi	Production	Commercial (car wash)	Active	0.91	Alluvial
55			b	SEL67	325846	426511	JMG (No. 67)	Surau Al-Ikhlas, Kg. Sg. Purun Batu 1 dan 2, Jalan Bangi, Mukim Semenyih, 43500 Semenyih, Selangor.	Monitoring	Monitoring	Active	<0.5	Alluvial
56			c	SEL68	317382	415560		No. 89, Batu 27, Kg. Jenderam Hulu, 43800 Mukim Dengkil, Sepang.	Production	Domestic	Abandoned	0.5	Alluvial
57			c	SEL69	313258	416836		No. 275, Batu 30, Kg. Jenderam Hulu, 43800 Mukim Dengkil, Sepang.	Production	Domestic	Active	2.27	Alluvial
58			c	SEL72	319700	415700		Simpang Desa Putra, Jenderam Hilir, Sepang	Production	Domestic	unknown	1.36	Alluvial
59			b	SEL74	318235	432145	JMG (No. 74)	Surau Kg. Sg. Jai, 43700 Beranang, Selangor.	Monitoring	unknown	Active	2.21	Alluvial
60			b	SEL75	322914	432086	En. Mhd. Ramli B. Shaikh Hussen	Kg. Sesapan Batu Minangkabau, 43700 Beranang, Selangor.	Production	Domestic	Active	2.21	Alluvial
61			c	SEL78	321100	413800		Kg. Desa Putra, Sg. Merab, Sepang	Production	Domestic	unknown	1	Alluvial
62			b	SEL81	319512	422134	Balai Raya Kampung Kembung Hilir	Balai Raya Kg. Kembung Hilir, 43000 Bangi, Selangor.	Monitoring	Test Well	Active	1.13	Alluvial
63			b	SEL82	351200	431200		Sg. Lui, HuluLangat	Production	Domestic	unknown	2.27	Alluvial
64			b	SEL86	317786	430568	Puan Rohani Bte Harun	Kg. Tanjung, Beranang	Production	Domestic	Active	1.36	Alluvial
65	PB0095		a		296100	399800		UNITED EXPL.	Production	Domestic	unknown	91.00	Alluvium
66	PB0096		a		296100	399800		UNITED EXPL.	Production	Domestic	unknown	45.00	Alluvium
67	PB0097		a		296100	399800		UNITED EXPL.	Production	Domestic	unknown	94.00	Alluvium
68	PB0098		a		296100	399800		UNITED EXPL.	Production	Domestic	unknown	98.00	Alluvium
69	PB0099		a		296100	399800		UNITED EXPL.	Production	Domestic	unknown	89.00	Alluvium
70	PB0100		b		323500	411200		Prang Besar Est (Putra Jaya)	unknown	unknown	unknown	0	Sandstone
71	PB0101		b		323500	411200		Prang Besar Est (Putra Jaya)	unknown	unknown	unknown	16.36	Sandstone
72	PB0141		b		330500	423400		Kajang G. Club	unknown	unknown	unknown	1.00	sand/granite
73	PB0142		b		330500	423400		Kajang G. Club	unknown	unknown	unknown	0.50	soil/sand/gte.
74	PB0143		b		330600	422500		Kajang G. Club	unknown	unknown	unknown	0	sand/clay/gte.
75	PB0385		a		312103	395078		JBA Ladang Brooklands	Production	Domestic	Active	90	Alluvial
76	PB0387		a		312108	395016		JBA Ladang Brooklands	Production	Domestic	unknown	114	Alluvial
77	PB0386		a		312107	395253		JBA Ladang Brooklands	Production	Domestic	Active	101	Alluvial

Legend: District a - Kuala Langat, b - Hulu Langat, c - Sepang

Data Book Table C.3.1 (4) List of Wells for the Hydro Census

ID	JMG ID	YEAR	DISTRICT	SITE_ NAME	NORTH	EAST	WELL OWNER	ADDRESS	TYPE OF WELL	USAGE	STATUS	DISCHARGE	AQUIFER MATERIAL
78	PB0384		a		312100	395188		JBA Ladang Brooklands	Production	Domestic	unknown	101	Alluvial
79	PB0388		a		312100	395200		JBA Ladang Brooklands	Monitoring	unknown	unknown	109	Alluvial
80			b		351030	430750		Batu 20, Sungai Lui	Production	Domestic	unknown	4.54	Granite
81			b		351150	429850		Batu 19, Sungai Lui	Production	Domestic	unknown	4.54	Schist
82			b		324500	410500		Charterfield Dev. Sdn. Bhd.	Production	Domestic	unknown	5	Schist
83			b		326400	417700		Permanis Sdn. Bhd.	Production	Industrial	unknown	0	Schist
84			b		352500	438650		Watta Battery Sdn. Bhd.	Production	Industrial	unknown	1.36	Alluvial
85			b		326900	417400		Stenta Films Sdn. Bhd.	Production	Industrial	unknown	4.54	Metasediment
86			b		320900	429900		Hume Industries Sdn. Bhd.	Production	Industrial	unknown	3.63	na
87			b		330250	431200		San Teh Industries Sdn. Bhd.	Production	Industrial	unknown	0	na
88			b		330100	431250		Sri Cimal Sdn. Bhd.	Production	Industrial	unknown	0	na
89			b		329600	429800		Tilbury Douglas Sdn. Bhd.	Production	Industrial	unknown	100	na
90			b		320500	429800		LB Aluminium Berhad	Production	Industrial	unknown	2	na
91			b		341100	424300		Kenneison Brother Sdn. Bhd.	Production	Industrial	unknown	13.63	Granite
92	PB0386		a		310700	400200		Megasteel Sdn. Bhd.(PMS1-SECOMEX)	Production	Industrial	unknown	140	Alluvial
93	PB0384		a		310750	400000		Megasteel Sdn. Bhd.(PWM 2)	Production	Industrial	unknown	155	Alluvial
94	PB0383		a		310900	399900		Megasteel Sdn. Bhd.(PWM 3)	Production	Industrial	unknown	152	Alluvial
95	PB0385		a		310900	399500		Megasteel Sdn. Bhd.(PWM 4)	Production	Industrial	unknown	155	Alluvial
96	PB0267		a		310930	399500		Megasteel Sdn. Bhd.(TPW 1)	Production	Industrial	unknown	612	Alluvial
97	PB0390		a		313500	402000	JBA Olak Lempit	Kawasan Perindustrian Olak Lempik	Production	Domestic	Active	204	Alluvial
98			b		331600	421300		Masjid Jamek	Production	Domestic	unknown	Dry	Alluvial
99		1998	b	SEL28	340600	421400		Logi Air Sungai Langat, Hulu Langat	unknown	unknown	unknown	2.27	na
100		1998	b	SEL32	331600	421300		Masjid Jamek, Kajang	unknown	unknown	unknown	Dry	na
101	PB0301	1998	b	SEL33	330764	421779	JMG	Sek Rendah Agama, Kajang	Monitoring	Exploration	Active	15.91	Aluvium
102	PB0300	1998	b	SEL31	331360	421890	JMG	Sek Agama Sg Kantan 2, Kajang	Monitoring	Exploration	Active	11.33	Aluvium
103	PB0299	1998	b	SEL27	340600	421400	JMG	Loji Air Sg Langat	Monitoring	Exploration	Active	18.15	Aluvium
104			b		318114	432412	Nenek Bongkok	No. 27 Jalan Besar, Kampung Sungai Jai, 43700 Beranang, Selangor.	Production	Domestic	Active		
105			b		318235	432147		Lot 62A, Kampung Sungai Jai, 43700 Beranang, Selangor.	Production	Domestic	Active		
106			b		318187	430090	Nordin Bin Canggi	Kampung Tanjung, 43700 Beranang, Selangor.	Production	Domestic	Active		

Legend: District a - Kuala Langat, b - Hulu Langat, c - Sepang

Data Book Table C.3.1 (5) List of Wells for the Hydro Census

ID	JMG ID	YEAR	DISTRICT	SITE_ NAME	NORTH	EAST	WELL OWNER	ADDRESS	TYPE OF WELL	USAGE	STATUS	DISCHARGE	AQUIFER MATERIAL
107			b		320512	422092	House in front of Balai raya	Kampung Kembung Hilir, 43000 Bangi, Selangor.	Production	Domestic	Abandoned		
108			a		316030	408600	En. Hanafiah	Batu 31, Jalan Banting, 42700 Banting, Kuala Langat, Selangor.	Production	Domestic	Active	22 Litre/minute	
109			b		319336	432314		Lot 85, Kampung Sesapan Batu Minangkabau, 43700 Beranang, Selangor.	Production	Domestic	Abandoned		
110			a		318094	403522	Bekas Imam	92, Kampung Jenderam Hilir, 43800 Dengkil, Selangor.	Production	Domestic	Active		
111			b		330022	418486	Surau Taman Ramal	Surau Taman Ramal, 43000 Kajang, Selangor.	Production	Domestic	Abandoned		
112			c		309331	417764	Jaafar Khamis	Lot 1030 Jalan Supian, 43900 Salak Tinggi, Sepang.	Production	Domestic	Abandoned		
113			c		317422	415709	Marlis Bin Kuyup	No. 83, Batu 27, Kampung Jenderam Hulu, 43800 Sepang.	Production	Domestic	Active		
114			c		315390	416501	Ibrahim Bin Saad	No. 224, Batu 29, Kampung Jenderam Hulu, 43800 Sepang.	Production	Domestic	Abandoned		
115			b		320900	422137		Behind Dewan Orang Ramai and Majlis Perbandaran Kajang, near Taman Bangi Permai.	Production	Domestic	Active		
116			b		319898	478483	KFC Breeder Farm	Lot 2315, Kampung Rinching Hilir Bangi, 43000 Kajang, Selangor.	Production	Agricultural	Active		
117			a		312187	380603	Jalaluddin Bin Basri	Lot 1049, Batu $8^{1}/_{3}$ Sungai Manggis, Banting, Kuala Langat.	Production	Domestic	Abandoned		
118			b		322969	406830	1/A Kedai Makan Seri Melati	Batu 21, Kampung Teras Jernang, Jalan Bangi, Sungai Merab, 43000 Kajang, Selangor	Production	Domestic	Abandoned		
119			b		324179	421174	UKM (1)	Selangor	Production	Domestic	Abandoned		
120			b		324179	421174	UKM (2)	Selangor	Production	Domestic	Abandoned		
121			b		323812	421576	UKM (3)	Persimpangan Unit Pembangunan, UKM, 43600 Bangi, Selangor.	Production	Domestic	Abandoned		

Note: "Discharge" is estimated by using JMG well database.

Legend: District a - Kuala Langat, b - Hulu Langat, c - Sepang

DATA BOOK C.3.2

LIST OF WELLS VISITED IN THE HYDRO CENSUS

Data Book Table C.3.2 (1) List of Wells Visited in the Hydro Census

No	ID	ID JMG	DISTRICT	NORTH	EAST	WELL OWNER	ADDRESS	TYPE OF WELL	USAGE	STATUS	DISCHARGE	AQUIFER MATERIAL
1	27	PB0389	Hulu Langat	333700	421000	JMG	Sek. Men. Agama Persekutuan Kajang	Production	Domestic	Active	3.33	Sand
2	39		Hulu Langat	332200	421800	Sek.Keb.Sg. Kantan, Kajang	Sek.Keb.Sg. Kantan, 43000 Kajang, Selangor.	Monitoring	Testwell	Active	1.36	Alluvial
3	40		Hulu Langat	332834	421161		Lot 11268, Jalan Melor 1, Sg. Kantan, Kajang	Production	Domestic	Abandoned	Dry	Alluvial
4	41		Hulu Langat	328600	418400		Jln. Melor Sg. Ramal Luar, Kajang	Production	Domestic	Abandoned	Dry	Alluvial
5	45		Hulu Langat	323668	428065	Asrama Darul Izzah	Asrama Darul Izzah, Teras Jernang, 43000 Bangi, Selangor.	Production (pump)	Domestic	Active	3.63	Alluvial
6	49		Hulu Langat	326230	421095		Kg. Sg. Tangkas, Bangi	Production	Domestic	Abandoned	Dry	Alluvial
7	55		Hulu Langat	325846	426511	JMG (No. 67)	Surau Al-Ikhlas, Kg. Sg. Purun Batu 1 dan 2, Jalan Bangi, Mukim Semenyih, 43500 Semenyih, Selangor.	Monitoring	Monitoring	Active	<0.5	Alluvial
8	59		Hulu Langat	318235	432145	JMG (No. 74)	Surau Kg. Sg. Jai, 43700 Beranang, Selangor.	Monitoring	unknown	Active	2.21	Alluvial
9	60		Hulu Langat	322914	432086	En. Mhd. Ramli B. Shaikh Hussen	Kg. Sesapan Batu Minangkabau, 43700 Beranang, Selangor.	Production	Domestic	Active	2.21	Alluvial
10	62		Hulu Langat	319512	422134	Balai Raya Kampung Kembung Hilir	Balai Raya Kg. Kembung Hilir, 43000 Bangi, Selangor.	Monitoring	Test Well	Active	1.13	Alluvial
11	101	PB0301	Hulu Langat	330764	421779	JMG	Sek Rendah Agama, Kajang	Monitoring	Exploration	Active	15.91	Aluvium
12	102	PB0300	Hulu Langat	331360	421890	JMG	Sek Agama Sg Kantan 2, Kajang	Monitoring	Exploration	Active	11.33	Aluvium
13	103	PB0299	Hulu Langat	340600	421400	JMG	Loji Air Sg Langat	Monitoring	Exploration	Active	18.15	Aluvium
14	104		Hulu Langat	318114	432412	Nenek Bongkok	No. 27 Jalan Besar, Kampung Sungai Jai, 43700 Beranang, Selangor.	Production	Domestic	Active		
15	105		Hulu Langat	318235	432147		Lot 62A, Kampung Sungai Jai, 43700 Beranang, Selangor.	Production	Domestic	Active		
16	106		Hulu Langat	318187	430090	Nordin Bin Canggi	Kampung Tanjung, 43700 Beranang, Selangor.	Production	Domestic	Active		
17	107		Hulu Langat	320512	422092	House in front of Balai raya	Kampung Kembung Hilir, 43000 Bangi, Selangor.	Production	Domestic	Abandoned		
18	109		Hulu Langat	319336	432314		Lot 85, Kampung Sesapan Batu Minangkabau, 43700 Beranang, Selangor.	Production	Domestic	Abandoned		
19	111		Hulu Langat	330022	418486	Surau Taman Ramal	Surau Taman Ramal, 43000 Kajang, Selangor.	Production	Domestic	Abandoned		
20	115		Hulu Langat	320900	422137		Behind Dewan Orang Ramai and Majlis Perbandaran Kajang, near Taman Bangi Permai.	Production (House hold)	Domestic	Active		
21	116		Hulu Langat	319898	478483	KFC Breeder Farm	Lot 2315, Kampung Rinching Hilir Bangi, 43000 Kajang, Selangor.	Production	Agricultural	Active		
22	118		Hulu Langat	322969	406830	1/A Kedai Makan Seri Melati	Batu 21, Kampung Teras Jernang, Jalan Bangi, Sungai Merab, 43000 Kajang, Selangor	Production	Domestic	Abandoned		
23	119		Hulu Langat	324179	421174	UKM (1)	Kamsis Dato' Onn, UKM, 43600 Bangi, Selangor	Production	Domestic	Abandoned		
24	120		Hulu Langat	324179	421174	UKM (2)	Kamsis Dato' Onn, UKM, 43600 Bangi, Selangor	Production	Domestic	Abandoned		

Data Book Table C.3.2 (2) List of Wells Visited in the Hydro Census

No	ID	ID JMG	DISTRICT	NORTH	EAST	WELL OWNER	ADDRESS	TYPE OF WELL	USAGE	STATUS	DISCHARGE	AQUIFER MATERIAL
25	121		Hulu Langat	323812	421576	UKM (3)	Persimpangan Unit Pembangunan, UKM, 43600 Bangi, Selangor.	Production	Domestic	Abandoned		
26	1		Kuala Langat	391760	305748	JMG	Ladang Kelapa Sawit Sungai Lang	Monitoring	Test Well	Active		Alluvium
27	15	PB0255	Kuala Langat	312200	395100	JMG	Ladang Brookslands Telok Datuk Kuala Langat	Monitoring	Test Well	Active		Sand/Gravel
28	16	PB0253	Kuala Langat	391311	311179	JMG (No: MWS5, BM9, MWD5, BS4346)	Kg. Sg. Lang Tengah, 42700 Banting, Kuala Langat, Selangor.	Monitoring	Test Well	Active		Sand
29	17	PB0254	Kuala Langat	309500	398500	JMG	Sg. Kelambu, Kuala Langat	Monitoring	Test Well	Active		Sand
30	26	PB0033	Kuala Langat	314796	412678	Guthrie Ladang Ampar Tenang	Ladang Ampar Tenang, Peti Surat 4 Dengkil, 43800 Sepang, Selangor.	Production	Domestic	Active	7.7	Sandstone + Shal
31	36		Kuala Langat	316255	410957	Perumaham PKNS Bt. 29, Jalan Sepang.	Perumahan PKNS Bt 29, Jln Sepang 43800 Dengkil, Selangor.	Production (Pump)	Domestic	Abandoned		Alluvial
32	42		Kuala Langat	313121	403590	Masjid Al-Sabarin	Kg. Bukit Changgang, 42700 Banting, Selangor.	Production	Domestic	Abandoned	Dry	Alluvial
33	75	PB0385	Kuala Langat	312103	395078		JBA Ladang Brooklands	Production	Domestic	Active	90	Alluvial
34	77	PB0386	Kuala Langat	312107	395253		JBA Ladang Brooklands	Production	Domestic	Active	101	Alluvial
35	97	PB0390	Kuala Langat	313500	402000	JBA Olak Lempit	Kawasan Perindustrian Olak Lempik	Production	Domestic	Active	204	Alluvial
36	108		Kuala Langat	316030	408600	En. Hanafiah	Batu 31, Jalan Banting, 42700 Banting, Kuala Langat, Selangor.	Production	Domestic	Active	22 Litre/minute	
37	110		Kuala Langat	318094	403522	Bekas Imam	92, Kampung Jenderam Hilir, 43800 Dengkil, Selangor.	Production	Domestic	Active		
38	117		Kuala Langat	312187	380603	Jalaluddin Bin Basri	Langat.	Production	Domestic	Abandoned		
39	7		Sepang	404414	320172	JMG	Highway of KLIA-Subang-Nilai	Monitoring	Test Well	Active		na
40	10		Sepang	403620	321284	JMG	Highway of KLIA-Subang-Nilai	Monitoring	Test Well	Active		Sand + Clay
41	38		Sepang	318669	408810	Madrasah Tahfiz Al-Quran	Madrasah Tahfiz Al-Quran, Kg. Dato' Ahmad Razali, 43800 Dengkil, Kuala Langat, Selangor.	Production	Domestic	Active	7,300m^3/day	Alluvium
42	48		Sepang	319226	402661	Masjid Kg. Jenderam Hilir	Masjid Kg. Jenderam Hilir, 43800 Dengkil, Selangor.	Production	Domestic	Active	1.36	Alluvial
43	54		Sepang	326269	420267		No. 27, Kampung Datok Abu Bakar Baginda, 43000 Sepang, SelangorBangi	Production	Commercial (car wash)	Active	0.91	Alluvial
44	56		Sepang	317382	415560		No. 89, Batu 27, Kg. Jenderam Hulu, 43800 Mukim Dengkil, Sepang.	Production	Domestic	Abandoned	0.5	Alluvial
45	57		Sepang	313258	416836		No. 275, Batu 30, Kg. Jenderam Hulu, 43800 Mukim Dengkil, Sepang.	Production	Domestic	Active	2.27	Alluvial
46	112		Sepang	309331	417764	Jaafar Khamis	Lot 1030 Jalan Supian, 43900 Salak Tinggi, Sepang.	Production	Domestic	Abandoned		
47	113		Sepang	317422	415709	Marlis Bin Kuyup	No. 83, Batu 27, Kampung Jenderam Hulu, 43800 Sepang.	Production	Domestic	Active		
48	114		Sepang	315390	416501	Ibrahim Bin Saad	Sepang.	Production	Domestic	Abandoned		

DATA BOOK

SECTOR D

SURFACE WATER STATUS

DATA BOOK D.1.1

MONTHLY RAINFALL USING THIESSEN POLYGON METHOD IN THE STUDY AREA

Data Book Table D.1.1 Monthly Rainfall using Thiessen Polygon Method in the Study Area

Month	Uupper Langat	Semenyih	Upper + Semenyih + Middle Langat	All Langat	Upper Klang	Upper + Middle Klang	All Klang	All Langat + All Klang
Jan-80	59.6	34.7	62.5	97.4	110.2	104.6	121.1	107.2
Feb-80	161.2	107.8	138.5	119.4	225.1	207.9	205.3	142.3
Mar-80	256.3	262.8	264.2	238.9	259.9	274.1	283.4	245.1
Apr-80	232.0	129.4	192.3	188.9	290.8	272.9	274.6	212.3
May-80	225.2	171.6	174.4	168.5	184.3	175.1	167.1	168.5
Jun-80	146.2	225.0	176.8	167.8	129.5	148.6	142.7	162.5
Jul-80	222.6	236.9	211.4	172.5	210.6	175.9	149.2	167.0
Aug-80	165.4	162.9	156.5	144.9	186.8	188.6	184.9	156.8
Sep-80	242.3	302.9	214.5	196.7	187.3	173.5	169.9	187.4
Oct-80	290.2	322.9	246.6	283.2	251.4	225.8	246.1	274.8
Nov-80	361.9	406.4	355.0	309.5	400.1	397.8	374.1	326.7
Dec-80	215.2	267.4	198.6	191.6	247.1	225.3	207.9	197.9
Jan-81	96.8	56.9	85.0	75.6	154.2	143.7	130.6	93.3
Feb-81	228.2	133.0	224.1	172.9	280.1	267.9	237.8	189.5
Mar-81	82.9	111.0	90.1	91.9	103.9	128.3	138.7	103.4
Apr-81	300.7	272.9	290.8	255.5	419.0	410.7	373.2	288.4
May-81	516.6	600.2	475.6	324.9	556.2	496.0	430.9	351.9
Jun-81	63.1	77.5	52.6	51.7	46.2	44.6	46.3	51.5
Jul-81	146.6	172.3	107.5	117.8	83.2	93.2	107.7	117.2
Aug-81	81.8	60.1	62.4	67.7	109.3	96.8	87.1	76.8
Sep-81	251.7	316.4	232.9	222.4	257.9	227.8	220.7	221.9
Oct-81	203.9	242.5	202.0	227.3	225.1	233.8	243.5	238.0
Nov-81	338.2	320.8	286.8	264.1	315.9	279.9	270.6	269.7
Dec-81	272.1	157.4	186.9	171.8	144.1	146.5	148.0	164.0
Jan-82	56.0	64.1	53.9	53.8	35.9	39.1	54.8	52.8
Feb-82	208.3	215.7	194.8	122.7	238.1	219.8	191.1	139.6
Mar-82	190.4	191.8	190.0	192.7	338.5	312.9	314.3	227.7
Apr-82	287.7	242.8	257.3	224.7	444.4	409.1	388.8	271.9
May-82	258.6	252.5	221.9	181.4	217.7	201.6	195.5	188.9
Jun-82	177.7	136.5	162.4	122.0	173.0	174.6	156.7	132.0
Jul-82	175.1	168.7	142.3	146.5	156.6	134.9	131.7	144.6
Aug-82	151.2	178.9	150.2	140.8	146.5	146.2	139.5	141.3
Sep-82	148.1	177.4	134.7	106.8	77.8	105.1	116.3	108.5
Oct-82	374.8	386.8	309.2	251.1	233.0	231.4	242.7	247.0
Nov-82	446.4	402.2	391.3	344.8	388.6	387.5	401.1	355.9
Dec-82	201.9	233.5	177.1	194.6	164.2	182.7	205.3	195.0
Jan-83	82.3	66.7	61.6	78.2	82.2	111.3	126.2	91.4
Feb-83	70.8	150.4	71.5	63.9	87.8	97.3	94.2	71.1
Mar-83	154.9	126.3	148.5	107.0	224.1	187.6	180.1	126.4
Apr-83	175.7	187.5	150.6	132.0	189.6	177.3	151.2	136.3
May-83	233.4	187.0	214.1	233.7	252.4	253.2	242.1	240.5
Jun-83	115.6	87.3	94.4	137.6	127.0	113.6	112.6	132.7
Jul-83	270.3	231.0	207.5	195.0	227.1	190.0	171.4	187.9
Aug-83	246.6	274.9	219.1	203.3	280.1	231.0	215.0	210.1
Sep-83	321.2	371.5	277.1	229.3	329.3	295.3	287.2	247.2
Oct-83	190.4	199.3	174.5	169.7	216.9	220.9	214.4	185.3
Nov-83	284.7	271.3	217.8	185.3	248.8	240.3	229.7	200.9
Dec-83	105.2	151.7	112.5	112.9	168.9	146.2	152.7	126.1

Data Book Table D.1.1 Monthly Rainfall using Thiessen Polygon Method in the Study Area

Month	Uupper Langat	Semenyih	Upper + Semenyih + Middle Langat	All Langat	Upper Klang	Upper + Middle Klang	All Klang	All Langat + All Klang
Jan-84	209.7	185.4	195.3	186.1	213.4	216.4	208.6	189.5
Feb-84	304.4	317.6	331.7	317.6	355.9	368.8	376.2	330.6
Mar-84	244.1	291.3	246.8	209.7	206.4	188.9	209.1	206.0
Apr-84	261.3	241.9	244.7	246.5	287.4	273.4	245.9	241.5
May-84	237.4	279.6	222.7	209.8	261.8	217.9	197.5	206.8
Jun-84	166.0	180.4	152.6	162.2	116.2	109.9	111.3	150.0
Jul-84	216.3	170.4	183.7	165.5	199.3	182.1	179.8	169.8
Aug-84	84.7	103.8	91.3	97.4	108.6	106.0	108.0	102.8
Sep-84	174.5	140.2	147.6	160.9	155.1	147.8	132.8	157.1
Oct-84	151.7	116.0	129.6	161.9	146.9	131.1	147.1	162.6
Nov-84	482.5	482.7	435.7	399.2	370.2	400.7	397.7	390.3
Dec-84	218.5	265.1	241.8	225.2	127.2	183.2	211.5	219.8
Jan-85	33.9	41.6	46.8	73.8	81.6	87.4	85.2	80.9
Feb-85	193.0	154.4	215.0	173.8	262.5	262.6	263.5	194.6
Mar-85	248.0	287.9	263.4	276.3	363.9	350.7	360.4	302.9
Apr-85	181.3	162.2	152.0	121.7	166.9	166.3	157.2	129.4
May-85	249.2	227.3	261.2	230.4	157.0	204.7	210.8	222.1
Jun-85	18.7	3.7	23.1	22.0	40.2	29.6	23.5	22.9
Jul-85	168.9	170.1	172.8	172.8	140.9	133.1	132.5	168.0
Aug-85	149.4	70.0	103.3	108.7	94.8	95.3	98.5	110.2
Sep-85	197.3	240.0	178.7	208.6	180.4	179.2	183.7	219.2
Oct-85	289.6	370.6	310.5	325.4	288.1	289.8	248.6	306.3
Nov-85	377.3	321.2	320.8	304.6	393.7	334.2	320.9	311.8
Dec-85	277.0	303.6	275.1	257.1	318.2	284.0	257.5	257.5
Jan-86	159.4	220.8	174.8	159.3	130.3	151.0	142.7	150.5
Feb-86	136.7	168.3	134.4	103.1	237.2	192.7	158.7	118.5
Mar-86	266.4	252.1	303.0	230.9	230.2	232.9	231.3	228.8
Apr-86	307.6	374.7	309.6	246.6	333.7	335.3	338.5	268.3
May-86	185.5	166.0	192.8	207.2	235.0	226.4	232.9	216.6
Jun-86	70.6	72.3	66.0	68.8	71.2	65.0	71.9	69.3
Jul-86	154.7	174.7	148.9	110.6	145.8	147.4	132.1	117.5
Aug-86	109.5	105.8	79.5	89.1	97.6	76.6	82.9	88.9
Sep-86	193.2	181.0	158.0	156.7	160.3	129.0	126.8	149.3
Oct-86	347.8	309.8	283.5	247.2	243.7	224.7	239.7	247.5
Nov-86	190.6	230.4	210.0	188.8	210.9	231.4	231.4	203.3
Dec-86	106.9	134.0	108.6	119.8	92.8	132.9	168.3	134.3
Jan-87	74.2	55.9	68.2	91.9	104.5	138.0	150.8	107.9
Feb-87	60.8	29.8	38.9	35.6	39.9	61.5	58.4	41.0
Mar-87	119.8	177.6	131.0	105.3	103.1	131.6	173.0	124.8
Apr-87	144.8	118.3	175.0	206.9	156.3	216.3	250.3	215.4
May-87	156.2	170.6	155.5	147.6	107.6	138.3	174.5	156.6
Jun-87	106.7	143.2	111.1	128.8	99.0	103.3	121.4	129.7
Jul-87	157.9	128.2	118.9	104.5	183.6	141.8	128.3	115.7
Aug-87	248.2	267.3	245.1	209.0	210.1	197.4	183.8	202.8
Sep-87	326.3	297.1	287.3	292.8	322.9	276.0	273.4	282.2
Oct-87	432.9	341.3	370.7	290.5	448.1	471.9	469.9	339.1
Nov-87	201.9	209.1	218.1	228.2	204.8	203.7	215.1	227.8
Dec-87	254.2	262.3	243.3	251.3	256.9	275.9	302.1	263.2

Data Book Table D.1.1 Monthly Rainfall using Thiessen Polygon Method in the Study Area

Month	Uupper Langat	Semenyih	Upper + Semenyih + Middle Langat	All Langat	Upper Klang	Upper + Middle Klang	All Klang	All Langat + All Klang
Jan-88	118.4	84.2	137.6	184.9	135.5	189.3	222.5	192.5
Feb-88	228.3	180.1	196.0	187.2	249.4	255.4	261.6	204.2
Mar-88	194.5	206.6	223.7	212.6	189.8	237.3	264.1	224.7
Apr-88	173.7	177.5	201.8	206.3	186.9	244.4	260.5	219.7
May-88	104.3	70.7	105.3	119.5	114.5	131.0	141.4	127.7
Jun-88	215.4	152.0	158.5	127.5	188.7	183.0	193.5	145.8
Jul-88	169.3	131.9	153.4	183.6	99.7	130.8	145.2	178.4
Aug-88	189.9	136.8	193.4	207.4	177.2	211.7	236.9	224.1
Sep-88	255.8	146.3	211.3	253.2	469.9	406.4	410.5	306.1
Oct-88	113.0	113.0	105.6	153.5	94.7	91.7	101.7	139.6
Nov-88	353.8	225.4	300.5	298.1	322.4	299.0	319.9	307.7
Dec-88	76.7	87.8	84.5	88.0	134.7	124.1	134.5	103.3
Jan-89	109.7	138.1	125.6	150.3	79.9	107.0	137.8	146.3
Feb-89	96.1	114.7	140.6	116.6	119.0	143.4	161.3	128.3
Mar-89	258.0	289.7	264.0	218.0	252.9	265.6	246.3	222.1
Apr-89	156.6	249.6	200.5	170.4	283.4	227.7	203.7	177.7
May-89	228.2	136.7	165.1	131.8	188.7	165.3	132.1	129.6
Jun-89	163.7	152.6	139.0	118.4	172.7	161.1	162.4	133.9
Jul-89	127.1	75.9	94.5	112.6	100.8	85.1	75.3	113.6
Aug-89	181.0	150.3	150.3	146.4	202.8	197.2	174.1	153.6
Sep-89	366.2	356.7	320.8	271.8	291.2	284.5	254.5	266.2
Oct-89	294.7	294.5	321.0	305.3	248.1	260.0	267.2	293.5
Nov-89	231.4	262.8	253.9	224.0	257.2	274.7	287.7	244.2
Dec-89	113.5	107.4	112.7	122.9	136.6	191.0	225.9	154.3
Jan-90	89.7	71.6	67.6	80.7	62.1	84.2	100.1	86.9
Feb-90	55.3	58.7	59.0	69.9	126.8	126.2	134.6	89.7
Mar-90	150.2	203.2	171.0	116.0	181.3	190.9	173.2	131.0
Apr-90	161.8	246.9	197.7	174.1	214.1	232.8	234.5	194.1
May-90	207.1	170.2	189.1	168.2	205.2	198.1	164.6	166.2
Jun-90	95.9	148.7	121.1	92.1	101.6	104.9	94.4	94.3
Jul-90	142.4	188.9	165.1	141.3	113.5	114.5	98.6	128.6
Aug-90	109.8	46.5	70.0	52.3	128.3	113.4	119.6	72.2
Sep-90	240.0	135.7	192.2	192.5	182.5	185.7	193.2	198.0
Oct-90	256.0	189.3	251.7	251.6	298.1	271.8	265.0	261.3
Nov-90	142.2	154.9	168.8	223.4	59.2	94.2	143.5	204.0
Dec-90	114.2	98.8	118.6	180.3	87.1	122.6	171.1	176.6
Jan-91	51.0	97.0	73.7	133.2	38.5	80.7	107.5	125.0
Feb-91	116.8	85.2	77.3	75.6	185.1	157.8	150.5	97.6
Mar-91	262.9	340.1	265.8	194.2	238.7	236.3	245.3	204.5
Apr-91	248.0	322.0	309.3	237.7	373.8	360.6	328.4	259.7
May-91	279.8	232.7	243.7	206.4	321.9	305.8	320.3	241.5
Jun-91	134.5	102.5	113.6	125.2	101.2	89.8	90.5	116.5
Jul-91	65.7	30.7	51.0	57.4	176.2	121.6	112.7	81.2
Aug-91	163.4	108.1	121.4	125.6	202.1	183.8	188.8	145.8
Sep-91	219.7	183.5	183.4	227.0	240.3	218.1	206.4	222.9
Oct-91	290.8	220.5	267.2	187.6	299.7	290.2	259.6	204.2
Nov-91	431.6	441.4	331.2	316.7	318.4	333.6	336.8	324.4
Dec-91	354.0	407.9	344.6	372.6	257.9	329.9	390.5	379.9

Data Book Table D.1.1 Monthly Rainfall using Thiessen Polygon Method in the Study Area

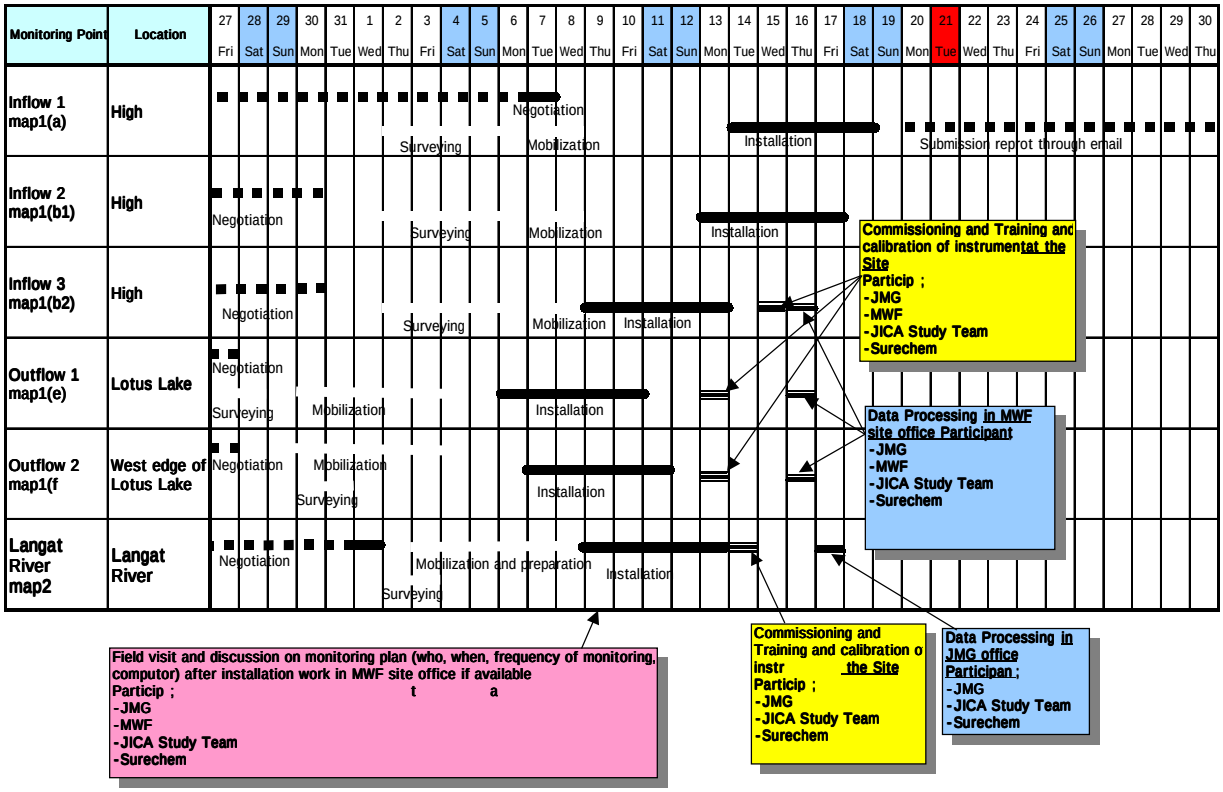
Month	Uupper Langat	Semenyih	Upper + Semenyih + Middle Langat	All Langat	Upper Klang	Upper + Middle Klang	All Klang	All Langat + All Klang
Jan-92	37.9	29.0	44.0	40.7	55.5	82.3	89.6	55.3
Feb-92	212.2	330.6	238.8	199.7	226.8	240.3	261.4	212.0
Mar-92	173.3	126.3	138.4	105.0	165.1	205.6	191.4	132.1
Apr-92	271.4	316.5	240.1	207.3	230.0	242.8	226.2	208.6
May-92	242.5	233.1	222.2	229.3	252.9	262.7	285.6	242.4
Jun-92	54.8	37.0	46.6	100.1	72.2	66.4	74.9	96.5
Jul-92	185.5	225.3	170.5	175.3	252.3	216.7	208.5	190.7
Aug-92	94.9	83.4	123.2	114.7	97.6	85.4	79.9	104.4
Sep-92	168.2	151.8	147.8	183.0	169.4	169.8	153.7	175.4
Oct-92	89.1	97.1	99.1	145.1	80.7	68.1	88.7	133.4
Nov-92	290.4	487.3	324.1	266.4	278.4	288.5	301.0	274.6
Dec-92	227.4	315.2	272.7	273.8	251.9	290.2	313.5	282.9
Jan-93	106.5	74.9	100.1	110.7	74.2	119.9	134.1	117.1
Feb-93	146.0	194.4	179.0	153.3	156.8	175.2	171.5	153.5
Mar-93	154.8	155.2	189.1	206.8	153.7	164.4	173.8	195.0
Apr-93	215.4	289.8	245.6	199.8	190.2	207.6	192.1	194.2
May-93	218.0	175.5	217.9	173.5	232.8	278.0	298.5	209.9
Jun-93	127.0	167.9	157.2	169.4	228.7	187.8	196.3	180.4
Jul-93	145.3	108.1	162.8	158.8	167.8	181.3	167.4	161.1
Aug-93	161.1	168.3	143.6	130.8	187.4	137.0	122.3	127.6
Sep-93	262.7	211.4	253.5	213.5	308.6	307.8	283.8	232.4
Oct-93	224.1	156.3	275.0	274.3	216.6	224.3	208.6	261.5
Nov-93	359.7	323.9	395.7	382.7	402.1	389.6	371.5	375.1
Dec-93	321.1	269.2	296.4	267.7	276.7	303.2	287.7	271.8
Jan-94	62.8	24.1	55.5	77.5	109.3	144.4	168.9	107.4
Feb-94	178.5	151.7	181.0	167.4	160.0	187.1	189.0	171.2
Mar-94	300.9	191.6	268.2	303.3	325.3	338.5	342.5	308.9
Apr-94	181.2	307.7	244.5	216.3	226.3	212.8	201.6	208.0
May-94	233.2	176.6	187.0	183.0	257.0	232.6	192.6	190.3
Jun-94	206.9	207.7	213.7	219.0	263.3	230.6	218.5	222.2
Jul-94	44.5	82.8	71.4	118.3	24.3	37.7	47.7	98.1
Aug-94	198.7	241.7	200.4	205.5	237.0	188.3	162.5	191.3
Sep-94	186.2	169.7	178.5	175.3	158.0	144.5	131.9	166.0
Oct-94	264.1	243.5	254.7	216.6	341.0	329.1	322.3	245.6
Nov-94	197.7	173.2	238.8	358.7	246.8	309.8	364.3	359.6
Dec-94	181.2	180.5	154.6	176.3	113.5	122.8	146.5	172.4
Jan-95	146.0	155.6	149.2	188.4	103.1	147.6	194.5	189.4
Feb-95	59.0	42.6	68.8	112.2	84.7	108.5	130.6	119.2
Mar-95	409.6	491.3	355.0	290.2	294.8	293.0	267.3	274.0
Apr-95	309.2	230.8	277.9	233.3	352.3	365.7	348.1	260.7
May-95	204.0	158.8	166.4	188.8	258.8	226.0	206.1	189.7
Jun-95	285.6	239.9	214.4	185.8	264.9	224.5	212.0	191.9
Jul-95	121.9	100.0	123.2	152.2	173.9	155.4	156.8	155.2
Aug-95	205.1	209.0	233.8	238.2	366.1	340.0	326.1	273.5
Sep-95	137.3	153.0	135.9	167.5	204.7	177.1	195.7	180.3
Oct-95	175.2	225.6	211.5	226.4	256.3	240.2	215.9	218.6

Data Book Table D.1.1 Monthly Rainfall using Thiessen Polygon Method in the Study Area

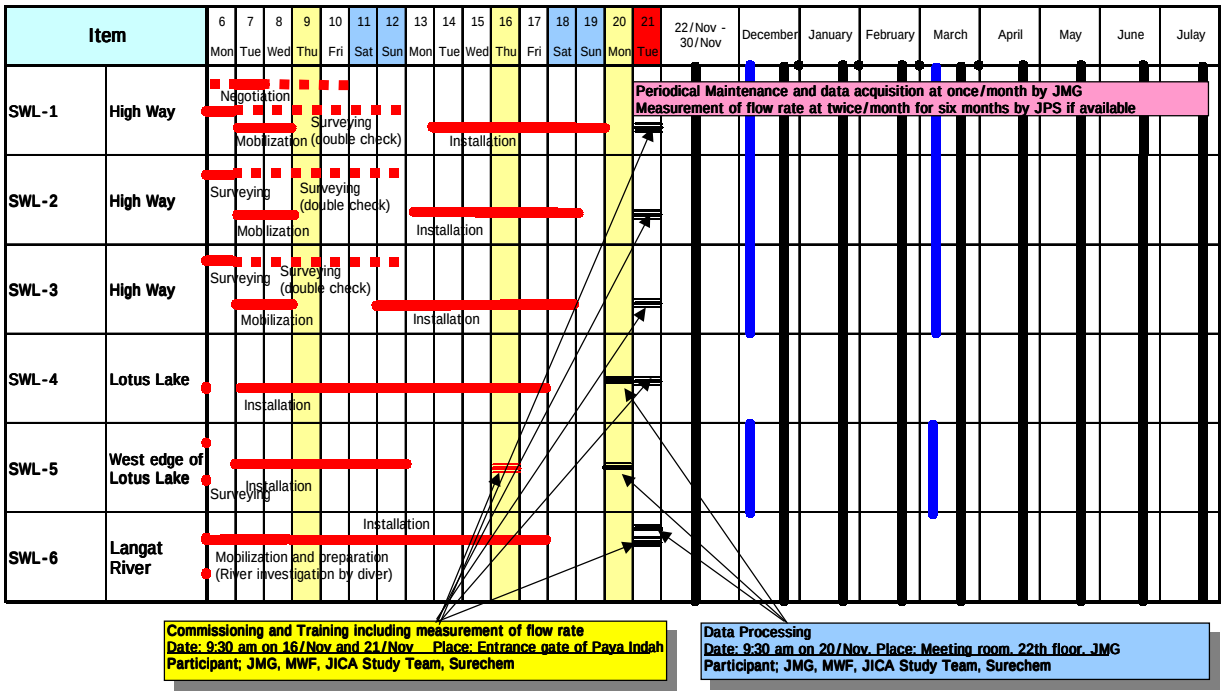
Month	Uupper Langat	Semenyih	Upper + Semenyih + Middle Langat	All Langat	Upper Klang	Upper + Middle Klang	All Klang	All Langat + All Klang
Nov-95	203.0	351.5	249.7	275.4	275.9	251.1	253.1	271.4
Dec-95	337.1	207.3	303.6	327.5	313.9	336.1	347.9	329.9
Jan-96	88.4	112.4	100.3	102.5	151.5	179.6	206.7	131.8
Feb-96	38.9	64.4	45.5	49.9	48.2	67.7	75.5	57.9
Mar-96	273.4	243.4	237.3	197.4	309.6	336.3	352.9	240.1
Apr-96	278.9	226.5	243.1	227.8	348.4	318.3	285.0	242.0
May-96	131.2	176.9	113.4	123.4	128.5	117.9	125.8	128.2
Jun-96	191.1	127.8	142.4	125.9	279.4	252.1	246.2	161.1
Jul-96	122.7	71.1	136.0	148.1	154.4	151.9	143.3	152.6
Aug-96	274.9	259.7	286.4	277.6	299.8	282.2	279.4	277.5
Sep-96	143.2	111.1	108.8	130.9	100.4	112.2	98.7	128.2
Oct-96	256.0	266.9	251.9	284.6	326.3	327.4	312.3	292.6
Nov-96	193.6	207.3	197.5	195.8	264.2	248.3	228.5	207.0
Dec-96	345.5	239.7	299.6	246.2	353.4	341.3	317.2	265.2
Jan-97	134.2	120.4	114.9	95.6	113.2	128.1	117.1	98.8
Feb-97	215.0	165.4	181.7	139.6	234.6	216.5	204.6	158.7
Mar-97	214.7	189.0	139.9	104.7	212.9	225.7	204.3	132.1
Apr-97	273.8	306.1	215.8	174.7	287.0	286.1	297.4	208.9
May-97	56.3	126.1	91.0	89.3	155.1	167.5	163.3	110.7
Jun-97	71.7	145.5	78.8	69.2	156.0	117.2	111.1	81.5
Jul-97	66.0	133.6	87.6	128.5	193.3	179.8	183.8	151.9
Aug-97	83.2	151.7	104.7	124.0	103.0	90.0	84.3	113.2
Sep-97	137.8	214.0	127.0	114.9	171.6	175.2	180.6	138.7
Oct-97	301.1	447.4	364.2	243.7	346.1	360.0	350.4	272.3
Nov-97	242.9	345.7	263.2	320.0	388.2	404.8	392.9	336.7
Dec-97	194.8	222.8	189.5	266.5	151.8	193.5	227.1	253.9
Jan-98	90.8	91.4	75.8	117.7	79.9	129.5	165.0	130.7
Feb-98	52.5	67.4	68.2	70.2	98.6	153.6	159.2	95.2
Mar-98	84.9	169.5	139.9	135.7	66.6	112.3	126.6	129.1
Apr-98	193.5	228.7	188.6	128.4	185.5	222.1	208.6	149.3
May-98	136.6	166.9	168.1	198.4	194.7	223.8	236.5	208.5
Jun-98	152.4	200.0	135.5	133.2	185.0	175.1	154.4	138.6
Jul-98	140.1	119.7	124.5	122.5	138.5	139.2	145.6	130.2
Aug-98	303.2	282.1	287.7	308.6	248.4	288.0	314.0	317.2
Sep-98	236.5	191.4	203.5	208.2	341.4	273.9	234.3	221.2
Oct-98	140.8	126.1	128.3	148.1	111.8	124.8	131.6	144.1
Nov-98	269.7	231.7	202.5	204.2	295.6	252.1	231.4	215.2
Dec-98	181.3	189.4	178.6	189.9	217.5	212.7	226.7	203.9
Jan-99	135.2	149.2	136.3	160.8	131.5	151.2	176.3	168.0
Feb-99	196.4	198.6	149.8	132.5	224.6	214.7	220.8	155.4
Mar-99	369.9	398.5	313.4	252.3	343.4	372.9	378.3	287.1
Apr-99	57.1	55.6	57.9	69.3	83.8	71.7	68.6	74.0
May-99	221.1	213.2	145.6	117.6	445.2	372.6	345.8	186.5
Jun-99	132.9	138.0	115.0	100.6	106.5	96.8	89.3	98.8
Jul-99	258.8	319.0	264.1	230.5	112.0	148.4	150.0	208.3
Aug-99	174.1	186.0	149.6	125.1	120.1	129.1	117.8	121.0
Sep-99	221.3	190.0	204.2	176.2	299.1	269.5	266.1	201.1
Oct-99	382.8	399.5	356.2	304.5	313.2	314.8	317.9	306.5
Nov-99	411.6	442.5	396.7	341.4	329.4	361.5	347.9	339.6
Dec-99	222.9	221.5	211.0	188.9	231.4	211.8	214.3	195.3

DATA BOOK D.2.1

WORK SCHEDULE FOR INSTALLATION OF SURFACE WATER INSTRUMENTS



Data Book Figure D.2.1 (1) Work Schedule （Before Installation）



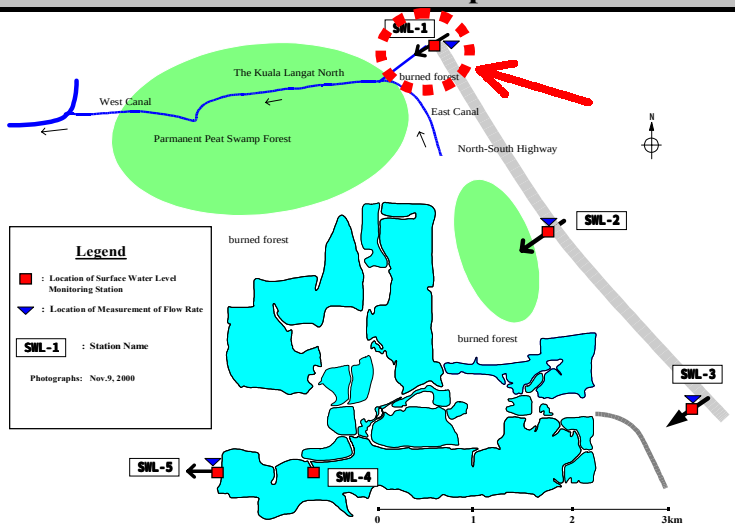
Data Book Figure D.2.1 (2) Work Schedule （After Installation）

DATA BOOK D.2.2

LOCATION MAP AND INSTALLATION RECORD

Surface Water Level Instruments	
Station Number	SWL - 1
Location	Inflow, Westside of ELITE highway 24.9km
Type of Equipment	TD-DIVER
Serial Number of Equipment	SN 19665
Elevation of Sensor (m.s.l. : m)	7.787
Bench Mark	
X-Y Coordinate	N 02° 53.576”, E 101° 37.243”
Elevation (m.s.l. : m)	9.269

Location Map

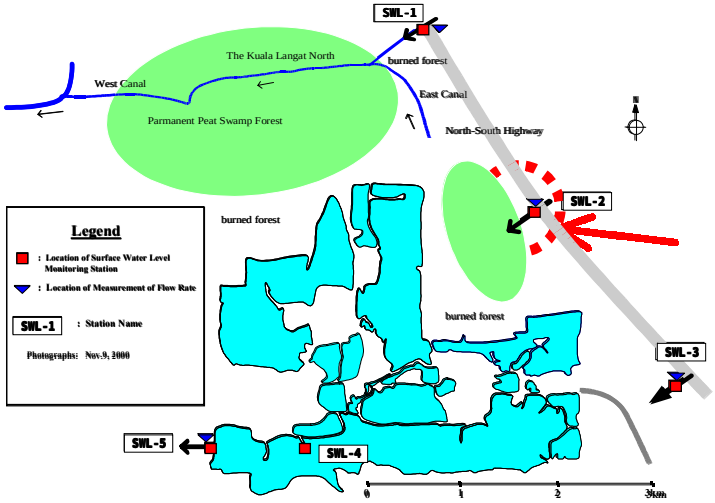


Photograph of Bench Mark (Date: 21/11/2000)	Photograph of Instruments (Date: 21/11/2000)

Data Book Figure D.2.2 (1) Location Map and Installation Record (SWL-1)

Surface Water Level Instruments	
Station Number	SWL - 2
Location	Inflow, Westside of ELITE highway 27.45km
Type of Equipment	TD-DIVER
Serial Number of Equipment	SN 19666
Elevation of Sensor (m.s.l. : m)	7.326
Bench Mark	
X-Y Coordinate	N 02° 52.534”, E 101° 38.039”
Elevation (m.s.l. : m)	9.586

Location Map

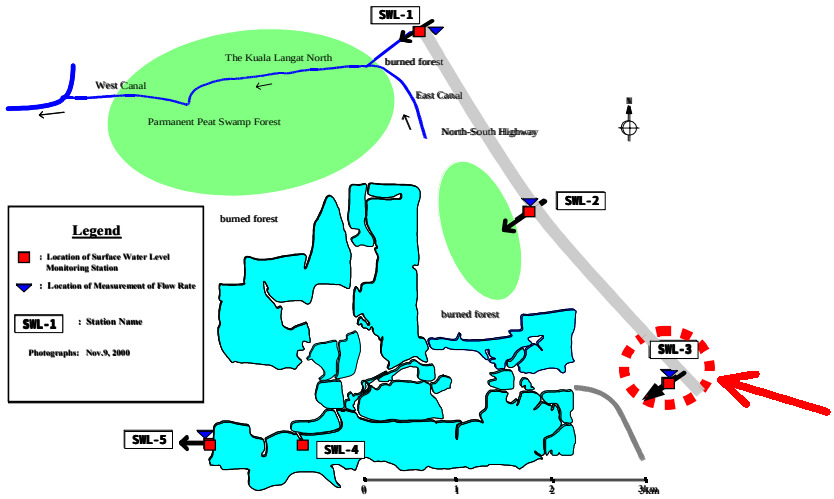


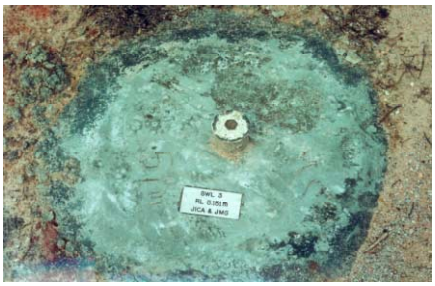
Photograph of Bench Mark (Date: 21/11/2000)	Photograph of Instruments (Date: 21/11/2000)

Data Book Figure D.2.2 (2) Location Map and Installation Record (SWL-2)

Surface Water Level Instruments	
Station Number	SWL - 3
Location	Inflow, Westside of ELITE highway 30.3km
Type of Equipment	TD-DIVER
Serial Number of Equipment	SN 19669
Elevation of Sensor (m.s.l. : m)	5.59
Bench Mark	
X-Y Coordinate	N 02° 51.348”, E 101° 38.990”
Elevation (m.s.l. : m)	8.151

Location Map

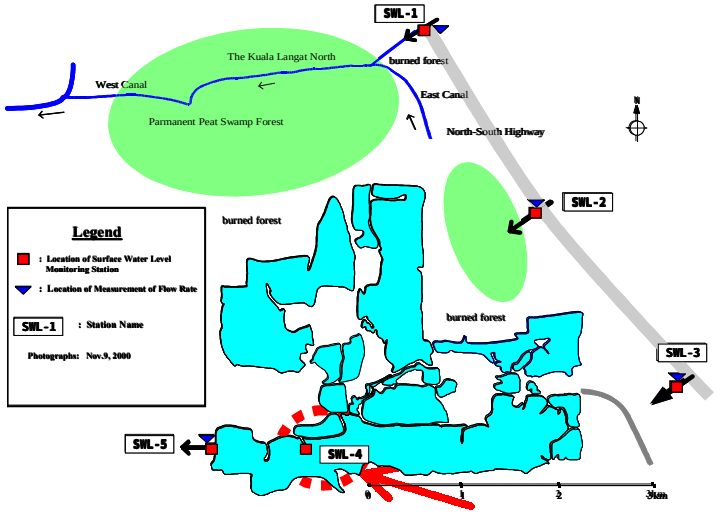


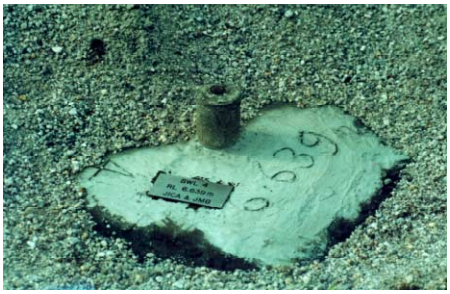
Photograph of Bench Mark (Date: 21/11/2000)	Photograph of Instruments (Date: 21/11/2000)
	

Data Book Figure D.2.2 (3) Location Map and Installation Record (SWL-3)

Surface Water Level Instruments	
	SWL - 4
Location	Payah Indah Wetland Sanctuary, Lotus Lake
Type of Equipment	TD-DIVER, TD-DIVER (Barometric DIVER)
Serial Number of Equipment	SN 19670, SN 19664
Elevation of Sensor (m.s.l. : m)	5.61
Bench Mark	
X-Y Coordinate	N 02° 51.681”, E 101° 37.580”
Elevation (m.s.l. : m)	6.639

Location Map

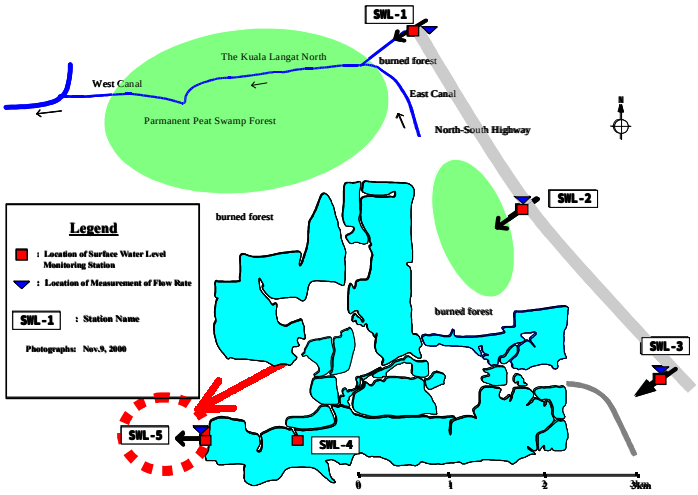


Photograph of Bench Mark (Date: 21/11/2000)	Photograph of Instruments (Date: 16/11/2000)
	

Data Book Figure D.2.2 (4) Location Map and Installation Record (SWL-4)

Surface Water Level Instruments	
Station Number	SWL - 5
Location	Outflow, Downstream of sluice gate (West edge of Lotus Lake)
Type of Equipment	TD-DIVER
Serial Number of Equipment	SN 19671
Elevation of Sensor (m.s.l. : m)	5.141
Bench Mark	
X-Y Coordinate	N 02° 51.190”, E 101° 35.970”
Elevation (m.s.l. : m)	7.319

Location Map

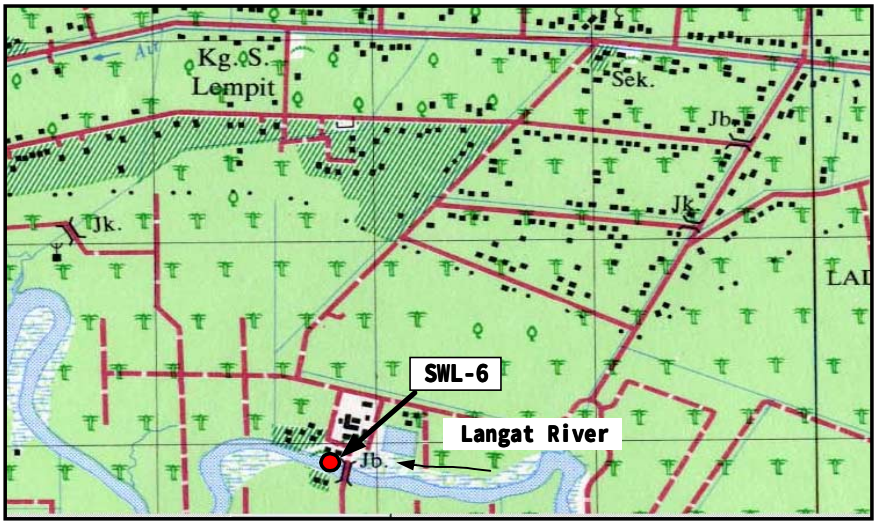


Photograph of Bench Mark (Date: 21/11/2000)	Photograph of Instruments (Date: 21/11/2000)

Data Book Figure D.2.2 (5) Location Map and Installation Record (SWL-5)

Surface Water Level Instruments	
Station Number	SWL - 6
Location	Langat River (Kajibumi Well Field 1)
Type of Equipment	SEBA PS-Insider
Serial Number of Equipment	No. 172
Elevation of Sensor (m.s.l. : m)	-1.354
Bench Mark	
X-Y Coordinate	N 02° 49.167”, E 101° 33.170”
Elevation (m.s.l. : m)	2.846

Location Map

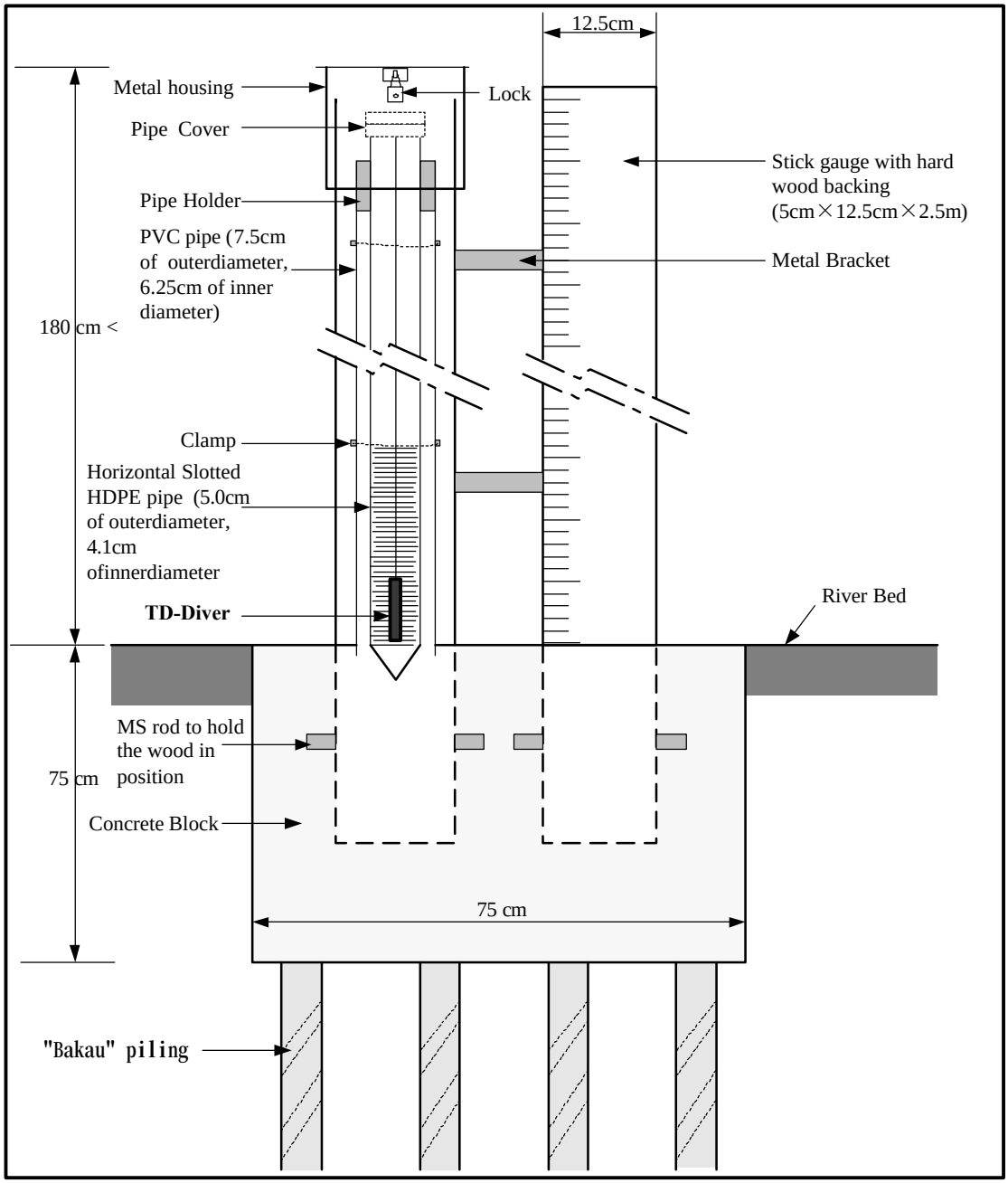


Photograph of Bench Mark (Date: 21/11/2000)	Photograph of Instruments (Date: 21/11/2000)

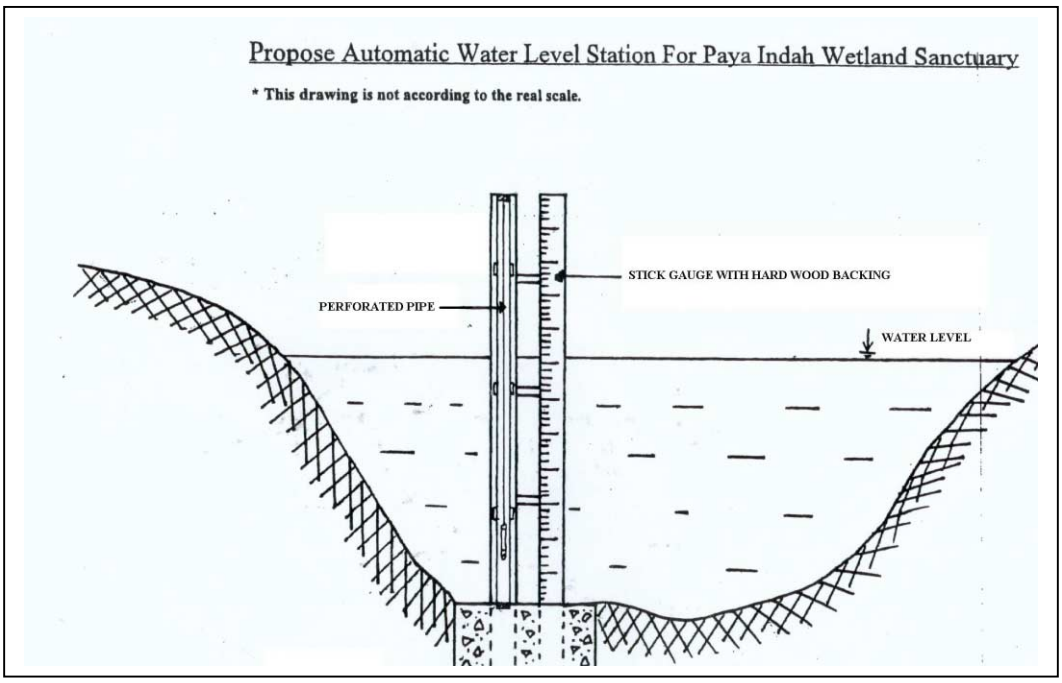
Data Book Figure D.2.2 (6) Location Map and Installation Record (SWL-6)

DATA BOOK D.2.3

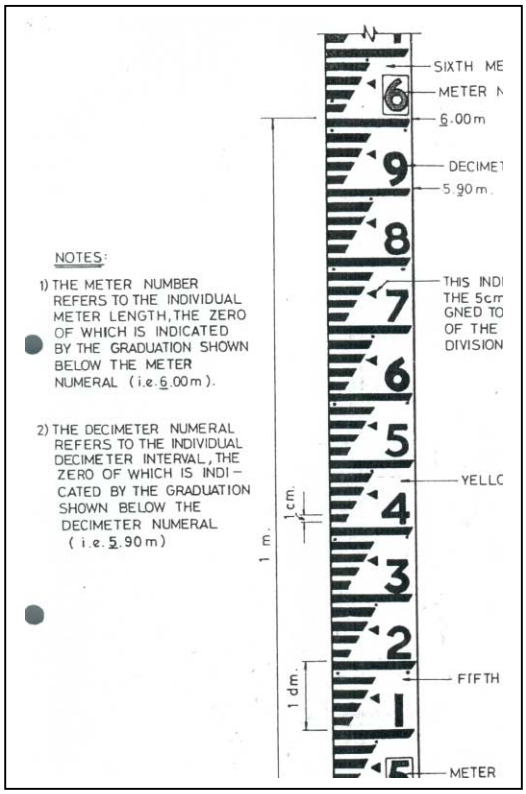
STRUCTURAL DRAWING OF SURFACE WATER INSTRUMENTS



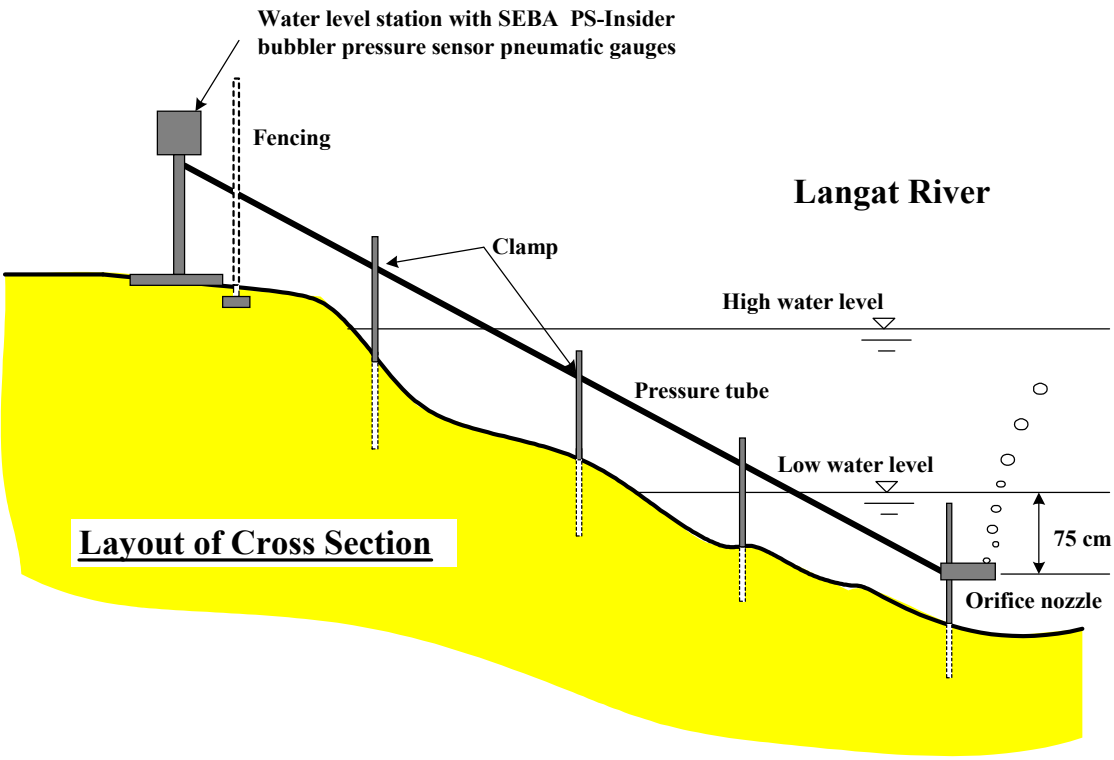
Data Book Figure D.2.3 (1) Structural Drawing of Surface Water Level Instruments (TD-Diver)

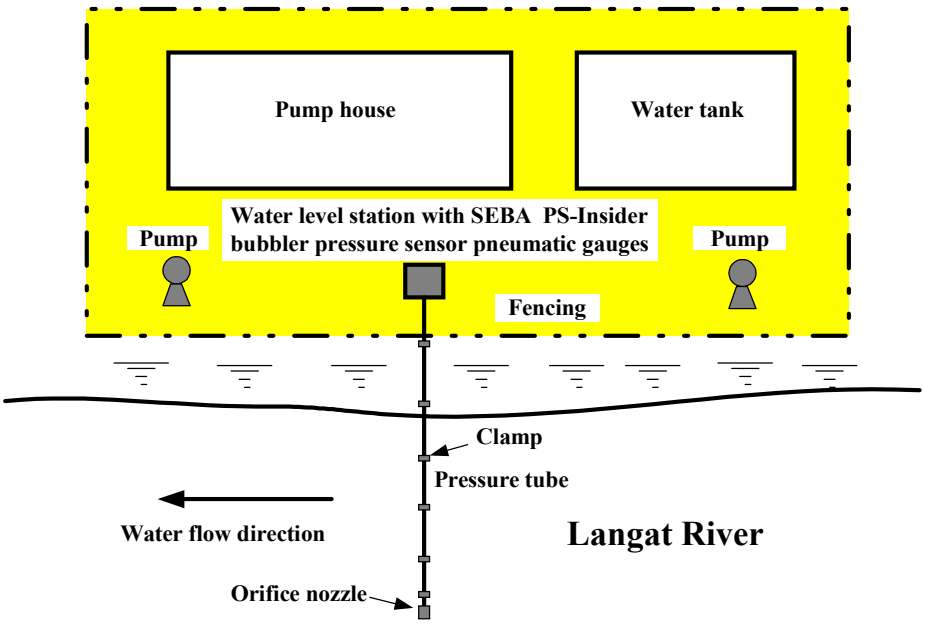


Data Book Figure D.2.3 (2) Schematic Profile of Surface Water Level Instruments (TD-Diver)



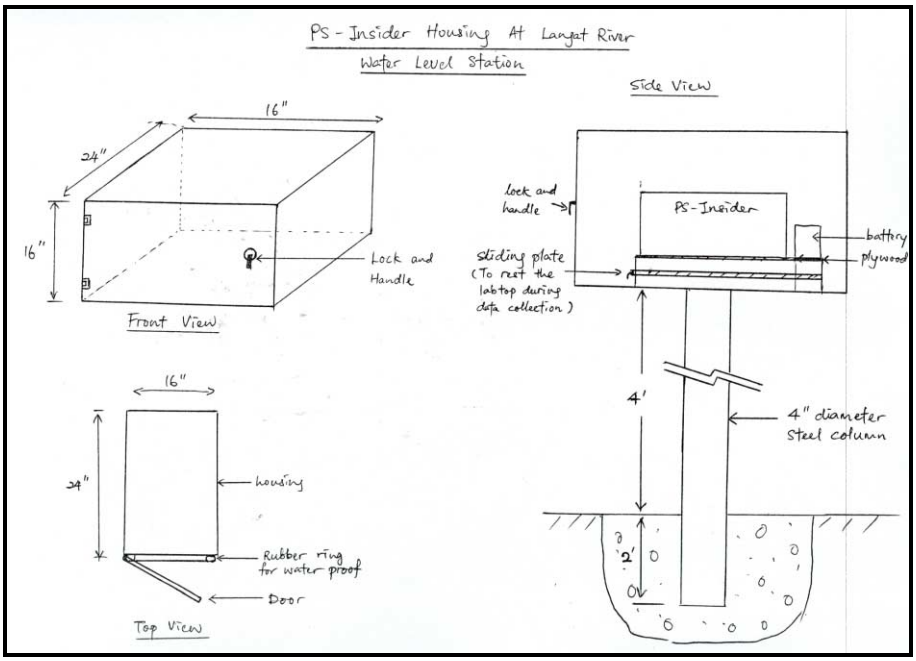
Data Book Figure D.2.3 (3) Structural Drawing of Stick Gauge



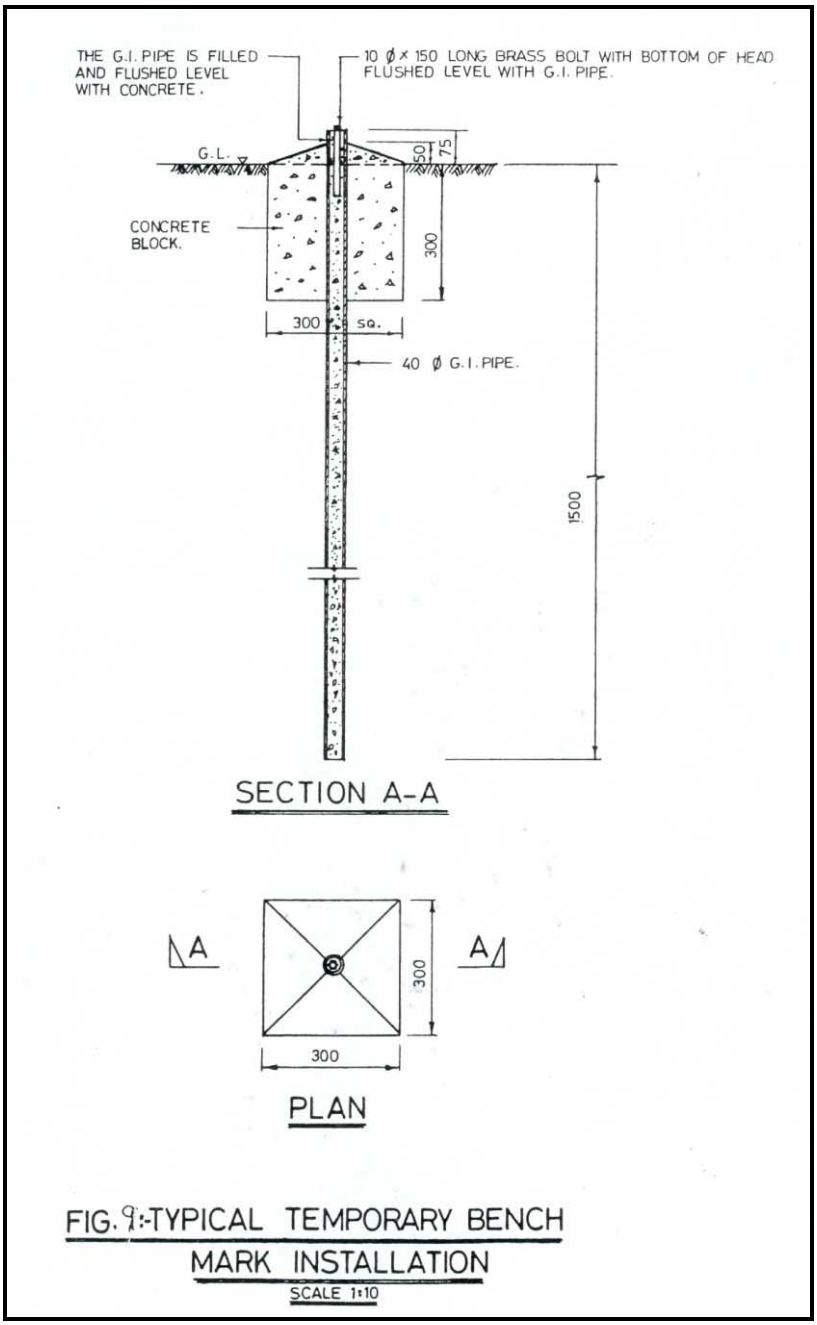


Layout of Water Level Station

Data Book Figure D.2.3 (4) Schematic Layout of Surface Water Level Instruments (SEBA PS-Insider)



Data Book Figure D.2.3 (5) Structural Drawing of Surface Water Level Instruments (SEBA PS-Insider)



Data Book Figure D.2.3 (6) Structural Drawing of Temporary Bench Mark Installation

DATA BOOK D.2.4

DATA CALIBRATION AND RECORDED DATA BY SURFACE WATER INSTRUMENTS

Data Book Table D.2.1 (1) Recorded Data by SEBA (SWL-6)

DEMAS ASCII-Evaluation Version 1.0
==========
Serial number : B01152
Filename : A:\SWL6
Evaluation at : 12.12.2000 17:21:03
Comment :
surface water level
Reference values : none
Channel : 1
Measurement start..... : 18.11.2000 18:09:04
Measurement end..... : 21.11.2000 10:09:04
Measurement interval..... : 0.0
Mean values out of n Values..... : 0
Count of evaluated measurements... : 257
Measurement range..... : -1.078 until 8.754 m
Digital correction sum..... : 0 19.11.2000 16:54:04 0.445 m
Evaluation since..... : 18.11.2000 18:09:04
until..... : 21.11.2000 10:09:04
Output of each n. value..... : 1

Date/Time	Value	Date/Time	Value	Date/Time	Value	Date/Time	Value
18.11.2000 18:09:04	-0.13 m	19.11.2000 12:54:04	1.374 m	20.11.2000 07:39:04	0.605 m	21.11.2000 02:24:04	1.866 m
18.11.2000 18:24:04	-0.17 m	19.11.2000 13:09:04	1.393 m	20.11.2000 07:54:04	0.567 m	21.11.2000 02:39:04	1.94 m
18.11.2000 18:39:04	-0.2 m	19.11.2000 13:24:04	1.338 m	20.11.2000 08:09:04	0.531 m	21.11.2000 02:54:04	1.962 m
18.11.2000 18:54:04	-0.21 m	19.11.2000 13:39:04	1.254 m	20.11.2000 08:24:04	0.483 m	21.11.2000 03:09:04	1.938 m
18.11.2000 19:09:04	-0.24 m	19.11.2000 13:54:04	1.237 m	20.11.2000 08:39:04	0.442 m	21.11.2000 03:24:04	1.936 m
18.11.2000 19:24:04	-0.24 m	19.11.2000 14:09:04	1.182 m	20.11.2000 08:54:04	0.404 m	21.11.2000 03:39:04	1.919 m
18.11.2000 19:39:04	-0.2 m	19.11.2000 14:24:04	1.114 m	20.11.2000 09:09:04	0.351 m	21.11.2000 03:54:04	1.912 m
18.11.2000 19:54:04	-0.12 m	19.11.2000 14:39:04	1.057 m	20.11.2000 09:24:04	0.339 m	21.11.2000 04:09:04	1.871 m
18.11.2000 20:09:04	0 m	19.11.2000 14:54:04	0.987 m	20.11.2000 09:39:04	0.305 m	21.11.2000 04:24:04	1.82 m
18.11.2000 20:24:04	0.118 m	19.11.2000 15:09:04	0.906 m	20.11.2000 09:54:04	0.286 m	21.11.2000 04:39:04	1.782 m
18.11.2000 20:39:04	0.255 m	19.11.2000 15:24:04	0.848 m	20.11.2000 10:09:04	0.269 m	21.11.2000 04:54:04	1.717 m
18.11.2000 20:54:04	0.421 m	19.11.2000 15:39:04	0.781 m	20.11.2000 10:24:04	0.269 m	21.11.2000 05:09:04	1.655 m
18.11.2000 21:09:04	0.574 m	19.11.2000 15:54:04	0.706 m	20.11.2000 10:39:04	0.279 m	21.11.2000 05:24:04	1.585 m
18.11.2000 21:24:04	0.754 m	19.11.2000 16:09:04	0.644 m	20.11.2000 10:54:04	0.332 m	21.11.2000 05:39:04	1.515 m
18.11.2000 21:39:04	0.93 m	19.11.2000 16:24:04	0.579 m	20.11.2000 11:09:04	0.385 m	21.11.2000 05:54:04	1.453 m
18.11.2000 21:54:04	1.107 m	19.11.2000 16:39:04	0.507 m	20.11.2000 11:24:04	0.437 m	21.11.2000 06:09:04	1.367 m
18.11.2000 22:09:04	1.28 m	19.11.2000 16:54:04	0.445 m	20.11.2000 11:39:04	0.553 m	21.11.2000 06:24:04	1.287 m
18.11.2000 22:24:04	1.429 m	19.11.2000 17:09:04	0.389 m	20.11.2000 11:54:04	0.714 m	21.11.2000 06:39:04	1.235 m
18.11.2000 22:39:04	1.563 m	19.11.2000 17:24:04	0.332 m	20.11.2000 12:09:04	0.826 m	21.11.2000 06:54:04	1.158 m
18.11.2000 22:54:04	1.619 m	19.11.2000 17:39:04	0.272 m	20.11.2000 12:24:04	0.898 m	21.11.2000 07:09:04	1.093 m
18.11.2000 23:09:04	1.672 m	19.11.2000 17:54:04	0.217 m	20.11.2000 12:39:04	0.98 m	21.11.2000 07:24:04	1.009 m
18.11.2000 23:24:04	1.77 m	19.11.2000 18:09:04	0.159 m	20.11.2000 12:54:04	1.086 m	21.11.2000 07:39:04	0.951 m
18.11.2000 23:39:04	1.787 m	19.11.2000 18:24:04	0.089 m	20.11.2000 13:09:04	1.16 m	21.11.2000 07:54:04	0.879 m
18.11.2000 23:54:04	1.782 m	19.11.2000 18:39:04	0.039 m	20.11.2000 13:24:04	1.203 m	21.11.2000 08:09:04	0.819 m
19.11.2000 00:09:04	1.789 m	19.11.2000 18:54:04	-0.01 m	20.11.2000 13:39:04	1.232 m	21.11.2000 08:24:04	0.757 m
19.11.2000 00:24:04	1.782 m	19.11.2000 19:09:04	-0.04 m	20.11.2000 13:54:04	1.263 m	21.11.2000 08:39:04	0.69 m
19.11.2000 00:39:04	1.753 m	19.11.2000 19:24:04	-0.08 m	20.11.2000 14:09:04	1.287 m	21.11.2000 08:54:04	0.615 m
19.11.2000 00:54:04	1.768 m	19.11.2000 19:39:04	-0.11 m	20.11.2000 14:24:04	1.326 m	21.11.2000 09:09:04	0.531 m
19.11.2000 01:09:04	1.715 m	19.11.2000 19:54:04	-0.11 m	20.11.2000 14:39:04	1.364 m	21.11.2000 09:24:04	0.488 m
19.11.2000 01:24:04	1.648 m	19.11.2000 20:09:04	-0.11 m	20.11.2000 14:54:04	1.379 m	21.11.2000 09:39:04	0.445 m
19.11.2000 01:39:04	1.607 m	19.11.2000 20:24:04	-0.11 m	20.11.2000 15:09:04	1.374 m	21.11.2000 09:54:04	0.385 m
19.11.2000 01:54:04	1.542 m	19.11.2000 20:39:04	-0.09 m	20.11.2000 15:24:04	1.345 m	21.11.2000 10:09:04	0.341 m
19.11.2000 02:09:04	1.46 m	19.11.2000 20:54:04	-0.04 m	20.11.2000 15:39:04	1.316 m		
19.11.2000 02:24:04	1.381 m	19.11.2000 21:09:04	0.032 m	20.11.2000 15:54:04	1.261 m		
19.11.2000 02:39:04	1.316 m	19.11.2000 21:24:04	0.099 m	20.11.2000 16:09:04	1.23 m	Minimum at 18.11.2000 19:2	-0.24 m
19.11.2000 02:54:04	1.23 m	19.11.2000 21:39:04	0.243 m	20.11.2000 16:24:04	1.177 m	Maximum at 21.11.2000 02:	1.962 m
19.11.2000 03:09:04	1.155 m	19.11.2000 21:54:04	0.361 m	20.11.2000 16:39:04	1.141 m	mean Value :	0.864 m
19.11.2000 03:24:04	1.066 m	19.11.2000 22:09:04	0.5 m	20.11.2000 16:54:04	1.071 m		
19.11.2000 03:39:04	1.002 m	19.11.2000 22:24:04	0.62 m	20.11.2000 17:09:04	1.014 m		
19.11.2000 03:54:04	0.934 m	19.11.2000 22:39:04	0.738 m	20.11.2000 17:24:04	0.973 m		
19.11.2000 04:09:04	0.862 m	19.11.2000 22:54:04	0.865 m	20.11.2000 17:39:04	0.906 m		
19.11.2000 04:24:04	0.8 m	19.11.2000 23:09:04	0.987 m	20.11.2000 17:54:04	0.85 m		
19.11.2000 04:39:04	0.73 m	19.11.2000 23:24:04	1.107 m	20.11.2000 18:09:04	0.79 m		
19.11.2000 04:54:04	0.661 m	19.11.2000 23:39:04	1.227 m	20.11.2000 18:24:04	0.728 m		
19.11.2000 05:09:04	0.598 m	19.11.2000 23:54:04	1.364 m	20.11.2000 18:39:04	0.675 m		
19.11.2000 05:24:04	0.545 m	20.11.2000 00:09:04	1.472 m	20.11.2000 18:54:04	0.644 m		
19.11.2000 05:39:04	0.466 m	20.11.2000 00:24:04	1.578 m	20.11.2000 19:09:04	0.603 m		
19.11.2000 05:54:04	0.413 m	20.11.2000 00:39:04	1.691 m	20.11.2000 19:24:04	0.536 m		
19.11.2000 06:09:04	0.349 m	20.11.2000 00:54:04	1.739 m	20.11.2000 19:39:04	0.493 m		
19.11.2000 06:24:04	0.291 m	20.11.2000 01:09:04	1.772 m	20.11.2000 19:54:04	0.447 m		
19.11.2000 06:39:04	0.233 m	20.11.2000 01:24:04	1.763 m	20.11.2000 20:09:04	0.385 m		
19.11.2000 06:54:04	0.193 m	20.11.2000 01:39:04	1.76 m	20.11.2000 20:24:04	0.365 m		
19.11.2000 07:09:04	0.145 m	20.11.2000 01:54:04	1.722 m	20.11.2000 20:39:04	0.303 m		
19.11.2000 07:24:04	0.096 m	20.11.2000 02:09:04	1.722 m	20.11.2000 20:54:04	0.296 m		
19.11.2000 07:39:04	0.068 m	20.11.2000 02:24:04	1.693 m	20.11.2000 21:09:04	0.255 m		

Data Book Table D.2.1 (2) Compensated Data by Diver (SWL-4)

Instrument type : Diver (sn. 19670)
Instrument number : SWL 4
Location : Lotus Lake
Sample mode : T
Channel 1 : Water Level
Reference : 0.0 CM WK
Range : 500.0 CM WK
Master level : 561.0 CM WK
Channel 2 : TEMPERATUUR
Reference : -20.00 GRADEN
Range : 100.00 GRADEN

No.	Date	Time	Channel 1	Channel 2
1	11/14/00	17:00:00	614.5	30.99
2	11/14/00	17:30:00	614.6	30.82
3	11/14/00	18:00:00	614.2	30.8
4	11/14/00	18:30:00	614.6	30.71
5	11/14/00	19:00:00	614	30.69
6	11/14/00	19:30:00	614.4	30.64
7	11/14/00	20:00:00	615.2	30.63
8	11/14/00	20:30:00	615.5	30.66
9	11/14/00	21:00:00	615.5	30.63
10	11/14/00	21:30:00	615.3	30.56
11	11/14/00	22:00:00	615.2	30.46
12	11/14/00	22:30:00	615.6	30.4
13	11/14/00	23:00:00	615.2	30.27
14	11/14/00	23:30:00	615.1	30.17
15	11/15/00	0:00:00	615.8	30.01
16	11/15/00	0:30:00	615.5	29.89
17	11/15/00	1:00:00	615.3	29.82
18	11/15/00	1:30:00	616.3	29.75
19	11/15/00	2:00:00	615.8	29.7
20	11/15/00	2:30:00	615.7	29.62
21	11/15/00	3:00:00	615.6	29.53
22	11/15/00	3:30:00	615.7	29.43
23	11/15/00	4:00:00	616.3	29.33
24	11/15/00	4:30:00	616.2	29.31
25	11/15/00	5:00:00	616.7	29.28
26	11/15/00	5:30:00	616.2	29.25
27	11/15/00	6:00:00	615.9	29.18
28	11/15/00	6:30:00	615.9	29.12
29	11/15/00	7:00:00	616.1	29.15
30	11/15/00	7:30:00	615.5	29.08
31	11/15/00	8:00:00	616	29.05
32	11/15/00	8:30:00	616.2	29.11
33	11/15/00	9:00:00	615.4	29.19
34	11/15/00	9:30:00	615.2	29.31
35	11/15/00	10:00:00	615.1	29.4
36	11/15/00	10:30:00	615.1	29.54
37	11/15/00	11:00:00	615.7	29.73
38	11/15/00	11:30:00	615.3	29.75
39	11/15/00	12:00:00	615	29.9
40	11/15/00	12:30:00	614.7	29.9
41	11/15/00	13:00:00	615.9	30.06
42	11/15/00	13:30:00	615.6	30.19
43	11/15/00	14:00:00	615.6	30.29
44	11/15/00	14:30:00	615.6	30.35
45	11/15/00	15:00:00	616.6	30.07
46	11/15/00	15:30:00	592.2	30.51

Data Book Table D.2.1 (3) Recorded Data by Diver (SWL-4)

Instrument type : Diver (sn. 19670)
Instrument number : SWL 4
Location : Lotus Lake
Sample mode : T
Channel 1 : Water Level
Reference : 0.0 CM WK
Range : 500.0 CM WK
Master level : 561.0 CM WK
Channel 2 : TEMPERATUUR
Reference : -20.00 GRADEN
Range : 100.00 GRADEN

No.	Date	Time	Channel 1	Channel 2
1	11/14/00	17:00	682.6	30.99
2	11/14/00	17:30	682.8	30.82
3	11/14/00	18:00	682.6	30.8
4	11/14/00	18:30	683.5	30.71
5	11/14/00	19:00	683.5	30.69
6	11/14/00	19:30	685.6	30.64
7	11/14/00	20:00	685.6	30.63
8	11/14/00	20:30	686.3	30.66
9	11/14/00	21:00	686.7	30.63
10	11/14/00	21:30	687	30.56
11	11/14/00	22:00	687.2	30.46
12	11/14/00	22:30	688.2	30.4
13	11/14/00	23:00	688	30.27
14	11/14/00	23:30	687.1	30.17
15	11/15/00	0:00	687.6	30.01
16	11/15/00	0:30	687	29.89
17	11/15/00	1:00	686.1	29.82
18	11/15/00	1:30	686.5	29.75
19	11/15/00	2:00	686.3	29.7
20	11/15/00	2:30	686.1	29.62
21	11/15/00	3:00	685.7	29.53
22	11/15/00	3:30	685.7	29.43
23	11/15/00	4:00	685.4	29.33
24	11/15/00	4:30	685.4	29.31
25	11/15/00	5:00	686.1	29.28
26	11/15/00	5:30	685.9	29.25
27	11/15/00	6:00	686.1	29.18
28	11/15/00	6:30	686.1	29.12
29	11/15/00	7:00	686.5	29.15
30	11/15/00	7:30	686.5	29.08
31	11/15/00	8:00	687	29.05
32	11/15/00	8:30	687.9	29.11
33	11/15/00	9:00	688.3	29.19
34	11/15/00	9:30	688.3	29.31
35	11/15/00	10:00	688.2	29.4
36	11/15/00	10:30	688.3	29.54
37	11/15/00	11:00	688.9	29.73
38	11/15/00	11:30	688.7	29.75
39	11/15/00	12:00	688.2	29.9
40	11/15/00	12:30	687.6	29.9
41	11/15/00	13:00	687.2	30.06
42	11/15/00	13:30	686.3	30.19
43	11/15/00	14:00	685.7	30.29
44	11/15/00	14:30	685.6	30.35
45	11/15/00	15:00	685	30.07
46	11/15/00	15:30	660.6	30.51

Data Book Table D.2.1 (4) Recorded Data by Diver (Barometric Data)

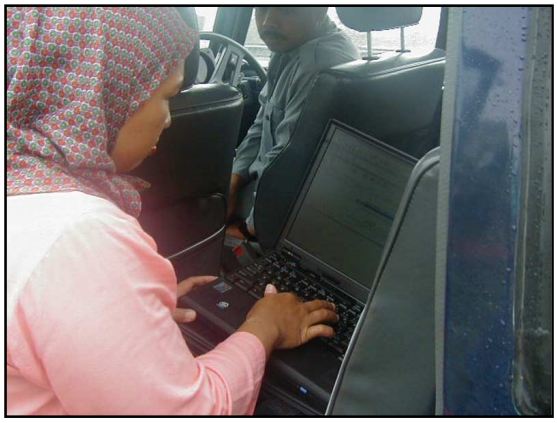
Instrument type : Diver (sn. 19664)
Instrument number : Barometric
Location : Lotus Lake
Sample mode : T
Channel 1 : Water Level
Reference : 697.0 CM WK
Range : 500.0 CM WK
Master level : 614.5 CM WK
Channel 2 : TEMPERATUUR
Reference : -20.00 GRADEN
Range : 100.00 GRADEN

No.	Date	Time	Channel 1	Channel 2
1	11/14/00	17:00	767.3	30.38
2	11/14/00	17:30	767.4	30.8
3	11/14/00	18:00	767.6	31.07
4	11/14/00	18:30	768.1	31.17
5	11/14/00	19:00	768.7	31.09
6	11/14/00	19:30	770.4	30.17
7	11/14/00	20:00	769.6	29.49
8	11/14/00	20:30	770	28.33
9	11/14/00	21:00	770.4	27.69
10	11/14/00	21:30	770.9	27.37
11	11/14/00	22:00	771.2	27.12
12	11/14/00	22:30	771.8	26.95
13	11/14/00	23:00	772	26.82
14	11/14/00	23:30	771.2	26.48
15	11/15/00	0:00	771	26.07
16	11/15/00	0:30	770.7	25.75
17	11/15/00	1:00	770	25.5
18	11/15/00	1:30	769.4	25.43
19	11/15/00	2:00	769.7	25.33
20	11/15/00	2:30	769.6	25.25
21	11/15/00	3:00	769.3	25.05
22	11/15/00	3:30	769.2	24.9
23	11/15/00	4:00	768.3	24.82
24	11/15/00	4:30	768.4	24.82
25	11/15/00	5:00	768.6	24.79
26	11/15/00	5:30	768.9	24.84
27	11/15/00	6:00	769.4	24.95
28	11/15/00	6:30	769.4	25.08
29	11/15/00	7:00	769.6	25.36
30	11/15/00	7:30	770.2	25.57
31	11/15/00	8:00	770.2	26.17
32	11/15/00	8:30	770.9	27.07
33	11/15/00	9:00	772.1	29.7
34	11/15/00	9:30	772.3	32.12
35	11/15/00	10:00	772.3	33.21
36	11/15/00	10:30	772.4	35.1
37	11/15/00	11:00	772.4	35.36
38	11/15/00	11:30	772.6	35.3
39	11/15/00	12:00	772.4	37.4
40	11/15/00	12:30	772.1	37.66
41	11/15/00	13:00	770.5	37.01
42	11/15/00	13:30	769.9	36.6
43	11/15/00	14:00	769.3	36.25
44	11/15/00	14:30	769.2	36.36
45	11/15/00	15:00	767.6	33.75
46	11/15/00	15:30	767.6	32.71

DATA BOOK D.2.5

COMMISSIONING AND TRAINING ON SURFACE WATER LEVEL INSTRUMENTS

Commissioning & Training at JMG
(Date: 20/11/2000)



Training at SWL-2
(Date: 21/11/2000)

Training at SWL-3
(Date: 21/11/2000)

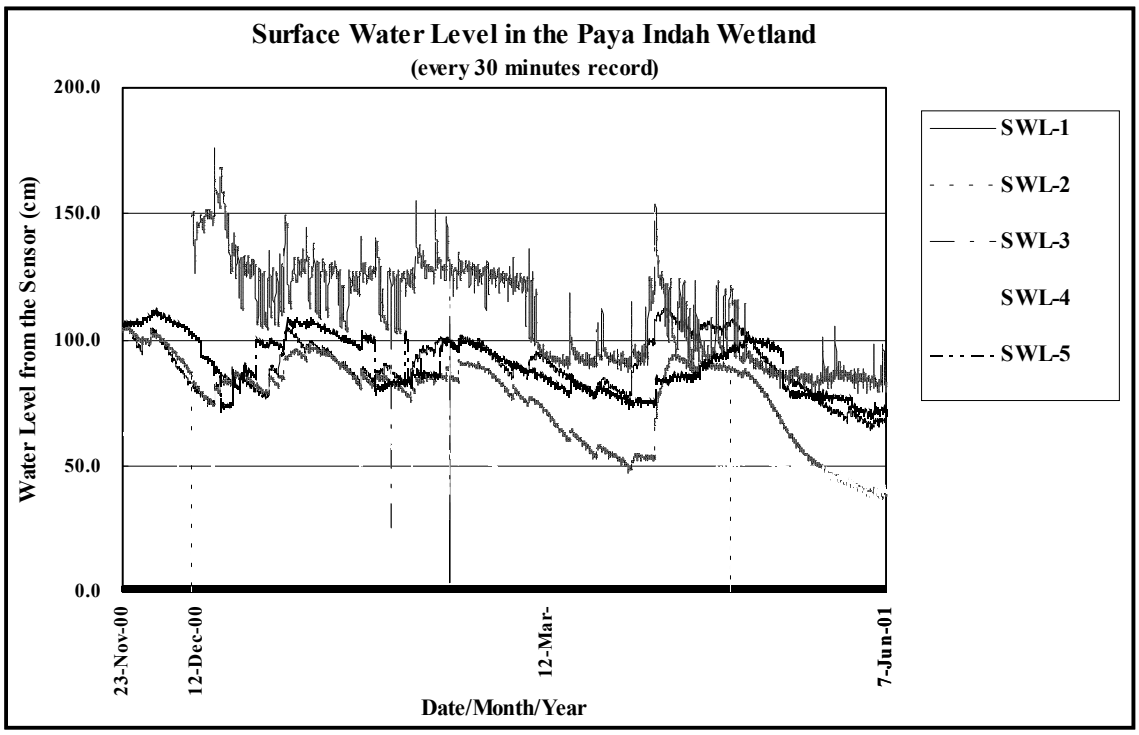
Training at SWL-4
(Date: 16/11/2000)

Training at SWL-6
(Date: 16/11/2000)

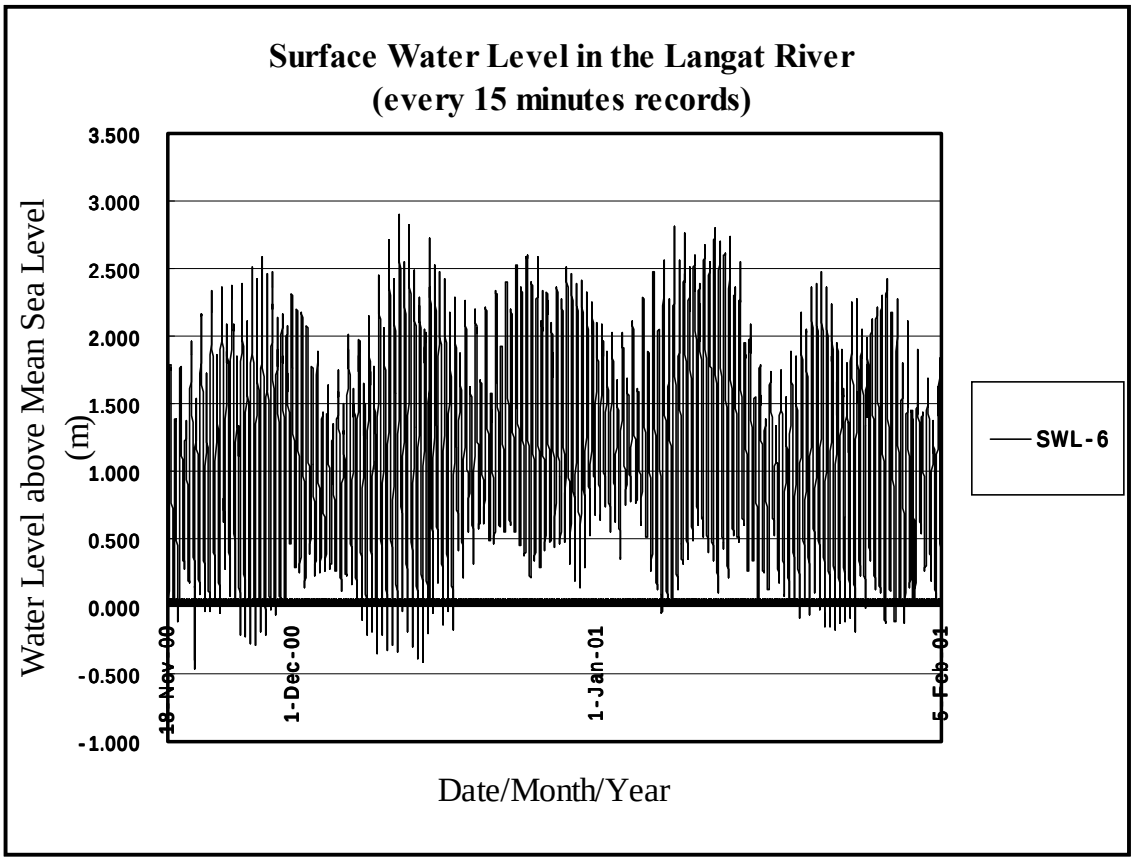
Data Book Photo D.2.1 Commissioning & Training on Surface Water Level Instruments

DATA BOOK D.2.6

RECORDED DATA OF SURFACE WATER LEVEL INSTRUMENTS



Data Book Figure D.2.4 (1) Recorded Data by Surface Water Level Instruments (SWL-1, SWL-2, SWL-3, SWL-4, SWL-5)



Data Book Figure D.2.4 (2) Recorded Data by Surface Water Level Instruments (SWL-6)

DATA BOOK D.2.7

MEASURED DATA OF FLOW RATE BY JPS

Data Book Table D.2.2 Measured Data of Flow Rate by JPS

State	Selangor
Number of Cross Section	6
Station Name	Paya Indah
Station Number	SWL-1
Gauging starting time	hrs
Gauging completion time	hrs

Measuring no	P1/1
Date of Gauging	12-Dec-00
Starting Gauging Read (m)	8.58
Last Gauging Read (m)	8.58

Q =	0.337	m^3/sec
A =	2.194	m^2
V =	0.154	m/s
Minimum base level :	7.310	m

V (i) = 0.2326 n + 0.0170 (n < 0.7000)
V (ii) = 0.2531 n + 0.0020 (0.7000 < n < 9.7600)

Distance from Start (m)	Slope Angle	Depth of Slope (m)	Measuring Method	Measured Depth	Time (Second)	Numbers of rotation	Numbers of rotation per second	Velocity	Average Velocity	Average Cross Section Velocity	Area of Cross Section (m^2)	Average Measured Depth (m)	Measured Width (m)	Flow rate (m^3)	Remarks
0.30		0.00													Right Riverbank
										0.066	0.300	0.600	0.500	0.020	
0.80		1.20	0.20	0.24	50.00	9.0	0.18	0.059	0.137						
			0.80	0.96	50.00	42.0	0.84	0.215		0.181	0.618	1.235	0.500	0.112	
1.30		1.27	0.20	0.25	50.00	33.0	0.66	0.170	0.285						
			0.80	1.02	50.00	55.0	1.10	0.280		0.211	0.543	1.085	0.500	0.114	
1.80		0.90	0.20	0.18	50.00	24.0	0.48	0.128	0.197						
			0.80	0.72	50.00	52.0	1.04	0.265		0.164	0.383	0.765	0.500	0.063	
2.30		0.63	0.20	0.13	50.00	3.0	0.06	0.033	0.130						
			0.80	0.50	50.00	45.0	0.90	0.230		0.096	0.265	0.530	0.500	0.025	
2.80		0.43	0.20	0.09	50.00	3.0	0.06	0.931	0.061						
			0.80	0.34	50.00	16.0	0.32	0.091		0.031	0.086	0.215	0.400	0.003	
3.20		0.00			0.00										Left Riverbank

State	Selangor
Number of Cross Section	11
Station Name	Paya Indah
Station Number	SWL-1
Gauging starting time	1035 hrs
Gauging completion time	1115 hrs

Measuring no	P1/1
Date of Gauging	12-Mar-01
Starting Gauging Read (m)	6.68
Last Gauging Read (m)	6.68

Q =	0.819	m^3/sec
A =	5.110	m^2
V =	0.160	m/s
Minimum base level :	4.880	m

V (i) = 0.2326 n + 0.0170 (n < 0.7000)
V (ii) = 0.2531 n + 0.0020 (0.7000 < n < 9.7600)

Distance from Start (m)	Slope Angle	Depth of Slope (m)	Measuring Method	Measured Depth	Time (Second)	Numbers of rotation	Numbers of rotation per second	Velocity	Average Velocity	Average Cross Section Velocity	Area of Cross Section (m^2)	Average Measured Depth (m)	Measured Width (m)	Flow rate (m^3)	Remarks
1.00															Right Riverbank
										0.029	0.130	0.260	0.500	0.004	
1.50		0.52	0.20	0.10	50.00	7.0	0.14	0.049	0.059						
			0.80	0.42	50.00	11.0	0.22	0.068		0.068	0.345	0.690	0.500	0.023	
2.00		0.86	0.20	0.17	50.00	10.0	0.20	0.063	0.077						
			0.80	0.69	50.00	16.0	0.32	0.091		0.104	0.520	1.040	0.500	0.054	
2.50		1.22	0.20	0.24	50.00	20.0	0.40	0.110	0.130						
			0.80	0.98	50.00	29.0	0.58	0.151		0.151	0.685	1.370	0.500	0.103	
3.00		1.52	0.20	0.30	50.00	25.0	0.50	0.133	0.171						
			0.80	1.22	50.00	41.0	0.82	0.210		0.191	0.810	1.620	0.500	0.154	
3.50		1.72	0.20	0.34	50.00	33.0	0.66	0.170	0.210						
			0.80	1.38	50.00	49.0	0.98	0.250		0.230	0.880	1.760	0.500	0.202	
4.00		1.80	0.20	0.36	50.00	40.0	0.80	0.204	0.250						
			0.80	1.44	50.00	58.0	1.16	0.296		0.200	0.850	1.700	0.500	0.170	
4.50		1.60	0.20	0.32	50.00	21.0	0.42	0.114	0.149						
			0.80	1.28	50.00	36.0	0.72	0.184		0.133	0.750	1.500	0.500	0.100	
5.00		1.40	0.20	0.28	50.00	16.0	0.32	0.091	0.117						
			0.80	1.12	50.00	27.0	0.54	0.142		0.056	0.140	0.700	0.200	0.008	
5.20															Left Riverbank

Data Book Table D.2.2 Measured Data of Flow Rate by JPS

State	Selangor
Number of Cross Section	8
Station Name	Paya Indah
Station Number	SWL-2
Gauging starting time	hrs
Gauging completion time	hrs

Measuring no	P1/4
Date of Gauging	12-Dec-00
Starting Gauging Read (m)	8.14
Last Gauging Read (m)	8.14

Q =	0.484	m^3/sec
A =	1.259	m^2
V =	0.385	m/s
Minimum base level :	3.530	m

V (i) = 0.2316 n + 0.0170 (n < 0.7000)
V (ii) = 0.2531 n + 0.0020 (0.7000 < n < 9.7600)

Distance from Start (m)	Slope Angle	Depth of Slope (m)	Measuring Method	Measured Depth	Time (Second)	Numbers of rotation	Numbers of rotation per second	Velocity	Average Velocity	Average Cross Section Velocity	Area of Cross Section (m^2)	Average Measured Depth (m)	Measured Width (m)	Flow rate (m^3)	Remarks
0.20		0.00			0.00										Ringth riverbank
										0.193	0.075	0.150	0.500	0.015	
0.70		0.30	0.60	0.18	50.00	76.0	1.52	0.367	0.387						
										0.430	0.173	0.345	0.500	0.074	
1.20		0.35	0.60	0.23	50.00	93.0	1.86	0.473	0.473						
				0.32		16.0	0.32			0.521	0.233	0.465	0.500	0.121	
1.70		0.54	0.20	0.11	50.00	99.0	1.98	0.503	0.669						
			0.80	0.43	50.00	125.0	2.50	0.625		0.459	0.263	0.525	0.500	0.120	
2.20		0.51	0.20	0.10	50.00	62.0	1.24	0.316	0.349						
			0.80	0.41	50.00	75.0	1.50	0.382		0.320	0.228	0.455	0.500	0.073	
2.70		0.40	0.20	0.08	50.00	53.0	1.06	0.270	0.291						
			0.80	0.32	50.00	61.0	1.22	0.311		0.270	0.190	0.380	0.500	0.051	
3.20		0.36	0.60	0.22	50.00	49.0	0.98	0.250	0.250						
										0.278	0.143	0.285	0.500	0.040	
3.70		0.21	0.60	0.13	50.00	60.0	1.20	0.306	0.306						
										0.153	0.032	0.105	0.300	0.005	
4.00		0.00			0.00										Left Riverbank

State	Selangor
Number of Cross Section	10.00
Station Name	Paya Indah
Station Number	SWL-2
Gauging starting time	1330 hrs
Gauging completion time	1410 hrs

Measuring no	P1/4
Date of Gauging	12-Mar-01
Starting Gauging Read (m)	6.05
Last Gauging Read (m)	6.05

Q =	0.271	m^3/sec
A =	2.096	m^2
V =	0.129	m/s
Minimum base level :	5.040	m

V (i) = 0.2316 n + 0.0170 (n < 0.7000)
V (ii) = 0.2531 n + 0.0020 (0.7000 < n < 9.7600)

Distance from Start (m)	Slope Angle	Depth of Slope (m)	Measuring Method	Measured Depth	Time (Second)	Numbers of rotation	Numbers of rotation per second	Velocity	Average Velocity	Average Cross Section Velocity	Area of Cross Section (m^2)	Average Measured Depth (m)	Measured Width (m)	Flow rate (m^3)	Remarks
0.80															Ringth riverbank
										0.020	0.08	0.15	0.50	0.00	
1.30		0.30	0.60	0.18	50.00	5.0	0.10	0.040	0.040						No flowing water
										0.059	0.18	0.35	0.50	0.01	
1.80		0.40	0.20	0.08	50.00	10.0	0.20	0.063	0.077						
			0.80	0.32	50.00	16.0	0.32	0.091		0.185	0.33	0.65	0.50	0.06	
2.30		0.90	0.20	0.18	50.00	47.0	0.94	0.240	0.293						
			0.80	0.72	50.00	68.0	1.36	0.346		0.236	0.45	0.91	0.50	0.11	
2.80		0.91	0.20	0.18	50.00	28.0	0.56	0.147	0.178						
			0.80	0.71	50.00	41.0	0.82	0.210		0.133	0.43	0.87	0.50	0.06	
3.30		0.92	0.20	0.16	50.00	11.0	0.22	0.068	0.089						
			0.80	0.66	50.00	20.0	0.40	0.110		0.067	0.36	0.72	0.50	0.02	
3.80		0.61	0.20	0.12	50.00	3.0	0.06	0.031	0.045						
			0.80	0.49	50.00	9.0	0.18	0.059		0.040	0.24	0.49	0.50	0.01	
4.30		0.16	0.60	0.22	50.00	4.0	0.08	0.036	0.036					0.00	No flowing water
										0.018	0.04	0.16	0.20		
4.50		0.00			0.00										
0.00		0.00			0.00										Left Riverbank

Data Book Table D.2.2 Measured Data of Flow Rate by JPS

State	Selangor
Number of Cross Section	7.0
Station Name	Paya Indah
Station Number	SWL-3
Gauging starting time	1140 hrs
Gauging completion time	1210 hrs

Measuring no	P1/2
Date of Gauging	12-Mar-01
Starting Gauging Read (m)	6.33
Last Gauging Read (m)	6.33

Q =	0.023	m^3/sec
A =	0.291	m^2
V =	0.080	m/s
Minimum base level :	4.880	m

V (i)	= 0.2316 n	+	0.0170 (	n < 0.7000)
V (ii)	= 0.2531 n	+	0.0020	(0.7000 < n < 9.7600)

Distance from Start (m)	Slope Angle	Depth of Slope (m)	Measuring Method	Measured Depth	Time (Second)	Numbers of rotation	Numbers of rotation per second	Velocity	Average Velocity	Average Cross Section Velocity	Area of Cross Section (m^2)	Average Measured Depth (m)	Measured Width (m)	Flow rate (m^3)	Remarks
1.00															Right Riverbank
										0.032	0.030	0.060	0.500	0.003	
1.50		0.12	0.60	0.07	50.00	10.0	0.20	0.063	0.063						
										0.077	0.073	0.145	0.500	0.006	
2.00		0.13	0.60	0.10	50.00	16.0	0.32	0.091	0.091						
										0.103	0.093	0.165	0.500	0.009	
2.50		0.20	0.60	0.13	50.00	21.0	0.42	0.114	0.114						
										0.082	0.083	0.165	0.500	0.007	
3.00		0.13	0.60	0.06	50.00	7.0	0.14	0.049	0.049						
										0.025	0.013	0.065	0.200	0.000	
3.20															
0.00		0.00			0.00										
															Left Riverbank

Data Book Table D.2.2 Measured Data of Flow Rate by JPS

State	Selangor
Number of Cross Section	10
Station Name	Paya Indah
Station Number	SWL-5
Gauging starting time	hrs
Gauging completion time	hrs

Measuring no	P1/5
Date of Gauging	12-Dec-00
Starting Gauging Read (m)	6.12
Last Gauging Read (m)	6.13

Q =	0.469	m^3/sec
A =	1.992	m^2
V =	0.236	m/s
Minimum base level :	1.200	m

V (i) = 0.2316 n + 0.0170 (n < 0.7000)
V (ii) = 0.2531 n + 0.0020 (0.7000 < n < 9.7600)

Distance from Start (m)	Slope Angle	Depth of Slope (m)	Measuring Method	Measured Depth	Time (Second)	Numbers of rotation	Numbers of rotation per second	Velocity	Average Velocity	Average Cross Section Velocity	Area of Cross Section (m^2)	Average Measured Depth (m)	Measured Width (m)	Flow rate (m^3)	Remarks
0.50		0.00			0.00										Ringth riverbank
										0.022	0.000	0.160	0.500	0.002	
1.00		0.32	0.60	0.19	50.00	6.0	0.12	0.045	0.045						
										0.066	0.260	0.520	0.500	0.017	
1.50		0.72	0.20	0.14	50.00	4.0	0.08	0.036	0.086						
			0.80	0.58	50.00	26.0	0.52	0.137		0.234	0.368	0.735	0.500	0.086	
2.00		0.75	0.20	0.15	50.00	49.0	0.98	0.250	0.382						
			0.80	0.60	50.00	101.0	2.02	0.513		0.439	0.483	0.975	0.500	0.214	
2.50		1.20	0.20	0.24	50.00	60.0	1.60	0.407	0.496						
			0.80	0.96	50.00	115.0	2.30	0.584		0.340	0.513	1.025	0.500	0.174	
3.00		0.85	0.20	0.17	50.00	46.0	0.92	0.235	0.164						
			0.80	0.68	50.00	25.0	0.50	0.133		0.125	0.418	0.835	0.500	0.052	
3.50		0.82	0.20	0.16	50.00	11.0	0.22	0.068	0.066						
			0.80	0.66	50.00	10.0	0.30	0.063		0.064	0.355	0.710	0.500	0.023	
4.00		0.60	0.20	0.12	50.00	7.0	0.14	0.049	0.063						
			0.80	0.48	50.00	13.0	0.26	0.077		0.032	0.208	0.415	0.500	0.007	
4.50		0.23	0.60	0.14	50.00	0.0	0.00								
											0.012	0.115	0.100		
4.60		0.00			0.00										Left Riverbank

State	Selangor
Number of Cross Section	10
Station Name	Paya Indah
Station Number	SWL-5
Gauging starting time	1240 hrs
Gauging completion time	1310 hrs

Measuring no	P1/3
Date of Gauging	12-Mar-01
Starting Gauging Read (m)	5.95
Last Gauging Read (m)	5.95

Q =	0.170	m^3/sec
A =	0.870	m^2
V =	0.196	m/s
Minimum base level :	5.700	m

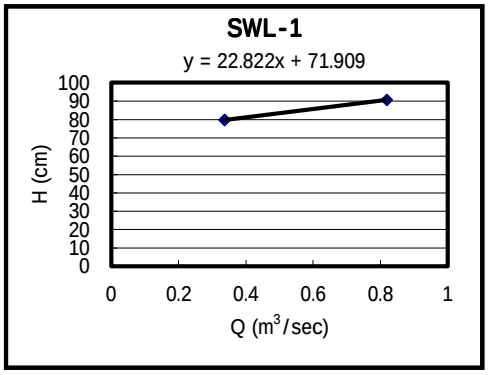
V (i) = 0.2316 n + 0.0170 (n < 0.7000)
V (ii) = 0.2531 n + 0.0020 (0.7000 < n < 9.7600)

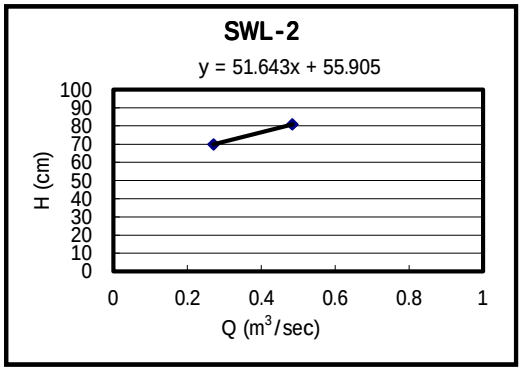
Distance from Start (m)	Slope Angle	Depth of Slope (m)	Measuring Method	Measured Depth	Time (Second)	Numbers of rotation	Numbers of rotation per second	Velocity	Average Velocity	Average Cross Section Velocity	Area of Cross Section (m^2)	Average Measured Depth (m)	Measured Width (m)	Flow rate (m^3)	Remarks
1.00															Ringth riverbank
										0.039	0.020	0.040	0.500	0.001	
1.50		0.08	0.60	0.05	50.00	13.0	0.26	0.077	0.077						
										0.098	0.063	0.125	0.500	0.006	
2.00		0.17	0.60	0.10	50.00	22.0	0.44	0.119	0.119						
										0.190	0.105	0.210	0.500	0.020	
2.50		0.25	0.60	0.15	50.00	51.0	1.02	0.260	0.260						
										0.283	0.143	0.285	0.500	0.040	
3.00		0.32	0.60	0.19	50.00	60.0	1.20	0.306	0.306						
										0.260	0.168	0.335	0.500	0.044	
3.50		0.35	0.60	0.21	50.00	42.0	0.84	0.215	0.215						
										0.199	0.163	0.325	0.500	0.032	
4.00		0.30	0.60	0.18	50.00	36.0	0.72	0.184	0.184						
										0.159	0.143	0.285	0.500	0.023	
4.50		0.27	0.60	0.16	50.00	25.0	0.50	0.133	0.133						
										0.066	0.068	0.135	0.500	0.004	
5.00															
															Left Riverbank

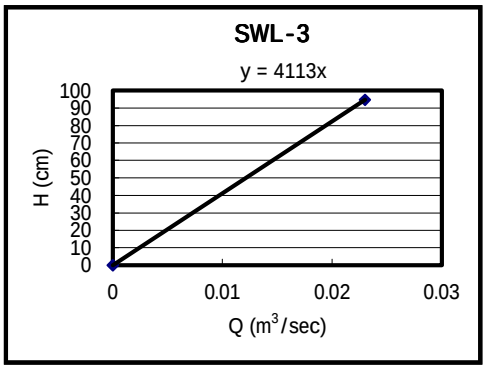
DATA BOOK D.2.8

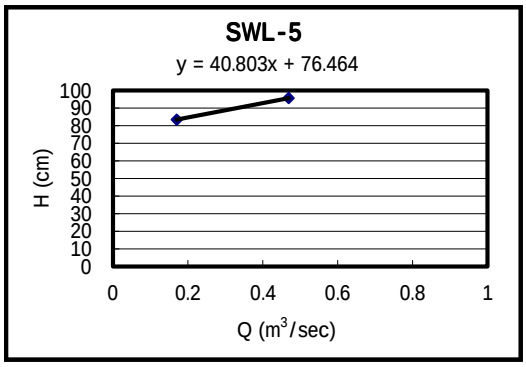
ESTIMATION OF FLOW RATE

Date		12/12/2000	12/3/2001	Conversion Formula by Lenear Regression		Average druing Monitoring Period (1/12/2000 - 31/5/2001)
SWL-1	Q (m^3/sec)	0.337	0.819	x	y = 22.822x + 71.909	0.80
	H: Water depth from the sensor (cm)	79.60	90.60	y		90.24
SWL-2	Q (m^3/sec)	0.484	0.271	x	y = 51.643x + 55.905	0.42
	H: Water depth from the sensor (cm)	80.90	69.90	y		77.42
SWL-3	Q (m^3/sec)	0	0.023	x	y = 4113x	0.03
	H: Water depth from the sensor (cm)	0.00	94.60	y		111.44
SWL-5	Q (m^3/sec)	0.469	0.17	x	y = 40.803x + 76.464	0.32
	H: Water depth from the sensor (cm)	95.60	83.40	y		89.86









Data Book Figure D.2.5 Estimation of Flow Rate

DATA BOOK D.4.1

COMPUTATION RESULT OF DAILY POTENTIAL EVAPOTRANSPIRATION AT PETALING JAYA

Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
1-Jan-95	4.87	4.87	5.03	5.60	5.08	5.34	4.77	4.98
2-Jan-95	4.66	4.66	4.81	5.35	4.86	5.11	4.56	4.76
3-Jan-95	4.96	4.96	5.12	5.71	5.18	5.44	4.85	5.07
4-Jan-95	4.48	4.48	4.63	5.16	4.68	4.92	4.39	4.58
5-Jan-95	4.74	4.74	4.89	5.45	4.94	5.19	4.63	4.84
6-Jan-95	3.18	3.18	3.27	3.61	3.30	3.46	3.12	3.24
7-Jan-95	5.93	5.93	6.11	6.77	6.17	6.47	5.81	6.05
8-Jan-95	2.74	2.74	2.83	3.16	2.86	3.01	2.68	2.80
9-Jan-95	3.94	3.94	4.06	4.51	4.10	4.31	3.86	4.02
10-Jan-95	3.16	3.16	3.26	3.64	3.30	3.47	3.10	3.23
11-Jan-95	4.11	4.11	4.24	4.72	4.28	4.50	4.02	4.20
12-Jan-95	4.74	4.74	4.89	5.45	4.94	5.19	4.63	4.84
13-Jan-95	4.58	4.58	4.72	5.27	4.77	5.02	4.48	4.67
14-Jan-95	5.37	5.37	5.53	6.14	5.59	5.86	5.26	5.48
15-Jan-95	6.50	6.50	6.69	7.41	6.76	7.08	6.36	6.63
16-Jan-95	5.87	5.87	6.05	6.73	6.12	6.42	5.75	5.99
17-Jan-95	5.08	5.08	5.24	5.84	5.30	5.57	4.97	5.19
18-Jan-95	4.32	4.32	4.46	4.96	4.50	4.73	4.23	4.41
19-Jan-95	2.41	2.41	2.50	2.79	2.52	2.66	2.36	2.47
20-Jan-95	3.60	3.60	3.72	4.15	3.76	3.95	3.52	3.68
21-Jan-95	3.67	3.67	3.79	4.22	3.83	4.02	3.59	3.75
22-Jan-95	3.39	3.39	3.50	3.90	3.54	3.72	3.32	3.46
23-Jan-95	4.31	4.31	4.45	4.94	4.49	4.72	4.22	4.40
24-Jan-95	4.84	4.84	4.99	5.55	5.04	5.29	4.73	4.94
25-Jan-95	4.55	4.55	4.69	5.22	4.74	4.98	4.45	4.64
26-Jan-95	4.86	4.86	5.01	5.56	5.06	5.31	4.75	4.96
27-Jan-95	4.18	4.18	4.32	4.80	4.36	4.58	4.09	4.27
28-Jan-95	6.39	6.39	6.59	7.32	6.66	6.99	6.26	6.52
29-Jan-95	7.06	7.06	7.28	8.07	7.35	7.71	6.91	7.20
30-Jan-95	6.53	6.53	6.72	7.42	6.78	7.10	6.40	6.66
31-Jan-95	4.74	4.74	4.88	5.39	4.92	5.16	4.64	4.83
1-Feb-95	5.29	5.29	5.45	6.04	5.51	5.77	5.18	5.40
2-Feb-95	7.31	7.31	7.51	8.28	7.58	7.93	7.17	7.44
3-Feb-95	5.46	5.46	5.61	6.15	5.66	5.90	5.36	5.56
4-Feb-95	2.96	2.96	3.05	3.38	3.08	3.23	2.90	3.02
5-Feb-95	4.40	4.40	4.52	4.94	4.56	4.75	4.33	4.48
6-Feb-95	4.88	4.88	5.02	5.54	5.07	5.30	4.79	4.97
7-Feb-95	6.01	6.01	6.19	6.86	6.25	6.56	5.88	6.13
8-Feb-95	5.36	5.36	5.53	6.15	5.59	5.87	5.25	5.47
9-Feb-95	4.68	4.68	4.83	5.36	4.88	5.12	4.58	4.78
10-Feb-95	5.15	5.15	5.32	5.91	5.37	5.64	5.04	5.26
11-Feb-95	6.02	6.02	6.22	6.92	6.28	6.60	5.90	6.15
12-Feb-95	4.92	4.92	5.07	5.63	5.12	5.37	4.82	5.02
13-Feb-95	4.69	4.69	4.84	5.41	4.89	5.15	4.58	4.79
14-Feb-95	4.62	4.62	4.77	5.32	4.82	5.07	4.52	4.72
15-Feb-95	4.73	4.73	4.88	5.45	4.93	5.19	4.62	4.83
16-Feb-95	5.09	5.09	5.25	5.85	5.31	5.58	4.98	5.20
17-Feb-95	4.83	4.83	4.99	5.55	5.04	5.29	4.73	4.93
18-Feb-95	5.11	5.11	5.28	5.88	5.33	5.61	5.00	5.22
19-Feb-95	5.75	5.75	5.94	6.62	6.00	6.31	5.62	5.87
20-Feb-95	4.82	4.82	4.98	5.54	5.03	5.29	4.72	4.93
21-Feb-95	3.15	3.15	3.25	3.62	3.28	3.45	3.08	3.21
22-Feb-95	3.41	3.41	3.53	3.95	3.56	3.76	3.33	3.49
23-Feb-95	5.33	5.33	5.51	6.15	5.57	5.86	5.22	5.45
24-Feb-95	3.92	3.92	4.05	4.54	4.10	4.32	3.84	4.01
25-Feb-95	2.68	2.68	2.77	3.09	2.80	2.94	2.62	2.74
26-Feb-95	4.10	4.10	4.23	4.73	4.28	4.51	4.00	4.19
27-Feb-95	5.82	5.82	6.00	6.69	6.07	6.38	5.69	5.94
28-Feb-95	5.14	5.14	5.30	5.91	5.36	5.63	5.03	5.25
1-Mar-95	3.75	3.75	3.87	4.30	3.91	4.10	3.67	3.83
2-Mar-95	5.99	5.99	6.18	6.87	6.24	6.56	5.86	6.12
3-Mar-95	4.08	4.08	4.21	4.65	4.25	4.45	4.00	4.17
4-Mar-95	4.62	4.62	4.77	5.32	4.82	5.07	4.51	4.72
5-Mar-95	3.03	3.03	3.13	3.49	3.16	3.33	2.97	3.10
6-Mar-95	5.02	5.02	5.17	5.75	5.23	5.49	4.91	5.12
7-Mar-95	5.79	5.79	5.98	6.65	6.04	6.34	5.67	5.92
8-Mar-95	6.05	6.05	6.25	6.96	6.31	6.63	5.92	6.18
9-Mar-95	6.45	6.45	6.65	7.40	6.72	7.06	6.31	6.58
10-Mar-95	6.85	6.85	7.06	7.84	7.14	7.49	6.71	6.99
11-Mar-95	5.42	5.42	5.59	6.20	5.64	5.92	5.30	5.53
12-Mar-95	3.38	3.38	3.49	3.88	3.52	3.70	3.31	3.45
13-Mar-95	5.09	5.09	5.26	5.86	5.31	5.59	4.98	5.20
14-Mar-95	6.14	6.14	6.33	7.03	6.39	6.71	6.01	6.27
15-Mar-95	5.92	5.92	6.11	6.80	6.17	6.49	5.80	6.05
16-Mar-95	5.83	5.83	6.02	6.70	6.08	6.39	5.71	5.96

Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
17-Mar-95	3.87	3.87	4.00	4.47	4.04	4.26	3.79	3.96
18-Mar-95	3.89	3.89	4.02	4.50	4.07	4.28	3.81	3.98
19-Mar-95	6.09	6.09	6.29	6.99	6.35	6.67	5.96	6.22
20-Mar-95	5.44	5.44	5.62	6.28	5.68	5.98	5.32	5.56
21-Mar-95	5.31	5.31	5.48	6.11	5.54	5.82	5.19	5.42
22-Mar-95	6.65	6.65	6.86	7.62	6.93	7.27	6.51	6.79
23-Mar-95	6.18	6.18	6.37	7.05	6.43	6.74	6.06	6.30
24-Mar-95	6.42	6.42	6.61	7.33	6.68	7.01	6.29	6.55
25-Mar-95	2.93	2.93	3.02	3.38	3.05	3.21	2.86	2.99
26-Mar-95	5.92	5.92	6.11	6.81	6.17	6.49	5.79	6.05
27-Mar-95	5.43	5.43	5.59	6.21	5.65	5.93	5.31	5.54
28-Mar-95	6.30	6.30	6.49	7.20	6.56	6.88	6.17	6.43
29-Mar-95	5.12	5.12	5.29	5.88	5.34	5.61	5.02	5.23
30-Mar-95	6.47	6.47	6.66	7.38	6.73	7.05	6.34	6.60
31-Mar-95	6.61	6.61	6.81	7.55	6.88	7.21	6.48	6.75
1-Apr-95	6.23	6.23	6.42	7.12	6.49	6.81	6.10	6.36
2-Apr-95	5.24	5.24	5.40	6.00	5.46	5.73	5.13	5.35
3-Apr-95	6.55	6.55	6.75	7.50	6.82	7.16	6.41	6.68
4-Apr-95	6.48	6.48	6.68	7.40	6.74	7.07	6.35	6.61
5-Apr-95	5.34	5.34	5.51	6.14	5.57	5.85	5.23	5.46
6-Apr-95	4.34	4.34	4.48	5.01	4.53	4.77	4.24	4.43
7-Apr-95	5.93	5.93	6.13	6.83	6.19	6.51	5.80	6.06
8-Apr-95	4.66	4.66	4.80	5.35	4.85	5.10	4.56	4.75
9-Apr-95	5.39	5.39	5.56	6.19	5.62	5.91	5.28	5.51
10-Apr-95	4.51	4.51	4.65	5.16	4.69	4.93	4.41	4.60
11-Apr-95	4.65	4.65	4.80	5.35	4.85	5.10	4.55	4.75
12-Apr-95	3.53	3.53	3.65	4.06	3.68	3.87	3.46	3.61
13-Apr-95	5.62	5.62	5.79	6.43	5.85	6.14	5.50	5.73
14-Apr-95	4.87	4.87	5.03	5.60	5.08	5.34	4.76	4.97
15-Apr-95	5.75	5.75	5.94	6.61	6.00	6.30	5.63	5.88
16-Apr-95	5.43	5.43	5.60	6.24	5.66	5.95	5.32	5.55
17-Apr-95	4.31	4.31	4.45	4.94	4.49	4.72	4.22	4.40
18-Apr-95	4.90	4.90	5.06	5.64	5.11	5.38	4.80	5.01
19-Apr-95	3.81	3.81	3.93	4.37	3.97	4.17	3.73	3.89
20-Apr-95	4.45	4.45	4.59	5.13	4.64	4.88	4.35	4.54
21-Apr-95	4.16	4.16	4.29	4.76	4.33	4.54	4.07	4.24
22-Apr-95	5.41	5.41	5.59	6.22	5.65	5.94	5.30	5.53
23-Apr-95	5.30	5.30	5.47	6.10	5.53	5.82	5.19	5.42
24-Apr-95	4.41	4.41	4.56	5.07	4.60	4.84	4.32	4.51
25-Apr-95	3.82	3.82	3.95	4.42	3.99	4.20	3.74	3.91
26-Apr-95	4.43	4.43	4.58	5.10	4.62	4.86	4.34	4.53
27-Apr-95	5.32	5.32	5.49	6.11	5.55	5.83	5.21	5.44
28-Apr-95	5.53	5.53	5.70	6.31	5.75	6.03	5.42	5.64
29-Apr-95	5.45	5.45	5.63	6.27	5.68	5.98	5.33	5.57
30-Apr-95	3.71	3.71	3.83	4.28	3.87	4.08	3.63	3.79
1-May-95	3.76	3.76	3.88	4.33	3.92	4.12	3.68	3.84
2-May-95	3.69	3.69	3.81	4.25	3.85	4.05	3.61	3.77
3-May-95	3.83	3.83	3.95	4.40	3.99	4.20	3.75	3.91
4-May-95	4.08	4.08	4.22	4.71	4.26	4.49	3.99	4.17
5-May-95	5.63	5.63	5.81	6.47	5.87	6.17	5.51	5.75
6-May-95	6.13	6.13	6.32	7.03	6.39	6.71	6.00	6.26
7-May-95	5.39	5.39	5.57	6.19	5.62	5.91	5.28	5.51
8-May-95	4.00	4.00	4.13	4.62	4.18	4.40	3.91	4.09
9-May-95	3.91	3.91	4.04	4.52	4.08	4.30	3.82	4.00
10-May-95	3.26	3.26	3.37	3.76	3.40	3.58	3.19	3.33
11-May-95	4.68	4.68	4.83	5.38	4.88	5.13	4.58	4.78
12-May-95	4.53	4.53	4.67	5.19	4.72	4.95	4.43	4.62
13-May-95	6.90	6.90	7.11	7.88	7.18	7.53	6.76	7.04
14-May-95	6.32	6.32	6.51	7.19	6.57	6.88	6.20	6.45
15-May-95	7.09	7.09	7.30	8.09	7.37	7.73	6.94	7.23
16-May-95	5.00	5.00	5.16	5.74	5.21	5.48	4.90	5.11
17-May-95	5.30	5.30	5.47	6.07	5.52	5.80	5.20	5.41
18-May-95	6.03	6.03	6.21	6.86	6.27	6.56	5.91	6.15
19-May-95	5.83	5.83	6.00	6.65	6.06	6.36	5.71	5.94
20-May-95	5.60	5.60	5.78	6.41	5.83	6.12	5.49	5.72
21-May-95	5.96	5.96	6.14	6.80	6.20	6.50	5.84	6.08
22-May-95	3.87	3.87	4.00	4.44	4.04	4.24	3.79	3.96
23-May-95	4.33	4.33	4.47	4.98	4.52	4.75	4.24	4.43
24-May-95	4.89	4.89	5.05	5.62	5.10	5.36	4.79	5.00
25-May-95	6.01	6.01	6.20	6.88	6.26	6.57	5.89	6.14
26-May-95	4.22	4.22	4.35	4.82	4.39	4.61	4.13	4.30
27-May-95	3.47	3.47	3.58	3.96	3.61	3.79	3.40	3.54
28-May-95	4.84	4.84	4.99	5.56	5.04	5.30	4.74	4.94
29-May-95	4.37	4.37	4.51	5.00	4.55	4.78	4.28	4.46
30-May-95	4.82	4.82	4.97	5.54	5.02	5.28	4.71	4.92

Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
31-May-95	4.93	4.93	5.09	5.66	5.14	5.40	4.83	5.04
1-Jun-95	4.21	4.21	4.34	4.82	4.38	4.60	4.12	4.29
2-Jun-95	4.61	4.61	4.75	5.27	4.80	5.03	4.51	4.70
3-Jun-95	4.08	4.08	4.21	4.70	4.26	4.48	3.99	4.17
4-Jun-95	4.27	4.27	4.41	4.91	4.46	4.68	4.18	4.36
5-Jun-95	5.61	5.61	5.78	6.41	5.84	6.12	5.50	5.73
6-Jun-95	4.99	4.99	5.15	5.71	5.20	5.46	4.89	5.09
7-Jun-95	5.12	5.12	5.27	5.83	5.33	5.58	5.02	5.22
8-Jun-95	5.50	5.50	5.67	6.29	5.73	6.01	5.39	5.62
9-Jun-95	3.73	3.73	3.84	4.27	3.88	4.08	3.65	3.81
10-Jun-95	5.13	5.13	5.29	5.86	5.34	5.60	5.03	5.24
11-Jun-95	5.42	5.42	5.59	6.19	5.64	5.92	5.31	5.53
12-Jun-95	4.98	4.98	5.14	5.70	5.19	5.44	4.88	5.08
13-Jun-95	5.39	5.39	5.56	6.17	5.61	5.89	5.28	5.50
14-Jun-95	4.94	4.94	5.09	5.66	5.14	5.40	4.83	5.04
15-Jun-95	6.09	6.09	6.27	6.96	6.34	6.65	5.96	6.21
16-Jun-95	5.71	5.71	5.88	6.53	5.94	6.24	5.59	5.83
17-Jun-95	4.87	4.87	5.02	5.58	5.07	5.32	4.77	4.97
18-Jun-95	3.67	3.67	3.79	4.20	3.82	4.01	3.60	3.75
19-Jun-95	5.53	5.53	5.69	6.29	5.75	6.02	5.42	5.64
20-Jun-95	3.89	3.89	4.00	4.43	4.04	4.23	3.81	3.96
21-Jun-95	5.85	5.85	6.03	6.69	6.09	6.39	5.73	5.97
22-Jun-95	4.88	4.88	5.03	5.57	5.08	5.32	4.78	4.98
23-Jun-95	3.77	3.77	3.89	4.32	3.93	4.13	3.69	3.85
24-Jun-95	2.99	2.99	3.09	3.44	3.12	3.28	2.93	3.05
25-Jun-95	4.08	4.08	4.21	4.69	4.25	4.47	3.99	4.17
26-Jun-95	4.78	4.78	4.93	5.48	4.98	5.23	4.68	4.88
27-Jun-95	4.41	4.41	4.55	5.07	4.60	4.84	4.31	4.50
28-Jun-95	3.18	3.18	3.28	3.65	3.31	3.48	3.11	3.24
29-Jun-95	6.55	6.55	6.75	7.49	6.82	7.16	6.42	6.68
30-Jun-95	4.58	4.58	4.72	5.24	4.77	5.00	4.49	4.67
1-Jul-95	3.03	3.03	3.13	3.51	3.17	3.34	2.96	3.10
2-Jul-95	4.08	4.08	4.21	4.70	4.26	4.48	4.00	4.17
3-Jul-95	6.17	6.17	6.36	7.05	6.42	6.74	6.05	6.30
4-Jul-95	4.50	4.50	4.64	5.13	4.68	4.90	4.41	4.59
5-Jul-95	3.23	3.23	3.33	3.66	3.36	3.51	3.17	3.29
6-Jul-95	3.93	3.93	4.04	4.48	4.08	4.28	3.85	4.00
7-Jul-95	5.94	5.94	6.12	6.78	6.18	6.48	5.82	6.06
8-Jul-95	5.73	5.73	5.90	6.50	5.95	6.22	5.62	5.84
9-Jul-95	4.42	4.42	4.55	5.02	4.59	4.80	4.34	4.51
10-Jul-95	3.02	3.02	3.10	3.42	3.13	3.28	2.96	3.08
11-Jul-95	5.60	5.60	5.76	6.34	5.81	6.08	5.49	5.70
12-Jul-95	7.01	7.01	7.21	7.95	7.28	7.61	6.87	7.14
13-Jul-95	5.17	5.17	5.31	5.85	5.36	5.60	5.07	5.26
14-Jul-95	5.84	5.84	6.01	6.66	6.07	6.36	5.72	5.95
15-Jul-95	5.95	5.95	6.13	6.80	6.19	6.50	5.83	6.07
16-Jul-95	6.37	6.37	6.57	7.29	6.64	6.96	6.24	6.51
17-Jul-95	6.16	6.16	6.34	7.01	6.40	6.70	6.04	6.28
18-Jul-95	2.61	2.61	2.70	3.00	2.72	2.86	2.56	2.67
19-Jul-95	6.43	6.43	6.63	7.37	6.70	7.03	6.30	6.57
20-Jul-95	4.98	4.98	5.13	5.69	5.18	5.44	4.88	5.08
21-Jul-95	5.94	5.94	6.11	6.76	6.17	6.47	5.82	6.05
22-Jul-95	6.92	6.92	7.13	7.88	7.20	7.54	6.79	7.06
23-Jul-95	5.80	5.80	5.98	6.64	6.04	6.34	5.68	5.92
24-Jul-95	5.30	5.30	5.47	6.07	5.52	5.79	5.20	5.41
25-Jul-95	5.61	5.61	5.79	6.43	5.85	6.14	5.50	5.73
26-Jul-95	6.55	6.55	6.75	7.47	6.81	7.14	6.42	6.68
27-Jul-95	5.16	5.16	5.31	5.88	5.37	5.62	5.06	5.26
28-Jul-95	5.97	5.97	6.16	6.83	6.22	6.52	5.85	6.10
29-Jul-95	4.20	4.20	4.33	4.82	4.38	4.60	4.11	4.29
30-Jul-95	4.32	4.32	4.45	4.95	4.50	4.72	4.23	4.41
31-Jul-95	4.47	4.47	4.60	5.10	4.65	4.87	4.38	4.56
1-Aug-95	3.47	3.47	3.57	3.94	3.60	3.77	3.40	3.53
2-Aug-95	3.07	3.07	3.17	3.53	3.20	3.36	3.01	3.14
3-Aug-95	3.59	3.59	3.71	4.13	3.75	3.94	3.52	3.67
4-Aug-95	3.20	3.20	3.30	3.67	3.33	3.50	3.13	3.26
5-Aug-95	4.97	4.97	5.13	5.72	5.19	5.45	4.87	5.08
6-Aug-95	2.83	2.83	2.92	3.26	2.95	3.10	2.77	2.89
7-Aug-95	4.68	4.68	4.83	5.37	4.88	5.13	4.58	4.78
8-Aug-95	3.23	3.23	3.33	3.71	3.37	3.54	3.16	3.30
9-Aug-95	4.99	4.99	5.16	5.76	5.21	5.49	4.88	5.10
10-Aug-95	5.24	5.24	5.40	6.02	5.46	5.74	5.12	5.35
11-Aug-95	4.34	4.34	4.49	5.02	4.54	4.78	4.25	4.44
12-Aug-95	3.84	3.84	3.97	4.43	4.01	4.22	3.76	3.93
13-Aug-95	5.04	5.04	5.20	5.80	5.26	5.53	4.93	5.15

Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
14-Aug-95	4.55	4.55	4.70	5.25	4.75	5.00	4.45	4.65
15-Aug-95	3.63	3.63	3.75	4.19	3.79	3.99	3.55	3.71
16-Aug-95	5.03	5.03	5.19	5.77	5.24	5.51	4.92	5.13
17-Aug-95	3.92	3.92	4.05	4.51	4.09	4.30	3.83	4.00
18-Aug-95	4.97	4.97	5.13	5.72	5.19	5.45	4.86	5.08
19-Aug-95	3.50	3.50	3.61	4.03	3.65	3.84	3.42	3.57
20-Aug-95	7.13	7.13	7.35	8.16	7.42	7.79	6.98	7.27
21-Aug-95	3.29	3.29	3.39	3.75	3.42	3.58	3.22	3.35
22-Aug-95	5.48	5.48	5.64	6.25	5.70	5.98	5.37	5.59
23-Aug-95	5.37	5.37	5.53	6.12	5.58	5.85	5.26	5.47
24-Aug-95	3.85	3.85	3.97	4.42	4.02	4.22	3.77	3.93
25-Aug-95	5.30	5.30	5.47	6.08	5.52	5.80	5.19	5.41
26-Aug-95	5.67	5.67	5.84	6.45	5.89	6.17	5.56	5.78
27-Aug-95	4.53	4.53	4.67	5.20	4.72	4.96	4.44	4.63
28-Aug-95	6.20	6.20	6.38	7.07	6.45	6.76	6.07	6.32
29-Aug-95	3.43	3.43	3.53	3.90	3.57	3.73	3.37	3.50
30-Aug-95	6.58	6.58	6.78	7.51	6.84	7.18	6.44	6.71
31-Aug-95	5.17	5.17	5.33	5.92	5.38	5.65	5.06	5.27
1-Sep-95	4.40	4.40	4.54	5.03	4.58	4.81	4.31	4.49
2-Sep-95	4.68	4.68	4.82	5.36	4.87	5.11	4.58	4.78
3-Sep-95	4.21	4.21	4.34	4.82	4.38	4.60	4.12	4.30
4-Sep-95	6.19	6.19	6.38	7.08	6.45	6.76	6.06	6.32
5-Sep-95	5.68	5.68	5.85	6.49	5.91	6.20	5.56	5.79
6-Sep-95	5.32	5.32	5.48	6.07	5.53	5.80	5.21	5.43
7-Sep-95	5.27	5.27	5.44	6.04	5.49	5.77	5.16	5.38
8-Sep-95	2.82	2.82	2.91	3.23	2.94	3.08	2.76	2.88
9-Sep-95	5.68	5.68	5.86	6.51	5.92	6.21	5.56	5.80
10-Sep-95	4.77	4.77	4.91	5.44	4.96	5.20	4.67	4.86
11-Sep-95	4.57	4.57	4.71	5.23	4.76	4.99	4.47	4.66
12-Sep-95	3.66	3.66	3.77	4.18	3.81	3.99	3.58	3.73
13-Sep-95	6.14	6.14	6.33	7.02	6.39	6.71	6.01	6.27
14-Sep-95	5.01	5.01	5.17	5.74	5.22	5.48	4.91	5.12
15-Sep-95	4.25	4.25	4.39	4.89	4.43	4.66	4.16	4.34
16-Sep-95	3.03	3.03	3.13	3.49	3.16	3.33	2.97	3.10
17-Sep-95	3.00	3.00	3.09	3.44	3.13	3.28	2.94	3.06
18-Sep-95	3.03	3.03	3.12	3.45	3.15	3.30	2.98	3.09
19-Sep-95	6.19	6.19	6.38	7.09	6.45	6.77	6.06	6.32
20-Sep-95	5.21	5.21	5.37	5.95	5.42	5.69	5.10	5.32
21-Sep-95	4.25	4.25	4.38	4.88	4.43	4.65	4.16	4.34
22-Sep-95	3.00	3.00	3.10	3.46	3.13	3.30	2.93	3.06
23-Sep-95	5.89	5.89	6.08	6.76	6.14	6.45	5.77	6.02
24-Sep-95	5.62	5.62	5.78	6.40	5.84	6.12	5.51	5.73
25-Sep-95	3.13	3.13	3.23	3.60	3.27	3.43	3.06	3.20
26-Sep-95	4.85	4.85	5.01	5.57	5.06	5.32	4.75	4.96
27-Sep-95	4.16	4.16	4.29	4.79	4.34	4.56	4.07	4.25
28-Sep-95	5.25	5.25	5.41	6.00	5.46	5.73	5.14	5.35
29-Sep-95	5.25	5.25	5.42	6.02	5.47	5.74	5.14	5.36
30-Sep-95	7.22	7.22	7.44	8.25	7.51	7.88	7.07	7.37
1-Oct-95	7.23	7.23	7.46	8.28	7.53	7.90	7.08	7.38
2-Oct-95	6.69	6.69	6.88	7.60	6.95	7.28	6.55	6.82
3-Oct-95	4.60	4.60	4.74	5.24	4.78	5.01	4.51	4.69
4-Oct-95	6.11	6.11	6.29	6.94	6.35	6.64	5.99	6.23
5-Oct-95	5.10	5.10	5.25	5.79	5.30	5.55	5.00	5.20
6-Oct-95	7.54	7.54	7.76	8.56	7.83	8.19	7.39	7.68
7-Oct-95	5.96	5.96	6.13	6.76	6.19	6.48	5.85	6.08
8-Oct-95	5.26	5.26	5.42	6.01	5.47	5.74	5.15	5.37
9-Oct-95	4.79	4.79	4.94	5.49	4.99	5.24	4.69	4.89
10-Oct-95	6.42	6.42	6.61	7.33	6.68	7.00	6.29	6.55
11-Oct-95	4.85	4.85	5.00	5.56	5.05	5.31	4.75	4.95
12-Oct-95	6.75	6.75	6.95	7.70	7.02	7.36	6.61	6.88
13-Oct-95	6.10	6.10	6.29	6.98	6.35	6.66	5.97	6.22
14-Oct-95	6.51	6.51	6.70	7.42	6.77	7.10	6.37	6.64
15-Oct-95	5.29	5.29	5.45	6.06	5.51	5.78	5.18	5.40
16-Oct-95	5.23	5.23	5.39	5.97	5.44	5.70	5.12	5.33
17-Oct-95	5.75	5.75	5.93	6.61	5.99	6.30	5.63	5.87
18-Oct-95	5.56	5.56	5.73	6.37	5.79	6.08	5.44	5.67
19-Oct-95	3.58	3.58	3.69	4.09	3.73	3.91	3.51	3.65
20-Oct-95	6.59	6.59	6.79	7.55	6.86	7.21	6.45	6.73
21-Oct-95	4.81	4.81	4.96	5.51	5.01	5.26	4.71	4.91
22-Oct-95	5.26	5.26	5.43	6.05	5.49	5.77	5.15	5.38
23-Oct-95	4.81	4.81	4.97	5.55	5.02	5.28	4.71	4.92
24-Oct-95	5.79	5.79	5.98	6.65	6.04	6.34	5.67	5.92
25-Oct-95	4.19	4.19	4.31	4.78	4.36	4.57	4.10	4.27
26-Oct-95	7.10	7.10	7.31	8.09	7.38	7.73	6.95	7.24
27-Oct-95	5.10	5.10	5.26	5.81	5.31	5.56	5.00	5.21

Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
28-Oct-95	3.14	3.14	3.24	3.60	3.27	3.43	3.07	3.20
29-Oct-95	4.79	4.79	4.95	5.51	5.00	5.25	4.69	4.89
30-Oct-95	4.94	4.94	5.09	5.64	5.14	5.39	4.84	5.04
31-Oct-95	6.38	6.38	6.57	7.28	6.64	6.96	6.25	6.51
1-Nov-95	3.55	3.55	3.66	4.06	3.70	3.88	3.48	3.62
2-Nov-95	4.26	4.26	4.39	4.88	4.44	4.66	4.17	4.35
3-Nov-95	4.33	4.33	4.47	4.98	4.52	4.75	4.24	4.43
4-Nov-95	3.61	3.61	3.71	4.10	3.75	3.93	3.54	3.68
5-Nov-95	5.48	5.48	5.65	6.27	5.70	5.99	5.36	5.59
6-Nov-95	4.00	4.00	4.12	4.56	4.16	4.36	3.92	4.08
7-Nov-95	5.73	5.73	5.91	6.55	5.97	6.26	5.61	5.85
8-Nov-95	4.90	4.90	5.06	5.63	5.11	5.37	4.80	5.00
9-Nov-95	3.96	3.96	4.09	4.58	4.14	4.36	3.87	4.05
10-Nov-95	4.72	4.72	4.87	5.44	4.92	5.18	4.61	4.82
11-Nov-95	2.48	2.48	2.56	2.87	2.59	2.73	2.42	2.53
12-Nov-95	4.92	4.92	5.07	5.62	5.12	5.37	4.82	5.02
13-Nov-95	4.46	4.46	4.59	5.09	4.64	4.86	4.37	4.55
14-Nov-95	4.64	4.64	4.78	5.31	4.83	5.07	4.54	4.74
15-Nov-95	3.51	3.51	3.63	4.05	3.67	3.86	3.44	3.59
16-Nov-95	3.52	3.52	3.63	4.05	3.67	3.86	3.44	3.59
17-Nov-95	2.40	2.40	2.48	2.78	2.51	2.65	2.34	2.45
18-Nov-95	4.38	4.38	4.52	5.03	4.57	4.80	4.29	4.48
19-Nov-95	2.56	2.56	2.64	2.95	2.67	2.81	2.50	2.61
20-Nov-95	5.51	5.51	5.67	6.26	5.73	5.99	5.41	5.62
21-Nov-95	5.53	5.53	5.69	6.27	5.74	6.01	5.43	5.64
22-Nov-95	3.46	3.46	3.57	3.95	3.60	3.78	3.39	3.53
23-Nov-95	7.18	7.18	7.39	8.16	7.46	7.81	7.04	7.32
24-Nov-95	2.73	2.73	2.82	3.15	2.85	3.00	2.67	2.79
25-Nov-95	4.35	4.35	4.48	4.98	4.53	4.75	4.26	4.44
26-Nov-95	2.98	2.98	3.07	3.42	3.10	3.26	2.91	3.04
27-Nov-95	3.41	3.41	3.51	3.88	3.54	3.71	3.34	3.48
28-Nov-95	6.58	6.58	6.77	7.49	6.84	7.16	6.45	6.71
29-Nov-95	3.65	3.65	3.76	4.17	3.80	3.98	3.57	3.72
30-Nov-95	5.56	5.56	5.73	6.34	5.78	6.06	5.45	5.67
1-Dec-95	5.20	5.20	5.36	5.93	5.41	5.67	5.10	5.31
2-Dec-95	5.10	5.10	5.25	5.80	5.30	5.55	5.00	5.20
3-Dec-95	4.18	4.18	4.32	4.81	4.36	4.59	4.09	4.27
4-Dec-95	2.28	2.28	2.36	2.65	2.39	2.52	2.23	2.33
5-Dec-95	3.00	3.00	3.10	3.47	3.13	3.30	2.93	3.07
6-Dec-95	3.27	3.27	3.37	3.74	3.40	3.57	3.20	3.34
7-Dec-95	3.61	3.61	3.73	4.14	3.76	3.95	3.54	3.69
8-Dec-95	4.27	4.27	4.41	4.91	4.46	4.68	4.18	4.36
9-Dec-95	2.73	2.73	2.82	3.15	2.85	3.00	2.67	2.79
10-Dec-95	3.44	3.44	3.55	3.97	3.59	3.78	3.37	3.52
11-Dec-95	5.65	5.65	5.83	6.48	5.89	6.18	5.53	5.77
12-Dec-95	6.56	6.56	6.76	7.50	6.83	7.16	6.43	6.69
13-Dec-95	5.99	5.99	6.17	6.82	6.23	6.53	5.87	6.11
14-Dec-95	5.42	5.42	5.58	6.19	5.64	5.91	5.31	5.53
15-Dec-95	3.34	3.34	3.44	3.82	3.48	3.65	3.27	3.41
16-Dec-95	4.80	4.80	4.95	5.51	5.00	5.25	4.70	4.90
17-Dec-95	4.76	4.76	4.91	5.45	4.96	5.21	4.66	4.86
18-Dec-95	3.64	3.64	3.76	4.21	3.80	4.00	3.56	3.72
19-Dec-95	2.99	2.99	3.09	3.43	3.12	3.28	2.93	3.05
20-Dec-95	4.18	4.18	4.31	4.80	4.36	4.58	4.09	4.27
21-Dec-95	3.56	3.56	3.68	4.11	3.72	3.92	3.48	3.64
22-Dec-95	2.70	2.70	2.79	3.14	2.82	2.98	2.64	2.76
23-Dec-95	2.34	2.34	2.42	2.71	2.44	2.57	2.28	2.39
24-Dec-95	3.37	3.37	3.48	3.89	3.52	3.70	3.30	3.45
25-Dec-95	3.84	3.84	3.96	4.43	4.00	4.22	3.75	3.92
26-Dec-95	3.92	3.92	4.05	4.52	4.09	4.31	3.84	4.01
27-Dec-95	2.77	2.77	2.86	3.19	2.89	3.04	2.71	2.83
28-Dec-95	2.54	2.54	2.62	2.92	2.65	2.78	2.48	2.59
29-Dec-95	4.65	4.65	4.79	5.31	4.84	5.07	4.55	4.74
30-Dec-95	3.94	3.94	4.06	4.51	4.10	4.30	3.86	4.02
31-Dec-95	4.40	4.40	4.54	5.04	4.58	4.81	4.31	4.49
1-Jan-96	3.79	3.79	3.90	4.34	3.94	4.14	3.71	3.87
2-Jan-96	4.99	4.99	5.14	5.72	5.19	5.45	4.88	5.09
3-Jan-96	3.85	3.85	3.97	4.41	4.01	4.21	3.77	3.93
4-Jan-96	3.79	3.79	3.91	4.34	3.95	4.15	3.72	3.87
5-Jan-96	3.64	3.64	3.75	4.17	3.79	3.98	3.56	3.71
6-Jan-96	3.55	3.55	3.66	4.08	3.70	3.89	3.47	3.62
7-Jan-96	3.73	3.73	3.85	4.28	3.89	4.09	3.66	3.81
8-Jan-96	4.68	4.68	4.83	5.36	4.88	5.12	4.59	4.78
9-Jan-96	4.35	4.35	4.48	4.96	4.53	4.75	4.26	4.44
10-Jan-96	3.02	3.02	3.12	3.48	3.15	3.31	2.95	3.08

Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
11-Jan-96	3.51	3.51	3.63	4.05	3.66	3.86	3.43	3.59
12-Jan-96	3.65	3.65	3.77	4.18	3.80	3.99	3.58	3.73
13-Jan-96	6.40	6.40	6.60	7.32	6.67	7.00	6.27	6.54
14-Jan-96	6.66	6.66	6.86	7.60	6.93	7.26	6.53	6.80
15-Jan-96	6.52	6.52	6.73	7.48	6.80	7.14	6.39	6.66
16-Jan-96	6.40	6.40	6.60	7.30	6.66	6.98	6.28	6.53
17-Jan-96	5.95	5.95	6.14	6.81	6.20	6.51	5.83	6.07
18-Jan-96	5.81	5.81	5.99	6.66	6.05	6.35	5.69	5.93
19-Jan-96	5.63	5.63	5.80	6.42	5.86	6.14	5.52	5.74
20-Jan-96	4.86	4.86	5.00	5.55	5.05	5.30	4.76	4.95
21-Jan-96	3.08	3.08	3.18	3.55	3.21	3.38	3.01	3.14
22-Jan-96	2.76	2.76	2.85	3.17	2.88	3.03	2.71	2.82
23-Jan-96	4.79	4.79	4.95	5.52	5.00	5.26	4.68	4.89
24-Jan-96	5.04	5.04	5.20	5.78	5.25	5.52	4.93	5.14
25-Jan-96	4.22	4.22	4.36	4.85	4.40	4.62	4.14	4.31
26-Jan-96	3.51	3.51	3.62	4.02	3.66	3.84	3.44	3.58
27-Jan-96	4.30	4.30	4.44	4.95	4.48	4.71	4.20	4.39
28-Jan-96	3.07	3.07	3.17	3.54	3.21	3.37	3.01	3.14
29-Jan-96	2.74	2.74	2.83	3.16	2.86	3.01	2.68	2.80
30-Jan-96	3.11	3.11	3.22	3.59	3.25	3.42	3.05	3.18
31-Jan-96	4.89	4.89	5.05	5.62	5.10	5.36	4.79	5.00
1-Feb-96	2.73	2.73	2.82	3.13	2.85	2.99	2.68	2.79
2-Feb-96	2.76	2.76	2.85	3.16	2.88	3.02	2.70	2.82
3-Feb-96	6.87	6.87	7.06	7.78	7.13	7.45	6.74	7.00
4-Feb-96	4.80	4.80	4.94	5.48	4.99	5.23	4.70	4.89
5-Feb-96	3.91	3.91	4.03	4.48	4.07	4.27	3.83	3.99
6-Feb-96	5.50	5.50	5.66	6.24	5.71	5.98	5.39	5.60
7-Feb-96	6.15	6.15	6.34	7.04	6.41	6.72	6.02	6.28
8-Feb-96	5.13	5.13	5.28	5.83	5.33	5.58	5.03	5.23
9-Feb-96	5.65	5.65	5.82	6.43	5.87	6.15	5.54	5.76
10-Feb-96	6.27	6.27	6.43	7.01	6.49	6.75	6.17	6.38
11-Feb-96	6.61	6.61	6.81	7.54	6.88	7.21	6.48	6.74
12-Feb-96	3.62	3.62	3.73	4.10	3.76	3.93	3.55	3.69
13-Feb-96	5.12	5.12	5.28	5.90	5.34	5.62	5.01	5.23
14-Feb-96	4.26	4.26	4.40	4.92	4.45	4.68	4.16	4.35
15-Feb-96	5.39	5.39	5.55	6.14	5.60	5.87	5.28	5.49
16-Feb-96	6.24	6.24	6.43	7.13	6.49	6.81	6.11	6.37
17-Feb-96	4.47	4.47	4.62	5.15	4.67	4.91	4.38	4.57
18-Feb-96	6.21	6.21	6.41	7.14	6.48	6.81	6.08	6.35
19-Feb-96	6.41	6.41	6.61	7.34	6.68	7.01	6.28	6.55
20-Feb-96	7.09	7.09	7.31	8.10	7.38	7.74	6.95	7.24
21-Feb-96	5.32	5.32	5.47	6.03	5.52	5.78	5.22	5.42
22-Feb-96	6.81	6.81	7.01	7.75	7.08	7.42	6.68	6.95
23-Feb-96	6.20	6.20	6.39	7.10	6.46	6.78	6.07	6.33
24-Feb-96	6.69	6.69	6.89	7.65	6.96	7.30	6.55	6.82
25-Feb-96	4.55	4.55	4.70	5.25	4.75	5.00	4.45	4.65
26-Feb-96	5.56	5.56	5.75	6.43	5.81	6.12	5.44	5.69
27-Feb-96	5.29	5.29	5.46	6.10	5.52	5.81	5.17	5.40
28-Feb-96	5.92	5.92	6.10	6.78	6.16	6.47	5.79	6.04
29-Feb-96	6.33	6.33	6.53	7.26	6.60	6.93	6.20	6.46
1-Mar-96	6.23	6.23	6.43	7.17	6.49	6.83	6.09	6.36
2-Mar-96	5.66	5.66	5.83	6.47	5.89	6.18	5.54	5.77
3-Mar-96	5.76	5.76	5.95	6.62	6.01	6.32	5.64	5.89
4-Mar-96	6.53	6.53	6.73	7.46	6.79	7.13	6.39	6.66
5-Mar-96	4.12	4.12	4.24	4.68	4.28	4.48	4.05	4.20
6-Mar-96	5.57	5.57	5.75	6.39	5.81	6.10	5.46	5.69
7-Mar-96	4.57	4.57	4.71	5.23	4.76	4.99	4.47	4.66
8-Mar-96	5.43	5.43	5.60	6.23	5.66	5.94	5.31	5.54
9-Mar-96	4.85	4.85	5.01	5.60	5.06	5.33	4.74	4.96
10-Mar-96	4.83	4.83	4.99	5.58	5.05	5.31	4.73	4.94
11-Mar-96	4.90	4.90	5.05	5.64	5.11	5.37	4.79	5.00
12-Mar-96	6.50	6.50	6.71	7.45	6.77	7.11	6.37	6.64
13-Mar-96	7.06	7.06	7.27	8.04	7.34	7.69	6.92	7.20
14-Mar-96	6.13	6.13	6.33	7.04	6.39	6.72	6.01	6.26
15-Mar-96	6.02	6.02	6.21	6.90	6.27	6.59	5.89	6.14
16-Mar-96	4.84	4.84	5.00	5.58	5.05	5.31	4.74	4.95
17-Mar-96	4.54	4.54	4.69	5.23	4.74	4.98	4.44	4.64
18-Mar-96	5.12	5.12	5.28	5.89	5.34	5.61	5.01	5.23
19-Mar-96	3.46	3.46	3.58	4.01	3.62	3.81	3.38	3.54
20-Mar-96	4.65	4.65	4.80	5.38	4.86	5.12	4.54	4.75
21-Mar-96	3.77	3.77	3.90	4.37	3.94	4.15	3.69	3.86
22-Mar-96	4.88	4.88	5.04	5.63	5.09	5.36	4.77	4.99
23-Mar-96	5.56	5.56	5.74	6.41	5.80	6.10	5.44	5.68
24-Mar-96	6.07	6.07	6.26	6.97	6.33	6.65	5.94	6.20
25-Mar-96	6.01	6.01	6.20	6.91	6.27	6.59	5.88	6.14

Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
26-Mar-96	6.06	6.06	6.25	6.97	6.32	6.64	5.93	6.19
27-Mar-96	5.46	5.46	5.63	6.27	5.69	5.98	5.34	5.58
28-Mar-96	5.32	5.32	5.48	6.09	5.54	5.81	5.21	5.43
29-Mar-96	4.84	4.84	5.00	5.58	5.05	5.31	4.73	4.94
30-Mar-96	5.90	5.90	6.09	6.77	6.15	6.46	5.78	6.03
31-Mar-96	6.52	6.52	6.73	7.47	6.79	7.13	6.39	6.66
1-Apr-96	2.75	2.75	2.84	3.17	2.87	3.02	2.69	2.81
2-Apr-96	4.54	4.54	4.69	5.24	4.74	4.99	4.44	4.64
3-Apr-96	4.07	4.07	4.20	4.66	4.24	4.45	3.99	4.16
4-Apr-96	3.30	3.30	3.40	3.79	3.44	3.62	3.23	3.37
5-Apr-96	3.51	3.51	3.62	4.06	3.66	3.86	3.43	3.58
6-Apr-96	5.47	5.47	5.65	6.30	5.71	6.00	5.35	5.59
7-Apr-96	6.33	6.33	6.53	7.26	6.60	6.93	6.20	6.46
8-Apr-96	5.96	5.96	6.15	6.84	6.21	6.52	5.84	6.09
9-Apr-96	4.74	4.74	4.88	5.41	4.93	5.17	4.64	4.83
10-Apr-96	3.86	3.86	3.97	4.38	4.01	4.20	3.79	3.94
11-Apr-96	5.94	5.94	6.13	6.80	6.19	6.49	5.82	6.07
12-Apr-96	5.85	5.85	6.03	6.70	6.09	6.40	5.73	5.97
13-Apr-96	6.10	6.10	6.29	6.98	6.35	6.67	5.98	6.23
14-Apr-96	6.47	6.47	6.66	7.39	6.73	7.06	6.34	6.60
15-Apr-96	5.65	5.65	5.83	6.48	5.89	6.19	5.54	5.77
16-Apr-96	4.32	4.32	4.47	4.99	4.51	4.75	4.23	4.42
17-Apr-96	3.76	3.76	3.89	4.33	3.93	4.13	3.68	3.85
18-Apr-96	5.02	5.02	5.18	5.78	5.24	5.51	4.91	5.13
19-Apr-96	4.02	4.02	4.16	4.65	4.20	4.42	3.93	4.11
20-Apr-96	6.02	6.02	6.21	6.91	6.27	6.59	5.89	6.14
21-Apr-96	4.41	4.41	4.55	5.08	4.60	4.84	4.32	4.51
22-Apr-96	5.73	5.73	5.90	6.56	5.96	6.26	5.61	5.85
23-Apr-96	5.51	5.51	5.68	6.32	5.74	6.03	5.40	5.63
24-Apr-96	3.23	3.23	3.33	3.70	3.36	3.53	3.16	3.29
25-Apr-96	4.33	4.33	4.46	4.95	4.51	4.73	4.24	4.42
26-Apr-96	4.34	4.34	4.48	5.00	4.53	4.77	4.25	4.44
27-Apr-96	4.63	4.63	4.78	5.32	4.83	5.07	4.53	4.73
28-Apr-96	5.17	5.17	5.32	5.90	5.38	5.64	5.06	5.27
29-Apr-96	4.83	4.83	4.98	5.54	5.03	5.29	4.73	4.93
30-Apr-96	5.11	5.11	5.26	5.82	5.31	5.56	5.01	5.21
1-May-96	3.72	3.72	3.83	4.24	3.87	4.06	3.64	3.79
2-May-96	5.26	5.26	5.42	6.01	5.47	5.74	5.15	5.37
3-May-96	7.20	7.20	7.42	8.19	7.49	7.84	7.06	7.35
4-May-96	4.72	4.72	4.86	5.37	4.90	5.14	4.62	4.81
5-May-96	6.30	6.30	6.49	7.19	6.55	6.87	6.17	6.43
6-May-96	5.07	5.07	5.22	5.80	5.28	5.54	4.96	5.17
7-May-96	5.72	5.72	5.90	6.53	5.95	6.24	5.61	5.84
8-May-96	3.63	3.63	3.74	4.17	3.78	3.97	3.55	3.70
9-May-96	4.03	4.03	4.16	4.64	4.20	4.42	3.94	4.12
10-May-96	2.62	2.62	2.71	3.02	2.74	2.88	2.57	2.68
11-May-96	6.65	6.65	6.85	7.60	6.92	7.26	6.52	6.79
12-May-96	6.54	6.54	6.73	7.45	6.80	7.12	6.41	6.67
13-May-96	3.02	3.02	3.12	3.50	3.16	3.33	2.96	3.09
14-May-96	5.48	5.48	5.65	6.27	5.70	5.99	5.36	5.59
15-May-96	6.48	6.48	6.68	7.38	6.74	7.06	6.35	6.61
16-May-96	6.78	6.78	6.98	7.71	7.05	7.38	6.65	6.91
17-May-96	7.09	7.09	7.29	8.04	7.36	7.70	6.95	7.22
18-May-96	7.05	7.05	7.26	8.02	7.33	7.67	6.91	7.19
19-May-96	5.83	5.83	6.01	6.66	6.07	6.36	5.71	5.95
20-May-96	5.77	5.77	5.95	6.59	6.00	6.30	5.65	5.89
21-May-96	5.15	5.15	5.31	5.87	5.36	5.61	5.05	5.26
22-May-96	3.39	3.39	3.50	3.87	3.53	3.70	3.33	3.46
23-May-96	6.19	6.19	6.38	7.06	6.44	6.75	6.07	6.32
24-May-96	5.17	5.17	5.33	5.90	5.38	5.64	5.06	5.27
25-May-96	4.57	4.57	4.71	5.24	4.76	5.00	4.47	4.67
26-May-96	3.69	3.69	3.81	4.25	3.85	4.05	3.61	3.77
27-May-96	4.89	4.89	5.04	5.61	5.09	5.35	4.78	4.99
28-May-96	4.66	4.66	4.81	5.34	4.86	5.10	4.57	4.76
29-May-96	5.78	5.78	5.96	6.62	6.02	6.32	5.66	5.90
30-May-96	6.54	6.54	6.73	7.42	6.79	7.11	6.41	6.67
31-May-96	6.62	6.62	6.82	7.55	6.89	7.22	6.49	6.76
1-Jun-96	6.03	6.03	6.21	6.88	6.27	6.58	5.91	6.15
2-Jun-96	4.37	4.37	4.50	5.01	4.55	4.78	4.27	4.46
3-Jun-96	3.22	3.22	3.32	3.70	3.36	3.53	3.15	3.29
4-Jun-96	4.51	4.51	4.65	5.17	4.70	4.93	4.42	4.61
5-Jun-96	4.38	4.38	4.52	5.02	4.56	4.79	4.29	4.47
6-Jun-96	4.42	4.42	4.56	5.06	4.60	4.83	4.33	4.51
7-Jun-96	3.95	3.95	4.08	4.53	4.12	4.33	3.87	4.04
8-Jun-96	4.25	4.25	4.38	4.86	4.42	4.64	4.16	4.34

Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
9-Jun-96	4.80	4.80	4.94	5.44	4.98	5.21	4.71	4.89
10-Jun-96	5.76	5.76	5.93	6.57	5.99	6.28	5.65	5.88
11-Jun-96	5.44	5.44	5.61	6.23	5.67	5.95	5.33	5.55
12-Jun-96	4.55	4.55	4.68	5.18	4.73	4.95	4.46	4.64
13-Jun-96	4.17	4.17	4.30	4.77	4.34	4.56	4.08	4.26
14-Jun-96	2.80	2.80	2.88	3.19	2.91	3.05	2.74	2.86
15-Jun-96	4.35	4.35	4.49	5.00	4.54	4.77	4.26	4.44
16-Jun-96	4.16	4.16	4.28	4.73	4.32	4.53	4.08	4.24
17-Jun-96	2.98	2.98	3.07	3.38	3.10	3.24	2.93	3.04
18-Jun-96	4.70	4.70	4.84	5.34	4.88	5.11	4.61	4.79
19-Jun-96	6.35	6.35	6.54	7.24	6.61	6.93	6.22	6.48
20-Jun-96	7.56	7.56	7.77	8.55	7.84	8.20	7.42	7.70
21-Jun-96	4.60	4.60	4.74	5.24	4.78	5.01	4.51	4.69
22-Jun-96	6.64	6.64	6.84	7.57	6.91	7.24	6.51	6.77
23-Jun-96	6.35	6.35	6.54	7.25	6.61	6.93	6.22	6.48
24-Jun-96	4.49	4.49	4.62	5.12	4.67	4.90	4.40	4.58
25-Jun-96	4.83	4.83	4.98	5.52	5.03	5.27	4.73	4.93
26-Jun-96	5.55	5.55	5.72	6.36	5.78	6.07	5.43	5.66
27-Jun-96	6.34	6.34	6.53	7.24	6.60	6.92	6.21	6.47
28-Jun-96	5.03	5.03	5.19	5.76	5.24	5.50	4.93	5.14
29-Jun-96	5.66	5.66	5.84	6.48	5.89	6.19	5.54	5.78
30-Jun-96	3.50	3.50	3.61	4.03	3.65	3.84	3.42	3.57
1-Jul-96	4.45	4.45	4.59	5.12	4.64	4.88	4.35	4.55
2-Jul-96	4.43	4.43	4.57	5.10	4.62	4.86	4.33	4.52
3-Jul-96	4.22	4.22	4.35	4.85	4.40	4.62	4.13	4.31
4-Jul-96	4.28	4.28	4.42	4.93	4.46	4.70	4.19	4.37
5-Jul-96	4.04	4.04	4.18	4.67	4.22	4.44	3.95	4.13
6-Jul-96	4.90	4.90	5.06	5.62	5.11	5.37	4.80	5.00
7-Jul-96	3.29	3.29	3.40	3.79	3.43	3.61	3.22	3.36
8-Jul-96	4.56	4.56	4.70	5.21	4.74	4.98	4.46	4.65
9-Jul-96	2.52	2.52	2.61	2.91	2.63	2.77	2.47	2.58
10-Jul-96	4.19	4.19	4.32	4.78	4.36	4.57	4.11	4.28
11-Jul-96	5.00	5.00	5.14	5.69	5.19	5.44	4.90	5.09
12-Jul-96	4.85	4.85	5.00	5.52	5.04	5.28	4.76	4.95
13-Jul-96	3.85	3.85	3.96	4.40	4.00	4.20	3.77	3.93
14-Jul-96	4.16	4.16	4.29	4.75	4.33	4.54	4.08	4.25
15-Jul-96	2.82	2.82	2.91	3.24	2.94	3.09	2.76	2.88
16-Jul-96	4.87	4.87	5.02	5.57	5.07	5.32	4.77	4.97
17-Jul-96	6.75	6.75	6.95	7.70	7.02	7.36	6.62	6.89
18-Jul-96	7.15	7.15	7.37	8.14	7.44	7.79	7.01	7.29
19-Jul-96	5.93	5.93	6.11	6.77	6.17	6.47	5.81	6.05
20-Jul-96	4.81	4.81	4.96	5.49	5.01	5.25	4.72	4.91
21-Jul-96	5.01	5.01	5.16	5.72	5.21	5.46	4.90	5.11
22-Jul-96	5.95	5.95	6.14	6.80	6.20	6.50	5.83	6.08
23-Jul-96	3.11	3.11	3.20	3.53	3.23	3.38	3.05	3.17
24-Jul-96	5.40	5.40	5.56	6.16	5.62	5.89	5.29	5.51
25-Jul-96	5.96	5.96	6.14	6.80	6.20	6.50	5.85	6.08
26-Jul-96	6.01	6.01	6.19	6.87	6.25	6.56	5.88	6.13
27-Jul-96	4.80	4.80	4.95	5.47	5.00	5.23	4.71	4.90
28-Jul-96	5.17	5.17	5.33	5.93	5.39	5.66	5.06	5.28
29-Jul-96	6.24	6.24	6.43	7.12	6.49	6.81	6.11	6.36
30-Jul-96	4.35	4.35	4.49	4.97	4.53	4.75	4.27	4.44
31-Jul-96	5.61	5.61	5.78	6.39	5.83	6.11	5.50	5.72
1-Aug-96	5.09	5.09	5.24	5.80	5.29	5.55	4.99	5.19
2-Aug-96	3.51	3.51	3.62	4.04	3.66	3.85	3.43	3.58
3-Aug-96	4.31	4.31	4.44	4.92	4.49	4.71	4.23	4.40
4-Aug-96	6.21	6.21	6.41	7.11	6.47	6.79	6.09	6.34
5-Aug-96	6.99	6.99	7.20	7.96	7.27	7.61	6.85	7.13
6-Aug-96	5.36	5.36	5.52	6.13	5.58	5.86	5.25	5.47
7-Aug-96	4.41	4.41	4.54	5.03	4.58	4.80	4.32	4.49
8-Aug-96	4.31	4.31	4.45	4.95	4.50	4.72	4.22	4.40
9-Aug-96	3.63	3.63	3.74	4.15	3.78	3.97	3.55	3.70
10-Aug-96	4.69	4.69	4.84	5.38	4.88	5.13	4.59	4.79
11-Aug-96	3.93	3.93	4.05	4.49	4.09	4.29	3.85	4.01
12-Aug-96	6.98	6.98	7.19	7.98	7.26	7.62	6.83	7.12
13-Aug-96	6.86	6.86	7.07	7.82	7.14	7.48	6.73	7.00
14-Aug-96	4.17	4.17	4.30	4.77	4.34	4.55	4.09	4.26
15-Aug-96	6.24	6.24	6.43	7.14	6.49	6.81	6.11	6.36
16-Aug-96	5.59	5.59	5.76	6.42	5.82	6.12	5.47	5.70
17-Aug-96	3.90	3.90	4.02	4.48	4.06	4.27	3.81	3.98
18-Aug-96	3.83	3.83	3.95	4.41	3.99	4.20	3.75	3.91
19-Aug-96	4.65	4.65	4.79	5.30	4.84	5.07	4.56	4.75
20-Aug-96	6.04	6.04	6.23	6.92	6.29	6.61	5.91	6.17
21-Aug-96	4.53	4.53	4.67	5.17	4.71	4.94	4.44	4.62
22-Aug-96	5.02	5.02	5.18	5.77	5.23	5.50	4.91	5.13

Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
23-Aug-96	6.67	6.67	6.87	7.62	6.94	7.28	6.53	6.80
24-Aug-96	4.62	4.62	4.76	5.28	4.81	5.04	4.52	4.71
25-Aug-96	4.04	4.04	4.17	4.66	4.22	4.44	3.95	4.13
26-Aug-96	3.86	3.86	3.98	4.43	4.02	4.23	3.78	3.94
27-Aug-96	3.85	3.85	3.98	4.44	4.02	4.23	3.77	3.94
28-Aug-96	4.39	4.39	4.53	5.04	4.57	4.81	4.29	4.48
29-Aug-96	3.23	3.23	3.33	3.70	3.36	3.53	3.16	3.29
30-Aug-96	4.97	4.97	5.12	5.70	5.18	5.44	4.86	5.07
31-Aug-96	3.24	3.24	3.34	3.71	3.38	3.54	3.18	3.31
1-Sep-96	5.66	5.66	5.84	6.49	5.90	6.19	5.55	5.78
2-Sep-96	4.56	4.56	4.71	5.24	4.76	5.00	4.47	4.66
3-Sep-96	3.29	3.29	3.40	3.79	3.43	3.61	3.22	3.36
4-Sep-96	5.43	5.43	5.60	6.23	5.66	5.95	5.32	5.55
5-Sep-96	5.08	5.08	5.24	5.83	5.30	5.56	4.98	5.19
6-Sep-96	3.62	3.62	3.73	4.15	3.77	3.96	3.54	3.70
7-Sep-96	5.25	5.25	5.41	6.01	5.47	5.74	5.14	5.36
8-Sep-96	6.13	6.13	6.32	7.01	6.39	6.70	6.01	6.26
9-Sep-96	5.10	5.10	5.26	5.83	5.31	5.57	5.00	5.20
10-Sep-96	4.41	4.41	4.55	5.06	4.59	4.82	4.31	4.50
11-Sep-96	6.46	6.46	6.66	7.38	6.72	7.05	6.33	6.59
12-Sep-96	7.19	7.19	7.41	8.22	7.48	7.85	7.04	7.33
13-Sep-96	5.86	5.86	6.04	6.69	6.10	6.40	5.74	5.98
14-Sep-96	5.45	5.45	5.61	6.20	5.66	5.93	5.34	5.55
15-Sep-96	6.38	6.38	6.56	7.26	6.63	6.94	6.25	6.50
16-Sep-96	5.90	5.90	6.08	6.71	6.13	6.42	5.79	6.02
17-Sep-96	3.63	3.63	3.74	4.11	3.77	3.94	3.56	3.70
18-Sep-96	5.40	5.40	5.56	6.14	5.61	5.88	5.30	5.51
19-Sep-96	5.98	5.98	6.15	6.77	6.21	6.49	5.87	6.10
20-Sep-96	5.66	5.66	5.82	6.43	5.88	6.15	5.55	5.77
21-Sep-96	7.04	7.04	7.25	8.01	7.32	7.66	6.90	7.18
22-Sep-96	6.62	6.62	6.81	7.49	6.87	7.18	6.49	6.74
23-Sep-96	7.09	7.09	7.30	8.09	7.37	7.73	6.94	7.23
24-Sep-96	5.88	5.88	6.05	6.69	6.11	6.40	5.76	5.99
25-Sep-96	4.89	4.89	5.05	5.61	5.10	5.35	4.79	5.00
26-Sep-96	3.87	3.87	4.00	4.47	4.04	4.26	3.79	3.96
27-Sep-96	6.02	6.02	6.19	6.84	6.25	6.54	5.90	6.14
28-Sep-96	4.77	4.77	4.91	5.43	4.96	5.20	4.67	4.86
29-Sep-96	4.41	4.41	4.54	5.04	4.59	4.81	4.32	4.50
30-Sep-96	4.85	4.85	5.00	5.55	5.05	5.30	4.75	4.95
1-Oct-96	4.13	4.13	4.25	4.71	4.29	4.50	4.05	4.21
2-Oct-96	3.65	3.65	3.77	4.22	3.81	4.01	3.57	3.73
3-Oct-96	4.33	4.33	4.47	4.98	4.51	4.75	4.24	4.42
4-Oct-96	3.78	3.78	3.90	4.36	3.95	4.15	3.70	3.86
5-Oct-96	5.15	5.15	5.32	5.92	5.37	5.65	5.04	5.26
6-Oct-96	2.75	2.75	2.84	3.17	2.87	3.02	2.69	2.81
7-Oct-96	4.83	4.83	4.99	5.56	5.04	5.30	4.73	4.94
8-Oct-96	3.38	3.38	3.50	3.92	3.54	3.73	3.31	3.46
9-Oct-96	5.10	5.10	5.26	5.85	5.32	5.59	5.00	5.21
10-Oct-96	4.48	4.48	4.63	5.17	4.68	4.92	4.38	4.58
11-Oct-96	3.74	3.74	3.87	4.34	3.92	4.13	3.66	3.83
12-Oct-96	5.88	5.88	6.06	6.75	6.13	6.44	5.75	6.00
13-Oct-96	6.49	6.49	6.68	7.40	6.75	7.07	6.36	6.62
14-Oct-96	5.63	5.63	5.80	6.42	5.86	6.14	5.52	5.74
15-Oct-96	5.33	5.33	5.50	6.13	5.56	5.84	5.22	5.45
16-Oct-96	3.50	3.50	3.61	4.03	3.65	3.84	3.42	3.57
17-Oct-96	2.78	2.78	2.87	3.22	2.91	3.06	2.72	2.84
18-Oct-96	5.51	5.51	5.68	6.33	5.74	6.03	5.39	5.62
19-Oct-96	5.23	5.23	5.38	5.94	5.43	5.69	5.12	5.33
20-Oct-96	6.10	6.10	6.29	6.98	6.35	6.67	5.98	6.23
21-Oct-96	4.47	4.47	4.60	5.09	4.65	4.87	4.38	4.56
22-Oct-96	3.03	3.03	3.12	3.48	3.16	3.32	2.96	3.09
23-Oct-96	5.50	5.50	5.67	6.30	5.73	6.02	5.39	5.62
24-Oct-96	7.23	7.23	7.45	8.25	7.52	7.88	7.09	7.38
25-Oct-96	4.32	4.32	4.46	4.97	4.50	4.74	4.22	4.41
26-Oct-96	6.10	6.10	6.28	6.95	6.34	6.65	5.98	6.22
27-Oct-96	3.47	3.47	3.57	3.93	3.60	3.76	3.41	3.54
28-Oct-96	5.26	5.26	5.41	5.99	5.47	5.73	5.15	5.36
29-Oct-96	5.52	5.52	5.67	6.23	5.72	5.98	5.42	5.62
30-Oct-96	6.82	6.82	7.03	7.79	7.10	7.44	6.68	6.96
31-Oct-96	4.46	4.46	4.60	5.10	4.64	4.87	4.37	4.55
1-Nov-96	5.23	5.23	5.39	5.98	5.44	5.71	5.12	5.34
2-Nov-96	4.30	4.30	4.42	4.90	4.47	4.68	4.21	4.38
3-Nov-96	5.19	5.19	5.35	5.92	5.40	5.66	5.08	5.29
4-Nov-96	6.51	6.51	6.70	7.42	6.77	7.09	6.38	6.64
5-Nov-96	5.79	5.79	5.96	6.62	6.02	6.32	5.67	5.91

Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
6-Nov-96	4.08	4.08	4.21	4.68	4.25	4.46	3.99	4.16
7-Nov-96	3.96	3.96	4.07	4.50	4.11	4.31	3.88	4.03
8-Nov-96	6.97	6.97	7.18	7.95	7.25	7.60	6.84	7.11
9-Nov-96	6.09	6.09	6.27	6.92	6.33	6.62	5.98	6.21
10-Nov-96	5.02	5.02	5.18	5.76	5.23	5.49	4.92	5.13
11-Nov-96	5.14	5.14	5.29	5.86	5.34	5.60	5.03	5.24
12-Nov-96	7.40	7.40	7.61	8.40	7.68	8.04	7.26	7.54
13-Nov-96	3.92	3.92	4.05	4.50	4.09	4.29	3.84	4.01
14-Nov-96	3.76	3.76	3.88	4.32	3.92	4.12	3.68	3.84
15-Nov-96	3.90	3.90	4.03	4.50	4.07	4.29	3.82	3.99
16-Nov-96	2.87	2.87	2.97	3.33	3.00	3.17	2.81	2.94
17-Nov-96	4.40	4.40	4.55	5.09	4.60	4.84	4.31	4.50
18-Nov-96	4.49	4.49	4.64	5.18	4.69	4.93	4.39	4.59
19-Nov-96	3.46	3.46	3.57	3.97	3.61	3.79	3.39	3.53
20-Nov-96	4.78	4.78	4.93	5.50	4.99	5.24	4.68	4.88
21-Nov-96	4.83	4.83	4.99	5.56	5.04	5.30	4.73	4.93
22-Nov-96	3.84	3.84	3.97	4.43	4.01	4.22	3.75	3.92
23-Nov-96	4.06	4.06	4.19	4.67	4.23	4.45	3.97	4.15
24-Nov-96	2.85	2.85	2.94	3.28	2.97	3.12	2.78	2.91
25-Nov-96	5.13	5.13	5.28	5.87	5.34	5.60	5.02	5.23
26-Nov-96	5.27	5.27	5.43	6.02	5.49	5.75	5.17	5.38
27-Nov-96	3.62	3.62	3.74	4.18	3.78	3.98	3.54	3.70
28-Nov-96	2.73	2.73	2.81	3.14	2.84	2.99	2.67	2.78
29-Nov-96	4.16	4.16	4.30	4.79	4.34	4.57	4.07	4.25
30-Nov-96	2.49	2.49	2.57	2.86	2.59	2.73	2.43	2.54
1-Dec-96	5.70	5.70	5.87	6.51	5.93	6.22	5.58	5.81
2-Dec-96	4.62	4.62	4.76	5.27	4.81	5.04	4.53	4.72
3-Dec-96	4.68	4.68	4.82	5.37	4.87	5.12	4.58	4.78
4-Dec-96	3.90	3.90	4.03	4.49	4.07	4.28	3.81	3.98
5-Dec-96	5.10	5.10	5.26	5.84	5.31	5.58	4.99	5.21
6-Dec-96	2.84	2.84	2.92	3.24	2.95	3.10	2.78	2.90
7-Dec-96	3.30	3.30	3.41	3.80	3.44	3.62	3.23	3.37
8-Dec-96	3.46	3.46	3.57	3.98	3.61	3.80	3.39	3.54
9-Dec-96	3.30	3.30	3.41	3.81	3.45	3.63	3.23	3.38
10-Dec-96	4.09	4.09	4.22	4.71	4.27	4.49	4.00	4.18
11-Dec-96	3.04	3.04	3.14	3.50	3.17	3.34	2.97	3.10
12-Dec-96	2.39	2.39	2.47	2.77	2.50	2.64	2.34	2.45
13-Dec-96	2.43	2.43	2.51	2.80	2.54	2.67	2.37	2.48
14-Dec-96	2.84	2.84	2.92	3.23	2.95	3.09	2.79	2.90
15-Dec-96	5.42	5.42	5.58	6.19	5.64	5.92	5.30	5.53
16-Dec-96	4.87	4.87	5.02	5.57	5.07	5.32	4.76	4.97
17-Dec-96	4.39	4.39	4.53	5.05	4.58	4.82	4.29	4.48
18-Dec-96	3.02	3.02	3.12	3.49	3.16	3.32	2.96	3.09
19-Dec-96	3.89	3.89	4.00	4.41	4.04	4.22	3.82	3.96
20-Dec-96	4.02	4.02	4.15	4.61	4.19	4.40	3.94	4.11
21-Dec-96	3.79	3.79	3.90	4.31	3.94	4.13	3.71	3.86
22-Dec-96	3.12	3.12	3.23	3.60	3.26	3.43	3.05	3.19
23-Dec-96	4.96	4.96	5.12	5.71	5.17	5.44	4.85	5.06
24-Dec-96	4.20	4.20	4.34	4.83	4.38	4.60	4.11	4.29
25-Dec-96	5.69	5.69	5.86	6.49	5.92	6.20	5.57	5.80
26-Dec-96	2.57	2.57	2.66	2.96	2.68	2.82	2.52	2.63
27-Dec-96	3.72	3.72	3.83	4.26	3.87	4.06	3.64	3.80
28-Dec-96	3.78	3.78	3.90	4.32	3.94	4.13	3.71	3.86
29-Dec-96	3.63	3.63	3.75	4.19	3.79	3.99	3.55	3.71
30-Dec-96	3.08	3.08	3.18	3.55	3.21	3.38	3.01	3.15
31-Dec-96	3.65	3.65	3.77	4.18	3.80	3.99	3.58	3.73
1-Jan-97	3.98	3.98	4.11	4.59	4.16	4.38	3.90	4.07
2-Jan-97	5.66	5.66	5.84	6.49	5.89	6.19	5.54	5.78
3-Jan-97	4.86	4.86	5.01	5.56	5.06	5.31	4.76	4.96
4-Jan-97	5.21	5.21	5.37	5.96	5.42	5.69	5.10	5.32
5-Jan-97	4.30	4.30	4.43	4.92	4.48	4.70	4.21	4.39
6-Jan-97	5.55	5.55	5.72	6.35	5.78	6.07	5.44	5.67
7-Jan-97	5.61	5.61	5.79	6.42	5.84	6.13	5.50	5.73
8-Jan-97	7.00	7.00	7.21	7.98	7.28	7.63	6.86	7.14
9-Jan-97	6.61	6.61	6.80	7.47	6.86	7.16	6.49	6.73
10-Jan-97	5.53	5.53	5.68	6.23	5.73	5.98	5.43	5.63
11-Jan-97	3.99	3.99	4.10	4.52	4.14	4.33	3.91	4.06
12-Jan-97	4.90	4.90	5.06	5.63	5.11	5.37	4.80	5.00
13-Jan-97	3.23	3.23	3.33	3.73	3.37	3.55	3.15	3.30
14-Jan-97	4.50	4.50	4.65	5.20	4.70	4.95	4.40	4.60
15-Jan-97	3.30	3.30	3.40	3.79	3.44	3.62	3.23	3.37
16-Jan-97	4.45	4.45	4.60	5.12	4.64	4.88	4.36	4.55
17-Jan-97	4.69	4.69	4.84	5.39	4.89	5.14	4.59	4.79
18-Jan-97	4.72	4.72	4.87	5.42	4.92	5.17	4.62	4.82
19-Jan-97	4.10	4.10	4.23	4.72	4.28	4.50	4.01	4.19

Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
20-Jan-97	4.34	4.34	4.48	4.99	4.52	4.76	4.24	4.43
21-Jan-97	3.14	3.14	3.24	3.62	3.28	3.45	3.07	3.21
22-Jan-97	5.38	5.38	5.55	6.16	5.60	5.88	5.27	5.49
23-Jan-97	3.93	3.93	4.06	4.52	4.10	4.31	3.85	4.02
24-Jan-97	5.15	5.15	5.31	5.90	5.36	5.63	5.04	5.26
25-Jan-97	2.83	2.83	2.91	3.22	2.94	3.08	2.77	2.88
26-Jan-97	5.08	5.08	5.24	5.82	5.29	5.56	4.98	5.19
27-Jan-97	2.83	2.83	2.92	3.25	2.95	3.10	2.77	2.89
28-Jan-97	5.83	5.83	6.01	6.67	6.07	6.37	5.72	5.95
29-Jan-97	6.11	6.11	6.30	6.99	6.36	6.67	5.98	6.23
30-Jan-97	4.85	4.85	5.00	5.54	5.04	5.29	4.75	4.95
31-Jan-97	3.02	3.02	3.11	3.43	3.14	3.28	2.96	3.08
1-Feb-97	3.82	3.82	3.93	4.37	3.97	4.17	3.74	3.90
2-Feb-97	6.71	6.71	6.92	7.68	6.99	7.33	6.57	6.85
3-Feb-97	3.01	3.01	3.10	3.43	3.13	3.28	2.94	3.07
4-Feb-97	6.01	6.01	6.19	6.87	6.26	6.56	5.89	6.13
5-Feb-97	4.81	4.81	4.96	5.52	5.01	5.27	4.71	4.91
6-Feb-97	5.29	5.29	5.46	6.09	5.52	5.80	5.18	5.40
7-Feb-97	5.36	5.36	5.53	6.12	5.58	5.85	5.25	5.47
8-Feb-97	4.23	4.23	4.36	4.82	4.40	4.61	4.15	4.31
9-Feb-97	6.33	6.33	6.52	7.21	6.58	6.89	6.20	6.45
10-Feb-97	5.46	5.46	5.63	6.26	5.69	5.97	5.34	5.57
11-Feb-97	5.10	5.10	5.27	5.88	5.33	5.61	4.99	5.21
12-Feb-97	5.33	5.33	5.50	6.14	5.56	5.85	5.21	5.44
13-Feb-97	5.29	5.29	5.46	6.07	5.51	5.79	5.18	5.40
14-Feb-97	4.44	4.44	4.58	5.11	4.63	4.87	4.34	4.54
15-Feb-97	4.16	4.16	4.29	4.77	4.33	4.55	4.07	4.25
16-Feb-97	4.87	4.87	5.03	5.61	5.08	5.35	4.76	4.98
17-Feb-97	4.69	4.69	4.84	5.39	4.89	5.14	4.59	4.79
18-Feb-97	3.01	3.01	3.10	3.43	3.13	3.28	2.94	3.07
19-Feb-97	4.99	4.99	5.14	5.68	5.19	5.44	4.89	5.09
20-Feb-97	4.77	4.77	4.91	5.43	4.96	5.20	4.68	4.87
21-Feb-97	5.01	5.01	5.16	5.74	5.22	5.48	4.90	5.11
22-Feb-97	3.48	3.48	3.60	4.02	3.63	3.83	3.40	3.56
23-Feb-97	2.74	2.74	2.83	3.16	2.86	3.01	2.68	2.80
24-Feb-97	4.92	4.92	5.08	5.67	5.13	5.40	4.81	5.03
25-Feb-97	5.46	5.46	5.64	6.28	5.70	5.99	5.35	5.58
26-Feb-97	5.43	5.43	5.61	6.25	5.66	5.95	5.31	5.55
27-Feb-97	5.22	5.22	5.39	6.02	5.45	5.73	5.11	5.34
28-Feb-97	4.86	4.86	5.02	5.60	5.07	5.34	4.76	4.97
1-Mar-97	4.85	4.85	5.01	5.57	5.06	5.32	4.75	4.96
2-Mar-97	5.00	5.00	5.16	5.76	5.21	5.48	4.89	5.10
3-Mar-97	5.27	5.27	5.45	6.07	5.50	5.79	5.16	5.39
4-Mar-97	6.65	6.65	6.86	7.63	6.93	7.28	6.51	6.79
5-Mar-97	5.30	5.30	5.47	6.08	5.53	5.80	5.19	5.41
6-Mar-97	6.00	6.00	6.18	6.87	6.25	6.56	5.87	6.12
7-Mar-97	5.68	5.68	5.86	6.49	5.91	6.20	5.57	5.80
8-Mar-97	5.90	5.90	6.09	6.78	6.15	6.47	5.78	6.03
9-Mar-97	4.57	4.57	4.72	5.27	4.77	5.02	4.47	4.67
10-Mar-97	6.45	6.45	6.65	7.40	6.72	7.06	6.31	6.59
11-Mar-97	3.87	3.87	4.00	4.46	4.04	4.25	3.79	3.96
12-Mar-97	6.00	6.00	6.20	6.90	6.26	6.58	5.88	6.13
13-Mar-97	5.86	5.86	6.04	6.72	6.11	6.41	5.74	5.98
14-Mar-97	5.71	5.71	5.89	6.54	5.95	6.24	5.59	5.83
15-Mar-97	4.41	4.41	4.55	5.05	4.60	4.82	4.32	4.50
16-Mar-97	3.48	3.48	3.60	4.03	3.64	3.83	3.40	3.56
17-Mar-97	4.03	4.03	4.16	4.66	4.21	4.43	3.94	4.12
18-Mar-97	2.73	2.73	2.83	3.18	2.86	3.02	2.67	2.80
19-Mar-97	5.02	5.02	5.19	5.82	5.25	5.53	4.91	5.14
20-Mar-97	6.02	6.02	6.20	6.89	6.27	6.58	5.89	6.14
21-Mar-97	4.69	4.69	4.85	5.40	4.90	5.15	4.59	4.80
22-Mar-97	5.88	5.88	6.06	6.72	6.12	6.42	5.76	6.00
23-Mar-97	5.56	5.56	5.74	6.40	5.80	6.10	5.45	5.68
24-Mar-97	3.65	3.65	3.77	4.22	3.81	4.01	3.57	3.73
25-Mar-97	5.82	5.82	6.01	6.69	6.07	6.38	5.70	5.95
26-Mar-97	7.64	7.64	7.87	8.69	7.94	8.32	7.49	7.79
27-Mar-97	6.91	6.91	7.11	7.84	7.17	7.51	6.77	7.04
28-Mar-97	5.03	5.03	5.18	5.76	5.24	5.50	4.92	5.13
29-Mar-97	6.66	6.66	6.87	7.64	6.94	7.29	6.53	6.80
30-Mar-97	7.36	7.36	7.57	8.37	7.65	8.01	7.21	7.50
31-Mar-97	6.63	6.63	6.83	7.56	6.90	7.23	6.49	6.76
1-Apr-97	3.62	3.62	3.74	4.18	3.78	3.98	3.55	3.70
2-Apr-97	2.73	2.73	2.83	3.17	2.86	3.02	2.67	2.79
3-Apr-97	6.14	6.14	6.33	7.05	6.40	6.72	6.01	6.27
4-Apr-97	5.10	5.10	5.26	5.85	5.31	5.58	4.99	5.21

Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
5-Apr-97	5.40	5.40	5.57	6.19	5.63	5.91	5.29	5.51
6-Apr-97	5.19	5.19	5.36	5.97	5.41	5.69	5.08	5.30
7-Apr-97	5.58	5.58	5.76	6.39	5.81	6.10	5.47	5.70
8-Apr-97	5.85	5.85	6.04	6.70	6.10	6.40	5.73	5.98
9-Apr-97	4.59	4.59	4.73	5.25	4.78	5.02	4.49	4.68
10-Apr-97	2.90	2.90	2.99	3.35	3.03	3.19	2.83	2.96
11-Apr-97	5.31	5.31	5.47	6.06	5.52	5.79	5.20	5.41
12-Apr-97	4.88	4.88	5.03	5.60	5.08	5.34	4.77	4.98
13-Apr-97	2.88	2.88	2.98	3.33	3.01	3.17	2.82	2.95
14-Apr-97	7.45	7.45	7.68	8.53	7.76	8.14	7.30	7.61
15-Apr-97	3.08	3.08	3.18	3.56	3.22	3.39	3.01	3.15
16-Apr-97	4.36	4.36	4.50	5.03	4.55	4.79	4.26	4.45
17-Apr-97	4.72	4.72	4.88	5.45	4.93	5.19	4.62	4.83
18-Apr-97	6.12	6.12	6.33	7.06	6.39	6.73	5.99	6.26
19-Apr-97	6.33	6.33	6.53	7.24	6.59	6.92	6.21	6.46
20-Apr-97	7.49	7.49	7.72	8.56	7.79	8.17	7.34	7.64
21-Apr-97	6.42	6.42	6.62	7.35	6.69	7.02	6.29	6.55
22-Apr-97	5.88	5.88	6.07	6.75	6.13	6.44	5.75	6.00
23-Apr-97	5.98	5.98	6.17	6.86	6.23	6.54	5.85	6.11
24-Apr-97	5.15	5.15	5.32	5.93	5.37	5.65	5.04	5.26
25-Apr-97	6.13	6.13	6.32	7.02	6.39	6.70	6.01	6.26
26-Apr-97	5.26	5.26	5.43	6.05	5.49	5.77	5.15	5.38
27-Apr-97	4.29	4.29	4.43	4.96	4.48	4.72	4.20	4.39
28-Apr-97	4.27	4.27	4.41	4.93	4.46	4.69	4.18	4.36
29-Apr-97	4.22	4.22	4.36	4.88	4.41	4.65	4.13	4.32
30-Apr-97	5.64	5.64	5.82	6.51	5.89	6.20	5.52	5.76
1-May-97	6.14	6.14	6.34	7.06	6.40	6.73	6.01	6.27
2-May-97	5.55	5.55	5.73	6.37	5.78	6.08	5.43	5.67
3-May-97	5.40	5.40	5.57	6.20	5.63	5.91	5.28	5.51
4-May-97	6.85	6.85	7.07	7.86	7.14	7.50	6.71	7.00
5-May-97	4.63	4.63	4.78	5.32	4.83	5.07	4.53	4.73
6-May-97	5.11	5.11	5.27	5.88	5.33	5.60	5.00	5.22
7-May-97	5.27	5.27	5.43	6.05	5.49	5.77	5.15	5.38
8-May-97	3.35	3.35	3.45	3.84	3.49	3.66	3.28	3.42
9-May-97	5.51	5.51	5.69	6.34	5.75	6.05	5.40	5.63
10-May-97	5.47	5.47	5.64	6.29	5.70	6.00	5.35	5.59
11-May-97	3.93	3.93	4.05	4.53	4.10	4.31	3.84	4.01
12-May-97	5.70	5.70	5.89	6.56	5.95	6.25	5.58	5.82
13-May-97	4.71	4.71	4.86	5.42	4.91	5.16	4.61	4.81
14-May-97	5.98	5.98	6.17	6.84	6.23	6.54	5.86	6.11
15-May-97	4.46	4.46	4.59	5.08	4.64	4.86	4.38	4.55
16-May-97	5.11	5.11	5.27	5.83	5.32	5.57	5.01	5.21
17-May-97	4.53	4.53	4.67	5.18	4.72	4.95	4.44	4.63
18-May-97	4.51	4.51	4.64	5.14	4.69	4.91	4.42	4.60
19-May-97	5.58	5.58	5.75	6.37	5.81	6.09	5.47	5.69
20-May-97	7.10	7.10	7.32	8.12	7.39	7.75	6.96	7.25
21-May-97	5.62	5.62	5.79	6.43	5.85	6.14	5.50	5.73
22-May-97	6.63	6.63	6.83	7.57	6.90	7.24	6.49	6.76
23-May-97	6.58	6.58	6.79	7.54	6.86	7.20	6.44	6.72
24-May-97	4.95	4.95	5.12	5.71	5.17	5.44	4.84	5.06
25-May-97	5.13	5.13	5.29	5.87	5.34	5.61	5.02	5.23
26-May-97	4.92	4.92	5.07	5.63	5.12	5.37	4.81	5.02
27-May-97	5.24	5.24	5.41	6.01	5.46	5.73	5.13	5.35
28-May-97	6.93	6.93	7.14	7.88	7.20	7.54	6.80	7.07
29-May-97	6.84	6.84	7.04	7.79	7.11	7.45	6.70	6.98
30-May-97	5.84	5.84	6.03	6.69	6.09	6.39	5.72	5.97
31-May-97	6.30	6.30	6.49	7.20	6.56	6.88	6.17	6.43
1-Jun-97	3.73	3.73	3.86	4.31	3.90	4.11	3.65	3.82
2-Jun-97	4.61	4.61	4.76	5.28	4.81	5.05	4.52	4.71
3-Jun-97	3.80	3.80	3.92	4.37	3.96	4.17	3.72	3.88
4-Jun-97	5.23	5.23	5.39	5.99	5.44	5.71	5.12	5.34
5-Jun-97	4.99	4.99	5.15	5.72	5.20	5.46	4.89	5.09
6-Jun-97	4.80	4.80	4.95	5.52	5.01	5.26	4.70	4.90
7-Jun-97	4.12	4.12	4.25	4.74	4.30	4.52	4.03	4.21
8-Jun-97	4.61	4.61	4.76	5.30	4.81	5.06	4.51	4.71
9-Jun-97	5.38	5.38	5.55	6.18	5.61	5.89	5.27	5.49
10-Jun-97	4.45	4.45	4.59	5.11	4.64	4.87	4.35	4.54
11-Jun-97	4.86	4.86	5.01	5.57	5.06	5.32	4.76	4.96
12-Jun-97	5.18	5.18	5.35	5.97	5.41	5.69	5.07	5.30
13-Jun-97	5.33	5.33	5.51	6.14	5.56	5.85	5.22	5.45
14-Jun-97	6.18	6.18	6.37	7.08	6.44	6.76	6.06	6.31
15-Jun-97	6.01	6.01	6.19	6.87	6.25	6.56	5.88	6.13
16-Jun-97	5.02	5.02	5.18	5.75	5.23	5.49	4.92	5.12
17-Jun-97	5.06	5.06	5.21	5.79	5.27	5.53	4.95	5.16
18-Jun-97	4.82	4.82	4.98	5.55	5.03	5.29	4.72	4.93

Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
19-Jun-97	3.72	3.72	3.84	4.29	3.88	4.09	3.64	3.80
20-Jun-97	4.21	4.21	4.35	4.85	4.40	4.63	4.12	4.31
21-Jun-97	4.52	4.52	4.66	5.19	4.71	4.95	4.42	4.61
22-Jun-97	6.89	6.89	7.09	7.86	7.16	7.51	6.75	7.02
23-Jun-97	4.27	4.27	4.40	4.88	4.44	4.66	4.18	4.35
24-Jun-97	4.22	4.22	4.35	4.85	4.40	4.62	4.13	4.31
25-Jun-97	4.80	4.80	4.94	5.48	4.99	5.24	4.70	4.89
26-Jun-97	6.37	6.37	6.57	7.28	6.63	6.96	6.24	6.50
27-Jun-97	5.20	5.20	5.35	5.91	5.40	5.65	5.09	5.30
28-Jun-97	3.94	3.94	4.06	4.48	4.09	4.28	3.87	4.02
29-Jun-97	4.47	4.47	4.61	5.11	4.66	4.88	4.38	4.56
30-Jun-97	4.56	4.56	4.71	5.23	4.75	4.99	4.47	4.66
1-Jul-97	5.61	5.61	5.78	6.40	5.84	6.12	5.49	5.72
2-Jul-97	2.66	2.66	2.75	3.08	2.78	2.93	2.60	2.72
3-Jul-97	3.51	3.51	3.62	4.03	3.66	3.85	3.44	3.59
4-Jul-97	4.07	4.07	4.20	4.68	4.25	4.47	3.98	4.16
5-Jul-97	3.37	3.37	3.48	3.89	3.52	3.71	3.29	3.44
6-Jul-97	4.30	4.30	4.44	4.95	4.49	4.72	4.21	4.40
7-Jul-97	5.78	5.78	5.97	6.66	6.03	6.35	5.66	5.91
8-Jul-97	6.36	6.36	6.57	7.31	6.63	6.97	6.23	6.50
9-Jul-97	4.50	4.50	4.64	5.18	4.69	4.94	4.40	4.60
10-Jul-97	4.82	4.82	4.98	5.54	5.03	5.28	4.72	4.93
11-Jul-97	3.33	3.33	3.44	3.85	3.48	3.67	3.26	3.41
12-Jul-97	5.48	5.48	5.65	6.29	5.71	6.00	5.36	5.59
13-Jul-97	5.12	5.12	5.29	5.88	5.34	5.61	5.02	5.23
14-Jul-97	4.34	4.34	4.48	4.97	4.52	4.75	4.25	4.43
15-Jul-97	3.76	3.76	3.88	4.31	3.92	4.12	3.69	3.84
16-Jul-97	5.13	5.13	5.29	5.87	5.34	5.61	5.03	5.24
17-Jul-97	5.29	5.29	5.45	6.05	5.50	5.78	5.18	5.39
18-Jul-97	6.26	6.26	6.45	7.14	6.51	6.82	6.13	6.38
19-Jul-97	5.33	5.33	5.49	6.08	5.54	5.81	5.22	5.43
20-Jul-97	3.92	3.92	4.04	4.51	4.09	4.30	3.83	4.00
21-Jul-97	3.29	3.29	3.40	3.81	3.44	3.62	3.22	3.37
22-Jul-97	2.36	2.36	2.44	2.74	2.47	2.61	2.30	2.41
23-Jul-97	2.89	2.89	2.99	3.34	3.02	3.18	2.83	2.96
24-Jul-97	5.10	5.10	5.26	5.86	5.32	5.59	4.99	5.21
25-Jul-97	2.47	2.47	2.56	2.86	2.58	2.72	2.42	2.53
26-Jul-97	3.78	3.78	3.90	4.35	3.94	4.14	3.69	3.86
27-Jul-97	5.22	5.22	5.38	5.98	5.44	5.71	5.11	5.33
28-Jul-97	4.80	4.80	4.96	5.51	5.01	5.26	4.70	4.91
29-Jul-97	3.16	3.16	3.26	3.65	3.30	3.48	3.09	3.23
30-Jul-97	5.05	5.05	5.21	5.81	5.27	5.54	4.94	5.16
31-Jul-97	6.19	6.19	6.39	7.11	6.45	6.78	6.06	6.32
1-Aug-97	6.63	6.63	6.84	7.61	6.91	7.26	6.49	6.77
2-Aug-97	5.79	5.79	5.97	6.65	6.04	6.34	5.67	5.91
3-Aug-97	4.96	4.96	5.11	5.68	5.16	5.42	4.86	5.06
4-Aug-97	5.43	5.43	5.60	6.23	5.66	5.94	5.31	5.54
5-Aug-97	5.56	5.56	5.73	6.37	5.79	6.08	5.44	5.67
6-Aug-97	2.81	2.81	2.90	3.23	2.93	3.08	2.75	2.87
7-Aug-97	3.62	3.62	3.73	4.15	3.77	3.96	3.54	3.69
8-Aug-97	4.85	4.85	5.01	5.58	5.06	5.32	4.75	4.96
9-Aug-97	6.20	6.20	6.39	7.10	6.46	6.78	6.07	6.33
10-Aug-97	6.78	6.78	7.00	7.78	7.07	7.42	6.64	6.93
11-Aug-97	4.97	4.97	5.13	5.72	5.18	5.45	4.87	5.08
12-Aug-97	5.28	5.28	5.45	6.08	5.51	5.79	5.17	5.39
13-Aug-97	4.08	4.08	4.21	4.70	4.26	4.48	3.99	4.17
14-Aug-97	4.47	4.47	4.62	5.15	4.66	4.91	4.37	4.57
15-Aug-97	4.95	4.95	5.11	5.69	5.16	5.42	4.84	5.05
16-Aug-97	4.16	4.16	4.30	4.79	4.34	4.57	4.07	4.25
17-Aug-97	4.83	4.83	4.98	5.56	5.04	5.30	4.72	4.93
18-Aug-97	4.25	4.25	4.39	4.91	4.44	4.67	4.16	4.35
19-Aug-97	3.10	3.10	3.21	3.59	3.24	3.42	3.03	3.17
20-Aug-97	2.68	2.68	2.77	3.10	2.80	2.95	2.62	2.74
21-Aug-97	4.60	4.60	4.75	5.30	4.80	5.05	4.51	4.70
22-Aug-97	5.38	5.38	5.55	6.18	5.61	5.90	5.26	5.49
23-Aug-97	3.14	3.14	3.24	3.62	3.28	3.45	3.07	3.21
24-Aug-97	5.76	5.76	5.94	6.61	6.00	6.31	5.64	5.88
25-Aug-97	5.16	5.16	5.32	5.91	5.37	5.64	5.05	5.27
26-Aug-97	5.05	5.05	5.21	5.80	5.26	5.53	4.94	5.15
27-Aug-97	4.91	4.91	5.07	5.64	5.12	5.38	4.81	5.02
28-Aug-97	4.28	4.28	4.42	4.94	4.47	4.70	4.19	4.38
29-Aug-97	3.47	3.47	3.58	4.00	3.62	3.81	3.39	3.54
30-Aug-97	2.92	2.92	3.02	3.38	3.05	3.22	2.86	2.99
31-Aug-97	3.77	3.77	3.89	4.35	3.93	4.14	3.68	3.85
1-Sep-97	4.98	4.98	5.14	5.74	5.20	5.47	4.87	5.09

Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
2-Sep-97	4.67	4.67	4.82	5.37	4.87	5.12	4.57	4.77
3-Sep-97	3.16	3.16	3.26	3.65	3.30	3.47	3.09	3.23
4-Sep-97	4.61	4.61	4.76	5.32	4.81	5.06	4.51	4.71
5-Sep-97	4.49	4.49	4.63	5.17	4.68	4.93	4.39	4.58
6-Sep-97	5.41	5.41	5.56	6.12	5.61	5.87	5.31	5.51
7-Sep-97	3.82	3.82	3.95	4.40	3.99	4.19	3.74	3.91
8-Sep-97	5.01	5.01	5.18	5.78	5.23	5.51	4.90	5.12
9-Sep-97	4.32	4.32	4.46	4.99	4.51	4.75	4.22	4.41
10-Sep-97	5.21	5.21	5.38	6.02	5.44	5.73	5.09	5.32
11-Sep-97	5.18	5.18	5.35	5.97	5.40	5.69	5.06	5.29
12-Sep-97	2.73	2.73	2.82	3.15	2.85	3.00	2.67	2.79
13-Sep-97	2.71	2.71	2.80	3.13	2.83	2.98	2.65	2.77
14-Sep-97	2.68	2.68	2.77	3.11	2.80	2.95	2.62	2.74
15-Sep-97	2.63	2.63	2.72	3.05	2.75	2.90	2.57	2.69
16-Sep-97	2.67	2.67	2.76	3.10	2.79	2.95	2.61	2.73
17-Sep-97	2.76	2.76	2.85	3.18	2.88	3.03	2.70	2.82
18-Sep-97	2.60	2.60	2.69	3.02	2.72	2.87	2.54	2.66
19-Sep-97	2.68	2.68	2.77	3.11	2.80	2.95	2.62	2.74
20-Sep-97	2.90	2.90	3.00	3.35	3.03	3.19	2.83	2.96
21-Sep-97	2.90	2.90	3.00	3.36	3.03	3.20	2.84	2.97
22-Sep-97	3.27	3.27	3.37	3.75	3.41	3.58	3.20	3.34
23-Sep-97	2.78	2.78	2.87	3.20	2.90	3.05	2.72	2.84
24-Sep-97	2.67	2.67	2.76	3.09	2.79	2.94	2.61	2.73
25-Sep-97	2.65	2.65	2.75	3.08	2.78	2.93	2.59	2.72
26-Sep-97	3.70	3.70	3.82	4.26	3.86	4.06	3.61	3.78
27-Sep-97	3.06	3.06	3.16	3.53	3.20	3.37	3.00	3.13
28-Sep-97	2.60	2.60	2.69	3.01	2.72	2.87	2.54	2.66
29-Sep-97	3.29	3.29	3.41	3.83	3.45	3.64	3.22	3.37
30-Sep-97	3.33	3.33	3.44	3.87	3.48	3.68	3.25	3.41
1-Oct-97	5.12	5.12	5.29	5.93	5.35	5.64	5.01	5.24
2-Oct-97	6.15	6.15	6.35	7.08	6.42	6.75	6.02	6.29
3-Oct-97	4.48	4.48	4.63	5.17	4.68	4.93	4.38	4.58
4-Oct-97	2.45	2.45	2.54	2.86	2.57	2.71	2.39	2.51
5-Oct-97	2.53	2.53	2.61	2.94	2.64	2.79	2.47	2.58
6-Oct-97	3.13	3.13	3.23	3.62	3.27	3.44	3.06	3.20
7-Oct-97	4.67	4.67	4.82	5.40	4.88	5.14	4.56	4.77
8-Oct-97	4.44	4.44	4.59	5.14	4.64	4.89	4.34	4.54
9-Oct-97	3.61	3.61	3.74	4.20	3.78	3.99	3.53	3.70
10-Oct-97	5.84	5.84	6.04	6.76	6.10	6.43	5.71	5.97
11-Oct-97	5.71	5.71	5.90	6.58	5.96	6.27	5.59	5.84
12-Oct-97	3.84	3.84	3.97	4.43	4.01	4.22	3.76	3.93
13-Oct-97	4.04	4.04	4.17	4.66	4.22	4.44	3.95	4.13
14-Oct-97	4.17	4.17	4.31	4.83	4.36	4.59	4.07	4.26
15-Oct-97	4.23	4.23	4.37	4.90	4.42	4.66	4.13	4.32
16-Oct-97	4.09	4.09	4.23	4.74	4.28	4.51	4.00	4.18
17-Oct-97	5.77	5.77	5.96	6.66	6.03	6.34	5.65	5.90
18-Oct-97	4.93	4.93	5.10	5.70	5.15	5.43	4.82	5.04
19-Oct-97	4.66	4.66	4.81	5.37	4.86	5.11	4.55	4.76
20-Oct-97	3.21	3.21	3.31	3.70	3.35	3.53	3.13	3.28
21-Oct-97	3.34	3.34	3.46	3.88	3.50	3.69	3.27	3.42
22-Oct-97	2.99	2.99	3.09	3.47	3.13	3.30	2.92	3.06
23-Oct-97	4.30	4.30	4.44	4.97	4.49	4.73	4.20	4.40
24-Oct-97	3.65	3.65	3.77	4.22	3.81	4.02	3.57	3.73
25-Oct-97	3.66	3.66	3.78	4.23	3.82	4.03	3.58	3.74
26-Oct-97	5.13	5.13	5.30	5.93	5.36	5.64	5.02	5.25
27-Oct-97	2.86	2.86	2.96	3.31	2.99	3.15	2.80	2.93
28-Oct-97	3.71	3.71	3.83	4.29	3.87	4.08	3.62	3.79
29-Oct-97	4.44	4.44	4.59	5.15	4.64	4.90	4.34	4.54
30-Oct-97	4.63	4.63	4.78	5.36	4.84	5.10	4.52	4.73
31-Oct-97	5.16	5.16	5.34	5.98	5.39	5.69	5.04	5.28
1-Nov-97	6.10	6.10	6.30	7.02	6.36	6.69	5.97	6.23
2-Nov-97	4.80	4.80	4.95	5.52	5.00	5.26	4.69	4.90
3-Nov-97	3.42	3.42	3.54	3.96	3.58	3.77	3.35	3.50
4-Nov-97	3.71	3.71	3.84	4.28	3.88	4.08	3.63	3.80
5-Nov-97	2.75	2.75	2.85	3.19	2.88	3.04	2.69	2.82
6-Nov-97	4.42	4.42	4.57	5.11	4.62	4.86	4.32	4.52
7-Nov-97	5.22	5.22	5.39	6.02	5.45	5.73	5.11	5.34
8-Nov-97	4.90	4.90	5.06	5.64	5.11	5.38	4.79	5.00
9-Nov-97	4.14	4.14	4.28	4.78	4.32	4.55	4.05	4.23
10-Nov-97	4.13	4.13	4.26	4.77	4.31	4.54	4.04	4.22
11-Nov-97	3.92	3.92	4.05	4.54	4.10	4.32	3.83	4.01
12-Nov-97	5.19	5.19	5.36	5.99	5.42	5.70	5.08	5.31
13-Nov-97	4.84	4.84	5.00	5.59	5.06	5.32	4.73	4.95
14-Nov-97	4.30	4.30	4.44	4.97	4.49	4.73	4.20	4.40
15-Nov-97	5.18	5.18	5.35	5.97	5.40	5.69	5.06	5.29

Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
16-Nov-97	4.77	4.77	4.93	5.51	4.98	5.24	4.66	4.87
17-Nov-97	5.13	5.13	5.30	5.93	5.36	5.64	5.02	5.24
18-Nov-97	4.79	4.79	4.95	5.54	5.00	5.27	4.68	4.90
19-Nov-97	3.63	3.63	3.75	4.21	3.79	4.00	3.54	3.71
20-Nov-97	5.11	5.11	5.28	5.91	5.34	5.62	5.00	5.22
21-Nov-97	3.22	3.22	3.33	3.74	3.37	3.56	3.15	3.30
22-Nov-97	4.09	4.09	4.22	4.73	4.27	4.50	3.99	4.18
23-Nov-97	4.28	4.28	4.42	4.96	4.47	4.71	4.18	4.38
24-Nov-97	5.10	5.10	5.27	5.90	5.33	5.62	4.99	5.22
25-Nov-97	4.56	4.56	4.71	5.27	4.76	5.01	4.46	4.66
26-Nov-97	5.41	5.41	5.59	6.25	5.65	5.95	5.29	5.53
27-Nov-97	4.73	4.73	4.89	5.47	4.94	5.21	4.63	4.84
28-Nov-97	5.37	5.37	5.55	6.20	5.61	5.91	5.26	5.49
29-Nov-97	4.93	4.93	5.09	5.69	5.15	5.42	4.82	5.04
30-Nov-97	4.22	4.22	4.37	4.89	4.41	4.65	4.13	4.32
1-Dec-97	4.35	4.35	4.49	5.03	4.54	4.79	4.25	4.45
2-Dec-97	4.35	4.35	4.50	5.03	4.55	4.79	4.26	4.45
3-Dec-97	5.46	5.46	5.64	6.29	5.70	5.99	5.34	5.58
4-Dec-97	5.16	5.16	5.32	5.93	5.38	5.66	5.04	5.27
5-Dec-97	5.19	5.19	5.36	5.98	5.42	5.70	5.08	5.30
6-Dec-97	3.71	3.71	3.83	4.29	3.88	4.09	3.63	3.79
7-Dec-97	2.34	2.34	2.42	2.73	2.45	2.59	2.29	2.40
8-Dec-97	5.66	5.66	5.84	6.52	5.91	6.21	5.54	5.78
9-Dec-97	4.95	4.95	5.11	5.71	5.17	5.44	4.84	5.06
10-Dec-97	4.32	4.32	4.47	4.99	4.51	4.75	4.23	4.42
11-Dec-97	4.02	4.02	4.16	4.65	4.20	4.43	3.93	4.11
12-Dec-97	3.89	3.89	4.02	4.49	4.06	4.28	3.81	3.98
13-Dec-97	3.71	3.71	3.83	4.28	3.87	4.07	3.63	3.79
14-Dec-97	3.76	3.76	3.88	4.34	3.93	4.13	3.68	3.84
15-Dec-97	5.23	5.23	5.40	6.03	5.46	5.74	5.12	5.35
16-Dec-97	2.43	2.43	2.51	2.81	2.54	2.68	2.37	2.48
17-Dec-97	4.42	4.42	4.57	5.10	4.61	4.86	4.32	4.52
18-Dec-97	4.17	4.17	4.31	4.82	4.36	4.59	4.08	4.27
19-Dec-97	4.00	4.00	4.13	4.62	4.18	4.40	3.91	4.09
20-Dec-97	2.89	2.89	2.99	3.35	3.02	3.19	2.82	2.95
21-Dec-97	3.24	3.24	3.35	3.75	3.38	3.56	3.16	3.31
22-Dec-97	2.34	2.34	2.42	2.72	2.45	2.59	2.28	2.39
23-Dec-97	5.62	5.62	5.81	6.48	5.87	6.17	5.50	5.74
24-Dec-97	5.21	5.21	5.38	5.99	5.43	5.71	5.10	5.32
25-Dec-97	5.03	5.03	5.19	5.79	5.25	5.52	4.92	5.14
26-Dec-97	4.89	4.89	5.05	5.63	5.10	5.37	4.78	5.00
27-Dec-97	5.12	5.12	5.29	5.91	5.35	5.63	5.01	5.23
28-Dec-97	5.19	5.19	5.36	5.99	5.42	5.70	5.08	5.31
29-Dec-97	3.78	3.78	3.91	4.37	3.95	4.16	3.70	3.86
30-Dec-97	4.05	4.05	4.19	4.69	4.23	4.46	3.96	4.14
31-Dec-97	4.08	4.08	4.22	4.73	4.27	4.50	3.99	4.17
1-Jan-98	3.78	3.78	3.90	4.37	3.95	4.16	3.69	3.86
2-Jan-98	4.94	4.94	5.11	5.71	5.16	5.44	4.83	5.05
3-Jan-98	3.95	3.95	4.09	4.57	4.13	4.35	3.86	4.04
4-Jan-98	4.15	4.15	4.29	4.81	4.34	4.57	4.05	4.24
5-Jan-98	3.00	3.00	3.11	3.49	3.14	3.32	2.93	3.07
6-Jan-98	3.50	3.50	3.62	4.04	3.66	3.85	3.42	3.58
7-Jan-98	4.26	4.26	4.40	4.91	4.45	4.68	4.17	4.35
8-Jan-98	4.44	4.44	4.58	5.12	4.63	4.88	4.34	4.54
9-Jan-98	4.84	4.84	5.00	5.59	5.06	5.32	4.74	4.95
10-Jan-98	6.17	6.17	6.37	7.10	6.43	6.77	6.03	6.30
11-Jan-98	4.60	4.60	4.76	5.31	4.81	5.06	4.50	4.71
12-Jan-98	4.94	4.94	5.10	5.69	5.16	5.42	4.84	5.05
13-Jan-98	5.76	5.76	5.94	6.61	6.00	6.31	5.64	5.88
14-Jan-98	4.73	4.73	4.88	5.44	4.93	5.18	4.63	4.83
15-Jan-98	5.38	5.38	5.56	6.19	5.61	5.90	5.27	5.50
16-Jan-98	5.19	5.19	5.36	5.96	5.41	5.69	5.08	5.30
17-Jan-98	5.47	5.47	5.64	6.29	5.70	5.99	5.35	5.58
18-Jan-98	5.12	5.12	5.29	5.90	5.34	5.62	5.01	5.23
19-Jan-98	5.42	5.42	5.60	6.24	5.66	5.95	5.31	5.54
20-Jan-98	6.37	6.37	6.57	7.33	6.64	6.99	6.23	6.51
21-Jan-98	6.11	6.11	6.31	7.03	6.37	6.70	5.98	6.24
22-Jan-98	6.23	6.23	6.43	7.18	6.50	6.84	6.09	6.37
23-Jan-98	6.12	6.12	6.32	7.04	6.38	6.71	5.99	6.25
24-Jan-98	6.58	6.58	6.79	7.56	6.86	7.21	6.44	6.72
25-Jan-98	5.74	5.74	5.92	6.60	5.99	6.29	5.62	5.86
26-Jan-98	5.08	5.08	5.25	5.85	5.30	5.58	4.98	5.19
27-Jan-98	6.77	6.77	6.99	7.78	7.06	7.42	6.62	6.91
28-Jan-98	4.99	4.99	5.15	5.75	5.21	5.48	4.88	5.10
29-Jan-98	2.82	2.82	2.91	3.26	2.95	3.10	2.76	2.88

Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
30-Jan-98	4.89	4.89	5.05	5.64	5.10	5.37	4.78	5.00
31-Jan-98	5.91	5.91	6.09	6.78	6.16	6.47	5.78	6.03
1-Feb-98	5.91	5.91	6.10	6.79	6.16	6.48	5.79	6.04
2-Feb-98	6.55	6.55	6.76	7.52	6.83	7.18	6.42	6.69
3-Feb-98	5.16	5.16	5.33	5.94	5.38	5.66	5.05	5.27
4-Feb-98	5.14	5.14	5.31	5.91	5.36	5.64	5.03	5.25
5-Feb-98	4.52	4.52	4.66	5.21	4.71	4.96	4.42	4.62
6-Feb-98	5.70	5.70	5.88	6.56	5.95	6.25	5.58	5.82
7-Feb-98	5.95	5.95	6.14	6.84	6.20	6.52	5.82	6.07
8-Feb-98	6.92	6.92	7.15	7.97	7.22	7.60	6.77	7.07
9-Feb-98	7.01	7.01	7.24	8.07	7.31	7.69	6.85	7.16
10-Feb-98	6.73	6.73	6.94	7.73	7.01	7.37	6.58	6.87
11-Feb-98	6.61	6.61	6.82	7.61	6.90	7.25	6.47	6.75
12-Feb-98	6.23	6.23	6.43	7.16	6.50	6.83	6.10	6.37
13-Feb-98	6.16	6.16	6.36	7.08	6.42	6.75	6.03	6.29
14-Feb-98	5.89	5.89	6.08	6.76	6.14	6.45	5.77	6.02
15-Feb-98	4.85	4.85	5.00	5.58	5.06	5.32	4.74	4.95
16-Feb-98	5.50	5.50	5.68	6.32	5.73	6.03	5.38	5.62
17-Feb-98	5.58	5.58	5.76	6.40	5.81	6.11	5.46	5.70
18-Feb-98	5.41	5.41	5.58	6.20	5.63	5.92	5.29	5.52
19-Feb-98	5.14	5.14	5.31	5.92	5.36	5.64	5.03	5.25
20-Feb-98	5.17	5.17	5.34	5.95	5.39	5.67	5.06	5.28
21-Feb-98	2.63	2.63	2.72	3.05	2.75	2.90	2.57	2.69
22-Feb-98	5.79	5.79	5.98	6.66	6.04	6.35	5.67	5.91
23-Feb-98	2.04	2.04	2.15	2.53	2.18	2.35	1.97	2.11
24-Feb-98	2.01	2.01	2.11	2.48	2.14	2.31	1.94	2.08
25-Feb-98	6.97	6.97	7.19	8.01	7.27	7.64	6.82	7.12
26-Feb-98	5.45	5.45	5.63	6.28	5.69	5.99	5.34	5.57
27-Feb-98	6.80	6.80	7.02	7.81	7.09	7.45	6.65	6.94
28-Feb-98	6.59	6.59	6.81	7.60	6.88	7.24	6.45	6.73
1-Mar-98	6.43	6.43	6.64	7.44	6.72	7.08	6.28	6.57
2-Mar-98	6.27	6.27	6.48	7.24	6.55	6.89	6.13	6.41
3-Mar-98	4.40	4.40	4.54	5.08	4.59	4.84	4.30	4.50
4-Mar-98	4.18	4.18	4.32	4.83	4.36	4.59	4.08	4.27
5-Mar-98	5.28	5.28	5.45	6.08	5.51	5.79	5.16	5.39
6-Mar-98	6.59	6.59	6.80	7.59	6.87	7.23	6.44	6.73
7-Mar-98	4.85	4.85	5.02	5.60	5.07	5.34	4.75	4.96
8-Mar-98	6.11	6.11	6.31	7.04	6.38	6.71	5.98	6.25
9-Mar-98	4.38	4.38	4.53	5.06	4.58	4.82	4.29	4.48
10-Mar-98	7.01	7.01	7.23	8.06	7.31	7.68	6.86	7.16
11-Mar-98	6.79	6.79	7.01	7.80	7.08	7.44	6.65	6.94
12-Mar-98	6.01	6.01	6.20	6.90	6.26	6.58	5.88	6.13
13-Mar-98	3.68	3.68	3.80	4.26	3.84	4.05	3.60	3.76
14-Mar-98	5.40	5.40	5.57	6.20	5.63	5.92	5.29	5.52
15-Mar-98	5.26	5.26	5.44	6.07	5.49	5.78	5.15	5.38
16-Mar-98	4.44	4.44	4.59	5.13	4.64	4.88	4.34	4.54
17-Mar-98	6.40	6.40	6.60	7.33	6.66	7.00	6.27	6.53
18-Mar-98	4.68	4.68	4.83	5.38	4.88	5.13	4.58	4.78
19-Mar-98	5.24	5.24	5.41	6.03	5.46	5.75	5.13	5.35
20-Mar-98	6.07	6.07	6.26	6.95	6.32	6.64	5.95	6.20
21-Mar-98	5.49	5.49	5.66	6.30	5.72	6.01	5.37	5.61
22-Mar-98	4.58	4.58	4.73	5.28	4.78	5.03	4.48	4.68
23-Mar-98	5.13	5.13	5.29	5.89	5.35	5.62	5.02	5.24
24-Mar-98	6.14	6.14	6.34	7.06	6.40	6.73	6.01	6.27
25-Mar-98	6.56	6.56	6.78	7.55	6.85	7.20	6.42	6.71
26-Mar-98	5.97	5.97	6.15	6.84	6.22	6.53	5.84	6.09
27-Mar-98	5.70	5.70	5.88	6.55	5.94	6.25	5.58	5.82
28-Mar-98	4.51	4.51	4.66	5.20	4.71	4.95	4.42	4.61
29-Mar-98	6.92	6.92	7.15	7.96	7.22	7.59	6.78	7.07
30-Mar-98	6.12	6.12	6.32	7.02	6.38	6.70	5.99	6.25
31-Mar-98	4.29	4.29	4.42	4.91	4.47	4.69	4.20	4.38
1-Apr-98	5.90	5.90	6.08	6.78	6.15	6.46	5.77	6.02
2-Apr-98	5.85	5.85	6.04	6.73	6.10	6.42	5.73	5.98
3-Apr-98	6.62	6.62	6.83	7.60	6.90	7.25	6.48	6.76
4-Apr-98	7.39	7.39	7.62	8.46	7.69	8.08	7.23	7.54
5-Apr-98	5.26	5.26	5.43	6.05	5.48	5.77	5.15	5.37
6-Apr-98	4.87	4.87	5.03	5.59	5.08	5.33	4.77	4.97
7-Apr-98	5.88	5.88	6.06	6.72	6.12	6.42	5.75	6.00
8-Apr-98	6.05	6.05	6.24	6.93	6.30	6.62	5.93	6.18
9-Apr-98	5.16	5.16	5.32	5.92	5.38	5.65	5.05	5.27
10-Apr-98	6.81	6.81	7.02	7.77	7.09	7.43	6.67	6.95
11-Apr-98	6.10	6.10	6.29	6.98	6.35	6.66	5.97	6.22
12-Apr-98	5.15	5.15	5.31	5.92	5.37	5.64	5.04	5.26
13-Apr-98	4.67	4.67	4.82	5.37	4.87	5.12	4.57	4.77
14-Apr-98	5.54	5.54	5.72	6.36	5.77	6.07	5.42	5.66

Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
15-Apr-98	5.41	5.41	5.58	6.21	5.64	5.92	5.30	5.53
16-Apr-98	5.25	5.25	5.42	6.03	5.47	5.75	5.14	5.36
17-Apr-98	4.76	4.76	4.92	5.49	4.97	5.23	4.65	4.86
18-Apr-98	5.95	5.95	6.14	6.84	6.21	6.52	5.82	6.08
19-Apr-98	5.62	5.62	5.79	6.44	5.85	6.15	5.50	5.73
20-Apr-98	5.17	5.17	5.34	5.95	5.39	5.67	5.06	5.28
21-Apr-98	6.39	6.39	6.59	7.34	6.66	7.00	6.25	6.52
22-Apr-98	5.16	5.16	5.32	5.93	5.38	5.65	5.05	5.27
23-Apr-98	6.18	6.18	6.38	7.11	6.45	6.78	6.05	6.31
24-Apr-98	6.10	6.10	6.29	7.00	6.36	6.68	5.97	6.23
25-Apr-98	4.47	4.47	4.62	5.15	4.67	4.91	4.38	4.57
26-Apr-98	6.29	6.29	6.48	7.20	6.55	6.88	6.15	6.42
27-Apr-98	5.42	5.42	5.60	6.23	5.65	5.94	5.31	5.54
28-Apr-98	5.15	5.15	5.32	5.92	5.37	5.65	5.04	5.26
29-Apr-98	4.42	4.42	4.56	5.09	4.61	4.85	4.32	4.51
30-Apr-98	5.22	5.22	5.38	5.99	5.44	5.72	5.11	5.33
1-May-98	5.07	5.07	5.23	5.84	5.29	5.56	4.96	5.18
2-May-98	5.84	5.84	6.03	6.72	6.10	6.41	5.72	5.97
3-May-98	5.36	5.36	5.53	6.16	5.59	5.88	5.24	5.47
4-May-98	6.12	6.12	6.32	7.04	6.39	6.71	5.99	6.25
5-May-98	5.76	5.76	5.95	6.63	6.01	6.32	5.64	5.89
6-May-98	6.05	6.05	6.24	6.95	6.31	6.63	5.92	6.18
7-May-98	4.08	4.08	4.21	4.70	4.26	4.48	3.99	4.17
8-May-98	6.78	6.78	6.99	7.79	7.06	7.43	6.63	6.92
9-May-98	4.07	4.07	4.20	4.69	4.24	4.47	3.98	4.16
10-May-98	5.00	5.00	5.17	5.77	5.22	5.49	4.89	5.11
11-May-98	2.71	2.71	2.80	3.14	2.83	2.99	2.64	2.77
12-May-98	3.51	3.51	3.63	4.08	3.67	3.88	3.43	3.59
13-May-98	4.20	4.20	4.34	4.87	4.39	4.63	4.11	4.30
14-May-98	2.39	2.39	2.47	2.78	2.50	2.64	2.33	2.44
15-May-98	3.57	3.57	3.69	4.12	3.73	3.92	3.49	3.65
16-May-98	3.20	3.20	3.31	3.71	3.34	3.52	3.12	3.27
17-May-98	4.79	4.79	4.95	5.52	5.00	5.26	4.69	4.90
18-May-98	5.12	5.12	5.29	5.88	5.34	5.61	5.01	5.23
19-May-98	6.70	6.70	6.92	7.70	6.99	7.34	6.56	6.84
20-May-98	5.92	5.92	6.11	6.79	6.17	6.48	5.80	6.05
21-May-98	4.76	4.76	4.91	5.48	4.97	5.22	4.66	4.86
22-May-98	5.27	5.27	5.44	6.05	5.49	5.77	5.16	5.38
23-May-98	6.47	6.47	6.68	7.41	6.74	7.08	6.34	6.61
24-May-98	3.61	3.61	3.73	4.16	3.77	3.97	3.53	3.69
25-May-98	6.84	6.84	7.05	7.84	7.12	7.48	6.69	6.98
26-May-98	6.07	6.07	6.26	6.96	6.32	6.64	5.94	6.20
27-May-98	6.43	6.43	6.62	7.35	6.69	7.02	6.29	6.56
28-May-98	6.11	6.11	6.29	6.98	6.36	6.67	5.98	6.23
29-May-98	6.66	6.66	6.87	7.63	6.94	7.29	6.52	6.80
30-May-98	6.23	6.23	6.42	7.14	6.49	6.81	6.10	6.36
31-May-98	5.23	5.23	5.40	5.99	5.45	5.72	5.13	5.34
1-Jun-98	5.33	5.33	5.49	6.10	5.55	5.82	5.22	5.44
2-Jun-98	5.55	5.55	5.72	6.36	5.78	6.07	5.43	5.66
3-Jun-98	4.69	4.69	4.84	5.40	4.89	5.15	4.59	4.79
4-Jun-98	5.04	5.04	5.20	5.80	5.26	5.53	4.93	5.15
5-Jun-98	3.16	3.16	3.27	3.66	3.30	3.48	3.09	3.23
6-Jun-98	5.35	5.35	5.52	6.15	5.58	5.86	5.24	5.46
7-Jun-98	3.57	3.57	3.69	4.12	3.72	3.92	3.49	3.65
8-Jun-98	3.50	3.50	3.62	4.05	3.66	3.85	3.43	3.58
9-Jun-98	4.51	4.51	4.66	5.20	4.71	4.96	4.42	4.61
10-Jun-98	3.54	3.54	3.65	4.08	3.69	3.88	3.46	3.61
11-Jun-98	5.55	5.55	5.73	6.38	5.79	6.08	5.43	5.67
12-Jun-98	5.96	5.96	6.15	6.84	6.21	6.53	5.83	6.09
13-Jun-98	5.46	5.46	5.63	6.26	5.68	5.97	5.34	5.57
14-Jun-98	3.81	3.81	3.94	4.40	3.98	4.19	3.73	3.90
15-Jun-98	2.49	2.49	2.58	2.90	2.61	2.76	2.44	2.55
16-Jun-98	4.94	4.94	5.10	5.69	5.15	5.42	4.83	5.05
17-Jun-98	4.20	4.20	4.34	4.84	4.38	4.61	4.11	4.29
18-Jun-98	4.04	4.04	4.17	4.65	4.22	4.43	3.95	4.13
19-Jun-98	4.88	4.88	5.04	5.62	5.09	5.36	4.78	4.99
20-Jun-98	4.95	4.95	5.11	5.70	5.16	5.43	4.84	5.05
21-Jun-98	2.35	2.35	2.43	2.73	2.46	2.60	2.29	2.40
22-Jun-98	5.36	5.36	5.53	6.18	5.59	5.89	5.24	5.47
23-Jun-98	5.20	5.20	5.37	6.00	5.43	5.72	5.09	5.32
24-Jun-98	3.00	3.00	3.09	3.45	3.13	3.29	2.93	3.06
25-Jun-98	2.57	2.57	2.66	2.98	2.69	2.83	2.51	2.63
26-Jun-98	4.17	4.17	4.31	4.81	4.36	4.58	4.08	4.27
27-Jun-98	3.85	3.85	3.97	4.43	4.01	4.22	3.76	3.93
28-Jun-98	3.53	3.53	3.65	4.07	3.69	3.88	3.46	3.61

Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
29-Jun-98	4.07	4.07	4.20	4.69	4.24	4.46	3.98	4.15
30-Jun-98	4.52	4.52	4.66	5.19	4.71	4.95	4.42	4.61
1-Jul-98	5.81	5.81	5.99	6.64	6.05	6.35	5.69	5.93
2-Jul-98	5.19	5.19	5.35	5.94	5.40	5.67	5.08	5.30
3-Jul-98	5.94	5.94	6.13	6.81	6.19	6.50	5.82	6.07
4-Jul-98	5.43	5.43	5.60	6.24	5.66	5.95	5.31	5.55
5-Jul-98	5.54	5.54	5.72	6.36	5.77	6.07	5.42	5.66
6-Jul-98	2.39	2.39	2.48	2.78	2.50	2.64	2.34	2.45
7-Jul-98	4.41	4.41	4.55	5.09	4.60	4.85	4.31	4.51
8-Jul-98	5.17	5.17	5.34	5.97	5.40	5.69	5.06	5.29
9-Jul-98	4.04	4.04	4.17	4.67	4.22	4.44	3.95	4.13
10-Jul-98	3.23	3.23	3.33	3.72	3.37	3.55	3.16	3.30
11-Jul-98	2.43	2.43	2.52	2.83	2.54	2.69	2.38	2.49
12-Jul-98	4.70	4.70	4.86	5.43	4.91	5.17	4.59	4.80
13-Jul-98	5.39	5.39	5.57	6.22	5.63	5.93	5.27	5.51
14-Jul-98	4.18	4.18	4.32	4.84	4.37	4.60	4.09	4.28
15-Jul-98	5.11	5.11	5.28	5.89	5.33	5.61	5.00	5.22
16-Jul-98	4.82	4.82	4.98	5.56	5.03	5.30	4.72	4.93
17-Jul-98	4.63	4.63	4.78	5.34	4.83	5.08	4.53	4.73
18-Jul-98	4.47	4.47	4.62	5.15	4.66	4.91	4.37	4.57
19-Jul-98	2.59	2.59	2.68	3.01	2.71	2.86	2.53	2.65
20-Jul-98	4.35	4.35	4.50	5.03	4.55	4.79	4.26	4.45
21-Jul-98	3.64	3.64	3.76	4.22	3.80	4.01	3.55	3.72
22-Jul-98	4.74	4.74	4.90	5.46	4.95	5.21	4.64	4.85
23-Jul-98	3.53	3.53	3.65	4.09	3.69	3.89	3.45	3.61
24-Jul-98	4.53	4.53	4.67	5.21	4.72	4.96	4.43	4.63
25-Jul-98	2.99	2.99	3.09	3.45	3.12	3.29	2.92	3.05
26-Jul-98	4.05	4.05	4.19	4.69	4.23	4.46	3.96	4.14
27-Jul-98	5.44	5.44	5.61	6.25	5.67	5.96	5.32	5.55
28-Jul-98	2.70	2.70	2.79	3.11	2.82	2.96	2.64	2.76
29-Jul-98	3.69	3.69	3.82	4.27	3.86	4.07	3.61	3.78
30-Jul-98	5.75	5.75	5.94	6.63	6.00	6.32	5.63	5.88
31-Jul-98	6.72	6.72	6.94	7.72	7.01	7.36	6.58	6.87
1-Aug-98	4.17	4.17	4.30	4.78	4.34	4.56	4.08	4.25
2-Aug-98	2.71	2.71	2.81	3.15	2.84	2.99	2.65	2.78
3-Aug-98	2.69	2.69	2.78	3.12	2.82	2.97	2.63	2.75
4-Aug-98	3.34	3.34	3.45	3.87	3.49	3.68	3.26	3.42
5-Aug-98	3.10	3.10	3.20	3.58	3.24	3.41	3.03	3.17
6-Aug-98	4.63	4.63	4.78	5.34	4.83	5.09	4.52	4.73
7-Aug-98	4.57	4.57	4.72	5.27	4.77	5.02	4.47	4.67
8-Aug-98	4.48	4.48	4.63	5.18	4.68	4.93	4.38	4.58
9-Aug-98	3.23	3.23	3.35	3.75	3.38	3.57	3.16	3.31
10-Aug-98	5.58	5.58	5.76	6.42	5.82	6.12	5.46	5.70
11-Aug-98	5.82	5.82	6.01	6.68	6.07	6.37	5.70	5.95
12-Aug-98	3.43	3.43	3.55	3.97	3.59	3.78	3.36	3.51
13-Aug-98	2.80	2.80	2.90	3.26	2.93	3.10	2.74	2.87
14-Aug-98	4.17	4.17	4.31	4.83	4.36	4.60	4.08	4.27
15-Aug-98	3.86	3.86	3.99	4.48	4.04	4.26	3.77	3.95
16-Aug-98	4.22	4.22	4.36	4.88	4.41	4.64	4.13	4.31
17-Aug-98	5.83	5.83	6.02	6.72	6.08	6.40	5.70	5.96
18-Aug-98	3.04	3.04	3.14	3.53	3.18	3.35	2.97	3.11
19-Aug-98	4.21	4.21	4.36	4.88	4.41	4.64	4.12	4.31
20-Aug-98	6.20	6.20	6.40	7.16	6.47	6.81	6.06	6.33
21-Aug-98	4.54	4.54	4.69	5.24	4.74	4.99	4.43	4.64
22-Aug-98	4.25	4.25	4.39	4.90	4.44	4.67	4.15	4.34
23-Aug-98	5.02	5.02	5.18	5.80	5.24	5.52	4.90	5.13
24-Aug-98	3.24	3.24	3.35	3.76	3.39	3.57	3.16	3.31
25-Aug-98	4.89	4.89	5.05	5.66	5.11	5.38	4.78	5.00
26-Aug-98	3.82	3.82	3.96	4.44	4.00	4.22	3.74	3.91
27-Aug-98	5.08	5.08	5.26	5.88	5.31	5.60	4.97	5.20
28-Aug-98	5.02	5.02	5.19	5.80	5.24	5.52	4.91	5.13
29-Aug-98	4.14	4.14	4.28	4.79	4.33	4.56	4.05	4.23
30-Aug-98	5.56	5.56	5.74	6.40	5.80	6.10	5.43	5.68
31-Aug-98	5.30	5.30	5.47	6.13	5.53	5.83	5.18	5.42
1-Sep-98	3.48	3.48	3.60	4.03	3.64	3.83	3.40	3.56
2-Sep-98	5.23	5.23	5.40	6.03	5.46	5.74	5.11	5.34
3-Sep-98	4.93	4.93	5.09	5.69	5.14	5.42	4.82	5.03
4-Sep-98	6.08	6.08	6.28	7.02	6.35	6.68	5.95	6.22
5-Sep-98	5.54	5.54	5.73	6.39	5.79	6.09	5.42	5.66
6-Sep-98	4.70	4.70	4.85	5.42	4.90	5.16	4.59	4.80
7-Sep-98	3.83	3.83	3.97	4.48	4.02	4.25	3.74	3.93
8-Sep-98	3.42	3.42	3.54	3.97	3.58	3.77	3.34	3.50
9-Sep-98	3.68	3.68	3.80	4.27	3.85	4.06	3.59	3.76
10-Sep-98	3.90	3.90	4.03	4.53	4.08	4.30	3.81	3.99
11-Sep-98	4.93	4.93	5.10	5.71	5.15	5.43	4.82	5.04

Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

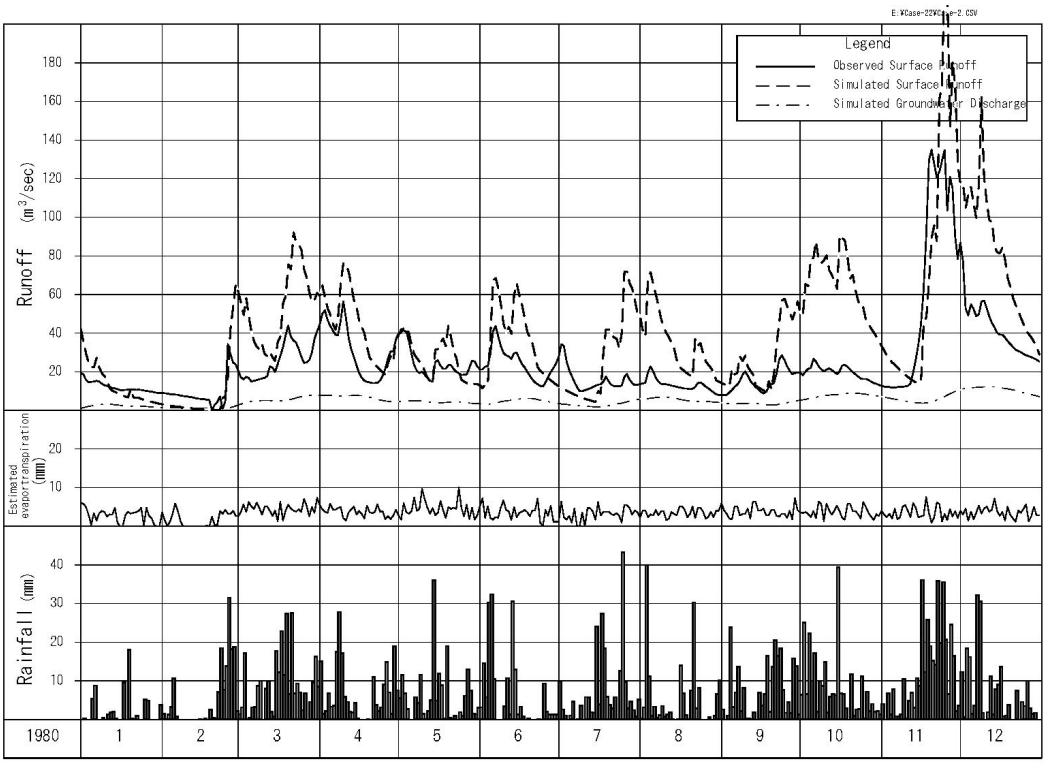
Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
12-Sep-98	5.28	5.28	5.45	6.09	5.51	5.80	5.16	5.40
13-Sep-98	2.57	2.57	2.66	2.98	2.69	2.84	2.51	2.63
14-Sep-98	5.70	5.70	5.89	6.58	5.95	6.26	5.57	5.82
15-Sep-98	3.96	3.96	4.09	4.56	4.13	4.35	3.87	4.04
16-Sep-98	3.20	3.20	3.30	3.69	3.34	3.51	3.12	3.27
17-Sep-98	5.04	5.04	5.20	5.81	5.26	5.53	4.93	5.15
18-Sep-98	3.90	3.90	4.02	4.49	4.07	4.28	3.81	3.98
19-Sep-98	5.79	5.79	5.98	6.68	6.04	6.36	5.66	5.92
20-Sep-98	5.92	5.92	6.11	6.81	6.17	6.49	5.79	6.04
21-Sep-98	3.73	3.73	3.85	4.29	3.89	4.09	3.65	3.81
22-Sep-98	5.96	5.96	6.15	6.85	6.21	6.53	5.83	6.09
23-Sep-98	5.66	5.66	5.85	6.53	5.91	6.22	5.54	5.79
24-Sep-98	3.81	3.81	3.93	4.37	3.97	4.17	3.73	3.89
25-Sep-98	3.41	3.41	3.52	3.94	3.56	3.75	3.33	3.48
26-Sep-98	5.15	5.15	5.32	5.94	5.38	5.66	5.04	5.26
27-Sep-98	6.53	6.53	6.75	7.53	6.82	7.17	6.39	6.67
28-Sep-98	4.33	4.33	4.47	4.99	4.52	4.76	4.23	4.42
29-Sep-98	3.75	3.75	3.88	4.34	3.92	4.13	3.67	3.83
30-Sep-98	4.91	4.91	5.07	5.65	5.12	5.38	4.80	5.01
1-Oct-98	6.21	6.21	6.42	7.17	6.48	6.83	6.07	6.35
2-Oct-98	4.73	4.73	4.88	5.46	4.94	5.20	4.62	4.83
3-Oct-98	3.42	3.42	3.53	3.95	3.57	3.76	3.35	3.50
4-Oct-98	2.84	2.84	2.93	3.26	2.96	3.11	2.77	2.90
5-Oct-98	3.98	3.98	4.11	4.58	4.15	4.36	3.89	4.06
6-Oct-98	3.09	3.09	3.20	3.58	3.23	3.41	3.03	3.16
7-Oct-98	3.94	3.94	4.07	4.54	4.11	4.33	3.86	4.03
8-Oct-98	6.00	6.00	6.19	6.90	6.26	6.58	5.87	6.13
9-Oct-98	5.29	5.29	5.47	6.11	5.52	5.81	5.17	5.41
10-Oct-98	6.14	6.14	6.34	7.08	6.41	6.74	6.01	6.28
11-Oct-98	6.46	6.46	6.67	7.43	6.74	7.08	6.32	6.60
12-Oct-98	4.49	4.49	4.64	5.17	4.68	4.93	4.39	4.59
13-Oct-98	5.32	5.32	5.49	6.13	5.55	5.84	5.20	5.43
14-Oct-98	3.66	3.66	3.78	4.21	3.81	4.01	3.58	3.74
15-Oct-98	6.11	6.11	6.31	7.02	6.37	6.70	5.98	6.24
16-Oct-98	4.32	4.32	4.46	4.95	4.50	4.73	4.23	4.41
17-Oct-98	5.68	5.68	5.86	6.49	5.91	6.20	5.57	5.80
18-Oct-98	6.32	6.32	6.52	7.26	6.59	6.93	6.19	6.46
19-Oct-98	5.68	5.68	5.86	6.53	5.92	6.23	5.55	5.80
20-Oct-98	6.75	6.75	6.96	7.74	7.03	7.38	6.61	6.89
21-Oct-98	5.77	5.77	5.95	6.62	6.01	6.31	5.65	5.89
22-Oct-98	4.62	4.62	4.76	5.28	4.81	5.05	4.52	4.71
23-Oct-98	4.93	4.93	5.09	5.68	5.14	5.41	4.82	5.04
24-Oct-98	5.05	5.05	5.22	5.82	5.27	5.55	4.94	5.16
25-Oct-98	4.12	4.12	4.25	4.74	4.29	4.52	4.03	4.21
26-Oct-98	3.94	3.94	4.07	4.53	4.11	4.32	3.86	4.02
27-Oct-98	3.59	3.59	3.71	4.16	3.75	3.95	3.51	3.67
28-Oct-98	3.59	3.59	3.71	4.15	3.75	3.95	3.51	3.67
29-Oct-98	2.51	2.51	2.59	2.91	2.62	2.76	2.45	2.56
30-Oct-98	4.88	4.88	5.04	5.65	5.10	5.37	4.77	4.99
31-Oct-98	5.13	5.13	5.30	5.94	5.36	5.65	5.02	5.25
1-Nov-98	3.38	3.38	3.49	3.90	3.53	3.72	3.30	3.45
2-Nov-98	5.01	5.01	5.18	5.78	5.23	5.51	4.90	5.12
3-Nov-98	4.74	4.74	4.90	5.49	4.95	5.22	4.63	4.84
4-Nov-98	3.63	3.63	3.76	4.21	3.80	4.00	3.55	3.72
5-Nov-98	2.81	2.81	2.90	3.24	2.93	3.09	2.74	2.87
6-Nov-98	2.59	2.59	2.68	3.00	2.71	2.86	2.53	2.65
7-Nov-98	2.91	2.91	3.01	3.37	3.04	3.21	2.85	2.98
8-Nov-98	3.26	3.26	3.37	3.77	3.40	3.59	3.18	3.33
9-Nov-98	5.17	5.17	5.33	5.95	5.39	5.67	5.05	5.28
10-Nov-98	4.23	4.23	4.36	4.87	4.41	4.64	4.13	4.32
11-Nov-98	3.49	3.49	3.61	4.03	3.64	3.84	3.41	3.57
12-Nov-98	3.82	3.82	3.95	4.40	3.99	4.20	3.74	3.91
13-Nov-98	3.89	3.89	4.02	4.48	4.06	4.27	3.81	3.98
14-Nov-98	4.72	4.72	4.87	5.42	4.92	5.17	4.62	4.82
15-Nov-98	4.53	4.53	4.68	5.22	4.73	4.98	4.44	4.63
16-Nov-98	3.59	3.59	3.71	4.13	3.74	3.94	3.51	3.67
17-Nov-98	6.44	6.44	6.66	7.44	6.73	7.08	6.30	6.59
18-Nov-98	5.30	5.30	5.48	6.11	5.54	5.82	5.19	5.42
19-Nov-98	4.57	4.57	4.72	5.26	4.77	5.01	4.47	4.67
20-Nov-98	4.79	4.79	4.94	5.51	4.99	5.25	4.68	4.89
21-Nov-98	3.45	3.45	3.57	3.99	3.61	3.80	3.38	3.53
22-Nov-98	4.99	4.99	5.15	5.74	5.20	5.47	4.88	5.09
23-Nov-98	5.28	5.28	5.45	6.08	5.51	5.79	5.17	5.40
24-Nov-98	5.78	5.78	5.96	6.63	6.02	6.32	5.66	5.90
25-Nov-98	4.81	4.81	4.96	5.51	5.01	5.26	4.71	4.91

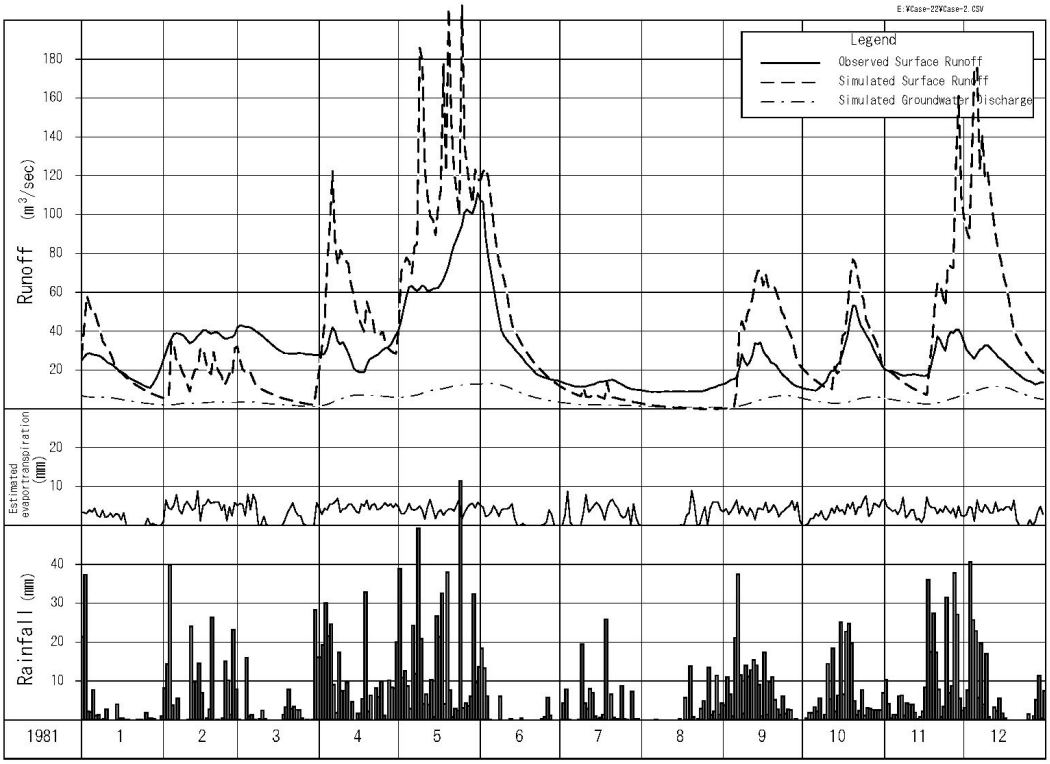
Data Book Table D.4.1 Computation Result of Daily Potential Evapotranspiration at Petaling Jaya (Station No. 48648) in 1995 - 1998

Date	Grass	Legmes	Oil Palm	Open Water	Towns	Tropical forest	Crops	Cocoa
26-Nov-98	4.80	4.80	4.95	5.50	5.00	5.25	4.70	4.90
27-Nov-98	4.17	4.17	4.30	4.80	4.35	4.57	4.08	4.26
28-Nov-98	5.31	5.31	5.48	6.11	5.54	5.82	5.20	5.42
29-Nov-98	4.30	4.30	4.45	4.96	4.49	4.73	4.21	4.40
30-Nov-98	3.63	3.63	3.75	4.19	3.79	3.99	3.55	3.71
1-Dec-98	4.10	4.10	4.24	4.73	4.28	4.51	4.01	4.19
2-Dec-98	4.76	4.76	4.92	5.49	4.97	5.23	4.66	4.86
3-Dec-98	3.33	3.33	3.45	3.86	3.48	3.67	3.26	3.41
4-Dec-98	4.03	4.03	4.17	4.67	4.21	4.44	3.94	4.12
5-Dec-98	3.78	3.78	3.91	4.37	3.95	4.16	3.69	3.86
6-Dec-98	3.00	3.00	3.10	3.47	3.13	3.30	2.93	3.06
7-Dec-98	3.14	3.14	3.24	3.63	3.28	3.45	3.07	3.21
8-Dec-98	2.38	2.38	2.46	2.77	2.49	2.63	2.33	2.44
9-Dec-98	3.06	3.06	3.16	3.54	3.19	3.37	2.99	3.12
10-Dec-98	3.49	3.49	3.60	4.03	3.64	3.84	3.41	3.57
11-Dec-98	4.27	4.27	4.41	4.92	4.45	4.69	4.17	4.36
12-Dec-98	2.77	2.77	2.87	3.21	2.90	3.06	2.71	2.84
13-Dec-98	3.44	3.44	3.56	3.98	3.59	3.78	3.36	3.52
14-Dec-98	4.45	4.45	4.59	5.12	4.64	4.88	4.36	4.55
15-Dec-98	3.95	3.95	4.07	4.54	4.12	4.33	3.86	4.03
16-Dec-98	2.84	2.84	2.92	3.25	2.95	3.10	2.78	2.90
17-Dec-98	3.52	3.52	3.64	4.06	3.67	3.87	3.44	3.60
18-Dec-98	3.65	3.65	3.77	4.20	3.81	4.00	3.57	3.73
19-Dec-98	3.14	3.14	3.24	3.62	3.27	3.45	3.07	3.21
20-Dec-98	3.20	3.20	3.30	3.67	3.34	3.50	3.14	3.27
21-Dec-98	5.86	5.86	6.05	6.74	6.11	6.42	5.73	5.98
22-Dec-98	4.87	4.87	5.02	5.59	5.08	5.33	4.77	4.97
23-Dec-98	2.64	2.64	2.72	3.04	2.75	2.90	2.58	2.70
24-Dec-98	4.02	4.02	4.16	4.64	4.20	4.42	3.94	4.11
25-Dec-98	4.33	4.33	4.47	5.00	4.52	4.76	4.23	4.42
26-Dec-98	4.02	4.02	4.15	4.65	4.20	4.42	3.93	4.11
27-Dec-98	2.33	2.33	2.41	2.71	2.44	2.57	2.27	2.38
28-Dec-98	3.44	3.44	3.56	3.98	3.60	3.79	3.37	3.52
29-Dec-98	2.41	2.41	2.49	2.79	2.52	2.66	2.36	2.47
30-Dec-98	2.82	2.82	2.92	3.26	2.95	3.11	2.76	2.89
31-Dec-98	2.35	2.35	2.43	2.73	2.46	2.59	2.29	2.40

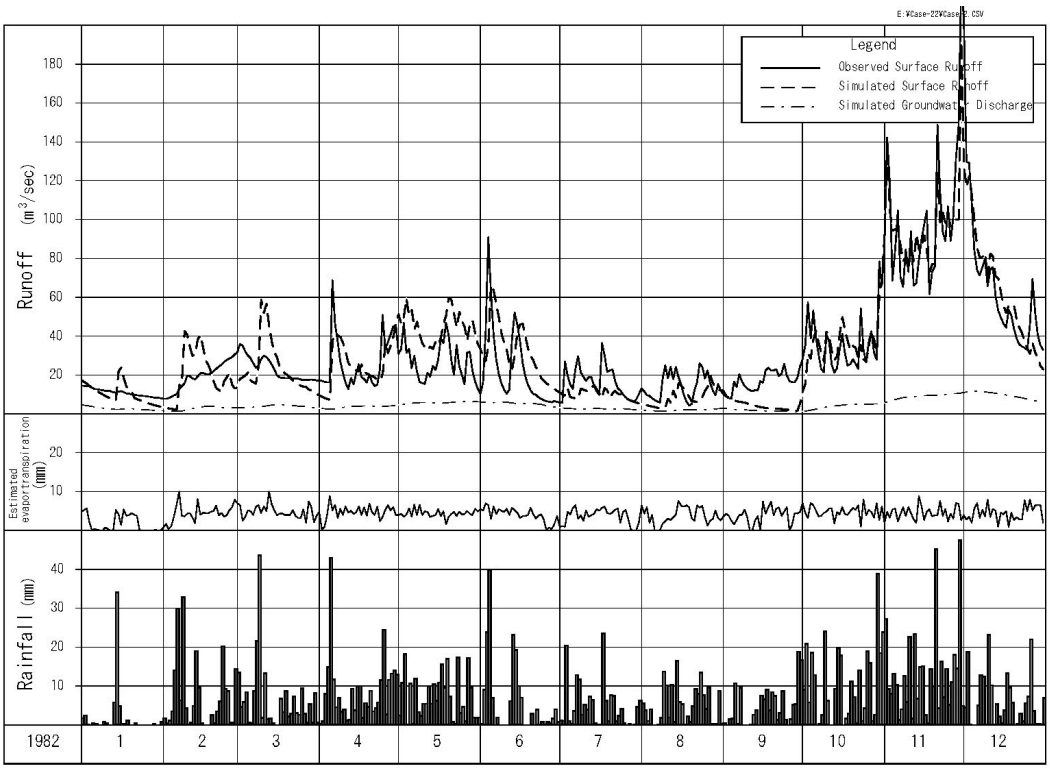
DATA BOOK D.5.1

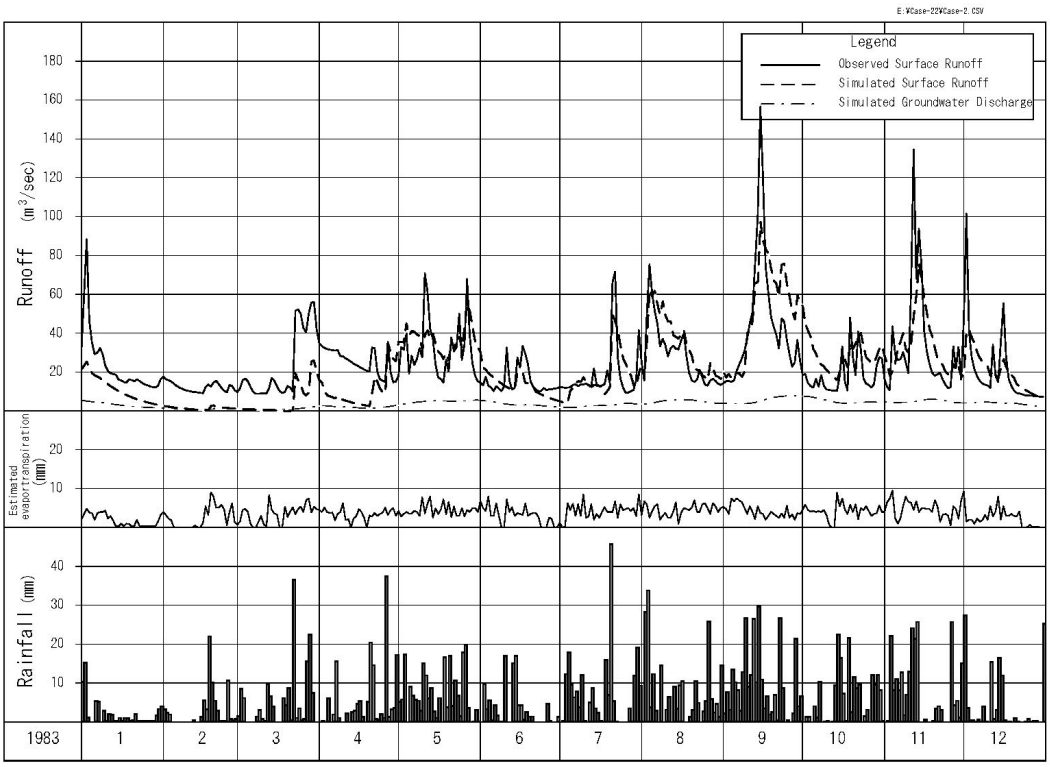
OBSERVED AND SIMULATED HYDROGRAPH BY TANK MODEL



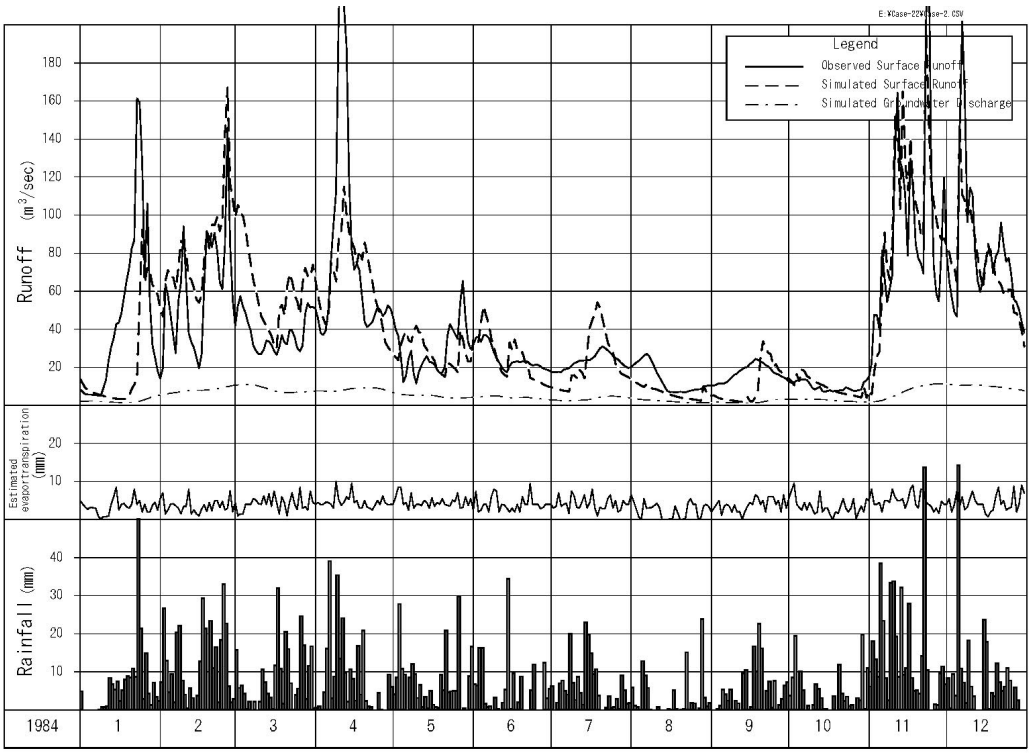


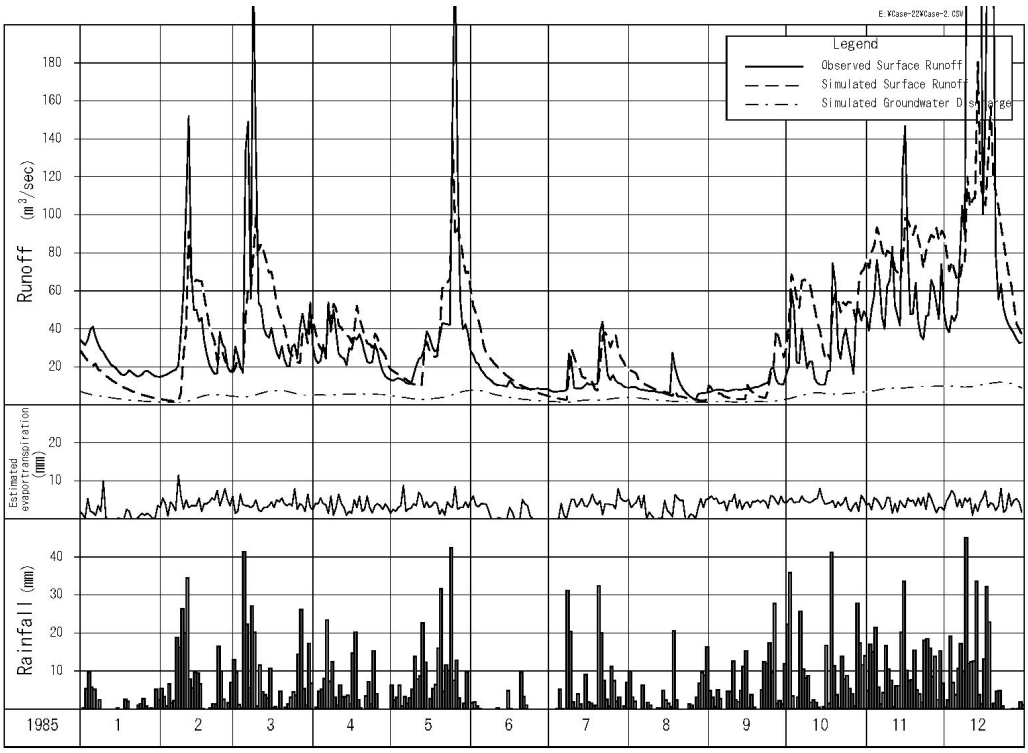
Data Book Figure D.5.1 Observed and Simulated Hydrograph by Tank Model



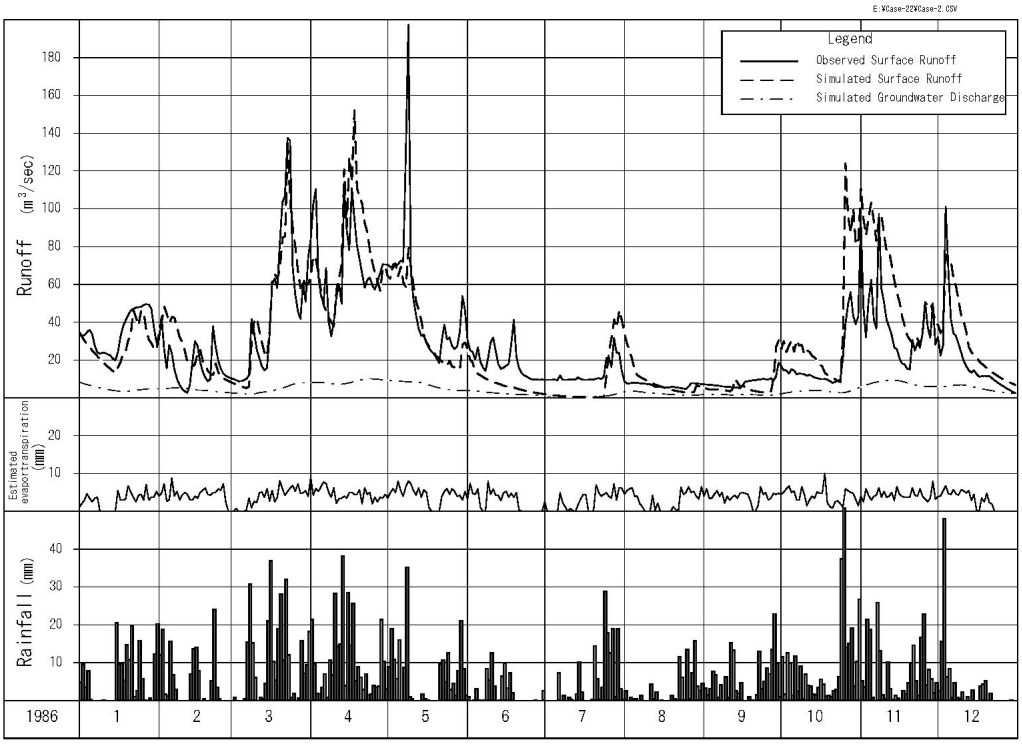


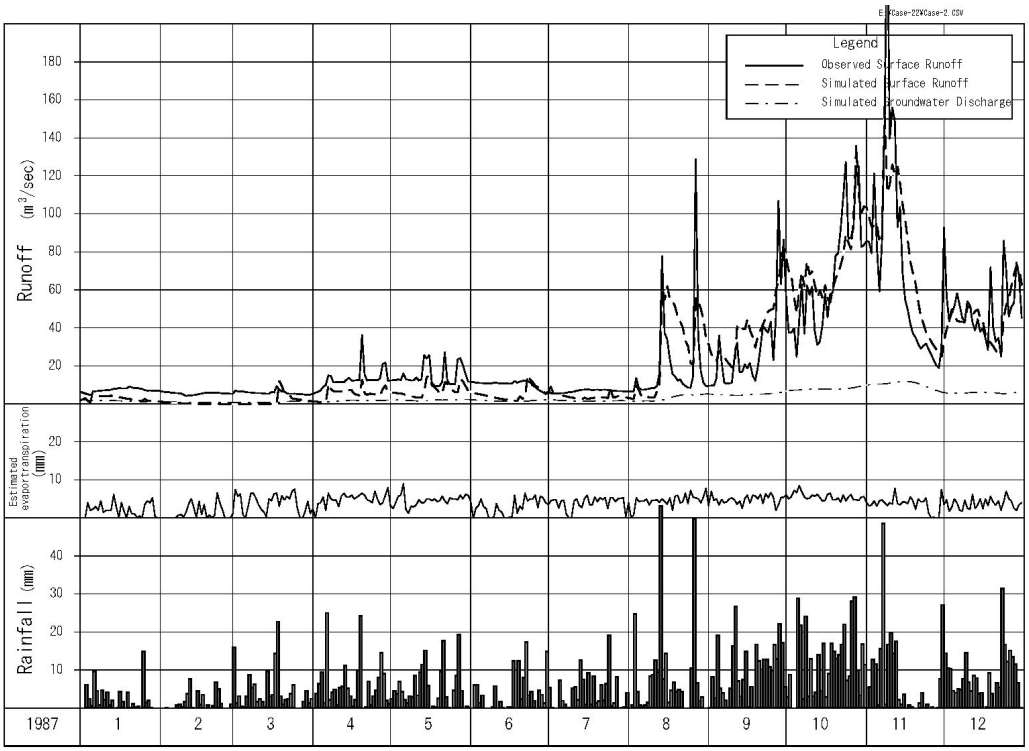
Data Book Figure D.5.1 Observed and Simulated Hydrograph by Tank Model



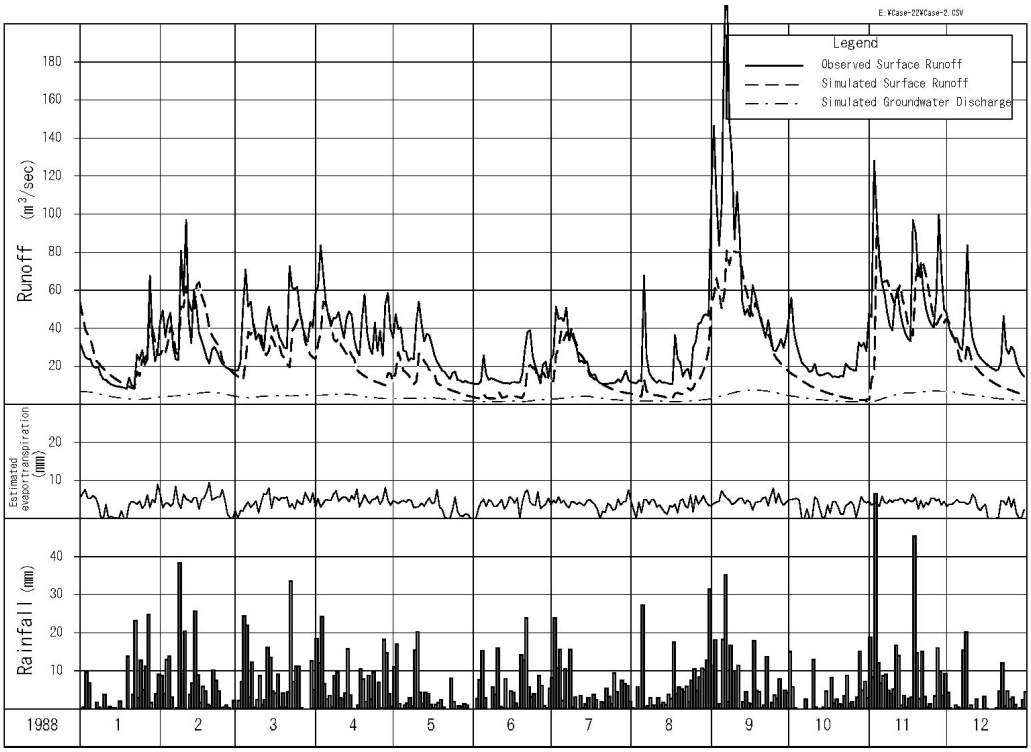


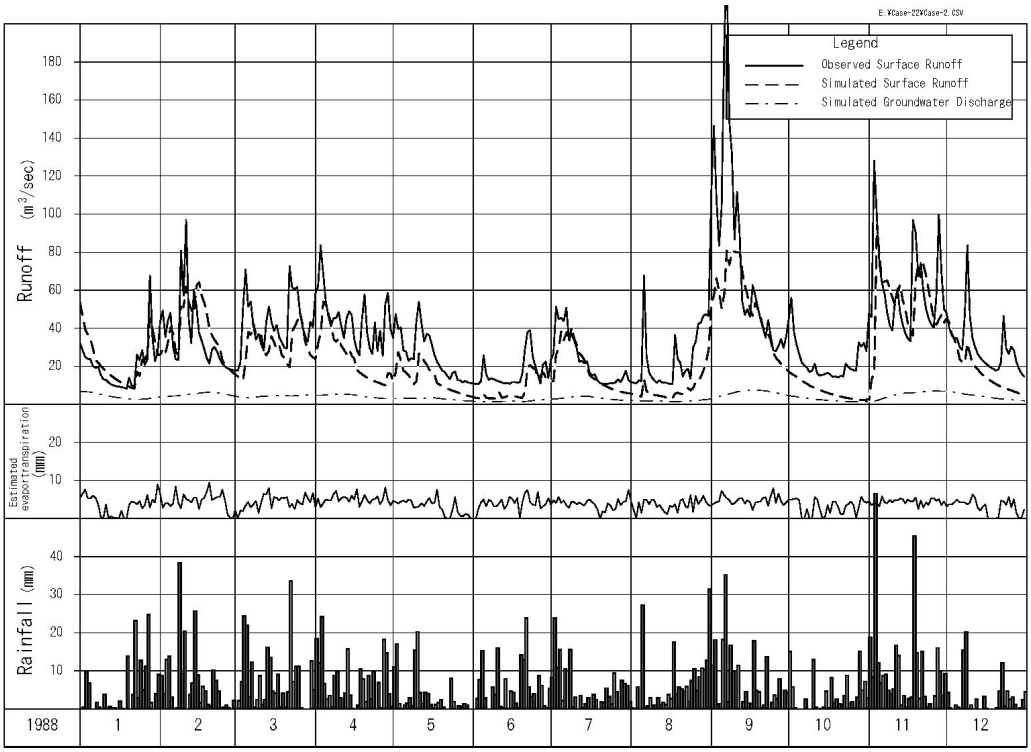
Data Book Figure D.5.1 Observed and Simulated Hydrograph by Tank Model



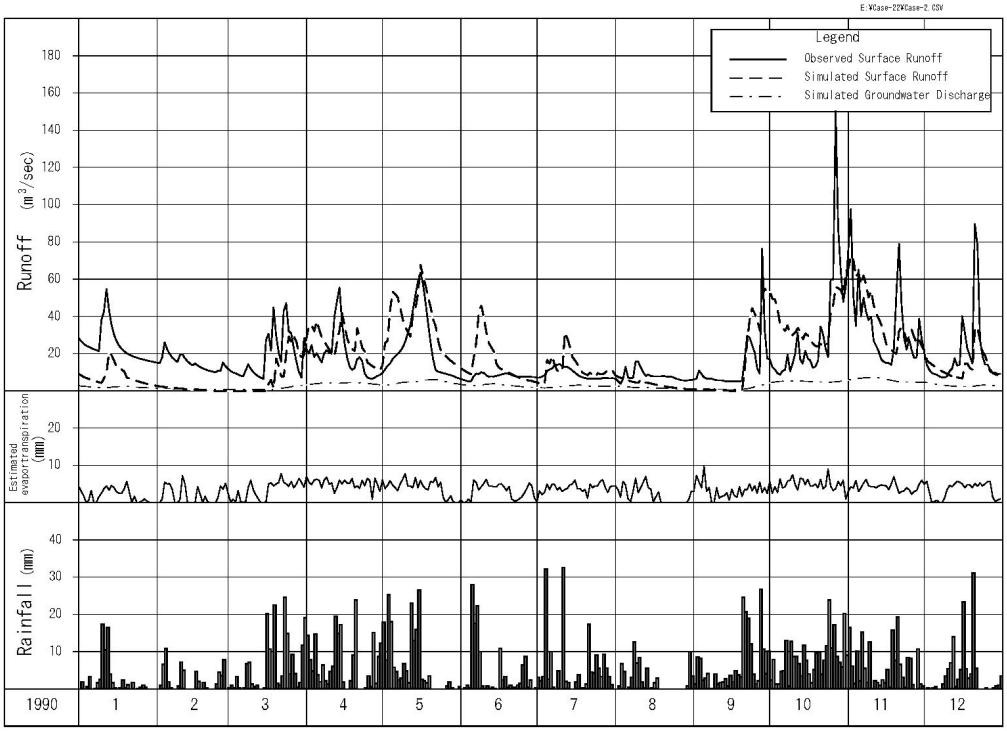


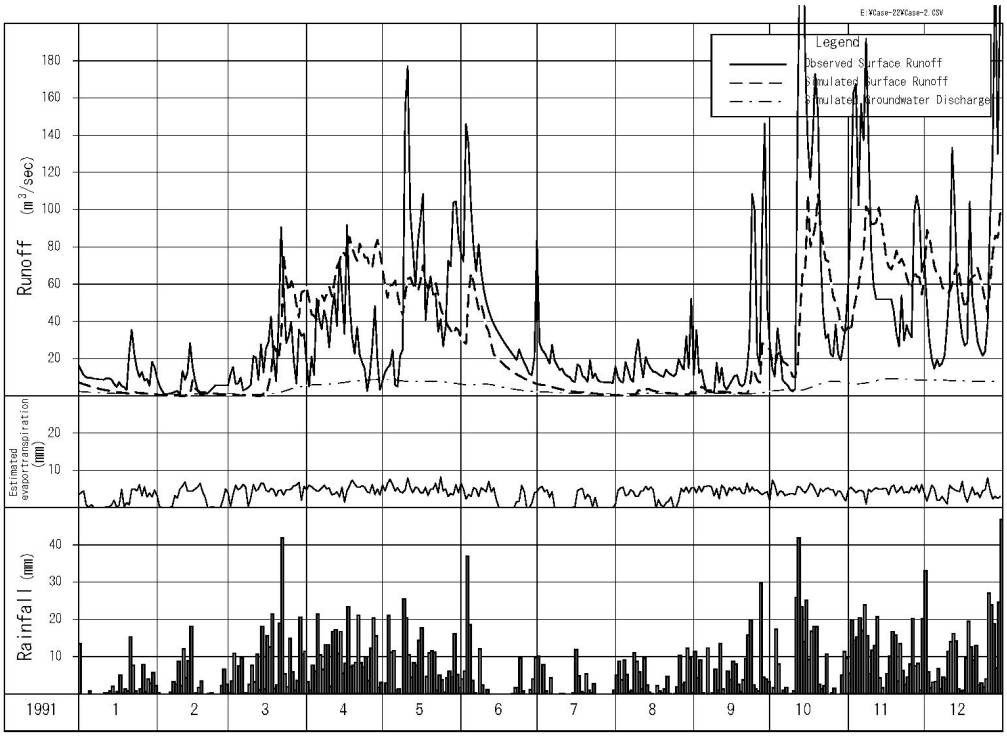
Data Book Figure D.5.1 Observed and Simulated Hydrograph by Tank Model



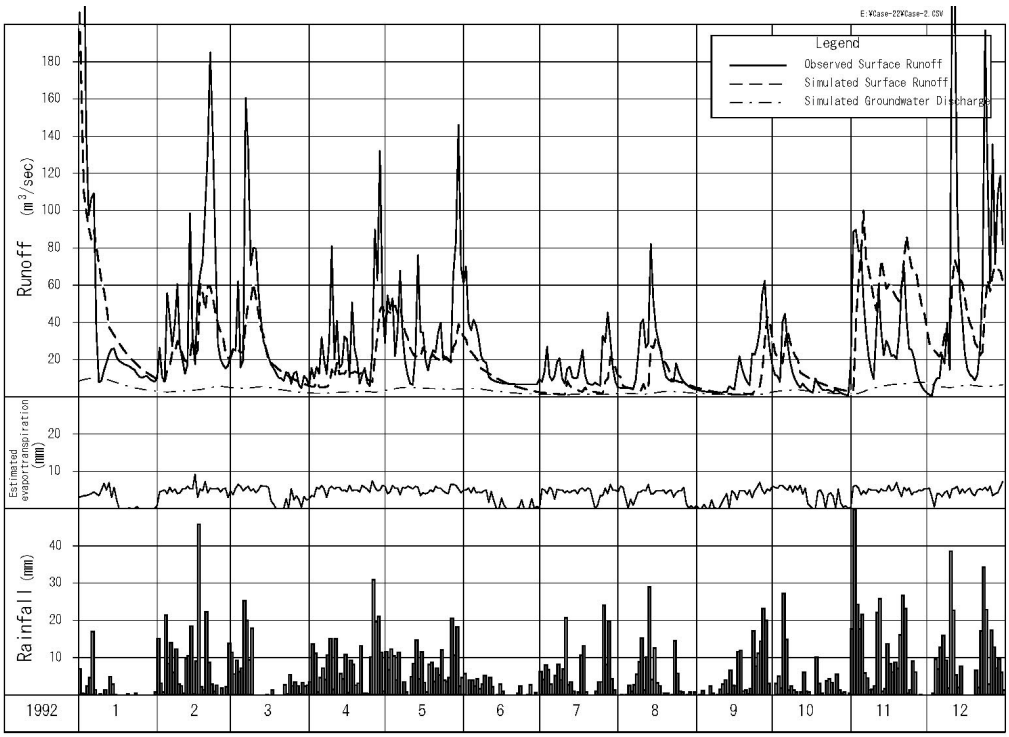


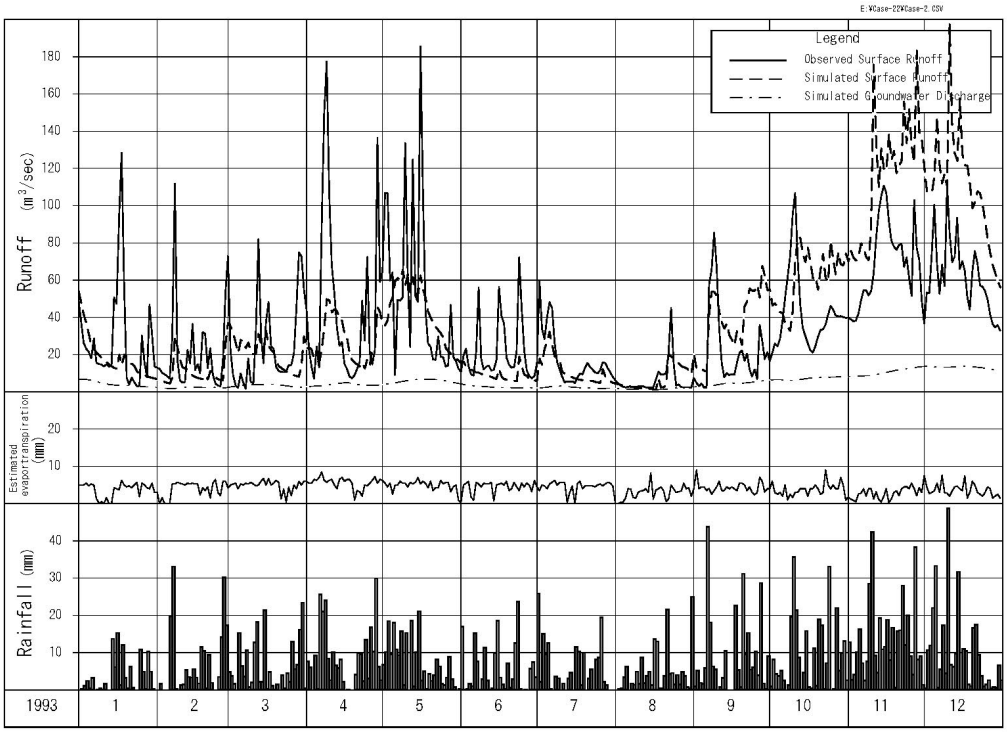
Data Book Figure D.5.1 Observed and Simulated Hydrograph by Tank Model



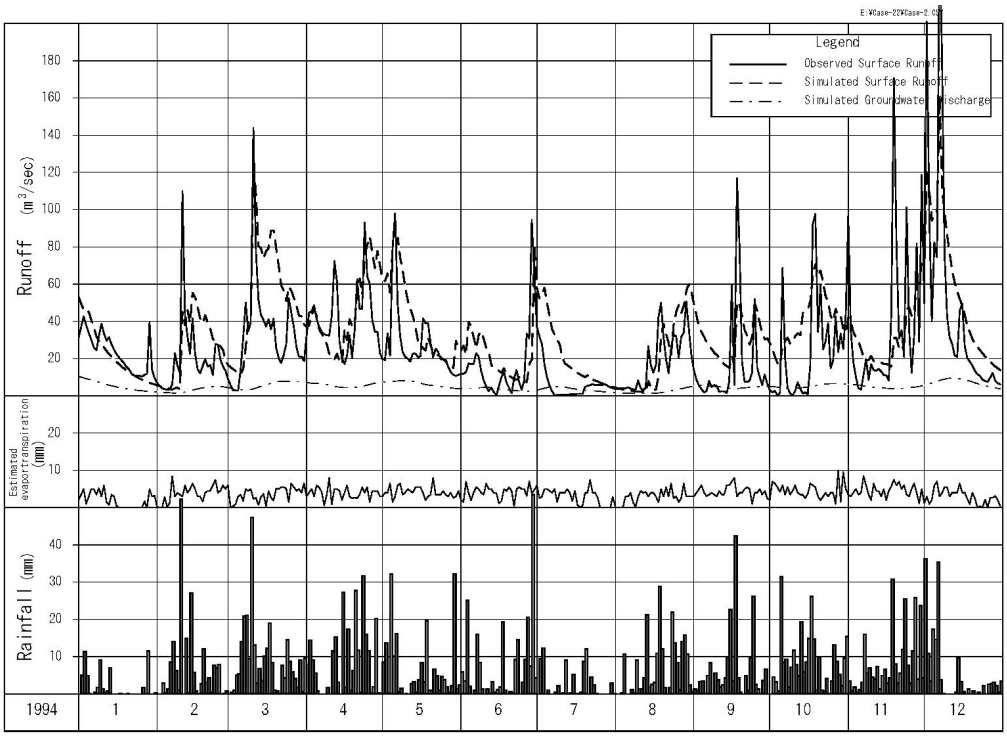


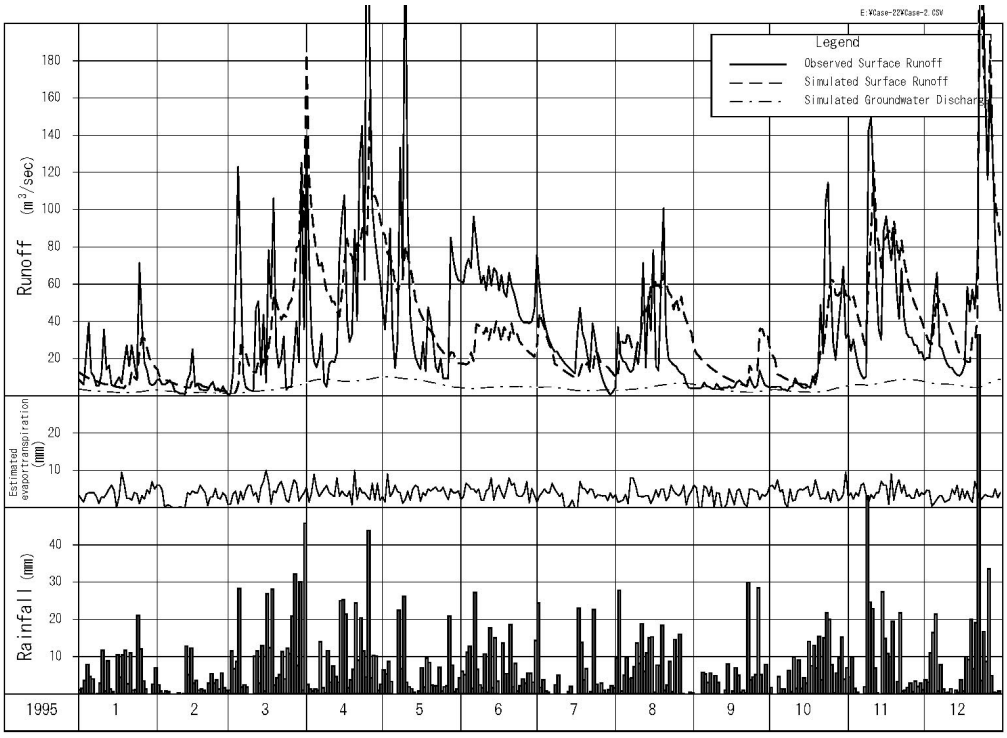
Data Book Figure D.5.1 Observed and Simulated Hydrograph by Tank Model



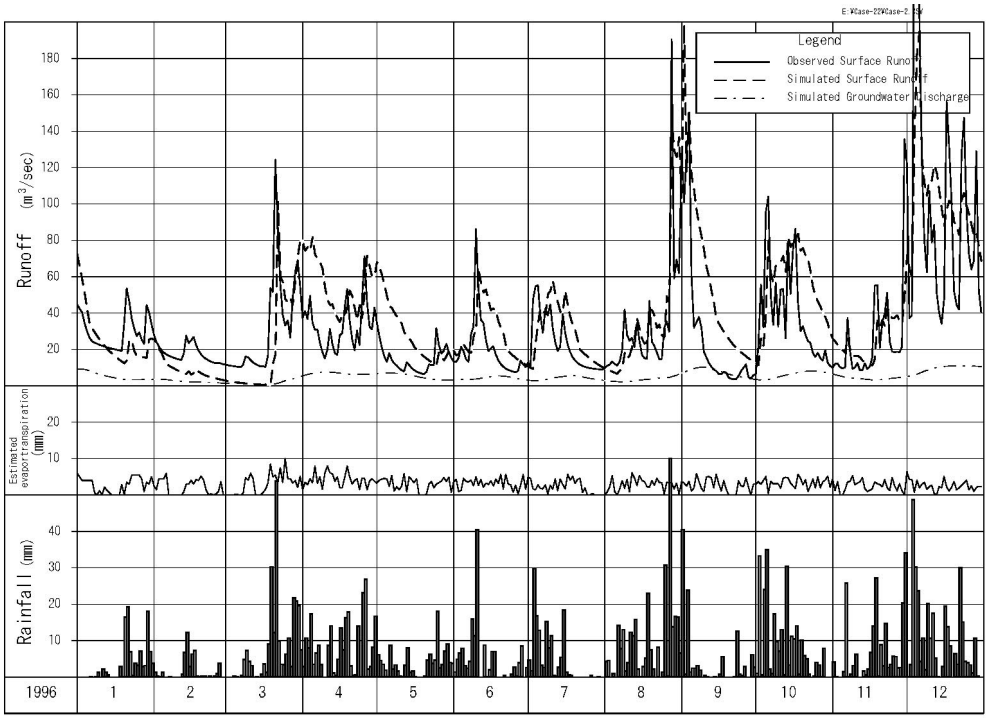


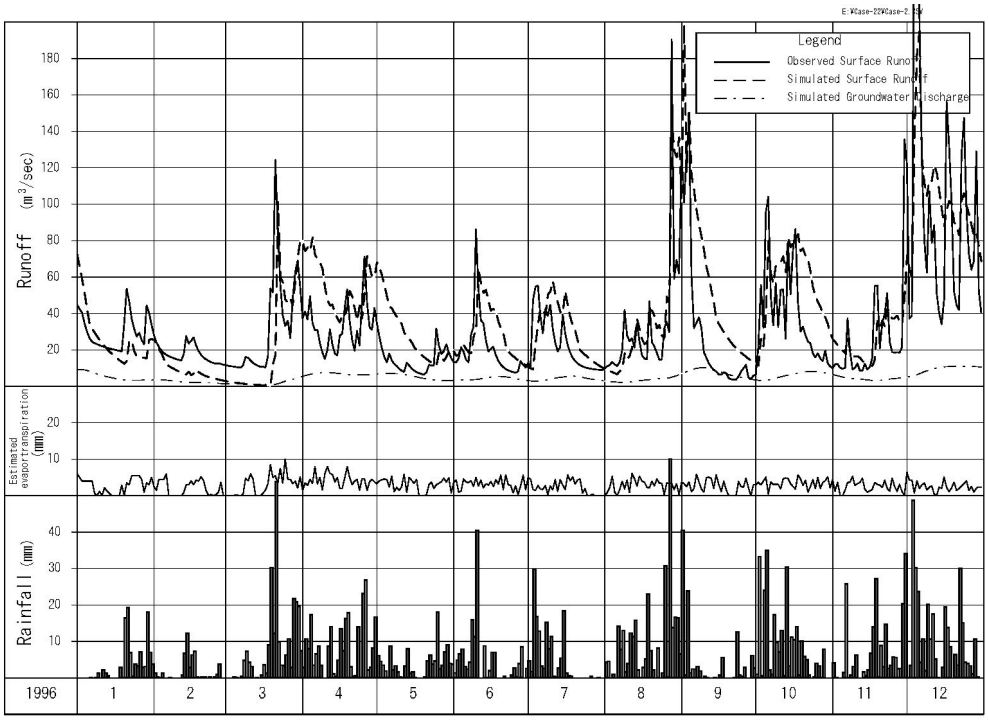
Data Book Figure D.5.1 Observed and Simulated Hydrograph by Tank Model



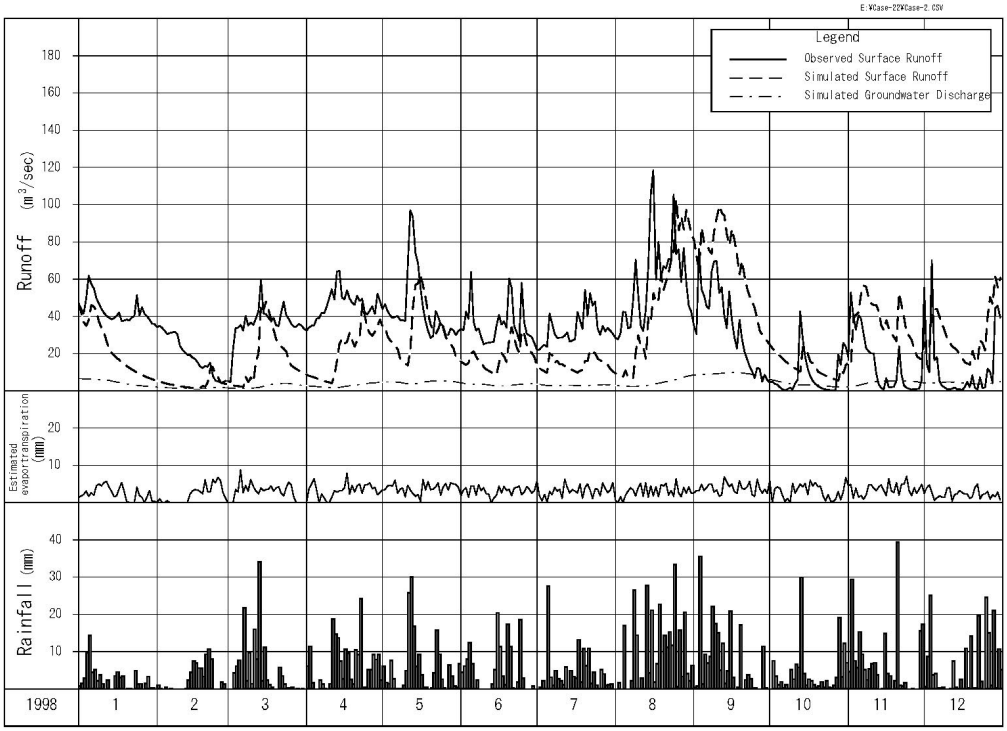


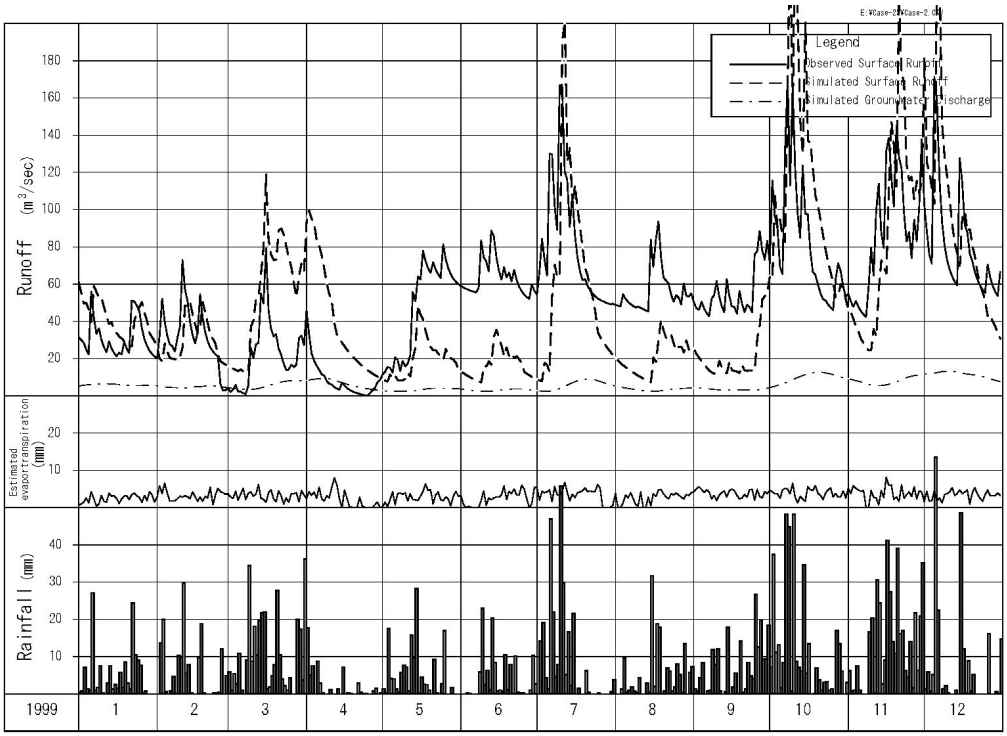
Data Book Figure D.5.1 Observed and Simulated Hydrograph by Tank Model





Data Book Figure D.5.1 Observed and Simulated Hydrograph by Tank Model





Data Book Figure D.5.1 Observed and Simulated Hydrograph by Tank Model

DATA BOOK D.5.2

MONTHLY DATA COMPUTED BY TANK MODEL IN 1980 – 1999

Data Book Table D.5.1 Monthly Data Computed by Tank Model in 1980 - 1999

Year	Month	Monthly Rainfall (mm)	Monthly Evaporation (mm)	Monthly Actual Evaporation (mm)	Monthly Ovserved Runoff (mm)	Monthly Estimated Runoff by Tank Model (mm)	Monthly Groundwater Recharge by Tank Model (mm)
1980	1	62.50	86.60	51.74	25.50	28.23	5.00
1980	2	138.50	49.03	30.84	18.22	15.10	2.47
1980	3	264.20	136.80	147.83	53.08	111.53	11.79
1980	4	192.30	113.40	124.33	62.85	89.30	13.81
1980	5	174.40	139.40	89.50	50.83	56.77	9.22
1980	6	176.80	105.76	102.49	48.85	73.03	9.85
1980	7	211.40	98.82	81.10	33.39	55.36	6.54
1980	8	156.50	106.30	107.19	27.74	73.17	11.73
1980	9	214.50	114.52	86.73	31.24	54.86	7.44
1980	10	246.60	115.40	174.90	41.02	136.28	16.17
1980	11	355.00	104.40	149.99	123.74	146.59	12.02
1980	12	198.60	111.60	205.30	89.02	168.33	22.51
1981	1	85.00	55.28	73.30	41.89	49.26	9.77
1981	2	224.10	135.75	66.71	69.44	37.24	5.64
1981	3	90.10	78.17	37.93	70.38	20.06	5.21
1981	4	290.80	146.25	140.17	59.22	109.69	11.32
1981	5	475.60	129.65	258.71	153.30	242.25	20.45
1981	6	52.60	62.54	130.39	76.93	104.37	17.87
1981	7	107.50	99.51	35.49	26.16	14.41	4.74
1981	8	62.40	54.90	14.29	19.72	1.77	2.25
1981	9	232.90	122.25	114.45	42.06	83.42	8.65
1981	10	202.00	112.76	97.15	54.49	68.60	9.42
1981	11	286.80	115.17	100.93	50.72	80.96	8.28
1981	12	186.90	98.94	176.63	48.43	154.63	18.73
1982	1	53.90	54.44	40.88	23.15	22.23	5.88
1982	2	194.80	122.51	62.68	35.85	37.37	5.24
1982	3	190.00	151.28	79.48	48.68	48.66	8.23
1982	4	257.30	142.92	83.47	53.21	51.15	7.38
1982	5	221.90	136.70	132.74	56.39	93.96	12.19
1982	6	162.40	123.31	93.99	46.19	65.22	10.86
1982	7	142.30	114.97	48.67	33.95	21.14	5.59
1982	8	150.20	118.49	45.33	29.91	18.21	4.32
1982	9	134.70	112.53	25.76	33.97	9.21	3.70
1982	10	309.20	151.45	112.13	74.63	74.85	8.53
1982	11	391.30	135.75	223.52	199.12	194.59	18.26
1982	12	177.10	138.85	173.50	136.79	135.02	20.03
1983	1	61.60	58.27	42.34	49.03	23.14	6.70
1983	2	71.50	71.56	16.39	23.29	2.81	2.21
1983	3	148.50	105.18	30.33	47.06	10.60	2.52
1983	4	150.60	102.29	44.04	51.62	21.43	4.22
1983	5	214.10	135.90	115.41	66.58	77.86	10.12
1983	6	94.40	97.26	50.43	31.16	28.02	7.07
1983	7	207.50	129.55	67.09	38.43	35.85	5.82
1983	8	219.10	139.15	107.24	60.38	71.97	10.24
1983	9	277.10	126.45	139.15	89.88	103.40	11.41
1983	10	174.50	131.42	94.07	39.23	61.41	10.88
1983	11	217.80	142.38	101.29	67.64	68.19	10.10
1983	12	112.50	75.44	69.22	43.08	41.52	8.06
1984	1	195.30	104.78	72.75	95.42	46.76	5.10
1984	2	331.70	102.75	192.03	115.62	160.66	15.53

Data Book Table D.5.1 Monthly Data Computed by Tank Model in 1980 - 1999

Year	Month	Monthly Rainfall (mm)	Monthly Evaporation (mm)	Monthly Actual Evaporation (mm)	Monthly Ovserved Runoff (mm)	Monthly Estimated Runoff by Tank Model (mm)	Monthly Groundwater Recharge by Tank Model (mm)
1984	3	246.80	132.30	170.30	79.27	132.09	18.07
1984	4	244.70	137.28	169.71	161.13	134.78	16.89
1984	5	222.70	144.95	93.80	61.21	58.23	10.40
1984	6	152.60	121.41	82.29	50.89	51.93	8.58
1984	7	183.70	127.95	80.13	48.25	48.08	7.45
1984	8	91.30	76.00	34.53	28.64	14.83	4.82
1984	9	147.60	112.04	45.96	34.50	21.42	3.94
1984	10	129.60	106.20	45.48	20.56	20.70	5.65
1984	11	435.70	146.70	208.40	186.22	192.05	14.61
1984	12	241.80	138.30	193.34	169.38	154.66	20.91
1985	1	46.80	42.27	44.22	47.79	26.37	7.57
1985	2	215.00	125.74	81.65	69.17	58.48	6.29
1985	3	263.40	119.10	133.15	105.49	99.29	12.35
1985	4	152.00	102.90	111.81	57.93	75.01	11.22
1985	5	261.20	112.01	114.26	87.07	85.24	9.31
1985	6	23.10	50.07	58.46	25.22	40.48	9.29
1985	7	172.80	103.97	64.76	28.28	37.45	5.27
1985	8	103.30	84.17	33.68	17.46	15.82	5.05
1985	9	178.70	136.44	46.97	19.56	20.07	3.69
1985	10	310.50	140.05	144.90	64.04	108.12	11.76
1985	11	320.80	119.75	207.43	121.13	169.08	18.11
1985	12	275.10	133.56	220.40	342.69	189.13	21.94
1986	1	174.80	92.96	87.51	73.51	57.80	10.44
1986	2	134.40	126.74	74.35	33.17	46.36	8.28
1986	3	303.00	113.20	126.93	96.31	98.38	9.26
1986	4	309.60	140.05	188.33	140.51	156.32	17.52
1986	5	192.80	137.76	118.17	106.27	83.95	14.28
1986	6	66.00	84.42	33.64	38.51	16.36	5.05
1986	7	148.90	81.51	35.96	26.35	17.19	2.64
1986	8	79.50	88.64	37.93	14.01	18.88	4.96
1986	9	158.00	116.48	36.82	16.43	13.10	3.57
1986	10	283.50	124.88	97.71	38.51	74.15	7.41
1986	11	210.00	130.15	160.91	78.77	126.43	15.56
1986	12	108.60	88.38	85.26	42.17	61.20	10.51
1987	1	68.20	63.97	24.43	13.91	7.21	3.42
1987	2	38.90	37.83	9.92	10.49	0.55	1.75
1987	3	131.00	121.48	19.69	12.39	3.64	2.05
1987	4	175.00	146.58	37.14	26.27	11.26	3.44
1987	5	155.50	141.61	41.09	31.06	15.26	4.25
1987	6	111.10	86.09	30.35	21.14	10.62	3.49
1987	7	118.90	122.27	30.85	14.28	8.34	3.57
1987	8	245.10	140.30	89.84	40.21	59.27	6.59
1987	9	287.30	143.85	114.32	57.90	79.07	10.36
1987	10	370.70	173.05	191.08	138.49	153.54	16.55
1987	11	218.10	109.82	190.36	148.66	160.44	20.56
1987	12	243.30	115.05	134.72	105.44	96.17	12.37

Data Book Table D.5.1 Monthly Data Computed by Tank Model in 1980 - 1999

Year	Month	Monthly Rainfall (mm)	Monthly Evaporation (mm)	Monthly Actual Evaporation (mm)	Monthly Ovserved Runoff (mm)	Monthly Estimated Runoff by Tank Model (mm)	Monthly Groundwater Recharge by Tank Model (mm)
1988	1	137.60	108.21	74.39	41.79	48.48	8.95
1988	2	196.00	136.03	105.98	72.60	75.44	10.32
1988	3	223.70	132.45	96.58	87.86	63.08	9.21
1988	4	201.80	151.46	82.40	90.60	50.76	9.13
1988	5	105.30	97.40	52.70	54.30	27.97	6.10
1988	6	158.50	119.17	41.75	33.35	15.87	3.78
1988	7	153.40	118.41	64.61	48.42	38.87	6.96
1988	8	193.40	112.31	43.88	47.95	16.98	4.07
1988	9	211.30	142.75	135.91	154.95	103.78	12.34
1988	10	105.60	93.54	33.17	47.29	15.45	5.23
1988	11	300.50	132.80	139.81	121.29	107.64	10.65
1988	12	84.50	95.31	60.60	63.48	37.22	8.76
1989	1	125.60	98.29	48.32	57.00	22.06	4.63
1989	2	140.60	81.96	35.28	37.51	15.26	3.56
1989	3	264.00	125.15	110.87	66.76	79.70	8.69
1989	4	200.50	139.46	137.15	92.12	104.21	14.10
1989	5	165.10	126.60	82.17	75.56	51.30	9.02
1989	6	139.00	115.54	50.84	69.68	25.28	5.34
1989	7	94.50	93.20	29.59	43.74	9.66	3.88
1989	8	150.30	91.58	26.48	39.00	7.88	2.38
1989	9	320.80	148.40	119.00	98.48	91.52	8.38
1989	10	321.00	157.55	195.21	174.99	157.03	17.96
1989	11	253.90	153.25	169.72	139.77	130.15	17.91
1989	12	112.70	109.14	66.94	78.93	39.12	9.05
1990	1	67.60	63.31	35.00	51.67	16.34	4.45
1990	2	59.00	56.07	12.39	28.63	1.87	2.08
1990	3	171.00	102.85	38.74	38.56	16.65	2.83
1990	4	197.70	153.95	82.23	39.66	51.22	8.31
1990	5	189.10	124.71	105.20	49.45	74.19	9.99
1990	6	121.10	93.41	52.58	15.94	31.20	6.07
1990	7	165.10	121.11	55.13	19.11	25.77	5.15
1990	8	70.00	66.27	23.17	16.62	7.86	3.55
1990	9	192.20	98.90	47.42	26.47	27.09	2.97
1990	10	251.70	151.30	115.35	63.35	77.38	10.65
1990	11	168.80	126.60	116.63	73.38	81.67	12.10
1990	12	118.60	106.22	51.99	39.86	28.97	6.40
1991	1	73.70	72.45	20.16	23.65	6.21	3.20
1991	2	77.30	72.09	16.40	10.64	2.47	2.05
1991	3	265.80	142.75	68.01	47.44	43.51	4.18
1991	4	309.30	146.20	172.21	67.22	134.62	14.81
1991	5	243.70	157.35	151.42	123.88	111.66	16.35
1991	6	113.60	85.33	76.70	96.30	53.14	9.79
1991	7	51.00	57.94	20.40	33.18	6.03	3.18
1991	8	121.40	102.96	22.72	33.16	3.33	2.48
1991	9	183.40	141.52	35.58	51.92	12.17	2.92
1991	10	267.20	135.33	131.65	141.30	101.74	10.39
1991	11	331.20	141.30	182.82	160.47	144.54	16.65
1991	12	344.60	119.05	178.69	130.41	137.64	17.06

Data Book Table D.5.1 Monthly Data Computed by Tank Model in 1980 - 1999

Year	Month	Monthly Rainfall (mm)	Monthly Evaporation (mm)	Monthly Actual Evaporation (mm)	Monthly Ovserved Runoff (mm)	Monthly Estimated Runoff by Tank Model (mm)	Monthly Groundwater Recharge by Tank Model (mm)
1992	1	44.00	69.41	123.06	137.48	107.05	15.03
1992	2	238.80	143.30	90.37	96.69	58.55	7.72
1992	3	138.40	111.70	75.25	69.93	49.66	8.95
1992	4	240.10	153.71	58.85	61.00	28.09	5.13
1992	5	222.20	159.75	98.92	79.45	62.85	9.41
1992	6	46.60	66.78	40.77	35.50	23.87	6.11
1992	7	170.50	132.53	32.37	31.50	10.29	2.98
1992	8	123.20	116.38	46.61	37.07	22.99	4.72
1992	9	147.80	87.11	32.29	28.06	13.39	2.97
1992	10	99.10	112.48	48.46	19.44	28.26	5.81
1992	11	324.10	144.90	151.40	71.63	119.86	11.21
1992	12	272.70	142.23	129.01	124.81	94.19	12.43
1993	1	100.10	115.73	65.48	57.65	39.87	8.94
1993	2	179.00	108.61	42.98	36.22	19.62	4.38
1993	3	189.10	150.92	75.56	54.22	44.24	7.27
1993	4	245.60	167.46	88.69	90.22	55.82	7.87
1993	5	217.90	155.10	124.06	108.99	90.07	12.11
1993	6	157.20	135.44	44.41	43.98	19.59	5.57
1993	7	162.80	144.53	49.84	36.14	23.67	5.13
1993	8	143.60	91.57	37.07	13.34	14.21	3.60
1993	9	253.50	130.10	112.66	42.78	77.95	8.92
1993	10	275.00	117.20	166.91	86.73	127.79	15.15
1993	11	395.70	82.00	259.19	139.45	232.61	21.42
1993	12	296.40	114.70	266.47	128.31	230.32	27.49
1994	1	55.50	64.43	69.22	49.11	47.18	11.48
1994	2	181.00	106.70	74.66	38.23	48.89	6.09
1994	3	268.20	111.62	141.11	70.23	112.62	12.16
1994	4	244.50	117.06	126.75	83.78	91.29	11.76
1994	5	187.00	128.10	119.15	58.20	85.24	13.64
1994	6	213.70	125.01	71.62	32.01	43.33	7.37
1994	7	71.40	94.12	67.12	13.93	44.91	7.50
1994	8	200.40	90.99	69.05	38.42	41.94	4.85
1994	9	178.50	128.60	96.09	33.52	63.78	9.85
1994	10	254.70	139.43	121.12	48.58	84.93	11.15
1994	11	238.80	138.20	99.09	74.47	63.52	9.81
1994	12	154.60	91.13	142.05	99.49	120.20	15.10
1995	1	149.20	111.72	48.78	34.00	23.91	5.23
1995	2	68.80	77.10	27.72	10.75	11.42	3.99
1995	3	355.00	130.50	105.53	70.15	73.68	6.97
1995	4	277.90	128.40	198.33	142.77	168.66	17.38
1995	5	166.40	127.59	135.66	102.29	99.93	16.68
1995	6	214.40	133.40	95.74	119.97	59.45	9.50
1995	7	123.20	101.57	68.86	52.39	40.03	7.67
1995	8	233.80	112.30	125.51	54.82	88.69	10.55
1995	9	135.90	93.50	52.61	11.74	31.92	6.76
1995	10	211.50	127.00	78.90	47.27	50.52	6.36
1995	11	249.70	125.30	164.55	102.96	132.33	14.85
1995	12	303.60	101.30	149.64	128.85	143.46	13.17

Data Book Table D.5.1 Monthly Data Computed by Tank Model in 1980 - 1999

Year	Month	Monthly Rainfall (mm)	Monthly Evaporation (mm)	Monthly Actual Evaporation (mm)	Monthly Ovserved Runoff (mm)	Monthly Estimated Runoff by Tank Model (mm)	Monthly Groundwater Recharge by Tank Model (mm)
1996	1	100.30	85.50	82.33	62.77	55.80	11.32
1996	2	45.50	61.88	37.46	35.22	18.32	5.07
1996	3	237.30	92.74	63.20	64.85	45.15	3.99
1996	4	243.10	125.90	148.67	66.57	112.03	13.87
1996	5	113.40	93.28	92.90	30.85	61.27	11.19
1996	6	142.40	95.85	87.57	41.13	57.53	8.76
1996	7	136.00	71.32	89.44	48.77	62.28	8.85
1996	8	286.40	87.19	102.65	65.47	79.56	7.53
1996	9	108.80	79.98	135.90	58.72	116.81	15.20
1996	10	251.90	105.25	151.32	82.44	117.27	12.91
1996	11	197.50	75.94	82.80	49.40	52.34	8.84
1996	12	299.60	79.30	239.15	201.68	214.20	19.88
1997	1	114.90	80.77	109.81	33.13	77.28	13.60
1997	2	181.70	96.90	88.81	59.68	57.62	8.81
1997	3	139.90	117.51	75.38	112.99	44.95	8.24
1997	4	215.80	95.94	87.15	114.43	54.30	8.15
1997	5	91.00	90.53	82.67	98.39	54.38	9.05
1997	6	78.80	65.58	26.78	63.32	9.29	3.75
1997	7	87.60	75.64	35.06	78.73	9.92	3.44
1997	8	104.70	72.57	37.73	55.84	14.12	3.77
1997	9	127.00	79.46	56.95	66.25	26.86	5.73
1997	10	364.20	103.10	176.33	180.52	147.81	11.93
1997	11	263.20	113.76	203.87	127.51	165.35	19.99
1997	12	189.50	102.90	145.45	106.00	106.12	16.46
1998	1	75.80	78.79	71.28	90.27	47.15	9.74
1998	2	68.20	59.60	24.85	36.90	7.89	2.99
1998	3	139.90	91.67	61.51	74.51	36.29	5.58
1998	4	188.60	97.27	70.16	93.41	42.13	5.90
1998	5	168.10	118.83	98.79	92.85	67.20	9.96
1998	6	135.50	92.81	68.53	72.47	38.18	7.00
1998	7	124.50	99.08	59.87	69.82	29.98	6.59
1998	8	287.70	91.90	128.86	123.05	96.66	9.13
1998	9	203.50	114.30	173.96	70.54	137.29	18.22
1998	10	128.30	93.38	51.08	16.34	29.17	7.26
1998	11	202.50	108.57	105.94	28.41	72.65	9.31
1998	12	178.60	72.90	100.35	26.19	64.67	9.09
1999	1	136.30	77.60	125.51	64.79	87.62	12.47
1999	2	149.80	91.10	88.77	61.14	56.97	9.26
1999	3	313.40	100.00	147.49	46.86	113.50	12.00
1999	4	57.90	67.38	107.63	17.49	83.48	13.44
1999	5	145.60	88.00	73.76	98.16	41.57	6.98
1999	6	115.00	75.96	59.76	129.15	34.40	6.49
1999	7	264.10	109.65	145.94	168.11	131.35	12.50
1999	8	149.60	81.96	70.77	118.49	43.69	7.61
1999	9	204.20	114.11	73.60	112.58	41.73	7.20
1999	10	356.20	119.30	238.74	175.19	231.61	20.45
1999	11	396.70	114.89	187.90	176.23	171.36	16.19
1999	12	211.00	104.40	221.19	170.32	196.61	23.93
Total		44,757.00	26,348.85	22,766.10	16,465.22	16,191.55	2,229.94
Average		2,237.85	1,317.44	1,138.30	823.26	809.58	111.50

DATA BOOK D.6.1

WATER QUALITY DATA IN PAYA INDAH

Data Book Table D.6.1 Water Quality of Inflow Streams in the Paya Indah Wetland

Sampling Date: 8 October 1996 (for all streams) Weather : Fine throughtout the sampling		Station Name	a	b1	b2	APHA denotes American Public Health Association (1992)
		Grid reference	N 02º 53.600	N 02º 52.520	N 02º 51.362	
			E 101º 37.200	E 101º 37.990	E 101º 38.914	
		Depth	Surface Level	Surface Level	Surface Level	
		Flow Rate	1.0m/s, flowing westward into proposed MWSS, downstream channel extends quite far.	1.0m/s, flowing westward into proposed MWSS, quite siz eable stream.	1m/s, flowing westward into MWSS, big stream.	
		Culvert Structure	1m diameter concrete pipe	1m diameter concrete pipe	1.5m diameter concrete pipe, with wingwall. Largest crossing NS Link .	
		Clarity	Clear	Clear	Clear	
		Colour	Dark brown	Brown	Brown	
No	Parameter	Units				NWOS Class 1
1	pH (in-situ)	-	4.47	3.90	3.80	6.5 - 8.5
2	Temp. (in-situ)	º C	27.7	26.6	28.1	No value set
3	Diss. Oxygen (in-situ)	mg/l	3.34	1.72	2.71	7
4	Conductivity (in-situ)	µ S/cm	19.3	47.5	46.8	100
5	Turbidity (in-situ)	NTU	2.0	1.5	8.0	5
6	BOD (5 days @20 º C)	mg/l	< 2	< 2	< 2	1
7	COD	mg/l	120	150	130	10
8	Total Solids	mg/l	152	169	177	525
9	Dissolved Solids	mg/l	147	168	174	500
10	Suspended Solids	mg/l	5	1	3	25
11	Total Hardness	mg/l	12	8	12	No value set
12	Potassium	mg/l	1.7	5.2	7.5	No value set
13	Magnesium	mg/l	1.2	1.1	1.2	No value set
14	Calcium	mg/l	2.7	1.4	2.9	No value set
15	Copper	mg/l	< 0.002	< 0.002	< 0.002	No value set
16	Iron	mg/l	2.7	1.5	2.1	No value set
17	Zinc	mg/l	0.01	0.02	0.03	No value set
18	Lead	mg/l	< 0.06	< 0.06	< 0.06	No value set
19	Manganese	mg/l	0.04	0.05	0.07	No value set
20	Tin	mg/l	< 0.04	< 0.04	< 0.04	No value set
21	Chloride	mg/l	1.1	0.7	0.7	No value set
22	Sulphate	mg/l	3.2	5.9	12	No value set
23	Nitrate Nitrogen	mg/l	< 0.01	0.09	0.2	No value set
24	Ammoniacal Nitrogen	mg/l	26	13	26	0.1
25	Phosphate	mg/l	< 0.05	< 0.05	< 0.05	No value set
26	E-Coli Count (MPN)	org/100ml	20	0	0	10
	Water Quality Index	%	48.7	39.8	41.5	91.76
	Degree of Pollution		Moderate	Moderate	Moderate	Clean

*Note - Highlighted underlined figures denote exceedance

Source: WETLANDS INTERNATIONAL ASIA PACIFIC " Preliminary Hydrological and Water Quality Assessment For The Malaysian Wetland Sanctuary, Sel" Final Report December 1996, Centre for Environmental Technologies

Data Book Table D.6.2 Water Quality of the Lotus Lake

Weather was fine throughout the sampling		Name	Lotus Lake									National Water Quality Standard Class IIA & IIB IIA - Fisheries IIB - Recreation
		Grid reference	N 02º 51.453'			N 02º 51.312'			N 02º 51.269'			
			E 101º 37.949'			E 101º 36.603'			E 101º 36.132'			
		Sample Depth	0.2m	5.0m	10.0m	0.2m	1.0m	2.0m	0.2m	1.5m	3.0m	
		Date	10-Oct-96	10-Oct-96	10-Oct-96	10-Oct-96	10-Oct-96	10-Oct-96	10-Oct-96	10-Oct-96	10-Oct-96	
		Clarity	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	
		Colour	Yellowish	Yellowish	Yellowish	Yellowish	Yellowish	Yellowish	Yellowish	Yellowish	Yellowish	
No.	Parameter	Units										Class IIA / IIB
1	pH (in-situ)	-	6.45	6.37	6.85	5.47	5.51	5.67	6.19	6.10	6.01	6-9 / 6-9
2	Temp. (in-situ)	º C	28.1	28.0	27.9	29.6	29.0	28.7	29.2	28.9	28.3	Normal ± 2
3	Diss. Oxygen (in-situ)	mg/l	4.55	4.27	7.54	6.35	6.42	6.51	7.18	7.08	5.97	5-7 / 5-7
4	Conductivity (in-situ)	µS/cm	98.7	101.8	111.0	76.5	75.9	74.0	103.3	87.2	92.2	100
5	Turbidity (in-situ)	NTU	18.0	14.0	23.0	44.0	52.0	100.0	26.0	31.0	40.0	50
6	BOD (5 days @20 º C)	mg/l	3	4	2	<2	<2	<2	<2	<2	<2	3
7	COD	mg/l	20	20	18	31	27	33	26	19	19	25
8	Total Solids	mg/l	91	103	116	144	145	248	135	125	136	1000 / -
9	Dissolved Solids	mg/l	84	87	79	115	116	124	126	120	129	950
10	Suspended Solids	mg/l	7	16	37	29	29	124	9	5	7	50
11	Total Hardness	mg/l	35	36	38	24	23	23	25	25	29	250
12	Potassium	mg/l	21	5.4	5.5	2.7	2.6	2.9	3.7	3.0	3.1	No value set
13	Magnesium	mg/l	5.7	5.6	5.6	2.6	2.4	2.6	3.4	3.1	3.4	No value set
14	Calcium	mg/l	3.0	3.1	3.0	3.5	3.4	3.5	3.6	3.4	3.0	No value set
15	Copper	mg/l	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1
16	Iron	mg/l	1.8	1.9	1.5	2.2	2.3	4.0	1.6	1.7	0.7	0.3
17	Zinc	mg/l	0.03	0.03	0.05	0.04	0.04	0.05	0.04	0.03	0.04	0.4
18	Lead	mg/l	0.2	0.2	0.35	0.25	<0.2	0.20	<0.2	<0.2	<0.2	0.05 / 0.05
19	Manganese	mg/l	0.18	0.21	0.17	0.08	0.08	0.10	0.06	0.07	0.10	0.1
20	Tin	mg/l	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	No value set
21	Chloride	mg/l	3.1	2.1	10	2.7	2.7	2.8	7.3	3.3	2.6	200
22	Sulphate	mg/l	14	16	30	22	22	23	25	26	23	250
23	Nitrate Nitrogen	mg/l	<0.06	<0.06	0.84	0.27	0.12	0.23	0.10	0.05	0.30	7
24	Ammoniacal Nitrogen	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05	52	26	<0.05	<0.05	0.3
25	Phosphate	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.2
26	E-Coli Count (MPN)	org/100ml	0						0			100

* Note : Highlighted underlined figered denote exceedance

Source: WETLANDS INTERNATIONAL ASIA PACIFIC " Preliminary Hydrological and Water Quality Assessment For The Malaysian Wetland Sanctuary, Sel" Final Report December 1996, Centre for Environmental Technologies

Data Book Table D.6.3 Water Quality of the Petaling Lake

Weather was fine throughout the sampling		Name	Petaling Lake									National Water Quality Standard Class IIA & IIB IIA - Fisheries IIB - Recreation
		Grid reference	N 02º 51.817'			N 02º 51.940'			N 02º 51.292'			
			E 101º 36.369'			E 101º 36.160'			E 101º 36.649'			
		Sample Depth	0.2m	2.0m	4.0m	0.2m	1.5m	3.0m	0.2m	3.5m	7.0m	
		Date	11-Oct-96	11-Oct-96	11-Oct-96	11-Oct-96	11-Oct-96	11-Oct-96	14-Oct-96	14-Oct-96	14-Oct-96	
		Clarity	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	
		Colour	Blue	Blue	Blue	Blue green	Blue green	Blue green	Brown	Brown	Brown	
No.	Parameter	Units										Class IIA / IIB
1	pH (in-situ)	-	3.37	3.39	3.40	3.61	3.64	3.65	5.75	5.80	5.76	6-9 / 6-9
2	Temp. (in-situ)	º C	29.7	29.8	30.0	29.7	29.6	29.7	29.2	28.9	28.6	Normal ± 2
3	Diss. Oxygen (in-situ)	mg/l	7.42	7.56	7.57	7.18	7.27	7.30	6.68	6.89	6.76	5-7 / 5-7
4	Conductivity (in-situ)	µS/cm	204	324	331	180.1	182.2	175.6	60.4*	82.3*	66.9*	100 / -
5	Turbidity (in-situ)	NTU	25	3.1	13.0	1.5	1.9	7.0	40.0	39.0	42.0	50 / 50
6	BOD (5 days @20 º C)	mg/l	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	3 / 3
7	COD	mg/l	< 6	< 6	< 6	< 6	< 6	< 6	48	46	46	25 / 25
8	Total Solids	mg/l	158	147	160	99	97	104	146	135	135	1000 / -
9	Dissolved Solids	mg/l	157	142	150	98	96	99	129	118	118	950 / 950
10	Suspended Solids	mg/l	1	5	11	1	1	5	17	17	17	50 / 50
11	Total Hardness	mg/l	43	45	44	28	28	27	14	18	15	250 / -
12	Potassium	mg/l	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.2	No value set
13	Magnesium	mg/l	2.7	2.7	2.7	1.8	1.8	1.8	1.3	1.4	1.3	No value set
14	Calcium	mg/l	9.1	5.5	6.1	5.7	4.1	5.5	3.3	4.8	3.7	No value set
15	Copper	mg/l	< 0.03	0.03	0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	1 / 1
16	Iron	mg/l	0.50	0.20	0.40	0.40	0.20	0.40	2.6	2.7	2.7	0.3 / 0.3
17	Zinc	mg/l	0.29	0.30	0.91	0.14	0.15	0.19	0.06	0.05	0.04	0.4 / 0.4
18	Lead	mg/l	0.83	0.97	0.2	0.84	1.2	2.0	< 0.2	< 0.2	0.2	0.05 / 0.05
19	Manganese	mg/l	0.21	0.20	0.21	0.16	0.15	0.15	0.05	0.03	0.03	0.1 / 1
20	Tin	mg/l	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	No value set
21	Chloride	mg/l	5.2	5.6	5.2	4.4	4.3	4.7	6.4	6.8	6.4	200 / 200
22	Sulphate	mg/l	87	99	83	54	53	57	13	13	13	250 / 250
23	Nitrate Nitrogen	mg/l	0.79	0.61	0.43	0.65	0.62	0.69	< 0.01	0.36	0.26	7 / 7
24	Ammoniacal Nitrogen	mg/l	0.06	0.06	0.03	0.10	0.14	0.99	26	< 0.05	< 0.05	0.3 / 0.3
25	Phosphate	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.2 / 0.2 as P
26	E-Coli Count (MPN)	org/100ml										100 / 400

* Note : Highlighted underlined figered denote exceedance

* Lab Reading

Source: WETLANDS INTERNATIONAL ASIA PACIFIC " Preliminary Hydrological and Water Quality Assessment For The Malaysian Wetland Sanctuary, Sel" Final Report December 1996, Centre for Environmental Technologies

Data Book Table D.6.4 Water Quality of the Visitor Lake

Weather was fine throughout the sampling		Name	Visitor Lake						National Water Quality Standard Class IIA & IIB IIA - Fisheries IIB - Recreation
		Grid reference	N 02º 51.925' E 101º 37.885'			N 02º 51.860' E 101º 37.276'			
		Sample Depth	0.2m	5.0m	10.0m	0.2m	2.5m	5.0m	
		Date	14-Oct-96	14-Oct-96	14-Oct-96	14-Oct-96	14-Oct-96	14-Oct-96	
		Clarity	Clear	Clear	Clear	Clear	Clear	Clear	
		Colour	Dark brown	Dark brown	Dark brown	Dark brown	Dark brown	Dark brown	
No.	Parameter	Units							Class IIA / IIB
1	pH (in-situ)	-	4.26	4.61	4.61	4.44	4.70	4.94	6-9 / 6-9
2	Temp. (in-situ)	º C	31.4	28.6	28.4	32.6	30.4	29.2	Normal ± 2
3	Diss. Oxygen (in-situ)	mg/l	4.12	4.34	4.32	5.53	6.18	5.58	5-7 / 5-7
4	Conductivity (in-situ)	µ S/cm	59.2*	51.6*	49.1*	43.4*	45.1*	49.7*	100 / -
5	Turbidity (in-situ)	NTU	23.0	21.0	29.0	24.0	25.0	24.0	50 / 50
6	BOD (5 days @20 º C)	mg/l	2	< 2	< 2	2	< 2	< 2	3 / 3
7	COD	mg/l	105	120	130	105	99	120	25 / 25
8	Total Solids	mg/l	125	165	196	156	142	174	1000 / -
9	Dissolved Solids	mg/l	118	144	167	144	132	154	950 / 950
10	Suspended Solids	mg/l	7	21	29	12	10	20	50 / 50
11	Total Hardness	mg/l	10	10	10	5	9	10	250 / -
12	Potassium	mg/l	3.7	3.9	4.2	3.1	3.3	3.8	No value set
13	Magnesium	mg/l	1.5	1.5	1.5	1.2	1.4	1.4	No value set
14	Calcium	mg/l	1.7	1.7	1.7	1.3	1.5	1.6	No value set
15	Copper	mg/l	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	1 / 1
16	Iron	mg/l	3.6	3.4	3.4	3.1	3.6	3.6	0.3 / 0.3
17	Zinc	mg/l	0.02	0.04	0.04	< 0.02	0.04	0.03	0.4 / 0.4
18	Lead	mg/l	< 0.2	< 0.2	0.21	< 0.2	< 0.2	< 0.2	0.05 / 0.05
19	Manganese	mg/l	0.06	0.05	0.05	0.05	0.05	0.05	0.1 / 1
20	Tin	mg/l	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	No value set
21	Chloride	mg/l	3.7	3.9	4.3	3.8	3.9	4.2	200 / 200
22	Sulphate	mg/l	7.1	6.5	6.1	7.7	7.5	6.4	250 / 250
23	Nitrate Nitrogen	mg/l	0.09	< 0.01	< 0.01	< 0.01	0.07	< 0.01	7 / 7
24	Ammoniacal Nitrogen	mg/l	< 0.05	52	79	< 0.05	26	26	0.3 / 0.3
25	Phosphate	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.2 / 0.2 as P
26	E-Coli Count (MPN)	org/100ml	0						100 / 400

* Note : Highlighted underlined figered denote exceedance

Source: WETLANDS INTERNATIONAL ASIA PACIFIC " Preliminary Hydrological and Water Quality Assessment For The Malaysian Wetland Sanctuary, Sel" Final Report December 1996, Centre for Environmental Technologies

Data Book Table D.6.5 Water Quality of the Main Lake

Weather was fine throughout the sampling		Name	Main Lak e						National Water Quality Standard Class IIA & IIB IIA - Fisheries IIB - Recreation
		Grid refefence	N 02º 51.853'			N 02º 52.412'			
			E 101º 37.090'			E 101º 37.061'			
		Sample Depth	0.2m	1.5m	3.0m	0.2m	2.0m	4.0m	
		Date	14-Oct-96	14-Oct-96	14-Oct-96	14-Oct-96	14-Oct-96	14-Oct-96	
		Clarity	Clear	Clear	Clear	Clear	Clear	Clear	
		Colour	Dark brown	Dark brown	Dark brown	Dark brown	Dark brown	Dark brown	
No.	Parameter	Units							Class IIA / IIB
1	pH (in-situ)	-	4.33	4.45	4.48	4.40	4.46	4.58	6-9 / 6-9
2	Temp. (in-situ)	º C	29.6	28.8	28.7	29.8	29.1	29.0	Normal ± 2
3	Diss. Oxygen (in-situ)	mg/l	6.20	6.86	6.85	6.94	6.87	7.01	5-7 / 5-7
4	Conductivity (in-situ)	µ S/cm	41.3*	43.6*	47.4*	42.7*	44.1*	49.7*	100 / -
5	Turbidity (in-situ)	NTU	71.0	75.0	73.0	76.0	76.0	82.0	50 / 50
6	BOD (5 days @20 º C)	mg/l	< 2	< 2	< 2	< 2	< 2	< 2	3 / 3
7	COD	mg/l	50	42	43	43	42	42	25 / 25
8	Total Solids	mg/l	175	175	162	172	169	189	1000 / -
9	Dissolved Solids	mg/l	154	148	133	143	145	149	950 / 950
10	Suspended Solids	mg/l	21	27	29	29	24	40	50 / 50
11	Total Hardness	mg/l	12	5	9	3	8	9	250 / -
12	Potassium	mg/l	2.4	2.3	2.3	2.3	2.2	2.2	No value set
13	Magnesium	mg/l	1.4	1.3	1.3	1.3	1.3	1.3	No value set
14	Calcium	mg/l	2.6	2.0	1.5	1.5	1.4	1.4	No value set
15	Copper	mg/l	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	1 / 1
16	Iron	mg/l	3.0	3.0	3.0	3.1	2.9	3.1	0.3 / 0.3
17	Zinc	mg/l	0.03	< 0.02	0.04	0.04	0.04	0.05	0.4 / 0.4
18	Lead	mg/l	< 0.2	0.25	0.14	0.24	0.22	0.42	0.05 / 0.05
19	Manganese	mg/l	0.05	0.05	0.05	0.05	0.05	0.05	0.1 / 1
20	Tin	mg/l	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	No value set
21	Chloride	mg/l	2.5	3.0	2.6	2.9	2.7	2.7	200 / 200
22	Sulphate	mg/l	10	11	11	12	11	11	250 / 250
23	Nitrate Nitrogen	mg/l	0.23	0.32	0.24	< 0.01	0.36	0.26	7 / 7
24	Ammoniacal Nitrogen	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	26	< 0.05	0.3 / 0.3
25	Phosphate	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.2 / 0.2 as P
26	E-Coli Count (MPN)	org/100ml				0			100 / 400

* Note : Highlighted underlined figered denote exceedance

Source: WETLANDS INTERNATIONAL ASIA PACIFIC " Preliminary Hydrological and Water Quality Assessment For The Malaysian Wetland Sanctuary, Sel" Final Report December 1996, Centre for Environmental Technologies

Data Book Table D.6.6 Water Quality in the Paya Indah Wetland in 1998

Lotus Lake

No	Parameter	Units	Mean	Min	Max	NWOS Class 1
1	pH (in-situ)	-	4.13	3.48	5.77	6.5 - 8.5
2	Temp. (in-situ)	° C	32.75	30.90	35.40	No value set
3	Diss. Oxygen (in-situ)	mg/l	4.91	2.20	7.30	7
4	Conductivity (in-situ)	µ S/cm	156.19	110.00	193.00	100
5	Turbidity (in-situ)	NTU	29.95	9.83	46.74	5

Visitor Lake

No	Parameter	Units	Mean	Min	Max	NWOS Class 1
1	pH (in-situ)	-	4.63	4.30	4.84	6.5 - 8.5
2	Temp. (in-situ)	° C	33.55	30.70	40.00	No value set
3	Diss. Oxygen (in-situ)	mg/l	2.98	0.50	5.10	7
4	Conductivity (in-situ)	µ S/cm	67.17	54.00	130.80	100
5	Turbidity (in-situ)	NTU	56.26	30.42	109.00	5

Main Lake

No	Parameter	Units	Mean	Min	Max	NWOS Class 1
1	pH (in-situ)	-	4.53	3.64	4.80	6.5 - 8.5
2	Temp. (in-situ)	° C	32.78	30.00	37.60	No value set
3	Diss. Oxygen (in-situ)	mg/l	3.66	0.50	5.40	7
4	Conductivity (in-situ)	µ S/cm	69.72	61.00	79.00	100
5	Turbidity (in-situ)	NTU	118.19	41.56	264.00	5

Perch Lake

No	Parameter	Units	Mean	Min	Max	NWOS Class 1
1	pH (in-situ)	-	3.93	3.31	6.17	6.5 - 8.5
2	Temp. (in-situ)	° C	32.11	29.30	35.40	No value set
3	Diss. Oxygen (in-situ)	mg/l	4.10	0.40	7.80	7
4	Conductivity (in-situ)	µ S/cm	164.59	92.00	193.00	100
5	Turbidity (in-situ)	NTU	17.23	0.00	36.40	5

Cyber Canal

No	Parameter	Units	Mean	Min	Max	NWOS Class 1
1	pH (in-situ)	-	4.36	4.15	4.56	6.5 - 8.5
2	Temp. (in-situ)	° C	31.27	29.50	34.00	No value set
3	Diss. Oxygen (in-situ)	mg/l	1.03	0.10	3.00	7
4	Conductivity (in-situ)	µ S/cm	77.40	56.00	144.60	100
5	Turbidity (in-situ)	NTU	37.16	12.85	78.00	5

East Canal

No	Parameter	Units	Mean	Min	Max	NWOS Class 1
1	pH (in-situ)	-	4.26	3.02	4.62	6.5 - 8.5
2	Temp. (in-situ)	° C	30.93	29.10	32.80	No value set
3	Diss. Oxygen (in-situ)	mg/l	0.86	0.20	1.90	7
4	Conductivity (in-situ)	µ S/cm	75.90	54.00	105.00	100
5	Turbidity (in-situ)	NTU	39.95	19.23	92.00	5

* Note : Highlighted underlined figered denote exceedance

Source: Water Quality Parameters for Selected Dates between 17 February 1998 and 8 May 1998, MWF

DATA BOOK D.6.2

WATER LEVEL AND RAINFALL DATA IN PAYA INDAH

Data Book Table D.6.7 Water Level in Paya Indah Lakes during Oct. 1999 – Jan. 2000

Code	Location of Staff Gauge	Monitoring Period	Water Level (meters above the sea level)				
			Mean	Max	Min	Max Limit	Min Limit
01	Hippo Lake	12.10.99 - 29.2.00	6.44	6.63	6.32	6.20	6.00
02	Crocodile Lake	12.10.99 - 29.2.00	6.19	6.25	6.12	6.40	5.54
03	Visitor Lake	11.10.99 - 29.2.00	7.20	7.29	7.07	6.90	5.56
04	Main Lake	11.10.99 - 29.2.00	7.15	7.24	7.03	6.90	5.56
05	Gunung Lake	12.10.99 - 29.2.00	6.47	6.56	6.35	6.30	6.10
06	Driftwood Lake	12.10.99 - 29.2.00	7.41	7.73	7.16	6.50	6.30
07	Perch Lake	12.10.99 - 29.2.00	7.81	7.86	7.68	8.00	7.70
08	Marsh Lake	11.10.99 - 29.2.00	7.46	7.53	7.38	7.60	7.40
09	Padi Lake	11.10.99 - 29.2.00	7.17	7.30	7.08	7.20	6.80
10	Swamphen Lake	12.10.99 - 29.2.00	6.77	6.84	6.62	6.60	6.40
11	Lotus Lake (Lotus St.)	11.10.99 - 29.2.00	5.62	5.72	5.54	5.80	5.50
12	Palm Lake	11.10.99 - 29.2.00	5.96	6.06	5.84	5.90	5.70
13	Chalet Lake	12.10.99 - 29.2.00	5.87	5.94	5.80	6.30	5.60
14	Typha Lake	12.10.99 - 29.2.00	5.65	5.74	5.58	5.80	5.40
15	Lotus Lake (Typha St.)	12.10.99 - 29.2.00	5.62	5.72	5.55	5.80	5.50

Source: Monitored data provided by MWF

Data Book Table D.6.8 Baseline Data on Paya Indah Wetland Lakes

Code	Name of Lake	Monitoring Period	Water Level (meters above the sea level)					Calculated lake water surface (m^2)	Baseline Morphological Information of the Lakes(1)				General view based on the field reconnaisance (May, 2000)			
			Mean (m)	Max (m)	Min (m)	Max Limit (m)	Min Limit (m)		Maximum Depth (m)	Average Depth (m)	Area of lake water surface (m^2)	Volume (m^3)	Ratio of lake water surface (%)	Ratio of vegetation covered (%)	Estimated average water depth (m)	Connection with other lakes (the number is the code of lake)
01	Hippo Lake	12.10.99 - 29.2.00	6.44	6.63	6.32	6.20	6.00	11,159	N.A	N.A	N.A	N.A	100	0	N.A	from 02 to 11
02	Crocodile Lake	12.10.99 - 29.2.00	6.19	6.25	6.12	6.40	5.54	34,710	10.0	5.52	38,260	211,195	100	0	N.A	to 01
03	Visitor Lake	11.10.99 - 29.2.00	7.20	7.29	7.07	6.90	5.56	497,729	14.0	6.78	563,200	3,818,496	90	10	N.A	to 04
04	Main Lake	11.10.99 - 29.2.00	7.15	7.24	7.03	6.90	5.56	932,492	14.0	5.40	866,560	4,679,424	80	20	N.A	to 12
05	Gunung Lake	12.10.99 - 29.2.00	6.47	6.56	6.35	6.30	6.10	16,134	N.A	N.A	N.A	N.A	70	30	N.A	isolated
06	Driftwood Lake	12.10.99 - 29.2.00	7.41	7.73	7.16	6.50	6.30	107,226	7.0	2.04	108,443	221,224	80	20	N.A	to tin lake
07	Perch Lake	12.10.99 - 29.2.00	7.81	7.86	7.68	8.00	7.70	85,913	2.0	0.86	87,774	75,486	10	90	0.1	from tin lake to 09
08	Marsh Lake	11.10.99 - 29.2.00	7.46	7.53	7.38	7.60	7.40	89,030	4.0	1.70	90,035	153,060	10	90	0.1	from 07 to 09
09	Padi Lake	11.10.99 - 29.2.00	7.17	7.30	7.08	7.20	6.80	75,631	1.5	0.39	81,147	31,647	10	90	0.1	from 07 & 08 to 10 & 11
10	Swamphen Lake	12.10.99 - 29.2.00	6.77	6.84	6.62	6.60	6.40	73,861	1.5	0.51	74,029	37,755	20	80	0.1	from 09 to 11
11	Lotus Lake	11.10.99 - 29.2.00	5.62	5.72	5.54	5.80	5.50	1,881,886	12.0	3.29	1,739,426	5,722,712	70	30	N.A	from 01, 09, 10, 12, 13, 14 to the out of Paya Indah
12	Palm Lake	11.10.99 - 29.2.00	5.96	6.06	5.84	5.90	5.70	21,224	N.A	N.A	N.A	N.A	30	70	N.A	from 04 to 11
13	Chalet Lake	12.10.99 - 29.2.00	5.87	5.94	5.80	6.30	5.60	280,639	N.A	N.A	N.A	N.A	80	20	N.A	to 11
14	Typha Lake	12.10.99 - 29.2.00	5.65	5.74	5.58	5.80	5.40	64,484	5.5	2.00	247,100	494,200	60	40	N.A	to 11
	Tin Lake							1,145,519	16.0	4.81	1,135,072	5,459,696	90	10	N.A	to 07

Source: Monitored data by MWF " *Malaysin Wetland Sanctuary Kuala Langat Hydrological Analysis"* February 1998.
Field reconnaissance by JICA study team

Data Book Table D.6.9 Water Level and Rainfall Data in the Paya Indah Wetland in 10.1999 - 12.2000

Date	Daily Rainfall (mm)	Water Level (m: above mean sea level)														
		Perch Lake	Driftwood Lake	Marsh Lake	Visitor Lake	Main Lake	Padi Lake	Swamphen Lake	Gunung Lake	Hippo Lake	Crocodile Lake	Palm Lake	Chalet Lake	Typha Lake	Lotus Lake (Typha St.)	Lotus Lake (Lotus St.)
1-Oct-99																
2-Oct-99																
3-Oct-99																
4-Oct-99																
5-Oct-99																
6-Oct-99																
7-Oct-99																
8-Oct-99																
9-Oct-99																
10-Oct-99																
11-Oct-99				7.45	7.10	7.09	7.10									5.54
12-Oct-99	56.00	7.80	7.58	7.52	7.20	7.14	7.16	6.81	6.52	6.31	6.35	5.93	5.85	5.65	5.61	5.61
13-Oct-99	1.00	7.83	7.58	7.50	7.20	7.14	7.12	6.78	6.52	6.27	6.34	5.93	5.85	5.64	5.61	5.61
14-Oct-99	4.30	7.80	7.59	7.50	7.20	7.14	7.10	6.77	6.52	6.28	6.35	5.94	5.86	5.65	5.60	5.61
15-Oct-99	24.00	7.84	7.60	7.52	7.22	7.16	7.13	6.78	6.55	6.29	6.37	5.96	5.87	5.66	5.62	5.62
16-Oct-99	1.50	7.86	7.60	7.50	7.18	7.16	7.13	6.78	6.53	6.26	6.34	5.95	5.86	5.66	5.65	5.63
17-Oct-99	1.00	7.86	7.60	7.50	7.18	7.16	7.12	6.78	6.52	6.24	6.33	5.95	5.86	5.66	5.65	5.63
18-Oct-99	0.00	7.81	7.58	7.49	7.20	7.14	7.10	6.77	6.51	6.22	6.35	5.95	5.86	5.64	5.61	5.61
19-Oct-99	4.00	7.81	7.58	7.48	7.20	7.15	7.11	6.75	6.50	6.22	6.34	5.94	5.86	5.65	5.63	5.62
20-Oct-99	3.00	7.80	7.58	7.48	7.20	7.14	7.10	6.75	6.48	6.19	6.35	5.94	5.85	5.63	5.61	5.61
21-Oct-99	0.50	7.79	7.57	7.47	7.19	7.13	7.08	6.74	6.48	6.17	6.34	5.94	5.85	5.63	5.59	5.60
22-Oct-99	0.00	7.81	7.57	7.46	7.18	7.13	7.10	6.73	6.46	6.16	6.34	5.93	5.84	5.62	5.59	5.58
23-Oct-99	0.00	7.81	7.57	7.47	7.18	7.14	7.10	6.73	6.46	6.16	6.34	5.93	5.84	5.61	5.59	5.58
24-Oct-99	5.50	7.83	7.58	7.47	7.19	7.16	7.12	6.74	6.47	6.20	6.34	5.95	5.85	5.64	5.62	5.60
25-Oct-99	14.00	7.84	7.57	7.46	7.18	7.12	7.14	6.77	6.45	6.14	6.32	5.92	5.83	5.62	5.59	5.59
26-Oct-99	0.00	7.84	7.56	7.45	7.17	7.11	7.13	6.77	6.44	6.13	6.30	5.91	5.83	5.61	5.58	5.58
27-Oct-99	0.00	7.84	7.55	7.44	7.16	7.11	7.13	6.77	6.43	6.12	6.31	5.91	5.82	5.61	5.58	5.58
28-Oct-99	35.00	7.84	7.57	7.46	7.19	7.14	7.14	6.79	6.45	6.14	6.33	5.94	5.85	5.63	5.60	5.60
29-Oct-99	3.50	7.84	7.58	7.46	7.19	7.13	7.14	6.78	6.45	6.16	6.32	5.94	5.84	5.63	5.60	5.60
30-Oct-99	0.00	7.84	7.57	7.46	7.18	7.13	7.14	6.78	6.45	6.15	6.32	5.94	5.84	5.63	5.60	5.60
31-Oct-99	0.00	7.84	7.58	7.45	7.18	7.11	7.14	6.77	6.44	6.13	6.30	5.94	5.84	5.62	5.59	5.58
1-Nov-99	0.00	7.82	7.57	7.45	7.19	7.12	7.14	6.78	6.44	6.13	6.31	5.94	5.84	5.62	5.59	5.58
2-Nov-99	30.00	7.82	7.60	7.47	7.21	7.15	7.16	6.80	6.46	6.20	6.31	5.95	5.85	5.60	5.64	5.62
3-Nov-99	0.00	7.84	7.60	7.46	7.19	7.14	7.14	6.78	6.46	6.19	6.32	5.94	5.84	5.63	5.60	5.60
4-Nov-99	0.50	7.84	7.59	7.46	7.18	7.13	7.14	6.77	6.46	6.17	6.31	5.93	5.83	5.62	5.59	5.59
5-Nov-99	5.00	7.84	7.59	7.46	7.18	7.12	7.14	6.77	6.46	6.16	6.31	5.93	5.83	5.62	5.59	5.59
6-Nov-99	0.00	7.84	7.58	7.46	7.19	7.13	7.14	6.78	6.44	6.15	6.32	5.94	5.83	5.61	5.58	5.58
7-Nov-99	0.00	7.83	7.57	7.46	7.18	7.12	7.15	6.78	6.45	6.14	6.32	5.93	5.83	5.60	5.58	5.56
8-Nov-99	0.00	7.84	7.57	7.44	7.16	7.11	7.15	6.78	6.44	6.13	6.30	5.92	5.82	5.60	5.57	5.56
9-Nov-99	1.00	7.84	7.56	7.42	7.14	7.10	7.14	6.77	6.43	6.12	6.28	5.90	5.80	5.59	5.55	5.56
10-Nov-99	0.00	7.84	7.55	7.42	7.13	7.07	7.14	6.77	6.42	6.11	6.27	5.88	5.80	5.59	5.56	5.55
11-Nov-99	0.00	7.84	7.55	7.42	7.11	7.09	7.14	6.77	6.42	6.10	6.27	5.88	5.80	5.60	5.55	5.56
12-Nov-99	0.00	7.82	7.64	7.47	7.18	7.14	7.16	6.80	6.49	6.25	6.32	5.94	5.84	5.64	5.60	5.59
13-Nov-99	109.00	7.79	7.73	7.52	7.25	7.18	7.17	6.82	6.56	6.39	6.36	6.00	5.88	5.68	5.64	5.62
14-Nov-99	2.00	7.79	7.70	7.53	7.25	7.19	7.16	6.81	6.55	6.36	6.36	5.99	5.88	5.67	5.63	5.61
15-Nov-99	10.00	7.84	7.66	7.50	7.26	7.20	7.15	6.79	6.54	6.33	6.38	6.00	5.88	5.66	5.62	5.63
16-Nov-99	11.00	7.84	7.64	7.50	7.21	7.18	7.16	6.79	6.56	6.33	6.37	6.01	5.89	5.66	5.62	5.64
17-Nov-99	25.00	7.84	7.57	7.50	7.22	7.19	7.17	6.80	6.56	6.34	6.38	6.02	5.90	5.66	5.63	5.65
18-Nov-99	28.50	7.83	7.39	7.51	7.29	7.23	7.15	6.78	6.55	6.31	6.40	6.03	5.91	5.68	5.65	5.66
19-Nov-99	5.00	7.83	7.38	7.51	7.28	7.23	7.15	6.77	6.55	6.30	6.39	6.02	5.91	5.67	5.64	5.66
20-Nov-99	11.00	7.83	7.39	7.52	7.28	7.24	7.15	6.77	6.56	6.32	6.40	6.02	5.92	5.67	5.64	5.66
21-Nov-99	7.00	7.82	7.32	7.51	7.27	7.23	7.14	6.75	6.55	6.31	6.39	6.01	5.91	5.65	5.63	5.65
22-Nov-99	0.20	7.82	7.24	7.51	7.27	7.22	7.15	6.80	6.53	6.26	6.40	6.02	5.92	5.70	5.68	5.68
23-Nov-99	0.00	7.80	7.22	7.48	7.26	7.19	7.12	6.77	6.49	6.24	6.38	6.00	5.90	5.67	5.65	5.67
24-Nov-99	0.00	7.79	7.22	7.48	7.25	7.18	7.11	6.75	6.48	6.23	6.36	6.00	5.90	5.65	5.63	5.65
25-Nov-99	9.00	7.80	7.20	7.49	7.25	7.19	7.13	6.77	6.51	6.21	6.38	6.01	5.91	5.69	5.67	5.67
26-Nov-99	32.50	7.82	7.22	7.49	7.26	7.20	7.13	6.77	6.51	6.23	6.39	6.02	5.91	5.70	5.67	5.67
27-Nov-99	0.00	7.82	7.23	7.50	7.27	7.19	7.12	6.76	6.50	6.23	6.38	6.02	5.90	5.69	5.67	5.68
28-Nov-99	12.00	7.82	7.21	7.49	7.25	7.19	7.12	6.76	6.49	6.21	6.37	6.01	5.90	5.69	5.67	5.67
29-Nov-99	0.00	7.83	7.20	7.48	7.24	7.19	7.13	6.77	6.49	6.20	6.37	6.01	5.91	5.68	5.66	5.67
30-Nov-99	7.00	7.83	7.18	7.47	7.22	7.19	7.13	6.77	6.48	6.18	6.36	6.00	5.91	5.68	5.66	5.66

Data Book Table D.6.9 Water Level and Rainfall Data in the Paya Indah Wetland in 10.1999 - 12.2000

Date	Daily Rainfall (mm)	Water Level (m: above mean sea level)														
		Perch Lake	Driftwood Lake	Marsh Lake	Visitor Lake	Main Lake	Padi Lake	Swamphen Lake	Gunung Lake	Hippo Lake	Crocodile Lake	Palm Lake	Chalet Lake	Typha Lake	Lotus Lake (Typha St.)	Lotus Lake (Lotus St.)
1-Dec-99	9.00	7.83	7.16	7.47	7.20	7.17	7.16	6.76	6.48	6.18	6.37	6.00	5.90	5.70	5.67	5.66
2-Dec-99	9.00	7.80	7.18	7.46	7.22	7.16	7.11	6.76	6.47	6.18	6.37	5.99	5.90	5.69	5.66	5.66
3-Dec-99	1.00	7.82	7.16	7.46	7.21	7.16	7.13	6.75	6.47	6.17	6.36	5.98	5.90	5.68	5.66	5.65
4-Dec-99	14.75	7.83	7.17	7.47	7.21	7.17	7.13	6.77	6.48	6.17	6.37	5.98	5.91	5.68	5.67	5.65
5-Dec-99	28.50	7.83	7.17	7.47	7.20	7.17	7.12	6.78	6.48	6.17	6.37	5.98	5.91	5.67	5.68	5.65
6-Dec-99	54.50	7.85	7.31	7.52	7.27	7.22	7.23	6.83	6.51	6.29	6.40	6.05	5.94	5.74	5.72	5.71
7-Dec-99	0.00	7.84	7.33	7.51	7.28	7.23	7.19	6.81	6.52	6.27	6.40	6.06	5.94	5.74	5.72	5.72
8-Dec-99	4.00	7.82	7.35	7.50	7.29	7.23	7.14	6.79	6.52	6.25	6.40	6.06	5.94	5.74	5.72	5.72
9-Dec-99	0.00	7.82	7.33	7.50	7.29	7.23	7.13	6.78	6.52	6.24	6.40	6.06	5.94	5.74	5.72	5.72
10-Dec-99	0.00	7.81	7.30	7.49	7.28	7.22	7.12	6.77	6.51	6.22	6.39	6.05	5.93	5.74	5.71	5.71
11-Dec-99	0.00	7.81	7.27	7.48	7.27	7.21	7.13	6.77	6.50	6.20	6.37	6.04	5.93	5.73	5.71	5.71
12-Dec-99	0.00	7.80	7.24	7.47	7.25	7.19	7.13	6.76	6.49	6.18	6.35	6.03	5.92	5.72	5.71	5.70
13-Dec-99	0.00	7.81		7.47	7.24	7.18	7.14	6.74	6.49	6.20	6.37	6.02	5.91	5.71	5.69	5.68
14-Dec-99	0.00	7.81	7.23	7.46	7.23	7.19	7.12	6.74	6.48	6.17	6.37	6.01	5.89	5.71	5.69	5.67
15-Dec-99	0.00	7.81	7.23	7.46	7.23	7.19	7.12	6.74	6.48	6.16	6.37	6.01	5.89	5.71	5.68	5.67
16-Dec-99	0.00	7.81	7.22	7.45	7.23	7.19	7.11	6.73	6.48	6.16	6.36	6.00	5.88	5.70	5.68	5.66
17-Dec-99	0.00	7.81	7.22	7.45	7.23	7.19	7.11	6.73	6.48	6.15	6.36	6.00	5.88	5.70	5.67	5.66
18-Dec-99	0.00	7.79	7.23	7.45	7.22	7.16	7.12	6.75	6.47	6.15	6.36	5.99	5.90	5.70	5.67	5.66
19-Dec-99	0.00	7.77	7.23	7.45	7.20	7.13	7.12	6.77	6.45	6.15	6.35	5.97	5.92	5.69	5.67	5.65
20-Dec-99	25.50	7.79	7.24	7.44	7.19	7.13	7.13	6.74	6.44	6.15	6.35	5.96	5.91	5.68	5.66	5.65
21-Dec-99	1.00	7.81	7.25	7.43	7.17	7.12	7.14	6.71	6.42	6.14	6.34	5.95	5.89	5.66	5.65	5.64
22-Dec-99	0.00	7.81	7.26	7.43	7.16	7.10	7.13	6.71	6.42	6.13	6.33	5.93	5.88	5.66	5.64	5.63
23-Dec-99	0.00	7.73	7.26	7.42	7.14	7.10	7.11	6.70	6.41	6.13	6.32	5.92	5.87	5.66	5.63	5.62
24-Dec-99	0.00	7.73	7.26	7.41	7.13	7.10	7.11	6.68	6.40	6.11	6.31	5.91	5.87	5.65	5.63	5.61
25-Dec-99	0.10	7.73	7.26	7.40	7.12	7.09	7.10	6.66	6.39	6.10	6.30	5.90	5.86	5.65	5.60	5.60
26-Dec-99	0.00	7.72	7.26	7.40	7.11	7.08	7.08	6.65	6.38	6.09	6.30	5.88	5.85	5.64	5.58	5.60
27-Dec-99	0.00	7.70	7.26	7.38	7.10	7.06	7.10	6.63	6.37	6.09	6.29	5.86	5.84	5.64	5.58	5.60
28-Dec-99	0.00	7.68	7.26	7.39	7.09	7.04	7.12	6.62	6.37	6.09	6.28	5.85	5.84	5.61	5.58	5.56
29-Dec-99	0.00	7.81	7.25	7.38	7.08	7.04	7.14	6.69	6.36	6.08	6.28	5.84	5.83	5.61	5.56	5.55
30-Dec-99	0.50	7.83	7.26	7.38	7.07	7.03	7.23	6.69	6.35	6.08	6.27	5.84	5.83	5.60	5.56	5.55
31-Dec-99	0.00	7.83	7.27	7.39	7.08	7.06	7.24	6.73	6.37	6.09	6.28	5.85	5.84	5.61	5.56	5.55
1-Jan-00	21.50	7.82	7.28	7.40	7.08	7.09	7.24	6.76	6.38	6.09	6.28	5.86	5.84	5.61	5.56	5.55
2-Jan-00	16.50	7.84	7.27	7.42	7.09	7.04	7.27	6.77	6.38	6.11	6.30	5.88	5.86	5.62	5.56	5.56
3-Jan-00	11.00	7.83	7.28	7.42	7.09	7.04	7.25	6.76	6.37	6.13	6.31	5.87	5.84	5.62	5.57	5.55
4-Jan-00	33.50	7.84	7.32	7.46	7.16	7.08	7.28	6.81	6.41	6.24	6.33	5.91	5.88	5.64	5.61	5.60
5-Jan-00	7.00	7.81	7.34	7.47	7.17	7.09	7.27	6.80	6.41	6.24	6.33	5.92	5.88	5.64	5.61	5.60
6-Jan-00	23.50	7.80	7.38	7.48	7.20	7.12	7.28	6.82	6.46	6.28	6.35	5.94	5.89	5.64	5.62	5.62
7-Jan-00	0.50	7.79	7.37	7.48	7.20	7.12	7.27	6.81	6.46	6.24	6.34	5.94	5.88	5.64	5.62	5.62
8-Jan-00	0.00	7.73	7.36	7.46	7.20	7.12	7.26	6.80	6.44	6.23	6.33	5.93	5.87	5.63	5.61	5.60
9-Jan-00	31.50	7.70	7.44	7.48	7.24	7.16	7.16	6.76	6.45	6.25	6.35	5.96	5.88	5.64	5.63	5.60
10-Jan-00	0.00	7.72	7.45	7.47	7.25	7.17	7.13	6.78	6.46	6.22	6.34	5.97	5.89	5.65	5.63	5.62
11-Jan-00	0.00	7.69	7.44	7.46	7.25	7.17	7.10	6.76	6.45	6.21	6.33	5.97	5.86	5.58	5.62	5.61
12-Jan-00	0.00	7.68	7.43	7.45	7.24	7.17	7.10	6.75	6.44	6.19	6.32	5.96	5.85	5.58	5.62	5.60
13-Jan-00	1.00	7.79	7.44	7.46	7.25	7.18	7.18	6.76	6.45	6.18	6.32	5.96	5.86	5.58	5.62	5.61
14-Jan-00	14.50	7.82	7.46	7.47	7.28	7.20	7.24	6.79	6.48	6.28	6.35	5.99	5.88	5.64	5.64	5.62
15-Jan-00	0.00	7.81	7.45	7.46	7.27	7.19	7.23	6.78	6.47	6.26	6.35	5.98	5.86	5.63	5.62	5.61
16-Jan-00	0.00	7.81	7.46	7.45	7.26	7.18	7.22	6.78	6.46	6.24	6.35	5.97	5.85	5.58	5.61	5.60
17-Jan-00	0.00	7.81	7.37	7.44	7.24	7.18	7.26	6.78	6.46	6.22	6.35	5.98	5.86	5.62	5.60	5.61
18-Jan-00	0.70	7.82	7.37	7.44	7.24	7.18	7.27	6.81	6.46	6.22	6.36	5.99	5.87	5.64	5.62	5.63
19-Jan-00	0.00	7.81	7.36	7.44	7.23	7.16	7.26	6.79	6.46	6.20	6.35	5.98	5.86	5.63	5.61	5.62
20-Jan-00	23.50	7.83	7.39	7.46	7.23	7.18	7.28	6.81	6.48	6.20	6.35	6.00	5.89	5.67	5.66	5.65
21-Jan-00	0.00	7.73	7.38	7.45	7.23	7.17	7.22	6.81	6.48	6.18	6.34	5.98	5.87	5.66	5.65	5.65
22-Jan-00	0.00	7.72	7.37	7.44	7.21	7.16	7.22	6.80	6.46	6.16	6.33	5.96	5.87	5.65	5.64	5.64
23-Jan-00	0.10	7.79	7.35	7.44	7.20	7.15	7.22	6.76	6.45	6.16	6.33	5.96	5.86	5.64	5.60	5.62
24-Jan-00	1.50	7.81	7.34	7.43	7.20	7.14	7.26	6.80	6.45	6.14	6.32	5.95	5.86	5.60	5.62	5.62
25-Jan-00	27.50	7.82	7.36	7.46	7.25	7.15	7.30	6.84	6.49	6.28	6.37	5.98	5.88	5.69	5.66	5.66
26-Jan-00	1.00	7.81	7.35	7.44	7.23	7.15	7.27	6.82	6.49	6.26	6.37	5.98	5.88	5.68	5.66	5.65
27-Jan-00	0.00	7.81	7.35	7.43	7.22	7.15	7.26	6.82	6.48	6.23	6.36	5.97	5.87	5.67	5.65	5.64
28-Jan-00	0.00	7.82	7.33	7.45	7.21	7.14	7.27	6.82	6.47	6.21	6.35	5.96	5.87	5.66	5.64	5.64
29-Jan-00	0.00	7.82	7.32	7.43	7.20	7.13	7.27	6.82	6.47	6.19	6.35	5.95	5.87	5.66	5.63	5.64
30-Jan-00	1.00	7.81	7.31	7.43	7.19	7.12	7.26	6.81	6.46	6.18	6.34	5.95	5.86	5.65	5.63	5.63
31-Jan-00	0.00	7.81	7.30	7.42	7.17	7.11	7.27	6.82	6.45	6.17	6.34	5.94	5.86	5.65	5.62	5.62

Data Book Table D.6.9 Water Level and Rainfall Data in the Paya Indah Wetland in 10.1999 - 12.2000

Date	Daily Rainfall (mm)	Water Level (m: above mean sea level)														
		Perch Lake	Driftwood Lake	Marsh Lake	Visitor Lake	Main Lake	Padi Lake	Swamphen Lake	Gunung Lake	Hippo Lake	Crocodile Lake	Palm Lake	Chalet Lake	Typha Lake	Lotus Lake (Typha St.)	Lotus Lake (Lotus St.)
1-Feb-00	0.00	7.81	7.30	7.41	7.16	7.10	7.27	6.82	6.44	6.16	6.33	5.94	5.85	5.64	5.61	5.61
2-Feb-00	0.00	7.81	7.27	7.40	7.15	7.10	7.27	6.82	6.43	6.14	6.32	5.90	5.85	5.64	5.61	5.61
3-Feb-00	0.00	7.80	7.26	7.39	7.13	7.08	7.26	6.82	6.42	6.12	6.31	5.89	5.84	5.63	5.60	5.61
4-Feb-00	1.50	7.81	7.26	7.39	7.12	7.06	7.26	6.82	6.42	6.12	6.30	5.90	5.84	5.62	5.60	5.59
5-Feb-00	0.00	7.83	7.24	7.39	7.11	7.06	7.26	6.81	6.41	6.11	6.30	5.90	5.83	5.60	5.58	5.58
6-Feb-00	0.00	7.83	7.22	7.38	7.10	7.07	7.26	6.81	6.40	6.10	6.29	5.86	5.83	5.60	5.57	5.57
7-Feb-00	0.00	7.83	7.21	7.37	7.09	7.04	7.26	6.80	6.39	6.10	6.28	5.85	5.82	5.60	5.56	5.56
8-Feb-00	0.00	7.83	7.20	7.36	7.08	7.04	7.26	6.80	6.38	6.10	6.27	5.84	5.80	5.60	5.56	5.55
9-Feb-00	0.00	7.81	7.20	7.36	7.07	7.04	7.26	6.80	6.38	6.08	6.26	5.83	5.80	5.59	5.56	5.54
10-Feb-00	0.00	7.81	7.18	7.35	7.06	7.02	7.26	6.80	6.37	6.07	6.25	5.82	5.80	5.58	5.54	5.53
11-Feb-00	0.00	7.81	7.17	7.34	7.06	7.02	7.26	6.80	6.37	6.06	6.25	5.81	5.78	5.58	5.53	5.52
12-Feb-00	0.00	7.83	7.17	7.34	7.04	7.00	7.26	6.79	6.35	6.06	6.24	5.80	5.78	5.57	5.52	5.51
13-Feb-00	28.50	7.83	7.20	7.36	7.06	7.02	7.28	6.82	6.38	6.08	6.25	5.83	5.80	5.60	5.56	5.54
14-Feb-00	0.00	7.83	7.20	7.36	7.06	7.02	7.28	6.81	6.38	6.08	6.25	5.83	5.80	5.60	5.56	5.54
15-Feb-00	12.50	7.83	7.21	7.37	7.07	7.03	7.27	6.83	6.40	6.09	6.25	5.83	5.81	5.61	5.58	5.55
16-Feb-00	17.50	7.83	7.22	7.38	7.08	7.04	7.28	6.84	6.41	6.10	6.26	5.84	5.82	5.62	5.59	5.56
17-Feb-00	0.00	7.83	7.22	7.37	7.07	7.02	7.27	6.83	6.38	6.09	6.25	5.83	5.80	5.60	5.56	5.56
18-Feb-00	1.50	7.82	7.21	7.36	7.06	7.01	7.26	6.82	6.36	6.08	6.25	5.82	5.80	5.60	5.55	5.55
19-Feb-00	0.00	7.81	7.21	7.34	7.05	7.00	7.25	6.80	6.36	6.07	6.23	5.82	5.78	5.58	5.52	5.54
20-Feb-00	0.00	7.81	7.20	7.34	7.04	7.00	7.25	6.80	6.35	6.06	6.22	5.80	5.78	5.58	5.52	5.50
21-Feb-00	0.00	7.81	7.20	7.34	7.04	7.00	7.25	6.80	6.35	6.06	6.22	5.80	5.78	5.57	5.50	5.50
22-Feb-00	23.50	7.81	7.21	7.37	7.07	7.02	7.28	6.82	6.37	6.11	6.25	5.82	5.80	5.60	5.52	5.53
23-Feb-00	2.50	7.81	7.20	7.36	7.07	7.02	7.27	6.82	6.36	6.10	6.25	5.82	5.80	5.60	5.51	5.52
24-Feb-00	0.00	7.81	7.20	7.36	7.06	7.01	7.26	6.81	6.35	6.10	6.25	5.81	5.80	5.59	5.50	5.51
25-Feb-00	7.50	7.81	7.20	7.36	7.06	7.00	7.26	6.80	6.36	6.09	6.25	5.80	5.80	5.60	5.50	5.50
26-Feb-00	0.00	7.83	7.21	7.36	7.06	7.00	7.26	6.80	6.36	6.08	6.24	5.80	5.79	5.55	5.54	5.50
27-Feb-00	0.00	7.84	7.22	7.35	7.06	7.00	7.26	6.80	6.35	6.07	6.23	5.80	5.78	5.50	5.58	5.50
28-Feb-00	0.00	7.83	7.21	7.34	7.06	7.00	7.26	6.80	6.34	6.06	6.23	5.80	5.78	5.50	5.57	5.50
29-Feb-00	0.00	7.82	7.20	7.34	7.04	7.00	7.26	6.80	6.33	6.06	6.22	5.80	5.78	5.50	5.57	5.49
1-Mar-00	0.00	7.81	7.18	7.32	7.03	6.92	7.26	6.79	6.33	5.92	6.21	5.78	5.76	5.48	5.56	
2-Mar-00	15.00	7.83	7.18	7.34	7.03	6.92	7.27	6.80	6.34	5.92	6.21	5.78	5.76	5.48	5.56	
3-Mar-00	0.00	7.82	7.17	7.33	7.04	6.98	7.26	6.79	6.34	5.94	6.21	5.77	5.76	5.56	5.48	
4-Mar-00	0.00	7.82	7.15	7.33	7.03	6.97	7.26	6.79	6.34	5.93	6.20	5.77	5.75	5.55	5.47	
5-Mar-00	0.00	7.82	7.12	7.33	7.03	6.97	7.26	6.78	6.33	5.93	6.20	5.76	5.75	5.55	5.46	
6-Mar-00	0.00	7.81	7.10	7.33	7.02	6.96	7.26	6.78	6.33	5.92	6.19	5.76	5.74	5.54	5.46	
7-Mar-00	0.00	7.81	7.07	7.33	7.02	6.96	7.26	6.77	6.32	5.92	6.19	5.75	5.74	5.54	5.45	
8-Mar-00	10.50	7.81	7.05	7.33	7.01	6.95	7.26	6.77	6.32	5.91	6.18	5.75	5.73	5.53	5.44	
9-Mar-00	0.00	7.81	7.04	7.32	6.99	6.95	7.24	6.76	6.30	5.89	6.17	5.75	5.73	5.52	5.44	
10-Mar-00	0.00	7.81	7.03	7.30	6.99	6.99	7.23	6.74	6.29	5.88	6.09	5.75	5.72	5.51	5.43	
11-Mar-00	0.00	7.81	7.03	7.32	6.99	6.99	7.24	6.74	6.29	5.90	6.11	5.74	5.70	5.50	5.40	
12-Mar-00	18.50	7.83	7.04	7.32	6.99	6.99	7.24	6.76	6.32	5.93	6.07	5.74	5.73	5.53	5.42	
13-Mar-00	0.00	7.81	7.04	7.32	6.99	6.99	7.23	6.76	6.32	5.91	6.07	5.74	5.70	5.52	5.42	
14-Mar-00	5.50	7.79	6.99	7.32	6.98	6.98	7.19	6.76	6.30	5.90	6.14	5.73	5.72	5.50	5.39	
15-Mar-00	3.50	7.77	6.99	7.32	6.98	6.98	7.18	6.78	6.30	5.90	6.13	5.72	5.72	5.50	5.38	
16-Mar-00	0.00	7.77	6.98	7.31	6.99	6.98	7.16	6.74	6.29	5.89	6.14	5.68	5.70	5.50	5.38	
17-Mar-00	0.00	7.67	6.98	7.30	6.99	6.98	7.16	6.74	6.28	5.89	6.14	5.68	5.70	5.48	5.38	
18-Mar-00	0.00	7.65	6.99	7.30	6.99	6.99	7.14	6.72	6.26	5.88	6.14	5.69	5.68	5.46	5.36	
19-Mar-00	0.00	7.65	6.99	7.29	6.99	6.99	7.13	6.72	6.26	5.88	6.14	5.69	5.66	5.46	5.36	
20-Mar-00	3.50	7.65	6.98	7.28	6.99	6.99	6.99	6.70	6.26	5.86	6.14	5.69	5.66	5.46	5.36	
21-Mar-00	0.00	7.63	6.98	7.28	6.99	6.99	6.99	6.70	6.25	5.86	6.14	5.69	5.66	5.45	5.36	
22-Mar-00	0.00	7.63	6.99	7.27	6.99	6.99	6.99	6.70	6.24	5.88	6.13	5.69	5.66	5.44	5.30	
23-Mar-00	0.00	7.62	6.99	7.27	6.99	6.99	6.99	6.70	6.24	5.88	6.14	5.69	5.64	5.42	5.30	
24-Mar-00	0.00	7.64	7.04	7.32	7.06	6.99	7.07	6.69	6.30	5.92	6.14	5.78	5.68	5.50	5.35	
25-Mar-00	115.00	7.65	7.08	7.36	7.12	6.98	7.14	6.68	6.36	5.96	6.13	5.86	5.72	5.58	5.40	
26-Mar-00	0.00	7.65	7.08	7.35	7.12	6.98	7.14	6.66	6.36	5.96	6.13	5.86	5.72	5.58	5.40	
27-Mar-00	15.00	7.67	7.09	7.36	7.10	6.99	7.16	6.70	6.38	5.94	6.14	5.88	5.74	5.58	5.42	
28-Mar-00	0.00	7.65	7.08	7.36	7.10	6.94	7.14	6.68	6.36	5.92	6.13	5.86	5.72	5.54	5.40	
29-Mar-00	5.00	7.67	7.08	7.36	7.10	6.94	6.99	6.68	6.37	5.92	6.13	5.78	5.71	5.54	5.40	
30-Mar-00	0.00	7.65	7.09	7.34	7.09	6.96	6.99	6.66	6.36	5.90	6.13	5.78	5.70	5.52	5.40	
31-Mar-00	5.00	7.71	7.09	7.34	7.09	6.98	6.99	6.66	6.36	5.88	6.14	5.76	5.70	5.50	5.38	

Data Book Table D.6.9 Water Level and Rainfall Data in the Paya Indah Wetland in 10.1999 - 12.2000

Date	Daily Rainfall (mm)	Water Level (m: above mean sea level)														
		Perch Lake	Driftwood Lake	Marsh Lake	Visitor Lake	Main Lake	Padi Lake	Swamphen Lake	Gunung Lake	Hippo Lake	Crocodile Lake	Palm Lake	Chalet Lake	Typha Lake	Lotus Lake (Typha St.)	Lotus Lake (Lotus St.)
1-Apr-00	0.00	7.71	7.09	7.32	6.99	6.99	6.99	6.64	6.34	5.86	6.14	5.74	5.68	5.50	5.38	
2-Apr-00	24.00	7.72	7.11	7.32	7.18	7.08	7.10	6.65	6.36	5.86	6.23	5.75	5.70	5.56	5.40	
3-Apr-00	12.00	7.69	7.08	7.36	7.12	7.04	6.99	6.66	6.37	5.93	6.23	5.77	5.70	5.53	5.40	
4-Apr-00	0.00	7.69	7.08	7.34	7.12	7.04	6.99	6.64	6.36	5.92	6.21	5.73	5.70	5.52	5.39	
5-Apr-00	0.00	7.71	7.04	7.35	7.12	7.04	6.99	6.66	6.36	5.92	6.21	5.74	5.68	5.50	5.38	
6-Apr-00	0.00	7.71	7.02	7.34	7.10	7.04	7.09	6.64	6.36	5.92	6.21	5.72	5.68	5.50	5.38	
7-Apr-00	0.00	7.71	7.02	7.32	7.10	7.04	7.08	6.64	6.35	5.91	6.20	5.72	5.68	5.48	5.36	
8-Apr-00	0.00	7.62	7.02	7.33	7.10	7.03	7.08	6.62	6.34	5.90	6.19	5.72	5.66	5.46	5.34	
9-Apr-00	0.00	7.71	7.02	7.32	7.08	7.03	7.06	6.62	6.32	5.90	6.19	5.72	5.66	5.46	5.32	
10-Apr-00	2.00	7.73	7.02	7.32	7.10	7.04	7.10	6.64	6.32	5.91	6.17	5.76	5.66	5.47	5.33	
11-Apr-00	9.00	7.75	7.02	7.32	7.10	7.04	7.10	6.64	6.32	5.91	6.17	5.76	5.65	5.46	5.32	
12-Apr-00	0.00	7.75	7.02	7.30	7.10	7.04	7.10	6.66	6.32	5.92	6.17	5.74	5.64	5.45	5.32	
13-Apr-00	2.00	7.75	7.02	7.30	7.10	7.04	7.18	6.66	6.32	5.92	6.17	5.74	5.64	5.45	5.32	
14-Apr-00	0.00	7.73	7.02	7.29	7.08	7.03	7.10	6.66	6.30	5.91	6.17	5.74	5.64	5.44	5.30	
15-Apr-00	0.00	7.73	7.02	7.28	7.06	7.02	6.99	6.64	6.30	5.90	6.17	5.74	5.62	5.42	5.30	
16-Apr-00	0.00	7.75	7.02	7.28	7.06	7.02	6.99	6.64	6.30	5.90	6.17	5.74	5.62	5.42	5.30	
17-Apr-00	0.00	7.75	7.02	7.26	7.05	7.02	6.99	6.64	6.30	5.89	6.17	5.74	5.62	5.40	5.30	
18-Apr-00	0.00	7.77	7.02	7.24	7.04	6.99	6.99	6.62	6.28	5.88	6.14	5.74	5.62	5.40	5.28	
19-Apr-00	0.00	7.77	7.02	7.28	7.04	6.99	7.26	6.70	6.30	5.90	6.14	5.74	5.62	5.38	5.26	
20-Apr-00	19.50	7.77	7.02	7.28	7.04	6.99	7.24	6.70	6.30	5.90	6.14	5.74	5.62	5.38	5.26	
21-Apr-00	0.00	7.77	7.02	7.28	7.04	6.99	7.24	6.70	6.30	5.90	6.14	5.74	5.62	5.38	5.26	
22-Apr-00	10.50	7.73	7.02	7.28	7.02	6.99	7.10	6.70	6.28	5.92	6.14	5.72	5.62	5.40	5.30	
23-Apr-00	0.00	7.75	7.02	7.28	7.02	6.99	7.14	6.68	6.28	5.91	6.14	5.72	5.62	5.38	5.38	
24-Apr-00	24.50	7.77	7.04	7.30	7.06	6.99	7.24	6.70	6.30	5.94	6.23	5.74	5.64	5.42	5.40	
25-Apr-00	14.50	7.79	7.06	7.30	7.06	6.99	7.24	6.74	6.32	5.94	6.23	5.76	5.66	5.44	5.40	
26-Apr-00	0.00	7.77	7.04	7.30	7.06	6.99	7.24	6.74	6.32	5.94	6.23	5.74	5.66	5.44	5.40	
27-Apr-00	0.00	7.75	7.03	7.30	7.03	6.99	7.30	6.72	6.32	5.92	6.17	5.74	5.62	5.44	5.40	
28-Apr-00	0.00	7.75	7.02	7.30	7.02	6.99	7.30	6.72	6.32	5.92	6.17	5.74	5.62	5.44	5.40	
29-Apr-00	0.00	7.73	7.02	7.30	7.02	6.99	7.20	6.70	6.32	5.92	6.17	5.72	5.62	5.42	5.40	
30-Apr-00	0.00	7.77	7.02	7.30	7.02	6.99	7.20	6.70	6.30	5.90	6.17	5.72	5.62	5.42	5.40	
1-May-00	11.50	7.77	7.02	7.28	7.02	6.99	7.20	6.74	6.30	5.92	6.17	5.74	5.62	5.44	5.40	
2-May-00	0.00	7.75	7.02	7.30	7.02	6.99	7.20	6.72	6.30	5.92	6.17	5.74	5.62	5.44	5.40	
3-May-00	15.00	7.79	7.04	7.30	7.02	6.99	7.20	6.70	6.30	5.92	6.17	5.74	5.64	5.47	5.46	
4-May-00	0.00	7.79	7.04	7.30	7.02	6.99	7.20	6.70	6.30	5.92	6.17	5.74	5.64	5.47	5.46	
5-May-00	10.50	7.77	7.02	7.28	7.02	6.99	7.14	6.70	6.30	5.92	6.17	5.72	5.62	5.46	5.46	
6-May-00	0.00	7.77	7.02	7.28	7.02	6.99	7.14	6.70	6.30	5.92	6.17	5.72	5.62	5.48	5.46	
7-May-00	0.00	7.79	7.02	7.28	7.02	6.99	7.20	6.70	6.30	5.94	6.17	5.72	5.62	5.48	5.46	
8-May-00	10.50	7.81	7.02	7.28	7.02	6.99	7.20	6.70	6.30	5.94	6.17	5.72	5.62	5.48	5.48	
9-May-00	0.00	7.89	7.02	7.26	6.99	6.99	7.10	6.70	6.30	5.92	6.17	5.72	5.64	5.49	5.48	
10-May-00	0.00	7.87	6.99	7.24	6.99	6.99	7.10	6.68	6.30	5.92	6.14	5.72	5.62	5.48	5.46	
11-May-00	0.00	7.85	6.99	7.24	6.99	6.99	7.10	6.68	6.30	5.90	6.14	5.72	5.62	5.48	5.46	
12-May-00	0.00	7.83	6.99	7.24	6.99	6.99	7.10	6.66	6.28	5.90	6.14	5.72	5.62	5.48	5.46	
13-May-00	0.00	7.83	6.99	7.24	6.99	6.99	7.10	6.64	6.28	5.90	6.14	5.72	5.62	5.48	5.46	
14-May-00	0.00	7.83	6.99	7.24	6.98	6.98	7.10	6.64	6.26	5.90	6.14	5.69	5.62	5.48	5.46	
15-May-00	0.00	7.83	6.99	7.24	6.98	6.98	7.10	6.64	6.26	5.90	6.13	5.69	5.62	5.48	5.46	
16-May-00	0.00	7.83	6.99	7.22	6.98	6.98	7.10	6.64	6.26	5.90	6.13	5.69	5.62	5.48	5.46	
17-May-00	0.00	7.83	6.99	7.22	6.98	6.98	7.22	6.64	6.24	5.90	6.13	5.68	5.61	5.47	5.45	
18-May-00	0.00	7.83	6.99	7.22	6.98	6.98	7.22	6.64	6.24	5.90	6.13	5.68	5.61	5.47	5.45	
19-May-00	0.00	7.83	6.99	7.22	6.98	6.98	7.22	6.64	6.24	5.90	6.13	5.68	5.61	5.47	5.45	
20-May-00	0.00	7.85	6.99	7.22	6.98	6.98	7.24	6.62	6.24	5.89	6.13	5.68	5.59	5.47	5.45	
21-May-00	0.00	7.81	6.99	7.20	6.96	6.98	7.24	6.62	6.24	5.89	6.14	5.66	5.59	5.47	5.45	
22-May-00	0.00	7.81	6.99	7.20	6.96	6.98	7.22	6.62	6.24	5.89	6.14	5.66	5.59	5.47	5.45	
23-May-00	0.00	7.81	6.98	7.20	6.96	6.98	7.22	6.62	6.24	5.88	6.13	5.66	5.59	5.46	5.45	
24-May-00	0.00	7.79	6.98	7.20	6.96	6.98	7.22	6.62	6.24	5.88	6.13	5.66	5.59	5.46	5.44	
25-May-00	2.00	7.79	6.98	7.20	6.96	6.98	7.22	6.62	6.24	5.88	6.13	5.66	5.59	5.46	5.44	
26-May-00	0.00	7.79	6.98	7.20	6.96	6.98	7.26	6.62	6.24	5.88	6.13	5.66	5.58	5.46	5.44	
27-May-00	0.00	7.79	6.98	7.20	6.96	6.96	7.26	6.62	6.24	5.88	6.13	5.66	5.58	5.46	5.44	
28-May-00	102.00	7.73	6.99	7.28	6.98	6.99	6.99	6.70	6.22	5.94	6.13	5.68	5.64	5.54	5.50	
29-May-00	0.00	7.73	6.99	7.28	6.98	6.99	6.99	6.70	6.22	5.94	6.13	5.68	5.64	5.54	5.50	
30-May-00	0.00	7.73	6.99	7.28	6.98	6.99	6.96	6.70	6.22	5.92	6.13	5.68	5.64	5.52	5.48	
31-May-00	10.50	7.73	6.99	7.26	6.96	6.99	6.94	6.70	6.22	5.92	6.13	5.68	5.64	5.52	5.48	

Data Book Table D.6.9 Water Level and Rainfall Data in the Paya Indah Wetland in 10.1999 - 12.2000

Date	Daily Rainfall (mm)	Water Level (m: above mean sea level)														
		Perch Lake	Driftwood Lake	Marsh Lake	Visitor Lake	Main Lake	Padi Lake	Swamphen Lake	Gunung Lake	Hippo Lake	Crocodile Lake	Palm Lake	Chalet Lake	Typha Lake	Lotus Lake (Typha St.)	Lotus Lake (Lotus St.)
1-Jun-00	0.00	7.73	7.02	7.26	6.98	6.99	6.94	6.74	6.22	5.92	6.13	5.68	5.64	5.54	5.48	
2-Jun-00	16.00	7.73	7.02	7.26	6.98	6.99	6.94	6.74	6.22	5.94	6.13	5.68	5.64	5.54	5.48	
3-Jun-00	0.00	7.73	7.02	7.26	6.98	6.98	6.92	6.72	6.22	5.90	6.13	5.68	5.62	5.52	5.48	
4-Jun-00	0.00	7.83	7.02	7.26	6.98	6.96	7.14	6.72	6.22	5.90	6.11	5.66	5.62	5.52	5.48	
5-Jun-00	0.00	7.83	7.02	7.26	6.98	6.96	7.14	6.72	6.22	5.90	6.11	5.66	5.62	5.52	5.48	
6-Jun-00	0.00	7.73	7.02	7.26	6.98	6.96	7.18	6.72	6.22	5.90	6.11	5.74	5.62	5.52	5.48	
7-Jun-00	60.00	7.73	7.08	7.28	7.08	7.06	7.24	6.72	6.28	5.96	6.23	5.76	5.68	5.64	5.52	
8-Jun-00	0.00	7.81	7.08	7.28	7.08	7.06	7.28	6.72	6.28	5.96	6.23	5.76	5.68	5.64	5.52	
9-Jun-00	45.00	7.81	7.08	7.36	7.18	7.06	7.28	6.76	6.33	5.96	6.23	5.83	5.72	5.68	5.60	
10-Jun-00	0.00	7.81	7.08	7.36	7.18	7.06	7.28	6.76	6.33	5.96	6.23	5.83	5.72	5.68	5.60	
11-Jun-00	0.00	7.73	7.04	7.32	7.20	7.04	6.94	6.72	6.33	5.94	6.19	5.86	5.72	5.64	5.58	
12-Jun-00	0.00	7.73	7.04	7.32	7.20	7.04	6.94	6.72	6.33	5.94	6.19	5.86	5.72	5.64	5.58	
13-Jun-00	56.50	7.75	7.10	7.37	7.23	7.08	7.10	6.74	6.36	5.96	6.25	5.90	5.74	5.64	5.62	
14-Jun-00	0.00	7.73	7.10	7.36	7.23	7.06	7.10	6.72	6.34	5.96	6.25	5.90	5.74	5.62	5.62	
15-Jun-00	0.00	7.77	7.10	7.36	7.24	7.10	6.94	6.64	6.37	5.96	6.25	5.94	5.76	5.64	5.64	
16-Jun-00	0.00	7.77	7.10	7.36	7.24	7.10	6.94	6.64	6.37	5.96	6.25	5.94	5.76	5.64	5.64	
17-Jun-00	0.00	7.77	7.08	7.34	7.24	7.10	6.94	6.62	6.36	5.96	6.23	5.95	5.75	5.64	5.61	
18-Jun-00	0.00	7.75	7.06	7.34	7.22	7.10	6.94	6.62	6.34	5.96	6.21	5.95	5.74	5.62	5.60	
19-Jun-00	10.00	7.75	7.08	7.36	7.24	7.12	6.94	6.64	6.37	5.96	6.25	5.98	5.76	5.68	5.66	
20-Jun-00	0.00	7.75	7.08	7.36	7.22	7.10	6.92	6.64	6.36	5.96	6.21	5.98	5.76	5.67	5.64	
21-Jun-00	5.50	7.75	7.06	7.34	7.22	7.10	6.92	6.64	6.36	5.86	6.21	5.98	5.76	5.67	5.66	
22-Jun-00	0.00	7.75	7.06	7.34	7.23	7.12	6.92	6.64	6.36	5.96	6.21	5.98	5.76	5.68	5.66	
23-Jun-00	5.00	7.75	7.06	7.34	7.23	7.12	7.20	6.64	6.36	5.96	6.21	5.98	5.76	5.68	5.66	
24-Jun-00	0.00	7.75	7.06	7.34	7.23	7.12	7.20	6.64	6.36	5.96	6.21	5.98	5.76	5.68	5.66	
25-Jun-00	0.00	7.75	7.06	7.32	7.26	7.12	6.94	6.64	6.36	5.96	6.21	5.98	5.76	5.68	5.66	
26-Jun-00	36.00	7.81	7.10	7.34	7.24	7.13	6.92	6.64	6.37	6.00	6.25	6.00	5.80	5.74	5.70	
27-Jun-00	0.00	7.81	7.10	7.34	7.24	7.13	6.92	6.64	6.37	6.00	6.25	6.00	5.80	5.74	5.70	
28-Jun-00	0.00	7.81	7.10	7.34	7.24	7.13	6.92	6.64	6.37	6.00	6.25	6.00	5.80	5.74	5.70	
29-Jun-00	5.50	7.79	7.08	7.32	7.22	7.12	6.92	6.60	6.38	6.00	6.25	6.00	5.80	5.74	5.72	
30-Jun-00	16.50	7.79	7.08	7.32	7.22	7.12	6.92	6.60	6.38	6.00	6.25	6.00	5.80	5.74	5.74	
1-Jul-00	0.00	7.77	7.06	7.30	7.20	7.10	6.92	6.60	6.38	6.00	6.23	6.00	5.80	5.72	5.72	
2-Jul-00	0.00	7.75	7.06	7.30	7.18	7.10	6.92	6.60	6.38	6.00	6.23	6.00	5.80	5.72	5.72	
3-Jul-00	0.00	7.75	7.05	7.30	7.16	7.10	6.92	6.60	6.38	6.00	6.23	5.98	5.78	5.72	5.72	
4-Jul-00	0.00	7.75	7.05	7.30	7.16	7.10	6.92	6.60	6.38	6.00	6.23	5.98	5.78	5.72	5.72	
5-Jul-00	0.00	7.73	7.04	7.30	7.14	7.10	6.92	6.60	6.37	5.99	6.21	5.97	5.78	5.70	5.70	
6-Jul-00	0.00	7.77	7.08	7.28	7.16	7.06	6.92	6.60	6.37	6.00	6.21	6.00	5.80	5.70	5.70	
7-Jul-00	0.00	7.77	7.06	7.28	7.16	7.06	6.92	6.60	6.37	6.00	6.21	6.00	5.80	5.70	5.70	
8-Jul-00	0.00	7.75	7.06	7.26	7.12	7.06	6.92	6.60	6.36	6.01	6.21	6.00	5.80	5.70	5.68	
9-Jul-00	0.00	7.75	7.02	7.26	7.12	7.06	6.92	6.60	6.36	6.01	6.21	6.00	5.80	5.70	5.68	
10-Jul-00	0.00	7.73	7.02	7.24	7.12	7.04	6.92	6.60	6.34	6.00	6.19	5.96	5.80	5.70	5.68	
11-Jul-00	0.00	7.73	7.02	7.24	7.12	7.04	6.92	6.60	6.34	6.00	6.19	5.96	5.80	5.70	5.68	
12-Jul-00	0.00	7.73	7.06	7.24	7.06	7.02	6.92	6.60	6.34	6.00	6.17	5.94	5.78	5.66	5.66	
13-Jul-00	0.00	7.73	7.06	7.24	7.06	7.02	6.92	6.60	6.34	6.00	6.17	5.94	5.78	5.66	5.66	
14-Jul-00	0.00	7.73	7.06	7.24	7.06	7.02	6.92	6.60	6.34	6.00	6.17	5.94	5.78	5.66	5.66	
15-Jul-00	0.00	7.73	7.06	7.22	7.06	7.02	6.92	6.60	6.34	5.98	6.17	5.92	5.78	5.64	5.64	
16-Jul-00	0.00	7.73	7.06	7.22	7.06	7.02	6.92	6.58	6.34	5.98	6.17	5.92	5.76	5.64	5.64	
17-Jul-00	0.00	7.73	7.08	7.22	7.04	6.98	6.92	6.58	6.32	5.98	6.17	5.88	5.74	5.64	5.62	
18-Jul-00	0.00	7.73	7.08	7.22	7.02	6.96	6.92	6.58	6.32	5.96	6.17	5.88	5.74	5.64	5.62	
19-Jul-00	2.00	7.71	7.06	7.20	7.02	6.96	6.92	6.58	6.30	5.96	6.17	5.88	5.74	5.62	5.60	
20-Jul-00	0.00	7.71	7.06	7.20	7.02	6.96	6.92	6.58	6.30	5.96	6.17	5.88	5.72	5.62	5.60	
21-Jul-00	0.00	7.71	7.06	7.20	7.02	6.96	6.92	6.58	6.30	5.94	6.17	5.88	5.72	5.62	5.60	
22-Jul-00	0.00	7.71	7.12	7.20	6.98	6.96	6.92	6.58	6.30	5.93	6.17	5.88	5.78	5.60	5.60	
23-Jul-00	0.00	7.71	7.12	7.20	6.98	6.96	6.92	6.58	6.30	5.93	6.17	5.88	5.78	5.60	5.60	
24-Jul-00	0.00	7.71	7.12	7.20	6.98	7.04	6.92	6.58	6.30	5.93	6.17	5.88	5.78	5.60	5.60	
25-Jul-00	0.00	7.71	7.12	7.20	6.98	6.96	6.91	6.58	6.30	5.93	6.17	5.88	5.78	5.60	5.60	
26-Jul-00	0.00	7.71	7.12	7.20	6.98	6.96	6.91	6.58	6.30	5.93	6.17	5.88	5.78	5.60	5.60	
27-Jul-00	25.00	7.81	7.15	7.20	7.02	7.02	6.91	6.60	6.32	5.94	6.19	5.90	5.80	5.62	5.62	
28-Jul-00	0.00	7.81	7.16	7.20	7.02	7.02	7.18	6.60	6.32	5.94	6.19	5.90	5.80	5.62	5.62	
29-Jul-00	0.00	7.81	7.16	7.20	7.02	7.02	7.18	6.60	6.32	5.94	6.19	5.90	5.80	5.62	5.62	
30-Jul-00	0.00	7.81	7.16	7.20	6.98	7.02	7.16	6.60	6.30	5.92	6.17	5.90	5.80	5.60	5.60	
31-Jul-00	0.00	7.79	7.16	7.20	6.98	7.02	7.16	6.58	6.32	5.92	6.17	5.88	5.78	5.58	5.58	

Data Book Table D.6.9 Water Level and Rainfall Data in the Paya Indah Wetland in 10.1999 - 12.2000

Date	Daily Rainfall (mm)	Water Level (m: above mean sea level)														
		Perch Lake	Driftwood Lake	Marsh Lake	Visitor Lake	Main Lake	Padi Lake	Swamphen Lake	Gunung Lake	Hippo Lake	Crocodile Lake	Palm Lake	Chalet Lake	Typha Lake	Lotus Lake (Typha St.)	Lotus Lake (Lotus St.)
1-Aug-00	93.00	7.87	7.26	7.34	7.06	7.08	7.30	6.70	6.38	6.04	6.21	5.94	5.85	5.70	5.68	
2-Aug-00	0.00	7.83	7.30	7.36	7.08	7.08	7.26	6.70	6.40	6.02	6.21	5.90	5.86	5.70	5.68	
3-Aug-00	18.00	7.83	7.30	7.36	7.08	7.08	7.26	6.70	6.40	6.02	6.21	5.90	5.86	5.70	5.68	
4-Aug-00	0.00	7.83	7.34	7.38	7.08	7.08	7.24	6.66	6.43	6.04	6.21	5.94	5.86	5.70	5.70	
5-Aug-00	15.00	7.83	7.34	7.38	7.10	7.08	7.24	6.66	6.43	6.04	6.21	5.94	5.86	5.72	5.70	
6-Aug-00	0.00	7.83	7.34	7.36	7.10	7.08	6.94	6.64	6.40	6.02	6.21	5.93	5.86	5.70	5.69	
7-Aug-00	0.00	7.83	7.34	7.36	7.10	7.08	6.94	6.64	6.40	6.02	6.21	5.93	5.86	5.70	5.69	
8-Aug-00	0.00	7.81	7.34	7.36	7.10	7.08	6.92	6.62	6.40	6.01	6.19	5.92	5.86	5.70	5.68	
9-Aug-00	0.00	7.79	7.34	7.34	7.08	7.07	6.92	6.60	6.40	6.00	6.21	5.90	5.86	5.69	5.68	
10-Aug-00	0.00	7.79	7.34	7.34	7.08	7.07	6.92	6.60	6.40	6.00	6.21	5.90	5.86	5.69	5.68	
11-Aug-00	0.00	7.81	7.37	7.37	7.12	7.06	6.97	6.62	6.43	6.03	6.22	5.94	5.88	5.73	5.71	
12-Aug-00	56.50	7.83	7.40	7.40	7.16	7.05	7.02	6.64	6.46	6.06	6.23	5.98	5.90	5.76	5.74	
13-Aug-00	0.00	7.83	7.40	7.40	7.16	7.05	6.94	6.64	6.46	6.00	6.21	5.96	5.90	5.74	5.70	
14-Aug-00	0.00	7.83	7.40	7.40	7.16	7.05	6.94	6.64	6.46	6.00	6.21	5.96	5.90	5.74	5.70	
15-Aug-00	0.00	7.83	7.40	7.38	7.18	7.02	6.92	6.62	6.44	6.00	6.21	5.98	5.88	5.74	5.68	
16-Aug-00	0.00	7.83	7.40	7.38	7.18	7.02	6.92	6.62	6.44	5.99	6.21	5.98	5.88	5.74	5.68	
17-Aug-00	0.00	7.83	7.40	7.38	7.18	7.02	6.92	6.62	6.44	5.99	6.21	5.98	5.88	5.74	5.68	
18-Aug-00	0.00	7.83	7.40	7.38	7.18	7.02	6.92	6.62	6.42	5.99	6.21	5.98	5.88	5.74	5.68	
19-Aug-00	0.00	7.83	7.38	7.38	7.16	6.98	7.02	6.68	6.44	5.98	6.21	5.98	5.88	5.74	5.70	
20-Aug-00	0.00	7.83	7.38	7.40	7.16	6.98	7.02	6.68	6.44	5.98	6.21	5.98	5.88	5.74	5.70	
21-Aug-00	9.00	7.83	7.38	7.40	7.16	6.98	7.02	6.68	6.44	5.98	6.21	5.98	5.88	5.74	5.70	
22-Aug-00	0.00	7.83	7.38	7.40	7.16	6.98	7.02	6.68	6.44	5.99	6.21	5.98	5.88	5.70	5.70	
23-Aug-00	0.00	7.81	7.36	7.38	7.10	6.98	6.92	6.66	6.44	5.96	6.19	5.96	5.87	5.70	5.70	
24-Aug-00	0.00	7.81	7.36	7.38	7.10	7.02	6.92	6.66	6.44	5.96	6.19	5.96	5.87	5.70	5.70	
25-Aug-00	0.00	7.81	7.34	7.36	7.10	7.02	6.92	6.66	6.40	6.02	6.17	5.94	5.86	5.69	5.68	
26-Aug-00	0.00	7.81	7.34	7.36	7.10	7.02	6.92	6.66	6.40	6.02	6.17	5.94	5.86	5.69	5.68	
27-Aug-00	12.50	7.85	7.36	7.40	7.10	7.08	7.02	6.68	6.42	6.02	6.17	5.98	5.88	5.70	5.70	
28-Aug-00	0.00	7.83	7.30	7.40	7.08	7.06	6.96	6.62	6.40	6.02	6.17	5.96	5.86	5.70	5.70	
29-Aug-00	0.00	7.83	7.30	7.40	7.08	7.06	6.96	6.62	6.40	6.02	6.17	5.96	5.86	5.70	5.70	
30-Aug-00	0.00	7.83	7.36	7.40	7.08	7.06	6.96	6.62	6.40	6.02	6.17	5.96	5.86	5.70	5.70	
31-Aug-00	0.00	7.83	7.30	7.42	7.08	7.06	6.92	6.64	6.40	6.00	6.19	5.96	5.88	5.74	5.72	
1-Sep-00	7.00	7.83	7.30	7.42	7.08	6.94	6.92	6.64	6.40	6.02	6.21	5.96	5.88	5.76	5.74	
2-Sep-00	0.00	7.83	7.30	7.42	7.08	6.94	6.92	6.64	6.40	6.02	6.21	5.96	5.88	5.76	5.74	
3-Sep-00	0.00	7.83	7.30	7.42	7.08	6.94	6.92	6.64	6.40	6.02	6.21	5.96	5.88	5.76	5.74	
4-Sep-00	35.50	7.83	7.32	7.44	7.10	6.92	6.98	6.65	6.42	6.06	6.23	6.00	5.92	5.82	5.80	
5-Sep-00	0.00	7.83	7.30	7.42	7.10	6.92	6.96	6.66	6.40	6.06	6.23	5.98	5.90	5.82	5.80	
6-Sep-00	0.00	7.83	7.30	7.42	7.10	6.92	6.94	6.66	6.42	6.06	6.23	5.98	5.90	5.82	5.80	
7-Sep-00	7.00	7.85	7.32	7.44	7.10	6.92	6.92	6.68	6.42	6.06	6.23	6.00	5.92	5.84	5.80	
8-Sep-00	0.00	7.83	7.30	7.44	7.08	6.92	6.92	6.64	6.40	6.06	6.23	5.98	5.92	5.84	5.80	
9-Sep-00	0.00	7.83	7.30	7.44	7.08	6.92	6.92	6.64	6.40	6.06	6.25	6.00	5.92	5.84	5.84	
10-Sep-00	30.50	7.83	7.34	7.44	7.10	6.92	6.94	6.66	6.44	6.09	6.25	6.02	5.94	5.86	5.84	
11-Sep-00	0.00	7.81	7.34	7.44	7.10	6.92	6.92	6.66	6.44	6.09	6.25	6.00	5.94	5.86	5.84	
12-Sep-00	0.00	7.81	7.34	7.42	7.10	6.94	6.92	6.64	6.43	6.08	6.23	6.00	5.94	5.86	5.84	
13-Sep-00	0.00	7.81	7.34	7.40	7.10	6.94	6.92	6.64	6.42	6.08	6.23	6.00	5.94	5.86	5.82	
14-Sep-00	0.00	7.81	7.32	7.40	7.10	6.94	6.92	6.62	6.40	6.06	6.23	6.00	5.92	5.86	5.82	
15-Sep-00	0.00	7.81	7.32	7.40	7.10	6.94	6.92	6.62	6.40	6.06	6.23	6.00	5.92	5.86	5.82	
16-Sep-00	12.50	7.81	7.32	7.40	7.10	6.92	6.92	6.60	6.42	6.08	6.21	6.00	5.94	5.86	5.84	
17-Sep-00	0.00	7.81	7.32	7.40	7.08	6.92	6.92	6.60	6.40	6.08	6.21	6.00	5.94	5.86	5.84	
18-Sep-00	7.50	7.81	7.32	7.42	7.08	6.92	6.92	6.62	6.40	6.08	6.21	6.00	5.94	5.86	5.84	
19-Sep-00	0.00	7.81	7.32	7.42	7.08	6.92	6.92	6.62	6.40	6.08	6.21	6.00	5.94	5.86	5.84	
20-Sep-00	24.50	7.81	7.35	7.44	7.12	6.92	6.92	6.64	6.44	6.11	6.23	6.03	5.96	5.94	5.86	
21-Sep-00	42.00	7.85	7.45	7.46	7.18	7.03	6.94	6.64	6.48	6.14	6.29	6.08	5.98	5.98	5.90	
22-Sep-00	28.50	7.85	7.45	7.48	7.20	7.04	6.96	6.66	6.52	6.18	6.31	6.10	6.03	6.00	5.94	
23-Sep-00	0.00	7.85	7.45	7.48	7.20	7.04	6.96	6.66	6.52	6.18	6.31	6.10	6.03	6.00	5.94	
24-Sep-00	0.00	7.81	7.46	7.46	7.20	7.04	6.92	6.66	6.50	6.18	6.27	6.10	6.04	6.00	5.94	
25-Sep-00	0.00	7.81	7.46	7.46	7.20	7.04	6.92	6.66	6.50	6.18	6.27	6.10	6.04	6.00	5.94	
26-Sep-00	41.50	7.87	7.50	7.50	7.30	7.08	6.98	6.68	6.54	6.22	6.33	6.16	6.08	6.00	5.98	
27-Sep-00	0.00	7.85	7.50	7.48	7.32	7.10	6.96	6.66	6.54	6.22	6.31	6.17	6.08	6.00	5.99	
28-Sep-00	0.00	7.85	7.50	7.48	7.32	7.10	6.96	6.66	6.53	6.23	6.29	6.17	6.08	6.00	5.99	
29-Sep-00	0.00	7.85	7.50	7.50	7.35	7.10	6.94	6.66	6.52	6.24	6.25	6.19	6.08	6.00	5.99	
30-Sep-00	10.50	7.85	7.50	7.50	7.35	7.10	6.92	6.66	6.52	6.24	6.25	6.19	6.08	6.00	5.99	

Data Book Table D.6.9 Water Level and Rainfall Data in the Paya Indah Wetland in 10.1999 - 12.2000

Date	Daily Rainfall (mm)	Water Level (m: above mean sea level)														
		Perch Lake	Driftwood Lake	Marsh Lake	Visitor Lake	Main Lake	Padi Lake	Swamphen Lake	Gunung Lake	Hippo Lake	Crocodile Lake	Palm Lake	Chalet Lake	Typha Lake	Lotus Lake (Typha St.)	Lotus Lake (Lotus St.)
1-Oct-00	42.50	7.87	7.52	7.56	7.40	7.16	7.06	6.68	6.56	6.28	6.31	6.24	6.13	6.00	6.00	
2-Oct-00	100.50	7.99	7.92	7.72	7.60	7.30	7.12	6.82	6.60	6.44	6.73	6.48	6.28	6.00	6.00	
3-Oct-00	30.50	8.17	7.92	7.68	7.60	7.40	6.92	6.80	6.60	6.44	6.73	6.48	6.38	6.00	6.00	
4-Oct-00	0.00	7.93	7.92	7.50	7.58	7.40	6.92	6.80	6.58	6.42	6.73	6.48	6.38	6.00	6.00	
5-Oct-00	15.50	7.85	7.90	7.54	7.60	7.42	6.94	6.78	6.58	6.54	6.73	6.50	6.40	6.00	6.00	
6-Oct-00	0.00	7.85	7.88	7.50	7.58	7.40	6.92	6.76	6.56	6.54	6.71	6.48	6.38	6.00	6.00	
7-Oct-00	0.00	7.85	7.86	7.50	7.58	7.40	6.92	6.76	6.56	6.52	6.71	6.46	6.36	6.00	6.00	
8-Oct-00	0.00	7.85	7.86	7.50	7.58	7.38	6.92	6.74	6.56	6.52	6.71	6.46	6.36	6.00	6.00	
9-Oct-00	0.00	7.85	7.84	7.50	7.56	7.38	6.92	6.74	6.56	6.52	6.69	6.46	6.36	6.00	6.00	
10-Oct-00	0.00	7.85	7.80	7.50	7.56	7.38	6.92	6.74	6.56	6.50	6.69	6.46	6.36	6.00	6.00	
11-Oct-00	0.00	7.85	7.78	7.50	7.56	7.36	6.92	6.68	6.56	6.58	6.81	6.53	6.46	6.00	6.00	
12-Oct-00	0.00	7.85	7.75	7.50	7.56	7.36	6.92	6.68	6.56	6.58	6.81	6.53	6.46	6.00	6.00	
13-Oct-00	0.00	7.85	7.75	7.50	7.56	7.36	6.92	6.68	6.56	6.58	6.81	6.53	6.46	6.00	6.00	
14-Oct-00	0.00	7.83	7.74	7.48	7.54	7.34	6.92	6.66	6.56	6.54	6.83	6.50	6.44	6.00	6.00	
15-Oct-00	0.00	7.83	7.72	7.45	7.52	7.32	6.92	6.64	6.56	6.54	6.83	6.50	6.42	6.00	6.00	
16-Oct-00	0.00	7.83	7.70	7.45	7.50	7.30	6.92	6.64	6.56	6.54	6.83	6.50	6.40	6.00	6.00	
17-Oct-00	0.00	7.81	7.68	7.45	7.50	7.30	6.92	6.64	6.56	6.54	6.83	6.50	6.40	6.00	6.00	
18-Oct-00	20.50	7.81	7.68	7.44	7.50	7.30	6.92	6.62	6.54	6.52	6.81	6.48	6.38	6.00	6.00	
19-Oct-00	0.00	7.81	7.68	7.46	7.50	7.30	6.92	6.63	6.54	6.45	6.82	6.44	6.37	6.00	6.00	
20-Oct-00	35.50	7.81	7.68	7.48	7.50	7.30	6.92	6.64	6.54	6.38	6.83	6.40	6.35	6.00	6.00	
21-Oct-00	0.00	7.81	7.68	7.48	7.50	7.30	6.92	6.64	6.54	6.38	6.83	6.40	6.36	6.00	6.00	
22-Oct-00	0.00	7.81	7.65	7.50	7.50	7.30	6.92	6.68	6.56	6.36	6.79	6.38	6.34	6.00	6.00	
23-Oct-00	0.00	7.81	7.65	7.50	7.50	7.30	6.92	6.68	6.56	6.36	6.79	6.38	6.30	6.00	6.00	
24-Oct-00	5.50	7.81	7.65	7.50	7.50	7.30	6.92	6.68	6.56	6.36	6.79	6.38	6.28	6.00	6.00	
25-Oct-00	0.00	7.81	7.64	7.52	7.46	7.28	6.92	6.66	6.56	6.26	6.75	6.36	6.26	6.00	6.00	
26-Oct-00	0.00	7.81	7.62	7.52	7.46	7.28	6.92	6.66	6.56	6.26	6.75	6.36	6.26	6.00	6.00	
27-Oct-00	0.00	7.81	7.60	7.50	7.46	7.28	6.92	6.66	6.56	6.26	6.75	6.34	6.24	6.00	6.00	
28-Oct-00	0.00	7.81	7.60	7.50	7.46	7.28	6.92	6.66	6.56	6.26	6.75	6.33	6.24	6.00	6.00	
29-Oct-00	9.50	7.81	7.60	7.50	7.46	7.28	6.92	6.64	6.56	6.26	6.75	6.33	6.24	6.00	6.00	
30-Oct-00	0.00	7.81	7.58	7.50	7.44	7.26	6.92	6.64	6.56	6.26	6.73	6.32	6.22	5.98	5.98	
31-Oct-00	0.00	7.79	7.58	7.48	7.42	7.24	6.92	6.62	6.56	6.11	6.65	6.23	6.20	5.96	5.90	
1-Nov-00	0.00	7.79	7.56	7.48	7.40	7.22	6.92	6.60	6.56	6.11	6.63	6.23	6.18	5.96	5.86	
2-Nov-00	0.00	7.77	7.54	7.48	7.38	7.20	6.92	6.58	6.56	6.06	6.61	6.20	6.16	5.84	5.80	
3-Nov-00	0.00	7.75	7.53	7.48	7.37	7.20	6.92	6.58	6.56	6.06	6.61	6.18	6.16	5.84	5.80	
4-Nov-00	5.00	7.75	7.53	7.48	7.37	7.20	6.92	6.58	6.56	6.06	6.61	6.18	6.16	5.84	5.80	
5-Nov-00	0.00	7.79	7.54	7.50	7.40	7.20	6.92	6.58	6.56	6.14	6.59	6.16	6.16	5.78	5.76	
6-Nov-00	36.50	7.81	7.54	7.50	7.43	7.20	6.92	6.60	6.56	6.14	6.59	6.16	6.16	5.78	5.76	
7-Nov-00	0.00	7.81	7.52	7.48	7.40	7.20	6.92	6.60	6.56	6.12	6.59	6.16	6.14	5.76	5.74	
8-Nov-00	0.00	7.79	7.52	7.48	7.40	7.20	6.92	6.60	6.56	6.12	6.59	6.16	6.14	5.74	5.74	
9-Nov-00	0.00	7.79	7.50	7.50	7.40	7.16	6.92	6.58	6.56	6.02	6.55	6.10	6.10	5.74	5.70	
10-Nov-00	10.50	7.79	7.50	7.50	7.40	7.16	6.92	6.58	6.56	6.02	6.55	6.10	6.10	5.74	5.70	
11-Nov-00	15.50	7.81	7.54	7.52	7.42	7.18	6.92	6.60	6.56	6.04	6.57	6.12	6.12	5.76	5.74	
12-Nov-00	21.50	7.83	7.56	7.54	7.38	7.18	6.92	6.64	6.56	6.04	6.57	6.12	6.14	5.76	5.74	
13-Nov-00	50.00	7.85	7.64	7.58	7.38	7.22	6.92	6.66	6.60	6.08	6.55	6.16	6.18	5.80	5.78	
14-Nov-00	25.50	7.87	7.66	7.60	7.40	7.24	6.92	6.68	6.64	6.10	6.57	6.18	6.20	5.84	5.80	
15-Nov-00	29.50	7.87	7.78	7.60	7.46	7.28	6.92	6.68	6.60	6.10	6.61	6.22	6.24	5.96	5.86	
16-Nov-00	0.00	7.85	7.78	7.58	7.47	7.26	6.92	6.68	6.58	6.10	6.59	6.22	6.20	5.98	5.86	
17-Nov-00	0.00	7.85	7.80	7.56	7.47	7.26	6.92	6.70	6.56	6.10	6.57	6.20	6.20	5.98	5.86	
18-Nov-00	16.50	7.85	7.80	7.56	7.47	7.26	6.92	6.70	6.56	6.10	6.55	6.20	6.20	5.98	5.86	
19-Nov-00	23.50	7.87	7.84	7.58	7.48	7.28	6.92	6.72	6.56	6.12	6.55	6.22	6.22	6.00	5.90	
20-Nov-00	17.50	7.87	7.86	7.58	7.48	7.30	6.92	6.72	6.58	6.12	6.55	6.24	6.22	6.00	5.90	
21-Nov-00	10.00	7.87	7.88	7.60	7.50	7.38	6.92	6.74	6.58	6.14	6.55	6.26	6.20	6.00	5.90	
22-Nov-00	25.50	7.87	7.90	7.60	7.58	7.38	6.92	6.76	6.58	6.16	6.63	6.28	6.20	6.00	5.90	
23-Nov-00	25.50	7.89	7.95	7.52	7.60	7.46	6.92	6.68	6.60	6.16	6.65	6.32	6.22	6.00	5.94	
24-Nov-00	15.50	7.89	7.96	7.58	7.64	7.47	6.92	6.68	6.60	6.18	6.65	6.33	6.23	6.00	5.96	
25-Nov-00	0.00	7.87	7.86	7.56	7.62	7.46	6.92	6.68	6.58	6.16	6.63	6.32	6.22	6.00	5.94	
26-Nov-00	0.00	7.87	7.86	7.56	7.62	7.46	6.92	6.68	6.58	6.16	6.63	6.32	6.22	6.00	5.94	
27-Nov-00	0.00	7.87	7.86	7.54	7.60	7.44	6.92	6.66	6.56	6.14	6.59	6.30	6.20	6.00	5.94	
28-Nov-00	0.00	7.79	7.82	7.50	7.63	7.50	7.00	6.68	6.58	6.20	6.65	6.33	6.20	6.00	5.96	
29-Nov-00	10.50	7.79	7.82	7.50	7.63	7.50	7.00	6.68	6.58	6.20	6.65	6.33	6.20	6.00	5.96	
30-Nov-00	5.50	7.77	7.82	7.48	7.66	7.54	7.00	6.68	6.58	6.23	6.70	6.32	6.20	6.00	5.98	

Data Book Table D.6.9 Water Level and Rainfall Data in the Paya Indah Wetland in 10.1999 - 12.2000

Date	Daily Rainfall (mm)	Water Level (m: above mean sea level)														
		Perch Lake	Driftwood Lake	Marsh Lake	Visitor Lake	Main Lake	Padi Lake	Swamphen Lake	Gunung Lake	Hippo Lake	Crocodile Lake	Palm Lake	Chalet Lake	Typha Lake	Lotus Lake (Typha St.)	Lotus Lake (Lotus St.)
1-Dec-00	15.50	7.77	7.82	7.48	7.66	7.54	7.00	6.68	6.58	6.23	6.70	6.32	6.20	6.00	5.98	
2-Dec-00	0.00	7.75	7.82	7.46	7.67	7.55	7.00	6.66	6.58	6.23	6.67	6.36	6.20	6.00	5.98	
3-Dec-00	0.00	7.71	7.80	7.44	7.66	7.54	7.00	6.66	6.58	6.22	6.65	6.36	6.18	6.00	5.96	
4-Dec-00	0.00	7.71	7.78	7.44	7.64	7.54	7.00	6.60	6.58	6.22	6.65	6.34	6.18	6.00	5.96	
5-Dec-00	0.00	7.71	7.76	7.42	7.62	7.52	7.00	6.62	6.56	6.20	6.65	6.32	6.16	6.00	5.94	
6-Dec-00	0.00	7.71	7.72	7.40	7.60	7.50	7.00	6.60	6.56	6.16	6.65	6.30	6.16	6.00	5.92	
7-Dec-00	0.00	7.69	7.70	7.38	7.58	7.48	7.00	6.56	6.56	6.16	6.65	6.28	6.16	6.00	5.90	
8-Dec-00	0.00	7.69	7.64	7.38	7.58	7.46	7.00	6.56	6.56	6.16	6.65	6.28	6.16	6.00	5.90	
9-Dec-00	0.00	7.67	7.62	7.38	7.56	7.42	7.00	6.54	6.50	6.14	6.63	6.26	6.14	6.00	5.88	
10-Dec-00	0.00	7.67	7.60	7.38	7.54	7.40	7.00	6.52	6.56	6.14	6.61	6.22	6.14	5.96	5.84	
11-Dec-00	0.00	7.67	7.58	7.38	7.52	7.38	7.00	6.52	6.56	6.14	6.59	6.22	6.14	5.96	5.84	
12-Dec-00	0.00	7.67	7.56	7.38	7.52	7.36	7.00	6.50	6.56	6.14	6.59	6.22	6.14	5.96	5.84	
13-Dec-00	0.00	7.65	7.50	7.36	7.52	7.34	7.00	6.50	6.56	6.14	6.59	6.22	6.14	5.96	5.84	
14-Dec-00	0.00	7.65	7.48	7.34	7.50	7.30	7.00	6.48	6.56	6.14	6.59	6.20	6.12	5.96	5.84	
15-Dec-00	0.00	7.65	7.48	7.34	7.50	7.30	7.00	6.48	6.56	6.14	6.59	6.20	6.12	5.96	5.84	
16-Dec-00	8.50	7.65	7.46	7.34	7.50	7.30	7.00	6.48	6.56	6.14	6.59	6.18	6.10	5.98	5.86	
17-Dec-00	0.00	7.65	7.46	7.36	7.50	7.30	7.00	6.50	6.56	6.14	6.59	6.20	6.12	5.98	5.86	
18-Dec-00	0.00	7.65	7.46	7.38	7.50	7.30	7.00	6.50	6.58	6.16	6.61	6.20	6.18	5.98	5.88	
19-Dec-00	25.50	7.67	7.50	7.46	7.50	7.34	7.00	6.50	6.58	6.16	6.61	6.20	6.18	5.98	5.88	
20-Dec-00	22.00	7.67	7.50	7.48	7.50	7.34	7.00	6.50	6.58	6.16	6.61	6.20	6.18	5.98	5.88	
21-Dec-00	11.50	7.65	7.54	7.48	7.52	7.36	7.00	6.50	6.58	6.14	6.61	6.20	6.18	6.00	5.88	
22-Dec-00	5.50	7.73	7.54	7.50	7.54	7.38	7.00	6.54	6.58	6.16	6.61	6.24	6.20	6.00	5.94	
23-Dec-00	42.50	7.73	7.56	7.52	7.56	7.40	7.00	6.56	6.60	6.20	6.63	6.26	6.23	6.00	5.96	
24-Dec-00	10.00	7.75	7.54	7.50	7.56	7.40	7.00	6.60	6.60	6.22	6.65	6.28	6.26	6.00	6.00	
25-Dec-00	12.50	7.75	7.54	7.50	7.56	7.40	7.00	6.60	6.60	6.26	6.67	6.30	6.26	6.00	6.00	
26-Dec-00	10.50	7.77	7.54	7.50	7.56	7.40	7.00	6.60	6.60	6.26	6.69	6.30	6.26	6.00	6.00	
27-Dec-00	0.00	7.79	7.50	7.50	7.56	7.40	7.00	6.58	6.60	6.26	6.69	6.28	6.26	6.00	6.00	
28-Dec-00	0.00	7.79	7.48	7.50	7.56	7.40	7.00	6.58	6.60	6.24	6.69	6.26	6.24	6.00	6.00	
29-Dec-00	0.00	7.79	7.48	7.50	7.56	7.40	7.00	6.56	6.60	6.24	6.69	6.26	6.24	6.00	6.00	
30-Dec-00	25.00	7.79	7.50	7.50	7.56	7.40	7.00	6.60	6.60	6.24	6.71	6.28	6.26	6.00	5.98	
31-Dec-00	35.50	7.79	7.52	7.50	7.56	7.40	7.00	6.60	6.60	6.24	6.71	6.28	6.26	6.00	5.98	
1-Jan-01	0.0	7.77	7.50	7.48	7.56	7.40		6.60	6.60	6.24	6.71	6.26	6.24		5.98	
2-Jan-01	0.0	7.77	7.50	7.48	7.56	7.40		6.60	6.60	6.24	6.71	6.26	6.22		5.98	
3-Jan-01	0.0	7.77	7.56	7.50	7.56	7.46		6.66	6.62	6.24	6.71	6.26	6.24		5.98	
4-Jan-01	44.5	7.79	7.62	7.56	7.58	7.46		6.64	6.62	6.26	6.73	6.30	6.26		5.98	
5-Jan-01	0.0	7.77	7.62	7.54	7.56	7.44		6.64	6.60	6.26	6.71	6.28	6.24		5.98	
6-Jan-01	0.0	7.75	7.62	7.50	7.54	7.41		6.64	6.58	6.24	6.69	6.28	6.24		5.96	
7-Jan-01	0.0	7.73	7.62	7.50	7.54	7.42		6.62	6.58	6.22	6.69	6.26	6.24		5.96	
8-Jan-01	0.0	7.71	7.62	7.50	7.54	7.42		6.62	6.58	6.22	6.67	6.26	6.22		5.96	
9-Jan-01	0.0	7.69	7.64	7.50	7.54	7.42		6.64	6.58	6.22	6.67	6.28	6.22		5.96	
10-Jan-01	33.0	7.67	7.66	7.52	7.60	7.44		6.66	6.60	6.18	6.69	6.28	6.20		5.98	
11-Jan-01	30.0	7.67	7.68	7.52	7.60	7.44		6.66	6.60	6.18	6.69	6.28	6.20		5.96	
12-Jan-01	0.0	7.67	7.68	7.52	7.60	7.44		6.66	6.60	6.18	6.69	6.28	6.20		5.94	
13-Jan-01	0.0	7.67	7.66	7.50	7.58	7.42		6.64	6.58	6.18	6.67	6.26	6.18		5.92	
14-Jan-01	5.0	7.65	7.64	7.48	7.58	7.42		6.64	6.58	6.16	6.65	6.26	6.18		5.90	
15-Jan-01	19.0	7.65	7.62	7.48	7.58	7.43		6.64	6.59	6.16	6.65	6.26	6.18		5.88	
16-Jan-01	20.0	7.65	7.60	7.46	7.58	7.42		6.64	6.58	6.14	6.55	6.24	6.16	5.98	5.86	
17-Jan-01	0.0	7.65	7.60	7.46	7.50	7.40		6.62	6.56	6.14	6.63	6.24	6.16	5.98	5.86	
18-Jan-01	0.0	7.65	7.58	7.46	7.48	7.40		6.62	6.56	6.12	6.61	6.24	6.16	5.98	5.84	
19-Jan-01	0.0	7.65	7.56	7.46	7.46	7.40		6.62	6.56	6.12	6.61	6.24	6.16	5.96	5.84	
20-Jan-01	0.0	7.65	7.54	7.44	7.46	7.44		6.60	6.54	6.10	6.61	6.23	6.14	5.96	5.84	6.18
21-Jan-01	0.0	7.65	7.54	7.42	7.44	7.42		6.58	6.52	6.10	6.59	6.22	6.02	5.94	5.84	6.18
22-Jan-01	0.0	7.65	7.52	7.42	7.44	7.40		6.58	6.50	6.08	6.59	6.22	6.02	5.94	5.84	6.16
23-Jan-01	0.0	7.65	7.52	7.42	7.44	7.40		6.53	6.50	6.08	6.59	6.22	6.02	5.94	5.84	6.16
24-Jan-01	0.0															
25-Jan-01	30.0	7.65	7.59	7.50	7.50	7.36		6.60	6.58	6.16	6.59	6.20	6.18	5.98	5.84	6.16
26-Jan-01	10.0	7.65	7.58	7.50	7.50	7.36		6.58	6.58	6.14	6.59	6.20	6.18	5.98	5.84	6.16
27-Jan-01	20.0	7.65	7.58	7.50	7.50	7.36		6.58	6.58	6.14	6.59	6.20	6.18	5.98	5.84	6.16
28-Jan-01	0.2	7.67	7.58	7.50	7.50	7.36		6.58	6.58	6.14	6.59	6.20	6.18		5.88	6.16
29-Jan-01	9.0	7.67	7.62	7.50	7.50	7.36		6.56	6.58	6.14	6.63	6.20	6.18		5.88	6.16
30-Jan-01	10.0	7.65	7.62	7.62	7.50	7.36		6.54	6.56	6.12	6.63	6.20	6.18	5.98	5.86	6.14
31-Jan-01	0.0	7.65	7.62	7.62	7.50	7.34		6.54	6.54	6.10	6.61	6.18	6.16	5.98	5.84	6.14

Data Book Table D.6.9 Water Level and Rainfall Data in the Paya Indah Wetland in 10.1999 - 12.2000

Date	Daily Rainfall (mm)	Water Level (m: above mean sea level)														
		Perch Lake	Driftwood Lake	Marsh Lake	Visitor Lake	Main Lake	Padi Lake	Swamphen Lake	Gunung Lake	Hippo Lake	Crocodile Lake	Palm Lake	Chalet Lake	Typha Lake	Lotus Lake (Typha St.)	Lotus Lake (Lotus St.)
1-Feb-01	0.0	7.65	7.62	7.50	7.50	7.34		6.54	6.54	6.10	6.61	6.18	6.16	5.98	5.84	6.14
2-Feb-01	0.0	7.65	7.60	7.50	7.50	7.36		6.54	6.54	6.10	6.61	6.18	6.16	5.98	5.84	6.14
3-Feb-01	0.0	7.65	7.60	7.50	7.50	7.34		6.54	6.54	6.10	6.61	6.18	6.16	5.98	5.84	6.14
4-Feb-01	0.0	7.65	7.60	7.50	7.50	7.34		6.54	6.54	6.10	6.61	6.18	6.16	5.96	5.84	6.14
5-Feb-01	0.0	7.65	7.60	7.50	7.50	7.32		6.54	6.54	6.10	6.61	6.18	6.16	5.96	5.84	6.14
6-Feb-01	0.2	7.65	7.58	7.48	7.50	7.32		6.54	6.36	6.10	6.61	6.18	6.16	5.96	5.86	6.14
7-Feb-01	21.0	7.65	7.60	7.46	7.50	7.32		6.54	6.36	6.10	6.61	6.18	6.16	5.96	5.86	6.14
8-Feb-01	15.0	7.65	7.62	7.48	7.48	7.32		6.56	6.36	6.10	6.61	6.18	6.16		5.86	6.14
9-Feb-01	10.0	7.65	7.60	7.48	7.48	7.32		6.56	6.36	6.10	6.61	6.18	6.16		5.86	6.14
10-Feb-01	10.0	7.65	7.62	7.50	7.48	7.32		6.56	6.58	6.12	6.61	6.18	6.16	5.98	5.86	6.16
11-Feb-01	5.5	7.65	7.62	7.50	7.48	7.32		6.56	6.58	6.12	6.61	6.18	6.16	5.98	5.86	6.16
12-Feb-01	10.5	7.65	7.62	7.49	7.48	7.32		6.56	6.56	6.12	6.61	6.18	6.16	5.98	5.86	6.16
13-Feb-01	10.5	7.65	7.62	7.49	7.48	7.32		6.56	6.56	6.12	6.61	6.16	6.16	5.98	5.86	6.16
14-Feb-01	2.0	7.65	7.60	7.48	7.46	7.30		6.54	6.56	6.12	6.61	6.16	6.16	5.98	5.88	6.14
15-Feb-01	17.0	7.63	7.62	7.48	7.48	7.30		6.54	6.56	6.12	6.60	6.14	6.16	5.98	5.86	6.13
16-Feb-01	0.0	7.63	7.60	7.48	7.46	7.30		6.54	6.56	6.12	6.60	6.14	6.16	5.98	5.86	6.11
17-Feb-01	5.0	7.63	7.60	7.48	7.46	7.30		6.54	6.56	6.12	6.60	6.14	6.16	5.98	5.86	6.11
18-Feb-01	42.0	7.65	7.63	7.50	7.50	7.34		6.56	6.60	6.14	6.63	6.18	6.18	5.98	5.84	6.14
19-Feb-01	0.0	7.65	7.62	7.50	7.50	7.36		6.56	6.58	6.16	6.61	6.18	6.18	5.96	5.86	6.14
20-Feb-01	3.0	7.65	7.62	7.50	7.50	7.36		6.56	6.58	6.16	6.61	6.18	6.18	5.98	5.86	6.14
21-Feb-01	10.0	7.65	7.62	7.50	7.50	7.38		6.56	6.58	6.16	6.61	6.18	6.18	5.98	5.88	6.14
22-Feb-01	10.0	7.65	7.62	7.50	7.50	7.38		6.56	6.58	6.16	6.61	6.18	6.18	5.98	5.88	6.14
23-Feb-01	10.0	7.65	7.60	7.50	7.48	7.38		6.56	6.58	6.14	6.61	6.18	6.18		5.88	6.12
24-Feb-01	0.0	7.65	7.60	7.48	7.48	7.36		6.54	6.58	6.14	6.59	6.18	6.18	5.96	5.86	6.10
25-Feb-01	0.0	7.65	7.60	7.48	7.48	7.36		6.54	6.58	6.12	6.59	6.18	6.18	5.92	5.82	6.10
26-Feb-01	5.0	7.65	7.62	7.48	7.48	7.36		6.54	6.56	6.12	6.59	6.18	6.16	5.80	5.78	6.08
27-Feb-01	5.0	7.65	7.62	7.48	7.48	7.34		6.54	6.56	6.12	6.59	6.18	6.16	5.80	5.76	6.08
28-Feb-01	0.0	7.63	7.60	7.48	7.46	7.32		6.54	6.54	6.10	6.57	6.16	6.14	5.80	5.76	6.08
1-Mar-01	0.0	7.63	7.60	7.46	7.46	7.32		6.54	6.54	6.12	6.57	6.16	6.14	5.78	5.76	6.06
2-Mar-01	0.0	7.63	7.58	7.46	7.46	7.32		6.54	6.54	6.12	6.57	6.14	6.14	5.78	5.76	6.06
3-Mar-01	0.0	7.63	7.58	7.46	7.46	7.30		6.54	6.54	6.12	6.57	6.12	6.14	5.78	5.74	6.06
4-Mar-01	29.5	7.63	7.56	7.46	7.44	7.28		6.54	6.54	6.12	6.49	6.12	6.12	5.78	5.74	6.04
5-Mar-01	0.0	7.63	7.56	7.46	7.44	7.28		6.54	6.54	6.12	6.59	6.12	6.10	5.78	5.74	6.04
6-Mar-01	0.0	7.63	7.56	7.46	7.44	7.28		6.54	6.52	6.12	6.59	6.12	6.10	5.78	5.74	6.04
7-Mar-01	0.0	7.63	7.54	7.46	7.42	7.26		6.54	6.52	6.12	6.57	6.10	6.10	5.78	5.74	6.04
8-Mar-01	5.0	7.63	7.54	7.46	7.42	7.26		6.52	6.52	6.10	6.57	6.08	6.10	5.76	5.72	6.04
9-Mar-01	10.0	7.63	7.52	7.46	7.40	7.24		6.50	6.52	6.06	6.55	6.08	6.08	5.72	5.70	6.02
10-Mar-01	0.0	7.63	7.52	7.46	7.40	7.22		6.50	6.52	6.00	6.55	6.08	6.08	5.72	5.70	6.01
11-Mar-01	0.0	7.61	7.50	7.46	7.39	7.22		6.50	6.50	5.98	6.54	6.06	6.07	5.70	5.69	6.00
12-Mar-01	0.0	7.63	7.49	7.44	7.38	7.20		6.48	6.48	5.96	6.53	6.04	6.06	5.69	5.68	6.00
13-Mar-01	0.0	7.63	7.48	7.44	7.38	7.20		6.48	6.48	5.96	6.53	6.04	6.06	5.68	5.68	5.98
14-Mar-01	0.0	7.61	7.47	7.42	7.36	7.20		6.46	6.48	5.96	6.53	6.02	6.04	5.68	5.66	5.96
15-Mar-01	0.0	7.63	7.46	7.42	7.34	7.18		6.46	6.48	5.94	6.43	6.00	6.03	5.66	5.64	5.94
16-Mar-01	0.0	7.63	7.46	7.40	7.32	7.17		6.46	6.48	5.94	6.41	5.99	6.02	5.64	5.63	5.92
17-Mar-01	0.0	7.63	7.45	7.40	7.30	7.17		6.45	6.47	5.93	6.39	5.98	6.02	5.62	5.62	5.92
18-Mar-01	40.0	7.65	7.54	7.48	7.34	7.20		6.51	6.56	6.04	6.42	6.01	6.05	5.74	5.66	5.98
19-Mar-01	0.0	7.65	7.54	7.48	7.34	7.20		6.50	6.55	6.03	6.41	6.00	6.05	5.74	5.66	5.97
20-Mar-01	0.0	7.64	7.50	7.48	7.32	7.20		6.50	6.54	6.02	6.39	6.00	6.03	5.72	5.68	5.96
21-Mar-01	0.0	7.63	7.48	7.46	7.31	7.20		6.48	6.54	6.01	6.39	5.99	6.02	5.70	5.68	5.94
22-Mar-01	0.0	7.63	7.48	7.44	7.30	7.20		6.47	6.52	6.00	6.39	5.98	6.02	5.69	5.66	5.92
23-Mar-01	0.0	7.62	7.48	7.43	7.30	7.18		6.46	6.52	6.00	6.38	5.98	6.00	5.68	5.64	5.90
24-Mar-01	0.0	7.62	7.48	7.42	7.28	7.18		6.46	6.51	6.00	6.37	5.96	6.00	5.68	5.62	5.90
25-Mar-01	36.0	7.65	7.48	7.47	7.28	7.16		6.50	6.52	6.02	6.41	6.00	6.01	5.66	5.64	5.92
26-Mar-01	0.0	7.64	7.48	7.47	7.27	7.15		6.50	6.52	6.00	6.63	6.00	6.01	5.66	5.64	5.92
27-Mar-01	0.0	7.63	7.48	7.46	7.27	7.15		6.50	6.52	6.00	6.63	5.98	6.00	5.64	5.62	5.91
28-Mar-01	0.0	7.63	7.47	7.46	7.26	7.14		6.48	6.50	5.98	6.62	5.97	5.99	5.64	5.62	5.90
29-Mar-01	0.0	7.62	7.46	7.46	7.25	7.13		6.47	6.49	5.97	6.61	5.96	5.98	5.63	5.60	5.90
30-Mar-01	5.0	7.62	7.46	7.45	7.24	7.12		6.47	6.48	5.96	6.60	5.95	5.97	5.62	5.59	5.90
31-Mar-01	5.0	7.63	7.45	7.44	7.23	7.12		6.46	6.48	5.96	6.60	5.94	5.96	5.61	5.58	5.86

Data Book Table D.6.9 Water Level and Rainfall Data in the Paya Indah Wetland in 10.1999 - 12.2000

Date	Daily Rainfall (mm)	Water Level (m: above mean sea level)														
		Perch Lake	Driftwood Lake	Marsh Lake	Visitor Lake	Main Lake	Padi Lake	Swamphen Lake	Gunung Lake	Hippo Lake	Crocodile Lake	Palm Lake	Chalet Lake	Typha Lake	Lotus Lake (Typha St.)	Lotus Lake (Lotus St.)
1-Apr-01	0.0	7.63	7.48	7.44	7.23	7.12		6.46	6.48	5.96	6.60	5.94	5.96	5.60	5.58	5.89
2-Apr-01	15.0	7.64	7.45	7.43	7.22	7.10		6.45	6.47	5.98	6.59	5.93	5.95	5.60	5.57	5.88
3-Apr-01	11.0	7.64	7.45	7.42	7.22	7.10		6.44	6.47	6.00	6.59	5.92	5.95	5.60	5.57	5.87
4-Apr-01	5.0	7.63	7.44	7.42	7.22	7.10		6.44	6.46	5.99	6.59	5.92	5.94	5.58	5.56	5.86
5-Apr-01	0.0	7.63	7.48	7.42	7.22	7.09		6.43	6.46	6.00	6.59	5.90	5.94	5.60	5.56	5.85
6-Apr-01	4.5	7.63	7.42	7.42	7.22	7.09		6.42	6.45	6.00	6.58	5.90	5.93	5.60	5.56	5.84
7-Apr-01	2.0	7.63	7.40	7.40	7.20	7.08		6.42	6.44	6.00	6.57	5.90	5.92	5.58	5.56	5.84
8-Apr-01	0.0	7.63	7.39	7.39	7.20	7.08		6.42	6.42	5.98	6.57	5.90	5.91	5.58	5.55	5.82
9-Apr-01	68.0	7.67	7.55	7.52	7.30	7.17		6.58	6.57	6.08	6.65	6.00	6.00	5.74	5.66	5.95
10-Apr-01	0.0	7.65	7.56	7.50	7.30	7.17		6.56	6.57	6.06	6.65	6.00	6.00	5.74	5.66	5.95
11-Apr-01	0.0	7.64	7.58	7.50	7.30	7.17		6.54	6.57	6.04	6.65	6.00	6.00	5.74	5.66	5.95
12-Apr-01	10.0	7.63	7.60	7.48	7.36	7.19		6.48	6.55	6.02	6.64	6.00	5.98	5.74	5.66	5.96
13-Apr-01	10.0	7.64	7.62	7.48	7.36	7.18		6.48	6.55	6.01	6.65	6.03	5.98	5.72	5.66	5.97
14-Apr-01																
15-Apr-01	0.0	7.63	7.60	7.49	7.40	7.20		6.48	6.54	6.00	6.63	6.04	5.98	5.70	5.62	5.96
16-Apr-01	0.0	7.63	7.59	7.50	7.40	7.22		6.48	6.54	6.00	6.63	6.04	5.98	5.70	5.58	5.95
17-Apr-01	0.0	7.63	7.58	7.48	7.40	7.22		6.48	6.54	6.00	6.63	6.06	5.98	5.70	5.58	5.96
18-Apr-01	0.0	7.63	7.58	7.48	7.40	7.20		6.58	6.53	6.00	6.63	6.05	5.98	5.70	5.68	5.98
19-Apr-01	0.0	7.63	7.57	7.48	7.42	7.26		6.56	6.53	6.01	6.63	6.06	5.97	5.69	5.68	5.99
20-Apr-01	0.0	7.63	7.56	7.48	7.43	7.26		6.56	6.53	6.01	6.64	6.06	5.97	5.68	5.66	5.99
21-Apr-01	30.0	7.65	7.60	7.50	7.46	7.30		6.54	6.56	6.02	6.67	6.14	6.02	5.70	5.70	5.90
22-Apr-01	25.0	7.65	7.67	7.52	7.48	7.32		6.48	6.58	6.02	6.67	6.14	6.02	5.72	5.72	5.90
23-Apr-01	0.0	7.65	7.68	7.54	7.48	7.32		6.46	6.56	6.02	6.67	6.14	6.03	5.76	5.76	5.92
24-Apr-01	12.5	7.65	7.68	7.54	7.49	7.32		6.54	6.56	6.03	6.69	6.14	6.03	5.78	5.76	5.96
25-Apr-01	5.0	7.65	7.68	7.54	7.50	7.32		6.46	6.56	6.03	6.69	6.14	6.04	5.78	5.76	5.96
26-Apr-01	5.0	7.64	7.66	7.52	7.48	7.30		6.46	6.55	6.02	6.67	6.12	6.02	5.76	5.76	5.94
27-Apr-01	0.0	7.63	7.66	7.50	7.50	7.32		6.44	6.54	6.02	6.69	6.16	6.04	5.78	5.76	5.97
28-Apr-01	5.0	7.63	7.65	7.50	7.50	7.33		6.44	6.54	6.02	6.71	6.16	6.04	5.78	5.76	5.97
29-Apr-01	0.0	7.65	7.65	7.52	7.48	7.32		6.44	6.54	6.04	6.71	6.14	6.03	5.78	5.78	5.99
30-Apr-01	5.0	7.65	7.65	7.52	7.48	7.31		6.46	6.55	6.05	6.71	6.14	6.03	5.78	5.78	5.99
1-May-01																
2-May-01	24.0	7.67	7.65	7.50	7.48	7.33		6.54	6.56	6.08	6.73	6.16	6.06	5.84	5.82	6.12
3-May-01	0.0	7.65	7.65	7.50	7.48	7.32		6.54	6.56	6.08	6.71	6.16	6.07	5.84	5.82	6.12
4-May-01	0.0	7.64	7.64	7.48	7.47	7.32		6.54	6.55	6.06	6.73	6.15	6.06	5.82	5.82	6.11
5-May-01	0.0	7.64	7.63	7.48	7.47	7.32		6.54	6.55	6.06	6.73	6.15	6.06	5.82	5.81	6.11
6-May-01	5.0	7.63	7.63	7.46	7.46	7.30		6.52	6.55	6.06	6.73	6.14	6.06	5.80	5.80	6.10
7-May-01	0.0	7.63	7.61	7.44	7.44	7.30		6.50	6.54	6.04	6.73	6.10	6.05	5.78	5.78	6.10
8-May-01	0.0	7.63	7.61	7.44	7.44	7.30		6.50	6.52	6.04	6.73	6.10	6.05	5.78	5.78	6.10
9-May-01	0.0	7.63	7.61	7.44	7.40	7.16		6.48	6.55	6.04	6.71	6.10	6.04	5.76	5.76	5.98
10-May-01	0.0	7.63	7.60	7.44	7.38	7.16		6.48	6.55	6.04	6.71	6.10	6.04	5.76	5.76	5.98
11-May-01	0.0	7.63	7.60	7.44	7.38	7.16		6.58	6.55	6.04	6.71	6.10	6.04	5.79	5.76	5.98
12-May-01	0.0	7.63	7.60	7.46	7.38	7.16		6.58	6.55	6.04	6.71	6.08	6.04	5.79	5.76	5.98
13-May-01	0.0	7.63	7.58	7.46	7.36	7.18		6.58	6.54	6.04	6.71	6.08	6.04	5.78	5.76	5.98
14-May-01	0.0	7.63	7.58	7.46	7.35	7.18		6.57	6.54	6.04	6.71	6.06	6.03	5.78	5.76	5.97
15-May-01	8.0	7.63	7.59	7.46	7.34	7.19		6.58	6.55	6.04	6.71	6.07	6.03	5.78	5.77	5.98
16-May-01	0.0	7.63	7.58	7.46	7.32	7.16		6.57	6.54	6.04	6.69	6.06	6.02	5.78	5.76	5.97
17-May-01	0.0	7.63	7.58	7.46	7.32	7.16		6.56	6.54	6.04	6.69	6.06	6.02	5.78	5.76	5.96
18-May-01	0.0	7.63	7.58	7.46	7.32	7.15		6.54	6.52	6.03	6.69	6.06	6.02	5.76	5.76	5.95
19-May-01	0.0	7.62	7.56	7.41	7.30	7.14		6.54	6.52	6.03	6.69	6.02	6.00	5.76	5.76	5.95
20-May-01	0.0	7.61	7.56	7.42	7.28	7.14		6.54	6.52	6.02	6.69	6.02	6.00	5.76	5.76	5.95
21-May-01	0.0	7.61	7.56	7.42	7.26	7.13		6.54	6.50	6.02	6.69	6.02	6.00	5.76	5.76	5.95
22-May-01	10.0	7.61	7.56	7.42	7.24	7.11		6.54	6.49	6.02	6.69	6.02	5.99	5.76	5.76	5.95
23-May-01	0.0	7.61	7.54	7.42	7.20	7.10		6.52	6.46	6.02	6.67	5.98	5.98	5.76	5.76	5.95
24-May-01	0.0	7.61	7.54	7.40	7.20	7.10		6.50	6.46	6.02	6.67	5.96	5.98	5.74	5.72	5.93
25-May-01	3.0	7.61	7.54	7.40	7.20	7.10		6.50	6.46	6.02	6.67	5.96	5.97	5.72	5.72	5.92
26-May-01	10.0	7.61	7.54	7.40	7.19	7.08		6.49	6.46	6.02	6.66	5.96	5.97	5.72	5.72	5.92
27-May-01	0.0	7.61	7.54	7.40	7.18	7.06		6.48	6.46	6.02	6.66	5.96	5.96	5.70	5.70	5.90
28-May-01	0.0	7.61	7.54	7.40	7.16	7.04		6.48	6.46	6.02	6.65	5.96	5.96	5.70	5.70	5.90
29-May-01	4.0	7.61	7.54	7.40	7.16	7.04		6.48	6.45	6.02	6.65	5.96	5.96	5.70	5.70	5.90
30-May-01	0.0	7.61	7.52	7.38	7.12	7.02		6.48	6.44	6.00	6.63	5.94	5.94	5.68	5.68	5.88
31-May-01	0.0	7.61	7.52	7.38	7.10	7.02		6.48	6.44	6.00	6.63	5.90	5.94	5.68	5.68	5.88

DATA BOOK

SECTOR E

GROUNDWATER QUALITY

DATA BOOK E.2.1

GROUNDWATER QUALITY OF THE EXISTING WELLS

Data Book Table E.2.1 (1/3) Groundwater Quality of the Existing Wells

Bil.	Borehole No.	Date of sampling	Depth (m)	Physical				Inorganic																
				Turbidity (TUR)	Colour (COL)	pH	Chlorine (Cl_2)	Total Dissolved Solids (TDS)	Total Solids (TS)	Suspended Solids (S.S)	Dissolved Solid (DS)	Electric Conductivity (Cond.)	Chemical Oxigen Demand (COD)	Total Organic Carbonate (TOC)	Chloride (Cl)	Salinity (Sns)	Ammonia Nitrogen (NH_3^+-N)	Nitrite (NO_2^-)	Nitrate (NO_3^-)	Nitrogen (N)	Total iron (Fe)	Iron Ferrous / Soluble Iron (Fe^{2+})	Fluoride (F)	Alk alinity (ALK)
Drinking Water Quality Standards (1983)				5	15	6.5-8.5		1000							250		0.5		10		0.3		1.5	
8	PB0072	-	12.0	95	160	7.2		28026	28712		28026	22400			13400						5.4			
4	PB0073	-	48.0	46.0	30.0	6.5		12984	13222			12020			7400				68		0.4			
7	PB0075	-	8.0												10980									
6	PB0076	-	11.80												5050									
26	PB0390	29.06.98	170	1.1	< 5.0	7.1		132		2.0		263			3.55			0.007	2.21		1.31		1.64	
3	PB0065	-	24.0	11.0	400			1674.0	1788.0			2450			255.0				72.0		2.0			
9	PB0070	-	45.8	14.5	100.0	8.2		4920	5174			7060.0			2340.0				4.0		0.30			
33	PB0263	-	71.0	454	5	6.9		4300	4452			7140			2240		< 0.5		5		33		0.5	
34	PB0264	-	32.0	92	80	8.1		2964	3080			5350			1425		0.9		6		1.4		< 0.5	
1	PB0025	-	76.2			7.3		2040							1200						0.20			
22	PB0043	-	259.2									12000												
2	PB0064	-	16.80	486.0	350.0	7.9		510.0	1350.0			531.0			30.0				< 3.0		2.9			
11	PB0253	05.10.94	74.5			8.4						10450			3225		2.8		13		34		< 0.5	
12	PB0254	05.10.94	51.5	6.0	5.0	8.4		668.0	712.0			1330			331		0.21		< 3		1.2		< 0.5	
10	PB0255	-	46.5	1.6	5.0	8.3		306	344			583			112		< 0.02		< 3		0.5		< 0.5	
13	PB0256	-	34.8	75.0	5.0	7.7		280.0	814.0			457			54.0		< 0.50		3.0		4.2		< 0.5	
15	PB0274	13.10.98	48	19	5	6.9		114	125			219			28		0.7	< 0.005	< 0.5		3.6		< 0.5	
17	PB0392	16.07.98	60			6.8		390	4.18						161		0.6			< 0.5	1.2		< 0.5	
70	PB0393	25.05.98	60			7.24							12	3	150		0.62			0.18	0.28		< 0.1	
19	PB0394	20.07.98	58			6.8		406	418						165		0.6			< 0.5	1.2		< 0.5	
20	PB0395	02.06.98	59			6.8							8	6	174		0.63			0.08	0.42		< 0.1	
21	PB0396	04.08.98	60	105	5	5		186	228			372			65		< 0.50		< 0.5		19		< 0.5	
39	PB0021	27.10.82	137.2		< 5	6.1		55		140		80												21
14	PB0265	-	23.0	629.0	5.0	7.8		456.0	992.0			910.0			200		< 0.50		7.0		2.9		< 0.5	
24	PB0033	-	90.0		5.0	6.8		80.0	90.0	10.0	80.0				9.00				1.0		0.6			13.0
38	PB0276	19.09.98	108	325	< 5.0	5.9		24		614		47			5.33			0.05	3.92		20.44	0.25	0.32	
37	PB0277	-	48	1.1	5	7.6		140	150			266			2		< 0.5	0.004	< 0.5		0.2		< 0.5	
30	PB0300	14.05.98	10	86	5	5.8		78	150			101			11		2.0	0.01	5.0		7.8		< 0.5	56
29	PB0301	14.05.98	8.5	186	5	5.7		38	194			70			4		0.9	0.019	< 0.5		13		< 0.5	49
27	PB0389	04.09.98	60	< 1	5	6.1		18	20	2.0		36			3.0		0.50	0.007	1.9				0.5	26
35	PB0044	-	10.67	9.0	30.0	6.5		240.0	250.0						11.0				N.D		4.5		N.D	
28	PB0268	19.09.98	200	1.2	< 5.0	7.1		155		6.0					5.33			0.004	0.6		0.13	0.11		118
59	PB0270	11.09.98	203.0	1.0	< 5.0	6.7		58.8		2.0					3.55			N.D	0.8		0.19			32.5
56	PB0280	04.03.98	100	16.80	5.00	5.88		98.0	29.0			0.18			0.00		5.20		0.00		19.50		0.13	
54	PB0281	25.03.98	152	1.54	< 5.0	6.5		137		2					1.78			0.002	0.9		0.40			104
50	PB0282	10.04.93	176.8	1.34	< 5.0	6.7		142		2					178			0.004	0.4		0.22	0.07		106
32	PB0298	14.05.98	8.5	235	5	6.8		444	594			788			10		3.6	< 0.005	2.3		12		< 0.5	856
31	PB0299	14.05.98	8	71	5	5.8		56	56			34			< 1		< 0.5	< 0.005	< 0.5		1.7	1.7	< 0.5	20
46	PB0367	22.08.98	200	3.4	< 5.0	6.7		52		6.0					5.53			0.004	1.2		0.30	0.04		16
16	PB0398	23.08.98	48	23	5	6.8		120	120			214			23		0.80		< 0.5		3		< 0.5	
72	PB0011	28.12.85	132.9		35	6.9		170		< 5		350			< 1				1.19		0.89			154
65	PB0020	06.02.78	48.5	4	15	6.8		300							4					N.D	0.56		1.16	199
62	PB0100	14.05.98	182.88	58.4	40	7.11	< 0.02	691							246		0.4		0.76		6.51		1.16	194
61	PB0102	15.08.89	69.5			8.4		20				30			9						0.03		0.77	100
60	PB0269	23.04.98	61	7.7	< 5.0	6.5		105		6					5.33			0.018	0.9		0.42			81.0
55	PB0302	04.03.98	100	6.46	5.00	6.50		114		8					3.55			0.004	0.6		3.36			84
53	PB0304	01.06.98	149	1.3	< 2.5	7.00		91				182			4.97			0.02	2.21		0.17	0.17		
51	PB0399	06.10.98	118	58.9	5.0	5.5		52.0		12.0					3.55			0.006	0.5		5.43			32.5
52	PB0005	-	92.35		5	5.8		45				66			3.60				1.20		0.15			
74	PB0006	-	79.3		6	4.8		18			5	24			4.2				0.75		0.11			
73	PB0007	-	137.2		< 5	4.3						4			1.00									
45	PB0012	27.03.86	94.5		15	7.0		350		10		500			7.94					0.33	0.17			250
64	PB0014	13.10.83	97.6		10	6.5		430		22.0		820			216				< 0.1					142
63	PB0015	11.10.83	108.5		25	6.5		105		10.0		160			14				1.28		2.77			47
66	PB0019	19.05.98	182.88	39	5	7.3	< 0.02	764							242		0.4		0.58		7.21		1.23	
43	PB0022	05.11.82	122		5.0	5.5		30	165			45			4.0				2.14		2.06			13
49	PB0027	12.04.80				3.2		3635							1720						0.14			
70	PB0035	23.10.82	137.2		5	4.9		15		< 5		23			15					< 0.01	0.14			2
69	PB0038	18.01.82	50.3		< 5	4.7		10		< 5		23			2.0					1.07	0.08			1.5
68	PB0039	14.01.84	140.2	< 1	< 5			50	55			38			2				1.32		0.24		0.01	
67	PB0040	14.01.84	122	2	< 5.0	5.4			70			39			1.0					0.96	0.28		0.03	
71	PB0041	-	84.5		< 5.0	6.5		< 5.0			10.0	17.0			4.0				0.54		0.25			
41	PB0042	22.11.82	122		5.0	4.7		15.0		< 5.0		21.0			4.0				0.74		0.08			2.0
42	PB0042	-	122		5.0	5.0		14.0		< 5.0		20.0			3.0				0.7		0.12			2.2
23	PB0052	-	4.30	1.7	5.0	4.6		28.0	44.0			54			7.00				6.00		0.9			
5	PB0053	-	13.80	84	10	5.4		182	188			81			10.0				< 3.0		0.9			
58	PB0272	30.09.98	88	10.70	30-40	6.7		3916		963					246			0.004	N.D		7.14			477
57	PB0273	01.10.98	203	1.0	< 5.0	7.6		220.0	222.0	2.0		440.0			8.87			N.D	0.8		N.D	N.D		123.5
44	PB0275	09.10.98	105	2	< 5.0	6.6		99		4		198			5.33			0.01	4.86		0.31	0.27	0.19	
48	PB0334	14.05.98	183	58.4	40.0	7.11	< 0.02	691							246		0.4		0.76		6.51		1.16	
47	PB0335	19.05.98	183	39.0	5.0	7.3	< 0.02	764							242		0.4		0.58		7.21		1.28	
40	PNJ2	-	173	35.7	5	5.62		75.6		< 5.001		151			1.0			0.007	0.06		1.72	1.52	0.05	
36	PB0333	19.11.98	85.34	122	5	6.1		924	1280			1958			562	356	3.4	< 0.005	0.9		21		< 0.5	141
Percentage of Exceeding Standards				62%	19%	34%		14%							18%		46%		5%		65%		3%	

Data Book Table E.2.1 (2/3) Groundwater Quality of the Existing Wells

Bil.	Borehole No.	Date of sampling	Depth (m)	Inorganic										Heavy Metals, etc.										
				Total Hardness ($CaCO_3$)	HidroCarbon / ncs-chromophore (CHR)	Non-carbonate hardness (NCH)	Bicarbonate (HCO_3^-)	Carbonate (CO_3^{2-})	Carbon Dioxside (CO_2)	Oxygen (O_2)	Aluminium (Al)	Manganese (Mn)	Calcium (Ca)	Mercury (Hg)	Cadmium (Cd)	Selenium (Se)	Arsenic (As)	Cyanide (CN)	Lead (Pb)	Chromium (Cr)	Silver (Ag)	Copper (Cu)	Magnesium (Mg)	Zinc (Zn)
Drinking Water Quality Standards (1983)				500							0.2	0.1		0.001	0.005	0.1	0.05	0.1	0.05	0.05	0.05	1	150	5
8	PB0072	-	12.0	5044.4			725.9	< 1				3.70	347.1				< 0.005						1071	
4	PB0073	-	48.0	1951.4			1651.9	< 1				0.74	256.1				< 0.005						301	
7	PB0075	-	8.0																					
6	PB0076	-	11.80																					
26	PB0390	29.06.98	170	84.0			17.92				N.D	0.18	30.9										0.34	0.48
3	PB0065	-	24.0	135.0			946.7	146.0				0.17	12.6				0.01						24.2	
9	PB0070	-	45.8	570.5			915.0	156.0				0.69	25.0				< 0.005						123.0	
33	PB0263	-	71.0				234	< 1			< 0.1	1.8	108		< 0.01	< 0.005	0.006		< 0.01	< 0.01		< 0.1	134	< 0.1
34	PB0264	-	32.0				661	< 1			0.7	0.8	15		< 0.01	< 0.005	0.006		< 0.01	< 0.01		< 0.1	37	< 0.1
1	PB0025	-	76.2	300																				
22	PB0043	-	259.2																					
2	PB0064	-	16.80	66.9			19.5	1.10				0.08	22.5				0.25						1.3	
11	PB0253	05.10.94	74.5				433	77			< 0.1	1.7	93		< 0.01	< 0.005	< 0.005		< 0.01	< 0.01		< 0.1	181	< 0.1
12	PB0254	05.10.94	51.5				174	5			< 0.1	0.1	5.3			< 0.005	< 0.005		< 0.01	< 0.01		< 0.1	15.0	< 0.1
10	PB0255	-	46.5				129	8			< 0.1	< 0.1	2.8		< 0.01	< 0.005	< 0.005		< 0.01	< 0.01		< 0.1	7.6	< 0.1
13	PB0256	-	34.8				102	< 1.0			0.1	0.9	15.0		< 0.01	< 0.005	< 0.005		0.13	< 0.01		< 0.1	6.2	0.10
15	PB0274	13.10.98	48				94	< 1			< 0.1	< 0.1	5.8	< 0.2	< 0.01	< 0.005	0.008	< 0.005	< 0.01	< 0.01		< 0.1	7.2	< 0.1
17	PB0392	16.07.98	60	59							< 0.1	< 0.1		< 0.2	< 0.01	< 0.005	< 0.005			< 0.01		< 0.1	12	< 0.1
70	PB0393	25.05.98	60	30.7							0.02	0.06		< 0.0005	< 0.001	0.002	0.002		< 0.02	0.0088	0.002	0.01	6.04	0.02
19	PB0394	20.07.98	58	55							0.1	< 0.1		< 0.2	< 0.01	< 0.005	< 0.005			< 0.01		< 0.1	11	< 0.1
20	PB0395	02.06.98	59	45.9							0.69	0.09		< 0.0005	< 0.001	0.002	0.002		< 0.02	0.004	< 0.002	< 0.01	8.87	0.15
21	PB0396	04.08.98	60				100	< 1			< 0.1	< 0.1	2.8		< 0.01	< 0.005	0.029		< 0.01	< 0.01		< 0.01	4.9	< 0.1
39	PB0021	27.10.82	137.2	22																				
14	PB0265	-	23.0				151	< 1.0			3.3	0.6	47.0		0.01	< 0.005	0.022		< 0.01	< 0.01		< 0.1	8.9	< 0.1
24	PB0033	-	90.0	9.0					1.5	44	N.D	0.04					N.D		0.02			0.004		
38	PB0276	19.09.98	108	5			227.23				5.71	0.14	1.85										0.31	3.26
37	PB0277	-	48				159	< 1			5.3	0.1	52	< 0.2	< 0.01	< 0.005	0.091		< 0.01	< 0.01	< 0.05	< 0.1	3.1	< 0.1
30	PB0300	14.05.98	10	21	21		34	< 1			< 0.1	0.2	5.6	< 0.2	< 0.01	< 0.005	0.075	< 0.05	< 0.01	< 0.01		< 0.1	1.8	< 0.1
29	PB0301	14.05.98	8.5	12	12		30	< 1			< 0.1	0.1	3.4	< 0.2	< 0.01	< 0.005	0.247	< 0.05	< 0.01	< 0.01		< 0.1	0.9	< 0.1
27	PB0389	04.09.98	60	14	14		16.0	1.0					3.1					0.05					1.6	
35	PB0044	-	10.67	48.0								0.17					N.D						28.0	
28	PB0268	19.09.98	200	70								0.06	24.49		N.D		N.D	N.D	N.D	N.D		N.D	0.56	0.01
59	PB0270	11.09.98	203.0	39.8								0.11	8.6	N.D	N.D		N.D	N.D	N.D			N.D	4.4	0.80
56	PB0280	04.03.98	100	3.40						4.38			5.14					0.00				0.33	0.59	
54	PB0281	25.03.98	152	68								1.17	24.94		N.D		N.D	N.D	N.D	N.D		0.01	0.28	0.23
50	PB0282	10.04.93	176.8	65								0.59	25.57		N.D		N.D	N.D	N.D	N.D		0.01	0.27	0.02
32	PB0298	14.05.98	8.5	419	419	0	522	< 1			< 0.1	0.3	130	< 0.2	< 0.01	< 0.005	0.186	< 0.05	< 0.01	< 0.01		< 0.1	23	< 0.1
31	PB0299	14.05.98	8	8	8		12	< 1			< 0.1	0.1	1.7	< 0.2	< 0.01	< 0.005	< 0.005	< 0.05	< 0.01	< 0.01		< 0.1	0.8	< 0.1
46	PB0367	22.08.98	200	10								0.06	3.01		N.D		N.D	N.D	N.D	N.D		N.D	0.35	0.03
16	PB0398	23.08.98	48				90	< 1			< 0.1	< 0.1	5.2		< 0.01	< 0.005	0.008		< 0.01	< 0.01		< 0.1	7.2	< 0.1
72	PB0011	28.12.85	132.9	97								1.27					N.D		0.08					
65	PB0020	06.02.78	48.5	155													0.03							
62	PB0100	14.05.98	182.88								0.02	0.58		< 0.001	< 0.005	< 0.01	< 0.01	< 0.02	0.07	0.05	< 0.02	< 0.02	0.92	< 0.02
61	PB0102	15.08.89	69.5	15			< 0.01					< 0.01	0.25										0.05	
60	PB0269	23.04.98	61	57.5								0.31	10.41		N.D		N.D	N.D	N.D	N.D		0.01	2.95	0.06
55	PB0302	04.03.98	100	70								0.27	4.95		N.D		N.D	N.D	N.D	0.01		0.01	4.30	0.40
53	PB0304	01.06.98	149	74			124.81				N.D	0.20	23.69										2.10	
51	PB0399	06.10.98	118	35.0								0.93	0.70		N.D		N.D	N.D	0.05	0.01		0.01	2.95	0.59
52	PB0005	-	92.35	14								0.11					0.01						0.62	
74	PB0006	-	79.3	8								0.07					0.01						0.4	
73	PB0007	-	137.2	7								0.10					0.002							
45	PB0012	27.03.86	94.5	128								0.02					0.04		0.05					
64	PB0014	13.10.83	97.6	132											< 0.01		< 0.01		< 0.05	< 0.05		< 0.05	12	
63	PB0015	11.10.83	108.5	16								0.35			< 0.01		< 0.01		0.32	< 0.01		< 0.01	1.72	0.13
66	PB0019	19.05.98	182.88	210							< 0.02	0.56		< 0.001	< 0.005	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	12.05	0.10
43	PB0022	05.11.82	122	13								0.28			< 0.01		< 0.01		< 0.01	< 0.01		< 0.01	2.25	0.26
49	PB0027	12.04.80		790																				
70	PB0035	23.10.82	137.2	3								0.08			< 0.01		< 0.01		< 0.01	< 0.01		< 0.01	0.43	0.38
69	PB0038	18.01.82	50.3	3.0								0.05			< 0.01		< 0.01		< 0.01	< 0.05		< 0.01	0.26	0.14
68	PB0039	14.01.84	140.2	4.6								0.06												
67	PB0040	14.01.84	122									0.06												
71	PB0041	-	84.5	7.0								0.02					< 0.01							
41	PB0042	22.11.82	122	7.0								0.06			< 0.01		< 0.01		< 0.01	< 0.01		< 0.01	0.38	0.08
42	PB0042	-	122	6.8								0.05			< 0.01		< 0.01		< 0.01	< 0.01		< 0.01	0.40	0.07
23	PB0052	-	4.30	9.3				< 1.00				0.02	0.9				< 0.005						1.3	
5	PB0053	-	13.80	16.7				< 1.0				0.01	3.4				< 0.005						1.6	
58	PB0272	30.09.98	88	705								1.20	101.38		0.009		N.D	N.D	0.07	0.01		0.07	5.44	29.10
57	PB0273	01.10.98	203	252.75						N.D		N.D	55.6	N.D	N.D	N.D	N.D	N.D	N.D			N.D	47.93	0.10
44	PB0275	09.10.98	105	71			140.82				N.D	0.03	22.70										4.14	0.34
48	PB0334	14.05.98	183	194							0.02	0.58		< 0.001	< 0.005	< 0.01	< 0.01	< 0.02	0.07	0.05	< 0.02	< 0.02	0.92	< 0.02
47	PB0335	19.05.98	183	210							< 0.02	0.56		< 0.001	< 0.005	< 0.01	< 0.01	< 0.02	0.006	< 0.02	< 0.02	< 0.02	12.05	0.10
40	PNJ2	-	173	0.54							0	0.344												0.22
36	PB0333	19.11.98	85.34	420	141	279	86	< 1			< 0.1	0.6	46	< 0.2		< 0.005	0.226		< 0.01	0.03		< 0.1	74	< 0.1
Percentage of Exceeding Standards				9%							17%	51%		53%	5%	0%	11%	0%	14%	0%	0%	0%	5%	2%

Data Book Table E.2.1 (3/3) Groundwater Quality of the Existing Wells

Bil.	Borehole No.	Date of sampling	Depth (m)	Heavy Metals, etc.																	Organic
				Sodium (Na)	Oil & Grease	Phenol	Sulfate (SO_4)	Potassium (K)	Boron (B)	Barium (Ba)	Cobalt (Co)	Detergent (Deter)	Iodin (I)	Molybdenum (Mo)	Nick el (Ni)	Phosphorus (P)	Phosphate (PO_4)	Sulphide (S)	Silica (SiO_2)	Strontium (Sr)	Coliform
Drinking Water Quality Standards (1983)				200	0.3	0.002	400														
8	PB0072	-	12.0	7665			2180	265													
4	PB0073	-	48.0	472.5			29	175													
7	PB0075	-	8.0																		
6	PB0076	-	11.80																		
26	PB0390	29.06.98	170	16.57	N.D		3.0	0.66										0.003			N.D
3	PB0065	-	24.0	575.0			13.0	10.0													
9	PB0070	-	45.8	1655.0			73.0	40.0													
33	PB0263	-	71.0	1135			< 3	37	< 1.0	0.7					< 0.1	0.05			20	0.9	
34	PB0264	-	32.0	1035			< 3.00	39	1.7	0.2					< 0.10	0.13			22	0.21	
1	PB0025	-	76.2				168														
22	PB0043	-	259.2																		
2	PB0064	-	16.80	80.0			13.0	10.0													
11	PB0253	05.10.94	74.5	1880			< 3	40	< 5.0	0.3					< 0.1	< 0.02			13	0.06	
12	PB0254	05.10.94	51.5	238.0			< 3	15	< 5.0	< 0.1					< 0.01	< 0.02			11.0	< 0.01	
10	PB0255	-	46.5	163			< 3	9.6	< 5.0	< 0.1					< 0.1	< 0.02			10.0	< 0.01	
13	PB0256	-	34.8	67.0			44.0	5.6	< 1.0	0.1					< 0.1	< 0.02			11.0	0.10	
15	PB0274	13.10.98	48	28			< 3	4.7	< 1	< 0.1	< 0.1				< 0.1	0.07			12	0.09	
17	PB0392	16.07.98	60	130			< 0.3														
70	PB0393	25.05.98	60	89			< 5														< 2
19	PB0394	20.07.98	58	133			< 3														
20	PB0395	02.06.98	59	135			< 1														< 1
21	PB0396	04.08.98	60	62			< 3	5.0	< 1	< 0.1					< 0.1	< 0.2			11	0.04	
39	PB0021	27.10.82	137.2																		
14	PB0265	-	23.0	159.0			18.0	13.0	< 1.0	< 0.10					< 0.1	0.03			15.0	< 0.05	
24	PB0033	-	90.0				0.60									N.D	3.0		7.00		
38	PB0276	19.09.98	108	2.28	N.D		N.D	1.25										0.009			N.D
37	PB0277	-	48	1.6			< 3	0.9	< 1	< 0.1	< 0.05			< 0.05	< 0.1	0.06			1.8	0.02	
30	PB0300	14.05.98	10	5.6			< 3	3.1	< 1							0.04			10		
29	PB0301	14.05.98	8.5	6.8			< 3	2.3	< 1							0.04			5.2		
27	PB0389	04.09.98	60	1.0			3.0	0.3								0.02					
35	PB0044	-	10.67				0.8												14.0		
28	PB0268	19.09.98	200		1	N.D	1					N.D									
59	PB0270	11.09.98	203.0		N.D	N.D	N.D					N.D									
56	PB0280	04.03.98	100				10.00										0.37	0.01	0.21		
54	PB0281	25.03.98	152		N.D	N.D	1.00					0.015									
50	PB0282	10.04.93	176.8		N.D	N.D	2.0					0.015									
32	PB0298	14.05.98	8.5	5.2			< 3	1.4	< 1							0.04			6.7		
31	PB0299	14.05.98	8	1.8			< 3	1.8	< 1							0.04			14		
46	PB0367	22.08.98	200				N.D														
16	PB0398	23.08.98	48	28			< 3	4.6	< 1	< 0.1					< 0.1	0.08			12	0.08	
72	PB0011	28.12.85	132.9				8												11		
65	PB0020	06.02.78	48.5																		
62	PB0100	14.05.98	182.88	138	< 10	0.002	73					< 0.02									
61	PB0102	15.08.89	69.5	0.56				0.40					< 0.01								
60	PB0269	23.04.98	61		N.D	N.D	N.D					0.015									
55	PB0302	04.03.98	100		N.D		1.00					0.036									
53	PB0304	01.06.98	149	0.22			1	0.76													
51	PB0399	06.10.98	118		1.0		13.00					0.007									
52	PB0005	-	92.35				18.00												10		
74	PB0006	-	79.3				16												8		
73	PB0007	-	137.2																		
45	PB0012	27.03.86	94.5				8.0												1.0		
64	PB0014	13.10.83	97.6				20								< 0.05				15		
63	PB0015	11.10.83	108.5				9.6								< 0.01				12.0		
66	PB0019	19.05.98	182.88	143	< 10	0.006	15					< 0.02							16		
43	PB0022	05.11.82	122				13.0								< 0.01				10.0		
49	PB0027	12.04.80					90														
70	PB0035	23.10.82	137.2				5								< 0.01				10		
69	PB0038	18.01.82	50.3				2.0								< 0.01				5.5		
68	PB0039	14.01.84	140.2																14		
67	PB0040	14.01.84	122																16		
71	PB0041	-	84.5				1.0												8.0		
41	PB0042	22.11.82	122				16.0								< 0.01				7.0		
42	PB0042	-	122				18.0								< 0.01				7.0		
23	PB0052	-	4.30	6.2			5.00	1.8													
5	PB0053	-	13.80	12.5			19.0	3.0													
58	PB0272	30.09.98	88		2	0.05	67					0.04									
57	PB0273	01.10.98	203		N.D	N.D	N.D					0.036							15.6		79.0
44	PB0275	09.10.98	105	13.34	N.D		N.D	2.99										0.003			N.D
48	PB0334	14.05.98	183	138	< 10		73					< 0.02				0.002					N.D
47	PB0335	19.05.98	183	143	< 10		15					< 0.02				< 0.02					
40	PNJ2	-	173		N.D		8														
36	PB0333	19.11.98	85.34	178			< 3	33	< 1	1.2	< 0.05			< 0.05	< 0.1	0.05			16	0.32	
Percentage of Exceeding Standards				22%	35%	11%	2%														

DATA BOOK E.2.2

GROUNDWATER QUALITY OF THE DOE MONITORING WELLS

Data Book Table E.2.2 (1) Groundwater Quality of the DOE Monitoring Wells

No.	Location	Sample Label	Total Hardness	Dissolved Solids	Chloride	Nitrate (NO_3^-)	Phosphate (PO_4)	Sulphate (SO_4)	Total Coliform Count
MW(7)-S8-1-5.27	Kilang CSR, Klang	S8	-	-	-	-	-	-	-
MW(7)-S9-2-5.97	Sek . Keb Sek syen 20, Shah Alam	S9C	12	141.5	15.5	0.31	< 0.1	1.3	< 2
MW(7)-S9-1-20.21	Pusat Latihan Mengaj ar CIAST, Shah Alam	S9B	71.5	414	89.5	0.2	< 0.1	70	< 2
MW(7)-S9-1-8.20	Pusat Latihan Mengaj ar CIAST, Shah Alam	S9A	202	993	2	0.31	< 0.1	486	< 2
MW(7)-S13-1-12.76	Sauj ana Golf, Subang Jaya	S13B	6.6	119	2.7	5.6	< 0.1	6.4	< 2
MW(7)-S13-1-5.45	Sauj ana Golf, Subang Jaya	S13A	33	107	8.6	1.4	< 0.1	5.1	< 2
Average			65.0	355	24	1.6	0.1	114	2

No.	Location	Sample Label	Faecal Coliform	Phenol	OC Pesticide	Total Organic Carbon (TOC)	Chlorobenz ene	1,2-Dichlorobenz ene	1,3-Dichlorobenz ene
MW(7)-S8-1-5.27	Kilang CSR, Klang	S8	-	-	-	-	-	-	-
MW(7)-S9-2-5.97	Sek . Keb Sek syen 20, Shah Alam	S9C	< 2	ND	ND	6	< 0.001	< 0.001	< 0.001
MW(7)-S9-1-20.21	Pusat Latihan Mengaj ar CIAST, Shah Alam	S9B	< 2	ND	ND	2	-	-	-
MW(7)-S9-1-8.20	Pusat Latihan Mengaj ar CIAST, Shah Alam	S9A	< 2	ND	ND	2	< 0.001	< 0.001	< 0.001
MW(7)-S13-1-12.76	Sauj ana Golf, Subang Jaya	S13B	< 2	ND	ND	< 1	-	-	-
MW(7)-S13-1-5.45	Sauj ana Golf, Subang Jaya	S13A	< 2	ND	ND	4	< 0.001	< 0.001	< 0.001
Average			2	ND	ND	3	< 0.001	< 0.001	< 0.001

No.	Location	Sample Label	1,4-Dichlorobenz ene	Bromodichloro-methane	Dibromochloro-methane	Bromoform	Chloroform	Benz ene	Tolune
MW(7)-S8-1-5.27	Kilang CSR, Klang	S8	-	-	-	-	-	-	-
MW(7)-S9-2-5.97	Sek . Keb Sek syen 20, Shah Alam	S9C	0.002	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.002
MW(7)-S9-1-20.21	Pusat Latihan Mengaj ar CIAST, Shah Alam	S9B	-	-	-	-	-	-	-
MW(7)-S9-1-8.20	Pusat Latihan Mengaj ar CIAST, Shah Alam	S9A	0.002	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.02
MW(7)-S13-1-12.76	Sauj ana Golf, Subang Jaya	S13B	-	-	-	-	-	-	-
MW(7)-S13-1-5.45	Sauj ana Golf, Subang Jaya	S13A	0.002	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.003
Average			0.002	< 0.001	< 0.001	< 0.001	< 0.001	0.001	0.008

Data Book Table E.2.2 (2) Groundwater Quality of the DOE Monitoring Wells

No.	Location	Sample Label	O-Xylene Tolune	m & p-xylene	Arsenic (As)	Mercury (Hg)	Cadmium (Cd)	Chromium (Cr)	Copper (Cu)
MW(7)-S8-1-5.27	Kilang CSR, Klang	S8	-	-	0.1204	< 0.0001	0.0003	0.0002	0.0032
MW(7)-S9-2-5.97	Sek . Keb Sek syen 20, Shah Alam	S9C	< 0.001	< 0.001	0.037	< 0.0001	0.0002	< 0.0002	0.0018
MW(7)-S9-1-20.21	Pusat Latihan Mengaj ar CIAST, Shah Alam	S9B	-	-	0.0038	< 0.0001	< 0.0002	0.0023	0.0042
MW(7)-S9-1-8.20	Pusat Latihan Mengaj ar CIAST, Shah Alam	S9A	< 0.001	< 0.001	-	-	-	-	-
MW(7)-S13-1-12.76	Sauj ana Golf, Subang Jaya	S13B	-	-	0.0041	< 0.0001	< 0.0002	0.0003	0.0069
MW(7)-S13-1-5.45	Sauj ana Golf, Subang Jaya	S13A	0.001	0.001	0.0059	< 0.0001	< 0.0002	< 0.0002	0.0037
Average			0.001	0.001	0.034	< 0.0001	0.0002	0.0006	0.004

No.	Location	Sample Label	Iron (Fe)	Lead (Pb)	Manganese (Mn)	Nick el (Ni)	Zinc (Zn)	Tin (Sn)	Antimony (Sn)
MW(7)-S8-1-5.27	Kilang CSR, Klang	S8	16.84	0.0016	1.73	0.808	0.2785	< 0.0002	< 0.0008
MW(7)-S9-2-5.97	Sek . Keb Sek syen 20, Shah Alam	S9C	56.85	0.0009	2.46	< 0.002	0.0781	< 0.0002	< 0.0008
MW(7)-S9-1-20.21	Pusat Latihan Mengaj ar CIAST, Shah Alam	S9B	9.06	0.0018	0.32	0.02425	0.0243	< 0.0002	< 0.0008
MW(7)-S9-1-8.20	Pusat Latihan Mengaj ar CIAST, Shah Alam	S9A	-	-	-	-	-	-	-
MW(7)-S13-1-12.76	Sauj ana Golf, Subang Jaya	S13B	0.103	0.0009	0.0375	< 0.002	0.0175	< 0.0002	< 0.0008
MW(7)-S13-1-5.45	Sauj ana Golf, Subang Jaya	S13A	0.012	0.0005	0.0135	< 0.002	0.0212	< 0.0002	< 0.0008
Average			16.57	0.0011	0.912	0.171	0.084	< 0.0002	< 0.0008

No.	Location	Sample Label	Selenium (Se)	Vanadium (V)
MW(7)-S8-1-5.27	Kilang CSR, Klang	S8	0.0005	< 0.0002
MW(7)-S9-2-5.97	Sek . Keb Sek syen 20, Shah Alam	S9C	0.0014	< 0.0002
MW(7)-S9-1-20.21	Pusat Latihan Mengaj ar CIAST, Shah Alam	S9B	0.0009	0.0021
MW(7)-S9-1-8.20	Pusat Latihan Mengaj ar CIAST, Shah Alam	S9A	-	-
MW(7)-S13-1-12.76	Sauj ana Golf, Subang Jaya	S13B	< 0.0005	< 0.0002
MW(7)-S13-1-5.45	Sauj ana Golf, Subang Jaya	S13A	< 0.0005	< 0.0002
Average			0.0008	0.0006

DATA BOOK E.3.1

DATA OF WATER QUALITY MEASUREMENT

AT VISITED OPEN WELLS

Data Book E.3.1

Data of Water Quality Measurement at Visited Open Wells

ID-109
Day: Sunday (16/7/2000)
Time: 10.15hr (Fine, clear, hot)
Well Dept: 6′ 6″/1.96m
Place: Kampung Sesapan Batu Minangkabau

Temperature (^oC)	26.40	22.64	26.36
Dissolved Oxygen (mg/l)	1.75	1.12	0.93
Depth(m)	0.7	0.3	0.0
Conductivity (mS/cm)	0.295	0.289	0.287
pH	7.82	7.71	7.62
Redox (mV)	343	339	336
Oxygen Saturation (%)	16.2	13.2	11.4
Salinity ($^o/_{oo}$)	0.1	0.1	0.1

N 319336, E 432314

ID-104
Day: Sunday (16/7/2000)
Time: 10.30hr (Fine, clear, hot)
Well Dept: 2.65m
Place: Kampung Sungai Jai

Temperature (^oC)	28.36	28.38
Dissolved Oxygen (mg/l)	1.59	1.41
Depth(m)	0.3	0.0
Conductivity (mS/cm)	0.245	0.245
PH	7.13	7.04
Redox (mV)	389	390
Oxygen Saturation (%)	16.8	16.9
Salinity ($^o/_{oo}$)	0.1	0.1

N 318114, E 432412

ID-105
Day: Sunday (16/7/2000)
Time: 10.45hr (Fine, clear, hot)
Well Dept: 6.7m
Place: Kampung Sungai Jai (2), Pekan Beranang

Temperature (^oC)	28.14	28.14	28.14
Dissolved Oxygen (mg/l)	2.42	2.26	2.19
Depth(m)	1.2	0.6	0.0
Conductivity (mS/cm)	0.325	0.326	0.325
pH	6.98	6.76	6.66
Redox (mV)	433	441	446
Oxygen Saturation (%)	29.8	26.0	27.5
Salinity ($^o/_{oo}$)	0.2	0.2	0.2

N 318235, E 432147

ID-64
Day: Sunday (16/7/2000)
Time: 11.03hr (Fine, clear, hot)
Well Dept: 4.12m
Place: Kampung Tanjung Beranang

Temperature (^oC)	26.65	26.63	26.61
Dissolved Oxygen (mg/l)	3.50	3.56	3.49
Depth(m)	1.3	0.6	0.0
Conductivity (mS/cm)	0.371	0.367	0.366
pH	7.97	7.86	7.80
Redox (mV)	371	373	376
Oxygen Saturation (%)	37.4	41.0	42.4
Salinity ($^o/_{oo}$)	0.2	0.2	0.2

N 317786, E 430568

ID-112
Day: Sunday (16/7/2000)
Time: 1215hr (Fine, clear, hot)
Well Dept: 3.96m
Place: Kampung Salak Tinggi

Temperature (^oC)	27.89	27.89	27.89
Dissolved Oxygen (mg/l)	1.30	0.60	0.52
Depth(m)	1.3	0.6	0.0
Conductivity (mS/cm)	0.505	0.505	0.504
pH	8.44	8.50	8.50
Redox (mV)	262	239	244
Oxygen Saturation (%)	12.3	7.4	6.1
Salinity ($^o/_{oo}$)	0.3	0.3	0.3

N 309331, E 417764

ID-113
Day: Sunday (16/7/2000)
Time: 12.45hr (Fine, clear, hot)
Well Dept: 4.18m /15ft from toilet
Place: Kampung Jenderam Hulu
20 White small fish inside the well to control the mosquito's larvae.
Water is used for washing.

Temperature (^oC)	27.24	27.18	27.16
Dissolved Oxygen (mg/l)	1.87	1.25	1.16
Depth(m)	1.2	0.6	0.0
Conductivity (mS/cm)	0.528	0.520	0.517
pH	8.32	8.18	8.15
Redox (mV)	298	287	288
Oxygen Saturation (%)	18.0	14.5	13.7
Salinity ($^o/_{oo}$)	0.3	0.3	0.3

N 317422, E 415709

ID-108
Day: Sunday (16/7/2000)
Time: 1420hr (Fine, clear, hot)
Well Dept: 4′ 2” Sample in pail
Place: Kampung Batu 29 Dengkil

Temperature (^oC)	28.98
Dissolved Oxygen (mg/l)	3.78
Depth(m)	1.4
Conductivity (mS/cm)	0.280
pH	787
Redox (mV)	346
Oxygen Saturation (%)	59.3
Salinity ($^o/_{oo}$)	0.1

N 316030, E 408600

ID-110
Day: Sunday (16/7/2000)
Time: 1442hr (Fine, clear, hot)
Well Dept: 0.9m
Place: Kg. Jenderam Hilir

Temperature (^oC)	27.50	27.41	27.58	27.43
Dissolved Oxygen (mg/l)	1.54	0.35	0.77	0.45
Depth(m)	0.9	0.9	0.4	0.0
Conductivity (mS/cm)	0.370	0.350	0.358	0.352
pH	8.70	8.32	8,.51	8.42
Redox (mV)	237	211	224	217
Oxygen Saturation (%)	14.2	4.8	7.0	5.3
Salinity ($^o/_{oo}$)	0.2	0.2	0.2	0.2

N 318094, E 403522

ID-54
Day: Sunday (16/7/2000)
Time: 1510 hr (Fine, clear, hot)
Well Dept: 2.36m
Place: Kampung Abu Bakar Baginda (Car Wash Station)

Temperature (^oC)	29.36	29.24	29.4	29.26
Dissolved Oxygen (mg/l)	2.31	3.45	6.0	5.46
Depth(m)	0.8	0.4	0.0	0.6
Conductivity (mS/cm)	0.417	0.390	0.367	0.37
pH	8.06	8.07	8.16	8.13
Redox (mV)	2.52	277	325	372
Oxygen Saturation (%)	31.7	56.1	77.1	64.2
Salinity ($^o/_{oo}$)	0.2	0.2	0.2	0.2

N 326269, E 420267

ID-119
Day: Sunday (16/7/2000)
Time: 1530 hr (Fine, clear, hot)
Well Dept: 2.34m
Place: UKM Well (1)

Temperature (^oC)	26.78	26.51	26.61
Dissolved Oxygen (mg/l)	4.32	3.28	3.13
Depth(m)	1.3	0.7	0
Conductivity (mS/cm)	0.244	0.232	0.225
pH	8.05	7.75	7.60
Redox (mV)	356	243	361
Oxygen Saturation (%)	41.0	39.0	40.3
Salinity ($^o/_{oo}$)	0.1	0.1	0.1

N 324179, E 421174

ID-120
Day: Sunday (16/7/2000)
Time: 1545hr (Fine, clear, hot)
Well Dept: 2.4m
Place: UKM Well (2)

Temperature (^oC)	26.49	26.42	27.10
Dissolved Oxygen (mg/l)	2.56	2.83	3.02
Depth(m)	1.5	0.8	0
Conductivity (mS/cm)	0.208	0.205	0.2
pH	7.29	7.25	7.1
Redox (mV)	3.78	382	382
Oxygen Saturation (%)	30.1	32.0	37.1
Salinity ($^o/_{oo}$)	0.1	0.1	0.1

N 324179, E 421174

ID-121
Day: Sunday (16/7/2000)
Time: 1555 hr (Fine, clear, hot)
Well Dept: 4.3m
Place: UKM Well (3)

Temperature (^oC)	28.32	28.28	28.77
Dissolved Oxygen (mg/l)	5.60	5.64	7.40
Depth(m)	2.2	1.1	0.0
Conductivity (mS/cm)	0.417	0.416	0.410
pH	9.78	9.86	10.18
Redox (mV)	506	498	477
Oxygen Saturation (%)	52.4	66.0	92.3
Salinity ($^o/_{oo}$)	0.2	0.2	0.2

N 323812, E 421576

ID-109
Day: Monday (7/8/2000)
Time: 1340hr (Cloudy)
Well Dept: 1.97m
Place: Kampung Sesapan Batu Minangkabau

Temperature (^oC)	26.84	26.84	26.82
Dissolved Oxygen (mg/l)	1.57	1.20	1.10
Depth(m)	1.0	0.5	0.0
Conductivity (mS/cm)	0.266	0.262	0.260
pH	7.44	7.38	7.35
Redox (mV)	312	331	328
Oxygen Saturation (%)	16.4	14.4	13.1
Salinity ($^o/_{oo}$)	0.1	0.1	0.1

N 319336, E 432314

ID-104
Day: Monday (7/8/2000)
Time: 1350hr (Drizzling)
Well Dept: 2.65m
Place: Kampung Sungai Jai

Temperature (^oC)	27.52	27.49	27.49
Dissolved Oxygen (mg/l)	4.26	2.26	1.93
Depth(m)	1.0	0.4	0.0
Conductivity (mS/cm)	0.322	0.319	0.317
pH	7.33	7.17	7.12
Redox (mV)	352	361	365
Oxygen Saturation (%)	36.1	26.0	23.3
Salinity ($^o/_{oo}$)	0.2	0.2	0.2

N 318114, E 432412

ID-105
Day: Monday (7/8/2000)
Time: 1400hr (Heavy rain)
Well Dept: 6.72m
Place: Kampung Sungai Jai (2), Pekan Beranang

Temperature (^oC)	28.12	28.10	28.10
Dissolved Oxygen (mg/l)	6.72	4.52	4.32
Depth(m)	2.3	1.2	0.0
Conductivity (mS/cm)	0.330	0.329	0.328
pH	7.17	6.87	6.75
Redox (mV)	377	396	405
Oxygen Saturation (%)	65.8	56.7	55.4
Salinity ($^o/_{oo}$)	0.2	0.2	0.2

N 318235, E 432147

ID-64
Day: Monday (7/8/2000)
Time: 1440hr (Heavy rain)
Well Dept: 4.12m
Place: Kampung Tanjung Beranang

Temperature (^oC)	26.46	26.44	26.44
Dissolved Oxygen (mg/l)	3.92	3.20	3.99
Depth(m)	1.9	1.0	0.0
Conductivity (mS/cm)	0.372	0.390	0.243
pH	8.37	8.17	7.92
Redox (mV)	428	400	367
Oxygen Saturation (%)	42.5	38.4	38.0
Salinity ($^o/_{oo}$)	0.2	0.2	0.2

N 317786, E 430568

ID-112
Day: Monday (7/8/2000)
Time: 1225hr (Cloudy and hot)
Well Dept: 3.97m
Place: Kampung Salak Tinggi

Temperature (^oC)	27.81	27.79	27.99
Dissolved Oxygen (mg/l)	3.49	1.03	0.69
Depth(m)	1.6	0.8	0.0
Conductivity (mS/cm)	0.532	0.534	0.533
pH	7.76	7.96	8.00
Redox (mV)	269	256	254
Oxygen Saturation (%)	22.0	10.4	7.6
Salinity ($^o/_{oo}$)	0.3	0.3	0.3

N 309331, E 417764

ID-113
Day: Monday (7/8/2000)
Time: 12.00hr (Cloudy and hot)
Well Dept: 4.23m /15ft from toilet
Place: Kampung Jenderam Hulu

Temperature (^oC)	26.61	26.57	26.65
Dissolved Oxygen (mg/l)	1.41	0.70	0.66
Depth(m)	3.1	1.5	0.0
Conductivity (mS/cm)	0.413	0.408	0.406
pH	7.40	7.45	7.50
Redox (mV)	285	266	260
Oxygen Saturation (%)	12.0	7.9	9.9
Salinity ($^o/_{oo}$)	0.2	0.2	0.2

N 317422, E 415709

ID-108
Day: Monday (7/8/2000)
Time: 1125hr (Cloudy and hot)
Well Dept: 5′ 9”
Place: Kampung Batu 29 (Kg. Cemprai) Dengkil

Temperature (^oC)	28.98
Dissolved Oxygen (mg/l)	7.12
Depth(m)	0.0
Conductivity (mS/cm)	0.275
pH	7.76
Redox (mV)	288
Oxygen Saturation (%)	48.4
Salinity ($^o/_{oo}$)	0.1

N 316030, E 408600

ID-110
Day: Monday (7/8/2000)
Time: 1150hr (Cloudy and hot)
Well Dept: 2.93m
Place: Kg. Jenderam Hilir

Temperature (^oC)	27.37	27.24	27.26
Dissolved Oxygen (mg/l)	1.97	1.76	1.59
Depth(m)	1.3	0.7	0.0
Conductivity (mS/cm)	0.323	0.320	0.317
PH	7.72	7.79	7.83
Redox (mV)	247	261	273
Oxygen Saturation (%)	24.1	21.0	20.2
Salinity ($^o/_{oo}$)	0.2	0.2	0.2

N 318094, E 403522

ID-54
Day: Monday (7/8/2000)
Time: 1525 hr (Drizzling)
Well Dept: 2.34m
Place: Kampung Abu Bakar Baginda (Car Wash Station)

Temperature (^oC)	28.75	28.94	29.0
Dissolved Oxygen (mg/l)	1.88	1.49	1.17
Depth(m)	0.8	0.4	0.0
Conductivity (mS/cm)	0.403	0.407	0.406
pH	7.88	7.81	7.80
Redox (mV)	232	241	241
Oxygen Saturation (%)	17.5	16.6	20.0
Salinity ($^o/_{oo}$)	0.2	0.2	0.2

N 326269, E 420267

ID-119
Day: Monday (7/8/2000)
Time: 1545 hr (After rain and cooling)
Well Dept: 2.3m
Place: UKM Well (1)

Temperature (^oC)	26.16	26.16	26.19
Dissolved Oxygen (mg/l)	7.17	3.60	3.44
Depth(m)	1.3	0.6	0.0
Conductivity (mS/cm)	0.207	0.200	0.196
pH	8.24	7.70	7.57
Redox (mV)	368	352	349
Oxygen Saturation (%)	43.2	43.5	46.3
Salinity ($^o/_{oo}$)	0.1	0.1	0.1

N 324179, E 421174

ID-120
Day: Monday (7/8/2000)
Time: 1550hr (After rain and cooling)
Well Dept: 2.4m
Place: UKM Well (2)

Temperature (^oC)	26.14	26.17	26.29
Dissolved Oxygen (mg/l)	4.07	2.58	3.30
Depth(m)	1.6	0.6	0.0
Conductivity (mS/cm)	0.191	0.189	0.186
pH	7.29	7.22	7.07
Redox (mV)	3.72	372	388
Oxygen Saturation (%)	43.2	40.8	45.9
Salinity ($^o/_{oo}$)	0.1	0.1	0.1

N 324179, E 421174

ID-121
Day: Monday (7/8/2000)
Time: 1610 hr (After rain and cooling)
Well Dept: 2.3m
Place: UKM Well (3)

Temperature (^oC)	27.66	27.66	27.66
Dissolved Oxygen (mg/l)	5.80	3.58	3.61
Depth(m)	2.5	1.3	0.0
Conductivity (mS/cm)	0.389	0.382	0.383
PH	8.61	8.82	8.92
Redox (mV)	258	249	250
Oxygen Saturation (%)	39.9	42.1	49.7
Salinity ($^o/_{oo}$)	0.2	0.2	0.2

N 323812, E 421576

DATA BOOK E.3.2

DATA OF WATER QUALITY MEASUREMENT

AT VISITED JMG TUBE WELLS

Data Book E.3.2

Data of Water Quality Measurement at Visited JMG Tube Wells

ID-78
Day: Wed (9/8/2000)
Time: 1040hr (clear and hot)
Well Dept: 5.1m
Place: Brooklands Estate

Temperature (^oC)	28.67	28.75	28.75
Dissolved Oxygen (mg/l)	1.23	0.69	0.53
Depth(m)	1.3	0.8	0.0
Conductivity (mS/cm)	1.050	1.050	1.050
pH	8.31	8.46	8.48
Redox (mV)	27.0	-11.0	-16.0
Oxygen Saturation (%)	5.6	5.5	5.4
Salinity ($^o/_{oo}$)	0.5	0.5	0.5

N 312100, E 395188

ID-79
Day: Wed (9/8/2000)
Time: 1045hr (clear and hot)
Well Dept: 189.9m
Place: Brooklands Estate

Temperature (^oC)	27.39	27.54	27.99
Dissolved Oxygen (mg/l)	0.44	0.28	0.57
Depth(m)	21.2	10.1	0.0
Conductivity (mS/cm)	1.066	1.066	1.062
pH	8.74	8.68	8.80
Redox (mV)	-17.0	-48.0	-44.0
Oxygen Saturation (%)	4.6	3.5	3.2
Salinity ($^o/_{oo}$)	0.6	0.6	0.6

N 312100, E 395188

ID-97
Day: Wed (9/8/2000)
Time: 1105 (Hot and cloudy)
Well Dept: 61.8m
Place: JBA Olak Lempit

Temperature (^oC)	28.85	27.50	28.91
Dissolved Oxygen (mg/l)	7.22	8.46	2.60
Depth(m)	50.5	50.5	50.5
Conductivity (mS/cm)	0.483	0.302	0.482
pH	8.23	8.38	8.2
Redox (mV)	138	92	86
Oxygen Saturation (%)	47.1	61.0	21.7
Salinity ($^o/_{oo}$)	0.2	0.2	0.2

N 31500, E 402000

ID-75
Day: Wed (9/8/2000)
Time: 1140 (Cloudy)
Well Dept: 8.5m
Place: JBA Brookslands Estate

Temperature (^oC)	28.69	29.09	29.02
Dissolved Oxygen (mg/l)	5.16	1.63	2.26
Depth(m)	40.5	40.5	40.5
Conductivity (mS/cm)	1.91	0.577	0.576
pH	5.61	8.17	8.20
Redox (mV)	306	58	51
Oxygen Saturation (%)	48.2	20.4	16.3
Salinity ($^o/_{oo}$)	1.0	0.3	0.3

N 312103, E 395078

ID-103
Day: Wed (9/8/2000)
Time:1210 (Breezy and cloudy)
Well Dept: 51.5m
Place: Sg.Manggis near JBA Kuala Langat stor.

Temperature (^oC)	28.43	28.42	28.45
Dissolved Oxygen (mg/l)	8.91	6.77	4.35
Depth(m)	17.1	17.1	17.1
Conductivity (mS/cm)	1.015	1.106	1.170
pH	8.82	9.76	8.46
Redox (mV)	-65	18	53
Oxygen Saturation (%)	63.3	36.1	32.6
Salinity ($^o/_{oo}$)	0.5	0.6	0.6

N 340600, E 421400

ID-16
Day: Wed (9/8/2000)
Time: 1315 (Hot and cloudy sky)
Well Dept: 48.7m
Place: Kunci Air JBA Banting, Kg. Sg Lang Tengah

Temperature (^oC)	29.28	29.38	29.48
Dissolved Oxygen (mg/l)	2.80	4.56	2.34
Depth(m)	47.4	47.4	47.4
Conductivity (mS/cm)	3.19	3.19	3.69
pH	5.61	5.61	5.73
Redox (mV)	223	223	192
Oxygen Saturation (%)	33.5	33.5	29.6
Salinity ($^o/_{oo}$)	1.7	1.7	2.0

N 391311, E 311179

ID-1
Day: Wed (9/8/2000)
Time:1345 (Hot and clear sky)
Well Dept: 40.4m
Place: Oil palm estate, Sg. Lang

Temperature (^oC)	29.42	28.43	29.14
Dissolved Oxygen (mg/l)	2.34	1.03	0.66
Depth(m)	36.5	36.5	36.5
Conductivity (mS/cm)	14.92	15.0	14.93
pH	7.99	8.15	8.18
Redox (mV)	51	41	33
Oxygen Saturation (%)	27.5	12.3	8.2
Salinity ($^o/_{oo}$)	8.7	8.7	8.7

N 391760, E 305748

ID-77
Day: Wed (9/8/2000)
Time: 1420 (Hot and cloudy sky)
Well Dept: 61.20m
Place: Brooklands Estate

Temperature (^oC)	28.04	27.76	27.80
Dissolved Oxygen (mg/l)	2.21	2.48	2.42
Depth(m)	56.8	56.8	56.8
Conductivity (mS/cm)	2.40	2.34	2.32
pH	8.32	8.50	8.43
Redox (mV)	70	58	53
Oxygen Saturation (%)	27.7	30.8	29.9
Salinity ($^o/_{oo}$)	1.3	1.2	1.2

N 312107, E 395253

ID-17
Day: Wed (9/8/2000)
Time: 1445 (Windy and drizzling)
Well Dept: 48.5m
Place: Ulu Sg.Kelambu

Temperature (^oC)	27.80	27.60	27.56
Dissolved Oxygen (mg/l)	2.46	2.62	2.13
Depth(m)	44.2	44.2	44.2
Conductivity (mS/cm)	1.78	1.91	1.96
pH	8.37	8.35	8.56
Redox (mV)	145	106	74
Oxygen Saturation (%)	30.7	32.6	26.3
Salinity ($^o/_{oo}$)	0.9	1.0	1.0

N 309500, E 398500

ID-7
Day: Wed (9/8/2000)
Time: 1700 (Breezy and cloudy)
Well Dept: 10.37m
Place: Elit Highway

Temperature (^oC)	28.16	28.08	28.06
Dissolved Oxygen (mg/l)	1.94	2.33	2.03
Depth(m)	7.52	7.52	7.52
Conductivity (mS/cm)	0.305	0.265	0.265
pH	7.72	7.35	7.14
Redox (mV)	90	80	64
Oxygen Saturation (%)	23.8	28.8	12.4
Salinity ($^o/_{oo}$)	0.1	0.1	0.1

N 404414, E 320172

ID-10
Day: Wed (9/8/2000)
Time: 1730 (Hot,clear sky but drizzling)
Well Dept: 17.08m
Place: Elit highway

Temperature (^oC)	28.51	28.32	29.24
Dissolved Oxygen (mg/l)	2.32	2.30	2.81
Depth(m)	14.3	14.3	14.3
Conductivity (mS/cm)	0.294	0.273	0.276
pH	8.53	7.83	7.50
Redox (mV)	64	52	27
Oxygen Saturation (%)	26.5	27.8	27.6
Salinity ($^o/_{oo}$)	0.1	0.1	0.1

N 403620, E 321284

ID-78 [MW10 (W1)]
Day: Tue (15/8/00)
Time: 1040-1120 (Hot and cloudy sky)
Well Dept: 34.4m
Place: Brooklands Estate

Temperature (^oC)	27.39	27.54	27.93
Dissolved Oxygen (mg/l)	0.77	0.50	0.42
Depth(m)	20.5	9.9	0.0
Conductivity (mS/cm)	1.053	1.055	1.050
pH	8.68	8.68	8.79
Redox (mV)	30	10	4
Oxygen Saturation (%)	9.3	6.0	5.7
Salinity ($^o/_{oo}$)	0.6	0.6	0.6

N 312100, E 395188

ID-79 [MW 10 (W2)]
Day: Tue (15/8/00)
Time: 1040-1120 (Hot and cloudy sky)
Well Dept: 52.57m
Place: Brooklands Estate

Temperature (^oC)	28.03	28.01	28.03	28.01
Dissolved Oxygen (mg/l)	2.18	2.12	2.06	2.17
Depth(m)	49.47	49.47	49.47	49.47
Conductivity (mS/cm)	1.044	1.044	1.045	1.045
pH	8.73	8.70	8.64	8.61
Redox (mV)	27	26	22	21
Oxygen Saturation (%)	27.5	25.6	24.3	26.3
Salinity ($^o/_{oo}$)	0.5	0.5	0.5	0.5

N 312100, E 395188

ID-97 (MW 12)
Day: Tue (15/8/00)
Time: 0910 (Cool, windy, dark cloud sighted)
Well Dept: 41.4m
Place: Kawasan industri Olak Lempit, near Megasteel

Temperature (^oC)	28.73	28.73	28.73
Dissolved Oxygen (mg/l)	2.3	2.64	2.92
Depth(m)	32.2	32.2	32.2
Conductivity (mS/cm)	0.469	0.470	0.471
pH	8.39	8.44	8.42
Redox (mV)	78	75	75
Oxygen Saturation (%)	28.9	33.0	36.4
Salinity ($^o/_{oo}$)	0.2	0.2	0.2

N 31500, E 402000

ID-75 (N1B)
Day: Tue (15/8/00)
Time: 1050 (Drizzling)
Well Dept: 39.70m
Place: Oil Palm Estate, Olak Lempit

Temperature (^oC)	28.91	28.91	28.93	28.93
Dissolved Oxygen (mg/l)	2.28	2.04	1.85	1.53
Depth(m)	31.15	31.15	31.15	31.15
Conductivity (mS/cm)	0.553	0.566	0.565	0.564
pH	8.46	8.32	8.33	8.36
Redox (mV)	53	46	50	53
Oxygen Saturation (%)	28.5	25.8	23.0	19.0
Salinity ($^o/_{oo}$)	0.3	0.3	0.3	0.3

N 312103, E 395078

Ref: MW10 (W3)
Day: Tue (15/8/00)
Time: 1040-1120 (Hot and cloudy sky)
Well Dept: 4.5m
Place: Brooklands Estate

Temperature (^oC)	28.63	28.73	28.75
Dissolved Oxygen (mg/l)	0.60	0.37	0.37
Depth(m)	1.1	0.6	0.0
Conductivity (mS/cm)	1.059	1.041	1.037
pH	8.61	8.71	8.74
Redox (mV)	-30	-17	-10
Oxygen Saturation (%)	7.7	4.5	4.5
Salinity ($^o/_{oo}$)	0.6	0.5	0.5

N 312100, E 395188

ID-103 (MW6)
Day: Tue (15/8/00)
Time: 1140 (Breezy, cool and cloudy sky)
Well Dept: 51.45m
Place: Stor JBA Kuala Langat, Sg. Manggis

Temperature (^oC)	28.32	28.34	28.32	28.32
Dissolved Oxygen (mg/l)	2.38	2.32	2.15	2.27
Depth(m)	48.94	48.94	48.94	48.94
Conductivity (mS/cm)	1.130	1.150	1.150	1.150
pH	8.51	8.40	8.50	8.50
Redox (mV)	64	55	55	54
Oxygen Saturation (%)	31.0	29.3	27	28.0
Salinity ($^o/_{oo}$)	0.6	0.6	0.6	0.6

N 340600, E 421400

ID-16 [MW5]
Day: Tue (15/8/00)
Time: 1250 (Breezy, cool and cloudy)
Well Dept: 47.6m
Place: Kunci Air Sg. Lang, Kg. Sg. Lang

Temperature (^oC)	29.02	29.08	29.10	29.16
Dissolved Oxygen (mg/l)	2.26	2.39	2.64	2.54
Depth(m)	46.3	46.3	46.3	46.3
Conductivity (mS/cm)	3.32	3.47	3.52	3.52
pH	6.51	5.95	5.86	5.86
Redox (mV)	243	231	223	223
Oxygen Saturation (%)	29.1	29.5	32.3	32.3
Salinity ($^o/_{oo}$)	1.8	1.9	1.9	1.9

N 391311, E 311179

ID-1 [MW8]
Day: Tue (15/8/00)
Time: 1310 (Breezy, cool and cloudy)
Well Dept: 40.4m
Place: Sg. Lang Tengah

Temperature (^oC)	29.28	29.56	29.42
Dissolved Oxygen (mg/l)	1.11	1.33	1.97
Depth(m)	36.5	36.5	36.5
Conductivity (mS/cm)	14.59	14.80	14.83
pH	7.97	8.18	8.18
Redox (mV)	44	40	40
Oxygen Saturation (%)	11.9	18.3	27.4
Salinity ($^o/_{oo}$)	8.5	8.6	8.6

N 02º46'55", E 101º31'38"

ID-77 [MW2]
Day: Tue (15/8/00)
Time: 1425 (Hot and cloudy)
Well Dept: 60.3m
Place: Jalan Dahlia 3, Kg. Sg. Kelambu

Temperature (^oC)	27.85	27.77	27.81	27.85
Dissolved Oxygen (mg/l)	1.55	1.42	1.55	0.82
Depth(m)	55.9	55.9	55.9	55.9
Conductivity (mS/cm)	2.31	2.29	2.29	2.29
pH	8.23	8.30	8.37	8.37
Redox (mV)	85	68	64	64
Oxygen Saturation (%)	18.7	17.4	18.1	18.1
Salinity ($^o/_{oo}$)	1.2	1.2	1.2	1.2

N 312107, E 395253

ID-17 [MW7]
Day: Tue (15/8/00)
Time: 1345 (Hot and cloudy)
Well Dept: 48.55m
Place: Oil Palm Estate, Sg. Kelambu

Temperature (^oC)	27.68	27.58	27.56	27.56
Dissolved Oxygen (mg/l)	2.17	1.52	1.37	1.40
Depth(m)	44.25	44.25	44.25	44.25
Conductivity (mS/cm)	1.96	1.99	2.01	2.02
pH	8.25	8.33	8.38	8.41
Redox (mV)	93	86	86	80
Oxygen Saturation (%)	28.7	18.3	16.7	17.6
Salinity ($^o/_{oo}$)	1.0	1.1	1.1	1.1

N 309500, E 398500

ID-7 [LE1]
Day: Tue (15/8/00)
Time: 1630 (Drizzling)
Well Dept: 10.3m
Place: Elite Highway

Temperature (^oC)	28.12	28.08	28.12	28.12
Dissolved Oxygen (mg/l)	2.00	2.46	2.28	1.14
Depth(m)	7.5	7.5	7.5	7.5
Conductivity (mS/cm)	0.289	0.271	0.273	0.275
pH	6.96	7.0	6.93	6.82
Redox (mV)	125	110	103	97
Oxygen Saturation (%)	24.5	30.6	28.8	14.0
Salinity ($^o/_{oo}$)	0.1	0.1	0.1	0.1

N 404414, E 320172

ID-10 [LE2]
Day: Tue (15/8/00)
Time: 1740 (Fine weather, after rain but still cloudy)
Well Dept: 16.4m
Place: Elite Highway, near Putra Perdana

Temperature (^oC)	29.12	28.38
Dissolved Oxygen (mg/l)	2.15	2.00
Depth(m)	13.8	13.8
Conductivity (mS/cm)	0.307	0.271
pH	8.43	7.82
Redox (mV)	109	102
Oxygen Saturation (%)	28.2	23.6
Salinity ($^o/_{oo}$)	0.1	0.1

N 403620, E 321284

DATA BOOK E.4.1

SURVEY QUESTIONNAIRE

INDUSTRY

Data Book E.4.1

SURVEY QUESTIONNAIRE

INDUSTRY

DATE:

TIME:

A. GENERAL INFORMATION

1. NAME OF COMPANY:_____

_____

2. COMPANY STATUS [Please tick (✓)]:

   i. MALAYSIAN :_____
   ii. FOREIGN :_____
   iii. JOINT VENTURE:_____

3. MAILING ADDRESS:_____

_____

_____

4. PROPERTY ADDRESS:_____

_____

_____

5. YEAR OF ESTABLISHMENT:_____

6. CONTACT PERSON:_ _____

7. DESIGNATION:_____

8. TELEPHONE:_____

9. FAX:_____

10. E-MAIL:_____

11. TYPE OF INDUSTRY:_____

12. TYPE OF PRODUCTS:_____

13. NUMBER OF EMPLOYEES:_____

B. PRODUCTION PROCESS

1. TYPES OF PROCESS BEING USED:_____

2. OPERATION:_____ HOURS PER DAY

3.PRODUCT OUTPUT PER MONTH (Please specify unit):_____

4. TOTAL SALES PER MONTH: RM_____

5. TYPES OF CHEMICALS BEING USED FOR PRODUCTION:_____

_____

_____

6. CHEMICAL STORAGE CAPACITY:

i. AREA :_____HECTARE OR METER SQUARE

ii. NUMBER OF DRUMS:_____(MONTH OR AT ANY ONE TIME)

7. SOURCE OF WATER [Please tick (✓)]:

i. PUBLIC WATER SUPPLY:_____
ii. WELL:_____
iii. RAIN:_____
iv. RIVER:_____
v. OTHERS:(Please describe)_____

a) IF FROM PUBLIC WATER SUPPLY, HOW MUCH WATER BILL PER MONTH: RM_____

b) IF NOT FROM PUBLIC WATER SUPPLY, HOW MUCH QUANTITY BEING USED PER MONTH:_____LITRE PER MONTH

c) QUANTITY BEING DISCHARGED:_____LITRE PER MONTH

d) WHERE IS THE WASTEWATER BEING DISCHARGED [Please tick (✓)]:

i. DRAIN :_____
ii. RIVER :_____
iii. OCEAN :_____
iv. TRANSPORTED ELSEWHERE:_____
(Please inform location of disposal):_____

_____

v. OTHERS (Please describe) :_____

_____

e) WASTEWATER TREATMENT SYSTEM AVAILABLE:

YES:_____ NO:_____

f) IF YES, TYPE OF WASTEWATER TREATMENT SYSTEM INSTALLED (Please describe):_____

g) WHAT HAS BEEN DONE AFTER THE TREATMENT [Please tick (✓)]:

i. RECYCLED :_____
ii. DISCHARGED:_____

8. IF YES, COST OF WASTEWATER TREATMENT SYSTEM :

i. OPERATING PER MONTH:RM_____

ii. INSTALLATION :RM_____

10. ENERGY SOURCE [Please tick (✓)]:

i. PUBLIC POWER SUPPLY :_____
ii. OWN GENERATOR :_____
iii. INDEPENDENT POWER SUPPLY:_____
iv. OTHERS (Please describe) :_____

11. ELECTRICITY BILL PER MONTH: RM_____

12. TYPES OF EFFLUENT DISCHARGED [Please tick (✓)]:

i. WATERY :_____
ii. SLURRY :_____
iii. SOLID :_____
iv. ASIDIC :_____
v. ALKALINE:_____
vi. NEUTRAL :_____
vii. ODOUR :_____
viii. COLOUR (Please Describe):_____
ix. HOT :_____
x. COLD :_____

13. FLOW RATE OF DISCHARGE:_____LITRE PER DAY

14. SIZE OF DISCHARGE PIPE :_____CENTIMETRE

15. TYPES OF DISCHARGE TREATMENT [Please tick (✓)]:

i. CONTINOUS/ BATCH :_____
ii. FLOWCHART :_____
iii. PROCESS DESCRIPTION:_____

16. IF NO WASTEWATER TREATMENT SYSTEM INSTALLED, DO YOU PLAN TO INSTALL THE SYSTEM IN THE FUTURE [Please tick (✓)]:

YES:_____ NO:_____

17. SOLID WASTE PRODUCED [Please tick (✓)]:

i. PAPER :_____
ii. CARTONS :_____
iii. GLASS :_____
iv. METAL :_____
(Please specify type of metal):_____
v. WOOD :_____
vi. PLASTIC :_____
vii. OTHERS (Please describe):_____

18. SOLID WASTE DISPOSALS:

i. TOTAL SOLID WASTE:_____TON/MONTH

ii. SOLID WASTE COMPANY/ CONTRACTOR:_____

iii. WHAT DO YOU DO WITH THE SOLID WASTE [Please tick (✓)]:

REUSED :_____
RECYCLE:_____
REDUCE :_____
OTHERS :_____
(Please describe)
_____

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DATA BOOK E.4.2

SURVEY QUESTIONNAIRE

AGRICULTURE

Data Book E.4.2

SURVEY QUESTIONNAIRE

AGRICULTURE

DATE:

TIME:

A. GENERAL INFORMATION

1. NAME OF COMPANY:_____

_____

2. COMPANY STATUS [Please tick (✓)]:

   i. MALAYSIAN :_____
   ii. FOREIGN :_____
   iii. JOINT VENTURE :_____

3. MAILING ADDRESS:_____

_____

_____

4. PROPERTY ADDRESS:_____

_____

_____

5. YEAR OF ESTABLISHMENT:_____

6. CONTACT PERSON: _____

7. DESIGNATION:_____

8. TELEPHONE:_____

9. FAX:_____

10. E-MAIL:_____

11. TYPE OF AGRICULTURAL ACTIVITY [Please tick (✓)]:

i. RUBBER :_____
ii. PALM OIL :_____
iii. ORCHARD :_____
iv. VEGETABLES :_____
v. ANIMALS FARMS:_____
vi. OTHERS (Please describe):_____

_____

12. TYPE OF PRODUCTS:_____

13. NUMBER OF EMPLOYEES:_____

B. PALM OIL, RUBBER, ORCHARD, VEGETABLES.

1. AREA:_____ HECTARE

2. AGE OF TREES:_____ YEAR

3. FERTILIZER USE [Please tick (✓)]:

YES:_____ NO:_____

4. IF YES,

i. NAME / BRAND OF FERTILIZER:_____

_____

ii. TYPES OF FERTILIZER [Please tick (✓)]:

GRANULE:_____
LIQUID :_____

iii. FREQUENCY:_____PER DAY/PER WEEK

iv. QUANTITY USED EACHTIME (Please describe):

(a) _____KILOGRAM PER HECTARE

(b) _____LITRE PER HECTARE

5. PESTISIDE USE [Please tick (✓)]:

YES:_____ NO:_____

6. IF YES,

i. NAME / BRAND OF PESTISIDE:_____

_____

ii. TYPES OF PESTISIDE [Please tick (✓)]:
GRANULE:_____
LIQUID :_____

iii. FREQUENCY:_____PER DAY/PER WEEK

iv. QUANTITY USED EACHTIME (Please describe):

(a) _____KILOGRAM PER HECTARE

(b) _____LITRE PER HECTARE

7. BIOLOGICAL CONTROL USE [Please tick (✓)]:

YES:_____ NO:_____

8. IF YES, PLEASE SPECIFY THE ANIMAL OR PLANT BEING USED:_____

_____

C. ANIMAL FARM.

1. TYPES OF ANIMAL FARMS:

i. PIGGERY :_____
ii. POULTRY:_____
iii. CATTLE :_____
iv. GOAT :_____
v. OTHERS (Please describe):_____

2. NUMBER OF HEADS:_____

3. AREA OF:
   i. WHOLE FARM:_____
   ii. GRAZING :_____
   iii. SHACK :_____

4. PRODUCTION RATE:_____HEAD PER MONTH

5. AVERAGE SIZE OF ANIMALS WHICH IS SUITABLE FOR PRODUCTION:

   _____KILOGRAM

6. AVERAGE AGE OF ANIMALS WHICH IS SUITABLE FOR PRODUCTION:

   _____YEAR OLD

7. TYPES OF PRODUCTION [Please tick (✓)]:

   i. EXPORT :_____
   ii. LOCAL USED:_____
   iii. BOTH :_____

8. FEED STOCK:
   i. TYPES OF FEED STOCK [Please tick (✓)]:
      GRASS:_____
      GRAIN :_____
      BOTH :_____
   ii. NAME / BRAND:_____
   iii. QUANTITY :_____KILOGRAM PER DAY
   iv. FREQUENCY PER DAY:_____

9. PESTICIDE USED [Please tick (✓)]:

   YES:_____ NO:_____

10. IF YES:
   i. NAME / BRAND:_____
   ii. QUANTITY:_____KILOGRAM PER DAY
   iv. FREQUENCY PER DAY:_____

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11. TYPES OF WASTE [Please tick (✓)]:

i. FEED STOCK :_____
ii. EXCRETA :_____
iii. ABATTOIR :_____
iv. BODY FLUID DISCHARGE:_____

12. QUANTITY OF WASTE:_____KILOGRAM PER DAY

13. TYPE OF WASTE TREATMENT [Please tick (✓)]:

i. REUSED :_____
ii. RECYCLE :_____
iii. DISPOSE :_____

.14. VETERINARY SERVICES:

i. FREQUENCY OF VACCINATION:_____

ii. TYPE OF VACCINE:_____

15. RECORD OF DISEASE OUTBREAK:_____DIED ANIMAL PER YEAR

D. WATER USAGE

1. SOURCE OF WATER [Please tick (✓)]:

i. PUBLIC WATER SUPPLY:_____
ii. WELL:_____
iii. RAIN:_____
iv. RIVER:_____
v. DRAIN:_____
vi. OTHERS:(Please describe)_____

2. IF ANSWER FROM PUBLIC WATER SUPPLY, HOW MUCH WATER BILL PER MONTH: RM_____

3. IF ANSWER NOT FROM PUBLIC WATER SUPPLY, HOW MUCH QUANTITY BEING USED PER MONTH:_____LITRE

4. QUANTITY BEING DISCHARGE PER MONTH:_____LITRE

5. WHERE DO THE WASTEWATER DISCHARGED [Please tick (✓)]:

   i. DRAIN:_____
   ii. RIVER:_____
   iii. OCEAN:_____
   iv. TRANSPORT BY LORRIES:_____
   v. OTHERS (Please describe):_____

6. WASTEWATER TREATMENT SYSTEM AVAILABLE [Please tick (✓)]:

   YES:_____ NO:_____

7. IF YES, TYPE OF WASTEWATER TREATMENT SYSTEM INSTALLED

   (Please describe):_____

8. WHAT HAS BEEN DONE TO THE WASTEWATER AFTER TREATMENT [Please tick (✓)]:

   i. RECYCLE :_____
   ii. DISCHARGE:_____

9. IF YES, COST OF:

   i. OPERATING PER MONTH :RM_____

   ii. INSTALLATION :RM_____

10. TYPES OF EFFLUENT DISCHARGED [Please tick (✓)]:

   i. WATERY :_____
   ii. SLURRY :_____
   iii. SOLID :_____
   iv. ACIDIC :_____
   v. ALKALINE:_____
   vi. NEUTRAL :_____
   vii. ODOUR :_____
   viii. COLOUR : (Please Describe)_____
   ix. HOT :_____
   x. COLD :_____

13. FLOW RATE OF DISCHARGE PER DAY :_____LITRE PER DAY

14. SIZE OF DISCHARGE PIPE :_____CENTIMETRE

15. TYPES OF DISCHARGE TREATMENT [Please tick (✓)]:

i. CONTINOUS/ BATCH:_____
ii. SEQUENTIAL :_____
iii. BRIEF DESCRIPTION:_____

16. WHERE DO THE WASTEWATER BEING DISCHARGED [Please tick (✓)]:

i. DRAIN :_____
ii. RIVER :_____
iii. POND :_____
iv. STORE (IF SOLID) :_____
v. OTHERS(Please describe):_____

17. IF NO WASTEWATER TREATMENT SYSTEM INSTALLED, DO YOU PLAN TO INSTALL THE SYSTEM IN THE FUTURE [Please tick (✓)]:

YES:_____ NO:_____

E. PLANTATION WASTE

1. RUBBER PLANTATION

a) DO YOU CUT DOWN THE OLD TREES? [Please tick (✓)]

YES:_____ NO:_____

b) IF YES, WHAT DO YOU DO WITH THE OLD TREES [Please tick (✓)]:

i. REPROCESSED:_____
ii. DISPOSED :_____

c) IF REPROCESSED, WHAT BEING DONE [Please tick (✓) and describe]:

i. FURNITURE:_____

ii. OTHERS :_____

d) IF DISPOSED OF, WHERE DO THE OLD TREES BEING DISPOSED

(Please describe):_____

2. PALM OIL PLANTATION

a) PLEASE DESCRIBE THE USED OF WASTE:

i. OLD TREES:_____

_____

ii. KERNELS :_____

_____

iii. FRONDS :_____

_____

b) IF WASTE NOT BEING RECYCLE OR REUSED, WHERE DO THE WASTE BEING DISPOSED (Please describe):_____

_____

F. ENERGY

1. ENERGY SOURCE [Please tick (✓)]:

i. PUBLIC POWER SUPPLY :_____
ii. OWN GENERATOR :_____
iii. INDEPENDENT POWER SUPPLY:_____
iv. OTHERS (Please describe) :_____

2. ELECTRICITY BILL PER MONTH: RM_____

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DATA BOOK E.4.3

NUMBERS OF FACTORIES IN INDUSTRIAL ESTATE

BY PRODUCT CATEGORY

Data Book Table E.4.1 Numbers of Factories in Industrial Estates by Product Category

No.	Hulu Langat Industrial Estates	Product Category	Number of Factories
1	Bangi Phase I&II	Automotive, parts and accessories	3
		Building materials and related products	1
		Chemicals and Adhesive	2
		Electrical and Electronics	15
		Food and Beverages	4
		Furniture and related products	2
		Household	1
		Industrial and Engineering products	14
		Leather and Footwear	1
		Non metallic Minerals	2
		Paper, printing, pack aging and labeling	1
		Pharmaceuticals, medical eq uipment' s, cosmetics and toiletries	11
		Plastic and PVC	2
		Rubber and rubber products	1
		Tobacco	1
		Wood and wood product	1
2	Beranang Industrial Park	Automotive, parts and accessories	2
		Building materials and related products	2
		Chemicals and Adhesive	1
		Computer and telecommunication	4
		Food and Beverages	2
		Furniture and related products	2
		Industrial and Engineering products	14
		Leather and Footwear	1
		Paper, printing, pack aging and labeling	2
		Pharmaceuticals, medical eq uipment' s, cosmetics and toiletries	1
		Plastic and PVC	11
		Rubber and rubber products	2
		Tobacco	1
		Wood and wood product	1
3	Buk it Angk at	Automotive, parts and accessories	1
		Electrical and Electronics	1
		Furniture and related products	3
		Household	1
		Industrial and Engineering products	1
		Rubber and rubber products	1
4	Cheras Bt. 11	Automotive, parts and accessories	1
		Building materials and related products	1
		Chemicals and Adhesive	1
		Electrical and Electronics	3
		Furniture and related products	3
		Household	1
		Industrial and Engineering products	2
		Non metallic Minerals	1
		Paper, printing, pack aging and labeling	3
		Pharmaceuticals, medical eq uipment' s, cosmetics and toiletries	1
		Plastic and PVC	1
		Stationery	1
		Textiles, fabrics and button	8
		Wood and wood product	1

5	Cheras Bt. 9	Automotive, parts and accessories Electrical and Electronics Food and Beverages Furniture and related products Household Leather and Footwear	2 1 1 2 1 1
6	Cheras Jaya	Automotive, parts and accessories Building materials and related products Chemicals and Adhesive Electrical and Electronics Food and Beverages Furniture and related products Household Industrial and Engineering products Paper, printing, pack aging and labeling Pharmaceuticals, medical eq uipment' s, cosmetics and toiletries Plastic and PVC Rubber and rubber products Stationery Textiles, fabrics and button	2 1 2 2 2 1 1 4 1 1 3 2 1 4
7	Kg. Baru Balak ong	Automotive, parts and accessories Building materials and related products Electrical and Electronics Food and Beverages Household Industrial and Engineering products Plastic and PVC Stationery Textiles, fabrics and button	2 1 2 1 1 2 1 1 1
8	Mas Jaya Industrial Park	Automotive, parts and accessories Electrical and Electronics Food and Beverages Industrial and Engineering products	1 1 1 1
9	Selaman Industrial Park	Automotive, parts and accessories Chemicals and Adhesive Food and Beverages	2 2 1
10	Selesa Jaya Industrial Park	Automotive, parts and accessories Chemicals and Adhesive Electrical and Electronics Furniture and related products Leather and Footwear Paper, printing, pack aging and labeling Stationery	1 1 1 1 1 1 1
11	Sg. Chuau	Building materials and related products Food and Beverages Furniture and related products Industrial and Engineering products Paper, printing, pack aging and labeling Textiles, fabrics and button	1 1 2 1 2 3

12	Sg. Chuau Industrial Park	Building materials and related products Chemicals and Adhesive Electrical and Electronics Food and Beverages Rubber and rubber products Wood and wood product	1 1 1 1 1 1
13	Sg. Lalang	Building materials and related products Chemicals and Adhesive Electrical and Electronics Food and Beverages Furniture and related products	1 1 1 1 1
14	Sg. Serai	Building materials and related products Household	1 1
15	Sg. Tangk as	Furniture and related products Wood and wood product	1 1
16	Tanming Jaya Industrial Park	Automotive, parts and accessories Chemicals and Adhesive Electrical and Electronics Household Industrial and Engineering products Leather and Footwear Non metallic Minerals Paper, printing, pack aging and labeling Rubber and rubber products	1 1 2 1 2 1 1 2 1
17	West Country	Household Textiles, fabrics and button	1 1
		Total	**226**

No.	Kuala Langat Industrial Estates	Product Category	Number of factories
18	Banting Industrial Park	Agriculture and Machinery Building materials and related products Electrical and Electronics Furniture and related products Industrial and Engineering products Pharmaceuticals, medical eq uipment' s, cosmetics and toiletries Rubber and rubber products	1 1 1 1 1 1 1
19	Buk it Changgang	Furniture and related products Paper, printing, pack aging and labeling	2 2
20	Olak Lempit Industrial Park	Furniture and related products	6
21	Telok Panglima Garang	Automotive, parts and accessories Building materials and related products Bicycle Chemicals and Adhesive Furniture and related products Industrial and Engineering products Rubber and rubber products	1 1 1 3 2 4 2

22	Telok Panglima Garang FTZ	Electrical and Electronics	4
23	Buk it Tampoi	Chemicals and Adhesive	2
	Total		**37**

No.	Sepang Industrial Estates	Product Category	Number of Factories
24	Jenderam Hilir	Textiles, fabrics and button	1
25	Salak Tinggi Industrial Park	Building materials and related products Furniture and related products Rubber and rubber products	2 4 1
	Total		**8**

No.	Seremban Industrial Estates	Product Category	Number of Factories
26	Arab Malaysian Industrial Park	Automotive, parts and accessories Building materials and related products Chemicals and Adhesive Electrical and Electronics Food and Beverages Industrial and Engineering products Paper, printing, pack aging and labeling Rubber and rubber products	1 3 2 2 1 2 1 1
27	Country Height Industrial Park	Automotive, parts and accessories Industrial and Engineering products	1 1
28	Mantin	Chemicals and Adhesive Computer and telecommunication Electrical and Electronics Industrial and Engineering products	1 1 1 1
29	Nilai 3 Industrial Park	Automotive, parts and accessories Building materials and related products Chemicals and Adhesive Electrical and Electronics	1 1 1 1
30	Nilai Industrial Park	Automotive, parts and accessories Building materials and related products Chemicals and Adhesive Computer and telecommunication Electrical and Electronics Food and Beverages Furniture and related products Industrial and Engineering products Paper, printing, pack aging and labeling Pharmaceuticals, medical eq uipment' s, cosmetics and toiletries Plastic and PVC Rubber and rubber products Textiles, fabrics and button Waste Treatment Wood and wood product	2 6 2 2 10 2 3 3 2 1 3 2 3 1 1
		Total	**66**

DATA BOOK E.4.4

LIST OF FACTORIES FOR QUESTIONNAIRE SURVEY

Data Book Table E.4.2 (1) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
1	Perusahaan Dapat Sdn Bhd	Lot 1915, Jalan Balakong, 43300 Balakong, Selangor	Automotive, parts and accessories	Emergency locking retractors, car seat belts, static belts, 8MC parcel shafts, desk insulators	Hulu Langat	Balakong	Balakong	9612020	9613030	101 44.49	03 01.61
2	Standard Plastic Industries Sdn Bhd	33, Jalan 3A, Balakong Industrial Estate, 43200 Batu 9, Cheras, Selangor	Plastic and PVC	Injection mouldings and moulding of plastic products	Hulu Langat	Balakong	Balakong	9056161	9056166	101 44.49	03 01.61
3	Mauri Fermentation (M) Sdn Bhd	Lot 4185, Kampong Baru Balakong, Pejabat Pos Sg. Besi, 57000 Kuala Lumpur	Food & beverage	Compressed bakers yeast, active dry yeast, instant yeast, vinegar and cake ingrediants	Hulu Langat	Balakong	Balakong	9612864	9611373	101 44.49	03 01.61
4	United Castings Sdn Bhd	Lot 27, Jalan 3A, Balakong Industrial Estate, 43200 Cheras, Selangor	Industrial & engineering products	Casts iron soil pipe fittings, cast iron manhole cover and frames	Hulu Langat	Balakong	Balakong	9052136	9052139	101 44.49	03 01.61
5	George Kent (M) Sdn Bhd	Balakong	Electronic	Copper fibre	Hulu Langat	Balakong	Balakong	0	0	101 44.49	03 01.61
6	Perindustrian E.S. Sdn Bhd	Lot 1854 Balakong N/V, 43300 Cheras, Selangor	Industrial and engineering product	MSR bars, HTD bars	Hulu Langat	Balakong	Balakong	7835409	7810236	101 44.49	03 01.61
7	System Auto Industries Sdn Bhd	lot 6, Jalan 3A, Kawasan Perindustrian MIEL, 43200 Balakong, Selangor	Automotive, parts and accessories	Tubeless tires valves and inner tube valves	Hulu Langat	Balakong	Balakong	9052186	9052186	101 44.49	03 01.61
8	Polymer Composite Asia Sdn Bhd	Lot 1914, Jalan Balakong, 43300 Balakong, Selangor	Industrial and engineering products	Wall fibreglass, underground storage tank for petroleum product, fibreglass product	Hulu Langat	Balakong	Balakong	9612414	9611450	101 44.49	03 01.61
9	TTE Electronics Sdn Bhd	Lot 4, Lorong 1A, Off Jalan satu Kawasan Perusahaan Balakong, Taman Cheras Lama, 43200 Cheras, Selangor	Electricals and electronics	Battery retifiers, cables/connectors, electronics products for consumer electronics, PCB assembly, SMT/AI switch mode power supply	Hulu Langat	Balakong	Balakong	7556988	7556354	101 44.49	03 01.61
10	Superior Products Incorporated Sdn Bhd	Lot 29, Jalan 3A, Balakong Industrial Area, 43200 Cheras Jaya, Selangor	Electricals and eletcronics	Stainless steel kitchen (equipment & utensils) home electrical appliance	Hulu Langat	Balakong	Balakong	9055999	9050888	101 44.49	03 01.61

Data Book Table E.4.2 (2) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
11	Multi Usage Cement Products (Selangor) Sdn Bhd	Lot 1161, Jalan Balakong, Off Sg. Besi, Mukim Kajang, Selangor	Buildings material and related products	Cement bricks, hollow blocks, paver, square piles and box culvert.	Hulu Langat	Balakong	Balakong	42622858	0	101 44.49	03 01.61
12	Pacific Cup (M) Sdn Bhd	Lot 20 & 22, Jalan 7, Kawasan MIEL, Balakong Phase II, 43200 Cheras, Selangor	Household products and appliances	Disposable paper cups, plastic lids, paper container for ice cream.	Hulu Langat	Balakong	Balakong	9044731	9044740	101 44.49	03 01.61
13	Juaramas Corporation Sdn Bhd	Lot 5, Jalan 3A, Balakong Ind. Estate, (Kaw. MIEL), 43200 Cheras, Selangor	Industrial and engineering products	Aluminium and stainless steel kitchen sinks, wheel barrows, other pressed metal parts on a jobbing basis.	Hulu Langat	Balakong	Cheras Bt. 11	9051769	9041749	101 46.08	03 02.24
14	Fu Yat (M) Sdn Bhd	Lot 10, Lrg. 2A, Kawasan Perindustrian MIEL, Batu 11, Cheras, Jalan Balakong, 43200 Kajang, Selangor	Textiles, fabrics and button products	Nylon socks	Hulu Langat	Balakong	Cheras Bt. 11	9058077	0	101 46.08	03 02.24
15	Selangor Cotton Towel Manufacturing Sdn Bhd.	Lot 4144 & 4145, Batu 11, Cheras, Jalan Balakong, 43200 Kajang, Selangor	Textiles, fabric and button	Fabric and gloves	Hulu Langat	Balakong	Cheras Bt. 11	2303398	0	101 46.08	03 02.24
16	Kian Ann Seng Kee Sawmill Sdn Bhd	2 Batu 11, Jalan Cheras, 43000 Kajang, Selangor	Wood and wood products	Sawn timber	Hulu Langat	Balakong	Cheras Bt. 11	8360106	8366359	101 46.08	03 02.24
17	Far East Steel Furniture Sdn Bhd	Batu 11, Jalan Cheras, 43000 Kajang, Selangor	Furniture and related products	Double decker iron bed, folding bed, nylon dream bed with & without handle	Hulu Langat	Balakong	Cheras Bt. 11	8331220	0	101 46.08	03 02.24
18	Lain Ngei Box & Printing Sdn Bhd	Lot 7, Lorong 2A, Balakong Industrial Estate, Batu 11, Jalan Cheras, 43000 Kajang	Paper, printing, packaging and labelling	Paper box	Hulu Langat	Balakong	Cheras Bt. 11	9057309	0	101 46.08	03 02.24
19	Electric Control Switchgear (M) Sdn Bhd	13, Lorong 2A, Kawasan MIEL, Jalan Balakong, Batu 11, Jalan Cheras, 43200 Kajang, Selangor	Electricals and electronics	Fuse switch, fuse fitting, insulated switch etc.	Hulu Langat	Balakong	Cheras Bt. 11	9057431	9055718	101 46.08	03 02.24
20	Lian Ngoi Industry Sdn Bhd	Lot 4, Jalan Satu, Kawasan Perusahaan Balakong, Batu 11, 43200 Cheras, Selangor	Textiles, fabric and button	Elastic braids and cotton tapes	Hulu Langat	Balakong	Cheras Bt. 11	7821023	9052618	101 46.08	03 02.24

Data Book Table E.4.2 (3) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
21	Natural Arts Materials Industries Sdn Bhd	No. 8, Jalan 7, Kawasan MIEL, Balakong Phase II, Cheras Jaya, 43000 Kajang, Selangor	Stationery	Crayons, chalk, water colours, oil pastels, art & craft products.	Hulu Langat	Balakong	Cheras Bt. 11	9044694	9057536	101 46.08	03 02.24
22	Sanita Manufacturing (M) Sdn Bhd	4144B, Balakong Industrial Estate, Batu 11, Cheras, 43200 Kajang Selangor	Paper, printing, packaging and labelling	Sanitary napkins, tissue paper and serviette papers.	Hulu Langat	Balakong	Cheras Bt. 11	2616916	0	101 46.08	03 02.24
23	Seltex Spinning Sdn Bhd	Lot 4144, Batu 11 Cheras, Jalan Balakong, 43200 Kajang, Selangor	Textiles, fabric and button	Yarn & cotton, spun polyester yarn.	Hulu Langat	Balakong	Cheras Bt. 11	2303398	0	101 46.08	03 02.24
24	Srinda Industries Sdn Bhd	5, Lot 1280, Jalan Balakong, Batu 11, Jalan Cheras, 43200 Kajang, Selangor	Textiles, fabric and button	Socks and stockings	Hulu Langat	Balakong	Cheras Bt. 11	9059552	9053371	101 46.08	03 02.24
25	Nilsen Electric (Asia) Sdn Bhd	No. 13, Lorong 2A, Kawasan MIEL, Jalan Balakong, Bt. 11, Cheras 43200 Selangor	Electricals and electronics	Switch fuse, fuse switches, insulators and busbar support, current transformer, contactor and overload relay	Hulu Langat	Balakong	Cheras Bt. 11	9057431	9053369	101 46.08	03 02.24
26	Texfibre (Selangor) Sdn Bhd	Lot 30/2, 4144, Batu 11, Jalan nBalakong, Cheras, 43200 Kajang, Selangor	Textiles, fabrics and button	Texturised polyester yarn	Hulu Langat	Balakong	Cheras Bt. 11	2303398		101 46.08	03 02.24
27	Weifong Industries Sdn Bhd	Batu 11, Jalan Cheras, 43000 Kajang, Selangor	Textiles, fabrics and button	Rubber foam mattress, cushin, pillow, bolster and cushion cover	Hulu Langat	Balakong	Cheras Bt. 11	8367685	8366551	101 46.08	03 02.24
28	Wetex Furniture Manufacturers Sdn Bhd	Batu 11, Cheras, 43000 Kajang, Selangor	Furniture and related products	Tabular furniture & parts, poly plywood, plastic chair and table.	Hulu Langat	Balakong	Cheras Bt. 11	8368322	8365580	101 46.08	03 02.24
29	Kinku Industries (M) Sdn Bhd	Lot 4-6, Jalan Balakong, Batu 11 43200 Cheras, Selangor.	Plastic	PVC products	Hulu Langat	Balakong	Cheras Bt. 11	9053182	9053361	101 46.08	03 02.24
30	The First Paper Mill Sdn Bhd	Lot 58, Batu 11, Off Jalan Cheras, 43000 Kajang, Selangor	Paper, printing, packaging and labelling	Paper pulps	Hulu Langat	Balakong	Cheras Bt. 11	8334322		101 46.08	03 02.24

Data Book Table E.4.2 (4) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
31	Tai Kwong - Yokohama Battery Industrial Sdn Bhd	Lot 5 & 7, Jalan Satu, Kawasan Perusahaan PKNS, Off Jalan Balakong, 43200 Batu 11, Cheras, Selangor	Electricals and electronics	Automotive battery, motorcycle battery, handphone battery	Hulu Langat	Balakong	Cheras Bt. 11	9046933	9056648	101 46.08	03 02.24
32	Sungai Long Industry Sdn Bhd	Batu 113/4, Jalan Hulu Langat, 43100 Cheras, Hulu Langat, Selangor	Building materials and related products	Granite agrigate	Hulu Langat	Balakong	Cheras Bt. 11	9212400	9212425	101 46.08	03 02.24
33	Steelplas Industries	23, Batu 11, Pekan Cheras, 43200 Cheras, Selangor	Industrial and engineering	Stainless steels products - kitchen utilities, industrial tanks, toilet & bathroom equipments, metal stamping	Hulu Langat	Balakong	Cheras Bt. 11	9050133	9048133	101 46.08	03 02.24
34	Weng Co Industries Sdn Bhd	Lot 62, Batu 11, Jalan Cheras, 43000, Kajang, Selangor	Chemicals and adhesive product	Polyurethene foams	Hulu Langat	Balakong	Cheras Bt. 11	8367686	8367876	101 46.08	03 02.24
35	Sweetdream Industrial Corporation Sdn Bhd	Lot 62, Batu 11, Jln. Cheras, P.O. Box 28, 43000 Kajang, Selangor	Furniture & related products	Spring matress	Hulu Langat	Balakong	Cheras Bt. 11	8367686	8367876	101 46.08	03 02.24
36	Primasari Hygenic Products Sdn Bhd	A2, Lot 467, Jalan Balakong, Batu 11 Cheras, 43200 Cheras, Selangor	Pharmaceuticals, medical equipment, cosmetic and toileteries	Sanitary napkins	Hulu Langat	Balakong	Cheras Bt. 11	9911996	9611996	101 46.08	03 02.24
37	AGN Sdn Bhd	Lot 266K, Batu 11, Jalan Cheras, 43200 Kajang, Selangor	Textiles, fabric and button products	Knitted fabric	Hulu Langat	Balakong	Cheras Bt. 11	9042709	9042289	101 46.08	03 02.24
38	Kashim Holdings Sdn Bhd	Bersatu Industrial Complex, Balakong Industrial Estate, Jalan Satu Cheras Jaya, 43200 Cheras, Selangor.	Plastic	Plastic injection moulding (plastic high-tech and precision engineering product), automobile components and parts, eletrical and electronics parts, general plastic moulding products.	Hulu Langat	Balakong	Cheras Jaya	88243376	88236067	101 45.82	03 01.53

Data Book Table E.4.2 (5) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
39	Solid Gold Helmets Sdn Bhd	Lot 3, Jalan 7, Cheras Jaya Industrial Area, Batu 11, 43200 Cheras, Selangor	Automotive, parts and accessories	Safety helmets for motorcycles, plastic part for motorsycles	Hulu Langat	Balakong	Cheras Jaya	2211916	2210708	101 45.82	03 01.53
40	Asphalt Industries Sdn Bhd	Lot 2, Jalan 4, Kawasan Perindustrian Cheras Jaya, 43200 Kajang, Selangor	Chemicals and adhesive	Bitumen emulsions and cutback bitumin	Hulu Langat	Balakong	Cheras Jaya	9052204	9052209	101 45.82	03 01.53
41	AE Technology Sdn Bhd	No.7, Jalan 7, Cheras Jaya, 43200 Balakong, Selangor	Industrial and engineering products	Design & make metal moulds & tooling dies, predision of metal stamping parts	Hulu Langat	Balakong	Cheras Jaya	9040773	9054839	101 45.82	03 01.53
42	Metrotech Garments Sdn Bhd	Lot 10, Jalan 1, Balakong Industrial Estate, 43200 Cheras Jaya, Selangor	Textiles, fabrics and button	Ladies dresses, skirts, nightgown, pyjamas, tracksuits and jogging suits	Hulu Langat	Balakong	Cheras Jaya	7182264	0	101 45.82	03 01.53
43	New Engineering Sdn Bhd	37, Jalan 3A, Cheras Jaya, 43200 Balakong, Selangor	Rubber	EVA/AVC/TPR & rubber shoe soling materials, rubber/plastic sandal & footwear, footwear components and PVC/TPR compound rubber products	Hulu Langat	Balakong	Cheras Jaya	9040521	9040531	101 45.82	03 01.53
44	Watta Battery Industries Sdn Bhd	No. 8, Jalan Satu, Kawasan Perusahaan Balakong, 43200 Cheras Jaya, Selangor	Automotive, parts and accessories	Automotive batteries	Hulu Langat	Balakong	Cheras Jaya	9051919	9056790	101 45.82	03 01.53
45	Villa Mutiara Sdn Bhd	Lot 22-4 Jalan 1, Cheras Jaya, 43200 Balakong, Selangor	Plastic and PVC product	Nitrile foam tubing, sheet insulation for chilled and hot water piping	Hulu Langat	Balakong	Cheras Jaya	9052803	9049708	101 45.82	03 01.53
46	Guppy Plastic Industries Sdn Bhd	lot 15-19, Lorong 3A Kawasan Perusahaan Cheras Jaya, Batu 9, Jalan Balakong Cheras, 43200 Selangor	Plastics product and appliances	Assorted pet products, aquarium tank & bowl, general household wares & cuttleleries, AV casing & components for TV and radio	Hulu Langat	Balakong	Cheras Jaya	9053888	9051688	101 45.82	03 01.53
47	Macroglu Enterprise Sdn Bhd	7 Jalan Balakong, Pekan Cheras, Batu 11, 43200 Kajang, Selangor.	Chemicals and adhesive product	Rat-glue	Hulu Langat	Balakong	Cheras Jaya	9049866	9046295	101 45.82	03 01.53
48	Kris Components Sdn Bhd	Lot 11A, Lorong 2A, Cheras Jaya, Jalan Balakong, 43200 Cheras, Selangor	Industrial and engineering products	Metal moulds, precision metals parts, tools and dies metal stamping.	Hulu Langat	Balakong	Cheras Jaya	9040773	9042058	101 45.82	03 01.53

Data Book Table E.4.2 (6) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
49	Sinorita Sdn Bhd	Lot 5, Jalan 6, Kawasan Perusahaan Cheras Jaya, Jalan Balakong, Batu 11, 43200 Cheras, Selangor	Pharmaceuticals, medical equipment, cosmetic & toiletries	Tooth brush, plastic product	Hulu Langat	Balakong	Cheras Jaya	9042451	9052031	101 45.82	03 01.53
50	Chung Ken Marketing Sdn Bhd	No. 30, (Unit 5), Jalan Satu, Kawasan Perusahaan Cheras Jaya Off Jalan Balakong, 43200 Kajang, Selangor	Stationery	Ball pens, permanent makers, PP files, sticky stuff, glue, rubber& plastic eraser, correction fluid, stensil papers, fax rolls,colour pencil	Hulu Langat	Balakong	Cheras Jaya	9851298	9851268	101 45.82	03 01.53
51	Pemara Labels (M) Sdn Bhd	Lot 1, Lorong 1, Cheras Jaya Industrial Estate, 43200 Balakong, Selangor	Paper, printing, packaging and labelling	High quality multi colour self adhesive, labels, tags & tickets, security seals.	Hulu Langat	Balakong	Cheras Jaya	9050242	90502443	101 45.82	03 01.53
52	R.C. Centronic Electronic (M) Sdn Bhd	Lot 24, Jalan Satu, Cheras Jaya, 43200 Balakong, Selangor	Electricals and electronics	Telephone and telephone answering machine	Hulu Langat	Balakong	Cheras Jaya	9043388	9042191	101 45.82	03 01.53
53	Tai Kat Knitting Factory Sdn Bhd	11A, Jalan 3A, Cheras Jaya, Balakong Industial, 43000 Kajang, Selangor	Textiles, fabrics and button	Socks, t-shirts and knitted fabrics	Hulu Langat	Balakong	Cheras Jaya	3310085	0	101 45.82	03 01.53
54	Union Car Carpets & Components Sdn Bhd	Lot 14, Jalan Satu, Kawasan Perindustrian Cheras Jaya, Batu 11, 43200 Cheras, Selangor	Automotive, parts and accessories	Car carpets, insulator, commercial carpets	Hulu Langat	Balakong	Cheras Jaya	9044405	9044416	101 45.82	03 01.53
55	Heiwa Giken (M) Sdn Bhd	Lot 2, Lorong 1A, System Industrial Lot, Off Jalan 1, Cheras Jaya, 43200 Cheras, Selangor	Building materials and related products	Scaffolding clamps, bracket , J-base and U-clip	Hulu Langat	Balakong	Cheras Jaya	9046601	9046210	101 45.82	03 01.53
56	Empire Garment Sdn Bhd	Lot 12, Kawasan MIEL, Cheras Jaya, Jalan Balakong, Batu 9, Cheras, Selangor	Textiles, fabric and button product	Knitted, fabrics and button product	Hulu Langat	Balakong	Cheras Jaya	9051563	0	101 45.82	03 01.53

Data Book Table E.4.2 (7) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
57	Vista Sejahtera Sdn Bhd	30 (Unit 6) Jalan Satu, Kawasan Perindustrian Cheras Jaya, Batu 11, 43200 Cheras, Selangor	Industrial and engineering products	Abrasive grinding wheels and abrasive cut off wheels	Hulu Langat	Balakong	Cheras Jaya	7830315	7801029	101 45.82	03 01.53
58	Syarikat Nam Meow Sdn Bhd	Lot 23, Jalan Satu, Cheras Jaya Industrial Estate, 43200 Cheras, Selangor	Rubber products	Retread tyres	Hulu Langat	Balakong	Cheras Jaya	2228495	9047551	101 45.82	03 01.53
59	N.I. Mould Sdn Bhd	Lot 17-14 Jalan Satu, Bersatu Industrial Park, 43200 Cheras Jaya, Selangor	Industrial and engineering products	Finished tools, mould and dies, rough machined moulds and dies, mould base	Hulu Langat	Balakong	Cheras Jaya	9056277	9057277	101 45.82	03 01.53
60	Martin Garment Manufacturing Company	8 Batu 11, Pekan Cheras, 43200 Kajang, Selangor	Textiles, fabric and button products	Garments	Hulu Langat	Balakong	Cheras Jaya		0	101 45.82	03 01.53
61	Dream Mate Furniture Manufacturing (M) Sdn Bhd	Lot 1716, Sg. Long, Batu 11, Cheras, 43000 Kajang, Selangor	Furniture and related products	Steel furniture	Hulu Langat	Balakong	Cheras Jaya	8370488	8367386	101 45.82	03 01.53
62	Cosmoplas Industries (M) Sdn Bhd	11A, Jalan 3A, Balakong off Cheras Jaya, 43200 Kajang, Selangor	Electricals and electronic	Audio visual components, electrical and electronic parts.	Hulu Langat	Balakong	Cheras Jaya	9040808	9040568	101 45.82	03 01.53
63	Label Industry Sdn Bhd	29 Jalan 5/1A, Taman Industri Selesa Jaya, 43300 Balakong, Selangor	Paper, printing, packaging and labelling products	Printed labels and stickers	Hulu Langat	Balakong	Selesa Jaya IP	9615589	9615729	101 4.51	03 01.29
64	Master Jaya Engineering Sdn Bhd	20 Jalan Taming 3, Taming Jaya, Industrial park, Off Jalan Balakong, 43300 Balakong, Selangor	Industrial and engineering products	Fans, blower, bulk materials handling, dryers, cooling towers, heat exchangers.	Hulu Langat	Balakong	Tanming Jaya	9615639	9617377	101 44.23	03 01.03
65	Fluidmech Engineering Sdn Bhd	No. 16, Jalan Taming 3, Taman Perindustrian Taming Jaya, 43300 Balakong, Selangor	Machinery and equipment	Automatic and semi automatic liquid filling, capping and labelling (bottling machinery)	Hulu Langat	Balakong	Tanming Jaya	9613288	9613997	101 44.23	03 01.03
66	Eversolve Manufacturing Sdn Bhd	49 Jalan Taming 7, Taman Perindustrian Taming Jaya, 43300 Balakong, Selangor	Electricals and electronics	Voltages stabilisers, battery charges, power supply, 24/12V DC converters, UPS, power link conditioners (power stabilisers).	Hulu Langat	Balakong	Tanming Jaya	9828263	9828258	101 44.23	03 01.03

Data Book Table E.4.2 (8) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
67	General Labels & Labelling (M) Sdn Bhd	No. 7, Jalan Taming 1, Taming Jaya Industrial Park, 43300 Balakong, Selangor	Paper, printing, packaging and labelling product	Automatic label aplicator, label dispensors, pricing hand labeller, self adhesive labels, printed fabric labels, computer labels	Hulu Langat	Balakong	Tanming Jaya	9613784	9613042	101 44.23	03 01.03
68	Central Label Sdn Bhd	No 32 & 34, Jalan Taming Jaya, Taman Taming Jaya, 43300 Balakong, Selangor	Papert, printing packaging and labelling product	printed self adhesive lables, stickers, printed matters	Hulu Langat	Balakong	Tanming Jaya IP	2229898	2228988	101 44.23	03 01.03
69	Zincalu Casting Sdn Bhd	No 4 & 6, Jalan Taming Empat, Taming Jaya Industrial Estate, 43300 Balakong, Selangor	Industrial and engineering product	Aluminium alloy die-casting, zinc alloy die-casting	Hulu Langat	Balakong	Tanming Jaya IP	9616533	9616505	101 44.23	03 01.03
70	Rica Marketing Sdn Bhd	No.7, Jalan Taming 3, Taming Industrial Park, Off Jalan Balakong, 43300 Balakong, Selangor	Chemicals and adhesive product	Electroplating chemicals, phosphating, chemicals polishing wax	Hulu Langat	Balakong	Tanming Jaya IP	9614950	9613954	101 44.23	03 01.03
71	ISC Micro Precision Sdn Bhd	39, Jalan Taming Lima, Taman Taming Jaya, 43300 Balakong, Selangor	Industrial and engineering products	Pivot assembly (components for computers)	Hulu Langat	Balakong	Tanming Jaya IP	9613960	9613968	101 44.23	03 01.03
72	Ni Hsin Cooperation Sdn Bhd	No. 45, Jalan Taming Dua, Taman Taming Jaya, 43300 Balakong, Selangor	Household product & apliances	Stainless steel kitchenwares	Hulu Langat	Balakong	Tanming Jaya IP	9616815	9613941	101 44.23	03 01.03
73	Kit Cheong Electrical Engineering Sdn Bhd	6 & 8, Jalan Taming Lima, Taming Jaya Industrial Estate, 43200 Balakong, Selangor	electricals and electronics	Transformer, rotor resistance unit, ARC welding transformers, battery chargers, rectifier sets and magnetic coils.	Hulu Langat	Balakong	Tanming Jaya IP	2422094	2423749	101 44.23	03 01.03
74	Wei Liam CostoTech Sdn Bhd	35 Jalan Taming 5, Taman Taming Jaya, 43300, Balakong, Selangor	Pharmaceuticals, medical equipments, cosmetics and toiletteries	Cosmetics and toiletteries	Hulu Langat	Balakong	Tanming Jaya IP	9614089	9613084	101 44.23	03 01.03
75	Insuflex Sdn Bhd	Lot 6 & 8, Jalan P/1, Bangi Industrial Estate, Bandar Baru Bangi, 43000 Kajang, Selangor	Plastic	Insuflex closed cell nitrile, rubber/PVC insulation tubing & sheets.	Hulu Langat	Bangi	Bangi Phase I&II	7199259	7178770	101 45.04	02 56.95

Data Book Table E.4.2 (9) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
76	Flexican (M) Sdn Bhd	Lot 19, Jalan P/8, Kawasan Perindustrian Bangi, 43000 Bangi, Selangor	Industrial and engineering products	metalic flexible tubing and automobile exhaust flexible tubing	Hulu Langat	Bangi	Bangi Phase I&II	8256277	8256279	101 45.04	02 56.95
77	Percetakan Jiwabaru Sdn Bhd	Lot 14, No 2, Jalan P/8, Kawasan MIEL Phase 2, Bandar Baru Bangi Industrial Estate, 43650 Bangi, Selangor	Paper,printing, packaging and labelling products	Textbooks, magazines, brochures, calenders, posters, leaflets, annual report	Hulu Langat	Bangi	Bangi Phase I&II	8256688	8256693	101 45.04	02 56.95
78	Industri Plastik Yuta Sdn Bhd	10 Jalan P/2, Kawasan Perusahaan Bangi, 43650 Bangi, Selangor	Plastics and PVC products	Plastic latrine bowl, plastic furniture, plastic crates, sanitary wares, industrial & agricultural products, plastic palletts, telecommunication pits, plastic industrial part.	Hulu Langat	Bangi	Bangi Phase I&II	8250921	8259329	101 45.04	02 56.95
79	Okumura Metals (M) Sdn Bhd	Lot 15, Jalan P/1, Section 13, 43650 Bandar Baru Bangi, Selangor	Industry and engineering products	Processed copper and copper alloy tubes for air-conditioners and refrigerator copper accumulators, etc	Hulu Langat	Bangi	Bangi Phase I&II	8256931	8256933	101 45.04	02 56.95
80	Nicomsteel Centre (M) Sdn Bhd	Lot 2,4&6, Jalan P/4, Bandar Baru Bangi, 43000 Kajang, Selangor	Industrial and engineering products	Silicon steel sheets/ coil, galvanised iron steel sheets/ coil, cold rolled steel sheets/ coil and core plate	Hulu Langat	Bangi	Bangi Phase I&II	8257411	8258609	101 45.04	02 56.95
81	Raza Manufacturing Sdn Bhd	No 11, Jalan P/1 Kawasan Perusahaan Bangi, 43650 Bandar Baru Bangi, Selangor	Pharmaceuticals, medical equipment, cosmetic and toiletteries	Drugs and medicine	Hulu Langat	Bangi	Bangi Phase I&II	8257880	8256177	101 45.04	02 56.95
82	Upha Corporation (M) Sdn Bhd	Lot 2 & 4, Jalan P/7, Section 13, Bangi Industrial Estate, Bandar Baru Bangi, 43000 Kajang, Selangor	Pharmaceuticals, medical equipments, cosmetic and toiletteries	Ethical pharmaceuticals, OTC pharmaceuticals products	Hulu Langat	Bangi	Bangi Phase I&II	8259922	8257930	101 45.04	02 56.95
83	Ryoka (M) Sdn Bhd	Lot 9, Jalan P/1, Section 13, Bangi Industrial Estate, 43650 Bandar Baru Bangi, Selangor	Plastic and PVC products	Precesion plastic parts for TV, video, air conditioner control and video camera	Hulu Langat	Bangi	Bangi Phase I&II	8256820	8256823	101 45.04	02 56.95

Data Book Table E.4.2 (10) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
84	Soil Centralab	No. 3, Jalan P/8, Kawasan Perusahaan Seksyen 13, Bandar Baru Bangi, 43650	Buildings Materials and related products	soil testing	Hulu Langat	Bangi	Bangi Phase I&II			101 45.04	02 56.95
85	Hitachi Electronics Products (M) Sdn Bhd	No. 12, Jalan Kemajuan, Bangi Industrial Estate, 43650 Bangi, Selangor	Electricals and electronics	Colour TV & video, chasis VCR, CTV and PTV	Hulu Langat	Bangi	Bangi Phase I&II	8259230	8250233	101 45.04	02 56.95
86	Carrier International Sdn Bhd	Lot 4, Jalan P/6 Bandar Baru Bangi, 43650 Selangor	Electrical and electronics	Air conditioning equipment	Hulu Langat	Bangi	Bangi Phase I&II	8258001	8250516	101 45.04	02 56.95
87	Sony TV Industries (M) Sdn Bhd	Lot 4, Jalan P/1, Kawasan Perindustrian Bangi, 43650 Bandar Baru Bangi, Selangor	Electricals and electronics	Colour TV, component & parts, combo TV	Hulu Langat	Bangi	Bangi Phase I&II	8258889	8258897	101 45.04	02 56.95
88	Sony Video (M) Sdn Bhd	Lot 5, Jalan Kemajuan, Bangi Industrial Estate, Section 13, 43650, Bandar Baru Bangi, Selangor	Electricals and electronics	Video cassettes recorder (VHS), CD-ROM, mecha-deck for VHS	Hulu Langat	Bangi	Bangi Phase I&II	8257887	8250998	101 45.04	02 56.95
89	Concord Papers Industrial Sdn Bhd	Lot 6, Jalan P/2 Kawasan Perusahaan Bangi, 43650 Bangi, Selangor	Paper, printing, packaging and labelling product	self adhesive/ label stock, PE paper, release paper	Hulu Langat	Bangi	Bangi Phase I&II	8250901	8250903	101 45.04	02 56.95
90	Hosiden Electronics	Lot 1, Jalan P/1A Bangi Industrial Estate, 43650 Bandar Baru Bangi, Selangor	Electricals and electronics	CRT sockets, antenna matching boxes, pin-jacks, speaker terminals, remote control units, solenoid, Ecm microphone	Hulu Langat	Bangi	Bangi Phase I&II	8258622	8258620	101 45.04	02 56.95
91	Ramsmark Tobacco Co. Sdn Bhd	Lot 35 -38, Jalan P/5, Kawasan MIEL, Bangi Phase III, 43650 Bangi, Selangor	Tobacco	Cigarettes	Hulu Langat	Bangi	Bangi Phase I&II	8258177	8258179	101 45.04	02 56.95
92	Carnaud Metal Box Bevcan Sdn Bhd	Lot 2, Jalan P/1A Kawasan Perindustrian Bangi, 43650 Bandar Baru Bangi, Selangor D.E	Industrial and engineering products	metal packaging containers	Hulu Langat	Bangi	Bangi Phase I&II	7583588	7585063	101 45.04	02 56.95
93	Ishii Sunrock Precision Industries Sdn Bhd	Lot 3, Jalan P/2A, Section 13, Bangi Industrial Estate, 43650 Bangi, Selangor	Industrial and engineering products	Metal stamped parts for video and audio precision dies	Hulu Langat	Bangi	Bangi Phase I&II	8256890	8256893	101 45.04	02 56.95

Data Book Table E.4.2 (11) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
94	Hitachi Consumer Product (M) Sdn Bhd	Lot 4, Jalan P/1A, Bangi Industrial Estate, 43650 Bandar Baru Bangi, Selangor	Electricals and electronics	Deflection yokes flyback transformers and tuners, antenna switchbox, air condition controller cards, digital convergence unit & high voltage transformer	Hulu Langat	Bangi	Bangi Phase I&II	8250801	8250125	101 45.04	02 56.95
95	Permanis Sdn Bhd	Lot 5 & 7, Jalan P/5 & P/6, Seksyen 13, Kawasan Perusahaan Bandar Baru Bangi, 43650 Bangi Selangor	Food and beverages product	soft drinks	Hulu Langat	Bangi	Bangi Phase I&II	8256240	8257642	101 45.04	02 56.95
96	Modern Material Enterprise (M) Sdn Bhd	No. 3, Lorong P/1B, section 13, Bangi Industrial Estate, Bandar Baru Bangi, Selangor	Plastic and PVC products	Polyethylene foam sheets	Hulu Langat	Bangi	Bangi Phase I&II	4578688	4578706	101 45.04	02 56.95
97	M Sumida Electric Sdn Bhd	Lot 6, Jalan P/1A, Bangi Industrial Estate, 43000 Kajang, Selangor	Electricals and electronics	electronic components, coils and filters	Hulu Langat	Bangi	Bangi Phase I&II	8258611	8258610	101 45.04	02 56.95
98	Toplink Technologies Sdn Bhd	Lot 1, Jalan P/1, Seksyen 13, Bandar Baru Bangi, 43000 Kajang, Selangor	Industrial and engineering products	Heat shrinkable cables, jointing, termination kits and accessories	Hulu Langat	Bangi	Bangi Phase I&II	7193188	7193955	101 45.04	02 56.95
99	MYTI Corporation Sdn Bhd	PT1, Jalan P/7 Off Jalan Besar P/1, Kawasan Perusahaan Fasa 2, Seksyen 13, 43650 Bandar Baru Bangi, Selangor.	Plastics and related products.	Sound proof materials, polyethylene tubing, air filter assembly, butyl tapes.	Hulu Langat	Bangi	Bangi Phase I&II	8250201	8250203	101 45.04	02 56.95
100	Apex Vista Sdn Bhd	No. 22 & 24, Jalan P/8, Kawasan Perusahaan MIEL, 43650 Bandar Baru Bangi, Selangor	Plastic	Single use disposable medical syringe	Hulu Langat	Bangi	Bangi Phase I&II	2823177	2823178	101 45.04	02 56.95
101	Metal Formers Sdn Bhd	Blok 5, Jalan P/1A, 43650 Bandar Baru Bangi, Selangor	Industrial and engineering products	Guardrail, notice board, press metals	Hulu Langat	Bangi	Bangi Phase I&II	8253911	8253923	101 45.04	02 56.95

Data Book Table E.4.2 (12) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
102	Medi Top Corporation (M) Sdn Bhd	Lot 1, Jalan P 1/B,Kawasan Perindustrian Bangi, 43650 Bangi, Selangor	Pharmaceuticals products	IV solutions sets, PVC tubes, scalp vein sets, extension tubes, disposables syringes, IV cathethers, urinary bay.	Hulu Langat	Bangi	Bangi Phase I&II	8258462	8258468	101 45.04	02 56.95
103	Sun Tong Seng Mould tech Sdn Bhd	16, Jalan P/8, MIEL Industrial Area, Bandar Baru Bangi, 43650 Bangi, Selangor	Industrial and engineering products	Moulds for plastic materials, pattern mould makers, mould for phenolic materials	Hulu Langat	Bangi	Bangi Phase I&II	8258132	8258135	101 45.04	02 56.95
104	Bry Air (M) Sdn Bhd	Lot 11, Jalan P/7 Bangi Industrial Estate, P.O. Box 22, 43650 Bandar Baru Bangi, Selangor	Eletrical and eletronics	Desicant type dehumidifiers, air dryers, seed dryers, plastic dryers, hoppers & loader, heat pipes, heat wheel based, heat recovery system humidifiers	Hulu Langat	Bangi	Bangi Phase I&II	8256622	8259957	101 45.04	02 56.95
105	Hitachi Air Conditioning Products (M) Sdn Bhd	No. 10, Jalan Kemajuan, Bangi Industrial Estate, 43650 Bangi, Selangor	Electrical and electronics	Room air conditioner, rotary compressors, scroll compressors	Hulu Langat	Bangi	Bangi Phase I&II	8256611	8256511	101 45.04	02 56.95
106	Matsushita Electric Co. (M) Sdn Bhd	No. 7, Jalan P/2, No. 7, Jalan P/2, Kawasan Perusahaan Seksyen 13, 43650 Bandar Baru Bangi	Electronics and Electricals	Electronic goods	Hulu Langat	Bangi	Bangi Phase I&II	0	0	101 45.04	02 56.95
107	Dewina Food Industries Sdn Bhd	Lot 11, Jalan P/9B, Kawasan Perusahaan Bandar Baru Bangi, 43650 Bangi, Selangor.	Food and beverages product	Ready meals in flexible aluminium pouches	Hulu Langat	Bangi	Bangi Phase I&II	2625707	2625708	101 45.04	02 56.95
108	Y.S.P Industries (M) Sdn Bhd	Lot 3, 5 & 7, Jalan P/7, Section 13, Kawasan Perindustrian Bangi, 43000 Kajang, Selangor	Pharmaceuticals, medical equipment, cosmetics and toiletteries	Pharmaceuticals products and veterinary products	Hulu Langat	Bangi	Bangi Phase I&II	7176390	0	101 45.04	02 56.95
109	Yuta Plastic Industries Sdn Bhd	No 10, Jalan P/2, Bangi Industrial Estate, 43650 Bandar Baru Bangi, Selangor	Plastic and PVC products	Yuta chair, armrest chair, vegetable crate, latrine pan, helmet, fish crate, yuta stool, latrine bowl, boot tray and battery container	Hulu Langat	Bangi	Bangi Phase I&II	8250921	8259329	101 45.04	02 56.95

Data Book Table E.4.2 (13) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
110	Dunham Bush Industries Sdn Bhd	Lot 8 - 14, Jalan P/7, Seksyen 13, Kawasan Perindustrian Bangi, 43650 Kajang, Selangor	Electricals and electronics	air conditioning equipment, refrigeration equipment, industrial exhaust fans, ventilator equipments, air diffusers, grilles, variables air volume terminal and control units.	Hulu Langat	Bangi	Bangi Phase I&II	8259688	8259681	101 45.04	02 56.95
111	Eastern Printing Ink Co. Sdn Bhd	No 28, Jalan P/5 Kawasan Perusahaan Bangi, 43650 Bandar Baru Bangi, Selangor	Paper, printing, packaging & labellings	Printing	Hulu Langat	Bangi	Bangi Phase I&II			101 45.04	02 56.95
112	B&H formsprint Sdn Bhd	Lot 2 & 4, Jalan P/15, Kawasan Perusahaan Seksyen 10, 43650 Bandar Baru Bangi	Paper, printing, packaging and labelling product	Printing	Hulu Langat	Bangi	Bangi Phase I&II	0	0	101 45.04	02 56.95
113	Plastitecnic (M) Sdn Bhd	Lot 1, Jalan P/2A, Kawasan Perusahaan PKT 1, 43650 Bandar Baru Bangi, Selangor	Household products and appliances	Household plastic ware, disposable cuttlery, HDPE & PET bottles & jars, materials handling, industrial crates & pails	Hulu Langat	Bangi	Bangi Phase I&II	8256950	8256955	101 45.04	02 56.95
114	Huah Thai Paper Industries Sdn Bhd	Lot 28, No. 29 Jalan P/8, Kawasan Perusahaan Seksyen 13, 43650 Bandar Baru Bangi	Paper, printing, packaging and labelling	Box and packaging	Hulu Langat	Bangi	Bangi Phase I&II	0	0	101 45.04	02 56.95
115	Taisho Pharmaceuticals (M) Sdn Bhd	Lot 9, Jalan P/12, Kawasan Perindustrian Seksyen 10, 43650 Bandar Baru Bangi, Selangor	Foods and beverages	Health drink - Livita 100ml, Livita honey 150 ml	Hulu Langat	Bangi	Bangi Phase I&II	7173690	0	101 45.04	02 56.95
116	Kashima (M) Sdn Bhd	Lot 8, No. 11, Jalan P/8, Kawasan Perusahaan Seksyen 13, 43650 Bandar Baru Bangi	Automotive, parts and accessories.	valve plate	Hulu Langat	Bangi	Bangi Phase I&II	0	0	101 45.04	02 56.95
117	Techcera (M) Sdn Bhd	No. 30, Jalan P/5, Kawasan Perusahaan Seksyen 13, 43650 Bandar Baru Bangi	Industrial and engineering products	Screw	Hulu Langat	Bangi	Bangi Phase I&II	0	0	101 45.04	02 56.95

Data Book Table E.4.2 (14) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
118	Mc IBS (M) Sdn Bhd	No. 14, Jalan P/8, Kawasan Perusahaan Seksyen 13, 43650 Bandar Baru Bangi	Paper, printing, packaging and labelling	Paper for computer printing	Hulu Langat	Bangi	Bangi Phase I&II	0	0	101 45.04	02 56.95
119	Marcon (M) Sdn Bhd	Jalan P/1A, Kawasan Perusahaan Seksyen 13, 43650 Bandar Baru Bangi	Industrial and engineering products	Engineering work	Hulu Langat	Bangi	Bangi Phase I&II	0	0	101 45.04	02 56.95
120	Slumberland Eastern Sdn Bhd	Lot 7, Jalan P/1, Kawasan Perusahaan Seksyen 13, 43650 Bandar Baru Bangi	Furniture and related products	Spring mattress	Hulu Langat	Bangi	Bangi Phase I&II	0	0	101 45.04	02 56.95
121	Fanny Industries Sdn Bhd	No. 15, Jalan P/8, Kawasan Perusahaan Seksyen 13, 43650 Bandar Baru Bangi	Plastic and PVC	Plastic household products	Hulu Langat	Bangi	Bangi Phase I&II	0	0	101 45.04	02 56.95
122	Nedma (M) Sdn Bhd	No. 1, Jalan P/1, Kawasan Perusahaan Seksyen 13, 43650 Bandar Baru Bangi	Paper, printing, packaging and labelling	Recycle paper	Hulu Langat	Bangi	Bangi Phase I&II	0	0	101 45.04	02 56.95
123	Maju Kertas Products Sdn Bhd	No. 10, Jalan P/8, Kawasan Perusahaan Seksyen 13, 43650 Bandar Baru Bangi	Paper, printing, packaging and labelling	Computer paper	Hulu Langat	Bangi	Bangi Phase I&II	0	0	101 45.04	02 56.95
124	Mega Entreprise	No. 26, 28 & 30, Jalan P/8, Kawasan Perusahaan Seksyen 13, 43650 Bandar Baru Bangi	Wood and wood products	Polyester plywoods	Hulu Langat	Bangi	Bangi Phase I&II	0	0	101 45.04	02 56.95
125	Malaysian carbonless Industries Sdn Bhd	No. 6, Jalan P/1A, Kawasan Perusahaan Seksyen 13, 43650 Bandar Baru Bangi	Paper, printing, packaging and labelling	Paper product	Hulu Langat	Bangi	Bangi Phase I&II	0	0	101 45.04	02 56.95
126	Tan Pok Chong Realty Sdn Bhd	Lot 27, Jalan P/8, Kawasan Perusahaan Seksyen 13, 43650 Bandar Baru Bangi	Paper, printing, packaging and labelling	Packaging cleaning powder	Hulu Langat	Bangi	Bangi Phase I&II	0	0	101 45.04	02 56.95
127	Syarikat Perniagaan Mesra	No.4 Jalan P/8, Kawasan Perusahaan Seksyen 13, 43650 Bandar Baru Bangi	Paper, printing, packaging and labelling	Printing	Hulu Langat	Bangi	Bangi Phase I&II	0	0	101 45.04	02 56.95

Data Book Table E.4.2 (15) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
128	Sanon Kogyo (M) Sdn Bhd	6 & 8, Jalan P/5, Kawasan Perindustrian MIEL, 43650 Bandar Baru Bangi, Selangor	Electricals and electronics	Cone paper for speakers	Hulu Langat	Bangi	Bangi Phase I&II	8256840	8256842	101 45.04	02 56.95
129	Charles Candy Sdn Bhd	Lot 2, Jalan P/9B, Kawasan Perusahaan Seksyen 13, 43650 Bandar Baru Bangi	Food and beverages product	Chocolates and candy	Hulu Langat	Bangi	Bangi Phase I&II			101 45.04	02 56.95
130	Casio Polymer Tec (M) Sdn Bhd	Lot 6 & 8, Jalan P/15, Kawasan MIEL Bangi, Phase IV, Bangi Industrial Estate, 43650 Bangi, Selangor	Plastic and PVC products	casing for calculator, speaker and telephone	Hulu Langat	Bangi	Bangi Phase I&II	8255520	8255501	101 45.04	02 56.95
131	Asiatic Dipped Products Sdn Bhd	Lot 6, Jalan P/2A, Bangi Industrial Estate, 43650 Bandar Baru Bangi, Selangor	Rubber	Examination gloves and surgical gloves	Hulu Langat	Bangi	Bangi Phase I&II	8256361	8258630	101 45.04	02 56.95
132	Advanced Packaging Technology (M) Sdn Bhd	Lot 2, Jalan P/2A, Kawasan MIEL, Bangi Industrial Estate, Selangor	Plastic and PVC products	Flexible packaging materials in rolls & in bags, composite cans & linear low density polyproplene film	Hulu Langat	Bangi	Bangi Phase I&II	8257101	8259153	101 45.04	02 56.95
133	Onkyo (M) Sdn Bhd	1 Jalan P/5, Kawasan Perusahaan seksyen 13, Bandar Baru Bangi, 43000 Kajang, Selangor	Electricals and electronics	Hi-fi audio equipment	Hulu Langat	Bangi	Bangi Phase I&II	8257490	8257478	101 45.04	02 56.95
134	Nippondenso (M) Sdn Bhd	Lot 2, Jalan P/1, Section 13, 43650 Bandar Baru Bangi, Selangor	Automotive, parts and accessories	Radiators, alternators, starter motor, voltage regulators, wiper motors, wiper links, winshield washers, car air-conditioner, bus air-conditioner	Hulu Langat	Bangi	Bangi Phase I&II	8250320	8250869	101 45.04	02 56.95
135	Topgroup Industries Sdn Bhd	Lot 8 & 10, Jalan P/7, Seksyen 13, Kawasan Perindustrian Bangi, 43650 Bandar Baru Bangi, Selangor	Industrial and engineering products	Split packed type air conditioners, air cooled and water cooled repriocating compressor chillers, air handling units fancoils	Hulu Langat	Bangi	Bangi Phase I&II	8259688	8259681	101 45.04	02 56.95

Data Book Table E.4.2 (16) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
136	Kensheisa (M) Sdn Bhd	Lot 4, Jalan P/2 Bangi Industrial Estate, Bandar Baru Bangi, 43650 Bangi, Selangor	Industrial and engineering products	Floppy and hard disk drive components, VTR & VTR camera related equipments, die-casting parts for automotive & motorcycles.	Hulu Langat	Bangi	Bangi Phase I&II	8250877	8250771	101 45.04	02 56.95
137	ArtCraft Printing Co. Sdn Bhd	No. 11A Jalan P/8, Kawasan Perusahaan Seksyen 13, 43650 Bandar Baru Bangi	Paper, printing, packaging and labelling	Printing	Hulu Langat	Bangi	Bangi Phase I&II	0	0	101 45.04	02 56.95
138	Nichicon (M) Sdn Bhd	No. 4, Jalan P/10 Kawasan Perusahaan Bangi, 43650 Bandar Baru Bangi, Selangor	Eletricals and electronics	Electrolytic capacitors	Hulu Langat	Bangi	Bangi Phase I&II	8250678	8250858	101 45.04	02 56.95
139	Sapura Machining Corporation Sdn Bhd	No 2, Jalan P/1, Seksyen 13, P.O. Box 25, Kawasan Perindustrian Bangi, 43650 Bandar Baru Bangi, Selangor	Industrial and engineering products	Rocker shaft assembly, water pump pulley, shift rail assembly, control shaft assembly, clutch release fork and stopper body assembly	Hulu Langat	Bangi	Bangi Phase I&II	8251618	8251613	101 45.04	02 56.95
140	Slumberland Inchcape Sdn Bhd	Lot 7, Jalan P/1, Bangi Industrial Estate, 43650 Bangi, Selangor	Furniture and related products	Innerspring mattress, innerspring divans, headboards,mattress	Hulu Langat	Bangi	Bangi Phase I&II	8250230	8250450	101 45.04	02 56.95
141	Techreco Electronic (M) Sdn Bhd	Lot 27, Jalan P/8, Kawasan Perusahaan Seksyen 13, 43650 Bandar Baru Bangi	Electronics and Electricals	Magnetic heads	Hulu Langat	Bangi	Bangi Phase I&II	0	0	101 45.04	02 56.95
142	South East Asian Motor Industries SB	Jalan P2/A, Bandar Baru Bangi Industrial Estate, 43000 Kajang, Selangor	Automotive, parts and accessories	Spark plugs	Hulu Langat	Bangi	Bangi Phase I&II	8250311	8256694	101 45.04	02 56.95
143	Spirolite (M) Sdn Bhd	lot 4, Jalan P/24, Bangi Industrial Estate, 43000 Kajang, Selangor	Plastic and PVC products	Spiral pipes/ spiral tanks of HDPE & PP, HDPE corrugated pipe, HDPE & PP pipes, HDPE gas pipes	Hulu Langat	Bangi	Bangi Phase I&II	7329433	7329363	101 45.04	02 56.95
144	Kilang Kasut Scotch Sdn Bhd	No 21, Jalan P/8, Kawasan Perusahaan MIEL, 43650 Bandar Baru Bangi, Selango.r	Leather products and footwear	All types of leather footwear &PVC/PU footwear.	Hulu Langat	Bangi	Bangi Phase I&II	8258721	8259423	101 45.04	02 56.95

Data Book Table E.4.2 (17) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
145	Uniphone Cables Sdn Bhd		Industrial and engineering products	High voltage XLPE power cables, aluminium conductors, copper rods, aluminium rods	Hulu Langat	Bangi	Selaman	7913122	7911945	101 44.91	02 58.73
146	Hume Roofing Industries Sdn Bhd	Lot 4-9, Beranang Industrial Estate, 43000 Beranang, Selangor	Building materials and related products	Cement roof tiles	Hulu Langat	Beranang	Beranang IP	8167916	0	101 51.58	02 53.07
147	Perusahaan Intan Emas Sdn Bhd	Lot PT 153, Kawasan Perusahaan Beranang, Mukim Beranang, Selangor	Rubber	Latex examination gloves	Hulu Langat	Beranang	Beranang IP	9857368	9854396	101 51.58	02 53.07
148	Shye Du Industry (M) Sdn Bhd	Lot 21, Jalan Perusahaan 1, Kaw. Perindustrian Beranang, 43700 Beranang, Selangor	Industrial and engineering products	Heat sink, front panel	Hulu langat	Beranang	Beranang IP	8167013	8167028	101 51.58	02 53.07
149	Snko Ceramics (M) Sdn Bhd	2 Lot 1, Jalan Perusahaan 4, K.P. Beranang, 43700 Beranang Selangor	Non metallic mineral product	Examination ceramic formers and surgical ceramic formers.	Hulu Langat	Beranang	Beranang IP	3429231	3429130	101 51.58	02 53.07
150	Sweetco Industrial Sdn Bhd	Lot 4, Jalan Perusahaan Beranang, 43700 Beranang, Selangor	Textiles, fabrics and button	PE tarpaulin (woven laminated) and PP woven packaging bag	Hulu Langat	Beranang	Beranang IP	2210210	2211166	101 51.58	02 53.07
151	Eastern Partek (M) Sdn Bhd	Lot 2,4&6, Jalan Perusahaan 5, Kawasan Perindustrian Beranang, 43700 Beranang, Selangor	Building Materials and related products	Hollow core slabs, precast concrete components, vetonit plastering & bathroom	Hulu Langat	Beranang	Beranang IP	7802728	7805662	101 51.58	02 53.07
152	Hume Forsheda Sdn Bhd	Lot 4-9, Beranang Industrial Estate, 43000 Beranang, Selangor	Industrial and engineering	rubber ring, bearing pads, gaskets and industrial moulding products	Hulu Langat	Beranang	Beranang IP	8167206	8167886	101 51.58	02 53.07
153	Supreme Way Industries Sdn Bhd	Lot 4, Jalan Perusahaan 2, Beranang Industrial Zone, 43700 Beranang, Hulu Langat	Plastics and PVC products	PE tarpaulin & woven bags, PE shopping bags	Hulu Langat	Beranang	Beranang IP	2210210	2211166	101 51.58	02 53.07
154	Syarikat Metal Industries of Malaysia Sdn Bhd	Lot 9, Jalan Perusahaan 2, Beranang Industrial Zone, 43700 Beranang, Hulu Langat, Selangor	Automotive, parts & accessories	Door locks, auto parts, metal stamping	Hulu Langat	Beranang	Beranang IP	8167729	8167358	101 51.58	02 53.07

Data Book Table E.4.2 (18) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
155	Teras Tenaga Industries Sdn Bhd	No 17, Jalan Perusahaan 2, Kawasan Perusahaan Beranang, 43700 Beranang, Selangor	Industrial and engineering product	Mild steel bars	Hulu Langat	Beranang	Beranang IP	8166088	8166066	101 51.58	02 53.07
156	Tritex Containers Sdn Bhd	Lot 13, Jalan Perusahaan Satu, Kawasan Perindustrian Beranang, 43700 Beranang, Selangor	Paper, printing, packaging and labelling products	Corrugated paper box	Hulu Langat	Beranang	Beranang IP	8166018	8167291	101 51.58	02 53.07
157	T.S. Ceramics (M) Sdn Bhd	Lot 14, Jalan Perusahaan 5/2, Kawasan Perusahaan Beranang, 43700 Beranang, Selangor	Non metallic mineral products	ceramic lamp holder, ceramic tableware and ceramic insulators	Hulu Langat	Beranang	Beranang IP	8167861	8167860	101 51.58	02 53.07
158	LB Aluminium Bhd	Lot 11, Jalan Perusahaan 1, Kawasan Perusahaan Beranang, 43700 Beranang, Selangor	Industrial and engineering product	Aluminium extended products.	Hulu Langat	Beranang	Beranang IP	8167971	8167899	101 51.58	02 53.07
159	LCM Industry Sdn Bhd	21, Jalan 1/2 Taman Murni, Batu 9, Cheras, 43200 Kajang, Selangor	Leather products and footwear.	Leather handbags, wallets, bags.	Hulu Langat	Cheras Bt. 9	Cheras Bt. 9	9049888	9040317	101 45.83	03 04.39
160	Chin Huat Furniture Manufacturers Sdn Bhd	Lot 2633, Batu 9, Jalan Balakong, 43200 Cheras, Selangor	Furniture and related product	metal tubing furniture	Hulu Langat	Cheras Bt. 9	Cheras Bt. 9	9043170	9043157	101 45.83	03 04.39
161	Prestige Ceramics Sdn Bhd	Cheras Bt. 11	Minerals	Ceramic product	Hulu Langat	Cheras Bt.9	Cheras Bt. 9	0	0	101 45.83	03 04.39
162	Sama Plastic Machinery	Lot 5562, Jalan Bukit Angkat, Sungai Chua. 43000 Kajang, Selangor	Industrial and engineering products	Plastic bag making machine	Hulu Langat	Kajang	Bukit Angkat	8369873	8369655	101 46.11	03 00.24
163	NES Electrical Industrial Sdn Bhd	No. 35, Jalan Asa 8, Taman Asa Jaya, 43000 Kajang, Selangor	Eletricals and electronics	Electricals sockets	Hulu Langat	Kajang	Bukit Angkat	8333993	8366099	101 46.11	03 00.24
164	United Tread (M) Sdn Bhd	Lot 5563, Jalan Bukit Angkat, Sungai Chua, 43000 Kajang, Selangor	Rubber	Retread tyre	Hulu Langat	Kajang	Bukit Angkat	8374511	8374522	101 46.11	03 00.24
165	Vast Manufacturing Sdn Bhd	Lot 1030, Sg. Chua, 43000 Kajang, Selangor	Furniture & related products	Beds, hospital beds, dining tables, dining chairs, bar stools, coat hangers	Hulu Langat	Kajang	Sg. Chua	8334866	8366214	101 46.65	02 58.65

Data Book Table E.4.2 (19) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
166	Tua Seng Seng Concrete and Trading Sdn Bhd	JK 43, Batu 10, Jalan Cheras, 43200 Kajang, Selangor	Building materials and related products	Concrete and fibre decorative column, baluster, flower pot, landscaping and artificial rock garden	Hulu Langat	Kajang	Sg. Chua	9051359	9051359	101 46.65	02 58.65
167	Pattern Enterprise	64, Lot 5250, Kg. Kuantong Baru, Jalan Sg. Chua, 43000 Kajang, Selangor	Textiles, fabrics and button products	Cushion covers for cars, cushion mats, car mats	Hulu Langat	Kajang	Sg. Chua	7759177	7754406	101 46.65	02 58.65
168	Kajang Paper Mills Sdn Bhd	Batu 1 1/2, Jalan Sg. Chua, 43000 Kajang, Selangor	Paper, printing, packaging and labelling industries	Yellow wrapping paper, bulky newsprint, kraft liners, corrugating medium.	Hulu Langat	Kajang	Sg. Chua	8361245	8366869	101 46.65	02 58.65
169	Kima Sdn Bhd	P.O. Box 3, Sungai Chua, 43007 Kajang, Selangor	Textiles, fabrics and button products	Shirting, cambric, poplin and lawn	Hulu Langat	Kajang	Sg. Chua	8361743	8376109	101 46.65	02 58.65
170	Muda Mouldings Bhd	Batu 1 1/2 Off Jalan Sg. Chua, 43000 Kajang, Selangor	Paper, printing, packaging and labelling	Corrugated cartons	Hulu Langat	Kajang	Sg. Chua	8361348	0	101 46.65	02 58.65
171	Centre Point Garment Manufacturing Sdn Bhd	12 Jalan Satu, Taman Cendana, Sg. Chua, 43000 Kajang, Selangor	Textiles, fabrics and button	All kinds of garment for children and man	Hulu Langat	Kajang	Sg. Chua	8369162	8369327	101 46.65	02 58.65
172	Bristol Industries Sdn Bhd	Lot 5170 Mukim Kajang, Selangor	Furniture and related products	Office chairs, chair component parts, open plan systems, table top	Hulu Langat	Kajang	Sg. Chua	7802888	7801222	101 46.65	02 58.65
173	Sin Chuan Aik Sdn Bhd	1 & 2, Batu 8, Jalan Cheras, 43000 Kajang, Selangor	Wood and wood products	Timber mouldings	Hulu Langat	Kajang	Sg. Chua IP	9058297	0	101 46.27	02 59.09
174	Senchoy Steelfab Sdn Bhd	Lot 18 & 19, Batu 8, Jalan Cheras, 43200 Kajang, Selangor	Building materials and related products	Steel fabrication, piling components, MS tanks.	Hulu Langat	Kajang	Sg. Chua IP	9040929	9040925	101 46.27	02 59.09
175	Uniglu Sdn Bhd	26, Taman Mas, Batu 9, 43000 Kajang, Selangor	Chemicals and adhesive	Rat glue	Hulu Langat	Kajang	Sg. Chua IP	611995	0	101 46.27	02 59.09
176	Woo Weng Seng Biskut Sdn Bhd	Lot 810, Batu 8, Jalan Cheras, 43207 Kajang, Selangor	Foods and beverages	Biscuits	Hulu Langat	Kajang	Sg. Chua IP	9058642	9052099	101 46.27	02 59.09
177	Yap Oh & Sons Sdn Bhd	63, Batu 14, Jalan Cheras, 43200 Kajang, Selangor	Wood and wood product	Sawn timber	Hulu Langat	Kajang	Sg. Tangkas	8364130	0	101 47.21	02 57.23

Data Book Table E.4.2 (20) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
178	Yah Cheong Metal Industries Sdn Bhd	lot 479, Jalan Simpang Balak, Batu 13, Jalan Cheras, 43000 Kajang, Selangor	Furniture and related products	Steel office equipment	Hulu Langat	Kajang	Sg. Tangkas	9842033	9848415	101 47.21	02 57.23
179	Green Yield Industries Sdn Bhd	266 - 269 Jalan Reko, 43000 Kajang, Selangor	Furniture and related products	Season and decorative electrical lightings, solid wood photoframe, keyboxes	Hulu Langat	Kajang	West Country	8369211	8368777	101 47.33	02 59.53
180	JC Garments (M) Sdn Bhd	1, Jalan Jelita Satu, Taman Jelita, Off Jalan Reko, 43000 Kajang, Selangor	Textiles, fabrics and button	Tracksuits, T-shirts, Polo shirts and casual socks	Hulu Langat	Kajang	West Country	8333008	8369308	101 47.33	02 59.53
181	Barutan Embroidery Centre	26 - 30, Jalan Besar, Taman Hiew Piow, 43500 Semenyih, Selangor	Textiles, fabrics, and button	Embroidery, weave	Hulu Langat	Semenyih	Sg. Lalang	8137166	8137280	101 52.3	02 59.27
182	Woodlandor Wood Products Sdn Bhd	Lot 265, Batu 22 1/2, Sungai Lalang, 43500 Semenyih, Selangor	Furniture and related products	Knock down wooden furniture, fire resistant door, timber frames	Hulu Langat	Semenyih	Sg. Lalang	8137743	8136311	101 52.3	02 59.27
183	Malaysian Topmaking Mills Sdn Bhd	Batu 23, Jalan Kacahu, 43500 Semenyih, Selangor	Textiles, fabrics and button	wool tops and carbonised wool	Hulu Langat	Semenyih	Sg. Lalang	2440763	2422399	101 52.3	02 59.27
184	Havy's Oil Mill Sdn Bhd	c/o Sydney Estate, 43500 Semenyih, Selangor	Chemicals and adhesive	Crude palm oil	Hulu Langat	Semenyih	Sg. Lalang	3426788	3415855	101 52.3	02 59.27
185	Ngo Chew Hong Oils & Fat (M) Sdn Bhd	Batu 23, Jalan Seremban, Jalan Rinching Hulu, 43500 Semenyih, Selangor	Food and beverage product	RBD palm oil, RBD palm stearin, RBD palm olein, shortening, doughfat, margerine	Hulu Langat	Semenyih	Sg. Lalang	8137772	8137773	101 52.3	02 59.27
186	Tilburg Douglas (M) Sdn Bhd	Lot 253, Km 5, Jalan Sg. Lalang, 43500 Semenyih, Selangor	Building materials and related products	Concrete hardrive piles	Hulu Langat	Semenyih	Sg. Lalang	4081587	4081393	101 52.3	02 59.27
187	Nankai Worsted Spinning (M) Sdn Bhd	Batu 23, Jalan Kachau, 43500 Semenyih, Selangor	Textiles, fabrics and button	Woested yarn	Hulu Langat	Semenyih	Sg. Lalang	2454557	0	101 52.3	02 59.27
188	Sri Cinmal Sdn Bhd	Lot 1382, Jalan Sg. Lalang, 43500 Semenyih, Selangor	Plastics and PVC	Plastics toys and rubber ballons	Hulu Langat	Semenyih	Sg. Lalang	9856668	0	101 52.3	02 59.27
189	San Teh Industries Sdn Bhd	Lot 414, Batu 23, Jalan Kacahu, Mukim Semenyih, 43500 Hulu Langat, Selangor	Electricals and electronics	Conductive silicone, elastomer switchpads, keyboards	Hulu Langat	Semenyih	Sg. Lalang	8137296	8137881	101 52.3	02 59.27

Data Book Table E.4.2 (21) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
190	Dolomite Magnetics (M) Sdn Bhd	Batu 113/4, Sungai Serai, 43100 Hulu Langat, Selangor	Building Materials and related product	Limestones aggregats of all size for building, and road works, premixed asphalt, indstrial grade calcium	Hulu Langat	Sungai Serai	Sg. Serai	9211621	0	101 47.28	03 05.07
191	Malroc Industries Sdn Bhd	lot 2-14, Jalan Suasa, Kawasan Perindustrian PKNS, 42700 Banting, Selangor	Rubber	Rubber based sports balls, soccer balls, basket balls, volley balls, tennis balls, net balls.	Kuala Langat	Banting	Banting IP	8671408	0	101 30.35	02 48.69
192	Décor Trend Industrial Sdn Bhd	Lot 467, Jalan Telok Bunut, 42700 Banting, Selangor	Furniture and related products	bookshelves, utility cabinet, study desk, computer tables, other made of MDF & particle board, cane furniture	Kuala Langat	Banting	Banting IP	6357926	6320039	101 30.35	02 48.69
193	O.Y.L. Appliances Sdn Bhd	Lot 10, Jalan Perusahaan 8, Kawasan Perusahaan Pekan Banting, 42700 Banting, Selangor	Eletcricals and electronics	Refrigerator, air-conditioners, freezer and related products	Kuala Langat	Banting	Banting IP	8672114	8678597	101 30.35	02 48.69
194	Genting Sanyen Newsprint Sdn Bhd	Lot 7090, Mukim Tanjung 12, Daerah Kuala Langat, 47200 Banting, Selangor	Paper, printing, packaging and labelling	Newsprint	Kuala Langat	Banting	Banting IP	8491393	8491093	101 30.35	02 48.69
195	Supcheng Fasteners Sdn Bhd	Lot 2&4, Jalan Gangsa, Kawasan Perusahaan Banting, 42700 Banting, Selangor	Industrial and engineering	Steel and brass nuts of all types	Kuala Langat	Banting	Banting IP	8679111	8672318	101 30.35	02 48.69
196	Charoen Pokphand Feedmills (M) Sdn Bhd	Batu 29 1/4, Jalan Morib, Kanchong Laut, 42700 Banting, Selangor	Agriculture products and machinery	Animals/ poultry feeds	Kuala Langat	Banting	Banting IP	3763061	3763134	101 30.35	02 48.69
197	Sunenergy Chemicals & Pharmaceuticals Sdn Bhd	Lot N, Jalan Suasa, Kawasan Perusahaan PKNS, 42700 Banting, Selangor	Pharmaceuticals, medical equipment, cosmetics and toileteries.	Antibiotic and synthetesis pharmaceutical products, all kind of medicated premix and food supplements for vetenary use.	Kuala Langat	Banting	Banting IP	8673588	8673590	101 30.35	02 48.69
198	G. Orient Electronics Sdn. Bhd.	No. 6, Jalan Gangsa, Kawasan Perusahaan, 42700 Banting, Selangor.	Electricals and electronics	Elektronics and electricals components.	Kuala Langat	Banting	Banting IP	8613368	0	101 30.35	02 48.69
199	Premier Oil Industries Sdn. Bhd.	No. 3, Jalan Gangsa, Kawasan Perusahaan, 42700 Banting, Selangor.	Food and beverages product	Food edibles and fats from palm oil.	Kuala Langat	Banting	Banting IP	0	0	101 30.35	02 48.69

Data Book Table E.4.2 (22) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
200	Module Board Sdn Bhd	Lot 105, Jalan Satu, Olak Lempit, 42700 Banting, Selangor.	Building materials and related products.	Wood cement panels.	Kuala Langat	Olak Lempit	Olak Lempit	8491379	8491179	101 36.19	02 49.65
201	Essendon Enterprise Sdn. Bhd.	No. 186, Jalan 4, Kompleks Perabut Olak Lempit, 42700 Banting, Selangor.	Furniture and Related Products		Kuala Langat	Olak Lempit	Olak Lempit	0	0	101 36.19	02 49.65
202	Meranti Furniture Sdn. Bhd.	Lot 169, Jalan lima, Kompleks Perabut Olak Lempit, 42700 Banting, Selangor.	Furniture and Related Products		Kuala Langat	Olak Lempit	Olak Lempit	8263779	0	101 36.19	02 49.65
203	Luen Hing Furniture Sdn. Bhd.	No. 159, Jalan 4, Kompleks Perabut Olak Lempit, 42700 Banting, Selangor.	Furniture and Related Products		Kuala Langat	Olak Lempit	Olak Lempit	0	0	101 36.19	02 49.65
204	Ideal Unity Sdn. Bhd.	No. 158, Jalan 4, Kompleks Perabut Olak Lempit, 42700 Banting, Selangor.	Furniture and Related Products		Kuala Langat	Olak Lempit	Olak Lempit	8493622	0	101 36.19	02 49.65
205	Multi Nation Furniture Sdn. Bhd.	Lot 134 & 135, Jalan 4, Kompleks Perabut Olak Lempit, 42700 Banting, Selangor.	Furniture and Related Products		Kuala Langat	Olak Lempit	Olak Lempit	8491095	0	101 36.19	02 49.65
206	Fair Park Holding Sdn. Bhd.	No. 156, Jalan 4, Kompleks Perabut Olak Lempit, 42700 Banting, Selangor.	Furniture and Related Products		Kuala Langat	Olak Lempit	Olak Lempit	0	0	101 36.19	02 49.65
207	Woodlink Furniture Sdn. Bhd.	Lot 129,130, 131, Jalan 4, Kompleks Perabut Olak Lempit, 42700 Banting, Selangor.	Furniture and Related Products		Kuala Langat	Olak Lempit	Olak Lempit	0	0	101 36.19	02 49.65
208	Taiping Niaga Rubbex Sdn Bhd	Lot 2091, Jalan Sungai Buaya, 42600 Sungai Jarom, Kuala Langat Selangor	Rubber	Latex examination gloves	Kuala Langat	Sg. Jarom	Telok Panglima Garang	2321333	2383233	101 28.39	02 55.13
209	Yap Yew Hup Brickworks Sdn Bhd	Batu 17, Sungai Sedu, 42700 Banting, Selangor	Building Materials and related products	Clay bricks and red bricks	Kuala Langat	Sungai Sedu	Telok Panglima Garang	8682711	0	101 28.39	02 55.13

Data Book Table E.4.2 (23) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
210	Genting Sanyen Paper Industry Sdn Bhd	Lot 7090, Mukim Tanjung 12, Bukit Changgang, Kuala Langat, 42700 Selangor	Paper, printing, packaging and labelling product	Industrial brown paper	Kuala Langat	Tanjung 12	Bukit Changgang	2011393	2624032	101 39.13	02 48.02
211	YTY Industry Sdn Bhd	Lot 2935B, Kg. Kebun Baru, Batu 9, Telok Panglima Garang, 42500 Kuala Langat, Selangor	Rubber	latex examination gloves	Kuala Langat	Telok Panglima Garang	Telok Panglima Garang	3524287	3529400	101 28.39	02 55.13
212	Unicosteel Sdn Bhd	2935A Jalan Masjid, Kg. Kebun Baru, Batu 9, 42500 Telok Panglima Garang, Selangor	Industrial and engineering products	Steel office equipment and supermarket gondola and shelves	Kuala Langat	Telok Panglima Garang	Telok Panglima Garang	3528730	3528707	101 28.39	02 55.13
213	KKBI Sistem (M) Sdn Bhd	Lot 1, Lorong 10B, Telok Panglima Garang, 42500 Banting, Kuala Langat, Selangor	Furniture and related products	Spring foam, fibre mattress, spring pocket systems, box foundation, feather pillows, matress protector, bed sheets.	Kuala Langat	Telok Panglima Garang	Telok Panglima Garang	7054766	7054755	101 28.39	02 55.13
214	Dipsol Chemicals (M) Sdn Bhd	No. 4, Jalan Gangsa, Kawasan Perusahaan Telok Panglima Garang, 42500 Kuala Langat, Selangor	Chemicals and adhesive product	Metal surface finishing, chemical & electroplating	Kuala Langat	Telok Panglima Garang	Telok Panglima Garang	3526321	3526324	101 28.39	02 55.13
215	Kayaba (M) Sdn Bhd	Lot 4, Jalan Perak, Telok Panglima Garang Industrial Estate, 42500 Kuala Langat Selangor	Automotive, parts and accessories.	Shock absorbers	Kuala Langat	Telok Panglima Garang	Telok Panglima Garang	3526222	3526677	101 28.39	02 55.13
216	Solid Component Manufacturing Sdn Bhd	Lot 3, Lorong 10A, KP Telok Panglima Garang, 42500 Kuala Langat, Selangor	Industrial and engineering products	Spring	Kuala Langat	Telok Panglima Garang	Telok Panglima Garang	3526916	3526917	101 28.39	02 55.13
217	Green World Systems Sdn Bhd	Lot 100, Batu 15 3/4, Jalan Klang Banting, 42600 Jenjarom, Selangor	Bicycle	Bicycle	Kuala Langat	Telok Panglima Garang	Telok Panglima Garang	2552066	2554884	101 28.39	02 55.13
218	Rheem (M) Sdn Bhd	No.2, Jalan Gangsa, Kawasan Perusahaan Batu 9, Jalan Banting-Klang, 42507 Telok Panglima Garang, Selangor	Industrial and engineering products	Steel containers	Kuala Langat	Telok Panglima Garang	Telok Panglima Garang	7364978	7364981	101 28.39	02 55.13

Data Book Table E.4.2 (24) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
219	Henkel Oleochemicals	Lot 4, Jalan Perak, Telok Panglima Garang Industrial Estate, Batu 9, Jalan Klang-Banting, 42507 Kuala Langat, selangor	Chemicals and adhesive product	Caprylic-capric acid, distilled palm kernel, fatty acid, fractional fatty acid	Kuala Langat	Telok Panglima Garang	Telok Panglima Garang	3526015	3526955	101 28.39	02 55.13
220	Henkel Kimianika (M) Sdn Bhd	No. 4, Jalan Perak, Telok Panglima Garang Industrial Estate, 42500 Kuala Langat, Selangor	Chemicals and adhesive product	refined glycerine, fractioned fatty acids & fractioned methylesthers	Kuala Langat	Telok Panglima Garang	Telok Panglima Garang	3526015	0	101 28.39	02 55.13
221	Jomalina Sdn Bhd	Batu 9, Jalan Klang-Banting, Telok Panglima Garang Industrial Estate, 42500 Kuala Langat, Selangor	Chemicals and adhesive products	Crude palm olein, Crude stearin, neutralised palm oil, olein stearin, RBD palm oil, cooking oil etc.	Kuala Langat	Telok Panglima Garang	Telok Panglima Garang	3526301	3526688	101 28.39	02 55.13
222	Lovytex Sdn Bhd	Lot 8, Jalan Suasa, 42500 Telok Panglima Garang, Kuala Langat Selangor	Rubber	Natural latex examination glove.	Kuala Langat	Telok Panglima Garang	Telok Panglima Garang	3526711	3527733	101 28.39	02 55.13
223	Rotai Hardware & Cast iron Product Sdn bhd	Lot 5055 & 5056, Batu 9, Telok Panglima Garang, 42500 Selangor	Industrial & engineering products	Gas cooler parts	Kuala Langat	Telok Panglima Garang	Telok Panglima Garang	3526906	3526911	101 28.39	02 55.13
224	Henkel Rika (M) Sdn Bhd	4 Jalan Perak, Kawasan Perusahaan Telok Panglima Garang, 42507, Kuala Langat Selangor	Chemicals and adhesive products	Broad cut fatty alcohols and distill glycerine	Kuala Langat	Telok Panglima Garang	Telok Panglima Garang	3526015	0	101 28.39	02 55.13
225	Chemi-con (M) Sdn Bhd	FTZ Telok Panglima Garang, Km 15, Jalan Klang-Banting, Kuala Langat, 42507 Telok Panglima Garang	Electricals and electronics	Electrolytic capacitors	Kuala Langat	Telok Panglima Garang	Telok Panglima Garang FTZ	3526239	3526292	101 28.03	02 55.17
226	Toshiba Electronics (M) Sdn Bhd	Km 15, Jalan Klang-Banting, 42507 Telok Panglima Garang, Kuala Langat, Selangor	Eletricals and electronics	Electronics components, transistor and I.C.	Kuala Langat	Telok Panglima Garang	Telok Panglima Garang FTZ	3526001	3526139	101 28.03	02 55.17

Data Book Table E.4.2 (25) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
227	NEC Semiconductors (M) Sdn Bhd	Telok Panglima Garang FTZ, Km 15, Jalan Banting-Klang, 42500 Kuala Langat, Selangor	Eletricals and electronics	Transistors, I.C., L.E.D.	Kuala Langat	Telok Panglima Garang	Telok Panglima Garang FTZ	3526201	3528711	101 28.03	02 55.17
228	Sankyo Seiki (M) Sdn Bhd	Telok Panglima Garang FTZ, Km 15, Jalan Klang-Banting, 42500 Kuala Langat, Selangor	Electricals and electronics	Musical movements, musical toys, magnetic tape heads	Kuala Langat	Telok Panglima Garang	Telok Panglima Garang FTZ	3526101	3526344	101 28.03	02 55.17
229	Zoom Laundry & Dry Cleaners	Jenderam Hilir	Textiles, Fabrics and Button	Loundry	Sepang	Jenderam Hilir	Jenderam Hilir	0	0	101 44.06	02 52.01
230	PKNS Engineering and Construction Bhd	No. 3, Jalan 3, Kawasan Perindustrian Baru Salak Tinggi, 43900 Sepang, Selangor	Buildings Materials and related products	Prefabricated concrete slabs and panels	Sepang	Salak Tinggi	Salak Tinggi	8461614	8461961	101 43.69	02 48.51
231	Perlite Product Sdn Bhd	Bandar Baru Salak Tinggi	Electronic	Electrical resistor	Sepang	Salak Tinggi	Salak Tinggi	0	0	101 43.69	02 48.51
232	Complex (M) Sdn Bhd	Bandar Baru Salak Tinggi	Electronic		Sepang	Salak Tinggi	Salak Tinggi	0	0	101 43.69	02 48.51
233	Estee Tiles	Bandar Baru Salak Tinggi	Building Materials	Tiles, roof materials	Sepang	Salak Tinggi	Salak Tinggi	0	0	101 43.69	02 48.51
234	Wembley Rubber Products Sdn Bhd	Lot 1, Jalan 3, Kawasan Perusahaan Bandar Baru Salak Tinggi, 43900 Sepang, Selangor	Rubber products	Examination gloves, surgical gloves, urological cathethers, cleanroom gloves	Sepang	Salak Tinggi	Salak Tinggi	8461486	8461557	101 43.69	02 48.51
235	George Kent (M) Sdn Bhd	Lot 4, Jalan 3, Kawasan Perusahaan Bandar Baru Salak Tinggi, 43900 Sepang, Selangor	Electronics	Copper fibre	Sepang	Salak Tinggi	Salak Tinggi			101 43.69	02 48.51
236	Sin Heap Lee Brickworks Sdn Bhd	Batu 2 1/2, Sg. Pelek, 43900 Sepang	Building Materials and related products	Hollow bricks, perforated bricks, facing bricks, paver bricks, double bricks, common bricks	Sepang	Sg. Pelek	Salak Tinggi	2637788	2631405	101 43.69	02 48.51

Data Book Table E.4.2 (26) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
237	Copal Precision (M) Sdn Bhd	Lot 1477, Nilai I.E., Phase II, 71800 Nilai, Negeri Sembilan	Electricals and electronics	Moulds and dies, high precisions camera parts and components computer, tape catridge casings, casings voice coils motor etc.	Seremban	Nilai	Nilai IP	67992421	0	101 49.01	02 49.76
238	Nippo Mechatronics Parts (M) Sdn Bhd	Lot 2499, Kaw. Perusahaan Kecil dan Sederhana, 71700 Mantin, N.S.	Industrial and engineering product	Manufacturing of precision plastic injection, moulding components and mechanism assembly	Seremban	Mantin	Mantin	0	0	101 55.22	02 48.65
239	Gemtax Abrasives (M) Sdn Bhd	Lot 1478, Kaw. Perindustrian Nilai, 71800 Nilai, N.S	Electricals and electronics	Electronic parts	Seremban	Nilai	Nilai 3 IP	0	0	101 48.79	02 51.16
240	Chuan Huat Hardware Sdn Bhd	Lot 1651, Kaw. Perindustrian Nilai, 71800 Nilai, N.S	Building materials and related products	Building hardware materials	Seremban	Nilai	Nilai 3 IP	0	0	101 48.79	02 51.16
241	Uptodate Manufacturing (M)Sdn Bhd	Lot 38, Jalan AM2, Kaw. Perindustrian Arab Malaysian, 71800 Nilai	Electrical and electronics	Aluminum casing for electrolysis condensor, aluminium wire for electrolysis condensor	Seremban	Nilai	Nilai 3 IP	0	0	101 48.79	02 51.16
242	Hume Furniture Industries Sdn Bhd	Lot 5777, Nilai Industrial Estate, 71800 Nilai, Negeri Sembilan	Furniture and related products	Furniture and furniture products	Seremban	Nilai	Nilai IP	67992698	67992832	101 49.01	02 49.76
243	Jashin Engineering (M) Sdn Bhd	PT No. 3345 Lorong AM5, Arab Malaysian Industrial Park, 71800 Nilai Negeri Sembilan.	Building materials and related products.	scaffolding and its accessories.	Seremban	Nilai	Nilai IP	7338607	7338381	101 49.01	02 49.76
244	Kekwa Indah Sdn Bhd	P.T. 1565, Kaw. Perindustrian Nilai, 71800 Nilai, N.S	Chemicals and Adhesive	Activated carbon	Seremban	Nilai	Nilai IP	0	0	101 49.01	02 49.76
245	Disc Comp magnetics (M) Sdn Bhd	Lot 1651, Kawasan Perusahaan Nilai Fasa II, 71800 Nilai, Negeri Sembilan	Computers and Telecommunication Products	Computer floppy diskettes	Seremban	Nilai	Nilai IP	7833333	7803333	101 49.01	02 49.76
246	Asia Pharmaceuticals Product Sdn. Bhd	PT 1663, Kawasan Perindustrian Nilai, 71800 Nilai, Negeri Sembilan	Pharmaceuticals	Capsules, tablets, elixirs	Seremban	Nilai	Nilai IP	67995999	67994999	101 49.01	02 49.76

Data Book Table E.4.2 (27) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
247	Ingress Engineering Sdn Bhd	PT 2475 & 2476, Nilai Industrial Estate, P.O. Box 45, 71807 Nilai, Negeri Sembilan.	Industrial and engineering products	moulding & weatherstrips part	Seremban	Nilai	Nilai IP	67995599	67995597	101 49.01	02 49.76
248	Alps Electric (M) Sdn Bhd	Nilai Industrial Estate, Locked Bag No.3, Nilai Post Office, 71809 Nilai, Negeri Sembilan	Electrical and Electronics	Potentiometers, remote control units, cassette mechanisms, switchers, tuners, modulars, FM tuners	Seremban	Nilai	Nilai IP	67991515	67991654	101 49.01	02 49.76
249	Cahaya Corp Sdn Bhd	PT 1405, Nilai I.E., 71800 Nilai, Negeri Sembilan	Building materials and related products	Concrete roofing tiles	Seremban	Nilai	Nilai IP	67992388	0	101 49.01	02 49.76
250	Goodway Rubber Industries Sdn Bhd	Lot PT 1654 & 1657, Nilai Industrial Estate, 71800 Nilai, Negeri Sembilan	Rubber and related rubber product	precure tread, cushion gum, masterbatch, tube lining, camel pack, orbi-strip	Seremban	Nilai	Nilai IP	67994833	67994866	101 49.01	02 49.76
251	ETO SMT Sdn Bhd	P.T. 1624, Kaw. Perindustrian Nilai, 71800 Nilai, N.S	Electricals and electronics	Printed circuit board	Seremban	Nilai	Nilai IP	0	0	101 49.01	02 49.76
252	Bandar Baru Nilai Industry Sdn Bhd	P.T. 1665, Blok C, Kaw. Perindustrian Nilai, 71800 Nilai, N.S.	Building materials and related products	Concrete piles, drainage pipe, cement, sand, clay and cement brick	Seremban	Nilai	Nilai IP	0	0	101 49.01	02 49.76
253	Hume Fibreboard Sdn Bhd	Lot 5776, Kaw. Perindustrian Nilai, 71800 Nilai, N.S.	Plastic and PVC	Medium Density Fibre Board (MDF)	Seremban	Nilai	Nilai IP	0	0	101 49.01	02 49.76
254	Dailog Fabricators Sdn Bhd	P.T. 1480, Lot B12, Kaw. Perindustrian Nilai, 71800 Nilai, N.S.	Industrial and engineering products	engineering, fabrication and refurbished for gas nad petrochemical industries.	Seremban	Nilai	Nilai IP	0	0	101 49.01	02 49.76
255	Waywood Industry Sdn Bhd	Lot 6169, Nilai I.E., 71800 Nilai, Negeri Sembilan	Wood and wood products	Bamboo pulp and bamboo chopstick	Seremban	Nilai	Nilai IP	67992839	0	101 49.01	02 49.76
256	Nam Fatt Engineering (1966) Sdn Bhd	Plot PT 2471, Kaw. Perindustrian Nilai, 71800 Nilai, N.S.	Industrial and engineering products	Steel fabrication	Seremban	Nilai	Nilai IP	0	0	101 49.01	02 49.76
257	Nilai Concrete Industries Sdn Bhd	Plot 1, Kawasan Perindustrian Nilai, 71800 Nilai, Negeri Sembilan	Building materials & related products	Prestressed spun, concrete poles	Seremban	Nilai	Nilai IP	67992164	67991802	101 49.01	02 49.76

Data Book Table E.4.2 (28) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
258	Centralised Waste Treatment Plant Sdn Bhd	Lot 743, Nilai I.E., 71800 Nilai, Negeri Sembilan	Waste treatment	Treatment of hazardous and toxic waste to produce recycled solvents and organic waste	Seremban	Nilai	Nilai IP	67992227	0	101 49.01	02 49.76
259	Biografik (M) Sdn Bhd	PT 3307, Jalan AM 1, Arab-Malaysian Industrial park, 71800 Nilai, Negeri Sembilan	Rubber	Latex examination gloves	Seremban	Nilai	Nilai IP	67993645	67993648	101 49.01	02 49.76
260	Golden Hope Fibre Board Sdn Bhd	lot 3726 & 3728, Nilai Industrial Area, 71800 Nilai, Negeri Sembilan	Building materials and related products	Medium density fibre board (MDF)	Seremban	Nilai	Nilai IP	67993000	67993888	101 49.01	02 49.76
261	Lehrer Brillenfektion Werks	Lot 762 & 763, Kaw. Perindustrian Nilai, Nilai, 71800 Negeri Sembilan	Industrial and engineering product	spectacles frame and cover	Seremban	Nilai	Nilai IP		0	101 49.01	02 49.76
262	Uni Kit Apparel Sdn Bhd	Lot 15, Nilai I.E., 71800 Nilai, Negeri Sembilan	Textiles, fabrics and button	Made-up garments	Seremban	Nilai	Nilai IP	0	0	101 49.01	02 49.76
263	TDK Malaysia Sdn Bhd	Nilai I.E., 71800 Nilai, Negeri Sembilan	Electricals and electronics	Ceramic capacitors power supply units and pulse transformers (chip type)	Seremban	Nilai	Nilai IP	67991130	0	101 49.01	02 49.76
264	Sok Industry Sdn Bhd	Lot 7910 Kaw. Perindustrian Nilai, P.O. Box 26, 71800 Nilai, N.S.	Wood and wood products	Furniture	Seremban	Nilai	Nilai IP	0	0	101 49.01	02 49.76
265	Malaysian Fibre Containers Sdn Bhd	Lot 12021, Nilai Industrial Estate, 71800 Nilai, Negeri Sembilan.	Paper, printing, packaging & labelling industries	Corrugated fibre boards.	Seremban	Nilai	Nilai IP	67992233	67992100	101 49.01	02 49.76
266	Dana Vision Sdn Bhd	Locked Bag No. 1, 71800 Nilai, Negeri Sembilan	Plastics and PVC	Video cassette tapes, casings and video web/ pancakes	Seremban	Nilai	Nilai IP	67992800	0	101 49.01	02 49.76
267	Goodsmooth Industries (M) Sdn Bhd	PT 741/745 Nilai Mini I.E., 71800 Nilai, Negeri Sembilan	Textiles, fabrics and button	PVC baby pants, tipping caps, protective cloths and spotwear	Seremban	Nilai	Nilai IP	67991698	0	101 49.01	02 49.76
268	Hiroshige (M) Sdn Bhd	Lot 5773, Nilai I.E., 71800 Nilai, Negeri Sembilan	Electricals and electronics	VTR drums, air conditioner valves and hard disk drive parts.	Seremban	Nilai	Nilai IP	67992443	0	101 49.01	02 49.76
269	Hualon Corp. (M) Sdn Bhd	Lot 1649, Nilai I.E., 71800 Nilai, Negeri Sembilan	Textiles, fabrics and button	Nylon polyester, cotton yarn and polyester and nylon fabric	Seremban	Nilai	Nilai IP	67992855	0	101 49.01	02 49.76

Data Book Table E.4.2 (29) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
270	Pre Engineering Metal Building System Sdn Bhd	PT 1803 HS(D) 70318, Mukim Setul, Nilai, Negeri Sembilan	Industrial and engineering products	Saw steel material, fabrication of steel structure	Seremban	Nilai	Nilai IP		0	101 49.01	02 49.76
271	Ichikoh (M) Sdn Bhd	Lot PT 627, Nilai I.E., 71800 Nilai, Negeri Sembilan	Automotive, parts and accessories	Lamp and mirrors for automobile parts thereof	Seremban	Nilai	Nilai IP	67992443	0	101 49.01	02 49.76
272	Sika Kimia Sdn Bhd	Lot 689, Nilai Industrial Estate, 71800 Nilai, Negeri Sembilan	Building materials and related products	Skim coat plastering system, silicafume mortar admixtures, polyurathane, construction and industrial element.	Seremban	Nilai	Nilai IP	67991762	67991980	101 49.01	02 49.76
273	Petro-Pipe Daido Concrete (KL) Sdn Bhd	Lot 7106, Kawasan Perindustrian Nilai, 71800 Nilai, Negeri Sembilan	Building materials and related products	Professional high strength concrete piles	Seremban	Nilai	Nilai IP	67992841	67992839	101 49.01	02 49.76
274	SKF Bearings Industries (M) Sdn Bhd	Lot 7910, Kawasan Perusahaan Nilai, Nilai, Negeri Sembilan	Industrial and engineering products	Rolling bearings	Seremban	Nilai	Nilai IP	67992200	67992405	101 49.01	02 49.76
275	CH Reinforcing Steel (M) Sdn Bhd	Lot 7401, P.T. 1888, Kaw. Perindustrian Nilai Fasa II, 71800 Nilai, N.S.	Industrial and engineering product	Steel bar	Seremban	Nilai	Nilai IP	0	0	101 49.01	02 49.76
276	Printelligence (M) Sdn Bhd	Lot PT 1661, Nilai Industrial Estate, P.O. Box, No. 9, 71809 Nilai, Negeri Sembilan	Paper, printing, packaging & labellings	Printed technical manuals, printed technicals labels	Seremban	Nilai	Nilai IP	67992814	67992813	101 49.01	02 49.76
277	EPE-Wilson Transformers Sdn Bhd	P.T. No. 3299, Jalan AM-3, Arab Malaysian Industrial Park, 71800 Nilai, Negeri Sembilan.	Electricals and electronics	Distribution transformers 100KVA to 2500 KVA	Seremban	Nilai	Nilai IP	67994100	67994113	101 49.01	02 49.76
278	Metakem Sdn Bhd	Lot 5834, Nilai Industrial Estate, 71800 Nilai, Negeri Sembilan	Chemicals and adhesive product	Zinc oxide	Seremban	Nilai	Nilai IP	67991700	67991711	101 49.01	02 49.76
279	Kinzoku Youzai (M) Sdn Bhd	Lot 1563, Nilai I.E., 71800 Nilai, Negeri Sembilan	Electricals and electronics	Precision electroplating, plating of lead frame, leadframes for semiconductor components (stamping and plating)	Seremban	Nilai	Nilai IP	67991878	0	101 49.01	02 49.76
280	KDA Industry (M) Sdn Bhd	Lot PT 1659, Block C, Phase II, Nilai I.E., 71800 Nilai, Negeri Sembilan	Furniture and related products	Wooden furniture and wooden furniture parts	Seremban	Nilai	Nilai IP	67992695	0	101 49.01	02 49.76

Data Book Table E.4.2 (30) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
281	MMC Engineering Services Sdn Bhd	Lot 1479, B10, Nilai I.E., 71800 Nilai, Negeri Sembilan	Automotive, parts and accessories	Refurbished, upgraded and modernised armoured vehicles and other military vehicles	Seremban	Nilai	Nilai IP	67992255	0	101 49.01	02 49.76
282	Seni Dian Kraft Sdn Bhd	Nilai I.E., 71800 Nilai Negeri Sembilan	Furniture and related products	Wooden furniture	Seremban	Nilai	Nilai IP	67991988	0	101 49.01	02 49.76
283	Showpla (M) Sdn Bhd	Lot 8, Nilai I.E., 71800 Nilai, Negeri Sembilan	Plastic and PVC	Plastic injection mould part for electronic, electrical and telecommunication.	Seremban	Nilai	Nilai IP	67991721	0	101 49.01	02 49.76
284	Sumikei (M) Sdn Bhd	Lot PT 630, Nilai I.E., 71807 Nilai, Negeri Sembilan	Industrial and engineering products	Copper and copper alloy tubes including plain, inner grooved and fabricated tubes	Seremban	Nilai	Nilai IP	67992130	0	101 49.01	02 49.76
285	CH Steel Wire Products	Lot 1651, Kaw. Perindustrian Nilai, 71800 Nilai, N.S	Industrial and engineering products	Wire rod, wire bars, wire mesh, hard drawn wire	Seremban	Nilai	Nilai IP	0	0	101 49.01	02 49.76
286	Leader Mutiara Sdn Bhd	Lot 5823, Kaw. Perindustrian Nilai, 71800 Nilai, N.S	Compute and telecommunicationr	Front Hub and tie road end	Seremban	Nilai	Nilai IP	0	0	101 49.01	02 49.76
287	MCB Concrete Product Sdn Bhd	Lot C38, Block C, Kaw. Perindustrian Nilai, 71800 Nilai, N.S	Building materials and related products	Light weight concrete wall panel	Seremban	Nilai	Nilai IP	0	0	101 49.01	02 49.76
288	Good Honor Industry Sdn Bhd	P.T. 629, Kaw. Perindustrian Nilai, 71800 Nilai, N.S	Building materials and related products	PVC pipes and roofing	Seremban	Nilai	Nilai IP	0	0	101 49.01	02 49.76
289	ICI Paint (M) Sdn Bhd	Lot 5827, Kaw. Perindustrian Nilai, 71800 Nilai, N.S	Chemicals and adhesive	Paint	Seremban	Nilai	Nilai IP	0	0	101 49.01	02 49.76
290	Yamakoh Sdn Bhd	P.T. 4028, Kaw. Perusahaan Kecil dan Sederhana, 71700 Mantin, N.S.	Electrical and electronics	Plastic and electrical components	Seremban	Nilai	Nilai IP	0	0	101 49.01	02 49.76
291	Malaysian Roofing Industries Sdn Bhd	Lot 12, Nilai I.E., 71800 Nilai, Negeri Sembilan	Building materials and related products	Ceiling panels coated with a bonding substances and mineral substances	Seremban	Nilai	Nilai IP	67991877	0	101 49.01	02 49.76

Data Book Table E.4.2 (31) List of Factories for Questionnaire Survey

No.	Company Name	Factory Address	Category	Product Description	District	Area	Industrial Estate	Telephone	Fax	East (Longitude)	North (Latitude)
292	Ralco Plastic Sdn Bhd	Lot 1476, Kawasan Perusahaan Nilai, 71800, Nilai Negeri Sembilan	Plastics	Plastic containers	Seremban	Nilai	Nilai IP	67351999	67351616	101 49.01	02 49.76
293	Dumex (M) Sdn Bhd	PT 1473, Arab Malaysian Industrial Park, 71800 Nilai Negeri Sembilan	Food and beverages	Milk powder	Seremban	Nilai	Arab Malaysian	0	0	101 48.94	02 51.77
294	Shell (M) Sdn Bhd	PT 1476,Lorong AM3, Arab Malaysian Industrial Park, 71800 Nilai Negeri Sembilan	Chemicals and adhesive	Storage and lubricants (Liquified) in cylinders	Seremban	Nilai	Arab Malaysian	0	0	101 48.94	02 51.77
295	Unicast Engineering Sdn Bhd	PT 1483, Lorong AM3, Arab Malaysian Industrial Park, 71800 Nilai Negeri Sembilan	Industrial and engineering products	Basic metals products	Seremban	Nilai	Arab Malaysian	0	0	101 48.94	02 51.77
296	Corrugated Offset Packaging Sdn Bhd	PT 3268, Lorong AM5, Arab Malaysian Industrial Park, 71800 Nilai Negeri Sembilan	Paper, printing, packaging and labelling	Warehousing purposes	Seremban	Nilai	Arab Malaysian	0	0	101 48.94	02 51.77
297	Chuan Huat Hardware	PT 1888, Arab Malaysian Industrial Park, 71800 Nilai Negeri Sembilan	Industrial and engineering products	Fabricated metals and basic metal products	Seremban	Nilai	Arab Malaysian		0	101 48.94	02 51.77
298	Jashin Engineering (M) Sdn Bhd	PT No. 3345 Lorong AM5, Arab Malaysian Industrial Park, 71800 Nilai Negeri Sembilan.	Building materials and related products.	scaffolding and its accessories.	Seremban	Nilai	Arab Malaysian	7338607	7338381	101 48.94	02 51.77
299	Kien Hiap Shing Eng	PT 1284 HS(D) 61904, Taman Melor, Mukim Setul, Seremban, Negeri Sembilan	Industrial and engineering products	Machinery manufacturing	Seremban	Setul	Country Height	0	0	101 50.19	02 49.76
300	Aluminium Alloy Casting Sdn Bhd	PT 2473 Mukim Setul	Automotive, parts and accessories	Intake manifold alloy wheels, engine die cast part	Seremban	Setul	Country Height	0	0	101 50.19	02 49.76

DATA BOOK E.4.5

QUESTIONNAIRE RESPONDENTS FOR INDUSTRY

IN THE LANGAT BASIN

Data Book Table E.4.3 (1) Questionnaire Respondents for Industry in the Langat Basin

ID	NAME OF COMPANY	COMPANY STATUS	MAILING ADDRESS	PROPERTY ADDRESS	YEAR OF ESTABLISHMENT	CONTACT PERSON	DESIGNATION	TELEPHONE	FAX
1	T.S.CERAMIC MATERIALS (J) SDN. BHD.	FOREIGN	LOT 14, JALAN PERUSAHAAN 2, KAWASAN PERUSAHAAN BERANANG, 43700 SELANGOR.	LOT 14, JALAN PERUSAHAAN 2, KAWASAN PERUSAHAAN BERANANG, 43700 SELANGOR.	1990	MR. WONG	AD. MANAGER	03-87667861/2/3/4	03-87667860
2	VITRACO ENGINEERING & SERVICES SDN. BHD.	MALAYSIAN	NO. 11 & 11A (1ST FLOOR), JALAN USJ 10/1F, UEP SUBANG JAYA,47620 PETALING JAYA, SELANGOR.	LOT 147, JALAN 2, KAWASAN KOMPLEKS PERABOT OLAK LEMPIT, 42700 KUALA LANGAT, SELANGOR	1990	SELAMAT MUSTAMIN / MAINONG JAMINGAR	MANAGING DIRECTOR	03-7336398/7330276/ 8493268/8494066	03-8493269/ 03-7347851
3	HEIWA GIKEN (MALAYSIA) SDN. BHD.	FOREIGN	LOT 2, LORONG 1A, SYSTEM INDUSTRIAL LOT, OFF JALAN 1, CHERAS JAYA, 43200 CHERAS, SELANGOR.	LOT 2, LORONG 1A, SYSTEM INDUSTRIAL LOT, OFF JALAN 1, CHERAS JAYA, 43200 CHERAS, SELANGOR.	1992	MR. KUNIO KURIYAKI / MR. JANICE	MANAGING DIRECTOR / SECRETARY	03-90746601 / 7002	03-90746210
4	NICHICON (MALAYSIA) SDN. BHD.	FOREIGN	NO. 4, JALAN P/10, KAWASAN PERUSAHAAN BANGI, 43650 BANDAR BARU BANGI, SELANGOR.	NO. 4, JALAN P/10, KAWASAN PERUSAHAAN BANGI, 43650 BANDAR BARU BANGI, SELANGOR.	1990	EN. WAN ZULRUSHDI	WORKSHOP MANAGER	03-87372678	03-87370858
5	EPE WILSON TRANSFORMER SDN.BHD.	JOINT VENTURE	NO.3299, JALAN AM 3, ARAB MALAYSIAN INDUSTRIAL PARK, 71800 NILAI, NEGERI SEMBILAN.	NO.3299, JALAN AM 3, ARAB MALAYSIAN INDUSTRIAL PARK, 71800 NILAI, NEGERI SEMBILAN.	1994	EN. WAN JAMALUDIN	DEPUTY GENERAL MANAGER	06-7994100	06-7994113
6	CHEMI-CON (MALAYSIA) SDN. BHD. [Formaly known as Toshiba Capasitor (M) Sdn. Bhd.]	FOREIGN	FIZ TELOK PANGLIMA GARANG, 15 KILOMETER, JALAN KLANG BANTING KUALA LANGAT, SELANGOR, MALAYSIA. P O BOX 124 42507 TELOK PANGLIMA GARANG	FIZ TELOK PANGLIMA GARANG, 15 KILOMETER, JALAN KLANG BANTING KUALA LANGAT, SELANGOR, MALAYSIA. P O BOX 124 42507 TELOK PANGLIMA GARANG	1984 (25 YEARS)	HAJI HAMZAH MOHAMAD	MANAGER ADMINISTRATIVE SERVICES DEPARTMENT	03-3526239 EXT.113	03-3526292

Data Book Table E.4.3 (2) Questionnaire Respondents for Industry in the Langat Basin

ID	E-MAIL	TYPE OF INDUSTRY	TYPE OF PRODUCTS	NUMBER OF EMPLOYEES	TYPES OF PROCESS BEING USED	OPERATION (Hours/Day)	PRODUCT OUTPUT PER MONTH	TOTAL SALES PER MONTH (RM)	TYPES OF CHEMICALS BEING USED FOR PRODUCTION
1	tscmjsb@po.jaring.my	MANUFACTURING	FORMULATED CLAY & CERAMIC INSULATOR & GRINDING STONE	50	FILTER PRESS	8	600MT / MONTH	400,000.00	SODIUM SILILATE, TALCS, ZICOMUM, BENTONITE, MINERALS SUCH AS KAOLIN, FELOSPAR, SILICA SAND, POTTERY STONE
2	vitraco@pc.jaring.my	ENGINEERING SERVICES & STEEL MANUFACTURES	STEEL STRUCTURES & TELECOMMUNICATION SUPPORT WORKS	34	I. MACHINERIES & HOT WORKS II. MANUFACTURING & STEEL FABRICATION	8 TO 10	X	X	NIL
3	X	MANUFACTURING	SCAFFOLDING ACCESSORIES	60	ASSEMBLY & WELDING	8	350,000 UNITS	900,000.00	NIL
4	X	ELECTRONIC COMPANY	ELECTROLYTIC CAPACITOR	380	SLITTING - STITCHING - WINDING - ASSEMBLY - AGING - TAPING	24	180 MPCS	X	ELECTROLYTE (PASTE) MAKING CHEMICAL
5	ewt@po.jaring.my	ELECTRICAL POWER	TRANSFORMER	90	BY PROCESS	8	70	1.5 MILLION	HYDRAULIC OIL, TRANSFORMER OIL, PAINT
6	X	MANUFACTURING	ELECTROLYTIC CAPACITOR	652	AUTOMATION / SEMI AUTOMATION	3 SHIFTS (21.75 HOURS)	60~70 MILLIONS PCS / MONTH	5.0~7.0 MILLIONS / MONTH	GBL, ETHYLENEGLYCOL, PHTHALIC ACID, MALEIC ACID, BORIC ACID, D-MANNITOL, PHOSPHORIC ACID, PHOSPHANAL GAFAC, M-NITROPHENOL, HYDRO BENZOIC, KIP, CP-110, PARA-NITROBENZOIC ACID

Data Book Table E.4.3 (3) Questionnaire Respondents for Industry in the Langat Basin

ID	CHEMICAL STORAGE CAPACITY		SOURCE OF WATER	WATER BILL PER MONTH (RM)	QUANTITY BEING USED PER MONTH	QUANTITY BEING DISCHARGED	WHERE DO THE WASTEWATER BEING DISCHARGED	WASTEWATER TREATMENT AVAILABLE (Yes/No)	TYPE OF WASTEWATER TREATMENT SYSTEM INSTALLED	WHAT HAS BEEN DONE AFTER THE TREATMENT
	Area (Ha/m^2)	Number of drums (Month or at any one time)								
1	0.8	X	PUBLIC WATER SUPPLY	1,800.00	X	1000M^3	I. DRAIN II. TRANSPORTED ELSEWHERE - AFTER TREATMENT TO STANDARD "A"	YES	SETTLEMENT TANK	I. RECYCLED - 10% II. DISCHARGED - 90%
2	X	X	PUBLIC WATER SUPPLY	240	X	X	DRAIN	NO	X	X
3	X	X	PUBLIC WATER SUPPLY	400	X	X	DRAIN	NO	X	X
4	7 m^2	20 MONTH	PUBLIC WATER SUPPLY	4,500.00	X	250 LITRE PER MONTH	DRAIN	YES	pH ADJUSTMENT, COAGULATION AND FILTRATION SYSTEM	DISCHARGED
5	200 m^2	90	PUBLIC WATER SUPPLY	800	X	X	DRAIN	NO	X	X
6	127m^2	30	PUBLIC WATER SUPPLY	4006.8	X	X	DRAIN AND TRANSPORTED ELSEWHERE (PUBLIC DRAIN)	YES	ABSORBTION BY ACTIVATED CARBON	DISCHARGED

Data Book Table E.4.3 (4) Questionnaire Respondents for Industry in the Langat Basin

ID	TREATMENT SYSTEM,		ENERGY SOURCE	ELECTRICITY BILL PER MONTH	TYPES OF EFFLUENT DISCHARGED	FLOW RATE OF DISCHARGED (Litre/Day)	SIZE OF DISCHARGE PIPE (CENTIMETRE)	TYPES OF DISCHARGE TREATMENT	PLAN TO INSTALLED WASTEWATER TREATMENT SYSTEM IN THE FUTURE (Yes/No)
	Operating per month	Installation							
1	RM250.00 PER MONTH	RM100,000.00	PUBLIC POWER SUPPLY & OWN GENERATOR	RM8000.00	SLURRY	40	5	X	ALREADY INSTALLED
2	X	X	PUBLIC POWER SUPPLY	RM2332.22	X	X	X	X	X
3	X	X	PUBLIC POWER SUPPLY	RM3,000.00	WATERY	X	X	X	NO
4	RM2,500.00	RM300,000.00	PUBLIC POWER SUPPLY	RM210,000.00	WATERY	9	100	CONTINOUS / BATCH	ALREADY INSTALLED
5	X	X	PUBLIC POWER SUPPLY	RM7500.00	X	X	X	X	NO
6	RM1000.00	RM100,000.00	PUBLIC POWER SUPPLY	RM154,427.00	WATERY (BEFORE TREATMENT), ASIDIC (BEFORE TREATMENT), YELLOWISH COLOUR (BEFORE TREATMENT)	24,000	DIAMETER 10.0	CONTINOUS / BATCH	ALREADY INSTALLED

Data Book Table E.4.3 (5) Questionnaire Respondents for Industry in the Langat Basin

ID	SOLID WASTE PRODUCED	SOLID WASTE DISPOSALS		
		Total solid waste (ton/month)	Solid waste company/ contractor	What do you do with the solid waste
1	PAPER, CARTONS, GLASS, WOOD, PLASTIC.	1	PORT POWER	OTHERS - TO DISPOSE IN PERMITED PLACE
2	METAL	5	YES BUT NOT MENTION	SELL OUT
3	PAPER, CARTONS, GLASS, WOOD, PLASTIC.	2	SOLID WASTE DISPOSAL SDN. BHD.	REDUSE
4	PAPER, CARTONS, METAL (MACHINE PART), WOOD, PLASTIC	12	DAYLINE SERVICES	REUSED, RECYCLE, REDUCE
5	METAL (SHEET METAL SCRAP)	1	PH METAL SDN. BHD.	OTHERS - SOLD TO SCRAP BUYER
6	PAPER, CARTONS, WOOD, PLASTIC	1200~2400 GALLONS PER MONTH	KINABALU	RECYCLE AND OTHERS (IN GENERATE BY CONTRACTOR)

Data Book Table E.4.3 (6) Questionnaire Respondents for Industry in the Langat Basin

ID	NAME OF COMPANY	COMPANY STATUS	MAILING ADDRESS	PROPERTY ADDRESS	YEAR OF ESTABLISHMENT	CONTACT PERSON	DESIGNATION	TELEPHONE	FAX
7	HITACHI AIR CONDITIONING PRODUCTS (M) SDN. BHD.	FOREIGN	NO. 10, JALAN KEMAJUAN, BANGI INDUSTRIAL ESTATE, 43650 BANDAR BARU BANGI, SELANGOR.	NO. 10, JALAN KEMAJUAN, BANGI ESTATE, 43650 BANDAR BARU BANGI, SELANGOR.	1989	AZHAR BIN DAUD	ASSISTANT MANAGER	03-89256611 EXT. 1508	03-89251480
8	HITACHI ELECTRONIC PRODUCTS (M) SDN. BHD.	JOINT VENTURE	LOT 12, JALAN KEMAJUAN, BANGI INDUSTRIAL ESTATE, 43650 BANDAR BARU BANGI, SELANGOR.	LOT 12, JALAN KEMAJUAN, BANGI INDUSTRIAL ESTATE, 43650 BANDAR BARU BANGI, SELANGOR.	1989	ENGKU FARID	ENVIRONMENTAL MANAGEMENT CENTER MANAGER	03-89251769	03-89263853
9	KOHOKU ELECTRONICS MALAYSIA SDN. BHD.	FOREIGN	LOT 2, JALAN 15, KAWASAN PERINDUSTRIAN C (PKNS), TELOK PANGLIMA GARANG, 42500 KUALA LANGAT, SELANGOR.	LOT 2, JALAN 15, KAWASAN PERINDUSTRIAN C (PKNS), TELOK PANGLIMA GARANG, 42500 KUALA LANGAT, SELANGOR.	1994	S. SUSILA DEVI	ASSISTANT MANAGER (ADMINISTRATION)	03-3529475	03-3529478
10	MAURI FERMENTATION (MALAYSIA) SDN. BHD.	JOINT VENTURE	P.O.BOX 7039 SUNGAI BESI, 57000 KUALA LUMPUR.	LOT 4185, KAMPUNG BARU BALAKONG, 43350 BALAKONG, SELANGOR.	29 Years	LEE CHAN SANG	PLANT MANAGER	03-9612864	03-9611373
11	ARA BORGSTENA SDN. BHD.	JOINT VENTURE	ARA BORGSTENA SDN. BHD., LOT 100, BT 15 3/4 (KM 26) JALAN KLANG BANTING, 42600 JENJAROM, KUALA LANGAT, BANTING, SELANGOR.	ARA BORGSTENA SDN. BHD., LOT 100, BT 15 3/4 (KM 26) JALAN KLANG BANTING, 42600 JENJAROM, KUALA LANGAT, BANTING, SELANGOR.	1994	MOHAMAD FAIZUL BIN YAHYA	PRODUCTION ENGINEER	03-8686068	03-8686066
12	GENTING SANYEN (M) SDN. BHD.	MALAYSIAN	GENTING SANYEN (M) SDN. BHD., LOT 7090 MUKIM TANJUNG 12, KARUNG BERKUNCI 206, 42700 BANTING, SELANGOR.	GENTING SANYEN (M) SDN. BHD., LOT 7090 MUKIM TANJUNG 12, KARUNG BERKUNCI 206, 42700 BANTING, SELANGOR.	9 YEARS	ZAHROM BIN MOHD KHALID	UTILITY MANAGER	03-8626882	03-8628901

Data Book Table E.4.3 (7) Questionnaire Respondents for Industry in the Langat Basin

ID	E-MAIL	TYPE OF INDUSTRY	TYPE OF PRODUCTS	NUMBER OF EMPLOYEES	TYPES OF PROCESS BEING USED	OPERATION (Hours/Day)	PRODUCT OUTPUT PER MONTH	TOTAL SALES PER MONTH (RM)	TYPES OF CHEMICALS BEING USED FOR PRODUCTION
7	X	MANUFACTURING	ROOM AIR CONDITIONER, ROTARY COMPRESSOR AND SCROLL COMPRESSOR	1,000	X	1st SHIFT 0755am~1735pm 2nd SHIFT 1955pm~0535am (24hours)	X	X	ALKALI, ACID AND SOLVENT
8	farid@hepm.hitachi-asia.com	MANUFACTURING	VTR, CTV, DTV AND RELATED PRODUCTS, CD-ROM, DV-ROM, ETC.	1,669 (END OF MARCH 2000)	ASSEMBLY LINE	16	400K-ODS PRODUCT 70K-VTR SET	60 MILLION	IPA, THINNER, FLUX, DIESEL, CLEANCOAT.
9	susie@kohoku.com.my	MANUFACTURER	LEAD TAB-WIRE FOR CAPASITOR	100	AUTO MACHINERY	24	900 K PCS	2000	BORIC ACID, AMMONIUM ADOPATE, HYDRO CARBON-ACTRL 3338L, LIOWMIX AW
10	cslee@mauri.po.my	FOOD (FERMENTATION)	BAKER'S YEAST, VINEGAR, BAKERY INGREDIENTS.	150 (INCLUSIVE ALL OUT STATION STAFF)	FERMENTATION (YEAST, VINEGAR), BLENDING, MIXING (BAKERY INGREDIENTS)	24	X	X	MOLASSES, UREA, MONO-AMMONIUM PHOSPHATE, POTATO STARCH, SALT, SUGAR, EMULSIFIER, STEARIN / OLEIN, FLOUR etc.
11	araborgstena@po.jaring.com	TEKSTIL	TEKSTIL	88	FERMENTATION	24	65,000-75,000 LINEAR METRES	RM1.8 MILLIONS - 2.3 MILLIONS	NIL
12	zmk@gsanyen.com	RECYCLE PAPERMILL	INDUSTRIAL BROWN PAPER	600	WET PROCESS	24 HOURS PER DAY (3 SHIFT)	20,000 MILLION TON	X	X

Data Book Table E.4.3 (8) Questionnaire Respondents for Industry in the Langat Basin

ID	CHEMICAL STORAGE CAPACITY		SOURCE OF WATER	WATER BILL PER MONTH (RM)	QUANTITY BEING USED PER MONTH	QUANTITY BEING DISCHARGED	WHERE DO THE WASTEWATER BEING DISCHARGED	WASTEWATER TREATMENT AVAILABLE (Yes/No)	TYPE OF WASTEWATER TREATMENT SYSTEM INSTALLED	WHAT HAS BEEN DONE AFTER THE TREATMENT
	Area (Ha/m^2)	Number of drums (Month or at any one time)								
7	X	X	PUBLIC WATER SUPPLY	30,000.00	X	X	X	YES	PHYSICAL TREATMENT, BIOLOGICAL TREATMENT AND FILTRATION	DISCHARGED
8	18m^2	12	PUBLIC WATER SUPPLY	9200	X	(NO PROCESS WATER)	DRAIN	NO	X	X
9	18m2	1500Kg	PUBLIC WATER SUPPLY	RM3000.00	X	2,500 m3 LITRE PER MONTH	DRAIN	YES	FLOATING	DISCHARGED
10	x	x	PUBLIC WATER SUPPLY	20,000.00	X	15,000 m^3	DRAIN	YES	ANAEROBIC / AEROBIC / PHYSICO-CHEMICAL TREATMENT	DISCHARGED
11	NIL	NIL	PUBLIC WATER SUPPLY	800.00 - 1300.00	X	NIL	DRAIN	YES	REVERSE OSMOSIS	RECYCLE
12	X	X	PUBLIC WATER SUPPLY (ONLY FOR HUMAN CONSUMPTION), RIVER (FOR PROCESS)	X	300,000m^3	270,000m^3	RIVER	YES	AEROBIC PROCESS WITH EXTENDED AERATION	DISCHARGED TO SUNGAI LANGAT

Data Book Table E.4.3 (9) Questionnaire Respondents for Industry in the Langat Basin

ID	TREATMENT SYSTEM, Operating per month	TREATMENT SYSTEM, Installation	ENERGY SOURCE	ELECTRICITY BILL PER MONTH	TYPES OF EFFLUENT DISCHARGED	FLOW RATE OF DISCHARGED (Litre/Day)	SIZE OF DISCHARGE PIPE (CENTIMETRE)	TYPES OF DISCHARGE TREATMENT	PLAN TO INSTALLED WASTEWATER TREATMENT SYSTEM IN THE FUTURE (Yes/No)
7	RM11,000.00	X	PUBLIC POWER SUPPLY AND OWN GENERATOR	RM440,000.00	WATERY	224,000	7	CONTINOUS / BATCH	YES
8	X	X	OWN GENERATOR	RM210,000.00	NO EFFLUENT	28	X	X	NO
9	RM1,300.00 (CHEMICAL)	RM400.00 PER MONTH (SERVICE)	OWN GENERATOR	RM70,000.00	WATERY	40,000	15	FLOWCHART	ALREADY INSTALLED
10	RM40,000.00	RM6,3000,000.00 (6.3 MILLIONS)	PUBLIC POWER SUPPLY	RM95,000.00	WATERY, ASIDIC (pH 5.0 to 5.5), COLOUR (CHINESE TEA), COLD (28^0C)	500,000m^3	6"	CONTINOUS / BATCH	ALREADY INSTALLED
11	RM3000.00 - RM5000.00	RM1.2 MILLIONS	PUBLIC POWER SUPPLY	RM15,000.00 - RM23,000.00	WATERY	700 - 800	8.5	FLOWCHART	ALREADY INSTALLED
12	RM250,000.00	RM39,000,000.00	PUBLIC POWER SUPPLY (MAIN), OWN GENERATOR (BACK-UP)	RM2,000,000.00	WATER AND SOLID WASTE	10,000 m^3/DAY	2x300mm (DIAMETER)	CONTINOUS / BATCH	NOT RELEVANT

Data Book Table E.4.3 (10) Questionnaire Respondents for Industry in the Langat Basin

ID	SOLID WASTE PRODUCED	SOLID WASTE DISPOSALS		
		Total solid waste (ton/month)	Solid waste company/ contractor	What do you do with the solid waste
7	PAPER, CARTONS, METAL (COPPER, ALUMINIUM, CAIT IRON AND STEEL), WOOD, PLASTIC, OTHERS (DOMESTIC WASTES)	214	PERNIAGAAN BUMI MAUFIK AND SERI JALIA SDN. BHD.	RECYCLE AND REDUCE
8	PAPER, CARTONS, GLASS, METAL, WOOD, PLASTIC.	76	DELTA CALIBRE	RECYCLE, REDUCE AND DISPOSAL
9	METAL	1.2	KUALITI ALAM SDN. BHD.	SEND TO KUALITI ALAM SDN. BHD.
10	PAPER, CARTONS, PLASTIC.	16	SOLID WASTE DISPOSAL SDN. BHD.	DISPOSED
11	0THERS (HABUK TEKSTIL)	10 TO 12	YES BUT NOT MENTION	DISPOSED
12	PLASTICS AND PAPER FIBRES	3,300 BDT/MONTH	PEMUDA SEPANG BERSATU SDN. BHD.	LANDFILL

Data Book Table E.4.3 (11) Questionnaire Respondents for Industry in the Langat Basin

ID	NAME OF COMPANY	COMPANY STATUS	MAILING ADDRESS	PROPERTY ADDRESS	YEAR OF ESTABLISHMENT	CONTACT PERSON	DESIGNATION	TELEPHONE	FAX
13	EXPEDIENT RESOURCES SDN. BHD.	MALAYSIAN	LOT 15 & 17, JALAN TEMBAGA, KAWASAN PERUSAHAAN, 42700 BANTING, SELANGOR.	LOT 15 & 17, JALAN TEMBAGA, KAWASAN PERUSAHAAN, 42700 BANTING, SELANGOR.	1993	TAN KIRK YAK	OPERATIONS MANAGER	03-8613388	03-8613399
14	PJD CONCRETE PRODUCTS SDN. BHD. (72727-K)	MALAYSIAN	LOT C 38, BLOCK C, NILAI INDUSTRIAL ESTATE, 71800 NILAI, NEGERI SEMBILAN.	LOT C 38, BLOCK C, NILAI INDUSTRIAL ESTATE, 71800 NILAI, NEGERI SEMBILAN.	1994	MR. LEONG YEE KIN / NIZAM KHALID	SNR. FACTORY MANAGER / PRODUCTION ENGINEER	06-7994184 / 06-7994186	06-7994182
15	TAISHO PHARMACEUTICAL (M) SDN. BHD.	FOREIGN	LOT 9, JALAN P/12, KAWASAN PERUSAHAAN SEKSYEN 10, 43650 BANDAR BARU BANGI, SELANGOR.	LOT 9, JALAN P/12, KAWASAN PERUSAHAAN SEKSYEN 10, 43650 BANDAR BARU BANGI, SELANGOR.	10 years	LYE KUM FATT	GENERAL MANAGER - FACTORY	03-89252440	03-89252445
16	ADVANCED PACKAGING TECHNOLOGY (M) BHD.	JOINT VENTURE	LOT 2, JALAN P/2A, KAWASAN MIEL, BANGI INDUSTRIAL ESTATE, BANDAR BARU BANGI, 43650 BANGI, SELANGOR.	LOT 2, JALAN P/2A, KAWASAN MIEL, BANGI INDUSTRIAL ESTATE, BANDAR BARU BANGI, 43650 BANGI, SELANGOR.	1984	SAK KAN FOONG / ENCIK MOHD HUSSEIN	ACCOUNTANT / PRODUCTION MANAGER	03-89257101	03-89259153
17	DENSO (M) SDN. BHD.	JOINT VENTURE	LOT 2, JALAN P/1, SEKSYEN 13, BANDAR BARU BANGI, 43650 SELANGOR.	LOT 2, JALAN P/1, SEKSYEN 13, BANDAR BARU BANGI, 43650 SELANGOR.	1980	MR. YASUYUKI TAKAI / MR.P.C.LEE	PLANT DIRECTOR / ASSISTANT MANAGER	03-89250320	03-89250869
18	SIKA KIMIA SDN. BHD.	FOREIGN	LOT 689, NILAI INDUSTRIAL ESTATE, 71800 NILAI, NEGERI SEMBILAN.	LOT 689, NILAI INDUSTRIAL ESTATE, 71800 NILAI, NEGERI SEMBILAN.	1989	MR. CHAN TEIK KEN	MANAGER IN ENVIRONMENT, HEALTY AND SAFETY	06-7991762	06-7991980 / 06-7993633
19	DIPSOL CHEMICALS (M) SDN. BHD.	FOREIGN	NO. 4, JALAN GANGSA, KAWASAN PERUSAHAAN, 42500 TELOK PANGLIMA GARANG, KUALA LANGAT, SELANGOR.	NO. 4, JALAN GANGSA, KAWASAN PERUSAHAAN, 42500 TELOK PANGLIMA GARANG, KUALA LANGAT, SELANGOR.	1982	MR. MADZIN BIN ACHIL	HUMAN RESOURCE & ADMIN MANAGER	03-3526321	03-3526324

Data Book Table E.4.3 (12) Questionnaire Respondents for Industry in the Langat Basin

ID	E-MAIL	TYPE OF INDUSTRY	TYPE OF PRODUCTS	NUMBER OF EMPLOYEES	TYPES OF PROCESS BEING USED	OPERATION (Hours/Day)	PRODUCT OUTPUT PER MONTH	TOTAL SALES PER MONTH (RM)	TYPES OF CHEMICALS BEING USED FOR PRODUCTION
13	experes@po.jaring.my	DRY RUBBER PRODUCTS	RUBBER UNDERLAYS FOR CARPETS	45	NATURAL DRY RUBBER MIXED WITH CHEMICALS IN A BANBURY MIXER	12	200,000m^2	750,000.00	ANTIOXIDANTS FILLER (CALCIUM CARBONATE), SULPHUR, SODIUM BICARBONATE
14	X	MANUFACTURING OF CONCRETE PRODUCTS	PRECAST CONCRETE WALL PANELS	21	EXTRUSION	8 HOURS x 2 SHIFTS = 16 HOURS	30 K - 700 K	500 K - 700 K	NIL
15	X	MANUFACTURING	CONSUMER DRINK	85	MIXING, FILLING AND CAPPING	8	1 TO 1.2 MILLIONS	1.6 MILLIONS	VITAMINS, AMINO ACID, SORBITOL, BENZOATE ACID, CITRIC ACID AND HONEY
16	X	MANUFACTURER	FLEXIBLE PACKAGING MATERIALS	120	PRINTING, LAMINATION, SLITING AND BAG MAKING	19	ABOUT 3,000,000 m^2	2,200,000.00	INK, SOLVENT, RESINS AND PRIMER
17	X	MANUFACTURING AND ASSEMBLY	AUTOMOTIVE AND NON-AUTOMOTIVE COMPONENTS	1200	MANUAL AND SEMI-AUTO	8 OR 22	CONFIDENTIAL	CONFIDENTIAL	CONFIDENTIAL
18	sikamal@tm.net.my	PENGILANG	BAHAN KIMIA UNTUK SEKTOR PEMBINAAN	92	BLENDING	$8^{1/4}$	800 TAN	2,000,000.00	SIMEN, STONE, SAND, PEWARNA, PALARUT, EPOKSI-RESIN, AMIDA PENGERAS, BAHAN-BAHAN KIMIA ORGANIK AND OTHERS
19	X	ELECTROPLATING	METAL	300	X	24	X	2million	ACIDS, ALKALINES AND CHROMATE

Data Book Table E.4.3 (13) Questionnaire Respondents for Industry in the Langat Basin

ID	CHEMICAL STORAGE CAPACITY		SOURCE OF WATER	WATER BILL PER MONTH (RM)	QUANTITY BEING USED PER MONTH	QUANTITY BEING DISCHARGED	WHERE DO THE WASTEWATER BEING DISCHARGED	WASTEWATER TREATMENT AVAILABLE (Yes/No)	TYPE OF WASTEWATER TREATMENT SYSTEM INSTALLED	WHAT HAS BEEN DONE AFTER THE TREATMENT
	Area (Ha/m^2)	Number of drums (Month or at any one time)								
13	DRY STORAGE (350 m^2)	NIL	PUBLIC WATER SUPPLY	560	X	NO WASTE WATER FROM PRODUCTION	NO WASTE WATER (DRY PROCESS)	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE
14	X	X	PUBLIC WATER SUPPLY	300	X	350m^3	DRAIN AND HAD BEEN RECYCLE	YES	SETTLING TANK SYSTEM	RECYCLE
15	324m^2	80	PUBLIC WATER SUPPLY	2,100.00	X	1,300,000	DRAIN	YES	BIOLOGICAL PLANT	DISCHARGE
16	X	310 DRUMS	PUBLIC WATER SUPPLY	300.00 TO 400.00	NIL	NOT AVAILABLE	DRAIN	NO	X	NOT AVAILABLE
17	0.125	100	PUBLIC WATER SUPPLY	20,000.00	X	40,000	TO THE WASTE WATER TREATMENT	YES	CHEMICAL TREATMENT	DISCHARGED
18	1400m^2	X	PUBLIC WATER SUPPLY	516.4	29736.11 LITRE	972.22 LITRE	DRAIN	YES	FIZIKAL-KIMIA	DISCHARGE AND (SELEPAS MENJALANKAN R & D, AKAN DIGUNAKAN SEMULA)
19	400m^2	200	PUBLIC WATER SUPPLY	9,393.60	X	9,600m^3	DRAIN	YES	CHEMICAL TREATMENT	DISCHARGED

Data Book Table E.4.3 (14) Questionnaire Respondents for Industry in the Langat Basin

ID	TREATMENT SYSTEM, Operating per month	TREATMENT SYSTEM, Installation	ENERGY SOURCE	ELECTRICITY BILL PER MONTH	TYPES OF EFFLUENT DISCHARGED	FLOW RATE OF DISCHARGED (Litre/Day)	SIZE OF DISCHARGE PIPE (CENTIMETRE)	TYPES OF DISCHARGE TREATMENT	PLAN TO INSTALLED WASTEWATER TREATMENT SYSTEM IN THE FUTURE (Yes/No)
13	NOT AVAILABLE	NOT AVAILABLE	PUBLIC POWER SUPPLY	RM35,000.00	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE
14	RM500.00	RM20,000.00	PUBLIC POWER SUPPLY	X	WATERY	$8m^3$	X	CONTINOUS / BATCH	ALREADY INSTALLED
15	RM5,000.00	RM5000,000.00	PUBLIC POWER SUPPLY	RM15,000.00	WATERY, NEUTRAL AND COLD	50,000	100	CONTINOUS / BATCH	ALREADY INSTALLED
16	NOT AVAILABLE	NOT AVAILABLE	PUBLIC POWER SUPPLY	RM40,000.00	WATERY	NOT SURE	7mm	NOT AVAILABLE	NO
17	CONFIDENTIAL	CONFIDENTIAL	PUBLIC POWER SUPPLY	RM150,000.00	WATERY	40,000	15	CONTINOUS / BATCH	ALREADY INSTALLED
18	RM1000.00	RM100,000.00	PUBLIC POWER SUPPLY	RM11,917.45	WATERY, SLURRY, SOLID, ASIDIC, ALKALINE, NEUTRAL	X	54	FLOWCHART AND BATCHES	ALREADY INSTALLED
19	RM70,000.00 TO RM80,000.00	RM3million	PUBLIC POWER SUPPLY	RM66,484.28	WATERY, ASIDIC, ALKALINE AND COLD	$320m^3$	X	CONTINOUS / BATCH	ALREADY INSTALLED

Data Book Table E.4.3 (15) Questionnaire Respondents for Industry in the Langat Basin

ID	SOLID WASTE PRODUCED	SOLID WASTE DISPOSALS		
		Total solid waste (ton/month)	Solid waste company/ contractor	What do you do with the solid waste
13	PAPER (1.5 MT), PLASTIC (1.0 MT) AND OTHERS (JUTE FOR 0.7 MT)	20	SITAMAS / MEDIA PERMATA	RECYCLE
14	CONCRETE WASTE	0.185	X	RECYCLE
15	PAPER, CARTONS AND GLASS	1	MANI CLEANING SERVICES	RECYCLE AND REUSED
16	PLASTICS	30	CONWASTE SDN. BHD.	CONWASTE SDN. BHD. DISPOSE IT
17	PAPER, CARTONS, GLASS, METAL (COPPER, IRON, ALUMINIUM), WOOD, PLASTIC.	30	TOTAL LOGISTIC SERVICE (M) SDN. BHD.	RECYCLE
18	PAPER, CARTONS, GLASS, METAL (BESI), WOOD, PLASTIC	3.2	KUALITI ALAM SDN. BHD.	REUSED AND RECYCLE
19	METAL (ZINC, NICKLE, CHROMATE AND ALODINE	120 TON	KUALITI ALAM SDN. BHD.	REDUCE (SEND TO KUALITI ALAM FOR SOLIDIFICATION AND LAND FILL)

Data Book Table E.4.3 (16) Questionnaire Respondents for Industry in the Langat Basin

ID	NAME OF COMPANY	COMPANY STATUS	MAILING ADDRESS	PROPERTY ADDRESS	YEAR OF ESTABLISHMENT	CONTACT PERSON	DESIGNATION	TELEPHONE	FAX
20	SONY TECHNOLOGY MALAYSIA SDN. BHD.	FOREIGN	LOT 4, JALAN P/1, KAWASAN PERINDUSTRIAN BANGI, 43650 BANDAR BARU BANGI, SELANGOR.	LOT 4, JALAN P/1, KAWASAN PERINDUSTRIAN BANGI, 43650 BANDAR BARU BANGI, SELANGOR.	1ST OKTOBER1999	M.S.GOVIND	SR. MANAGER	03-89283620	03-89258897
21	ASPHALT INDUSTRIES SDN. BHD.	MALAYSIAN	LOT 2, JALAN H KAWASAN PERUSAHAAN CHERAS JAYA, OFF JALAN BALAKONG, 43200 SELANGOR.	LOT 2, JALAN H KAWASAN PERUSAHAAN CHERAS JAYA, OFF JALAN BALAKONG, 43200 SELANGOR.	1983	CHEAH SAW HA	PRODUCTION MANAGER	03-90752204	03-90752209
22	WRP ASIA PACIFIC SDN. BHD.	MALAYSIAN	LOT 1, JALAN 3, KAWASAN PERUSAHAAN BANDAR BARU SALAK TINGGI, 43900 SEPANG, SELANGOR.	LOT 1, JALAN 3, KAWASAN PERUSAHAAN BANDAR BARU SALAK TINGGI, 43900 SEPANG, SELANGOR.	1989	CHEE AH HOCK	KETUA JABATAN - JABATAN KEJURUTERAAN DAN PROJEK	03-87061486	03-87061481
23	Sun Tong Seng Mauld Teeh Sdn Bhd	Malaysian	16 Jalan P/8, MIEL Ind. Area, 43650 Bandar Baru Bangi, Selangor.	16 Jalan P/8, MIEL Ind. Area, 43650 Bandar Baru Bangi, Selangor.	1986	1. Tan Choan Hong 2. Tan Yok Song	1. Account Executive 2. Admin Director	03-89258132	03-89258135
24	Tilbury Douglas (Malaysia) Sdn. Bhd.	Malaysian	15, Jalan Bandar Dua, Taman Melawati, 53100 Kuala Lumpur.	Lot 253, Km. 5, Jalan Sungai Lalang, 43500 Semenyih, Selangor.	1985	Mike Holker-Barnes	Director / General manager	03-4081587	03-4081393

Data Book Table E.4.3 (17) Questionnaire Respondents for Industry in the Langat Basin

ID	E-MAIL	TYPE OF INDUSTRY	TYPE OF PRODUCTS	NUMBER OF EMPLOYEES	TYPES OF PROCESS BEING USED	OPERATION (Hours/Day)	PRODUCT OUTPUT PER MONTH	TOTAL SALES PER MONTH (RM)	TYPES OF CHEMICALS BEING USED FOR PRODUCTION
20	Govind.munu@ap.sony.com.my	ELECTRONIC MANUFACTURER	CN PRODUCTION, DVD AND VHS	6692	SEMI-AUTOPROCESS	24	CN PROJECTOR-200,000	CONFIDENTIAL	FLOX, THINNER AND IPA
21	X	MANUFACTURER	ROAD CONSTRUCTION MATERIAL	36	MANUAL / SEMI-MANUAL	8	800-1000 MTONS	850,000.00 - 900,000.00	HYDROCHLORIC ACID, CALCIUM CHLORIDE
22	ahchee_wrp@wrpworld.com	INDUSTRIAL	RUBBER GLOVE AND BALLON CATHETERS	2800	LATEX DIPPING	24	140 MILLION RUBBER GLOVE	20,000,000.00	SULPHUR, ZINC OXIDE, ACCELERATORS, ANTI OXIDANT, FILLERS
23	sts@tm.net.my or stsdc@tm.net.my	Making plastic mould	Plastic mould	36	Machining	8	3	x	x
24	tilburym@tm.net.my	Concrete manufacturer	Precast concrete piles	30	concrete production	9	2600 cubic metres	1 100 00.00	KAO Mighty 150-Napthalene Sulfonate Based

Data Book Table E.4.3 (18) Questionnaire Respondents for Industry in the Langat Basin

ID	CHEMICAL STORAGE CAPACITY		SOURCE OF WATER	WATER BILL PER MONTH (RM)	QUANTITY BEING USED PER MONTH	QUANTITY BEING DISCHARGED	WHERE DO THE WASTEWATER BEING DISCHARGED	WASTEWATER TREATMENT AVAILABLE (Yes/No)	TYPE OF WASTEWATER TREATMENT SYSTEM INSTALLED	WHAT HAS BEEN DONE AFTER THE TREATMENT
	Area (Ha/m^2)	Number of drums (Month or at any one time)								
20	X	X	PUBLIC WATER SUPPLY	X	X	X	DRAIN	NO	NOT AVAILABLE	NOT AVAILABLE
21	X	100 x 25 kg (CARBOYS)	PUBLIC WATER SUPPLY	900.00 - 1,000.00	X	X	NOT AVAILABLE	NO	X	NOT AVAILABLE
22	240 FEET x 258 FEET	300	PUBLIC WATER SUPPLY	280,000.00	7,400,00	23,000,000	SISTEM PENGOLAHAN EFFLUENT	YES	SISTEM PENGOLAHAN EFFLUENT	DISCHARGED
23	x	x	Jabatan Bekalan Air	40.00	x	7 m^3	Drain	No		
24	x	9 000 litres	Well			10 000	Drain	No		

Data Book Table E.4.3 (19) Questionnaire Respondents for Industry in the Langat Basin

ID	TREATMENT SYSTEM,		ENERGY SOURCE	ELECTRICITY BILL PER MONTH	TYPES OF EFFLUENT DISCHARGED	FLOW RATE OF DISCHARGED (Litre/Day)	SIZE OF DISCHARGE PIPE (CENTIMETRE)	TYPES OF DISCHARGE TREATMENT	PLAN TO INSTALLED WASTEWATER TREATMENT SYSTEM IN THE FUTURE (Yes/No)
	Operating per month	Installation							
20	NOT AVAILABLE	NOT AVAILABLE	PUBLIC POWER SUPPLY	X	WATERY	NOT AVAILABLE	NOT AVAILABLE	PROCESS DESCRIPTION	NO
21	NOT AVAILABLE	NOT AVAILABLE	PUBLIC POWER SUPPLY	RM1,800.00 - RM1,900.00	NOT AVAILABLE	X	X	X	NOT AVAILABLE
22	RM180,000.00	X	PUBLIC POWER SUPPLY	RM650,000.00	NEUTRAL	7,400,000	30	CONTINOUS	YES
23			Tenaga National Berhad (TNB)	4 000.00	Solid				No
24									

Data Book Table E.4.3 (20) Questionnaire Respondents for Industry in the Langat Basin

ID	SOLID WASTE PRODUCED	SOLID WASTE DISPOSALS		
		Total solid waste (ton/month)	Solid waste company/ contractor	What do you do with the solid waste
20	PAPER, CARTONS, GLASS, METAL (CRT), WOOD, PLASTIC AND OTHERS (HAZARDOUS MATERIAL)	1071 TON	SEMARAK SDN. BHD.	X
21	METAL AND EMPTY DRUMS (DAMAGED UNITS)	X	X	SELL AS SCRAP METAL
22	PAPER, CARTONS, PLASTIC.	210	SYARIKAT SWASTA	X
23	Metal		kontractor syarikat swasta	Recycle
24				

DATA BOOK E.4.6

CHEMICAL USAGE IN INDUSTRY

BASED ON PRODUCT CATEGORY

Data Book Table E.4.4 Chemical Usage in Industry Based on Product Category

Industry	Product	Chemicals
Building materials and related products	FORMULATED CLAY & CERAMIC INSULATOR & GRINDING STONE	SODIUM SILILATE, TALCS, ZICOMUM, BENTONITE, MINERALS SUCH AS KAOLIN, FELOSPAR, SILICA SAND, POTTERY STONE
Building materials and related products	ROOFING TILES	EMULSION
Building materials and related products	CHEMICAL FOR CONSTRUCTIONS	Epoxy-resin, solvent, harden amide and organic chemicals
Building materials and related products	ROAD CONSTRUCTION MATERIAL	HYDROCHLORIC ACID, CALCIUM CHLORIDE
Electrical and Electronics	ELECTROLYTIC CAPACITOR	ELECTROLYTE (PASTE) MAKING CHEMICAL
Electrical and Electronics	TRANSFORMER	HYDRAULIC OIL, TRANSFORMER OIL, PAINT
Electrical and Electronics	ELECTROLYTIC CAPACITOR	GBL, ETHYLENEGLYCOL, PHTHALIC ACID, MALEIC ACID, BORIC ACID, D-MANNITOL, PHOSPHORIC ACID, PHOSPHANAL GAFAC, M-NITROPHENOL, HYDRO BENZOIC, KIP, CP-110, PARA-NITROBENZOIC ACID
Electrical and Electronics	ROOM AIR CONDITIONER, ROTARY COMPRESSOR AND SCROLL COMPRESSOR	ALKALI, ACID AND SOLVENT
Electrical and Electronics	VTR, CTV, DTV AND RELATED PRODUCTS, CD-ROM, DV-ROM, ETC.	IPA, THINNER, FLUX, DIESEL, CLEANCOAT.
Electrical and Electronics	LEAD TAB-WIRE FOR CAPASITOR	BORIC ACID, AMMONIUM ADOPATE, HYDRO CARBON-ACTRL 3338L, LIOWMIX AW
Electrical and Electronics	METAL	ACIDS, ALKALINES AND CHROMATE
Electrical and Electronics	CN PRODUCTION, DVD AND VHS	FLOX, THINNER AND IPA
Electrical and Electronics	AUDIO VIDEO COILS AND FILTERS	THINNER, SOLVEN
Electrical and Electronics	INTEGRATED CIRCUITS, TRANSISTORS, DIODES	ACETONE, IPA, FLUX, NaOH, H_2SO_4, HNO_3, ETHANOL
Food and Beverages	BAKER'S YEAST, VINEGAR, BAKERY INGREDIENTS.	MOLASSES, UREA, MONO-AMMONIUM PHOSPHATE, POTATO STARCH, SALT, SUGAR, EMULSIFIER, STEARIN / OLEIN, FLOUR etc.
Food and Beverages	CONSUMER DRINK	VITAMINS, AMINO ACID, SORBITOL, BENZOATE ACID, CITRIC ACID AND HONEY
Paper, printing Pack aging and Labelling	FLEXIBLE PACKAGING MATERIALS	INK, SOLVENT, RESINS AND PRIMER
Plastic and PVC	ELASTIC BRAIDS, PP TAPE, POLYESTER TAPE	EMULSION 3347, GAS (SHELL)
Rubber and rubber products	LATEX EXAMINATION GLOVES	RUBBER, SULPHUR, ZINC OXIDE, ZDBC, ZDEC, TITANIUM DIOXIDE, BRILLIANT WHITE, VULTAMOL, BEVALOID, KOH, CALCIUM CARBONATE, CALCIUM NITRATE, CORN STARCH
Rubber and rubber products	RUBBER UNDERLAYS FOR CARPETS	ANTIOXIDANTS FILLER (CALCIUM CARBONATE), SULPHUR, SODIUM BICARBONATE
Rubber and rubber products	RUBBER GLOVE AND BALLON CATHETERS	SULPHUR, ZINC OXIDE, ACCELERATORS, ANTI OXIDANT, FILLERS

DATA BOOK E.4.7

LOCATION OF PIG FARMS, POULTRY FARMS

AND CATTLE FARMS

IN THE LANGAT BASIN

Data Book Table E.4.5 Location of Pig Farms, Poultry Farms and Cattle Farms in the Langat Basin

1. LIST AND LOCATION OF THE PIG FARMS IN LANGAT RIVER BASIN

PIG ID	LOCATION	
	N	E
1	427696.47	325920.00
2	414298.56	297489.13
3	412556.25	293799.53
4	412120.69	293671.41
5	412146.28	293978.88
6	412505.00	294132.59
7	412991.81	294158.22
8	412786.84	293825.13
9	413427.41	294055.75
10	413658.00	293799.53
11	412684.38	293568.91
12	412376.91	293415.19
13	413658.00	297565.97
14	412296.25	293114.91
15	411428.88	295874.91
16	411044.53	295926.16
17	409507.22	291006.69
18	409840.31	291160.44
19	409840.31	290955.47
20	409840.31	290699.22
21	410199.00	290852.97
22	402358.63	294004.50
23	409565.81	290814.34
24	402179.25	294465.69
25	414503.53	297796.59
26	401384.97	294465.69
27	398028.47	293902.00
28	397721.00	294055.75
29	398284.69	294106.97
30	398720.28	294132.59
31	399078.97	294363.22
32	399309.56	294798.78
33	398925.25	294747.53
34	398720.28	294491.31
35	415067.22	297540.34
36	398489.66	294388.81
37	398079.72	294260.72
38	397823.50	294388.81
39	397567.28	294337.59
40	397208.56	294286.34
41	398130.97	294568.19
42	398515.28	294645.06
43	396849.84	294414.44

44	396439.91	294363.22
45	396414.28	294645.06
46	415169.72	297975.94
47	396619.25	294696.28
48	397131.69	294568.19
49	397516.03	294645.06
50	397849.13	294824.41
51	398464.03	294978.13
52	398771.50	295003.75
53	399130.22	295080.63
54	398976.50	295336.84
55	398745.88	295336.84
56	398438.44	295285.59
57	414349.81	298257.78
58	398105.34	295131.88
59	397413.53	294978.13
60	397054.81	294850.03
61	396721.75	294926.91
62	396132.44	294773.16
63	395901.81	294645.06
64	397003.59	295080.63
65	397797.88	295055.00
66	398182.19	294850.03
67	397951.59	295336.84
68	413427.41	298437.13
69	397669.75	295285.59
70	397362.28	295234.38
71	396721.75	295157.50
72	396337.41	295055.00
73	395773.72	294875.66
74	395517.50	294824.41
75	395978.69	295080.63
76	398310.31	295490.59
77	398694.66	295593.06
78	398387.19	295798.06
79	413888.59	298590.88
80	398079.72	295669.94
81	397823.50	295644.31
82	397592.88	295567.44
83	397029.19	295439.34
84	396644.88	295413.72
85	396337.41	295413.72
86	395338.13	294978.13
87	395645.59	295183.13
88	395953.06	295464.97
89	395696.84	295593.06
90	414836.63	298155.28
91	395543.13	295669.94
92	395978.69	295874.91

93	396593.63	295721.19
94	396260.53	295721.19
95	396414.28	295977.41
96	396849.84	295798.06
97	396875.47	296054.28
98	397336.66	295490.59
99	397208.56	295695.56
100	397336.66	296003.03
101	414452.28	298642.13
102	397490.41	295900.53
103	397874.72	296003.03
104	397772.25	295798.06
105	398207.81	296131.13
106	389111.19	297417.53
107	388957.88	297417.53
108	388762.72	297473.31
109	388581.50	297487.25
110	388888.16	297612.69
111	389083.31	297570.88
112	425717.59	329218.09
113	408814.81	312150.41
114	413453.03	298923.97
115	389013.63	297724.19
116	389194.84	297696.31
117	389111.19	297849.66
118	388762.72	297696.31
119	388567.56	297626.63
120	388414.22	297612.69
121	388372.41	297807.84
122	388539.69	297835.72
123	388748.78	297849.66
124	388874.22	297905.41
125	415451.56	298539.63
126	388916.03	298058.75
127	387912.44	297654.50
128	387968.19	297793.91
129	387814.84	297793.91
130	387661.53	297835.72
131	387494.25	297877.53
132	387605.75	297961.16
133	387912.44	297863.59
134	415554.03	298949.56
135	387996.06	297933.28
136	387968.19	298044.81
137	388079.69	297863.59
138	387786.97	298072.69
139	387605.75	298114.50
140	387689.41	298198.13
141	387731.22	298309.66

142	387870.59	298198.13
143	387800.91	298393.28
144	387926.38	298407.22
145	387940.31	298267.84
146	414401.06	298975.19
147	413786.13	299103.31
148	388051.81	298198.13
149	388093.63	298086.63
150	388288.78	298100.56
151	388205.16	298156.31
152	388344.53	298239.97
153	388135.44	298267.84
154	388260.91	298393.28
155	388065.75	298407.22
156	413324.91	299462.03
157	387632.94	298032.81
158	387333.66	298833.38
159	387382.72	298741.75
160	387271.22	298909.03
161	387508.19	298895.09
162	386100.31	299187.81
163	386030.63	299382.97
164	386128.19	299508.44
165	385877.31	299466.59
166	415015.97	298642.13
167	385793.66	299564.19
168	385598.50	299647.81
169	385835.47	299661.75
170	386002.75	299675.69
171	385713.91	299328.53
172	396328.78	308986.97
173	385905.69	299282.13
174	395860.84	309369.81
175	395775.75	309880.28
176	396456.41	309880.28
177	385868.56	299749.22
178	414272.94	299462.03
179	398157.97	316729.09
180	413965.47	299282.66
181	414657.28	299282.66
182	415092.84	299359.53
183	433385.69	330289.97
184	415579.66	299462.03
185	413529.91	299538.88
186	412966.22	300000.09
187	412966.22	300435.66
188	413456.91	300048.91
189	414964.75	298923.97
190	413837.38	300025.72

191	413053.00	301260.56
192	413581.13	300435.66
193	414529.16	299743.88
194	432313.81	331856.59
195	415610.97	299712.34
196	414708.50	299974.47
197	413324.91	300410.03
198	414503.53	300307.56
199	414221.69	300563.78
200	415144.09	299820.72
201	415605.28	300128.19
202	415745.59	301462.53
203	429427.97	330537.34
204	415274.41	300991.31
205	413793.47	300722.06
206	413453.03	301639.91
207	414477.91	301793.66
208	415015.97	301793.66
209	414811.00	301178.72
210	413658.84	302001.03
211	414042.34	301127.47
212	404444.81	313222.28
213	414862.25	300845.63
214	414399.31	300924.00
215	414130.03	299712.34
216	414887.88	299513.28
217	415476.34	300520.13
218	415246.59	300076.97
219	414399.31	301327.91
220	413322.25	300924.00
221	415554.03	301229.94
222	413632.38	298001.56
223	414042.34	298052.81
224	412661.41	299375.81
225	412479.38	292441.53
226	413478.66	292595.28
227	413017.44	292646.53
228	412248.78	292723.38
229	411992.56	293210.22
230	413273.66	292928.38
231	413068.69	292902.75
232	412966.22	293235.84
233	423573.84	322539.44
234	413324.91	293235.84
235	413760.50	293158.97
236	414093.59	293158.97
237	414196.06	293568.91
238	413991.09	293389.56
239	413965.47	293773.91

240	413350.53	293543.28
241	412966.22	293594.53
242	413171.19	299769.50
243	409577.41	290814.34
244	413033.88	298972.31
245	412940.75	298165.28
246	388909.47	297789.56
247	387952.16	298182.47
248	387859.91	298032.81
249	385670.59	299529.59
250	385921.16	299576.00
251	385627.28	299418.25
252	385686.06	299702.81

2. LIST AND LOCATION OF THE CATTLE FARM IN LANGAT RIVER BASIN.

CATTLE ID	LOCATION	
	N	E
1	417255	322328
2	424718	323986
3	412763	308857
4	410668	316480

3. LIST AND LOCATION OF THE POULTRY FARM IN LANGAT RIVER BASIN.

CATTLE ID	LOCATION	
	N	E
1	423403	320178
2	436133	311048
3	410700	310904

DATA BOOK E.4.8

QUESTIONNAIRE RESPONDENTS FOR AGRICULTURE

IN THE LANGAT BASIN

Data Book Table E.4.6 (1) Questionnaire Respondents for Agriculture in the Langat Basin

A. GENERAL INFORMATION

ID	Name of Company	Company Status	Mailing Address	Property Address	Year of Establishment	Contact Person	Telephone	Fax	E-Mail	Type of Agriculture	Type of Products	Number of Employees
1	Kumpulan Sua Betong Sdn. Bhd. (25517X)	Malaysian	Ladang Ampar Tenang, Peti Surat 4, 43807 Dengkil, Selangor.	Ladang Ampar Tenang, Peti Surat 4, 43807 Dengkil, Selangor.	1932	En. Kek Sang Choo (Estate Manager)	03-87686304	03-87686304	x	Palm oil	Oil palm freshfruit bunches	116
2	Consolidated Plantations Berhad and Selatan Estate Sdn. Bhd.	Malaysian	Kirby Estate, Batu 9, Jalan Labu, 71900 Labu, Negeri Sembilan	Kirby Estate, Batu 9, Jalan Labu, 71900 Labu, Negeri Sembilan	x	En. Roslan (Manager) En. Kumarasamy (Asst. Manager)	06-7912791	06-7912792	x	Rubber, palm oil and oil palm nursery	Palm oil and rubber	200
3	Consolidated Plantations Berhad and New Labu Estate	Malaysian	(Company No. 48997-A) New Labu Estate, 71809 Nilai, Negeri Sembilan	(Company No. 48997-A) New Labu Estate, 71809 Nilai, Negeri Sembilan	x	En. Rozlan Abd. Halim (Manager)	06-7991214	06-7991226	x	Rubber and palm oil	Rubber and palm oil	167
4	Hj. Abdul Hamid bin Dalip	Malaysian	91, Kampung Jenderam Hilir, 43800 Dengkil, Selangor.	91, Kampung Jenderam Hilir, 43800 Dengkil, Selangor.	1927	Hj. Abdul Hamid bin Dalip (orner of small holder)	03-87686023	x	x	Rubber	Rubber and orchard (small holders)	4

Data Book Table E.4.6 (2) Questionnaire Respondents for Agriculture in the Langat Basin

	B. PALM OIL, RUBBER, ORCHARD, VEGETABLES												
				IF USING FERTILIZER					*IF USING PESTISIDE*				
ID	**Area**	**Age of Trees**	**Fertilizer use (yes/no)**	**Name / brand**	**Types**	**Frequency**	**Quantity used eachtime**	**Pestiside use (yes/no)**	**Name / brand**	**Types**	**Frequency**	**Quantity used eachtime**	**Biological control use (if yes specify the animal or plant being used)**
1	890 hectare	Variable (1971 Plantings to 1993 plantings)	Yes	Nitrate and Potassium	Granule	2 round per year	Variable (1600 gram to 2000 gram per palm)	Yes	Regent 3 G - fipronil and Azodrin - monocratoplos	Granule and liquid	Once a month	30 g / palm and 10 ml / palm	
2	1195.3 hectare	Palm oil (1985-1994), Rubber (1972-1991)	Yes	Depend to order	Granule	Aug-Sept, Feb-March, May-Jun	911.2 kg per hectare	Yes	Depend to order	liquid			No
3	1050 hectare	15 year	Yes	A/Nitrate, CIRP, Kieserate, MOP	Granule	3 time per year	4x135 kg per hectare	Yes	Round up, Gramoxne, Ally	liquid	2 time per year	20 litre per hectare	No
4	2 acre rubber plantation and 5 acre orchard	Rubber (1 year) and Orchard (15 year)	Yes	Sebatian Hijau-65	Granule	2 time per year	Depend to the trees	Yes	Air tembakau	liquid	once a week	Depend to the trees	No

Data Book Table E.4.6 (3) Questionnaire Respondents for Agriculture in the Langat Basin

C. ANIMAL FARM

ID	Type of animal farms	Number of heads	*Area of*			Production rate (head per month)	Everage size of animal suitable for production (kilogram)	Everage age of animal suitable for production (year old)	Type of production	*FEED STOCK*				Types of waste
			Whole farm	Grazing	Shack					Types	Name / brand	Quantity	Frequency (per day)	
1														
2														
3														
4														

Data Book Table E.4.6 (4) Questionnaire Respondents for Agriculture in the Langat Basin

	C. ANIMAL FARM (Contn'd)					D. WATER USAGE						
			VETERINARY SERVICES									
ID	Quantity of waste	Type of waste treatment	Type	Frequency	Record of Disease Outbreak	Source of water	Water bill per month (RM)	Quantity being used per month (Litre)	Quantity being discharge per month (Litre)	Where do the wastewater being discharge	Water treatment available (if yes, type of it)	What has been done to the wastewater after treatment
1						Jabatan Bekalan Air and Tubewell	5782.40	394	Not measured (Domestic used only)	Drain	No	
2						River				Drain	No	
3						Groundwater or well		1 350 000		Drain	No	
4												

Data Book Table E.4.6 (5) Questionnaire Respondents for Agriculture in the Langat Basin

	D. WATER USAGE (Contn'd)							
	COST OF							
ID	Operating per month (RM)	Instalation (RM)	Types of effluent discharged	Flow rate of discharge per day (Litre)	Size of discharge pipe (centimetre)	Type of discharge treatment	Place being discharged	Plan to install the wastewater treatment
1								
2							Drain	
3								
4								

Data Book Table E.4.6 (6) Questionnaire Respondents for Agriculture in the Langat Basin

	E. PLANTATION WASTE								F. ENERGY	
	RUBBER PLANTATION				PALM OIL PLANTATION					
ID	Cut down the old trees (yes/no)	If yes, what do you do with it	If processed, what being done	If disposed of, where being disposed	Describe the used of old trees	Describe the used of kernels	Describe the used of fronds	If waste not being recycle or reused, where do the waste being disposed	Energy source	Electricity bill per month (RM)
1					Left to rot along interline	Only in processing mills, not in estate	Stack along interlines	Only domestic use	Tenaga National Berhad	4802.92
2	Yes	Sell it			Not used (left it till it rot by itself)				Tenaga National Berhad	4500.00
3	Yes	Disposed or sell it	No	x					Tenaga National Berhad	5800.00
4										

DATA BOOK E.4.9

LIST OF PESTICIDE USED IN AGRICULTURAL ACTIVITIES

Data Book Table E.4.7 List of Pesticide Used in Agricultural Activities

Agricultural Activities	Pesticides		Usage (l/ha/year)
	Commercial Name	Active Ingredients	
Palm oil	Cypermethrhin	Cypermethrin	0.60
	Gramoxone PP910	Paraquate dichloride 25% w/w	1.60
	Roundup	Glyphosate isopropylamine 41% w/w	6.60
	Spark	Glyphosate isopropylamine 13.6% w/w	2.40
	Touchup	Glyphosate isopropylamine 41% w/w	4.00
Rubber	Ato Cuprofix	Boreaux mixture 80% w/w Metalic copper 20% w/w	4.20
	Basta	Glufosinate ammonium 13.5% w/w	4.60
	Midafos	Midafos	4.00
	Roundup	Glyphosate isopropylamine 41% w/w	6.60
	Spark	Glyphosate isopropylamine 13.6% w/w	2.40
	Touchup	Glyphosate isopropylamine 41% w/w	4.00
Orchads	Roundup	Glyphosate isopropylamine 41% w/w	6.60
	Spark	Glyphosate isopropylamine 13.6% w/w	2.40
	Touchup	Glyphosate isopropylamine 41% w/w	4.00
	Basta	Glufosinate ammonium 13.5% w/w	4.60

DATA BOOK E.4.10

LIST OF FERTILIZERS USED IN AGRICULTURAL ACTIVITIES IN THE LANGAT BASIN

Data Book Table E.4.8 List of Fertilizers Used in Agricultural Activities

Agriculture activities	Fertilizers Product	Usage kg/ha/yr
Palm oil	Gutrie Natural Fertiliz ers	2.40
	Borate	0.10
	ground magnesium limestone (G.M.L)	6.00
	Kieserate	1.00
	Morate of potash (MOP)	9.00
	Nitrate Acid	5.00
	Rock phosphate (CIRP)	1.00
	Supergro	2.60
Orchards	Biorgano	1.66
	Gutrie Natural Fertiliz ers	2.40
	Supergro	2.60
Rubber	Gutrie Natural Fertiliz ers	2.40
	Kieserate	1.00
	MOP	9.00
	Nitrate acid	5.00
	Rock phosphate (CIRP)	1.00

DATA BOOK E.4.11

LIST OF MINING ACTIVITIES IN THE LANGAT BASIN

Data Book Table E.4.9 (1) List of Mining Activities in the Langat Basin

1. List of Quarry Operators in 1998

Bil.	Name of Producers	Office Address	Mine Location	Rock Type	District	State	Remarks
Q-1	Dolomite Industries Sdn. Bhd.	Bt. 11 3/4, Sg. Serai, 43100 Ulu Langat	Bt. 11 3/4, Sg. Serai, 43100 Ulu Langat	Granite	Hulu Langat	Selangor	On map
Q-2	Gerak Harapan Sdn. Bhd.	Tk. 11,Wisma TAS, Jalan Melaka, KL.	Lot 16050,Batu 11 1/2, Jalan Cheras Kajang	Granite	Hulu Langat	Selangor	On map
Q-3	Hume Redland Quarries Sdn. Bhd.	PO Box 207, 43509 Semenyih	Lot PT 1120, Mukim Hulu Semenyih	Granite	Hulu Langat	Selangor	On map
Q-4	Kajang Rock (M) Sdn. Bhd.	A50, Jln Tuanku 4, Taman Salak South, KL	Lot 2213, Mukim Semenyih	Granite	Hulu Langat	Selangor	On map
Q-5	Kenneison Brothers Sdn. Bhd.	Peti Surat 7, Sg Long 43207 Ulu Langat	Sg Long, Ulu Langat	Granite	Hulu Langat	Selangor	On map
Q-6	Kajang Granite Qry Sdn. Bhd.	Tkt 6, Wisma Sin Heap Lee, Jln Tun Razak	Lot 7990, Mukim Semenyih	Granite	Hulu Langat	Selangor	On map
Q-7	Medan Damai Sdn. Bhd.	No 33-35, Jln 3/125D, Tmn Desa Petaling, KL	Lot 1201 & 1203, Mukim Cheras	Granite	Hulu Langat	Selangor	-
Q-8	Sg. Way Qry Ind. Sdn. Bhd. (Kuari Semenyih)	Level 5, Menara Sg Way, Jlan Lagun Timur, (Bandar Sunway)	Lot 4024 & 1027, Mukim Semenyih	Granite	Hulu Langat	Selangor	On map
Q-9	Sg. Long Industries Sdn. Bhd.	Bt. 11 3/4, Sg. Serai, 43100 Ulu Langat	As address	Granite	Hulu Langat	Selangor	On map
Q-10	Mahabina Enterprise	No 34 Tkt 2, Jln Semenyih,43000 Kajang	Lot 39976, Mk Cheras	Granite	Hulu Langat	Selangor	-
Q-11	Negeri Roadstone Sdn. Bhd.	Km 4, Jln Pajam, Nilai, PO Box 126, 70710 Seremban	Km 4, Jln Pajam, Nilai	Granite	Seremban	N. Sembilan	On map
Q-12	Highway Quarry Sdn. Bhd.	Bt 10, L/Raya KL-Seremban,71907 Labu	Batu 8, Jln Labu	Granite	Seremban	N. Sembilan	On map
Q-13	Asbadi Jaya Sdn. Bhd.	69-70, Jln Tuanku Antah, 70000 Seremban	Bt 5, Jln Mantin	Granite	Seremban	N. Sembilan	-
Q-14	Jaksa Quarry Sdn. Bhd.	4764-A, Jln TS 1/9, Taman Semarak, 71900 Nilai	Bt 10, Seremban - KL Highway	Granite	Seremban	N. Sembilan	On map
Q-15	Pati Nilai Quarry Sdn. Bhd.	5227B, Jln TS 2/1D, Taman Semarak 2, 71800 Nilai	Setul	Granite	Seremban	N. Sembilan	On map
Q-16	Nilai Granite Ind.	No 424, Tkt 1, Jln Tun Dr Ismail, Seremban	Nilai	Granite	Seremban	N. Sembilan	On map
Q-17	Malaysia Rock Product	P.O Box 514, Petaling Jaya, Selangor Darul Ehsan	KM 8, Jalan Labu	Granite	Seremban	N. Sembilan	On map
Q-18	M & T Resources	Batu 8, Kg Setul, 71700 Mantin	Batu. 8, Jalan Mantin	Granite	Seremban	N. Sembilan	On map
Q-19	Romila Jaya Sdn. Bhd.	4713 Jln TS 1/1, Tmn Semarak, 71800 Nilai	Setul	Granite	Seremban	N. Sembilan	On map
Q-20	Sg Way Quarry Sdn. Bhd.	Tkt 5, Menara Sg Way, Jln Lagun Timur, Bandar Sunway	Mukim Labu	Granite	Seremban	N. Sembilan	On map
Q-21	Unitex Enterprise Sdn. Bhd.	7A, Jalan Awan Hijau, Overseas Union Garden, Jalan Kelang Lama, 58200 Kuala Lumpur	Lot 2629	Quarry	Petaling	Selangor	-

* Q-Quarry operator

Data Book Table E.4.9 (2) List of Mining Activities in the Langat Basin

2. Clay producers-Extraction in 1998

Bil.	Name of Producer	Office address	Pit Location	Type of Material	District	State	Remarks
CP-1	Sin Heap Lee Brickmakers Sdn. Bhd.	NA	Bt. 1, Sepang	Clay	Sepang	Selangor	-
CP-2	Sepang Ceramics Industries (M) Sdn. Bhd.	Bt. 3 1/2, Jln Sepang, Sungai Pelek	Bt. 3.5, Jalan Sepang/Sg. Pelek	Clay	Sepang	Selangor	-
CP-3	Mening B. Kuntum	Kg. Orang Asli Bukit Baja, Dengkil.	Bukit Baja	Clay	Sepang	Selangor	-
CP-4	Hiap Lee (Cheong Leong & Sons) Brickmakers Sdn. Bhd.	Wisma TCL, Tkt. 3, No.470, Batu 3, Jalan Ipoh, Kuala Lumpur	Lot 4673, Sepang	Clay	Sepang	Selangor	-
CP-5	Sunyan Kaolin Sdn. Bhd.	Bt. 14, Jln.54, Desa Jaya, Kepong, KL	Lot 5353, Ulu Langat	Clay	Hulu Langat	Selangor	-
CP-6	Kilang Batu-bata Hin Kee S/B	100, Bt 3 1/2, Jln Cheras, KL	Lot 1543, 1544 Mukim Kajang	Clay	Hulu Langat	Selangor	-

CP-Clay producers/extraction permit

3. Kaolin producers in 1998

Bil.	Name of Producers	Office Address	Mine Location	Type of Material	District	State	Remarks
K-1	Cheras Kaolin Industries Sdn. Bhd.	No. 14, Jln 54, Desa Jaya, Kepong	Lot 5325, Bt. 11 3/4, Jln. Hulu Langat	Kaolin	Hulu Langat	Selangor	-

* K -Kaolin producers

4. Limestone-cement manufacturing in 1998

Bil.	Name of Producers	Office Address	Quarry Location	Type of Material	District	State	Remarks
L-1	Associated Pan Malaysia Cement Sdn. Bhd.	Wisma APMC, 2, Jln. Kilang, Petaling Jaya	Lot 4222, 3847, 3455 & 4295	Limestone	Gombak	Selangor	-
L-2	Malayan Cement	NA	Lot 1955	Limestone	Gombak	Selangor	-
L-3	Negeri Sembilan Cement Industries Sdn. Bhd	Suite 2&3-4,Wisma Arab Malaysian, Jln. Tunku Munawir, Seremban	Bahau, Jempol	Limestone	Jempol	Negeri Sembilan	-

L-Quarry producing limestone

Data Book Table E.4.9 (3) List of Mining Activities in the Langat Basin

5. List of Earth Materials-Extraction in 1998

Bil.	Name of Producers	Office Address	Mine Location	Type of Material	District	State	Remarks
EMP-1	Khalijah Bt. Muhamad	No. 1, Jln.6, Taman Desawira, T.P. Garang	Bukit Cheeding	Red Earth	Teluk Datok	Selangor	-
EMP-2	Tee You Kee @ Tee Tick Seng	Bt. 3/4, Kg. Seri Cheeding, Banting	Bukit Cheeding	Red Earth	Teluk Datok	Selangor	-
EMP-3	Ben Awang Enterprise	No.75, Jln. Raja Alang, Kg Baru, KL	Bukit Cheeding	Red Earth	Teluk Datok	Selangor	-
EMP-4	Siman Bin Sayu	Kg. Bukit Kemandol, Telok Panglima Garang	Bukit Cheeding	Red Earth	Teluk Datok	Selangor	-
EMP-5	Ramjani B. Supi	Jln. Sukaipi. Kg. Jemjarom, Jenjarom.	Kg. Jenjarom	Red Earth	Teluk Datok	Selangor	-
EMP-6	Sangka Anak Kuek	N.A	Bukit Kemandol	Red Earth	Banting	Selangor	-
EMP-7	Anjis Anak Pajak	N.A	Bukit Kemandol	Red Earth	Banting	Selangor	-
EMP-8	Ramli b. Lesut	Kg. Orang Asli Tg. Rabok	Tanjung Rabok	Red Earth	Banting	Selangor	-
EMP-9	Sah Bin Siman	Kg. Orang Asli Tg. Rabok	Tanjung Rabok	Red Earth	Banting	Selangor	-
EMP-10	Amek Anak Aun	Bukit Tadom, 42700 Banting, Selangor	Bukit Tadom	Red Earth	Kg. Labohan Dagang	Selangor	-
EMP-11	Mohd Som bin Omar	Lot 513, Bt 18 1/2, Sg. Manggis, Banting	Bukit Cheeding	Red Earth	Teluk Datok	Selangor	-
EMP-12	Rahman Hj. Md. Yasin	182, Tmn. Sijangkang Jaya, Banting	Tanjung Rabok	Red Earth	Banting	Selangor	-
EMP-13	Sia Choon Wah	Kg. Orang Asli,Bukit Jenok,Dengkil.	Bukit Jenok, Dengkil	Red Earth	Dengkil	Selangor	-
EMP-14	Metreco Industries Sdn. Bhd.	148A, Tkt.1, Jln Tuanku Abdul Rahman, KL	Bt. 12.5, Jln. Puchong Kajang	Red Earth	Sepang	Selangor	-
EMP-15	Mohd Hairi B. Husin	Banting	N.A.	Red Earth	Banting	Selangor	-
EMP-16	Yusof B. Alip	Kg. Orang Asli, Air Terentang, Dengkil.	Bukit Baja	Red Earth	Dengkil	Selangor	-
EMP-17	Sam Shan Brothers Con. (M) Sdn. Bhd.	Banting	Bt. 32.5, Jln Telok Datuk	Red Earth	Banting	Selangor	-
EMP-18	Long Anak Angka	Kawasan Orang Asli Bukit Baja	Bukit Baja	Red Earth	Dengkil	Selangor	-
EMP-19	Jaafar Bin Manap	Dengkil	Bukit Damar	Red Earth	Dengkil	Selangor	-
EMP-20	Sam Shan Brothers Con. (M) Sdn. Bhd.	59, Jln. Chendana 2, Tmn. Muhibbah, Banting	Lot 4677, Dengkil	Red Earth	Dengkil	Selangor	-
EMP-21	Sheikh Mamh Development Sdn. Bhd.	Lot8947-A, Pekan Telok Gong, P. Kelang	Giching	Red Earth	Dengkil	Selangor	-
EMP-22	WMS Cons. & Transp. Sdn. Bhd.	No. 3-2, Jln. 2/33B, Kepong Komesial Park, KL	Puchong	Red Earth	Puchong	Selangor	-
EMP-23	Ah Chan	S-4, Sg. Manggis, Banting	Bt. 32.5, Jln Telok Datuk	Red Earth	Banting	Selangor	-
EMP-24	Khadari B. Yaakob	No. 61, Jln. ST 1D/2, Bandar Baru Salak Tinggi	Bandar Baru Salak Tinggi	Red Earth	Salak	Selangor	-
EMP-25	Hashim Abdul Majid	Bt.13, Simpang Balak, Kajang	Lot 748 & 3127 Mk. Cheras	Red Earth	Cheras	Selangor	-
EMP-26	Yap Tong Leong	A-33 Tmn Kok Llan, Bt 5, Jln Batu Bata Jalan Ipoh, K.L	Lot 973, Mk. Semenyih	Red Earth	Semenyih	Selangor	-
EMP-27	Siti Rohani binti Haji Ismail	Bt. 9 1/2, Jln. Cheras	Lot 3588,5380, 5343, Mk. Cheras	Red Earth	Cheras	Selangor	-
EMP-28	Puchong Teamworks Corp.	No.12 & 14, Jln. 3133B, Bt 6 1/2, Jln Kepong, K Lumpur	Lot 7027, Mk. Kajang	Red Earth	Kajang	Selangor	-
EMP-29	Azman B. Ali Akbar	Kg. Bukit Batu, Sesapan Kelubi, Beranang	Lot 1052, Mk. Beranang	Red Earth	Beranang	Selangor	-
EMP-30	Syarikat Perniagaan Saemah Sdn. Bhd.	No. 149, Persiaran TKP, Sg. Kantan, Kajang	PT 1351 Mk. Hulu Semenyih	Red Earth	Hulu Semenyih	Selangor	-
EMP-31	Pregal Variety Sdn. Bhd.	No. 32-34, Medan Setia Dua, Plaza Damansara, K Lumpur	Lot 978 Mk. Kajang	Red Earth	Kajang	Selangor	-

* EMP- Earth materials producers/extraction permit

Data Book Table E.4.9 (4) List of Mining Activities in the Langat Basin

6. List of Sand and Gravel Extraction in 1998 (1/3)

Bil.	Name of Producers	Office Address	Pit Location	Type of Mineral	District	State	Remarks
S&G-1	United Distintion Sdn. Bhd.	165-2,Jalan Sarjana,Taman Connaught,Cheras	Lot 3056 & 3202, Puchong	Mining Sand	Petaling	Selangor	-
S&G-2	Wong Min Kim	150A, Kampung Batu 43800 Dengkil	Lot 548 Dengkil & Batu 12, Jalan Air Htam	Mining Sand	Sepang	Selangor	-
S&G-3	Kazarbina S/B	4, Taman Sri Desa Morib 42700 Banting	Lot 5317 Dengkil	Mining Sand	Sepang	Selangor	-
S&G-4	Lokman Mustapha Sdn. Bhd.	20B, Jalan Murai 1, Batu Komplek, 51200 KL	Lot 1078 & 1079 Dengkil	Mining Sand	Sepang	Selangor	-
S&G-5	Zainul Rashid Abdul Rahman	30-3, Jalan 1/82B 59000 Bangsar Utama	Lot 940.941,546,547 & Sg. Langat	River Sand	Sepang	Selangor	-
S&G-6	Lim Chin	904A Wisma HLA , Jalan Raja Chulan, KL	Lot 550, Dengkil	Mining Sand	Sepang	Selangor	-
S&G-7	Sungai Way Enterprise	Lot 1157, Jalan SS 13/6, Subang Jaya	Lot 550, Dengkil	Mining Sand	Sepang	Selangor	-
S&G-8	Syarikat Maju Jaya Kuala Langat Sdn. Bhd.	59,Jalan Chendana 2, Taman Muhibbah, 42700 Banting	Lot 557, Dengkil	Mining Sand	Sepang	Selangor	-
S&G-9	Abdul Aziz B. Jamaluddin @ Wahab	No.17, Jalan 12/3,Sek.12, Sungai Merab, Bandar Baru Bangi	Sungai Buah	River Sand	Sepang	Selangor	-
S&G-10	Mohd. Manis bin Abdullah	Kampung Sungai Buah, 43800 Dengkil	Lot 1088, Dengkil	Mining Sand	Sepang	Selangor	-
S&G-11	Mohd. Yusof Bador	4, Rumah Rakyat Labu-Seremban	Sungai Langat	River Sand	Sepang	Selangor	-
S&G-12	Ahmad Tohid Haji Hassan	Kampung Bukit Bangkong, Dengkil	Sungai Langat, Dengkil	River Sand	Sepang	Selangor	-
S&G-13	Setiapadu Enterprise	92, Jenderam Hilir, Dengkil	Sungai Langat, Dengkil	River Sand	Sepang	Selangor	-
S&G-14	Ramlay B. Karim	60,RKT Sungai Merab, Kajang	Sungai Langat, Dengkil	River Sand	Sepang	Selangor	-
S&G-15	Rabian B. Mahadun	7, Lorong Merpati 4, Banting	Sungai Langat, Dengkil	River Sand	Sepang	Selangor	-
S&G-16	Jaafar Chick Sdn. Bhd.	18A, Lintasan Perjurit 6, Taman Ipoh Timur, 31420 Ipoh	Lot 557, MC 5 Dengkil	Mining Sand	Sepang	Selangor	-
S&G-17	Ragam Anak Binjen	Kg. Orang Asli Melut, Bukit Bakong, Jenderam Hilir, Dengkil	Melut	Mining Sand	Sepang	Selangor	-
S&G-18	Lean Yee Mining Sdn. Bhd.	Tkt 22,Wisma Denmark, 86 Jalan Ampang, 50450 Kuala Lumpur	Pt 6045, Dengkil	Mining Sand	Sepang	Selangor	-
S&G-19	Metreco Industries Sdn. Bhd.	148-A, Jln. Tuanku Abdul Rahman, 50100 K.L	Lot 1114, Dengkil	Mining Sand	Sepang	Selangor	-
S&G-20	Syarikat Pembinaan Remaja	No 2, Jln. Cempaka 17, Taman Cempaka , Ampang	Sungai Langat, Dengkil	River Sand	Sepang	Selangor	-
S&G-21	Alias B. Mohd Yusof	Lot 805, Kg. Bukit Bangkong, Sungai Pelek	Sungai Langat	River Sand	Sepang	Selangor	-
S&G-22	Md. Nor b. Md. Jamil	Kg. Datok Ahmad Razali, Dengkil	Sungai Langat, Dengkil	River Sand	Sepang	Selangor	-
S&G-23	Raja Mohd Taufik B. Raja Redzwa Uda	JKR 445 (N) BBST Sepang	Sungai Langat, Dengkil	River Sand	Sepang	Selangor	-
S&G-24	Sang Lian Enterprise Sdn. Bhd.	72, Taman Kota, 42600 Sungai Rambai, Jenjarom	Jenderam Hilir	Mining Sand	Sepang	Selangor	-

S&G-Sand and gravel extraction permit

Data Book Table E.4.9 (5) List of Mining Activities in the Langat Basin

6. List of Sand and Gravel Extraction in 1998 (2/3)

Bil.	Name of Producers	Office Address	Pit Location	Type of Material	District	State	Remarks
S&G-25	Sain B. Mat Disan	3, Jalan Permai8, Taman Air Hitam Permai, Dengkil	Sg. Labu, Dengkil	River Sand	Sepang	Selangor	-
S&G-26	Shaat b. Jahmet	Kg. Orang Asli Bukit Bangkong, Dengkil	Jenderam Hilir	Mining Sand	Sepang	Selangor	-
S&G-27	Sri Kenangi Sdn. Bhd.	77C, Wisma Kimtoo, Jalan Loke Yew, 55200 Kuala Lumpur	Batu 1, Dengkil	Mining Sand	Sepang	Selangor	-
S&G-28	Mohammad Nor B. Haji Ahmad	37, Jalan ST 2A/2, Taman Anggerik, BBST	Sungai Labu	River Sand	Sepang	Selangor	-
S&G-29	Hashim B. Hj. Mahmod	Kg. Bukit Belimbing, Kuala Selangor	Jenderam Hilir	Mining Sand	Sepang	Selangor	-
S&G-30	Sendang Abadi Sdn. Bhd.	Lot 1884, Jalan Abadi, Kg. Labuhan Dagang, Banting	Jenderam Hilir	Mining Sand	Sepang	Selangor	-
S&G-31	Mohd Rashid B. Abd. Jabar	23, Jalan 19/16, Seks. 19, Shah Alam	Jenderam Hilir	Mining Sand	Sepang	Selangor	-
S&G-32	Hj. Tawi B. Hj. Yusof	Kg. Jenderam Hilir	Jenderam Hilir	Mining Sand	Sepang	Selangor	-
S&G-33	Melun B. Komar	Kg. Orang Asli Melut, Bukit Bakong, Jenderam Hilir, Dengkil	Melut	Mining Sand	Sepang	Selangor	-
S&G-34	Mat Ajin B. Waya	Kg. Orang Asli Melut, Bukit Bakong, Jenderam Hilir, Dengkil	Melut	Mining Sand	Sepang	Selangor	-
S&G-35	Ali Bin Waya	Kg. Orang Asli Melut, Bukit Bakong, Jenderam Hilir, Dengkil	Melut	Mining Sand	Sepang	Selangor	-
S&G-36	Othman Anak Gagak	Kg. Orang Asli Melut, Bukit Bakong, Jenderam Hilir, Dengkil	Melut	Mining Sand	Sepang	Selangor	-
S&G-37	Adeni B. Ahmad @ Harun	Kg. Ulu Chuchoh, Sungai Pelek	Sungai Langat, Dengkil	River Sand	Sepang	Selangor	-
S&G-38	Teknoperkasa (M) Sdn. Bhd.	Lot 22354, Kg. Salak Tinggi, Sepang	Sungai Labu	River Sand	Sepang	Selangor	-
S&G-39	Super-Up Enterprise	589-A, Jalan 2, Tanjung Sepat	Sg. Jijan, Labu	River Sand	Sepang	Selangor	-
S&G-40	Sapiah Bt. Kenat	32, Batu 26, Jenderam Hilir, Dengkil	Sungai Langat, Dengkil	River Sand	Sepang	Selangor	-
S&G-41	Aini Binti Buymin	Batu 2, Jalan Air Hitam, Dengkil	Sungai Langat, Dengkil	River Sand	Sepang	Selangor	-
S&G-42	Osman B. Husin	Kg. Sungai Buah, Dengkil	Sg. Semenyih	River Sand	Sepang	Selangor	-
S&G-43	Baharin B. Husin	Lot 1852, Kg. Salak Tinggi, Sepang	Sungai Langat, Dengkil	River Sand	Sepang	Selangor	-
S&G-44	Nasri B. Mohd Yunan	Kg. Salak Tengah, Sepang	Sungai Langat, Dengkil	River Sand	Sepang	Selangor	-
S&G-45	Mohd Haidah B. Jantan	No.3, Taman Seri Siantan, Sg. Pelek	Sungai Langat, Dengkil	River Sand	Sepang	Selangor	-

S&G-Sand and gravel extraction permit

Data Book Table E.4.9 (6) List of Mining Activities in the Langat Basin

6. List of Sand and Gravel Extraction in 1998 (3/3)

Bil.	Name of Producers	Office Address	Pit Location	Type of Mineral	District	State	Remarks
S&G-46	Jo B. Kamar	Kg. Orang Asli Bangkong, Dengkil	Sg. Langat	River Sand	Sepang	Selangor	-
S&G-47	Green Doves Sdn. Bhd.	No.17, Taman Seri Merbau, Sg. Pelek	Sungai Langat, Dengkil	River Sand	Sepang	Selangor	-
S&G-48	JKKK Batu 13 Hulu Langat	Pekan Batu 13, Jalan Hulu Langor, 43100 Ulu Langat	Mukim Ulu Langat, Bt 13-14, Sungai Langat	River Sand	Hulu Langat	Selangor	-
S&G-49	Baharum bin Hitam	7, Rumah Awan Kos Rendah, Bt.15, Jlan Semenyih, Kajang	Bt. 26, Sg. Lalang	River Sand	Hulu Langat	Selangor	-
S&G-50	Kop.Phng. Daerah & Pertubuhan Peladang Kaw. Selatan	Komplek Penghulu, Semenyih	Lot 1370 & 1356	Mining Sand	Hulu Langat	Selangor	-
S&G-51	Raja Aman Shah Raja Idris	BP Bandar Tun Razak, Jln. Jujur, Bandar Tun Razak, KL	Lot 1906, Mukim Semenyih	Mining Sand	Hulu Langat	Selangor	-
S&G-52	Kenneison Brothers Sdn. Bhd.	P.O.Box 7, Sg. Long, 43207 Hulu Langat	Lot 3912 Mukim Hulu Langat	Mining Sand	Hulu Langat	Selangor	-
S&G-53	Yap Tong Leong	A33, Jln. Batu Bata, Tmn. Kok Lian, Bt.5, Jalan Ipoh, KL	Lot 1238, Mukim Hulu Semenyih	Mining Sand	Hulu Langat	Selangor	-
S&G-54	Yahya Bin Ariffin/ Yamin Bin Yaacob	Batu 14,43100 Hulu Langat	Sg. Langat di Bt. 14-17	River Sand	Hulu Langat	Selangor	-
S&G-55	Roslan Bin Kasim	Bt.12, Jalan Cheras, 43000 Kajang	Sg. Langat di Bt. 11-12	River Sand	Hulu Langat	Selangor	-
S&G-56	Abdul Manan B. Talib	No. 55, Kg. Pasir Baru,43500 Semenyih	Lot 1440, Mukim Hulu Semenyih	Mining Sand	Hulu Langat	Selangor	-
S&G-57	Marzuki Bin Hj. Salleh	Bt.10, Jalan Cheras, 43000 Cheras	Lot 1025, Mukim Hulu Semenyih	Mining Sand	Hulu Langat	Selangor	-
S&G-58	Siti Rohani Bt. Hj. Ismail	Batu 9 1/2, Jalan Cheras, 43200 Cheras	Lot 5325, Hulu Langat	Mining Sand	Hulu Langat	Selangor	-
S&G-59	Lee Kui Hua	No.91, Jalan Kemboja, Taman Paling Jaya, 43500 Hulu Langat	GM 69, Lot 303, Mukim Hulu Semenyih	Mining Sand	Hulu Langat	Selangor	-
S&G-60	Maff Contruction Sdn. Bhd.	No.49, Jalan Intan, Taman Seri Nanding, 43100 Hulu Langat	PT 1459, Mukim Hulu Langat	Mining Sand	Hulu Langat	Selangor	-
S&G-61	Pena Development Sdn. Bhd.	No.03-32, Kompleks PKNS, 40000 Shah Alam	Lot 2246 & 2247 Mukim Beranang	Mining Sand	Hulu Langat	Selangor	-
S&G-62	Perniagaan Saemah Sdn. Bhd.	Lot 149, Persiaran TKP, Taman Kantan Permai, 43000 Kajang	HSD 42589, PT 1351, Mukim Hulu Semenyih	Mining Sand	Hulu Langat	Selangor	-

S&G-Sand and gravel extraction permit

Data Book Table E.4.9 (7) List of Mining Activities in the Langat Basin

7. List of Tin Mining Producers 2000

Bil.	Name of Producers	Office Address	Pit Location	Type of Sand	District	State	Remark
T-1	Delima Industries Sdn. Bhd.,	Tingkat 14, Plaza Perangsang, Persiaran Perbandaran, 40000 Shah Alam, Selangor.	Lot 557	Tin	Sepang	Selangor	-
T-2	Metreco Industries Sdn. Bhd.	148A, Tingkat 1, Jalan Tuanku Abdul Rahman, 50100 Kuala Lumpur	Lot 1114	Tin	Sepang	Selangor	-
T-3	Mariju Sama Sdn. Bhd.	Timah House, 87, Jalan Sultan Yussuf, Peti Surat 310, 30740 Ipoh, Perak Darul Ridzuan.	PT 3675	Tin	Sepang	Selangor	-
T-4	Mariju Sama Sdn. Bhd.	Timah House, 87, Jalan Sultan Yussuf, Peti Surat 310, 30740 Ipoh, Perak Darul Ridzuan.	Lot 336	Tin	Sepang	Selangor	-
T-5	Tengku Azman Al-Haj Sdn. Bhd.	NA	Lot 1078, Lombang Sungai Rasau,	Tin	Sepang	Selangor	-
T-6	Tengku Azman Al-Haj Sdn. Bhd.	NA	Lot 1079, Lombong Sungai Rasau,	Tin	Sepang	Selangor	-
T-7	Munda Sdn. Bhd.	NA	Lot 4327 dan Lot 115	Tin	Ulu Selangor	Selangor	-
T-8	Sheratin Sdn. Bhd.	NA	Lot 50, Lot 3248 dan Lot 2988	Tin	Ulu Selangor	Selangor	-
T-9	Petaling Tin Berhad	NA	Lot 3980 dan PT 1136	Tin	Kuala Langat	Selangor	-
T-10	Dayapi Lombong Bijih Sdn. Bhd.	No. 55, Jalan Mega Mendung, Kompleks Bandar, Batu 5, Jalan Kelang Lama, 58201 Kuala Lumpur	Lot 6980	Tin	Kuala Langat	Selangor	-
T-11	Berjuntai Tin Dredging Ltd.	NA	Lot 1564, Lot 12, Lot 18 dan Lot 15	Tin	Kuala Selangor	Selangor	-
T-12	Tetuan K.L Larut Sdn. Bhd.	NA	Lot 19676, Lot 2092, Lot 19 dan Lot 1590	Tin	Kuala Selangor	Selangor	-
T-13	Kuala Langat Mining Sdn. Bhd.	NA	Pt 6540	Tin	Kuala Langat	Selangor	-
T-14	Swasta Rasmi Enterprise.	No. 55, Jalan Mega Mendung, Kompleks Bandar, Batu 5, Jalan Kelang Lama, 58201 Kuala Lumpur	Lot 6269	Tin	Kuala Langat	Selangor	-

T- Tin mining procedures

DATA BOOK E.4.12

LIST OF WASTEWATER TREATMENT PLANTS

IN THE LANGAT BASIN

OPERATED BY IWK

Data Book Table E.4.10 (1) List of Wastewater Treatment Plants in the Langat Basin Operated by IWK

No.	ASSET NO	PLANT TYPE	LOCATION	STREET	MUKIM	DISTRICT	Latitude	Longitude	x	y
1	GKL035	EA	TAMAN UTAMA JAYA	JLN UTAMA 36	TELUK PANGLIMA GARANG	KUALA LANGAT	2 54 13 N	101 44 26 E	416008.92950	321322.91030
2	GKL036	ITPS	TAMAN DATO' HORMAT FASA II	JALAN PANDAN 14	PANGLIMA GARANG	KUALA LANGAT	2 54 19 N	101 27 49 E	385221.98140	321581.57720
3	GKL037	EA	TAMAN SRI PUTRA		MUKIM TANJUNG 12	KUALA LANGAT	2 54 03 N	101 29 26 E	388216.20330	321082.46940
4	GKL038	EA	TAMAN DELIMA	JLN DELIMA II	TANJUNG 12	KUALA LANGAT	2 48 58 N	101 30 00 E	389242.60660	311711.35620
5	GKL039	CST	TAMAN DESAWIRA	NO 1 JALAN LAKSAMANA 4	TELUK PANGLIMA GARANG	KUALA LANGAT	2 55 06 N	101 28 29 E	386460.92380	323022.06900
6	GKL040	CST	TAMAN DESAWIRA	NO 22 JALAN LAKSAMAN 3	TELUK PANGLIMA GARANG	KUALA LANGAT	2 55 06 N	101 28 29 E	386460.92380	323022.06900
7	GKL041	CST	TAMAN DESAWIRA	NO 41 JALAN LAKSAMANA 5	TELUK PANGLIMA GARANG	KUALA LANGAT	2 55 06 N	101 28 29 E	386460.92380	323022.06900
8	GKL042	CST	TAMAN DESAWIRA	NO 2 JALAN LAKSAMAN 6	TELUK PANGLIMA GARANG	KUALA LANGAT	2 55 06 N	101 28 29 E	386460.92380	323022.06900
9	GKL043	CST	TAMAN DESAWIRA	NO 27 JALAN LAKSAMANA 4	TELUK PANGLIMA GARANG	KUALA LANGAT	2 55 06 N	101 28 29 E	386460.92380	323022.06900
10	GKL044	CST	TAMAN DESAWIRA	NO 2 JALAN LAKSAMANA 8	TELUK PANGLIMA GARANG	KUALA LANGAT	2 55 06 N	101 28 29 E	386460.92380	323022.06900
11	GKL045	CST	TAMAN DESAWIRA	NO 2 JALAN LAKSAMANA 7	TELUK PANGLIMA GARANG	KUALA LANGAT	2 55 06 N	101 28 29 E	386460.92380	323022.06900
12	GKL046	CST	TAMAN DESAWIRA	NO 26 JALAN LAKSAMANA 7	TELUK PANGLIMA GARANG	KUALA LANGAT	2 55 06 N	101 28 29 E	386460.92380	323022.06900
13	GKL047	CST	TAMAN DESAWIRA	NO 27 JALAN LAKSAMANA 9	TELUK PANGLIMA GARANG	KUALA LANGAT	2 55 06 N	101 28 29 E	386460.92380	323022.06900
14	GKL048	CST	TAMAN DESAWIRA	NO 53 JALAN LAKSAMANA 9	TELUK PANGLIMA GARANG	KUALA LANGAT	2 55 06 N	101 28 29 E	386460.92380	323022.06900
15	GKL049	CST	TAMAN DESAWIRA	NO 4 JALAN LAKSAMANA 9	TELUK PANGLIMA GARANG	KUALA LANGAT	2 55 06 N	101 28 29 E	386460.92380	323022.06900
16	GKL050	CST	TAMAN DESAWIRA	NO 30 JALAN LAKSAMANA 9	TELUK PANGLIMA GARANG	KUALA LANGAT	2 55 06 N	101 28 29 E	386460.92380	323022.06900
17	GKL051	CST	TAMAN DESAWIRA	NO 2 JALAN LAKSAMANA 11	TELUK PANGLIMA GARANG	KUALA LANGAT	2 55 06 N	101 28 29 E	386460.92380	323022.06900
18	GKL052	CST	TAMAN DESAWIRA	NO 28 JALAN LAKSAMANA 11	TELUK PANGLIMA GARANG	KUALA LANGAT	2 55 06 N	101 28 29 E	386460.92380	323022.06900
19	GKL053	CST	TAMAN SRI MEDAN	34 JALAN DUKU	TELUK PANGLIMA GARANG	KUALA LANGAT	2 56 26 N	101 28 27 E	386405.46530	325479.50840
20	GKL054	CST	TAMAN SRI MEDAN	68 JALAN DUKU	TELUK PANGLIMA GARANG	KUALA LANGAT	2 56 26 N	101 28 27 E	386405.46530	325479.50840
21	GKL055	CST	TAMAN SRI MEDAN	1 JALAN DUKU 1	TELUK PANGLIMA GARANG	KUALA LANGAT	2 56 26 N	101 28 27 E	386405.46530	325479.50840
22	GKL056	CST	TAMAN SRI MEDAN	2 JALAN DUKU 1	TELUK PANGLIMA GARANG	KUALA LANGAT	2 56 26 N	101 28 27 E	386405.46530	325479.50840
23	GKL057	CST	TAMAN SRI MEDAN	1 JALAN DUKU 3	TELUK PANGLIMA GARANG	KUALA LANGAT	2 56 26 N	101 28 27 E	386405.46530	325479.50840
24	GKL058	CST	TAMAN SRI MEDAN	1 JALAN LANGSAT	TELUK PANGLIMA GARANG	KUALA LANGAT	2 56 26 N	101 28 27 E	386405.46530	325479.50840
25	GKL059	CST	TAMAN SRI MEDAN	1 JALAN LANGSAT 2	TELUK PANGLIMA GARANG	KUALA LANGAT	2 56 26 N	101 28 27 E	386405.46530	325479.50840
26	GKL060	EA	TAMAN DATO HORMAT (3)		TELUK PANGLIMA GARANG	KUALA LANGAT	2 55 40 N	101 28 55 E	387266.48870	324064.35950
27	GKL061	EA	TAMAN AMAN	JALAN KEMBOJA 18	TANJUNG DUA BELAS	KUALA LANGAT	2 48 20 N	101 29 57 E	389147.03650	310544.35820
28	GKL062	EA	TAMAN SRI PUTRA II	JALAN KELI	TANJUNG DUA BELAS	KUALA LANGAT	2 48 39 N	101 29 14 E	387820.47490	311131.30240

Data Book Table E.4.10 (2) List of Wastewater Treatment Plants in the Langat Basin Operated by IWK

No.	ASSET NO	PLANT TYPE	LOCATION	STREET	MUKIM	DISTRICT	Latitude	Longitude	x	y
29	GKL063	EA	TAMAN SRI MEWAH 3 (TMN JAYA UTAMA)	UTAMA 36	TELUK PANGLIMA GARANG	KUALA LANGAT	2 56 25 N	101 28 26 E	386374.50650	325448.87170
30	GKL064	EA	TAMAN TELOK	JALAN DENDANG 22	TELUK PANGLIMA GARANG	KUALA LANGAT	2 54 19 N	101 28 13 E	385963.13080	321579.67570
31	GKL065	AB	TAMAN MUHIBBAH	JALAN CENDANA 20	TG 12	KUALA LANGAT	2 49 04 N	101 30 30 E	390169.58300	311893.34200
32	GKL066	EA	TAMAN DATO HORMAT	JALAN PANDAN 12	TELUK PANGLIMA GARANG	KUALA LANGAT	2 55 41 N	101 28 56 E	387297.44750	324094.99650
33	GKL068	EA	TAMAN LANGAT UTAMA		TANJUNG DUA BELAS	KUALA LANGAT	can not locate	can not locate	can not locate	can not locate
34	GKL069	EA	TAMAN DATO HORMAT		TELUK PANGLIMA GARANG	KUALA LANGAT	2 55 42 N	101 28 57 E	387328.40630	324125.63360
35	GKL070	EA	TAMAN PERWIRA REKA	BATU 8, SIJANGKANK	TELUK PANGLIMA GARANG	KUALA LANGAT	2 56 26 N	101 28 27 E	386405.46530	325479.50840
36	GKL071	EA	TAMAN MEDAN INDAH	JALAN MEDAN INDAH 6	TELUK PANGLIMA GARANG	KUALA LANGAT	2 56 25 N	101 28 26 E	386374.50650	325448.87170
37	GKL072	HK	TAMAN TANJUNG	JALAN SENANGIN 4	BATU	KUALA LANGAT	2 42 09 N	101 45 06 E	417194.59560	299082.93140
38	GKL073	EA	TAMAN MAKMUR	JALAN MAKMUR 21	PANGLIMA GARANG	KUALA LANGAT	can not locate	can not locate	can not locate	can not locate
44	HLT021	BS	TMN SENTOSA	JLN SENTOSA 4	KAJANG	HULU LANGAT	2 59 35 N	101 48 18 E	423194.58600	331196.57220
45	HLT110	EA	TMN MEWAH INDAH	JLN REKO	KAJANG	HULU LANGAT	2 58 26 N	101 47 13 E	421182.94580	329081.83570
46	HLT111	EA	TMN CHERAS MAS		CHERAS	HULU LANGAT	3 04 08 N	101 45 36 E	418211.81150	339592.44680
47	HLT112	EA	TAMAN SELESA JAYA INDUSTRIAL PARK	JALAN SELESA 4/8	KAJANG	HULU LANGAT	2 58 46 N	101 46 50 E	420474.16820	329697.68640
48	HLT 113	EA	BANDAR TEKNOLOGI KAJANG	JLN P 4/11	SEMENYIH	HULU LANGAT	2 57 52 N	101 49 21 E	425132.79310	328028.85390
49	HLT114	NPS	TAMAN CHERAS JAYA	JALAN 3	NA	HULU LANGAT	3 01 07 N	101 45 57 E	418847.52340	334031.92290
50	HLT115	EA	BANDAR TEKNOLOGI KAJANG		SEMENYIH	HULU LANGAT	2 57 29 N	101 48 51 E	424204.95150	327324.48790
51	HLT116	EA	TAMAN JASMIN		KAJANG	HULU LANGAT	2 58 56 N	101 48 42 E	423932.95110	329997.12930
52	HLT117	EA	KAWASAN PERUSAHAAN BUKIT ANGKAT		KAJANG	HULU LANGAT	3 00 07 N	101 45 59 E	418905.10380	332188.99590
53	HLT118	OD	SAUJANA IMPIAN (FASA 1A, 1B, 1C, & 4A-1)		KAJANG	HULU LANGAT	3 00 52 N	101 47 23 E	421501.72140	333565.24960
54	HLT119	NPS	SAUJANA IMPIAN (FASA 1A, 1B, 1C, & 4A-1)		KAJANG	HULU LANGAT	3 00 18 N	101 47 21 E	421437.63540	332521.14720
55	HLT120	EA	TAMAN TANMING JAYA		KAJANG	HULU LANGAT	3 01 25 N	101 44 41 E	416502.29470	334590.10320
56	HLT121	EA	BANDAR TEKNOLOGI KAJANG		KAJANG	HULU LANGAT	2 57 51 N	101 41 11 E	410003.11140	328032.40210
57	HLT122	EA	TAMAN PASIR MAS	JLN PASIR MAS 3	KAJANG	HULU LANGAT	2 59 03 N	101 47 11 E	421123.73130	330218.35930

Data Book Table E.4.10 (3) List of Wastewater Treatment Plants in the Langat Basin Operated by IWK

No.	ASSET NO	PLANT TYPE	LOCATION	STREET	MUKIM	DISTRICT	Latitude	Longitude	x	y
58	HLT123	EA	KAWASAN PERDAGANGAN DESA RIA		KAJANG	HULU LANGAT	can not locate	can not locate	can not locate	can not locate
59	HLT124	BF	TMN JELOK INDAH (FASA 1 & 2)		KAJANG	HULU LANGAT	2 59 29 N	101 48 20 E	423255.92860	331012.15780
60	HLT125	AB	TMN EMAS CHERAS		CHERAS	HULU LANGAT	3 04 17 N	101 45 51 E	418675.53900	339867.80610
61	HLT126	EA	SAUJANA IMPIAN (PHASE 3)	JALAN IMPIAN GEMILANG	KAJANG	HULU LANGAT	3 00 51 N	101 47 51 E	422366.14700	333532.60570
62	HLT127	EA	BANDAR TASIK SEMENYIH	JALAN UTAMA TTS	SEMENYIH	HULU LANGAT	3 01 25 N	101 44 41 E	416502.29470	334590.10320
63	HLT128	OD	TAMAN SEMARAK	JALAN SEMARAK 4	KAJANG	HULU LANGAT	2 58 44 N	101 46 31 E	419887.38490	329637.57560
64	HLT129	NPS	SEKSYEN 4 TAMBAHAN BANDAR BARU BANGI		KAJANG	HULU LANGAT	2 57 59 N	101 46 20 E	419544.64190	328256.24180
65	HLT133	EA	TAMAN PUTRI JAYA		CHERAS	ULU LANGAT	can not locate	can not locate	can not locate	can not locate
66	HLT134	EA	TAMAN ANGSANA (LOT 2845 & 2846)		CHERAS	ULU LANGAT	3 03 42 N	101 45 17 E	417623.39340	338795.25160
67	HLT138	EA	BANDAR TUN HUSSEIN ONN (FASA 3)		CHERAS	HULU LANGAT	3 03 02 N	101 45 56 E	418824.66320	337563.98850
68	HLT139	EA	BANDAR DAMAI PERDANA PHASE 1		CHERAS	HULU LANGAT	3 02 56 N	101 44 45 E	416632.19800	337384.71620
69	HLT141	EA	TAMAN DESA DAHLIA	PERSIARAN MAWAR, JALAN SG RAMAL DALAM	KAJANG	HULU LANGAT	2 58 30 N	101 45 34 E	418126.47060	329211.55560
70	HLT142	EA	VILLARAYA INDUSTRY PARK 1	JALAN VILLARAYA 1/1	HULU SEMENYIH	HULU LANGAT	2 58 30 N	101 49 30 E	425413.23430	329195.33560
71	HLT143	EA	VILLA HEIGHTS II (LOT 1295)	JALAN 2/6	SEMENYIH	HULU LANGAT	2 58 28 N	101 49 31 E	425443.97560	329133.84230
72	HLT146	BFPS	BANDAR TUN HUSSEIN ONN (FASA 1)	JALAN SUASANA 1/3	CHERAS	HULU LANGAT	3 03 04 N	101 46 16 E	419442.27740	337624.01280
73	HLT147	AL	TAMAN BUKIT ANGSANA	JALAN ANGSANA 8	CHERAS	HULU LANGAT	3 03 40 N	101 45 13 E	417499.75900	338734.10820
74	HLT148	NPS	TAMAN BUKIT ANGSANA (NPS N01)		CHERAS	HULU LANGAT	3 03 42 N	101 45 17 E	417623.39340	338795.25160
75	HLT149	NPS	TAMAN BUKIT ANGSANA (NPS N02)	JALAN ANGSANA 8	CHERAS	HULU LANGAT	3 03 43 N	101 46 17 E	419475.86750	338821.74420
76	HLT150	EA	PUSAT HENTIAN KAJANG		KAJANG	HULU LANGAT	2 57 28 N	101 47 31 E	421734.75510	327299.23410
77	HLT151	EA	KAJANG PRIMA	JALAN KP 3/5	SEMENYIH	HULU LANGAT	2 58 44 N	101 48 45 E	424024.76550	329628.36970
78	HLT152	EA	TAMAN INDUSTRI MEGA	JALAN MEGA 1A/1	SEMENYIH	HULU LANGAT	2 59 56 N	101 48 25 E	423412.14240	331841.06430
79	HLT153	SATS	TMN BERLIAN (FASA IV)	JLN BERLIAN 18	KAJANG	HULU LANGAT	2 59 59 N	102 48 25 E	423412.34660	331933.20290
80	HLT154	HK	TAMAN PASIR EMAS	JALAN EMAS 4	KAJANG	HULU LANGAT	2 59 55 N	101 48 24 E	423381.19920	331810.41980

Data Book Table E.4.10 (4) List of Wastewater Treatment Plants in the Langat Basin Operated by IWK

No.	ASSET NO	PLANT TYPE	LOCATION	STREET	MUKIM	DISTRICT	Latitude	Longitude	x	y
81	HLT155	EA	BANDAR DAMAI PERDANA - FASA 2	JALAN DAMAI PERDANA 2/2	CHERAS	HULU LANGAT	3 02 43 N	101 44 29 E	416137.29650	336986.58030
82			TAMAN INDAH	JALAN 3, SG. CHUA	KAJANG	HULU LANGAT	2 59 56 N	101 48 29 E	423535.64330	331840.79070
83			TAMAN KAJANG BARU	JALAN 10, SG. CHUA	KAJANG		2 59 47 N	101 48 23 E	423349.77950	331564.78500
84			TAMAN SENTOSA	LORONG SENTOSA 1, SG. CHUA	KAJANG		2 59 37 N	101 48 25 E	423410.84990	331257.51920
85			BANDAR TECHNOLOGY, SEC 2		KAJANG		2 58 15 N	101 49 33 E	425504.85340	328734.43970
86			KAJANG UTAMA		KAJANG		2 58 13 N	101 47 30 E	421706.95210	828681.39510
87			TAMAN KAJANG RAYA	SG. CHUA	KAJANG		2 59 46 N	101 46 37 E	420076.91750	331541.37550
88			TAMAN KAJANG JAYA	SG. CHUA	KAJANG		2 59 09 N	101 46 57 E	420691.88170	330403.60480
89			TAMAN SERI SAGA	SG. CHUA	KAJANG		2 59 21 N	101 46 45 E	420322.19840	330772.99280
90			TAMAN SRI LANGAT	JALAN REKO	KAJANG		2 59 25 N	101 47 08 E	421032.61460	330894.25430
91			UKKM OXIDATION POND	UKM BANGI	KAJANG		2 55 41 N	101 46 34 E	419967.43330	324016.82750
92			TAMAN BANGI INDAH	BATU 6, BANGI LAMA	KAJANG		2 53 55 N	101 47 28 E	421627.62940	320757.49610
93			BANGI OXIDATION POND	NEAR UKM, BANGI	KAJANG		2 55 45 N	101 46 07 E	419134.00720	324141.54580
94			TAMAN SERI BANGI II	BANGI LAMA	KAJANG		2 53 58 N	101 47 03 E	420855.86650	320851.34450
95			SUA DAMAI		CHERAS		3 03 07 N	101 45 20 E	417713.55710	337720.08590
96			BANDAR DAMAI PERDANA		CHERAS		3 03 20 N	101 44 46 E	416664.76350	338121.75880
97			TAMAN KAJANG INDAH	SG. CHUA	KAJANG		2 59 01 N	101 46 51 E	420506.07620	330158.31460
98			TAMAN SERI INDAH	CHERAS JAYA	CHERAS		3 10 38 N	101 46 01 E	419011.04230	351568.59390
99			TAMAN CHERAS JAYA (2)		CHERAS		3 01 20 N	101 45 58 E	418879.30270	334431.12290
100			TAMAN KOTA CHERAS		CHERAS		3 03 38 N	101 45 28 E	417962.72080	338671.62360
101			TAMAN MAS		CHERAS		3 04 20 N	101 45 36 E	418212.65320	339961.00130
102			TAMAN SERI BUKIT	BUKIT MEWA	KAJANG		2 59 19 N	101 47 38 E	421958.47280	330707.90850
103			OLAK LEMPIT INDUSTRY AREA	OLAK LEMPIT		KUALA LANGAT	2 49 50 N	101 36 10 E	400673.30340	313280.62700

Legend: CST - Commoner Septic Tank, OD - Oxidation Ditch, OPPS - Oxidation Pond without Pumping Station, OP - Oxidation Pond, EA - Extended Aeration, ITPS - Imhoff Tank with Pumping Station, IT - Imhoff Tank, AB - Acti-bio, AL - Aeration Lagoon, AS - Activation Slash, RBC - Rotating Biological Contactor, BF - Bio-Filter, BS - Bio-Soil, HK - Hi-Klein (Japanese System), SATS - Septic Aeration Tank System, SBR - Sequential Bach-Reactor

DATA BOOK E.4.13

LIST OF PETROL STATIONS IN THE LANGAT BASIN

Data Book Table E.4.11 (1) List of Petrol Stations in the Langat Basin

NO	ALAMAT	STESEN	DAERAH	MUKIM	NORTHING	EASTING	EASTING (X)	NORTHING (Y)
1	Abah Enterprise, Jln Besar, Banting, 42700 K. Langat	CALTEX	K. Langat	Banting	02 48.851	101 30.414	390009.2315	311496.2682
2	Aenchor Ent. Stesen Minyak Esso, Lot 303, Sri Kembangan	ESSO		Serdang				
3	Ali Lok Ent, Stesen Service Petronas, Lot 15030, Bt 5, Kg. Johan Setia, Jln Banting ,41300 Klang	PETRONAS						
4	Ascot System (M) Bhd., BT 13, Jln Cheras, Simpang Balak , 43000 Kaj ang, Sel.	CALTEX	H. Langat	Kaj ang	03 01.065	101 46.710	420255.1999	333933.5334
5	Bak a Lima Sdn. Bhd., Shell Service Station, 102, Jln. Banting, 43800 Dengk il Sel.	SHELL	K. Langat	Dengk il	02 51.509	101 40.809	409282.36	316348.4578
6	Bak htiar Ent., Jln Raya 2, 43300 Sri Kembangan, Sel.	SHELL		Serdang	03 01.246	101 42.882	413164.6006	334283.2929
7	Ban Soon Huat, No 130, Jln Besar, 42700 Banting Sel.	SHELL	K. Langat	Banting	02 48.851	101 30.414	390009.2315	311496.2682
8	Banda Dina Ent., Stesen Minyak Caltex, Jln Besar, 43300 Sri Kembangan	CALTEX		Serdang	03 01.603	101 42.699	412827.1216	334941.9629
9	Bestmart Petroniaga Ent., CH- 72000, BP Cheras-Kaj ang Highway, Kaj ang	BP	H. Langat	Kaj ang	03 01.925	101 46.249	419404.7898	335520.2509
10	BP Sri Kembangan, Lot 1601-1602, Jln Besar, 43300 Sri Kembangan	BP		Serdang	03 01.491	101 42.566	412580.2549	334736.142
11	Calpet Ent., Stesen Minyak Caltex, Sri Kembangan	CALTEX		Serdang				
12	Chop Guan Heng, Lot 429, Bt.13 3/4, Jln Klang-Banting, 42600 Jenj arom, K. Langat, Sel.	ESSO	K. Langat	Jenj arom	02 52.952	101 29.696	388697.7662	319057.6608
13	Chop Lian Seong & Co, 19086, Jln Balak ong , Sri Kembangan							
14	Chop Sin Chuan, Pasar Besar Banting, Banting, Sel.							
15	Chop Sin Guan, NO 15, Pek an Salak , 43900 Sepang, Sel.	SHELL	Sepang	Pek an Salak	02 47.027	101 45.117	417245.9514	308070.5961
16	Chop Soon Sheng, Caltex Sdn. Bhd., Lot PT 6348, BT 15, Jln Banting-k lang, K. Langat , Sel.	CALTEX	K. Langat	Banting	02 52.143	101 30.370	389942.8825	317563.5544
17	Dwi Ik atan Sdn Bhd, Lot 32442, Jln Sri Kembangan, 43300 Sel.	SHELL		Serdang	03 01.567	101 42.586	412617.6385	334876.1091
18	Era Baru Sdn Bhd, Jln Besar, Banting, 42700 K. Langat, Selangor DE	SHELL	K. Langat	Banting	02 48.851	101 30.414	390009.2315	311496.2682
19	Esso Mile 8, Lot 561, Bt 8, Jln Cheras, 43200 Ulu Langat, Sel.	ESSO	U. Langat	Cheras	03 04.437	101 45.649	418303.8599	340151.8279
20	ESSO Sri Kembangan 2, Lot 44357, Jln Besar, 43300 Sri Kembangan, Sel.	ESSO		Serdang	03 01.603	101 42.699	412827.1216	334941.9629
21	ESSO Sri Kembangan, Lot 4, Jln Raya 2, 43300 Sri Kembangan , Sel.	ESSO		Serdang	03 01.246	101 42.882	413164.6006	334283.2929
22	Gabong Berk at Ent. Stesen Service Petronas, Lot 3464, Jln Raya 2, 43300 Sri k embangan	PETRONAS		Serdang	03 01.246	101 42.882	413164.6006	334283.2929
23	Gan Kim Siong, No 183, Jln Besar, 42700 K. Langat, Sel.	ESSO	K. Langat	K. Langat	02 48.851	101 30.414	390009.2315	311496.2682

Data Book Table E.4.11 (2) List of Petrol Stations in the Langat Basin

NO	ALAMAT	STESEN	DAERAH	MUKIM	NORTHING	EASTING	EASTING (X)	NORTHING (Y)
24	Global Vertex Sdn. Bhd, Stesen Minyak Mobil, Lot 1355, CT 1240, Muk im Kaj ang, 43000 Sel.	MOBIL	H. Langat	Kaj ang	02 59.377	101 48.364	423312.3092	330816.0835
25	Haj iz Ent., 2306, Bt. 8 , Sij angk ang, Tk Panglima Garang, 42500 Sel.	MOBIL	K. Langat	Tk . Panglima	02 56.465	101 28.405	386322.2431	325538.0828
26	Ibuj aya Bersatu Sdn Bhd, Stesen Service Shell, Lot PT 24566 , Bt 17, Jln Sg. Ramal Luar, 43000	SHELL	H. Langat	Kaj ang	02 58.809	101 45.567	418128.3763	329780.9795
27	Ik hlas Khidmat Ent., Lot 5052, Kg. Sg. Rambai, 42600 Jenj arom, K. Langat, Sel.	SHELL	K. Langat	Jenj arom	02 53.020	101 29.631	388577.648	319183.2871
28	Jamoney Ent., Lot 2465, Kg. Sg. Rambai, Bt. 14, Jenj arom, 42600 Sel.	PETRONAS	K. Langat	Jenj arom	02 53.135	101 29.605	388530.0124	319395.3502
29	Jasa Jelas Sdn Bhd , No 101, Jln Besar, Banting, 42700 K. Langat Sel.	MOBIL	K. Langat	Banting	02 48.851	101 30.414	390009.2315	311496.2682
30	JBM Enterprise, Lot 969, Pek an Nilai, 71800 Nilai, N.S	SHELL	Nilai	Nilai	02 48.103	101 47.931	422464.4666	310042.0455
31	Koperasi UNIKEB Bhd., Stesen Serv. Petronas, Lot 8761, Jln 1/1, 43650 B.B.B	PETRONAS	H. Langat	Bangi	02 56.544	101 46.164	419224.9794	325604.5393
32	Koperasi UPM Bhd, Stesen Minyak UPM, Lot 4684, Tmn Serdang Raya, 43300 Sri Kembangan , Serdang							
33	Koperasi UPM Bhd, Stesen Minyak UPM, Lot 6306, Jln Besar, 43400 Serdang	PETRONAS		Serdang	03 00.661	101 43.301	413938.304	333203.4525
34	Koriah Bt Sudar, Stesen Service Petronas, Lot 2883, Jln Morib, Banting Sel.	PETRONAS	K. Langat	Banting	02 48.084	101 29.667	388621.4703	310086.1484
35	Kwan Yik S.S, 163-A, Jln Besaar, 71700 Mantin, N.S.	CALTEX	Seremban	Mantin	02 49.429	101 53.616	433003.1872	312463.1919
36	Lee Kok Tin, BP Service Station, Kj ang	BP	H. Langat	Kaj ang				
37	Maz a Indah Ent., Stesen Service Petronas, Lot 7906, Jln Balak ong, 43300 Sri Kembangan	PETRONAS		Sri Kembangan				
38	Midec Service Station , Lot 5, Jln P/11, Sek 10, B.B.B., 43650 Bangi	MOBIL	H. Langat	Bangi	02 58.168	101 45.050	417167.9098	328601.9134
39	Mobil Mart, Bt 12, Jln Puchong, Sel.				03 01.111	101 36.721	401750.5425	334061.6605
40	Nature Leed Sdn. Bhd., Lot 4025, Bt 12 , Jln Mantin, 71700 Mantin, N.S	BP	Seremban	Mantin	02 50.018	101 52.081	430161.3953	313554.5585
41	Nature Leed Sdn. Bhd., Lot 4025, Bt 12 , Jln Mantin, 71700 Mantin, N.S	BP	Seremban	Mantin	02 50.085	101 52.111	430217.2402	313677.9085
42	Ong Lee Tua Sdn Bhd., 142, Jln Besar, Pek an Sg. Pelek , 43950 Sg. Pelek , Sel.	SHELL	Sg. Pelek	Sg. Pelek	02 38.533	101 43.076	413429.0332	292425.3774
43	Pastij aya Sdn Bhd, Lot 1457, H.S(D) 10683, Pek an Semenyih, 43500 H. Langat, Sel	PETRONAS	H. Langat	Semenyih	02 56.691	101 50.977	428142.2489	325855.8145
44	Pek an Jemj arum, Simpang Kg. Jemj arom	SHELL	K. Langat	Jenj arom				
45	Perniagaan Proj ek Cergas, PT 7906, Jln Balak ong, Bt. 11 Sri Kembangan							

Data Book Table E.4.11 (3) List of Petrol Stations in the Langat Basin

NO	ALAMAT	STESEN	DAERAH	MUKIM	NORTHING	EASTING	EASTING (X)	NORTHING (Y)
46	Perniagaan Sinar Bak ti Murni, Lot 17 (PT18), Pek an Tk . Panglima Garang, K. Langat, Sel.	SHELL	K. Langat	Tk . Panglima	02 54.850	101 28.530	386546.2105	322561.1063
47	Punca Rez ek i Ent. Stesen Minyak Shell, KM 20, Jln Cheras 43000 Kaj ang, Sel.	SHELL	H. Langat	Kaj ang	03 00.972	101 46.730	420291.8603	333762.0715
48	Rasyana Ent. Esso Service Station, Lot 1279, KM 1, Jln Sg. Chua, 43000 Kaj ang	ESSO	H. Langat	Kaj ang	02 59.442	101 46.808	420430.0224	330942.2882
49	Rohik a Petrol Station & Service Sdn Bhd, Sri Kembangan, Serdang	CALTEX		Serdang				
50	S & S Service & Supplies, Stesen Service Petronas, Bt 1,Jln Semenyih, 43000 Kaj ang, Sel		H. Langat	Kaj ang	02 59.487	101 47.853	422366.1117	331020.8897
51	Sam Wah Shell, Lot 2921, Kg. Kundang, Jln Morib-Sepang, Bt 37, Tg. Sepat, 42800 Sel	SHELL	K. Langat	Tg. Sepat	02 40.038	101 32.352	393560.8629	295245.0197
52	Semenyih Highway Station, Lot 10346, Muk im Semenyih, 43500 Sel.	ESSO	H. Langat	Semenyih	02 56.315	101 51.117	428400.1172	325162.3736
53	Sentral Mart Petrol Station, Lot 12876, Jln Paj am-Nilai, 71800 Nilai N.S	SHELL	Nilai	Nilai	02 48.948	101 48.898	424259.5902	311595.3523
54	Sentral Rek o Autogas, Sect 5, Jln Rek o, B.B.B. 43000 Bangi	SHELL	H. Langat	Bangi	02 57.878	101 47.540	421779.6635	328057.1392
55	Setia Bistari Ent., 2465, Jln Klang-Banting, Bt 13, Jemj arom			Jenj arom				
56	Sg. Lalang Jaya Sdn. Bhd., BP Jln Semenyih, 1, Tmn Semenyih, 43500 Semenyih, Sel	BP	H. Langat	Semenyih	02 57.356	101 50.736	427698.4179	327082.2209
57	Shaari b Hj . Mohd Yusof, Stesen Minyak Esso, Jln Besar Nilai, 71800 Nilai N.S	ESSO	Nilai	Nilai	02 48.319	101 48.121	422817.387	310439.3328
58	Simpang k e P.Indah	PETRONAS						
59	Simpang k e P.Indah	SHELL						
60	Sin Kee Sang Sdn Bhd, Lot 209, Tmn Cheras Perdana, 43200 KL	SHELL	K.Lumpur	Cheras	03 02.825	101 46.180	419280.7277	337179.0396
61	Sin Kee Sang Sdn Bhd, Shell Service Station, Jln Semenyih-Kaj ang, 43000 Kaj ang	SHELL	H. Langat	Kaj ang	02 59.582	101 47.513	421736.6372	331197.3567
62	Stesen Minyak Aree, Lot Pt 6338, Bandar Baru Nilai, 71800 Nilai	SHELL	Nilai	Bandar Baru	03 2.163	101 42.399	412273.7799	335975.2296
63	Stesen Minyak Az raf, Stesen Service Petronas, Lot 5088, Jln Sg. Merab Luar, 43000 Kaj ang Sel.	PETRONAS	H. Langat	Kaj ang	02 56.570	101 44.506	416153.4005	325659.3877
64	Stesen Minyak Esso R&R, Bt. 14, Jln Cheras, 43000 Kaj ang Sel.	ESSO	H. Langat	Kaj ang	02 59.952	101 47.239	421230.5757	331880.3197
65	Stesen Minyak Jana, Lot 1, Jln P/11, Sek 10, B.B.B., 43650 Bangi	SHELL	H. Langat	Bangi	02 58.168	101 45.050	417167.9098	328601.9134
66	Stesen Minyak Kaj ang, BP Jln Semenyih 2, Bt 16, Jln Semenyih, 43000 Kaj ang Sel	BP	H. Langat	Semenyih	02 59.268	101 48.531	423621.2341	330614.5364
67	Stesen Minyak Mobil Kaj ang, Bt. 14, Jln Cheras, 43000 Kaj ang, Sel.	MOBIL	H. Langat	Kaj ang	02 59.952	101 47.239	421230.5757	331880.3197

Data Book Table E.4.11 (4) List of Petrol Stations in the Langat Basin

NO	ALAMAT	STESEN	DAERAH	MUKIM	NORTHING	EASTING	EASTING (X)	NORTHING (Y)
68	Stesen Minyak Musim S.Bhd, Lot 27675, Bt 6, Jln Cheras 56000 K. Lumpur	CALTEX	K.Lumpur	Cheras	03 05.197	101 44.604	416371.3423	341556.7772
69	Stesen Minyak Nafee, Lot Pt 7510, Bandar Baru Nilai, 71800 Nilai, N.S.	SHELL	Nilai	Bandar Baru	02 48.700	101 48.348	423239.5143	311140.5387
70	Stesen Minyak Petronas, PT10, Jln Besar, 71700 Mantin N.S	PETRONAS	Seremban	Mantin	02 49.364	101 53.845	433427.2373	312342.5282
71	Stesen Minyak Petronas, Sg. Manggis, Banting Selangor.	PETRONAS	K. Langat	Banting	02 49.682	101 31.907	392779.5799	313020.9187
72	Stesen Minyak Rasah Jaya (Caw. Salak), Lot 37-40, Jln Pek an Salak , 43900 Sepang, Sel	PETRONAS	Sepang	Pek an Salak	02 48.144	101 47.674	421988.438	310118.639
73	Stesen Minyak SADA, Lot 5945, Jln Besar, Pek an Nilai , 71800 Nilai N.S	PETRONAS	Nilai	Nilai	02 48.700	101 48.348	423239.5143	311140.5387
74	Stesen RIKO, Petronas Service Station, 33/3911, Jln Rek o, 43000 Kaj ang	PETRONAS	H. Langat	Kaj ang	02 59.245	101 47.475	421664.8595	330576.4962
75	Stesen Service Caristra, Petronas Bt 7, Jln Cheras, 43200 Sel	PETRONAS	K. Lumpur	Cheras	03 04.727	101 45.083	417256.6304	340688.6321
76	Stesen Service Esso, Bt 4, Jln Sepang, 43900 Sg. Pelek , Sel DE	ESSO	Sepang	Sg. Pelek	02 41.493	101 45.215	417405.044	297871.6796
77	Stesen Service Petronas Pertubuhan Peladang Kws. Dengk il, Lot 270, Jln Air Hitam, 43800 Dengk il	PETRONAS	K.Langat	Dengk il	02 51.661	101 40.778	409225.5673	316628.7083
78	Stesen Service Petronas, Lot 4784, Jln Semarak , Muk im Labu, Nilai Ind. Park , 71800 Nilai N.S.	PETRONAS	Nilai	Nilai	02 48.950	101 48.950	424355.94	311598.8296
79	Stesen Usmaj aya, Stesen Service Petronas, Lot PT 12842, Tmn Taming Jaya, Balak ong, 43000	PETRONAS		Kaj ang				
80	Suk iran Sarman, Petronas Tg. Sepat, Lot 436, Mk . Kuala Langat, 42800 K. Langat Sel	PETRONAS	K.Langat	Tg. Sepat	02 39.698	101 33.827	396292.9868	294611.8407
81	Syk t Hasnor, 140, Jln Besar, Salak Tinggi							
82	Syk t Gemilang , BP Bk t.Changgang, 42700 Banting, Sel	BP	K.Langat	Banting	02 49.595	101 38.036	404136.028	312833.1688
83	Syk t N.S. Utara, Shell Service Station, Main Rd., 71700 Mantin N.S	SHELL	Seremban	Mantin	02 49.384	101 53.829	433397.6651	312379.4456
84	T.P.M. Mobil Service Station, Lot 27680, Bt. 6 , Jln Cheras, 56000 K. Lumpur	MOBIL	K. Lumpur	Cheras	03 05.197	101 44.604	416371.3423	341556.7772
85	Tan Chooi Hoe & Sons Sdn Bhd, Shell Service Station, Lot 5, PT 6758 HS(D) 12790, Bt. 16 1/2	SHELL	H. Langat	Semenyih	02 59.487	101 47.853	422366.1117	331020.8897
86	Tan Yik Leong, 1359, Jln Semenyih, Bt. 16. Kaj ang		H. Langat	Kaj ang				
87	Usaha Rawang Sdn. Bhd., Lot 2, Jln 6C/1, 43650 B.B.B	SHELL	H. Langat	Bangi	02 56.599	101 46.624	420077.4243	325703.9857
88	Wawasan Semarak Sdn Bhd, PT. No. 5478, Jln TS 2/1, Tmn Semarak , B.B. Nilai , 71800 Nilai	SHELL	Nilai	Nilai	02 49.179	101 49.074	424586.6109	312020.3399
89	Wl Ent., Bt. 16, Jln Semenyih, 43000 Kaj ang, Sel.	SHELL	H. Langat	Kaj ang	02 59.114	101 48.917	424335.6827	330329.1708
90	Yee Thong Sdn Bhd, 119, Jln Puchong, Bt 12 Puchong.							
91	Zafir Car Service Centre, Lot PT 1798, Jln Sg. Chua, 43000 Kaj ang	BP	H. Langat	Kaj ang	02 59.452	101 46.928	420652.3686	330960.2177

DATA BOOK

SECTOR F

PHYSICAL CHARACTERISTICS OF GROUNDWATER BASIN

DATA BOOK F.2.1

CONDITIONS OF THE FIELD SURVEY AT SITES

Data Book Photograph F.2.1
TEM, Setting loop for
Measurement

Data Book Photograph F.2.2
TEM, Recording Equipment

Data Book Photograph F.2.3
2D Resistivity Exploration,
Setting Electorical Pole

Data Book Photograph F.2.4
2D Resistivity Exploration,
Recording Equipment

Data Book Photograph F.2.5
Drilling Equipment Percussion
Machine 1

Data Book Photograph F.2.6
Drilling Equipment Percussion
Machine 2

Data Book Photograph F.2.7
Percussion Drilling

Data Book Photograph F.2.8
Soil Sample Obtained by Bailer during
Percussion Drilling

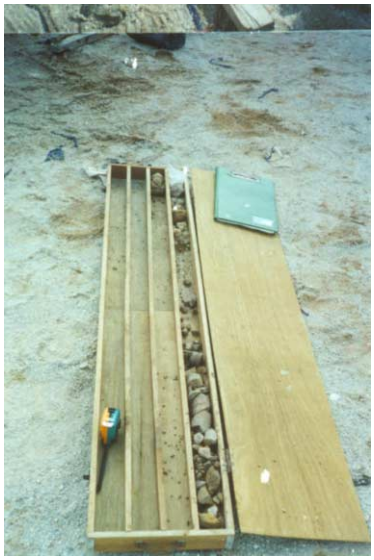
Data Book Photograph F.2.9
Drilling Equipment,Rotary
Boring Machine 1

Data Book Photograph F.2.10
Drilling Equipment,Rotary
Boring Machine 2

Data Book Photograph F.2.11
Drilling Equipment,Rotary
Boring Machine 3

Data Book Photograph F.2.12
Standard Penetration Test (Kajibumi Well Field 2)

Data Book Photograph F.2.13
Soil Sample from Standard Penetration Test (Kajibumi Well Field 2)



Data Book Photograph F.2.14
Core Samples from Drilling (Paya Indah)

Data Book Photograph F.2.15
Pumping Test, Installation of Screen (Paya Indah)

Data Book Photograph F.2.16
Pumping Test, General View (Kajibumi Well Field 2)

Data Book Photograph F.2.17
Pumping Test, Measurements of Pumping Rate by V-notch and Water Level Transducer (Paya Indah)

Data Book Photograph F.2.18
Pumping Test, Controll Measurement of Pumping Rate (Paya Indah)

Data Book Photograph F.2.19
Monitoirng Well,
Houston Type Screen

Data Book Photograph F.2.20
Monitoirng Well,
Detail of Well Sump with 4-arm
Centering guide

Data Book Photograph F.2.21
Monitoirng Well,
4"PVC Well Casing with 3-arm
Centering Guide Placed inside
12"Drilling Casing

Data Book Photograph F.2.22
Monitoirng Well,
Sealing Meterials (Bentonite
Pellet and River Sand)

Data Book Photograph F.2.23
Monitoirng Well,
Installation of 4"PVC
Well Casing

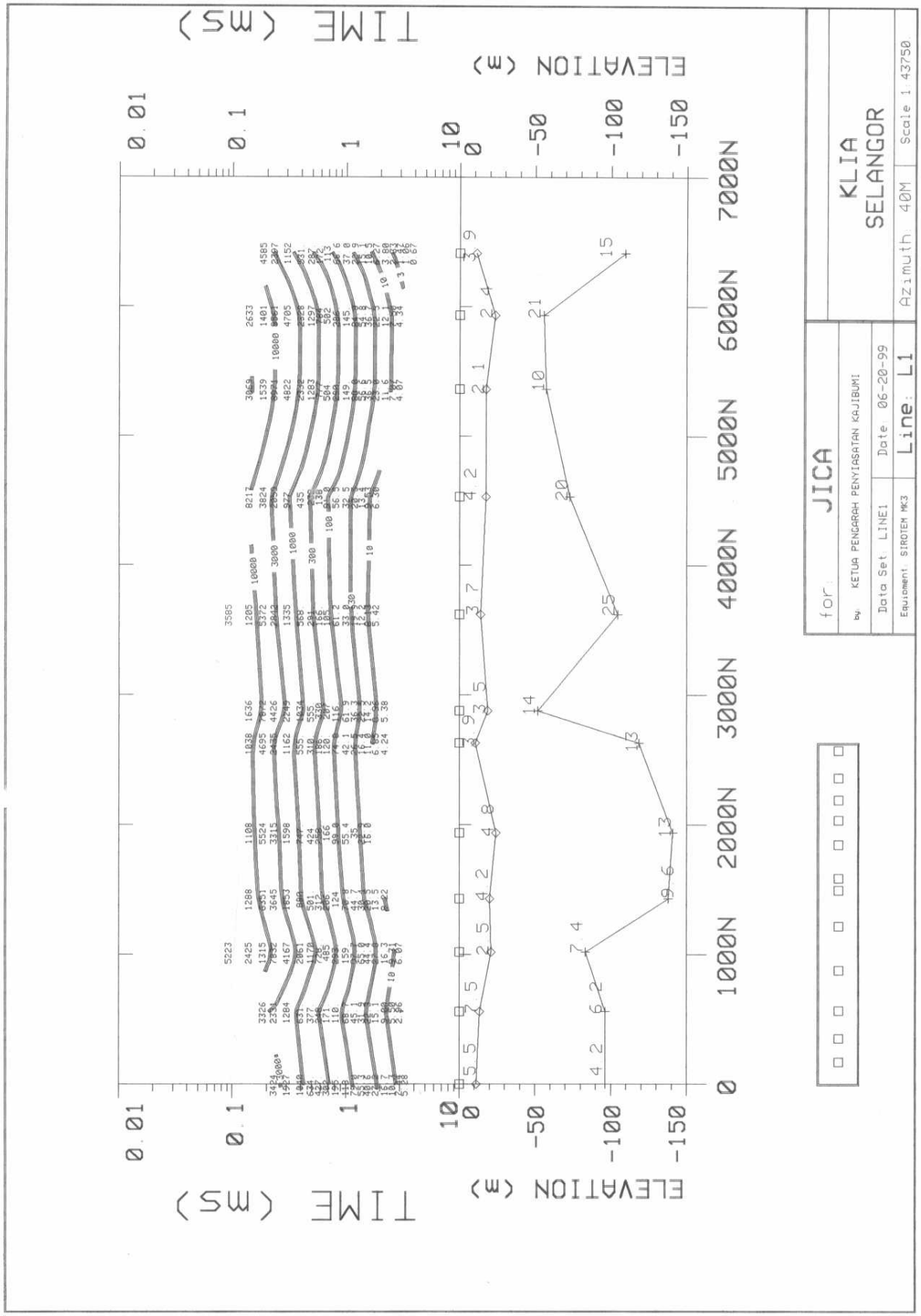
Data Book Photograph F.2.24
Monitoirng Well,
Protection Cap

Data Book Photograph F.2.25
Monitoirng Well,
Name Plate

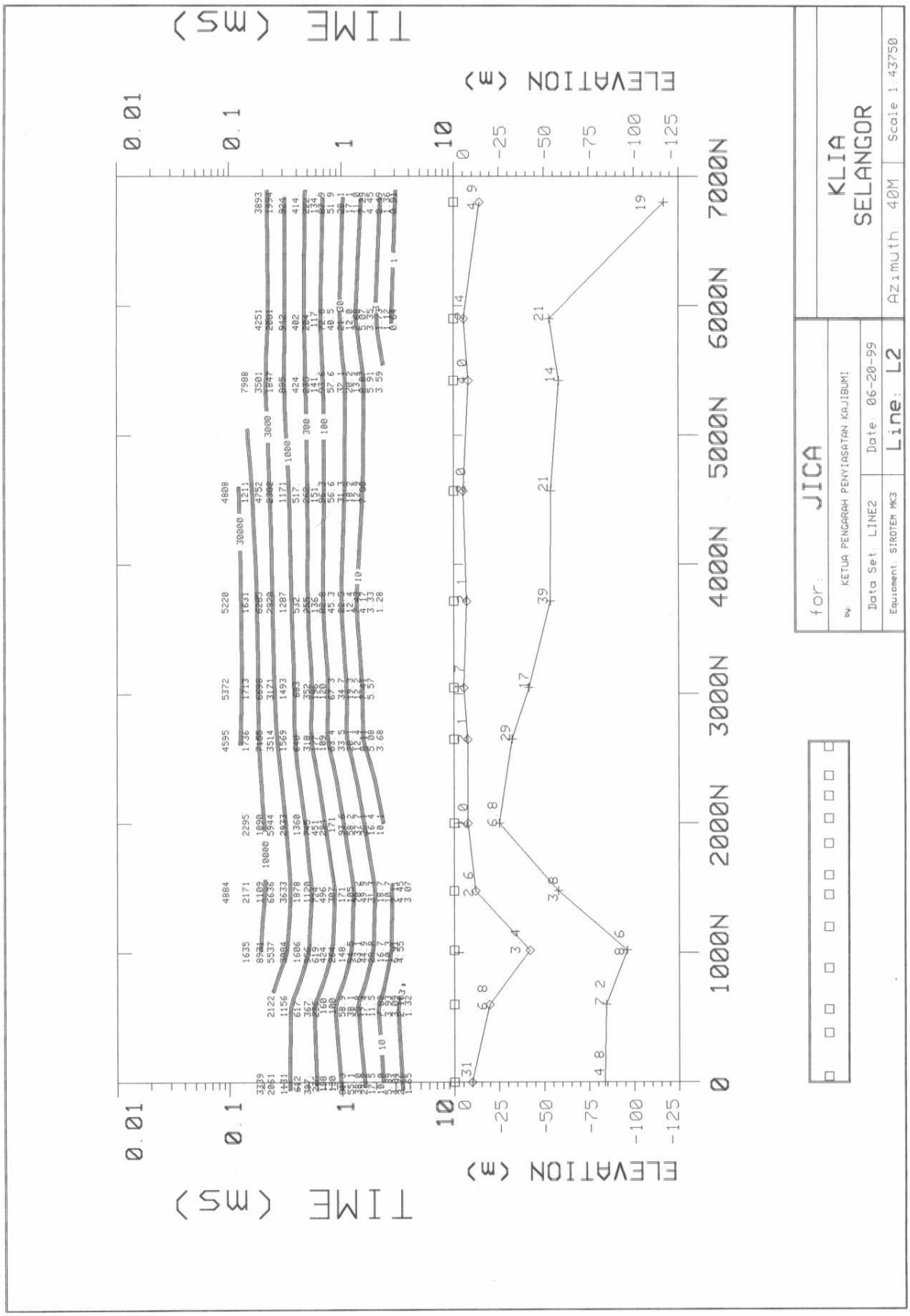
Data Book Photograph F.2.26
Monitoirng Well,
Multi Level Goundwater
Observation System

DATA BOOK F.2.2

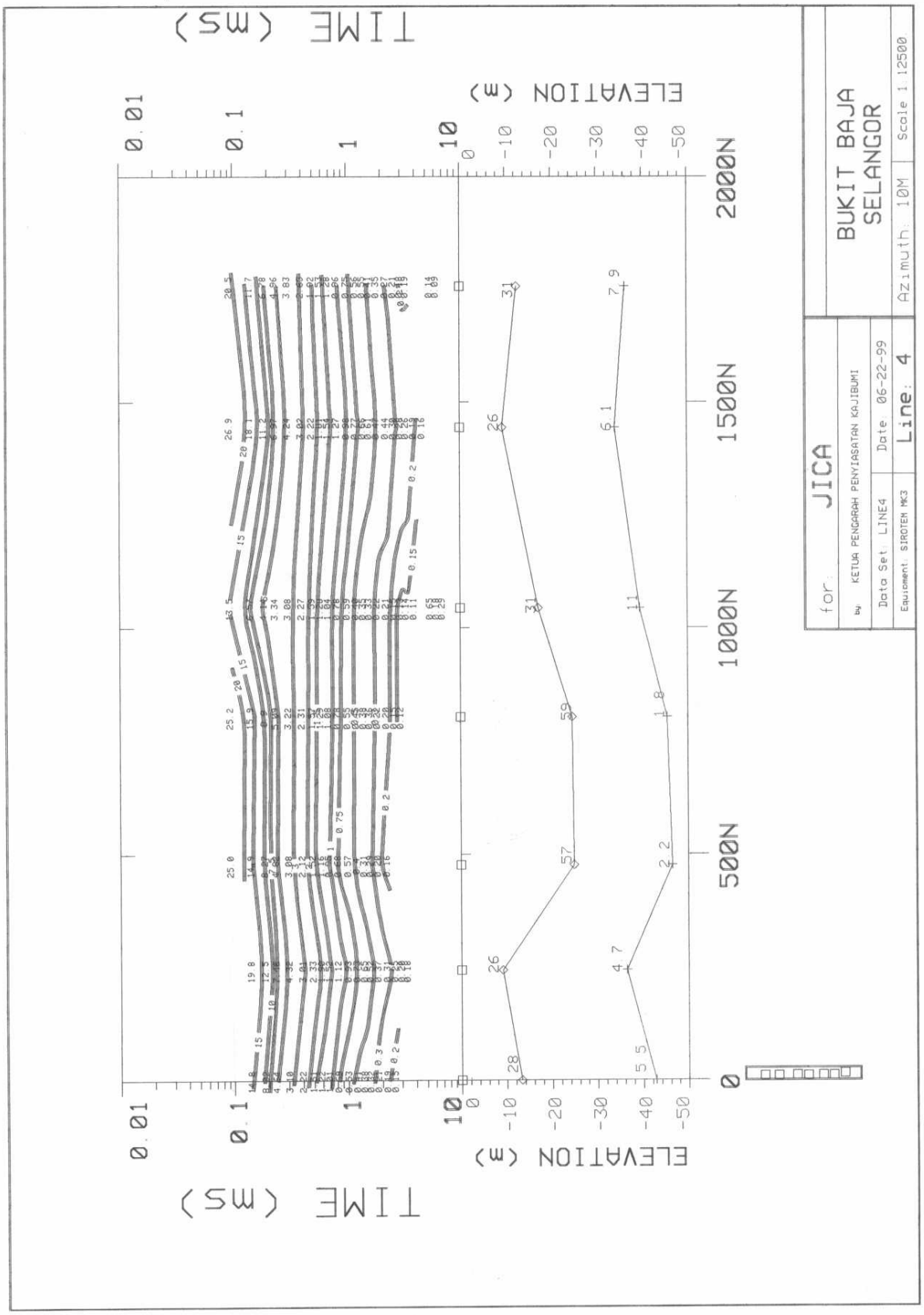
TEM PROFILES



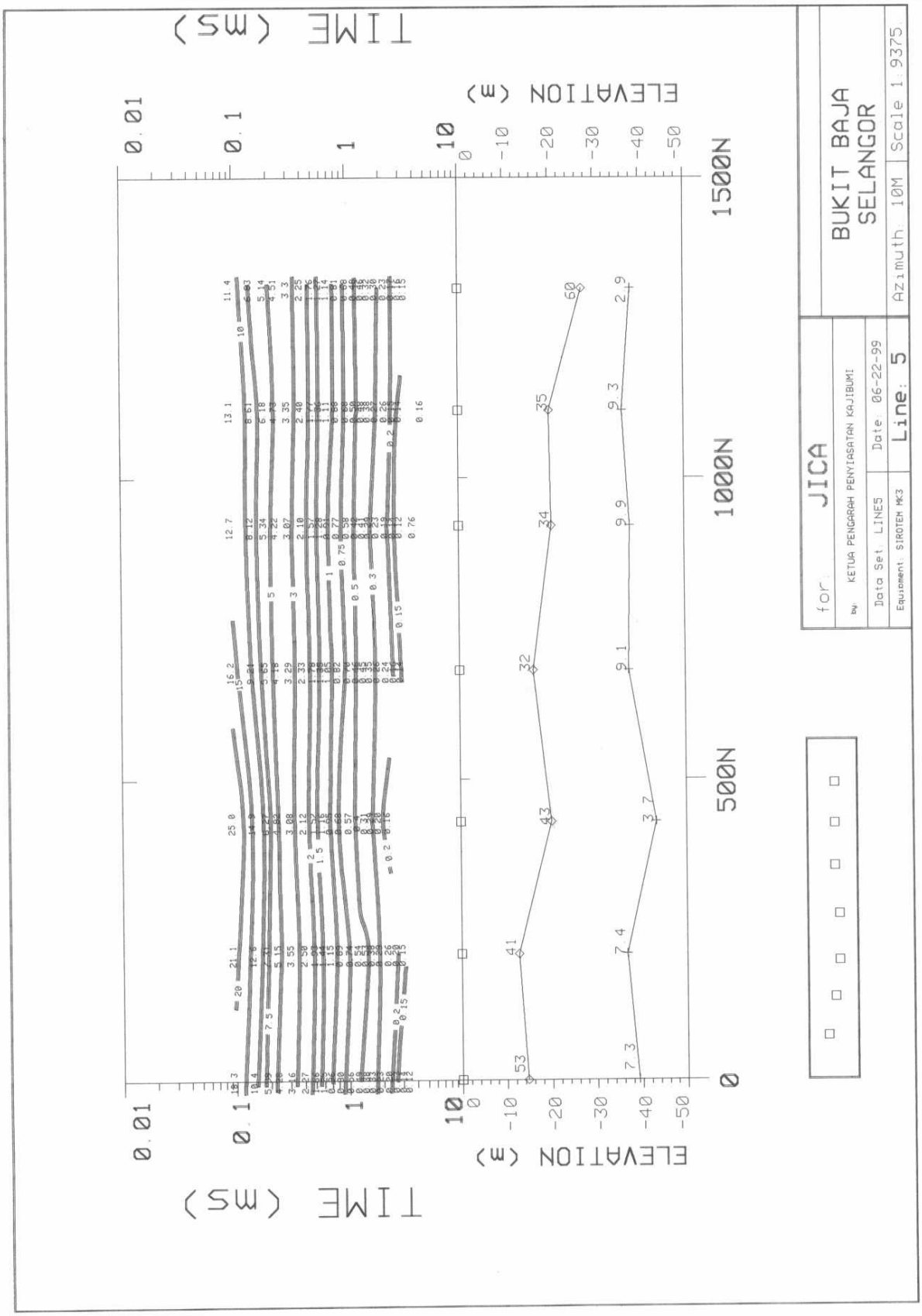
Data Book Figure F.2.1 TEM Profile of Line L1 at KLIA



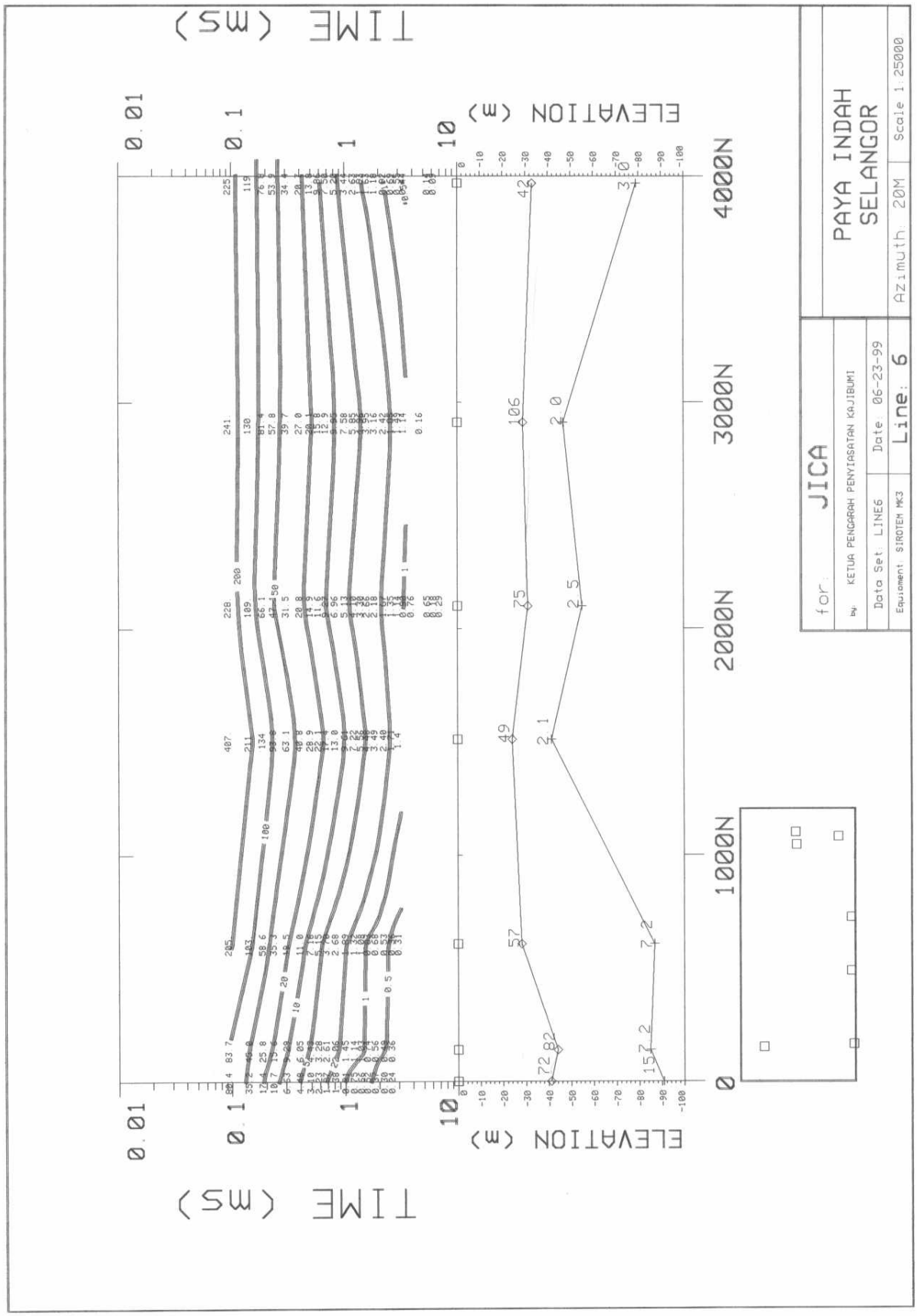
Data Book Figure F.2.2 TEM Profile of Line L2 at KLIA



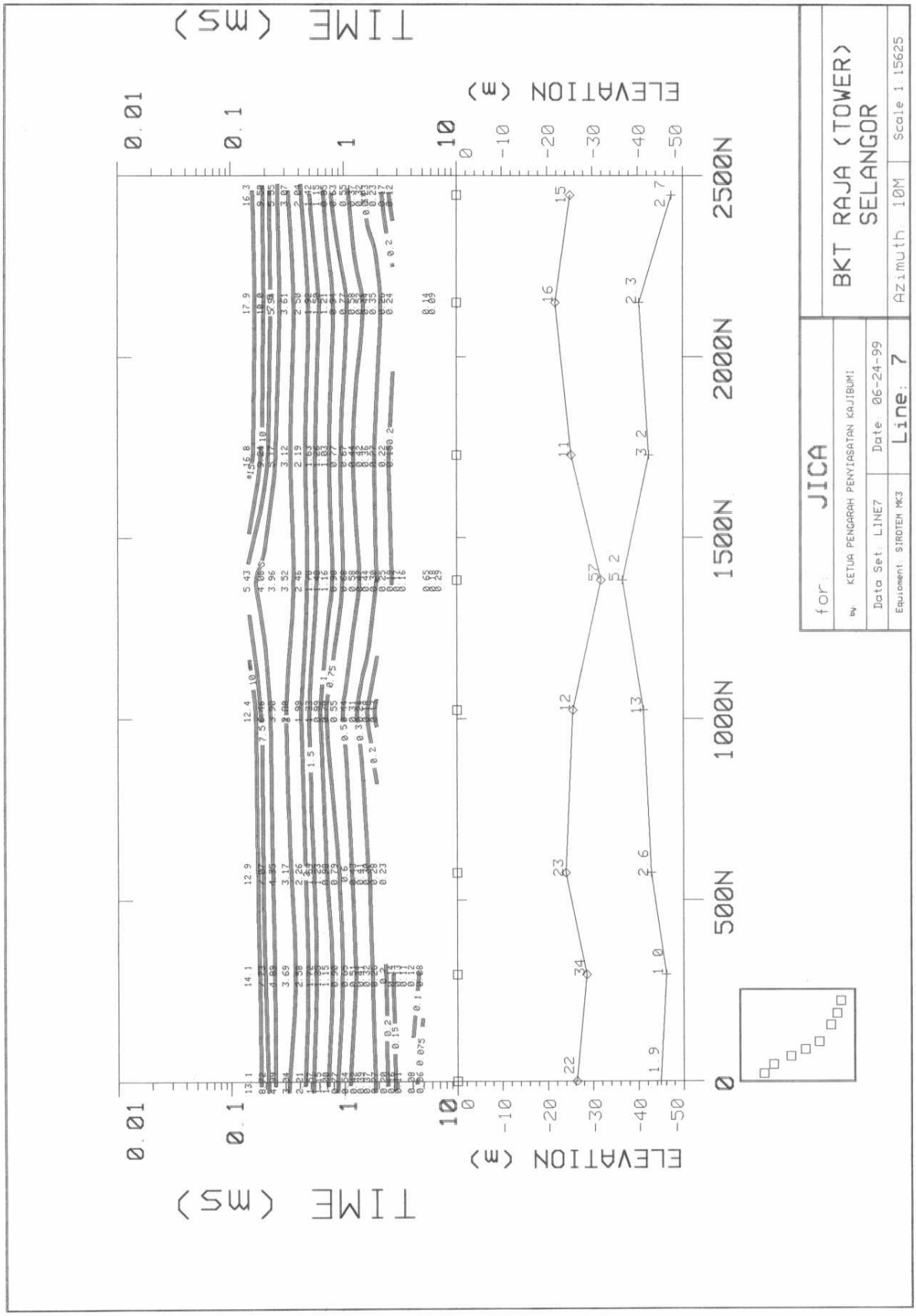
Data Book Figure F.2.3 TEM Profile of Line L4 at Bukit Baja



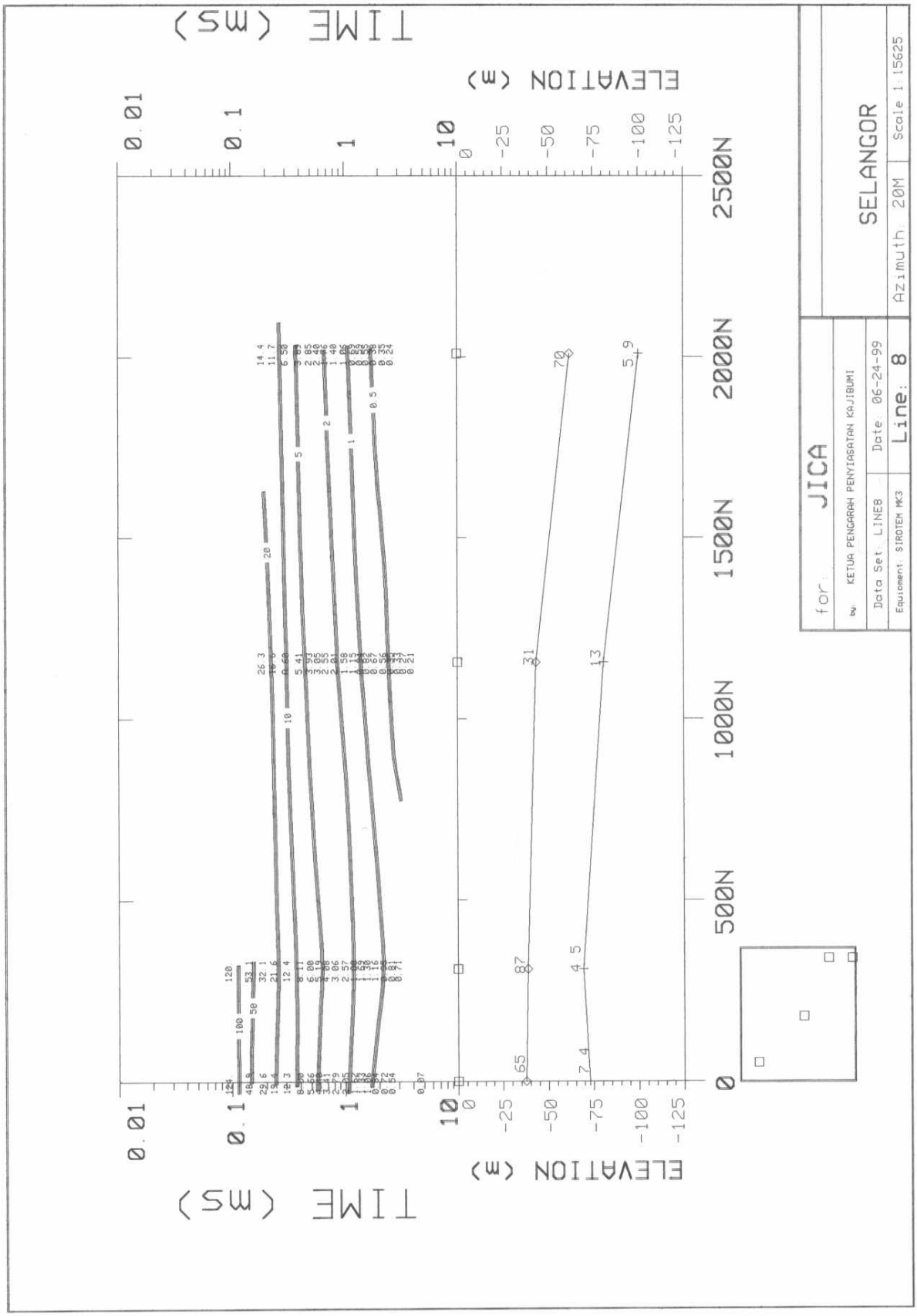
Data Book Figure F.2.4 TEM Profile of Line L5 at Bukit Baja



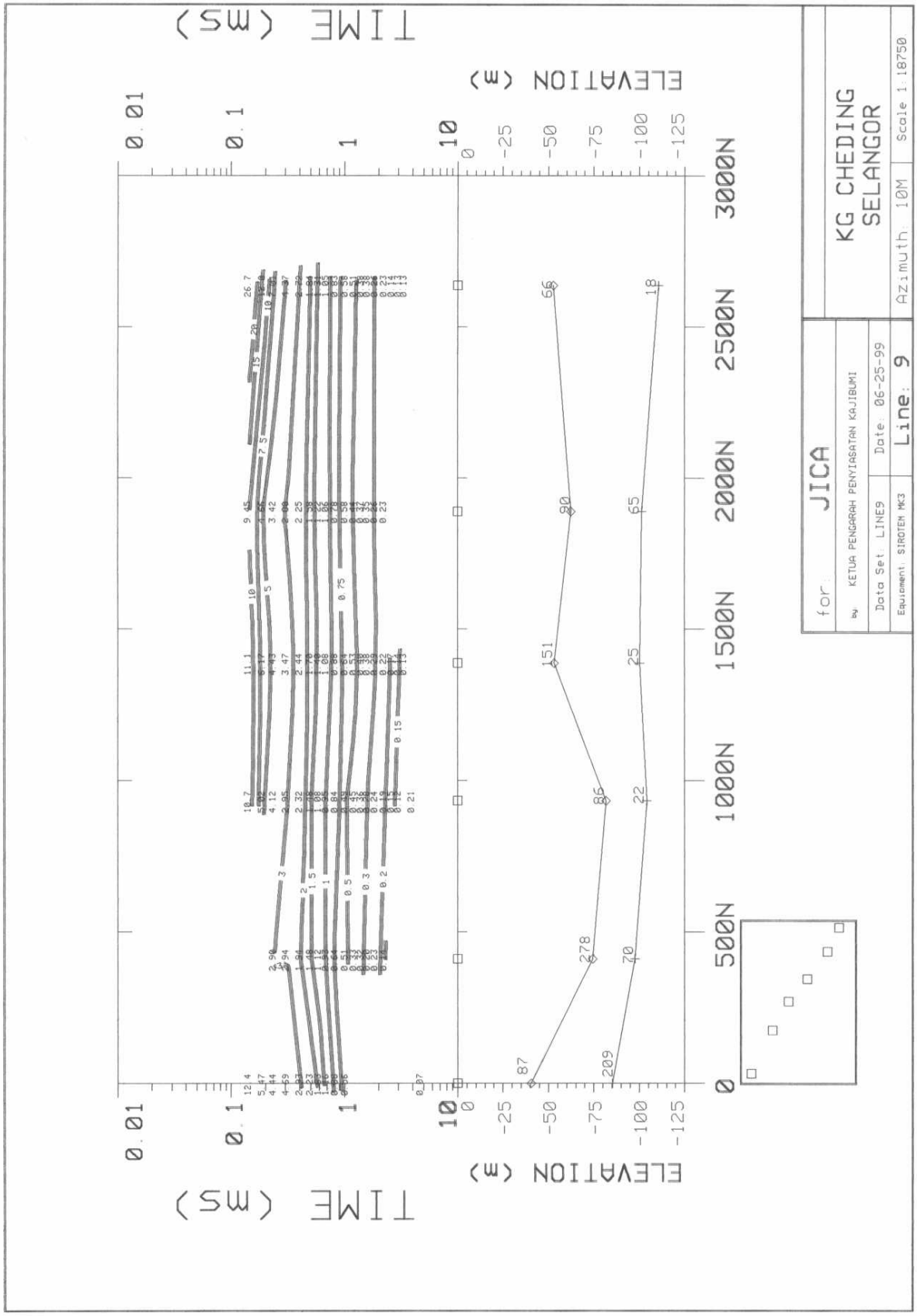
Data Book Figure F.2.5 TEM Profile of Line L6 at Paya Indah



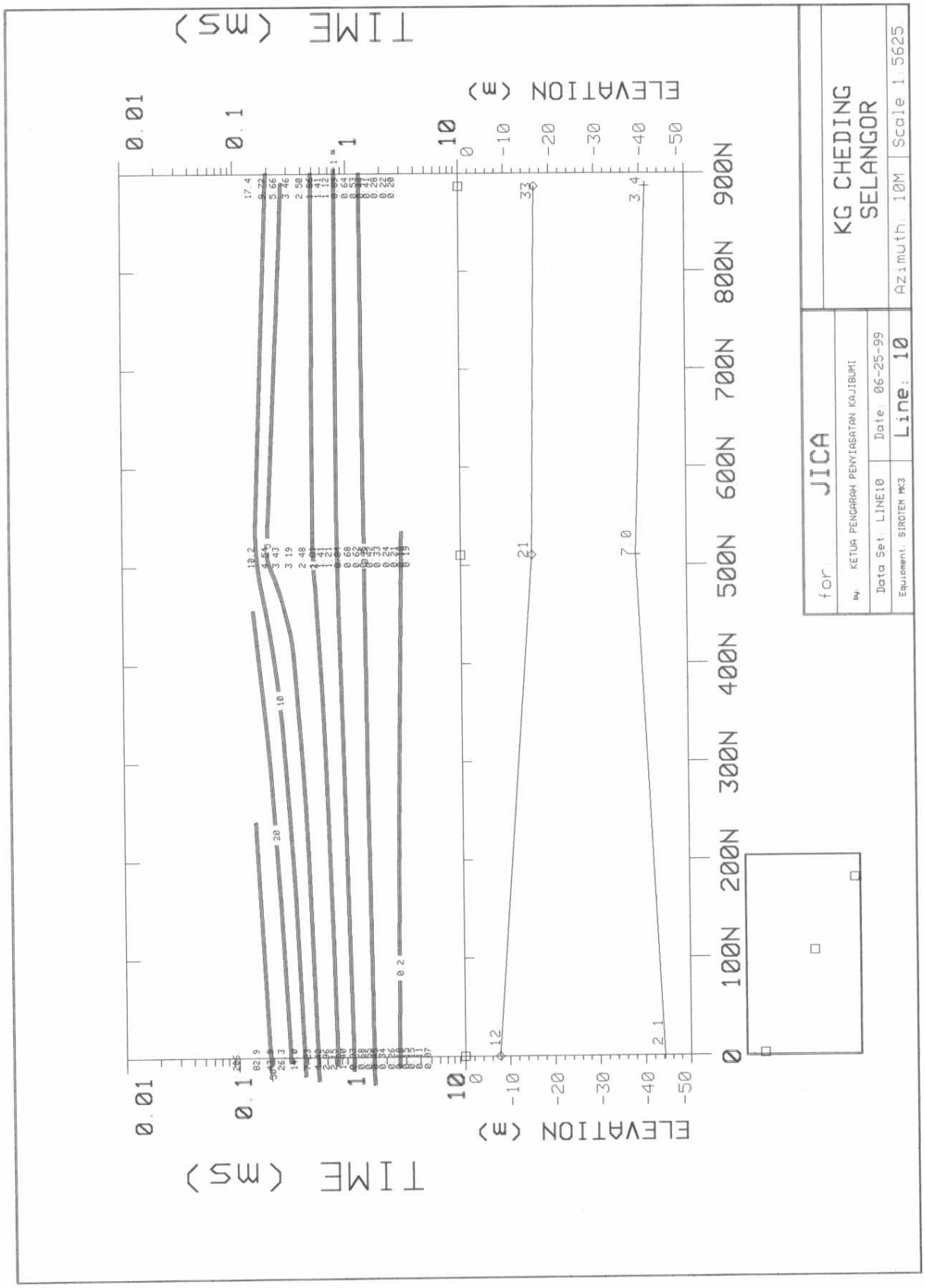
Data Book Figure F.2.6 TEM Profile of Line L7 at Bukit Baja



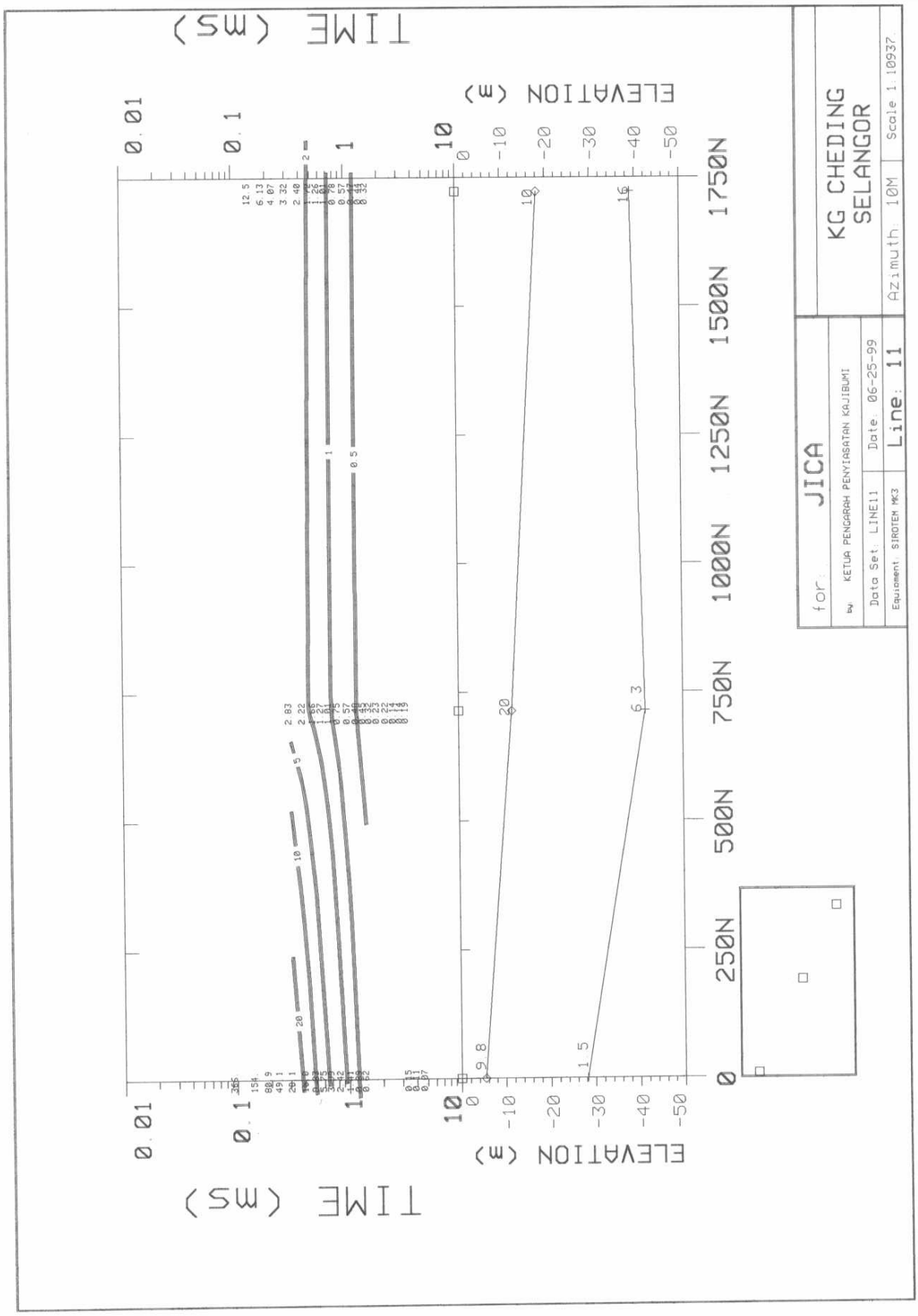
Data Book Figure F.2.7 TEM Profile of Line L8 at Dengkil Mine



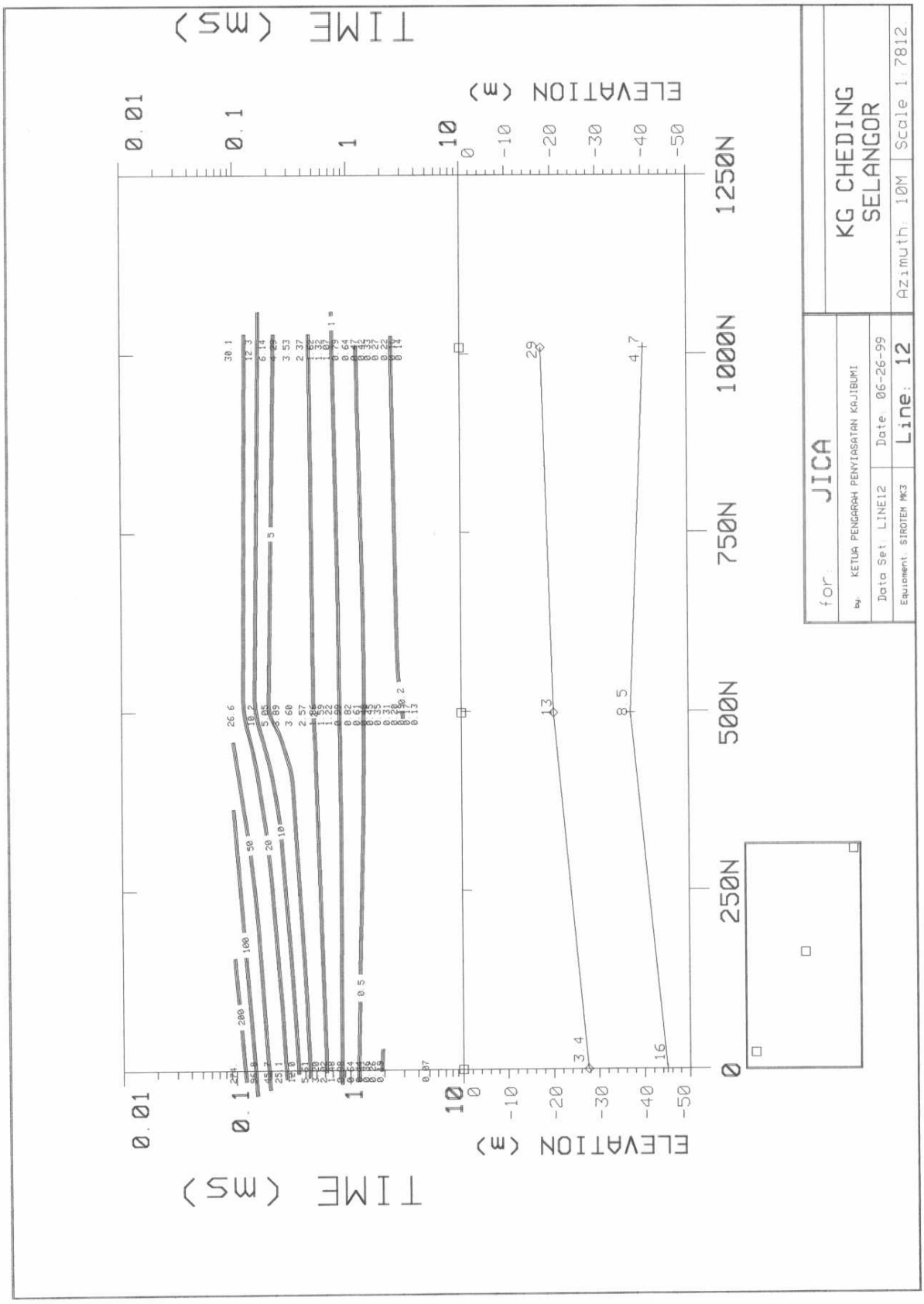
Data Book Figure F.2.8 TEM Profile of Line L9 at Bukit Cheeding



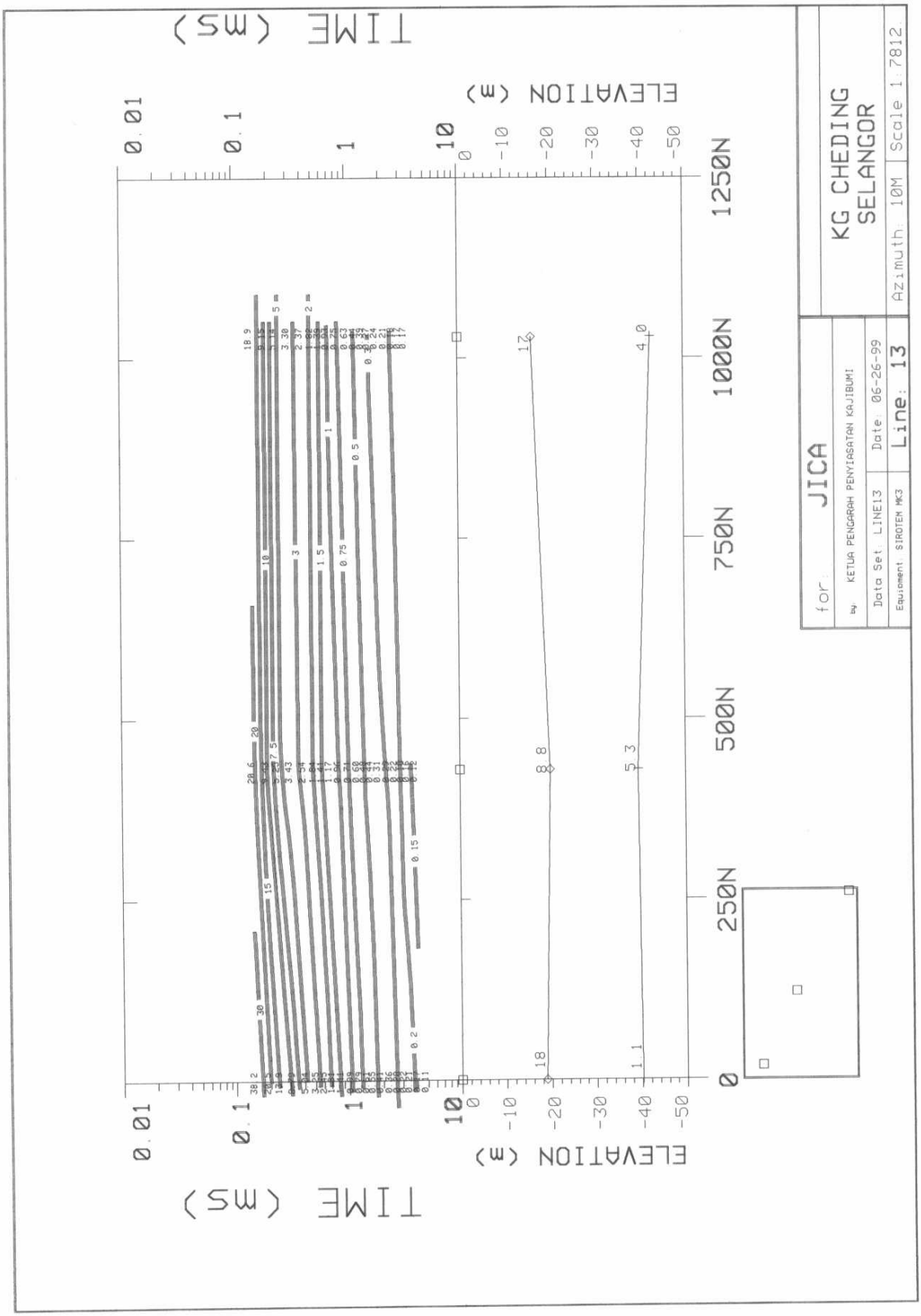
Data Book Figure F.2.9 TEM Profile of Line L10 at Bukit Cheeding



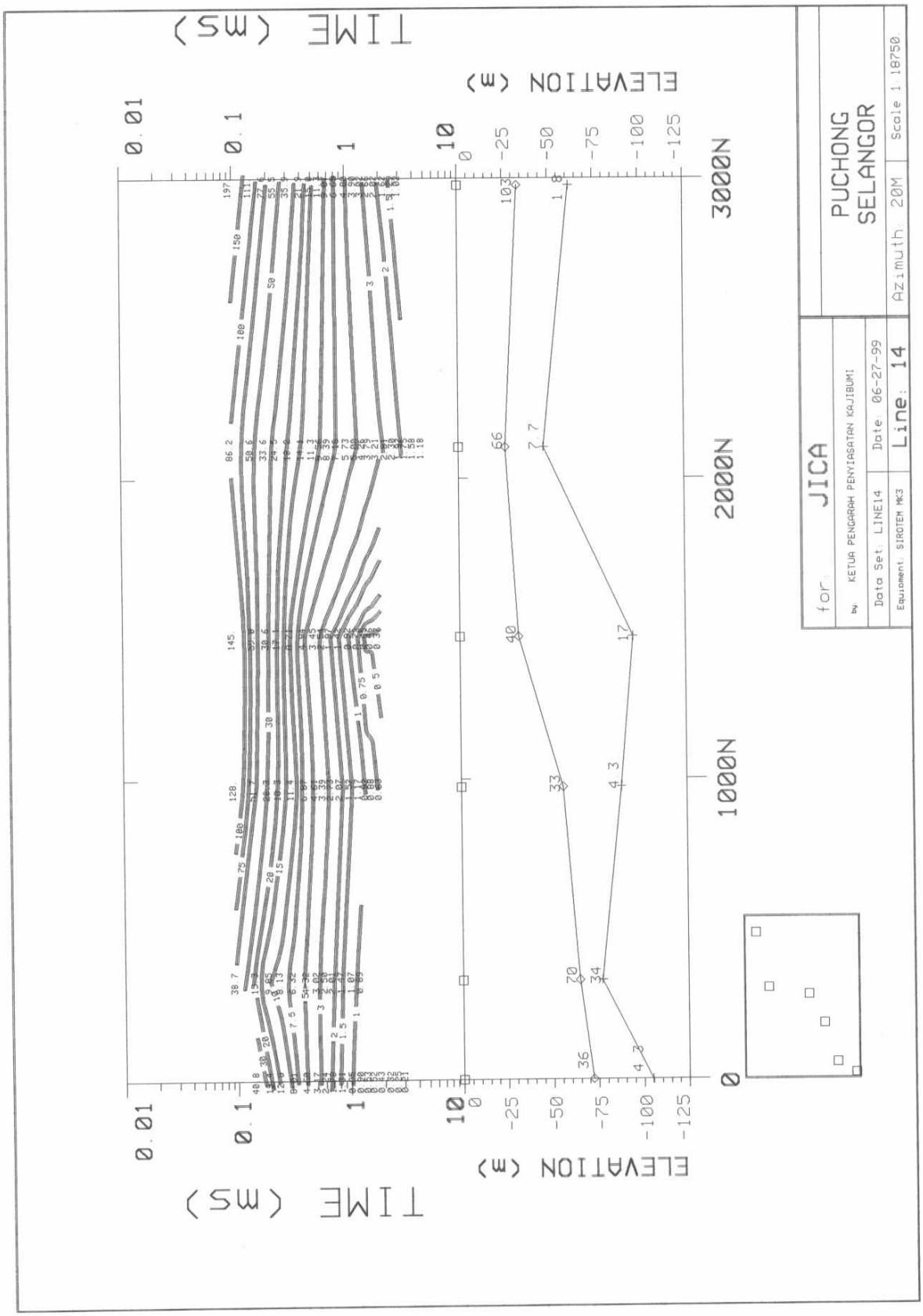
Data BookFigure F.2.10 TEM Profile of Line L11 at Bukit Cheeding



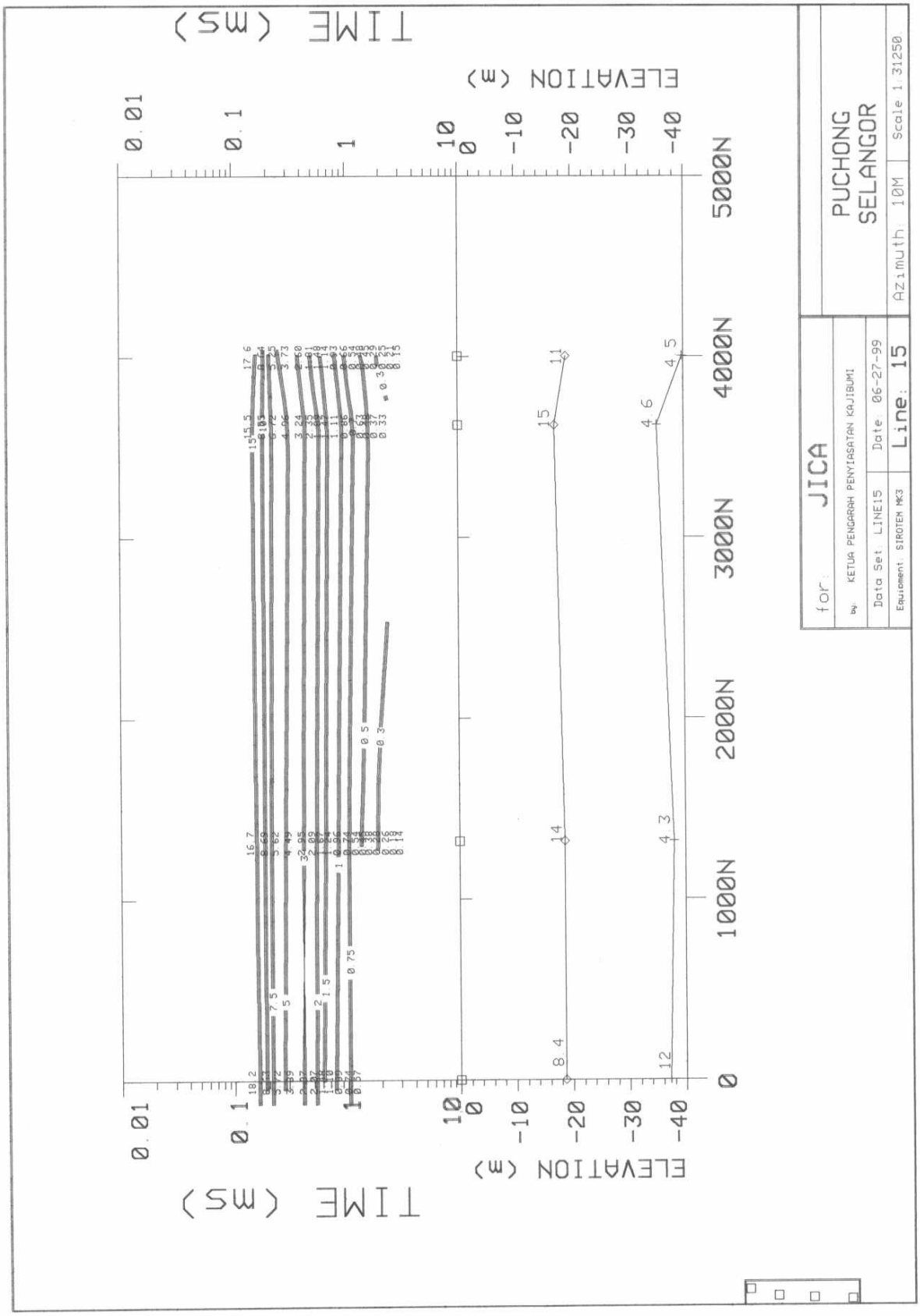
Data Book Figure F.2.11 TEM Profile of Line L12 at Bukit Cheeding



Data Book Figure F.2.12 TEM Profile of Line L13 at Bukit Cheeding



Data Book Figure F.2.13 TEM Profile of Line L14 at Puchong



Data Book Figure F.2.14 TEM Profile of Line L15 at Puchong

DATA BOOK F.2.3

RESULTS OF INVERSION OF TEM

Data Book Table F.2.1 The Results of Inversion of TEM 2000(1)

Area	line No.	Longitude East-West	Latitude North-South	Station No.	1st layer ohm-m	2 nd layer ohm-m	Depth of 1st Layer (GL-m)	Depth of 2nd Layer (GL-m)
G	1	409,640	304,870	1	6	4	11	95
		409,620	304,310	3	8	6	12	95
		409,620	303,850	5	3	7	20	85
		409,620	303,440	7	4	10	19	135
		409,620	302,930	9	5	13	27	140
		409,620	302,240	11	4	13	12	118
		409,620	301,800	13	4	14	18	50
		409,620	301,250	15	4	25	15	105
		409,640	300,340	17	4	20	18	75
		409,640	299,510	19	2	10	18	55
		409,620	298,940	21	2	21	22	52
		409,640	298,460	23	4	15	12	110
G	2	410,090	304,910	2	31	5	10	83
		410,180	304,310	4	7	7	20	85
		410,090	303,890	6	3	9	40	95
		410,123	303,430	8	3	4	12	60
		409,920	302,910	10	2	7	8	25
		410,100	302,260	12	2	29	7	27
		410,070	301,860	14	2	17	6	42
		410,100	301,192	16	2	39	5	52
		410,140	300,340	18	2	21	5	53
		410,123	299,490	20	4	14	7	60
		410,220	299,010	22	2	21	3	52
		410,240	298,110	24	5	19	14	117
B	4	402,840	323,640	34	28	6	13	43
		403,080	323,600	35	26	5	9	36
		403,313	323,600	36	57	2	25	47
		403,640	323,590	37	59	2	24	46
		403,880	323,600	38	31	11	17	40
		404,280	323,590	39	26	6	9	34
		404,592	323,590	40	31	8	13	37
B	5	403,313	324,030	41	53	7	15	39
		403,313	323,820	42	41	7	13	37
		403,290	323,350	43	32	9	15	37
		403,290	323,110	44	34	10	20	37
		403,313	322,920	45	35	9	19	36
		403,370	322,720	46	60	3	28	38
D	6	402,650	318,750	47	72	15	41	91
		402,640	318,610	48	82	7	42	85
		402,180	318,700	49	57	7	29	88
		402,033	317,810	50	49	2	24	43
		402,033	317,220	51	75	3	32	56
		402,010	316,410	52	106	2	30	46
		403,000	316,376	53	42	3	32	80

Data Book Table F.2.1 The Results of Inversion of TEM 2000(2)

Area	line No.	Longitude East-West	Latitude North-South	Station No.	1st layer ohm-m	2 nd layer ohm-m	Depth of 1st Layer (GL-m)	Depth of 2nd Layer (GL-m)
B	7	402,290	321,760	54	22	2	26	45
		402,380	321,480	55	34	1	29	46
		402,510	321,239	56	23	3	25	43
		402,764	320,860	57	12	13	26	41
		403,080	320,690	58	57	5	32	37
		403,390	320,540	59	11	3	25	42
		403,770	320,360	60	16	2	22	40
		403,990	320,160	61	15	3	25	48
E	8	407,280	318,130	62	65	7	37	72
		407,590	317,830	63	87	5	40	65
		407,920	317,350	64	31	13	42	80
		408,520	316,745	65	70	6	60	100
C	9	399,000	322,900	66	87	209	40	85
		399,180	322,530	67	278	70	72	98
		399,490	322,110	68	86	22	80	103
		399,780	321,760	69	151	25	55	100
		400,022	321,320	70	90	65	62	100
		400,350	320,650	71	66	18	52	110
C	10	400,022	320,510	72	12	2	8	44
		399,800	320,970	73	21	7	16	38
		399,620	321,300	74	33	3	17	41
C	11	399,710	320,320	75	10	2	5	28
		399,474	320,820	76	20	6	12	42
		399,291	321,210	77	10	16	18	39
C	12	399,360	320,170	78	3	16	28	45
		399,140	320,617	79	13	9	20	37
		398,926	321,080	80	29	5	17	40
C	13	399,000	319,970	81	18	1	18	40
		398,820	320,360	82	9	5	20	39
		398,540	320,890	83	17	4	16	42
A	14	400,790	325,080	84	36	4	72	105
		401,080	325,240	85	70	34	65	78
		401,280	325,850	86	33	4	55	83
		401,520	326,290	87	40	17	32	95
		402,140	326,400	88	66	8	25	45
		402,330	327,251	89	103	2	32	63
A	15	400,080	329,920	90	8	12	19	37
		400,590	329,940	91	14	4	19	38
		401,060	329,960	92	15	5	17	35
		401,430	330,050	93	11	5	20	40

Data Book Table F.2.2 The Results of Inversion of TEM 1995(1)

Line No.	Longitude East-West	Latitude North-South	1st layer ohm-m	2nd layer ohm-m	3rd layer ohm-m	thickness of 1st layer(m)	thickness of 2nd layer(m)
1	405,800	306,400	6	10	210	20	31
	406,600	306,400	7	5	379	21	18
	407,200	306,300	10	5	264	23	25
	407,850	306,350	7	5	251	20	32
	408,650	306,200	3	6	253	16	77
	414,000	305,000	13	210	15	18	109
	417,250	306,300	7	48	1	32	21
2	404,400	305,000	11	2	182	13	23
	405,200	305,000	8	3	54	25	21
	406,150	305,000	9	2	145	25	10
	406,700	305,000	8	3	104	22	19
	407,500	305,000	8	6	72	26	34
	414,400	305,000	44	194		32	
	417,400	305,100	16	1	4	47	26
3	404,200	304,100	3	3	239	10	47
	404,900	304,000	2	4	667	6.6	23
	405,500	304,000	9	10	436	13	37
	406,100	304,000	2	3	307	12	22
	406,900	304,000	5	6	197	10	66
4	405,300	303,100	6	1	168	12	12
	406,050	303,000	3	2	151	8	40
5	406,250	307,150	10	11	251	19	29
	406,700	307,000	10	8	62	29	51
	407,250	307,000	10	1	297	31	10
	408,050	307,000	4	3	537	21	14
	408,900	307,100	3	2	331	9.5	9.6
6	405,300	308,000	11	15	466	28	20
	407,000	308,000	12	5	185	34	24
	407,550	308,000	10	1	282	50	12
	408,050	307,000	8	3	303	39	15
	408,550	307,900	43	4	375	27	26
	412,950	308,000	30	35	785	37	37
10	406,900	312,000	5	221	44	19	33
	407,500	312,000	7	13	5	11	48
	408,200	312,050	22	1	333	74	22
	408,700	311,950	28	9	367	25	89
12	390,100	297,000	5	2	160	8.3	66
	391,000	297,100	5	3	150	5	53
	391,600	297,000	3	3	150	18	51
	392,450	297,000	4	5	154	27	53
	393,250	297,100	4	2	149	41	13
	394,150	296,950	4	5	152	35	21
	395,700	296,950	4	2	150	14	23
	396,700	297,000	3	3	158	31	8.1

Data Book Table F.2.2 The Results of Inversion of TEM 1995(2)

Line No.	Longitude East-West	Latitude North-South	1st layer ohm-m	2nd layer ohm-m	3rd layer ohm-m	thickness of 1st layer(m)	thickness of 2nd layer(m)
13	394,000	295,000	4	6	193	13	67
	395,100	295,200	3	2	161	26	14
	396,150	295,050	3	2	181	20	8.6
	397,100	294,950	4	6	147	31	11
	398,100	295,000	4	6	162	18	42
	399,400	294,800	5	1	164	34	11
	400,100	295,000	4	1	155	54	12
	401,000	295,100	5	1	187	44	12
	401,650	294,950	4	1	154	38	17
	402,800	295,050	4	2	150	23	28
	403,600	295,000	5	2	152	36	11
	404,450	295,200	3	2	150	21	18
	405,300	295,000	3	1	170	21	14
	406,050	294,950	2	3	149	3.9	41
	406,900	295,000	4	3	173	8	20
	407,700	295,000	3	6	10	9	19
	408,500	295,000	3	50	1	9.7	61
	409,300	295,000	2	50	1	25	28
	410,000	295,000	2	3	154	15	22
	416,150	294,800	1	5	150	55	0.69
17	406,100	294,000	5	5	150	31	46
	407,000	294,000	3	2	152	18	20
	407,700	294,000	2	13	150	33	18
	408,550	294,000	2	190	15	7.3	64
	410,650	294,000	2	9	113	16	92
	411,400	294,000	2	8	136	25	10
	412,250	294,000	3	2	152	4.9	20
	413,200	294,000	4	37	191	16	19
	413,900	293,700	5	46	294	11	17
	414,700	293,950	5	135	5	15	69

Data Book Table F.2.3 The Results of Inversion of TEM 1994(1)

Line No.	Longitude East-West	Latitude North-South	1st layer ohm-m	2nd layer ohm-m	3rd layer ohm-m	thickness of 1st layer(m)	thickness of 2nd layer(m)
20	376,300	340,900	1	1	13	12	15
	377,000	340,900	1	1	20	14	18
	378,200	340,800	1	5	11	18	19
	378,900	340,700	1	3	2	11	7.7
	379,700	340,700	5	2	0	10	33
	380,600	340,700	2	3	1	12	46
	381,200	340,800	2	10	9	20	22
	381,900	340,800	2	5	16	19	18
	382,600	340,800	2	4	10	21	24
	383,300	340,800	2	23	3	11	38
	384,000	340,800	8	133	12	13	92
21	377,900	339,800	1	1	11	8.2	15
	378,500	339,100	2	1	11	8.3	18
	379,300	339,800	2	2	7	8.5	21
	381,000	339,800	2	2	3	6.6	9.6
	381,900	339,900	3	7	1	34	44
	382,700	339,700	2	10	1	24	45
	383,200	339,900	8	60	1	30	108
22	378,200	338,900	1	1	3	8.9	17
	379,000	339,000	2	1	3	9.9	20
	379,900	339,000	2	1	6	10	13
	380,600	339,000	2	2	8	9.4	12
	381,200	338,900	2	1	16	10	10
	381,800	338,900	3	2	28	10	22
	382,200	338,900	2	2	27	9.4	20
	382,900	339,000	3	27	1	25	43
	383,600	338,800	174	62	6	42	66
23	377,200	337,800	1	7		24	
	377,900	337,900	1	3		21	
	378,300	337,900	2	1	1	5.4	45
	379,000	337,800	2	2	4	10	19
	379,600	337,800	2	1	13	11	11
	380,300	337,900	2	2	12	9.6	15
	380,900	337,800	3	10	6	24	28
	381,900	337,800	2	8	12	16	24
	382,500	337,900	2	15	1	15	41
	384,000	338,200	21	14	1	16	64
	384,700	337,800	13	12	1	32	40
	385,700	337,900	98	36	6	50	66

Data Book Table F.2.3 The Results of Inversion of TEM 1994(2)

Line No.	Longitude East-West	Latitude North-South	1st layer ohm-m	2nd layer ohm-m	3rd layer ohm-m	thickness of 1st layer(m)	thickness of 2nd layer(m)
24	381,000	313,500	11	20	3	9.9	81
	382,700	313,300	2	1	10	9.6	29
	384,500	313,600	2	1	8	9.8	26
	386,400	313,800	2	1	14	12	31
	388,000	314,000	2	1	8	16	21
	389,700	313,600	3	1	16	15	33
	391,300	313,500	3	2	29	11	22
	393,400	313,500	2	1	41	13	14
	394,400	313,700	2	12	31	20	29
	395,400	313,700	5	65	8	18	85
	396,200	313,400	4	64	22	20	71
	397,100	313,600	16	23	4	26	73
	398,000	313,700	11	42	5	24	87
	398,700	313,600	15	30	4	27	59
	399,800	313,500	18	35	7	29	35
	400,900	313,500	10	2	1	30	36
	402,200	313,600	47	23	5	31	58
	404,100	313,300	13	28	2	16	55
	405,900	313,400	15	30	1	14	45
25	382,500	312,300	4	1	4	11	29
	385,300	312,600	2	1	10	6.8	31
	388,000	312,500	2	1	4	7.9	31
	391,000	312,600	3	2	5	13	23
	393,000	312,500	6	4	1	21	52
	396,100	312,500	28	17	20	22	44
	397,100	312,600	22	46	7	23	69
	398,100	312,500	7	22	4	24	48
	399,200	312,600	24	7	32	47	99
	400,300	312,500	22	9	45	24	80
	401,200	312,500	23	9	20	32	95
	402,400	312,500	17	28	198	34	75
	403,600	312,700	65	173	3	38	139
	404,900	312,500	42	78	33	25	75
	406,100	312,400	49	23	146	38	87
26	383,700	311,400	5	1	4	8	51
	386,900	311,500	4	1	3	3.1	43
	390,000	311,600	4	1	0	7.7	58
	392,400	311,500	4	23	61	30	26
	394,300	311,500	5	302	696	23	34
	395,100	311,500	8	247	48	26	49
	396,500	311,500	7	73	14	37	43
	397,300	311,400	11	32	3	35	91
	398,500	311,600	38	6	43	59	62
	399,400	311,400	33	9	5	31	41
	400,400	311,300	18	20	6	17	38
	401,900	311,500	7	14	75	19	55
	404,800	311,400	12	58	9	30	68
	406,300	311,400	13	11	62	38	44

Data Book Table F.2.3 The Results of Inversion of TEM 1994(3)

Line No.	Longitude East-West	Latitude North-South	1st layer ohm-m	2nd layer ohm-m	3rd layer ohm-m	thickness of 1st layer(m)	thickness of 2nd layer(m)
27	380,100	310,000	1	1	4	19	19
	383,700	310,400	2	1	1	15	22
	387,900	310,400	2	1	4	14	24
	390,900	310,400	7	5	13	28	64
	393,300	310,400	6	7	8	29	126
	395,100	310,300	2	1	49	12	10
	396,000	310,300	3	1	20	16	10
	397,100	310,300	2	4	24	17	9.1
	398,100	310,300	4	29	8	18	38
	400,200	310,400	20	5	2	42	39
	401,500	310,400	15	8	46	27	50
	402,700	310,200	43	51	7	41	115
	403,800	310,300	22	7	1	30	43
	405,100	310,400	9	40	17	23	45
	406,200	310,500	11	49	18	29	45
28	379,900	308,800	1	1	4	6.9	23
	383,700	309,000	2	1	1	11	25
	388,600	309,200	2	1	1	12	19
	391,400	309,200	2	1	16	14	14
	393,300	309,200	2	1	15	16	17
	395,200	309,000	2	1	9	18	14
	396,500	308,900	5	3	11	17	29
	398,400	309,100	2	3	10	8	26
	402,100	309,200	3	13	41	9	21
29	382,200	314,600	1	1	3	12	10
	384,600	314,800	2	1	13	16	18
	386,500	314,700	2	1	8	20	23
	388,300	314,700	2	2	6	24	28
	389,600	314,800	2	2	5	37	41
	391,400	314,700	2	2	23	14	18
	392,400	314,700	2	2	18	17	10
	393,500	314,700	3	2	47	13	9.1
	394,500	314,600	2	6	38	9.8	8.6
	396,800	314,800	8	63	3	22	92
	397,700	314,400	17	37	5	38	43
	398,700	314,500	39	8	2	38	41
	399,800	314,500	39	10	5	37	33
30	381,300	315,800	1	6		41	
	383,000	315,800	2	1	4	16	20
	384,800	315,700	2	1	6	9.7	40
	386,600	315,800	3	2	7	14	14
	388,400	315,700	2	2	6	12	34
	390,400	315,800	3	1	21	20	28
	391,500	315,700	2	6	2	12	16
	392,400	315,800	3	3	22	10	12
	393,400	316,000	2	27	110	14	16

DATA BOOK F.2.4

DETAILED BOREHOLE LOGS

BOREHOLE No. **BH 1**

Job No. **20019** Sheet 1 of 4

Project: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	SOUTH OF BT. BAJA
Type of rig	BBS 10	Coordinate, X =	402785 — Elevation, m : 8.785
Dia of boring	4" & 5"	Y =	319999
Casing details	Core NMLC	Z =	8.785

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples: Sample	Samples: Test	Strata: Legend	Depth	Reduced Level	Thickness	Description
0		b.g.l	M				M		M	0
29.11.00 (09:45)						– – x	0.30		0.30	Firm brown silty CLAY with some fine sand
1			1.0-1.45	SPT1 ↓	N=20	– x				1
2			2.0-2.45	SPT2 ↓	N=1	– – x			4.70	Very stiff brown dappled white and red silty CLAY with some fine sand (land fill)
3			3.0-3.45	(SPT3) ↓	N=1	– – x				3
4			4.0-4.45	(SPT4) ↓	N=2	– – x				4
5			5.0-5.45	SPT5 ↓	N=HW	– – x	5.00			5
6			6.0-6.45	(SPT6) ↓	N=HW	– – HW			3.00	Very soft dark gray peaty CLAY 6
7			7.0-7.45	(SPT7) ↓	N=HW	– – HW				7
8			8.0-8.45	SPT8 ↓	N=2	– – – – – – HW	8.00			8
9			9.0-9.45	SPT9 ↓	N=6	– – – – x	9.00		1.00	Soft light brown CLAY 9
29.11.00 (17:45) 10		0.65				– – x			2.00 ↓	Firm light gray dappled red silty CLAY 10

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 29.11.2000

Date Finished: 3.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 9.12.2000

Data Book Figure F.2.15 Borehole Log BH1(1)

BOREHOLE No. **BH 1**

Job No. **20019** Sheet 2 of 4

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location :	SOUTH OF BT. BAJA
Type of rig	BBS 10	Coordinate, X =	402785
Dia of boring	4" & 5"	Y =	319999
Casing details	Core NMLC	Z =	8.785

Elevation, m : 8.785

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
		b.g.l	M				M		M	
30.11.00 (08:00)	10.45 (10.00)	0.74	10.0-10.45	SPT10 ↓	N=6		11.00		2.00	Firm light gray dappled red silty CLAY
			11.0-11.45	SPT11 ↓	N=5		12.00		1.00	Firm light gray CLAY
			12.0-12.45	SPT12 ↓	N=2		13.00		1.00	Soft light gray CLAY
			13.0-13.45	SPT13 ↓	N=18		14.00		1.00	Very stiff gray silty CLAY
			14.0-14.20	(SPT14) ↓	N=50/ 0.05		15.42		1.42	Medium dense gray silty fine SAND
			15.0-15.45	SPT15 ↓	N=24		16.00		0.58	Soft gray CLAY
			16.0-16.45	SPT16 ↓	N=8		17.00		1.00	Firm gray silty CLAY
30.11.00 (17:00)	17.45 (17.00)	1.16								
1.12.00 (08:00)		0.7	17.0-17.45	SPT17 ↓	N=4		18.00		1.00	Soft to firm gray silty CLAY
			18.0-18.45	SPT18 ↓	N=6		19.00		1.00	Firm gray clayey SILT
			19.0-19.45	SPT19 ↓	N=19				5.00	Medium dense light gray silty fine to coarse SAND

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 29.11.2000

Date Finished: 3.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 9.12.2000

Data Book Figure F.2.15 Borehole Log BH1(2)

BOREHOLE No. **BH 1**

Job No. **20019** Sheet 3 of 4

Proj ect: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location :	SOUTH OF BT. BAJA
Type of rig	BBS 10	Coordinate, X =	402785
Dia of boring	4" & 5"	Y =	319999
Casing details	Core NMLC	Z =	8.785

Elevation, m : 8.785

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
20		b.g.l	M				M		M	20
			20.0-20.45	(SPT20) ↓	N=17	x			↑	
						x				
						x				
21						x				21
			21.0-21.45	SPT21 ↓	N=15	x				
						x				
						x			5.00	Medium dense light gray silty
22						x				fine to coarse SAND 22
			22.0-22.45	SPT22 ↓	N=17	x				
						x				
						x				
23						x				23
			23.0-23.45	SPT23 ↓	N=26	x				
						x				
						x				
24						x	24.00			24
			24.0-24.45	SPT24 ↓	N=21	x				
						x			1.00	Medium dense light gray to light brown
	1.12.00	25.45				x				silty fine to coarse SAND
25	(15:00)	(25.00)				x	25.00			25
	2.12.00		25.0-25.45	SPT25 ↓	N=40	x				
	(08:35)					x			1.00	Dense light gray silty fine to coarse SAND
						x				
26						x	26.00			26
			26.0-26.45	SPT26 ↓	N=43	x				
						x			1.00	Dense light gray silty fine to coarse SAND
						x				with some fine to medium gravels
27						x	27.00			27
			27.0-27.45	SPT27 ↓	N=21					
									1.00	Very stiff pale gray to dark gray
										completely weathered interbedded SHALE,
28							28.00			MUDSTONE and SANDSTONE 28
			28.0-28.45	SPT28 ↓	N=21					
									1.00	Very stiff dark gray completely weathered
										interbedded MUDSTONE and SANDSTONE
29							29.00			29
			29.0-29.45	SPT29 ↓	N=18					
									1.00	Very stiff dark gray completely
										weathered MUDSTONE with of sandstone
30							30.00			30

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 29.11.2000

Date Finished: 3.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 9.12.2000

Data Book Figure F.2.15 Borehole Log BH1(3)

BOREHOLE No. **BH 1**

Job No. **20019** Sheet 4 of 4

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location :	SOUTH OF BT. BAJA
Type of rig	BBS 10	Coordinate, X =	402785 — Elevation, m : 8.785
Dia of boring	4" & 5"	Y =	319999
Casing details	Core NMLC	Z =	8.785

	Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples & Tests: Sample	Samples & Tests: Test	Strata: Legend	Strata: Depth	Strata: Reduced Level	Strata: Thick ness	Strata: Description	
30			b.g.l	M				M		M		30
				30.0-30.17	SPT30 ↓	N=50/ 0.02						
31										2.00	Hard dark gray completely	31
				31.0-31.45	SPT31 ↓	N=39					weathered MUDSTONE	
32	2.12.00 (17:40)	32.12 (32.00)	0.00					32.00				32
	3.12.00 (08:00)			32.0-32.12	SPT32 ↓	N=50/1st 0.12					Highly weathered dark gray weak	
33		33.27								1.27	MUDSTONE	33
		(33.00)		33.0-33.27	SPT33 ↓	N=50/ 0.12		33.27				
											End of hole	
34												34
35												35
36												36
37												37
38												38
39												39
40												40

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 29.11.2000

Date Finished: 3.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 9.12.2000

Data Book Figure F.2.15 Borehole Log BH1(4)

BOREHOLE No. **BH 2**

Job No. **20019** Sheet 1 of 4

Project: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	PAYA INDAH
Type of rig	BBS 10	Coordinate, X =	402695
Dia of boring	4" & 5"	Y =	318667
Casing details	Core NMLC	Z =	8.250

Elevation, m : 8.250

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thickness	Description
0		b.g.l	M				M		M	0
8.11.00 (10:30)						x x x x	1.00		1.00	Loose red yellow silty fine to coarse SAND with a trace of fine gravel gravel (Land Filled)
1										1
			1.2-1.65	(SPT1) ↓	N=2		1.20		0.20	WOODEN BLOCK
2			2.0-2.45	(SPT2) ↓	N=1	x x x x x x x x			1.80	Very soft S.P.T. sample is no recovery due to wooden block
3							3.00			3
			3.0-3.45	SPT3 ↓	N=HW				1.00	Very soft dark gray peaty CLAY with a trace of fine to medium sand
4							4.00			4
			4.0-4.45	SPT4 ↓	N=1				1.00	Very soft light gray CLAY with a little of decayed and fresh root
5							5.00			5
			5.0-5.45	SPT5 ↓	N=9				1.00	Firm to stiff light gray CLAY with a trace of decayed root
8.11.00 (18:20)		0.37					6.00			6
9.11.00 (08:15)		0.43	6.0-6.45	SPT6 ↓	N=7				1.00	Firm light gray CLAY
7							7.00			7
			7.0-7.45	SPT7 ↓	N=11				2.00	Stiff light gray CLAY with a trace of silt
8							8.00			8
			8.0-8.45	SPT8 ↓	N=11				2.00	Stiff light gray CLAY with a trace of silt
9							9.00			9
			9.0-9.45	SPT9 ↓	N=4		9.15		0.15	Soft to firm light gray CLAY
10							10.00		0.85	Soft dark black gray peaty CLAY (Medium Plasticity)
							10.20		0.20	Firm light gray CLAY

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: MALAYSIAN SOIL INVESTIGATION SDN BHD

Date Started: 8.11.2000

Date Finished: 14.11.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 6.12.2000

Data Book Figure F.2.16 Borehole Log BH2(1)

BOREHOLE No. **BH 2**

Job No. **20019** Sheet 2 of 4

Project: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location :	PAYA INDAH
Type of rig	BBS 10	Coordinate, X =	402695
Dia of boring	4" & 5"	Y =	318667
Casing details	Core NMLC	Z =	8.250

Elevation, m : 8.250

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples: Sample	Samples: Test	Strata: Legend	Depth	Reduced Level	Thickness	Description
		b.g.l	M				M		M	
10										10
			10.0-10.45	SPT10 ↓	N=HW				0.80	Soft gray fine sandy CLAY
11							11.00			11
			11.0-11.45	(SPT11) ↓	N=18				1.15	Medium dense light to medium gray silty fine to coarse SAND
12										12
			12.0-12.45	SPT12 ↓	N=16		12.15			
									0.85	Firm light gray CLAY (High Plasticity)
13							13.00			13
			13.0-13.45	SPT13 ↓	N=18				1.08	Stiff to very stiff light gray silty CLAY (High Plasticity)
14							14.08			14
			14.0-14.45	SPT14 ↓	N=6					
	9.11.00								0.87	Firm light gray fine sandy CLAY
15	(16:15)	4.32					15.00			(High Plasticity) 15
	10.11.00		15.0-15.45	(SPT15) ↓	N=6				1.00	Firm light gray fine to medium sandy CLAY
	(08:00)	3.18								
16							16.00			16
			16.0-16.45	SPT16 ↓	N=11				1.18	Medium dense pale to gray silty fine to coarse SAND
17										17.0~17.18 - ditto - but light gray 17
			17.0-17.45	SPT17 ↓	N=11		17.18			mottled orange and yellow
							17.40		0.22	Firm light gray fine sandy CLAY
									0.60	Medium dense light gray mottled orange
18							18.00			and yellow silty medium to coarse SAND 18
			18.0-18.45	SPT18 ↓	N=32				1.00	Medium dense to dense light gray clayey fine to coarse SAND
19							19.00			19
			19.0-19.45	SPT19 ↓	N=37				1.00	Dense light gray silty fine to coarse SAND
20							20.00			20

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 8.11.2000

Date Finished: 14.11.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 6.12.2000

Data Book Figure F.2.16 Borehole Log BH2(2)

BOREHOLE No. **BH 2**

Job No. **20019** Sheet 3 of 4

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location :	PAYA INDAH
Type of rig	BBS 10	Coordinate, X =	402695
Dia of boring	4" & 5"	Y =	318667
Casing details	Core NMLC	Z =	8.250

Elevation, m : 8.250

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thickness	Description
20		b.g.l	M				M		M	20
			20.0-20.45	SPT20 ↓	N=8	x			1.00	Loose light gray silty fine to coarse SAND
21						x	21.00			21
			21.0-21.45	SPT21 ↓	N=17	x			1.00	Medium dense light gray silty fine to coarse SAND
22	10.11.00 (16:00)					x	22.00			22
	11.11.00 (08:05)	0.59	22.0-22.45	SPT22 ↓	N=15	–	22.15		0.15	Firm light gray clayey fine to coarse SAND
23						x	23.00		0.85	Medium dense light gray dappled orange silty fine to coarse SAND 23
			23.0-23.45	SPT23 ↓	N=16	x			1.00	Medium dense pale gray pale brown silty fine to coarse SAND with a little of fine gravel
24						x	24.00			24
			24.0-24.45	SPT24 ↓	N=20	x			1.00	Medium dense pale gray to pale brown silty fine to coarse SAND with a little of fine to medium gravel
25						x	25.00			25
			25.0-25.45	SPT25 ↓	N=30	x				
26						x			2.00	Dense pale gray to pale brown silty fine to coarse SAND with a little of fine to medium gravel 26
			26.25-26.70	SPT26 ↓	N=49	x				
27	11.11.00 (15:00)					x	27.00			27
	12.11.00 (08:30)		27.0-27.45	SPT27 ↓	N=35	x			1.00	Dense light gray silty fine to coarse SAND
28						x	28.00			28
			28.1-28.55	SPT28 ↓	N=36	x			0.38	Dense light gray brown silty fine to coarse SAND with a trace of fine gravel
						x	28.38			
						– – x			0.62	Firm light gray silty CLAY
29						– x	29.00			29
			29.0-29.45	SPT29 ↓	N=43	x			1.00	Dense light gray silty fine to coarse SAND with a trace of fine to medium gravel
30						x	30.00			30

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 8.11.2000

Date Finished: 14.11.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 6.12.2000

Data Book Figure F.2.16 Borehole Log BH2(3)

BOREHOLE No. **BH 2**

Job No. **20019** Sheet 4 of 4

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location :	PAYA INDAH
Type of rig	BBS 10	Coordinate, X =	402695
Dia of boring	4" & 5"	Y =	318667
Casing details	Core NMLC	Z =	8.250

Elevation, m : 8.250

	Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thickness	Description
30			b.g.l	M				M		M	30
				30.0-30.45	SPT30 ↓	N=10	x x x x			1.00	Loose to medium dense light gray silty fine to coarse SAND with some fine to medium gravel
31	12.11.00 (17:40)		0.20								31
	13.11.00 (09:45)		0.38	31.0-31.41	SPT31 ↓ N=50/ 0.26	Core % ↓ 100	x x		RQD % ↓ 0	0.51	Dense light gray silty fine to coarse SAND with some fine to coarse gravel
32											Completely to moderately weathered blue red, extremely weak to medium strong METASEDIMENT 32
						100			0	1.65	Highly to fresh blue red weak to medium strong METASEDIMENT
33											33
	13.11.00 (17:20)		0.50			100			0.5		
34	14.11.00 (08:00)		0.54							1.33	34 Highly to fresh red to blue red weak to medium strong METASEDIMENT
						100			0		
35						100			0		35
						100			0	0.51	Fresh red to blue red weak to medium strong METASEDIMENT
36	14.11.00 (12:00)					100			0	0.42	Moderately to fresh red to blue red weak to medium strong METASEDIMENT 36
											End of hole
37											37
38											38
39											39
40											40

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: MALAYSIAN SOIL INVESTIGATION SDN BHD

Date Started: 8.11.2000

Date Finished: 14.11.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 6.12.2000

Data Book Figure F.2.16 Borehole Log BH2(4)

BOREHOLE No. **BH 3**

Job No. **20019** Sheet 1 of 5

Proj ect: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	NW OF PAYA INDAH
Type of rig	BBS 10	Coordinate, X =	399896
Dia of boring	4" & 5"	Y =	320335
Casing details	Core NMLC	Z =	7.385

Elevation, m : 7.385

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples: Sample	Tests	Strata: Legend	Depth	Reduced Level	Thick ness	Description
0		b.g.l	M				M		M	0
15.1.01 (11:00)							0.30		0.30	Very soft dark brown PEAT with wood lets and small roots
1										1
			1.0-1.45	SPT1 ↓	N=0				1.70	Very soft dark brown PEAT with decayed woods and small roots
2							2.00			2
			2.0-2.45	SPT2 ↓	N=6				1.00	Stiff light brown to dark brown PEAT with decayed woods
3							3.00			3
			3.0-3.45	SPT3 ↓	N=HW				1.00	Very soft light brown to brown peaty CLAY with a little decayed woods
4							4.00			4
			4.0-4.45	SPT4 ↓	N==HW	x			1.00	Very soft light gray to gray silty CLAY with a little decayed wood
5						x	5.00			5
			5.0-5.45	SPT5 ↓	N=HW	x			1.00	Very soft light gray to gray silty CLAY
15.1.01 (17:30) 6		0.35				x	6.00			6
16.1.01 (07:40)		0.35	6.0-6.45	SPT6 ↓	N=HW	x			1.00	Very soft light gray to gray silty CLAY with decayed grass
7						x	7.00			7
			7.0-7.45	SPT7 ↓	N=0	x				
8						x				8
			8.0-8.45	SPT8 ↓	N=HW	x			4.00	Very soft light gray to gray silty CLAY with a little decayed grass
9						x				9
			9.0-9.45	SPT9 ↓	N=HW	x				
10						x			↓	10

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 15.01.2001

Date Finished: 20.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 8.02.2001

Data Book Figure F.2.17 Borehole Log BH3(1)

BOREHOLE No. **BH 3**

Job No. **20019** Sheet 2 of 5

Proj ect : THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location :	NW OF PAYA INDAH
Type of rig	BBS 10	Coordinate, X =	399896 — Elevation, m : 7.385
Dia of boring	4" & 5"	Y =	320335
Casing details	Core NMLC	Z =	7.385

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
10		b.g.l	M				M		M	10
			10.0-10.45	SPT10 ↓	N=HW				▲	
									4.00	Very soft light gray to gray silty CLAY with a little decayed grass
11							11.00			11
			11.0-11.45	SPT11 ↓	N=HW					
12									2.00	Very soft light gray to gray silty CLAY with a trace of fine to medium sand 12
			12.0-12.45	SPT12 ↓	N=HW					
13							13.00			13
			13.0-13.45	SPT13 ↓	N=5					
14									2.00	Soft pale gray to pale brown fine sandy silty CLAY 14
			14.0-14.45	SPT14 ↓	N=6					
15	16.1.01 (17:30)	1.00					15.00			15
	17.1.01 (07:50)	0.80	15.0-15.45	SPT15 ↓	N=36				1.00	Dense light brown silty fine to coarse SAND
16							16.00			16
			16.0-16.45	SPT16 ↓	N=9					
17										17
			17.0-17.45	SPT17 ↓	N=8					
18									4.00	Loose light brown silty fine to coarse SAND 18
			18.0-18.45	SPT18 ↓	N=8					
19										19
			19.0-19.45	(SPT19) ↓	N=14					
20							20.00			20

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 15.01.2001

Date Finished: 20.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 8.02.2001

Data Book Figure F.2.17 Borehole Log BH3(2)

BOREHOLE No. **BH 3**

Job No. **20019** Sheet 3 of 5

Proj ect : THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location :	NW OF PAYA INDAH
Type of rig	BBS 10	Coordinate, X =	399896
Dia of boring	4" & 5"	Y =	320335
Casing details	Core NMLC	Z =	7.385

Elevation, m : 7.385

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
20		b.g.l	M				M		M	20
			20.0-20.45	SPT20 ↓	N=17	x x x x			1.00	Medium dense pale brown to brown silty fine to coarse SAND
21							21.00			21
			21.0-21.45	SPT21 ↓	N=14				1.00	Stiff dark brown decayed WOOD with organic material
22							22.00			22
			22.0-22.45	SPT22 ↓	N=17	– – – – – –			1.00	Very stiff dark brown peaty CLAY with decayed wood
23							23.00			23
			23.0-23.205	SPT23 ↓	N=50/ 0.055	x x x x			1.00	Very dense pale gray to brown silty fine SAND
24	17.1.01 (17:25)	2.93					24.00			24
	18.1.01 (08:40)	1.20	24.0-24.365	SPT24 ↓	N=50/ 0.215	x x x x			2.00	Very dense light brown to brown silty fine to medium SAND
25			25.0-25.45	SPT25 ↓	N=35	x x x x				25
26							26.00			26
			26.0-26.45	SPT26 ↓	N=38	x x x x			1.00	Dense light brown to brown silty fine to medium SAND
27							27.00			27
			27.027.43	SPT27 ↓	N=50/ 0.28	x x x x			1.00	Very dense light brown to brown silty fine to medium SAND
28							28.00			28
			28.0-28.45	SPT28 ↓	N=39	x x x – x x – x x x – x x –			3.00	Hard light gray to dark gray spotted to striped white clayey SILT with fine to coarse q uartz gravel (weathered SHALE)
29			29.0-29.39	SPT29 ↓	N=50/ 0.24	x x x – x x – x x x – x x –				29
30										30

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 15.01.2001

Date Finished: 20.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 8.02.2001

Data Book Figure F.2.17 Borehole Log BH3(3)

BOREHOLE No. **BH 3**

Job No. **20019** Sheet 4 of 5

Project : THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location :	NW OF PAYA INDAH
Type of rig	BBS 10	Coordinate, X =	399896 — Elevation, m : 7.385
Dia of boring	4" & 5"	Y =	320335
Casing details	Core NMLC	Z =	7.385

	Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thickness	Description	
30			b.g.l	M				M		M		30
				30.0-30.15	SPT30 ↓	N=50/1st 0.15	x x x					
	18.1.01						x x x					
31	(17:45)		3.74				x x					31
	19.1.01			31.0-31.395	SPT31 ↓	N=50/ 0.245	x x x					
	(08:15)		3.45				x x x					
32							x x					32
				32.0-32.42	SPT32 ↓	N=50/ 0.27	x x x					
							x x x				Hard light gray to dark gray spotted	
33							x x			7.00	to striped white clayey SILT with	33
				33.0-33.41	SPT33 ↓	N=50/ 0.26	x x x				fine to coarse quartz gravel	
							x x x				(weathered SHALE)	
34							x x					34
				34.0-34.40	SPT34 ↓	N=50/ 0.25	x x x					
	19.1.01						x x x					
35	(12:30)						x x					35
	20.1.01			35.0-35.40	SPT35 ↓	N=50/ 0.25	x x x					
	(08:45)		3.58				x x x					
36							x x	36.00				36
				36.0-36.27	SPT36 ↓	N=50/ 0.12	x x x					
37							x x					37
				37.0-37.29	SPT37 ↓	N=50/ 0.14	x x x					
38							x x			4.28	Hard gray to dark gray clayey SILT	38
				38.0-38.29	SPT38 ↓	N=50/ 0.14	x x x				(weathered SHALE)	
39							x x					39
				39.0-39.30	SPT39 ↓	N=50/ 0.15	x x x					
40	(13:00)						x x					40

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 15.01.2001

Date Finished: 20.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 8.02.2001

Data Book Figure F.2.17 Borehole Log BH3(4)

BOREHOLE No. **BH 3**

Job No. **20019** Sheet 5 of 5

Proj ect : THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location :	NW OF PAYA INDAH
Type of rig	BBS 10	Coordinate, X =	399896 — Elevation, m : 7.385
Dia of boring	4" & 5"	Y =	320335
Casing details	Core NMLC	Z =	7.385

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples & Tests: Sample	Samples & Tests: Test	Strata: Legend	Strata: Depth	Strata: Reduced Level	Strata: Thick ness	Strata: Description
40		b.g.l	M				M		M	40
20.1.01 (13:00)			40.0-40.28	SPT40 ↓	N=50/ 0.13	x x x – x x –	40.28		↑ 4.28	Hard gray to dark gray clayey SILT (weathered SHALE)
										End of hole
41										41
42										42
43										43
44										44
45										45
46										46
47										47
48										48
49										49
50										50

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 15.01.2001

Date Finished: 20.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 8.02.2001

Data Book Figure F.2.17 Borehole Log BH3(5)

BOREHOLE No. **BH 4**

Job No. **20019** Sheet 1 of 5

Project: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KG.JENJAROM
Type of rig	GEMCO HT22	Coordinate, X =	393657
Dia of boring	4" & 5"	Y =	321925
Casing details		Z =	5.787

Elevation, m : 5.787

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
0		b.g.l	M				M		M	0
8.11.00 (09:00)										
1										1
			1.0-1.45	(SPT1) ↓	N=3					
									3.00	Soft light orange to dark orange silty CLAY with some fine to coarse laterite gravel
2										2
			2.0-2.45	(SPT2) ↓	N=HW					
3							3.00			3
			3.0-3.45	SPT3 ↓	N=HW				1.00	Very soft light gray to gray silty CLAY with a little decayed woods
4							4.00			4
			4.0-4.45	SPT4 ↓	N=HW				1.00	Very soft light gray to gray silty CLAY
5							5.00			5
			5.0-5.45	SPT5 ↓	N=HW				1.00	Very soft light gray to gray silty CLAY with a little decayed woods
6							6.00			6
			6.0-6.45	SPT6 ↓	N=HW					
7										7
			7.0-7.45	SPT7 ↓	N=HW					
8									12.00	Very soft light gray to gray silty CLAY 8
			8.0-8.45	SPT8 ↓	N=HW					
9										9
			9.0-9.45	SPT9 ↓	N=HW					
10									↓	10

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 8.11.2000

Date Finished: 13.11.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 20.11.2000

Data Book Figure F.2.18 Borehole Log BH4(1)

BOREHOLE No. **BH 4**

Job No. **20019** Sheet 2 of 5

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KG.JENJAROM
Type of rig	GEMCO HT22	Coordinate, X =	393657
Dia of boring	4" & 5"	Y =	321925
Casing details		Z =	5.787

Elevation, m : 5.787

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
10		b.g.l	M				M		M	10
			10.0-10.45	SPT10 ↓	N=HW					
11										11
			11.0-11.45	SPT11 ↓	N=HW					
12										12
			12.0-12.45	SPT12 ↓	N=HW					
	8.11.00									
13	(17:45)	2.07								13
	9.11.00		13.0-13.45	SPT13 ↓	N=2					
	(09:20)	2.00							12.00	Very soft light gray to gray silty CLAY
14										14
			14.0-14.45	SPT14 ↓	N=2					
15										15
			15.0-15.45	SPT15 ↓	N=HW					
16										16
			16.0-16.45	SPT16 ↓	N=HW					
17										17
			17.0-17.45	SPT17 ↓	N=1					
18							18.00			18
			18.0-18.45	SPT18 ↓	N=2				1.00	Very soft light gray to gray silty CLAY with a little laminated fine sand
19							19.00			19
			19.0-19.45	SPT19 ↓	N=4				1.00	Very soft light gray to gray silty CLAY with a trace of fine to coarse quarts gravel
20							20.00			20

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 8.11.2000

Date Finished: 13.11.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 20.11.2000

Data Book Figure F.2.18 Borehole Log BH4(2)

BOREHOLE No. **BH 4**

Job No. **20019** Sheet 3 of 5

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KG.JENJAROM
Type of rig	GEMCO HT22	Coordinate, X =	393657
Dia of boring	4" & 5"	Y =	321925
Casing details		Z =	5.787

Elevation, m : 5.787

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples & Tests: Sample	Samples & Tests: Test	Strata: Legend	Strata: Depth	Strata: Reduced Level	Strata: Thick ness	Strata: Description
20		b.g.l	M				M		M	20
			20.0-20.45	SPT20 ↓	N=3					
21									2.00	Very soft light gray to gray silty CLAY with a little laminated fine sand 21
			21.0-21.45	(SPT21) ↓	N=3					
22							22.00			22
			22.0-22.45	SPT22 ↓	N=32				1.00	Medium dense light gray silty fine to coarse SAND with some fine to coarse quartz gravel
23	9.11.00 (16:15)	3.15					23.00			23
24	10.11.00 (08:00)	3.08	23.0-23.45	SPT23 ↓	N=28		24.00		1.00	Medium dense light gray silty fine to coarse SAND with some fine to coarse quartz gravel 24
			24.0-24.45	SPT24 ↓	N=19					
25										25
			25.0-25.45	SPT25 ↓	N=29					
26									4.00	Medium dense pale gray to light gray fine to coarse SAND with some fine to coarse quartz gravels 26
			26.0-26.45	SPT26 ↓	N=28					
27										27
			27.0-27.45	SPT27 ↓	N=21					
28	10.11.00 (16:35)	4.28					28.00			28
	11.11.00 (09:00)	4.21	28.0-28.45	SPT28 ↓	N=37				1.00	Hard pale gray to gray spotted to dappled white fine sandy clayey SILT with a trace of quartz gravels
29							29.00			29
			29.0-29.45	SPT29 ↓	N=28				2.00	Very stiff light gray to gray spotted to striped white fine sandy clayey SILT with a trace of quartz gravels
30									↓	30

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 8.11.2000

Date Finished: 13.11.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 20.11.2000

Data Book Figure F.2.18 Borehole Log BH4(3)

BOREHOLE No. **BH 4**

Job No. **20019** Sheet 4 of 5

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KG.JENJAROM
Type of rig	GEMCO HT22	Coordinate, X =	393657
Dia of boring	4" & 5"	Y =	321925
Casing details		Z =	5.787

Elevation, m : 5.787

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
30		b.g.l	M				M		M	30
			30.0-30.45	SPT30 ↓	N=26	x x x x x x x x x x			2.00	Very stiff light gray to gray spotted to striped white fine sandy clayey SILT with a trace of quartz gravels
31							31.00			31
			31.0-31.45	SPT31 ↓	N=50	x x x x x x x x x x				
32	11.11.00 (14:30)	4.73							2.00	Hard light gray to gray spotted to striped white fine sandy clayey SILT with a trace of quartz gravels 32
	12.11.00 (08:30)	4.55	32.0-32.45	SPT32 ↓	N=44	x x x x x x x x x x				
33							33.00			33
			33.0-33.45	SPT33 ↓	N=32	x x x x x x x x x x			1.00	Very stiff gray spotted to striped white clayey SILT with a little fine sand and fine to coarse quartz gravels (weathered SHALE)
34							34.00			34
			34.0-34.41	SPT34 ↓	N=50/ 0.26	x x x x x x x x x x			1.00	Hard gray spotted to striped white clayey SILT with a little fine sand and fine to coarse quartz gravels (weathered SHALE)
35							35.00			35
			35.0-35.325	SPT35 ↓	N=50/ 0.175	x x x x x x x x x x				
36									2.00	Hard gray to dark gray spotted to striped white clayey SILT with a trace of fine quartz gravels (weathered SHALE) 36
			36.0-36.45	SPT36 ↓	N=50	x x x x x x x x x x				
37							37.00			37
			37.0-37.35	SPT37 ↓	N=50/ 0.20	x x x x x x x x x x				
38										38
			38.0-38.27	SPT38 ↓	N=50/ 0.12	x x x x x x x x x x			4.00	Hard dark gray spotted to striped white clayey SILT with a trace of fine quartz gravels (weathered SHALE)
39										39
			39.0-39.11	SPT39 ↓	N=50/1st 0.11	x x x x x x x x x x				
40	12.11.00 (18:00)	4.37			Rebounded					40

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 8.11.2000

Date Finished: 13.11.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 20.11.2000

Data Book Figure F.2.18 Borehole Log BH4(4)

BOREHOLE No. **BH 4**

Job No. **20019** Sheet 5 of 5

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KG.JENJAROM
Type of rig	GEMCO HT22	Coordinate, X =	393657
Dia of boring	4" & 5"	Y =	321925
Casing details		Z =	5.787

Elevation, m : 5.787

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples & Tests: Sample	Samples & Tests: Test	Strata: Legend	Strata: Depth	Strata: Reduced Level	Strata: Thick ness	Strata: Description
40		b.g.l	M				M		M	40
13.11.00 (10:30)		2.00	40.0-40.10	SPT40 ↓	N=50/1st 0.10	x x x x x			4.00	Hard dark gray spotted to striped white clayey SILT with a trace of fine quartz gravels (weathered SHALE)
13.11.0 (11:05)					Rebounded	x x x x x	41.00			
41			41.0-41.22	SPT41 ↓	N=50/ 0.07	x x x x x	41.22		0.22	Hard dark gray striped white clayey SILT (completely weathered to SHALE)
										End of hole
42										42
43										43
44										44
45										45
46										46
47										47
48										48
49										49
50										50

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 8.11.2000

Date Finished: 13.11.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 20.11.2000

Data Book Figure F.2.18 Borehole Log BH4(5)

BOREHOLE No. **BH 5**

Job No. **20019** Sheet 1 of 5

Project: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring: ROTARY
Type of rig: GEMCO
Dia of boring: 4" & 6"
Casing details:

Location: KAJIBUMI WELL FIELD 2
Coordinate, X = 400944
Y = 313486
Z = 5.700
Elevation, m : 5.700

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Legend	Depth	Reduced Level	Thickness	Description
0		b.g.l	M				M		M	Light orange dappled red & white clayey SILT with trace fine sand, quartz and laterite gravel (Filled Materials)
17.10.00 (11:45)							0.30		0.30	
									1.00	Soft light orange dappled red & white clayey SILT with trace fine sand, quartz and laterite gravel
1			1.0-1.45	SPT1 ↓	N=3		1.30			
									0.70	Soft dark gray PEAT
2			2.0-2.45	SPT2 ↓	N=0		2.00			
									1.00	Very soft light to dark brown peaty CLAY with little decayed wood (Plasticity Materials)
3			3.0-3.45	SPT3 ↓	N=1		3.00			
4			4.0-4.45	SPT4 ↓	N=1				2.00	Very soft pale to dark gray silty CLAY (Plasticity Materials)
5			5.0-5.45	SPT5 ↓	N=1		5.00			
									1.00	Very soft pale gray silty CLAY (Plasticity Materials)
6			6.0-6.45	SPT6 ↓	N=HW		6.00			
									1.00	Very soft pale gray silty CLAY with a little fine sand (Plasticity Materials)
7			7.0-7.45	SPT7 ↓	N=5		7.00			
									1.00	Soft light gray silty CLAY with a trace of fine sand (Plasticity Materials)
8			8.0-8.45	SPT8 ↓	N=9		8.00			
17.10.00 (18:25)	9.45 (9.00)	0.90					9.00		1.00	Firm light gray silty CLAY with a trace of fine sand (Plasticity Materials)
9			9.0-9.45	SPT9 ↓	N=17					
18.10.00 (08:00)		0.79							1.00	Very stiff light gray silty CLAY (Plasticity Materials)
10							10.00			

- Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: MALAYSIAN SOIL INVESTIGATION SDN BHD
Date Started: 17.10.2000
Date Finished: 24.10.2000

Scale: 1 = 0.25m
Logged by: C.S.K
Checked by: Butt
Date: 6.12.2000

Data Book Figure F.2.19 Borehole Log BH5(1)

BOREHOLE No. **BH 5**

Job No. **20019** Sheet 2 of 5

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KAJIBUMI WELL FIELD 2
Type of rig	GEMCO	Coordinate, X =	400944 Elevation, m : 5.700
Dia of boring	4" & 6"	Y =	313486
Casing details		Z =	5.700

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
10		b.g.l	M				M		M	10
			10.0-10.45	SPT10 ↓	N=12	– – x				
						– x			1.00	Stiff light gray silty CLAY
						– – x				
11						– x	11.00			11
			11.0-11.45	SPT11 ↓	N=9	– – x			0.42	Stiff pale gray silty CLAY with trace sand
						– x	11.42			
						– – x			0.58	Pale gray clayey fine to coarse SAND
12						– x	12.00			12
			12.0-12.45	SPT12 ↓	N=10	– – x			0.40	Stiff pale gray silty CLAY with trace sand
						– x	12.40			
									0.60	Pale gray silty fine to medium SAND
13							13.00			13
			13.0-13.45	SPT13 ↓	N=19	– – x				
						– – x				
						– – x			1.25	Very stiff light gray silty CLAY
14						– – x				14
			14.0-14.45	SPT14 ↓	N=18	– – x	14.25			
						x	14.40		0.15	Medium dense pale gray gravelly SAND
						x				
15						x				15
			15.0-15.45	(SPT15) ↓	N=16	x			1.60	Pale gray silty fine to coarse SAND
						x				with gravels
						x				
16						x	16.00			16
			16.0-16.45	SPT16 ↓	N=31	x x –	16.25		0.25	Very stiff pale gray sandy clayey SILT
						x	16.40		0.15	Dense pale gray silty fine to medium SAND
						x			0.60	Medium dense pale gray silty fine to
17						x	17.00			Coarse SAND with little gravels 17
			17.0-17.45	SPT17 ↓	N=21	x				
						x			1.00	Medium dense pale gray silty fine to
						x				coarse SAND with little gravels
18						x	18.00			18
			18.0-18.45	SPT18 ↓	N=16	x				
						x			1.00	Medium dense pale gray silty fine to
	18.10.00					x				coarse SAND with gravels
19	(18:30)	4.62				x	19.00			19
	19.10.00		19.0-19.45	SPT19 ↓	N=8	x				
	(08:00)	5.45				x				
						x			3.00	Loose to medium dense pale gray
20						x			↓	clayey silty fine to coarse SAND 20

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 17.10.2000

Date Finished: 24.10.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 6.12.2000

Data Book Figure F.2.19 Borehole Log BH5(2)

BOREHOLE No. **BH 5**

Job No. **20019** Sheet 3 of 5

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KAJIBUMI WELL FIELD 2
Type of rig	GEMCO	Coordinate, X =	400944 Elevation, m : 5.700
Dia of boring	4" & 6"	Y =	313486
Casing details		Z =	5.700

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Legend	Strata: Depth	Reduced Level	Thick ness	Description
20		b.g.l	M				M		M	20
			20.0-20.45	(SPT20) ↓	N=22	x			↑	
						x				Loose to medium dense pale gray
						x			3.00	clayey silty fine to coarse SAND
21						x				21
			21.0-21.45	SPT21 ↓	N=13	x				21.0~ 21.17m - stiff clayey silt layer
						x				21.26~ 21.35 - stiff clayey silt layer
						x				
22						x	22.00			22
			22.0-22.45	SPT22 ↓	N=12	– –				
						–			1.15	Stiff pale gray fine to medium sandy CLAY
						– –				with trace gravel
23						–	23.15			23
			23.0-23.45	SPT23 ↓	N=16	x				
						x			0.85	Medium dense pale gray silty fine to
						x				medium SAND
24						x	24.00			24
			24.0-24.45	SPT24 ↓	N=21	– – x	24.05		0.05	Very stiff gray silty CLAY with
						x				a trace of medium sand
						x			0.95	Medium dense gray silty
25						x	25.00			fine to medium SAND 25
			25.0-25.45	SPT25 ↓	N=22	– – –	25.12		0.12	Very stiff gray CLAY
						x				with a trace of coarse sand
						x			0.88	Medium dense pale gray silty
26						x	26.00			fine to coarse SAND with gravels 26
			26.0-26.45	SPT26 ↓	N=22	– – x	26.05		0.05	Very stiff gray silty CLAY
						x				with a trace of gravels
	19.10.00	27.45				x			0.95	Medium dense pale gray silty
27	(18:35)	(24.00)	8.62			x	27.00			fine to coarse SAND with gravels 27
	20.10.00			27.0-27.45	SPT27 ↓	N=24	x			
	(08:30)		9.63			x			1.00	Medium dense light gray silty
						x				fine to coarse SAND with gravels
28						x	28.00			28
			28.0-28.45	SPT28 ↓	N=45	x				
						x			1.00	Dense pale gray spotted to dappled
						x				white silty fine to coarse SAND
29						x	29.00			with some gravels 29
			29.0-29.45	SPT29 ↓	N=24					
									1.00	Medium dense pale gray q uartz GRAVEL
30							30.00			30

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 17.10.2000

Date Finished: 24.10.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 6.12.2000

Data Book Figure F.2.19 Borehole Log BH5(3)

BOREHOLE No. **BH 5**

Job No. **20019** Sheet 4 of 5

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KAJIBUMI WELL FIELD 2
Type of rig	GEMCO	Coordinate, X =	400944 Elevation, m : 5.700
Dia of boring	4" & 6"	Y =	313486
Casing details		Z =	5.700

	Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description	
30			b.g.l	M				M		M		30
				30.0-30.45	SPT30 ↓	N=21	x					
							x					
	20.10.00						x					
31	(14:00)						x			2.00	Medium dense pale gray silty fine to	31
	21.10.00			31.0-31.45	SPT31 ↓	N=22	x				medium SAND with a trace of gravels	
	(08:20)		8.12				x					
							x					
32							x	32.00				32
				32.0-32.45	SPT32 ↓	N=26	x					
							x					
							x					
33							x					33
				33.0-33.45	SPT33 ↓	N=19	x					
							x			3.00	Medium dense pale gray silty fine to	
							x				coarse SAND with a trace of	
34							x				quartz gravels	34
				34.0-34.45	SPT34 ↓	N=26	x					
							x					
							x					
35							x	35.00				35
				35.0-35.45	SPT35 ↓	N=39	x					
							x					
	21.10.00						x					
36	(16:45)		8.09				x			2.00	Dense pale gray silty fine to coarse	36
	22.10.00			36.0-36.45	SPT36 ↓	N=43	x				SAND with a trace of quartz gravels	
	(08:30)		8.09				x					
	(16:42)						x					
37							x	37.00				37
				37.0-37.45	SPT37 ↓	N=49	x					
							x			1.00	Dense light gray silty fine to coarse SAND	
	22.10.00						x				with some quartz gravels	
38	(18:00)		7.83				x	38.00				38
	23.10.00			38.0-38.45	SPT38 ↓	N=47	x					
	(08:05)		8.00				x			1.00	Dense medium gray silty fine to coarse	
							x				SAND with some quartz gravels	
39							x	39.00				39
				39.0-39.36	SPT39 ↓	N=50/ 0.21	x					
							x					
							x			2.00	Very dense light brown silty fine to coarse	
40							x			↓	SAND with some quartz gravels	40

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 17.10.2000

Date Finished: 24.10.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 6.12.2000

Data Book Figure F.2.19 Borehole Log BH5(4)

BOREHOLE No. **BH 5**

Job No. **20019** Sheet 5 of 5

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KAJIBUMI WELL FIELD 2
Type of rig	GEMCO	Coordinate, X =	400944 Elevation, m : 5.700
Dia of boring	4" & 6"	Y =	313486
Casing details		Z =	5.700

	Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
40			b.g.l	M				M		M	40
				40.0-40.30	SPT40 ↓	N=50/ 0.15	x x x x			2.00	Very dense light brown silty fine to coarse SAND with some q uartz gravels
41	(13:10)		7.45					41.00			41
				41.0-41.45	SPT41 ↓	N=37	x x x x				
42										2.00	Dense light gray silty fine to coarse SAND with some q uartz gravels 42
				42.0-42.45	SPT42 ↓	N=39	x x x x				
43								43.00			43
				43.0-43.45	SPT43 ↓	N=50	x x x x			1.00	Very dense light gray silty fine to coarse SAND with some q uartz gravels
	23.10.00										
44	(18:10)		8.44					44.00			44
	24.10.00			44.0-44.45	SPT44 ↓	N=23	– – – –			1.00	Very stiff dark gray sandy CLAY with a little fine to coarse q uartz gravels
	(08:10)		8.10								
45								45.00			45
				45.0-45.375	SPT45 ↓	N=50/ 0.225	x x x – x x – x x x – x x –			2.00	Hard dark gray clayey SILT (completely weathered SHALE) 46
46											
				46.0-46.45	SPT46 ↓	N=50	x x x – x x – x x x – x x –				
47								47.00			47
				47.0-47.45	SPT47 ↓	N=38	x x x – x x – x x x – x x –				
48											48
				48.0-48.35	SPT48 ↓	N=50/ 0.20	x x x – x x – x x x – x x –			2.42	Hard light gray clayey SILT (Completely weathered SHALE)
	24.10.00										
49	(16:30)		8.36								49
	25.10.00			49.0-49.41	SPT49 ↓	N=50/ 0.265	x x x – x x –				
	(08:00)		10.52					49.415			
	(16:45)		14.12								End of hole
50											50

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 17.10.2000

Date Finished: 24.10.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 6.12.2000

Data Book Figure F.2.19 Borehole Log BH5(5)

BOREHOLE No. **BH 6**

Job No. **20019** Sheet 1 of 8

Project: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	SG. BUAYA
Type of rig	GEMCO	Coordinate, X =	386416
Dia of boring	6"	Y =	317926
Casing details		Z =	2.467

Elevation, m : 2.467

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples: Sample	Samples: Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
0		b.g.l	M				M		M	0
20.11.00 (10:45)							0.30			Very soft dark brown peaty CLAY
1			1.0-1.45	SPT1 ↓	N=HW				1.70	Very soft light gray light brown to brown silty CLAY with a trace of decayed grass
2			2.0-2.45	SPT2 ↓	N=HW		2.00			
3			3.0-3.45	SPT3 ↓	N=HW				2.00	Very soft light gray to gray fine sandy silty CLAY with a trace of decayed grass
4			4.0-4.45	SPT4 ↓	N=15		4.00			
5			5.0-5.45	SPT5 ↓	N=14		5.00		1.00	Medium dense light gray to gray silty fine SAND with slightly clay
6			6.0-6.45	SPT6 ↓	N=12				2.00	Medium dense light gray to gray silty fine SAND
7			7.0-7.45	SPT7 ↓	N=12		7.00			
8			8.0-8.45	SPT8 ↓	N=7		8.00		1.00	Medium dense light gray to gray silty fine SAND with a little decayed wood
9			9.0-9.45	SPT9 ↓	N=14		9.00		1.00	Loose light gray to gray silty fine SAND with a trace of shell fragments
10									2.00	Medium dense light gray to gray silty fine SAND with a trace of shell fragments

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: MALAYSIAN SOIL INVESTIGATION SDN BHD

Date Started: 20.11.2000

Date Finished: 1.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 13.12.2000

Data Book Figure F.2.20 Borehole Log BH6(1)

BOREHOLE No. **BH 6**

Job No. **20019** Sheet 2 of 8

Project: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	SG. BUAYA
Type of rig	GEMCO	Coordinate, X =	386416
Dia of boring	6"	Y =	317926
Casing details		Z =	2.467

Elevation, m : 2.467

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
10		b.g.l	M				M		M	10
			10.0-10.45	SPT10 ↓	N=18	x			▲	
						x			2.00	Medium dense light gray to gray silty fine
						x				SAND with a trace of shell fragments
11						x	11.00			11
			11.0-11.45	SPT11 ↓	N=3	– – x				
						– x			1.00	Soft light gray to gray silty CLAY
						– – x				with laminated fine sand
12						– x	12.00			12
			12.0-12.45	SPT12 ↓	N=1	– – x				
						– x			1.00	Very soft light gray to gray silty CLAY
						– – x				with laminated fine sand
13						– x	13.00			13
			13.0-13.45	SPT13 ↓	N=4	– – x				
						– x				
						– – x				
14						– x			2.00	Soft light gray to gray silty CLAY 14
			14.0-14.45	SPT14 ↓	N=4	– – x				with laminated fine sand
						– x				
	20.11.00					– – x				
15	(19:15)	1.60				– x	15.00			15
	21.11.00		15.0-15.45	SPT15 ↓	N=6	– – x				
	(08:00)	0.80				– x			1.00	Firm light gray to gray silty CLAY with
						– – x				laminated fine to medium sand and a little
16						– x	16.00			decayed wood 16
			16.0-16.45	SPT16 ↓	N=4	– – x				
						– x				
						– – x				
17						– x				17
			17.0-17.45	SPT17 ↓	N=4	– – x				
						– x			3.00	Soft light gray to gray silty CLAY with
						– – x				a little laminated fine sand
18						– x				18
			18.0-18.45	SPT18 ↓	N=3	– – x				
						– x				
						– – x				
19						– x	19.00			19
			19.0-19.45	SPT19 ↓	N=4	– – x				
						– x			1.00	Soft light gray to gray silty CLAY
						– – x				with a little decayed wood
20						– x	20.00			20

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 20.11.2000

Date Finished: 1.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 13.12.2000

Data Book Figure F.2.20 Borehole Log BH6(2)

BOREHOLE No. **BH 6**

Job No. **20019** Sheet 3 of 8

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	SG. BUAYA
Type of rig	GEMCO	Coordinate, X =	386416
Dia of boring	6"	Y =	317926
Casing details		Z =	2.467

Elevation, m : 2.467

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thickness	Description
20		b.g.l	M				M		M	20
			20.0-20.45	SPT20 ↓	N=5				1.00	Soft light gray o gray silty CLAY with a little laminated fine sand
21							21.00			21
			21.0-21.45	SPT21 ↓	N=10				1.00	Stiff light gray to gray silty CLAY with laminated fine to medium sand
22							22.00			22
			22.0-22.45	(SPT22) ↓	N=12					
23										23
			23.0-23.45	SPT23 ↓	N=12					
24	21.11.00 (16:40)	0.70								24
	22.11.00 (07:30)	0.30	24.0-24.45	(SPT24) ↓	N=12				4.00	Medium dense light gray to gray silty clayey fine to medium SAND
25										25
			25.0-25.45	SPT25 ↓	N=12					
26	22.11.00 (17:35)	0.84					26.00			26
	23.11.00 (10:00)	0.40	26.0-26.45	SPT26 ↓	N=24				2.00	Medium dense light gray to gray silty fine to medium SAND with a trace of quartz gravels
27										27
			27.0-27.45	(SPT27) ↓	N=11					
28							28.00			28
			28.0-28.45	SPT28 ↓	N=38					
29	23.11.00 (17:15)									29
	24.11.00 (08:00)		29.0-29.45	SPT29 ↓	N=36				3.00	Dense light gray to gray silty fine to medium SAND with a trace of quartz gravels
30									↓	30

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 20.11.2000

Date Finished: 1.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 13.12.2000

Data Book Figure F.2.20 Borehole Log BH6(3)

BOREHOLE No. **BH 6**

Job No. **20019** Sheet 4 of 8

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	SG. BUAYA
Type of rig	GEMCO	Coordinate, X =	386416
Dia of boring	6"	Y =	317926
Casing details		Z =	2.467

Elevation, m : 2.467

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Legend	Depth	Reduced Level	Thickness	Description
30		b.g.l	M				M		M	30
			30.0-30.45	SPT30 ↓	N=40	x x x x			3.00	Dense light gray to gray silty fine to medium SAND with a trace of quartz gravels
31							31.00			31
			31.0-31.45	SPT31 ↓	N=50	x x x x			1.00	Very dense light brown to brown silty fine to medium SAND
32							32.00			32
			32.0-32.45	SPT32 ↓	N=7	– – – – x x x x			1.00	Firm gray silty CLAY with a trace of fine to medium sand and quartz gravels
33							33.00			33
			33.0-33.45	SPT33 ↓	N=12	– – – – x x x x			1.00	Stiff gray silty CLAY with laminated fine sand
34	24.11.00 (18:20)	1.87					34.00			34
	25.11.00 (08:00)	0.48	34.0-34.45	SPT34 ↓	N=25	– – – – x x x x			1.00	Very stiff light gray to gray fine sandy silty CLAY
35							35.00			35
			35.0-35.45	SPT35 ↓	N=24	– – x	35.12		0.12	Stiff light gray to gray silty CLAY
36						x x x	36.00		0.88	Medium dense light gray silty fine SAND
			36.0-36.45	SPT36 ↓	N=23	– – – – x x x x				
37										37
			37.0-37.45	SPT37 ↓	N=19	– – – – x x x x				
38									4.00	Very stiff light gray to gray silty CLAY with laminated fine sand/fine sandy silty clay 38
			38.0-38.45	SPT38 ↓	N=25	– – – – x x x x				
39										39
			39.0-39.45	SPT39 ↓	N=27	– – – – x x x x				
40							40.00			40

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 20.11.2000

Date Finished: 1.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 13.12.2000

Data Book Figure F.2.20 Borehole Log BH6(4)

BOREHOLE No. **BH 6**

Job No. **20019** Sheet 5 of 8

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	SG. BUAYA
Type of rig	GEMCO	Coordinate, X =	386416
Dia of boring	6"	Y =	317926
Casing details		Z =	2.467

Elevation, m : 2.467

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
40		b.g.l	M				M		M	40
			40.0-40.45	SPT40 ↓	N=39					
25.11.00										
41 (18:15)		1.82							2.00	Hard light gray to gray fine to coarse 41
26.11.00			41.0-41.45	SPT41 ↓	N=42					sandy silty CLAY with a trace of
(08:00)		0.70								quartz gravels
42							42.00			42
			42.0-42.45	SPT42 ↓	N=36					
43									2.00	Dense light gray to gray silty fine to 43
			43.0-43.45	SPT43 ↓	N=35					coarse SAND with a trace of quartz
										gravels and slightly clay
44							44.00			44
			44.0-44.45	SPT44 ↓	N=28				1.00	Medium dense light gray to gray silty
										fine to coarse SAND with a trace of
45							45.00			quartz gravels and slightly clay 45
			45.0-45.425	SPT45 ↓	N=50/ 0.275				1.00	Very dense light gray to gray silty fine
26.11.00										to coarse SAND with quartz gravels
46 (18:00)		1.76					46.00			and slightly clay 46
27.11.00			46.0-46.45	SPT46 ↓	N=41					
(08:00)		0.89								
47										47
			47.0-47.45	(SPT47) ↓	N=30					
48									4.00	Dense light gray to gray silty fine to 48
			48.0-48.45	SPT48 ↓	N=43					coarse SAND with quartz gravels
27.11.00										
49 (16:10)		1.93								49
28.11.00			49.0-49.45	(SPT49) ↓	N=35					
(08:00)		0.75								
28.11.00										
50 (16:00)		1.67					50.00			50

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 20.11.2000

Date Finished: 1.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 13.12.2000

Data Book Figure F.2.20 Borehole Log BH6(5)

BOREHOLE No. **BH 6**

Job No. **20019** Sheet 6 of 8

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	SG. BUAYA
Type of rig	GEMCO	Coordinate, X =	386416
Dia of boring	6"	Y =	317926
Casing details		Z =	2.467

Elevation, m : 2.467

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
50		b.g.l	M				M		M	50
29.11.00 (08:00)		1.08	50.0-50.45	SPT50 ↓	N=27	x x x x			1.00	Medium dense light brown gray silty fine to coarse SAND with some quartz gravels
51							51.00			51
			51.0-51.325	SPT51 ↓	N=50/ 0.175	x x x x			1.00	Very dense light gray silty fine to medium SAND
52							52.00			52
			52.0-52.30	SPT52 ↓	N=50/ 0.15	x x x x				
29.11.00 (16:15) 53		0.43								53
30.11.00 (08:00)		0.70	53.0-53.29	SPT53 ↓	N=50/ 0.14	x x x x				
54									4.00	Very dense light gray to gray silty fine to coarse SAND with a trace of quartz gravels 54
			54.0-54.275	SPT54 ↓	N=50/ 0.125	x x x x				
55										55
			55.0-55.27	SPT55 ↓	N=50/ 0.12	x x x x				
56							56.00			56
			56.0-56.30	SPT56 ↓	N=50/ 0.15	x x x x			1.00	Very dense light brown to brown silty fine to coarse SAND with fine to coarse quartz gravels
57							57.00			57
			57.0-57.30	SPT57 ↓	N=50/ 0.15	x x x x				
58									2.00	Very dense light brown to dark brown silty fine to coarse SAND with fine to coarse quartz gravels 58
			58.0-58.29	SPT58 ↓	N=50/ 0.14	x x x x				
59							59.00			59
			59.0-59.275	SPT59 ↓	N=50/ 0.125	x x x x x x			2.00	Hard light gray to gray spotted to dappled white clayey SILT with a little fine to coarse quartz gravels (Decomposed Granite)
30.11.00 (18:35) 60		3.45								60

- Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor: MALAYSIAN SOIL INVESTIGATION SDN BHD

Date Started: 20.11.2000

Date Finished: 1.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 13.12.2000

Data Book Figure F.2.20 Borehole Log BH6(6)

BOREHOLE No. **BH 6**

Job No. **20019** Sheet 7 of 8

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	SG. BUAYA
Type of rig	GEMCO	Coordinate, X =	386416
Dia of boring	6"	Y =	317926
Casing details		Z =	2.467

Elevation, m : 2.467

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thickness	Description
60		b.g.l	M				M		M	60
1.12.00 (07:40)		1.44	60.0-60.27	SPT60 ↓	N=50/ 0.12	x x x x x x x x x x	61.00		2.00	Hard light gray to gray spotted to dappled white clayey SILT with a little fine to coarse quartz gravels (Decomposed Granite)
61			61.0-61.27	SPT61 ↓	N=50/ 0.12	x x x x x x x x x x				
62			62.0-62.29	SPT62 ↓	N=50/ 0.14	x x x x x x x x x x			3.00	Hard light gray to gray spotted to dappled white black yellow and green clayey SILT with a trace of quartz gravels (Decomposed Granite)
63			63.0-63.27	SPT63 ↓	N=50/ 0.125	x x x x x x x x x x	64.00			
64			64.0-64.265	SPT64 ↓	N=50/ 0.115	x x x x x x x x x x				
65			65.0-65.335	SPT65 ↓	N=50/ 0.185	x x x x x x x x x x				
66			66.0-66.30	SPT66 ↓	N=50/ 0.15	x x x x x x x x x x			6.00	Hard gray green spotted to dappled white clayey SILT with a trace of quartz gravels (Decomposed Granite)
67			67.0-67.295	SPT67 ↓	N=50/ 0.145	x x x x x x x x x x				
68			60.0-68.27	SPT68 ↓	N=50/ 0.12	x x x x x x x x x x				
69			69.0-69.15	SPT69 ↓	N=50/1st 0.15	x x x x x x x x x x	70.00			
70										70

- Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 20.11.2000

Date Finished: 1.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 13.12.2000

Data Book Figure F.2.20 Borehole Log BH6(7)

BOREHOLE No. **BH 6**

Job No. **20019** Sheet 8 of 8

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	SG. BUAYA
Type of rig	GEMCO	Coordinate, X =	386416
Dia of boring	6"	Y =	317926
Casing details		Z =	2.467

Elevation, m : 2.467

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples & Tests: Sample	Samples & Tests: Test	Strata: Legend	Strata: Depth	Strata: Reduced Level	Strata: Thick ness	Strata: Description
70		b.g.l	M				M		M	70
1.12.00 (18:45)		462	70.0-70.135	SPT70 ↓	N=50/1st 0.135	x x x –	70.135		0.135	Hard gray green spotted to dappled white clayey SILT with a trace of quartz gravels (Granite)
71										71
										End of hole
72										72
73										73
74										74
75										75
76										76
77										77
78										78
79										79
80										80

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 20.11.2000

Date Finished: 1.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 13.12.2000

Data Book Figure F.2.20 Borehole Log BH6(8)

BOREHOLE No. **BH 7**

Job No. **20019** Sheet 1 of 11

Project: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KANCHONG DARAT
Type of rig	GEMCO HT 22	Coordinate, X =	394368 — Elevation, m : 4.923
Dia of boring	4" & 5"	Y =	303871
Casing details	Core NMLC	Z =	4.923

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
0		b.g.l	M				M		M	0
7.12.00 (09:30)										
1									2.00	Stiff light orange to dark orange spotted to dappled yellow pink and white clayey PEAT with a little gravels
			1.0-1.45	SPT1 ↓	N=0					
2							2.00			
			2.0-2.45	SPT2 ↓	N=HW				1.00	Very soft light gray to gray silty CLAY
3							3.00			
			3.0-3.45	SPT3 ↓	N=HW				1.00	Very soft light gray to gray silty CLAY with a little laminated fine sand
4							4.00			
			4.0-4.45	SPT4 ↓	N=0					
5										
			5.0-5.45	SPT5 ↓	N=0					
6									6.00	Very soft light gray to gray fine sandy silty CLAY
			6.0-6.45	SPT6 ↓	N=0					
7										
			7.0-7.45	SPT7 ↓	N=HW					
8										
			8.0-8.45	SPT8 ↓	N=HW					
9										
			9.0-9.45	SPT9 ↓	N=HW					
10							10.00			10

- Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: MALAYSIAN SOIL INVESTIGATION SDN BHD

Date Started: 7.12.2000

Date Finished: 9.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 19.01.2001

Data Book Figure F.2.21 Borehole Log BH7(1)

BOREHOLE No. **BH 7**

Job No. **20019** Sheet 2 of 11

Project: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KANCHONG DARAT
Type of rig	GEMCO HT 22	Coordinate, X =	394368 — Elevation, m : 4.923
Dia of boring	4" & 5"	Y =	303871
Casing details	Core NMLC	Z =	4.923

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples & Tests: Sample	Samples & Tests: Test	Strata: Legend	Strata: Depth	Reduced Level	Thick ness	Description
10		b.g.l	M				M		M	10
			10.0-10.45	SPT10 ↓	N=5	x				
						x				
						x				
11						x				11
			11.0-11.45	SPT11 ↓	N=6	x				
						x				
						x			3.00	Loose light gray to gray silty fine SAND
12						x				with shell fragments and slightly clay 12
			12.0-12.45	SPT12 ↓	N=8	x				
						x				
						x				
13						x	13.00			13
			13.0-13.45	SPT13 ↓	N=9	x				
						x				
	7.12.00					x				
14	(18:15)	0.72				x			2.00	Loose light gray to gray silty fine 14
	8.12.00		14.0-14.45	SPT14 ↓	N=10	x				SAND with a little shell fragments
	(08:15)	0.48				x				and decayed wood
						x				
15						x	15.00			15
			15.0-15.45	SPT15 ↓	N=11	x				
						x			1.00	Medium dense light gray to gray silty
						x				fine SAND with slightly clay
16						x	16.00			16
			16.0-16.45	SPT16 ↓	N=4	– – x				
						– x				
						– – x				
17						– x				17
			17.0-17.45	SPT17 ↓	N=5	– – x				
						– x			3.00	Soft light gray to gray silty CLAY
						– – x				with a little decayed wood
18						– x				18
			18.0-18.45	SPT18 ↓	N=4	– – x				
						– x				
						– – x				
19						– x	19.00			19
			19.0-19.45	SPT19 ↓	N=4	– – x				
						– x			1.00	Soft pale gray to gray and dark brown
						– – x				silty CLAY with a little decayed wood
20						– x	20.00			20

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 7.12.2000

Date Finished: 9.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 19.01.2001

Data Book Figure F.2.21 Borehole Log BH7(2)

BOREHOLE No. **BH 7**

Job No. **20019** Sheet 3 of 11

Project: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KANCHONG DARAT
Type of rig	GEMCO HT 22	Coordinate, X =	394368 — Elevation, m : 4.923
Dia of boring	4" & 5"	Y =	303871
Casing details	Core NMLC	Z =	4.923

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
20		b.g.l	M				M		M	20
			20.0-20.45	SPT20 ↓	N=4					
21									2.00	Soft pale gray silty CLAY 21
			21.0-21.45	SPT21 ↓	N=5					
22							22.00			22
			22.0-22.45	SPT22 ↓	N=23					
23									2.00	Medium dense pale gray to light gray silty clayey fine to medium SAND 23
			23.0-23.45	SPT23 ↓	N=11					
24							24.00			24
			24.0-24.45	SPT24 ↓	N=14					
25										25
			25.0-25.45	SPT25 ↓	N=17					
26										26
			26.0-26.45	SPT26 ↓	N=18				5.00	Medium dense light gray silty fine to medium SAND
	8.12.00									
27	(18:25)	0.84								27
	9.12.00		27.0-27.45	SPT27 ↓	N=19					
	(11:00)	1.58								
	(17:10)	2.6								
28	10.12.00									28
	(08:00)	2.63	28.0-28.45	SPT28 ↓	N=26					
29							29.00			29
			29.0-29.41	SPT29 ↓	N=50/ 0.26				2.00	Very dense light gray silty fine SAND
30									↓	30

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 7.12.2000

Date Finished: 9.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 19.01.2001

Data Book Figure F.2.21 Borehole Log BH7(3)

BOREHOLE No. **BH 7**

Job No. **20019** Sheet 4 of 11

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KANCHONG DARAT	
Type of rig	GEMCO HT 22	Coordinate, X =	394368	Elevation, m : 4.923
Dia of boring	4" & 5"	Y =	303871	
Casing details	Core NMLC	Z =	4.923	

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples & Tests: Sample	Samples & Tests: Test	Strata: Legend	Strata: Depth	Reduced Level	Thick ness	Description
30		b.g.l	M				M		M	30
			30.0-30.365	SPT30 ↓	N=50/ 0.215	x x x x			2.00	Very dense light gray silty fine SAND
31							31.00			31
			31.0-31.45	SPT31 ↓	N=15	– – – – – – x x x x				
32										32
			32.0-32.45	SPT32 ↓	N=15	– – – – – – x x x x			3.00	Stiff light gray to gray silty CLAY with laminated fine sand
33										33
			33.0-33.45	SPT33 ↓	N=17	– – – – – – x x x x				
34							34.00			34
			34.0-34.45	SPT34 ↓	N=31	x x x x			2.00	Dense light gray to gray silty fine SAND
35										35
			35.0-35.45	SPT35 ↓	N=38	x x x x				
36							36.00			36
			36.0-36.45	SPT36 ↓	N=50	x x x x			1.00	Very dense light gray to gray silty fine SAND
37							37.00			37
			37.0-37.45	SPT37 ↓	N=9	– – – – – – x x x x			2.00	Stiff light gray to gray silty CLAY with laminated fine sand
38										38
			38.0-38.45	SPT38 ↓	N=10	– – – – – – x x x x				
39							39.00			39
			39.0-39.45	SPT39 ↓	N=3	– – – – – – x x x x			1.00	Soft light gray to gray silty CLAY with laminated fine sand
40	10.12.00 (18:10)	4.68					40.00			40

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 7.12.2000

Date Finished: 9.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 19.01.2001

Data Book Figure F.2.21 Borehole Log BH7(4)

BOREHOLE No. **BH 7**

Job No. **20019** Sheet 5 of 11

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KANCHONG DARAT
Type of rig	GEMCO HT 22	Coordinate, X =	394368 — Elevation, m : 4.923
Dia of boring	4" & 5"	Y =	303871
Casing details	Core NMLC	Z =	4.923

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples & Tests: Sample	Samples & Tests: Test	Strata: Legend	Strata: Depth	Strata: Reduced Level	Strata: Thick ness	Strata: Description
40		b.g.l	M				M		M	40
11.12.00 (08:00)		4.62	40.0-40.45	SPT40 ↓	N=13				1.00	Stiff light gray to gray silty CLAY with laminated fine sand
41							41.00			41
			41.0-41.45	SPT41 ↓	N=14				2.00	Stiff light gray to gray silty CLAY with some medium to coarse sand and quartz gravels and a little decayed wood
42										42
			42.0-42.45	SPT42 ↓	N=11					
43							43.00			43
			43.0-43.45	SPT43 ↓	N=19				1.00	Very stiff light gray to gray silty CLAY with some medium to coarse sand and quartz gravels and a little decayed wood
44							44.00			44
			44.0-44.45	SPT44 ↓	N=18				1.00	Very stiff light gray to gray silty CLAY with decayed wood
45							45.00			45
			45.0-45.31	SPT45 ↓	N=50/ 0.16		45.11		0.11	Hard dark brown decayed WOOD
									0.89	Very dense pale gray silty fine SAND
46							46.00			46
			46.0-46.45	SPT46 ↓	N=38				3.00	Dense pale gray silty fine SAND
47										47
			47.0-47.45	SPT47 ↓	N=39					
48										48
			48.0-48.15	SPT48 ↓	N=50/1st 0.15					
49							49.00			49
			49.0-49.15	SPT49 ↓	N=50/1st 0.15				3.00	Very dense pale gray silty fine SAND
50									↓	50

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 7.12.2000

Date Finished: 9.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 19.01.2001

Data Book Figure F.2.21 Borehole Log BH7(5)

BOREHOLE No. **BH 7**

Job No. **20019** Sheet 6 of 11

Project: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KANCHONG DARAT
Type of rig	GEMCO HT 22	Coordinate, X =	394368 — Elevation, m : 4.923
Dia of boring	4" & 5"	Y =	303871
Casing details	Core NMLC	Z =	4.923

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thickness	Description
50		b.g.l	M				M		M	50
			50.0-50.15	SPT50 ↓	N=50/1st 0.15					
11.12.00 (18:00)		13.53							3.00	Very dense pale gray silty fine SAND
51										51
12.12.00 (08:00)		9.53	51.0-51.13	SPT51 ↓	N=50/1st 0.13					
52							52.00			52
			52.0-52.45	SPT52 ↓	N=48					
53										53
			53.0-53.45	SPT53 ↓	N=42					
54									4.00	Dense pale gray silty fine to coarse SAND with some quartz gravels 54
			54.0-54.45	SPT54 ↓	N=44					
55										55
			55.0-55.30	SPT55 ↓	N=50/ 0.15					
56							56.00			56
			56.0-56.30	SPT56 ↓	N=50/ 0.15				1.00	Very dense pale gray silty fine to coarse SAND with some gravels
12.12.00 (17:45)		11.45								
57							57.00			57
13.12.00 (08:00)		11.20	57.0-57.27	SPT57 ↓	N=50/ 0.12				1.00	Hard pale gray silty CLAY with a trace of quartz gravels
58							58.00			58
			58.0-58.375	SPT58 ↓	N=50/ 0.225				1.00	Hard brown to dark brown fine to coarse sandy silty CLAY with a trace of quartz gravels
59							59.00			59
			59.0-59.345	SPT59 ↓	N=50/ 0.195				2.00	Very dense light gray silty fine to coarse SAND with a trace of quartz gravels
60										60

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor:

Date Started: 7.12.2000

Date Finished: 9.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 19.01.2001

Data Book Figure F.2.21 Borehole Log BH7(6)

BOREHOLE No. **BH 7**

Job No. **20019**

Project: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KANCHONG DARAT
Type of rig	GEMCO HT 22	Coordinate, X =	394368 — Elevation, m : 4.923
Dia of boring	4" & 5"	Y =	303871
Casing details	Core NMLC	Z =	4.923

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thickness	Description
60		b.g.l	M				M		M	60
			60.0-60.34	SPT60 ↓	N=50/ 0.19				2.00	Very dense light gray silty fine to coarse SAND with a trace of quartz gravels
61							61.00			61
			61.0-61.30	SPT61 ↓	N=50/ 0.15				2.00	Hard light brown silty CLAY with fine to coarse quartz gravels
62			62.0-62.30	SPT62 ↓	N=50/ 0.15					62
63							63.00			63
			63.0-63.285	SPT63 ↓	N=50/ 0.135				2.00	Very dense light brown silty fine to coarse SAND
64			64.0-64.30	SPT64 ↓	N=50/ 0.15					64
65							65.00			65
			65.0-65.325	SPT65 ↓	N=50/ 0.175				2.00	Very dense light brown silty fine to coarse SAND with some gravels
66			66.0-66.245	SPT66 ↓	N=50/ 0.095					66
67	13.12.00 (18:00)	14.62					67.00			67
	14.12.00 (08.00)	14.30	67.0-67.32	SPT67 ↓	N=50/ 0.17				1.00	Very dense light brown silty fine to coarse SAND with some quartz gravels
68							68.00			68
			68.0-68.31	SPT68 ↓	N=50/ 0.16				5.00	Very dense light brown silty fine to coarse SAND with quartz gravels
69			69.00-69.29	SPT69 ↓	N=50/ 0.14					69
70	17.12.00 (18:00)	15.25								70

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor:

Date Started: 7.12.2000

Date Finished: 9.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 19.01.2001

Data Book Figure F.2.21 Borehole Log BH7(7)

BOREHOLE No. **BH 7**

Job No. **20019** Sheet 8 of 11

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KANCHONG DARAT
Type of rig	GEMCO HT 22	Coordinate, X =	394368
Dia of boring	4" & 5"	Y =	303871
Casing details	Core NMLC	Z =	4.923

Elevation, m : 4.923

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thickness	Description
70		b.g.l	M				M		M	70
18.12.00 (08:00)			70.0-70.27	SPT70 ↓	N=50/ 0.12					
71										71
			71.0-71.26	SPT71 ↓	N=50/ 0.11				5.00	Very dense light brown silty fine to coarse SAND with quartz gravels
72										72
			72.0-72.27	SPT72 ↓	N=50/ 0.12					
73							73.00			73
			73.0-73.12	SPT73 ↓	N=50/1st 0.12				1.00	Hard light gray quartz GRAVEL
74							74.00			74
			74.0-74.33	SPT74 ↓	N=50/ 0.18				1.00	Very dense light brown silty fine to coarse SAND with quartz gravels
18.12.00 (17:45) 75		5.31					75.00			75
19.12.00 (08:00)		4.71	75.0-75.39	SPT75 ↓	N=50/ 0.24				1.00	Very dense light gray to light brown silty fine to coarse SAND with quartz gravel
76							76.00			76
			76.0-76.375	SPT76 ↓	N=50/ 0.225					
77									2.00	Very dense light gray to light brown silty fine to medium SAND 77
			77.0-77.38	SPT77 ↓	N=50/ 0.23					
78							78.00			78
			78.0-78.225	SPT78 ↓	N=50/ 0.075 Rebound				1.00	Very dense light gray silty fine to medium SAND with a little of quartz gravels
79							79.00			79
			79.0-79.45	SPT79 ↓	N=36				2.00	Dense light brown silty fine to coarse SAND with quartz gravels
80										80

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor:

Date Started: 7.12.2000

Date Finished: 9.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 19.01.2001

Data Book Figure F.2.21 Borehole Log BH7(8)

BOREHOLE No. **BH 7**

Job No. **20019** Sheet 9 of 11

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KANCHONG DARAT
Type of rig	GEMCO HT 22	Coordinate, X =	394368 — Elevation, m : 4.923
Dia of boring	4" & 5"	Y =	303871
Casing details	Core NMLC	Z =	4.923

	Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
80			b.g.l	M				M		M	80
				80.0-80.15	SPT80 ↓	N=50/1st 0.15	x x x x			↑ 2.00	Dense light brown silty fine to coarse SAND with quartz gravels
81								81.00			81
				81.0-81.44	SPT81 ↓	N=50/ 0.29	x x x x			1.00	Very dense light brown light gray to dark gray silty fine SAND with a little decayed wood
82								82.00			82
				82.0-82.38	SPT82 ↓	N=50/ 0.23	x x x x			1.00	Very dense light brown to light gray to dark gray silty fine SAND
83	19.12.00 (18:15)		5.61					83.00			83
	20.12.00 (08:00)		5.06	83.0-83.39	SPT83 ↓	N=50/ 0.24	x x x x			1.00	Very dense light brown to light gray silty fine SAND with a little quartz gravels
84								84.00			84
				84.0-84.40	SPT84 ↓	N=50/ 0.25	x x x x				
85											85
				85.0-85.405	SPT85 ↓	N=50/ 0.255	x x x x			3.00	Very dense light gray silty fine to medium SAND with a trace of quartz gravels
86											86
				86.0-86.15	SPT86 ↓	N=50/1st 0.15	x x x x				
87								87.00			87
				87.0-87.26	SPT87 ↓	N=50/ 0.11	x x x x			2.00	Very dense light brown to light gray silty fine to coarse SAND with quartz gravels
88											88
				88.0-88.28	SPT88 ↓	N=50/ 0.13	x x x x				
89	20.12.00 (17:45)		5.16					89.00			89
	21.12.00 (12:00)		0.23	89.00-89.27	SPT89 ↓	N=50/ 0.12				9.00	Light gray to dark gray coarse SAND with grained quartz gravel
	(16.15)		0.63							↓	
90	22.12.00 (12:00)		0.20								90

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor:

Date Started: 7.12.2000

Date Finished: 9.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 19.01.2001

Data Book Figure F.2.21 Borehole Log BH7(9)

BOREHOLE No. **BH 7**

Job No. **20019** Sheet 10 of 11

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KANCHONG DARAT		
Type of rig	GEMCO HT 22	Coordinate, X =	394368	Elevation, m : 4.923	
Dia of boring	4" & 5"	Y =	303871		
Casing details	Core NMLC	Z =	4.923		

	Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description	
90			b.g.l	M				M		M		90
	2.1.01 (08:00)		3.12									
91	(18:00)		4.31									91
	3.1.01 (08:00)		4.45									
92												92
93												93
94												94
										9.00	Light gray to dark gray coarse SAND with quartz gravels	
95												95
	3.1.01											
96	(18:15)		6.24									96
	4.1.01 (08:00)		6.54									
97												97
	4.1.01											
98	(17:30)		6.61					98.00				98
	5.1.01 (12:30)		6.70									
99										12.00	Light gray to dark gray coarse SAND with quartz gravels	99
	5.1.01 (19:00)		6.45									
	6.1.01											
100	(08:00)		6.85									100
	(17:10)		6.93									

- Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor:

Date Started: 7.12.2000

Date Finished: 9.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 19.01.2001

Data Book Figure F.2.21 Borehole Log BH7(10)

BOREHOLE No. **BH 7**

Job No. **20019** Sheet 11 of 11

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KANCHONG DARAT
Type of rig	GEMCO HT 22	Coordinate, X =	394368 — Elevation, m : 4.923
Dia of boring	4" & 5"	Y =	303871
Casing details	Core NMLC	Z =	4.923

	Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples: Sample	Samples: Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description	
100			b.g.l	M				M		M		100
	7.1.01									↑		
	(08:00)		6.82									
	(18:15)		7.07									
101	8.1.01											101
	(08:00)		8.40									
102												102
	8.1.01											
	(16:40)		8.05									
	9.1.01											
103	(10:30)		8.71									103
104												104
105										12.00	Light gray to dark gray coarse SAND with quartz gravels	105
106												106
107												107
108												108
109												109
	9.1.01											
110	(12:15)							110.00				110
											End of hole	

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks

(↓)

H W = Hammer weight

Contractor:

Date Started: 7.12.2000

Date Finished: 9.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 19.01.2001

Data Book Figure F.2.21 Borehole Log BH7(11)

BOREHOLE No. **BH 8**

Job No. **20019** Sheet 1 of 11

Proj ect: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KG. ENDAH
Type of rig	TH60	Coordinate, X =	386093
Dia of boring	4" & 5"	Y =	302698
Casing details	Core NMLC	Z =	2.181

Elevation, m : 2.181

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
0		b.g.l	M				M		M	0
29.11.00 (12:00)							0.30		0.30	Very soft light to dark brown gray silty CLAY
1										1
			1.0-1.45	SPT1 ↓	N=0				1.70	Very soft light gray to brown silty CLAY with some fine sand
2							2.00			2
			2.0-2.45	SPT2 ↓	N=0					
3									2.00	Very soft gray to dark brown silty CLAY 3
			3.0-3.45	(SPT3) ↓	N=0					
4							4.00			4
			4.0-4.45	SPT4 ↓	N=0				1.00	Very soft gray silty CLAY with trace of decayed wood
5							5.00			5
			5.0-5.45	(SPT5) ↓	N=0				1.00	Very soft gray clayey SILT
6							6.00			6
			6.0-6.45	SPT6 ↓	N=2				1.00	Very loose gray fine SAND
7							7.00			7
			7.0-7.45	SPT7 ↓	N=0					
8										8
30.11.00 (08:30)			8.0-8.45	SPT8 ↓	N=1				5.00	Very soft gray silty CLAY with some fine sand
9										9
			9.0-9.45	SPT9 ↓	N=1					
10									↓	10

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 29.11.2000

Date Finished: 8.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 10.01.2001

Data Book Figure F.2.22 Borehole Log BH8(1)

BOREHOLE No. **BH 8**

Job No. **20019** Sheet 2 of 11

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KG. ENDAH
Type of rig	TH60	Coordinate, X =	386093
Dia of boring	4" & 5"	Y =	302698
Casing details	Core NMLC	Z =	2.181

Elevation, m : 2.181

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples & Tests: Sample	Samples & Tests: Test	Strata: Legend	Strata: Depth	Strata: Reduced Level	Strata: Thick ness	Strata: Description
10		b.g.l	M				M		M	10
			10.0-10.45	SPT10 ↓	N=0					
									5.00	Very soft gray silty CLAY with some fine sand
11										11
			11.0-11.45	SPT11 ↓	N=0					
12							12.00			12
			12.0-12.45	SPT12 ↓	N=0				1.00	Very soft gray silty CLAY with some fine sand and mica and trace of decayed wood
13							13.00			13
			13.0-13.45	SPT13 ↓	N=0				1.00	Very soft gray clayey SILT with trace of decayed wood and mica
14							14.00			14
			14.0-14.45	SPT14 ↓	N=3				1.00	Soft gray CLAY
15							15.00			15
			15.0-15.45	SPT15 ↓	N=3				1.00	Soft gray clayey SILT with trace of decayed wood and mica
16							16.00			16
			16.0-16.45	SPT16 ↓	N=1				2.00	Very soft gray clayey SILT with traces of decayed wood and shell fragments
17										17
18							18.00			18
			18.0-18.45	SPT18 ↓	N=8				1.00	Firm gray clayey SILT with fine sand and mica and shell fragments
19							19.00			19
			19.0-19.45	SPT19 ↓	N=3				4.00	Stiff gray to brown silty CLAY with trace of decayed wood
20										20

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 29.11.2000

Date Finished: 8.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 10.01.2001

Data Book Figure F.2.22 Borehole Log BH8(2)

BOREHOLE No. **BH 8**

Job No. **20019** Sheet 3 of 11

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KG. ENDAH
Type of rig	TH60	Coordinate, X =	386093
Dia of boring	4" & 5"	Y =	302698
Casing details	Core NMLC	Z =	2.181

Elevation, m : 2.181

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
20		b.g.l	M				M		M	20
			20.0-20.45	SPT20 ↓	N=5				↑	
21										21
			21.0-21.45	SPT21 ↓	N=0				4.00	Stiff gray to brown silty CLAY with trace of decayed wood
22										22
			22.0-22.45	SPT22 ↓	N=9					
23							23.00			23
			23.0-23.45	SPT23 ↓	N=8				1.00	Stiff dark gray brown silty CLAY with decayed wood
24							24.00			24
			24.0-24.45	SPT24 ↓	N=8				1.00	Stiff light to dark gray silty CLAY with decayed wood
25							25.00			25
			25.0-25.45	SPT25 ↓	N=7				1.00	Stiff light gray silty CLAY with trace of decayed wood
26							26.00			26
			26.0-26.45	SPT26 ↓	N=6				1.00	Firm gray silty CLAY with some decayed wood
27							27.00			27
			27.0-27.45	SPT27 ↓	N=8					
28	30.11.00 (18:45)	Full								28
	1.12.00 (08:00)	1.10	28.0-28.45	SPT28 ↓	N=14				3.00	Fine SAND and Stiff gray clay
29										29
			29.0-29.45	SPT29 ↓	N=10					
30							30.00			30

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 29.11.2000

Date Finished: 8.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 10.01.2001

Data Book Figure F.2.22 Borehole Log BH8(3)

BOREHOLE No. **BH 8**

Job No. **20019** Sheet 4 of 11

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KG. ENDAH
Type of rig	TH60	Coordinate, X =	386093
Dia of boring	4" & 5"	Y =	302698
Casing details	Core NMLC	Z =	2.181

Elevation, m : 2.181

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples & Tests: Sample	Samples & Tests: Test	Strata: Legend	Strata: Depth	Strata: Reduced Level	Strata: Thick ness	Strata: Description
30		b.g.l	M				M		M	30
			30.0-30.45	SPT30 ↓	N=34					
31										31
			31.0-31.45	SPT31 ↓	N=35					
32										32
			32.0-32.45	SPT32 ↓	N=31					
33									6.00	Dense gray fine to coarse SAND 33
			33.0-33.45	SPT33 ↓	N=32					
34										34
			34.0-34.45	SPT34 ↓	N=40					
35										35
			35.0-35.45	SPT35 ↓	N=54					
36							36.00			36
			36.0-36.45	SPT36 ↓	N=10	x x x – x x – x x x – x x –				
37	1.12.00 (18:45)	Full							2.00	Stiff gray clayey SILT with some fine sand 37
	2.12.00 (08:30)	0.50	37.0-37.45	SPT37 ↓	N=10	x x x – x x – x x x – x x –				
38							38.00			38
			38.0-38.45	SPT38 ↓	N=1	– – x – x – – x – x – – x – x – – x				
39									2.00	Stiff gray silty CLAY with fine sand 39
40							40.00			40

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 29.11.2000

Date Finished: 8.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 10.01.2001

Data Book Figure F.2.22 Borehole Log BH8(4)

BOREHOLE No. **BH 8**

Job No. **20019** Sheet 5 of 11

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KG. ENDAH
Type of rig	TH60	Coordinate, X =	386093
Dia of boring	4" & 5"	Y =	302698
Casing details	Core NMLC	Z =	2.181

Elevation, m : 2.181

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
40		b.g.l	M				M		M	40
			40.0-40.45	SPT40 ↓	N-35					
41									2.00	Hard gray to dark clayey fine to coarse SAND 41
			41.0-41.235	SPT41 ↓	N=39/ 0.085					
42							42.00			42
			42.0-42.45	SPT42 ↓	N=7				1.00	Medium stiff gray CLAY with some fine to coarse sand and with little cobbles and gravels
43							43.00			43
			43.0-43.45	SPT43 ↓	N=41				1.00	Decayed WOOD with some sand
44	2.12.00 (18:00)						44.00			44
	3.12.00 (09:45)	0.50	44.0-44.45	SPT44 ↓	N=12				1.00	Stiff brown CLAY with coarse sand and traces of woods
45							45.00			45
			45.0-45.45	SPT45 ↓	N=18				1.00	Very stiff light brown CLAY with trace of wood
46							46.00			46
			46.0-46.45	SPT46 ↓	N=30				1.00	Very stiff light brown CLAY with some fine gravel
47							47.00			47
			47.0-47.45	SPT47 ↓	N=28				1.00	Very stiff brown fine SAND with some gravel
48							48.00			48
			48.0-48.45	SPT48 ↓	N=34					
49									2.00	Very stiff light brown SAND 49
50							50.00			50

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 29.11.2000

Date Finished: 8.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 10.01.2001

Data Book Figure F.2.22 Borehole Log BH8(5)

BOREHOLE No. **BH 8**

Job No. **20019** Sheet 6 of 11

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KG. ENDAH	
Type of rig	TH60	Coordinate, X =	386093	Elevation, m : 2.181
Dia of boring	4" & 5"	Y =	302698	
Casing details	Core NMLC	Z =	2.181	

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
50		b.g.l	M				M		M	50
			50.0-50.45	SPT50 ↓	N=14				1.00	Medium dense gray to white fine SAND with a little gravel
51							51.00			51
			51.0-51.45	SPT51 ↓	N=17				1.00	Very stiff brown silty CLAY
52							52.00			52
			52.0-52.45	SPT52 ↓	N=11				1.00	Very stiff brown CLAY with some decayed wood
53							53.00			53
			53.0-53.45	SPT53 ↓	N=30				1.00	Very stiff brown silty CLAY with some decayed wood
54	3.12.00 (18:15)	Full					54.00			54
	4.12.00 (08:30)	0.50	54.0-54.45	SPT54 ↓	N=23				1.00	Medium dense gray fine to coarse SAND and with little decayed wood
55							55.00			55
			55.0-55.45	SPT55 ↓	N=34				1.00	Dense gray fine to coarse SAND and with dark brown decayed wood
56							56.00			56
			56.0-56.45	SPT56 ↓	N=49				1.00	Very dense gray clayey fine to coarse SAND
57							57.00			57
			57.0-57.45	SPT57 ↓	N=29					
58										58
			58.0-58.45	SPT58 ↓	N=24				5.00	Medium dense light gray fine to coarse SAND with some decayed wood
59										59
60										60

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor:

Date Started: 29.11.2000

Date Finished: 8.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 10.01.2001

Data Book Figure F.2.22 Borehole Log BH8(6)

BOREHOLE No. **BH 8**

Job No. **20019** Sheet 7 of 11

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KG. ENDAH
Type of rig	TH60	Coordinate, X =	386093
Dia of boring	4" & 5"	Y =	302698
Casing details	Core NMLC	Z =	2.181

Elevation, m : 2.181

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples & Tests: Sample	Samples & Tests: Test	Strata: Legend	Strata: Depth	Strata: Reduced Level	Strata: Thick ness	Strata: Description
60		b.g.l	M				M		M	60
61									5.00	Medium dense light gray fine to coarse SAND with some decayed wood 61
62							62.00			62
			62.0-62.45	SPT62 ↓	N=36				1.00	Dense light gray fine to coarse SAND
63							63.00			63
			63.0-63.45	SPT63 ↓	N=39				2.00	Dense gray brown clayey fine to coarse SAND with some decayed wood and gravels
64			64.0-64.45	SPT64 ↓	N=35					64
65							65.00			65
			65.0-65.45	SPT65 ↓	N=18				1.00	Light gray CLAY with fine sand
66							66.00			66
			66.0-66.45	SPT66 ↓	N=36				3.00	Dense dark brown clayey fine to coarse SAND with some decayed wood
67			67.0-67.45	SPT67 ↓	N=30					67
68	4.12.00 (08:00)	Full								68
	5.12.00 (10:15)		68.0-68.45	SPT68 ↓	N=29					
69							69.00			69
			69.0-69.45	SPT69 ↓	N=30				1.00	Dense gray fine to coarse SAND with some gravels
70							70.00			70

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor:

Date Started: 29.11.2000

Date Finished: 8.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 10.01.2001

Data Book Figure F.2.22 Borehole Log BH8(7)

BOREHOLE No. **BH 8**

Job No. **20019** Sheet 8 of 11

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KG. ENDAH
Type of rig	TH60	Coordinate, X =	386093
Dia of boring	4" & 5"	Y =	302698
Casing details	Core NMLC	Z =	2.181

Elevation, m : 2.181

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples & Tests: Sample	Samples & Tests: Test	Strata: Legend	Strata: Depth	Strata: Reduced Level	Strata: Thick ness	Strata: Description
70		b.g.l	M				M		M	70
			70.0-70.45	SPT70 ↓	N=32				1.00	Very stiff light gray CLAY with some gravels
71							71.00			71
			71.0-71.45	SPT71 ↓	N=31				2.00	Very stiff light gray CLAY with traces of gravels
72										72
			72.0-72.45	SPT72 ↓	N=23					
73							73.00			73
			73.0-73.45	SPT73 ↓	N=23				1.00	Very stiff light gray CLAY with thin layer of gravels and decayed wood
74							74.00			74
			74.0-74.45	SPT74 ↓	N=14				1.00	Stiff light gray CLAY
75							75.00			75
			75.0-75.45	SPT75 ↓	N=16				1.00	Very stiff light brown CLAY with some decayed wood
76							76.00			76
			76.0-76.45	SPT76 ↓	N=40				1.00	Hard brown CLAY with lot of coarse sand
77	5.12.00 (17:45)	Full					77.00			77
	6.12.00 (08:50)		77.0-77.45	SPT77 ↓	N=37				1.00	Dense light gray fine to coarse SAND with gravels
78							78.00			78
			78.0-78.45	SPT78 ↓	N=39					
79									4.00	Dense light white coarse SAND 79
			79.0-79.45	SPT79 ↓	N=34					
80									↓	80

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor:

Date Started: 29.11.2000

Date Finished: 8.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 10.01.2001

Data Book Figure F.2.22 Borehole Log BH8(8)

BOREHOLE No. **BH 8**

Job No. **20019** Sheet 9 of 11

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KG. ENDAH
Type of rig	TH60	Coordinate, X =	386093
Dia of boring	4" & 5"	Y =	302698
Casing details	Core NMLC	Z =	2.181

Elevation, m : 2.181

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples & Tests: Sample	Samples & Tests: Test	Strata: Legend	Strata: Depth	Strata: Reduced Level	Strata: Thick ness	Strata: Description
80		b.g.l	M				M		M	80
			80.0-80.45	SPT80 ↓	N=44				↑	
81									4.00	Dense light white coarse SAND 81
			81.0-81.45	SPT81 ↓	N=33					
82							82.00			82
			82.0-82.45	SPT82 ↓	N=35				1.00	Dense light white fine to coarse SAND with thin layer of decayed wood
83							83.00			83
			83.0-83.45	SPT83 ↓	N=41					
84									2.00	Dense light white fine to coarse SAND 84
			84.0-84.45	SPT84 ↓	N=47					
85							85.00			85
			85.0-85.45	(SPT85) ↓	N=67					
86	6.12.00 (18:45)								2.00	Very dense light white fine to coarse SAND 86
	7.12.00 (08:00)		86.0-86.45	SPT86 ↓	N=54					
87							87.00			87
			87.0-87.45	SPT87 ↓	N=43					
88										88
			88.0-88.45	SPT88 ↓	N=66				4.00	Dense dark gray silty light white coarse SAND with some gravels
89										89
			89.0-89.45	SPT89 ↓	N=32					
90									↓	90

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor:

Date Started: 29.11.2000

Date Finished: 8.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 10.01.2001

Data Book Figure F.2.22 Borehole Log BH8(9)

BOREHOLE No. **BH 8**

Job No. **20019** Sheet 10 of 11

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KG. ENDAH	
Type of rig	TH60	Coordinate, X =	386093	Elevation, m : 2.181
Dia of boring	4" & 5"	Y =	302698	
Casing details	Core NMLC	Z =	2.181	

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples & Tests: Sample	Samples & Tests: Test	Strata: Legend	Strata: Depth	Strata: Reduced Level	Strata: Thick ness	Strata: Description
90		b.g.l	M				M		M	90
									4.00	Dense dark gray silty light white coarse SAND with some gravels
91							91.00			91
			91.0-91.45	SPT91 ↓	N=34				1.00	Dense light white fine SAND
92							92.00			92
			92.0-92.45	SPT92 ↓	N=74				1.00	Very dense light white firm to coarse SAND
93							93.00			93
			93.0-93.45	SPT93 ↓	N=62				2.00	Very dense light white fine to coarse SAND with some gravels
94										94
95	7.12.00 (17:30)	Full					95.00			95
	8.12.00 (10:30)	0.20	95.0-95.45	SPT95 ↓	N=33				1.00	Very stiff green CLAY
96							96.00			96
			96.0-96.45	SPT96 ↓	N=30				1.00	Very stiff light green CLAY
97							97.00			97
			97.0-97.45	SPT97 ↓	N=30				1.00	Very stiff blue gray and red yellow CLAY
98							98.00			98
			98.0-98.45	SPT98 ↓	N=32					
99										99
			99.0-99.45	SPT99 ↓	N=27				5.45	Very stiff blue gray CLAY
100										100

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor:

Date Started: 29.11.2000

Date Finished: 8.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 10.01.2001

Data Book Figure F.2.22 Borehole Log BH8(10)

BOREHOLE No. **BH 8**

Job No. **20019** Sheet 11 of 11

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	KG. ENDAH	
Type of rig	TH60	Coordinate, X =	386093	Elevation, m : 2.181
Dia of boring	4" & 5"	Y =	302698	
Casing details	Core NMLC	Z =	2.181	

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples & Tests: Sample	Samples & Tests: Test	Strata: Legend	Strata: Depth	Strata: Reduced Level	Strata: Thick ness	Strata: Description
100		b.g.l	M				M		M	100
			100-100.45	SPT100 ↓	N=27	– – –			↑	
						– –				
						– – –				
101						– –				101
						– – –				
						– –			5.45	Very stiff blue gray CLAY
						– – –				
102						– –				102
			102-102.45	SPT102 ↓	N=32	– – –				
						– –				
						– – –				
103	8.12.00					– –				103
	(18:45)		Full	103-103.45	SPT103 ↓	N=25 – – –	103.45			
	9.12.00									End of hole
	(08:00)		0.50							
104										104
105										105
106										106
107										107
108										108
109										109
110										110

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor:

Date Started: 29.11.2000

Date Finished: 8.12.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 10.01.2001

Data Book Figure F.2.22 Borehole Log BH8(11)

BOREHOLE No. **BH 9**

Job No. **20019** Sheet 1 of 11

Project: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	Ladang Tumbuk
Type of rig	TH 60	Coordinate, X =	398492
Dia of boring	4" & 5"	Y =	293488
Casing details	Core NMLC	Z =	2.328

Elevation, m : 2.328

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
0		b.g.l	M				M		M	0
17.12.00 (13.:30)									1.45	Very soft yellow to brown gray silty CLAY with roots
1			1.0-1.45	SPT1 ↓	N=0		1.45			1
2			2.0-2.45	SPT2 ↓	N=0				3.55	Very soft yellow to gray silty CLAY
3			3.0-3.45	SPT3 ↓	N=0					3
4			4.0-4.45	SPT4 ↓	N=0					4
5			5.0-5.45	SPT5 ↓	N=0		5.00			5
6			6.0-6.45	SPT6 ↓	N=1				4.00	Very soft light gray CLAY
7			7.0-7.45	SPT7 ↓	N=0					7
8			8.0-8.45	SPT8 ↓	N=0					8
9			9.0-9.45	SPT9 ↓	N=1		9.00		1.00	Very sift brown to gray silty CLAY with fine sand
10							10.00			10

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: MALAYSIAN SOIL INVESTIGATION SDN BHD

Date Started: 17.12.2000

Date Finished: 1.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 16.01.2001

Data Book Figure F.2.23 Borehole Log BH9(1)

BOREHOLE No. **BH 9**

Job No. **20019** Sheet 2 of 11

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	Ladang Tumbuk
Type of rig	TH 60	Coordinate, X =	398492
Dia of boring	4" & 5"	Y =	293488
Casing details	Core NMLC	Z =	2.328

Elevation, m : 2.328

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Samples & Tests: Sample	Samples & Tests: Test	Strata: Legend	Strata: Depth	Strata: Reduced Level	Strata: Thick ness	Strata: Description
10		b.g.l	M				M		M	10
			10.0-10.45	SPT10 ↓	N=0	– – x				
						– x				
17.12.00						– – x				
11 (18:30)		1.0				– x				11
18.12.00			11.0-11.45	SPT11 ↓	N=0	– – x				
(07:30)		0.5				– x				
						– – x				
12						– x				12
			12.0-12.45	SPT12 ↓	N=0	– – x				
						– x				
						– – x				
13						– x			6.00	Very soft light gray silty CLAY 13
			13.0-13.45	SPT13 ↓	N=0	– – x				
						– x				
						– – x				
14						– x				14
			14.0-14.45	SPT14 ↓	N=0	– – x				
						– x				
						– – x				
15						– x				15
			15.0-15.45	SPT15 ↓	N=1	– – x				
						– x				
						– – x				
16						– x	16.00			16
			16.0-16.45	SPT16 ↓	N=3	– – x				
						– x			1.00	Soft gray to green silty CLAY
						– – x				
17						– x	17.00			17
			17.0-17.45	SPT17 ↓	N=2	– –				
						–			1.00	Very soft dark gray silty sandy CLAY
						– –				
18						–	18.00			18
			18.0-18.45	SPT18 ↓	N=3	– – x				
						– x			1.00	Soft dark gray to green silty CLAY
						– – x				
19						– x	19.00			19
			19.0-19.45	SPT19 ↓	N=8	– – x				
						– x				
						– – x			3.00	Firm gray sandy silty CLAY
20						– x			↓	20

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 17.12.2000

Date Finished: 1.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 16.01.2001

Data Book Figure F.2.23 Borehole Log BH9(2)

BOREHOLE No. **BH 9**

Job No. **20019** Sheet 3 of 11

Project: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	Ladang Tumbuk
Type of rig	TH 60	Coordinate, X =	398492
Dia of boring	4" & 5"	Y =	293488
Casing details	Core NMLC	Z =	2.328

Elevation, m : 2.328

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
20		b.g.l	M				M		M	20
			20.0-20.45	SPT20 ↓	N=3				▲	
21									3.00	Firm gray sandy silty CLAY 21
			21.0-21.45	SPT21 ↓	N=4					
22							22.00			22
			22.0-22.45	SPT22 ↓	N=6					
23									2.00	Firm gray to green silty CLAY 23
			23.0-23.45	SPT23 ↓	N=4					
24							24.00			24
			24.0-24.45	SPT24 ↓	N=5					
25									2.00	Firm gray to green silty CLAY 25
			25.0-25.45	SPT25 ↓	N=5					with some sand and gravels
26	19.12.00 (18:30)	4.20					26.00			26
	19.12.00 (07:15)	0.40	26.0-26.45	SPT26 ↓	N=5					
27										27
			27.0-27.45	SPT27 ↓	N=6					
28									4.00	Firm gray to green silty CLAY 28
			28.0-28.45	SPT28 ↓	N=7					
29										29
			29.0-29.45	SPT29 ↓	N=5					
30							30.00			30

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 17.12.2000

Date Finished: 1.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 16.01.2001

Data Book Figure F.2.23 Borehole Log BH9(3)

BOREHOLE No. **BH 9**

Job No. **20019** Sheet 4 of 11

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	Ladang Tumbuk	
Type of rig	TH 60	Coordinate, X =	398492	Elevation, m : 2.328
Dia of boring	4" & 5"	Y =	293488	
Casing details	Core NMLC	Z =	2.328	

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
30		b.g.l	M				M		M	30
			30.0-30.45	SPT30 ↓	N=21				1.00	Medium dense light gray fine SAND
31							31.00			31
			31.0-31.45	SPT31 ↓	N=35	x x x x			1.00	Dense light gray to green silty fine SAND
32							32.00			32
			32.0-32.45	SPT32 ↓	N=29				2.00	Medium dense light gray fine SAND
33										33
			33.0-33.45	SPT33 ↓	N=16					
34							34.00			34
			34.0-34.45	SPT34 ↓	N=27				1.00	Medium dense light gray fine to coarse SAND
35							35.00			35
			35.0-35.45	SPT35 ↓	N=43				4.00	Dense light gray fine SAND
36										36
			36.0-36.45	SPT36 ↓	N=35					
37										37
			37.0-37.45	SPT37 ↓	N=26					
38										38
			38.0-38.45	SPT38 ↓	N=16					
39							39.00			39
			39.0-39.45	SPT39 ↓	N=6	– – x – x – – x – x			2.00	Firm to stiff green silty CLAY with some sand
40	19.12.00 (18:16)	0.30							↓	40

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 17.12.2000

Date Finished: 1.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 16.01.2001

Data Book Figure F.2.23 Borehole Log BH9(4)

BOREHOLE No. **BH 9**

Job No. **20019** Sheet 5 of 11

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	Ladang Tumbuk	
Type of rig	TH 60	Coordinate, X =	398492	Elevation, m : 2.328
Dia of boring	4" & 5"	Y =	293488	
Casing details	Core NMLC	Z =	2.328	

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
40		b.g.l	M				M		M	40
20.12.00 (07:30)		0.70	40.0-40.45	SPT40 ↓	N=15				2.00	Firm to stiff green silty CLAY with some sand
41							41.00			41
			41.0-41.45	SPT41 ↓	N=25				1.00	Dark brown decayed WOOD
42							42.00			42
			42.0-42.45	SPT42 ↓	N=24					
43										43
			43.0-43.45	SPT43 ↓	N=32					
44										44
			44.0-44.45	SPT44 ↓	N=24				5.00	Medium dense to dense light brown silty SAND
45										45
			45.0-45.45	SPT45 ↓	N=41					
46										46
			46.0-46.45	SPT46 ↓	N=13					
47							47.00			47
			47.0-47.45	SPT47 ↓	N=20				2.00	Stiff to very stiff dark brown CLAY
48										48
			48.0-48.45	SPT48 ↓	N=15					
49							49.00			49
			49.0-49.45	SPT49 ↓	N=34				13.00	Medium dense to dense light brown fine to coarse SAND
50										50

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 17.12.2000

Date Finished: 1.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 16.01.2001

Data Book Figure F.2.23 Borehole Log BH9(5)

BOREHOLE No. **BH 9**

Job No. **20019** Sheet 6 of 11

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	Ladang Tumbuk	
Type of rig	TH 60	Coordinate, X =	398492	Elevation, m : 2.328
Dia of boring	4" & 5"	Y =	293488	
Casing details	Core NMLC	Z =	2.328	

	Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests			Strata				
				Depth	Sample	Test	Legend	Depth	Reduced Level	Thick ness	Description
50			b.g.l	M				M		M	50
				50.0-50.45	SPT50 ↓	N=21				↑	
51											51
				51.0-51.45	SPT51 ↓	N=30					
52											52
				52.0-52.45	SPT52 ↓	N=23					
53	20.12.00 (19:20)		0.80								53
	21.12.00 (07:15)		0.80	53.0-53.45	SPT53 ↓	N=25					
54											54
				54.0-54.45	SPT54 ↓	N=30					
55										13.00	Medium dense to dense light brown fine to coarse SAND 55
				55.0-55.45	SPT55 ↓	N=37					
56											56
				56.0-56.45	SPT56 ↓	N=46					
57											57
				57.0-57.45	SPT57 ↓	N=35					
58											58
				58.0-58.45	SPT58 ↓	N=43					
59											59
				59.0-59.45	(SPT59) ↓	N=46					
60										↓	60

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor:

Date Started: 17.12.2000

Date Finished: 1.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 16.01.2001

Data Book Figure F.2.23 Borehole Log BH9(6)

BOREHOLE No. **BH 9**

Job No. **20019** Sheet 7 of 11

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	Ladang Tumbuk
Type of rig	TH 60	Coordinate, X =	398492
Dia of boring	4" & 5"	Y =	293488
Casing details	Core NMLC	Z =	2.328

Elevation, m : 2.328

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
60		b.g.l	M				M		M	60
			60.0-60.45	SPT60 ↓	N=43				↑	
22.12.00									13.00	Medium dense to dense light
61 (16:15)		0.70								brown fine to coarse SAND 61
23.12.00			61.0-61.45	SPT61 ↓	N=32					
(08:00)		0.70								
62							62.00			62
			62.0-62.45	SPT62 ↓	N=10	— — x				
						— x				
						— — x				
63						— x				63
			63.0-63.45	(SPT63) ↓	N=21	— — x				
						— x				
						— — x				
64						— x			4.00	Firm to stiff light brown silty CLAY 64
			64.0-64.45	SPT64 ↓	N=16	— — x				
						— x				
						— — x				
65						— x				65
			65.0-65.45	SPT65 ↓	N=15	— — x				
						— x				
						— — x				
66						— x	66.00			66
			66.0-66.45	SPT66 ↓	N=31					
67										67
			67.0-67.45	(SPT67) ↓	N=6					
68									12.00	Dense light brown fine SAND 68
			68.0-68.45	SPT68 ↓	N=39					with a lot of gravel
69										69
			69.0-69.45	SPT69 ↓	N=17					
23.12.00										
70 (19:30)		0.70							↓	70

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor:

Date Started: 17.12.2000

Date Finished: 1.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 16.01.2001

Data Book Figure F.2.23 Borehole Log BH9(7)

BOREHOLE No. **BH 9**

Job No. **20019** Sheet 8 of 11

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	Ladang Tumbuk	
Type of rig	TH 60	Coordinate, X =	398492	Elevation, m : 2.328
Dia of boring	4" & 5"	Y =	293488	
Casing details	Core NMLC	Z =	2.328	

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
70		b.g.l	M				M		M	70
24.12.00 (08:00)		0.60	70.0-70.45	SPT70 ↓	N=60				▲	
71			71.0-71.45	SPT71 ↓	N=34					71
72			72.0-72.45	SPT72 ↓	N=39					72
73			73.0-73.45	SPT73 ↓	N=28				12.00	Dense light brown fine SAND with a lot of gravel 73
25.12.00 (19:20) 74		0.60								74
26.12.00 (08:00)		0.50	74.0-74.45	SPT74 ↓	N=38					
75			75.0-75.45	SPT75 ↓	N=49					75
76			76.0-76.45	SPT76 ↓	N=34					76
77			77.0-77.45	SPT77 ↓	N=39					77
78							78.00			78
			78.0-78.45	SPT78 ↓	N=26					
79			79.0-79.45	SPT79 ↓	N=30				4.00	Very stiff light gray CLAY 79
80									↓	80

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor:

Date Started: 17.12.2000

Date Finished: 1.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 16.01.2001

Data Book Figure F.2.23 Borehole Log BH9(8)

BOREHOLE No. **BH 9**

Job No. **20019** Sheet 9 of 11

Project THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	Ladang Tumbuk
Type of rig	TH 60	Coordinate, X =	398492
Dia of boring	4" & 5"	Y =	293488
Casing details	Core NMLC	Z =	2.328

Elevation, m : 2.328

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
80		b.g.l	M				M		M	80
			80.0-80.45	SPT80 ↓	N=19				↑	
									4.00	Very stiff light gray CLAY
81			81.0-81.45	SPT81 ↓	N=17					81
82							82.00			82
			82.0-82.45	SPT82 ↓	N=40					
83	26.12.00 (19:40)									83
	27.12.00 (08:00)	0.60	83.0-83.45	SPT83 ↓	N=38					
84										84
			84.0-84.45	SPT84 ↓	N=37					
85										85
			85.0-85.45	SPT85 ↓	N=34					
86										86
			86.0-86.45	SPT86 ↓	N=62				9.00	Dense to very dense light gray clayey fine SAND with a lot of gravels
87										87
			87.0-87.45	SPT87 ↓	N=71					
88										88
			88.0-88.45	SPT88 ↓	N=44					
89	27.12.00 (19:00)	1.50								89
	28.12.00 (08:00)	0.60	89.0-89.45	SPT89 ↓	N=23					
90									↓	90

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remarks

(↓)

H W = Hammer weight

Contractor:

Date Started: 17.12.2000

Date Finished: 1.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 16.01.2001

Data Book Figure F.2.23 Borehole Log BH9(9)

BOREHOLE No. **BH 9**

Job No. **20019** Sheet 10 of 11

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	Ladang Tumbuk
Type of rig	TH 60	Coordinate, X =	398492
Dia of boring	4" & 5"	Y =	293488
Casing details	Core NMLC	Z =	2.328

Elevation, m : 2.328

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
90		b.g.l	M				M		M	90
			90.0-90.45	SPT90 ↓	N=34					
91									↑	91
			91.0-91.45	SPT91 ↓	N=45	x			10.00	Dense to very dense light gray clayey fine SAND with a lot of gravels
92						x	92.00			92
			92.0-92.45	SPT92 ↓	N=35	x				
93						x			3.00	Very stiff to hard light gray silty CLAY 93
			93.0-93.45	SPT93 ↓	N=27	x				
	28.12.00					x				
94	(19:40)	0.60				x				94
	29.12.00		94.0-94.45	SPT94 ↓	N=25	x				
	(08:00)	0.70				x				
95						x	95.00			95
			95.0-95.45	SPT95 ↓	N=48					
96										96
			96.0-96.45	SPT96 ↓	N=13					
97										97
			97.0-97.45	SPT97 ↓	N=46				10.00	Dense to very dense light gray fine to coarse SAND with a lot of large pebbles
98										98
			98.0-98.45	SPT98 ↓	N=39					
99										99
			99.0-99.45	SPT99 ↓	N=70					
100									↓	100

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor:

Date Started: 17.12.2000

Date Finished: 1.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 16.01.2001

Data Book Figure F.2.23 Borehole Log BH9(10)

BOREHOLE No. **BH 9**

Job No. **20019** Sheet 11 of 11

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	Ladang Tumbuk	
Type of rig	TH 60	Coordinate, X =	398492	Elevation, m : 2.328
Dia of boring	4" & 5"	Y =	293488	
Casing details	Core NMLC	Z =	2.328	

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
100		b.g.l	M				M		M	100
			100-100.45	SPT100 ↓	N=142					
101										101
			101-101.45	SPT101 ↓	N=168					
29.12.00										
102 (19:15)									10.00	Dense to very dense light gray 102
30.12.00)			102-102.45	SPT102 ↓	N=75					fine to coarse SAND with a lot
(08:00)		0.70								of large pebbles
103										103
			103-103.45	SPT103 ↓	N=66					
104										104
			104-104.45	SPT104 ↓	N=107					
30.12.00										
105 (18:30)		0.70					105.0			105
1.1.01			105-105.45	SPT105 ↓	N=88					
(08:00)										
106										106
			106-106.45	SPT106 ↓	N=35					
107										107
			107.107.45	SPT107 ↓	N=35				4.45	Very stiff to hard light gray CLAY
108										108
			108-108.45	SPT108 ↓	N=28					
109										109
			109-109.45	SPT109 ↓	N=28		109.45			
										End of hole
110										110

- • Small disturbed sample
- Large disturbed sample
- Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor:

Date Started: 17.12.2000

Date Finished: 1.01.2001

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

Date: 16.01.2001

Data Book Figure F.2.23 Borehole Log BH9(11)

BOREHOLE No. **BH 10**

Job No. **20019** Sheet 1 of 4

Proj ect: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location	EAST OF PAYA INDAH		
Type of rig	BBS 10	Coordinate, X =	404345	Elevation, m : 8.911	
Dia of boring	4" & 5"	Y =	318030		
Casing details	Core NMLC	Z =	8.911		

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
0		b.g.l	M				M		M	0
22.11.00 (12.:20)									0.90	Firm medium brown silty CLAY with a little fine to coarse sand and fine laterite gravel (land fill)
1							0.90			1
			1.0-1.45	SPT1 ↓	N=3		1.42		0.52	Ditto - but soft
2							2.00		0.58	Loose pale gray fine to coarse SAND 2
			2.0-2.45	SPT2 ↓	N=3					
3										3
			3.0-3.45	(SPT3) ↓	N=3		3.00		3.00	Soft medium brown pale gray fine to coarse sandy CLAY with a trace of peaty clay
4										4
			4.0-4.45	(SPT4) ↓	N=3					
5							5.00			5
			5.0-5.45	SPT5 ↓	N=HW		5.27		0.27	Soft dark PEAT with some decayed wood
6	22.11.00 (17:20)	0.30					6.00		0.73	Soft medium to dark gray peaty CLAY 6
	23.11.00 (11:45)	0.24	6.0-6.45	SPT6 ↓	N=HW				1.00	Soft dark gray CLAY
7							7.00			7
			7.0-7.45	SPT7 ↓	N=HW					
8										8
			8.0-8.45	SPT8 ↓	N=HW				3.00	Very soft medium gray CLAY
9										9
			9.0-9.45	SPT9 ↓	N=HW					
10							10.00			10

- • Small disturbed sample
- ↕ Large disturbed sample
- ▌ Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- □ Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 22.11.2000

Date Finished: 26.11.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 6.12.2000

Data Book Figure F.2.24 Borehole Log BH10(1)

BOREHOLE No. **BH 10**

Job No. **20019** Sheet 2 of 4

Proj ect: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location :	EAST OF PAYA INDAH
Type of rig	BBS 10	Coordinate, X =	404345 — Elevation, m : 8.911
Dia of boring	4" & 5"	Y =	318030
Casing details	Core NMLC	Z =	8.911

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
10		b.g.l	M				M		M	10
			10.0-10.45	SPT10 ↓	N=9	– – .	10.15		0.15	Soft gray fine to medium sandy CLAY
11			11.0-11.45	SPT11 ↓	N-11	x			1.85	Loose light gray silty fine to medium SAND 11
12						x	12.00			12
			12.0-12.45	SPT12 ↓	N=6	–			1.00	Loose light gray clayey fine to medium SAND
13						–	13.00			13
14			13.0-13.45	SPT13 ↓	N=4	x			2.00	Very loose to loose light gray silty fine to coarse SAND 14
			14.0-14.45	(SPT14) ↓	N=13					
15						x	15.00			15
16	23.11.00 (17:40)	2.17	15.0-15.45	SPT15 ↓	(N=12)	x			2.00	Medium dense light gray silty fine to coarse SAND with a little of fine gravel 16
	24.11.00 (08:20)	1.61	16.0-16.45	SPT16 ↓	N=18					
17						x	17.00			17
			17.0-17.45	SPT17 ↓	N=10	x			1.00	Loose to medium dense light gray silty fine to medium SAND
18						x	18.00			18
			18.0-18.45	SPT18 ↓	N=17	x			1.00	Medium dense light gray silty fine to medium SAND
19						x	19.00			19
			19.0-19.45	SPT19 ↓	N=42	x			1.00	Dense light gray silty fine to medium SAND
20						x	20.00			20

- • Small disturbed sample
- ↕ Large disturbed sample
- ▌ Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- □ Drill core sample
- x Vane test

Remark s
(↓)
H W = Hammer weight

Contractor:
MALAYSIAN SOIL INVESTIGATION SDN BHD

Date Started: 22.11.2000
Date Finished: 26.11.2000

Scale: 1 = 0.25m

Logged by: C.S.K
Check ed by: Butt
Date: 6.12.2000

Data Book Figure F.2.24 Borehole Log BH10(2)

BOREHOLE No. **BH 10**

Job No. **20019** Sheet 3 of 4

Proj ect: THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location :	EAST OF PAYA INDAH
Type of rig	BBS 10	Coordinate, X =	404345 — Elevation, m : 8.911
Dia of boring	4" & 5"	Y =	318030
Casing details	Core NMLC	Z =	8.911

Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests: Depth	Sample	Test	Strata: Legend	Depth	Reduced Level	Thick ness	Description
20		b.g.l	M				M		M	20
			20.0-20.45	SPT20 ↓	N=50	x x x x			1.00	Very dense light gray silty fine to coarse SAND
21							21.00			21
			21.0-21.45	SPT21 ↓	N=26	x x x x			1.00	Medium dense light gray silty fine to coarse SAND
22							22.00			22
			22.0-22.45	SPT22 ↓	N=22	x	22.40		0.40	Ditto, with some fine to medium gravel
						– – •	22.43		0.03	Firm Light gray fine to coarse sandy CLAY
23						x x	23.00		0.57	Medium dense light gray silty fine to coarse SAND with some fine to medium gravel
			23.0-23.45	SPT23 ↓	N=24	– – •	23.15		0.15	
24						x x x	24.00		0.85	Firm light gray fine to coarse sandy CLAY a with little of fine gravel; Medium dense light gray silty fine to coarse SAND
			24.0-24.45	SPT24 ↓	N=23	– – • – •			1.00	Very stiff light gray fine to coarse sandy CLAY with a little fine gravel
25	24.11.00 (17:50)	2.91				– •	25.00			25
	25.11.00 (08:50)	2.70	25.0-25.45	SPT25 ↓	N=50	x x x x			1.00	Very dense light gray silty fine to coarse SAND with some fine gravel
26							26.00			26
			26.0-26.34	SPT26 ↓	N=50/ 0.19	x x x x			1.00	Very dense light gray silty fine to coarse SAND with some fine to medium gravel
27							27.00			27
			27.0-27.19	SPT27 ↓	N=50/ 0.04				1.18	Very dense light gray pale red silty fine to coarse SAND with some fine to coarse gravel
28					Core %		28.18	RQD %		28
					53	: : : : :		21.3	0.72	Highly to moderately weathered gray very weak to weak SANDSTONE
29							29.12		0.22	29 Med. Strong to strong VOLCANIC rock
					63	: : : : :	29.82	0	0.70	Ditto - Slightly weathered to Fresh
30							30.00		0.10	Weak SANDSTONE 30

- • Small disturbed sample
- ↕ Large disturbed sample
- ▌ Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- □ Drill core sample
- x Vane test

Remarks
(↓)
H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 22.11.2000

Date Finished: 26.11.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Checked by: Butt

Date: 6.12.2000

Data Book Figure F.2.24 Borehole Log BH10(3)

BOREHOLE No. **BH 10**

Job No. **20019** Sheet 4 of 4

Proj ect THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Type of boring	ROTARY	Location :	EAST OF PAYA INDAH		
Type of rig	BBS 10	Coordinate, X =	404345	Elevation, m : 8.911	
Dia of boring	4" & 5"	Y =	318030		
Casing details	Core NMLC	Z =	8.911		

	Date & (Time)	Depth of boring & (casing)	Ground Water	Samples & Tests			Strata				
				Depth	Sample	Test	Legend	Depth	Reduced Level	Thick ness	Description
30			b.g.l	M				M		M	30
						Core %			RQD %		Light gray dappled red SANDSTONE
	25.11.00					68		30.60	37.5	0.68	
	(15:30)							30.74		0.14	Grey SANDSTONE
31	26.11.00					100			42.6		31
	(08:00)		1.85								
						0			Nil	1.64	Highly to slightly weathered light gray dappled red, very weak to medium strong SANDSTONE
32	26.11.00										32
	(14:50)		3.15					32.28			
											End of hole
33											33
34											34
35											35
36											36
37											37
38											38
39											39
40											40

- • Small disturbed sample
- ↕ Large disturbed sample
- ▌ Piston Sample
- ↓ Standard penetration test
- ▲ Water sample
- □ Drill core sample
- x Vane test

Remark s

(↓)

H W = Hammer weight

Contractor: **MALAYSIAN SOIL INVESTIGATION SDN BHD**

Date Started: 22.11.2000

Date Finished: 26.11.2000

Scale: 1 = 0.25m

Logged by: C.S.K

Check ed by: Butt

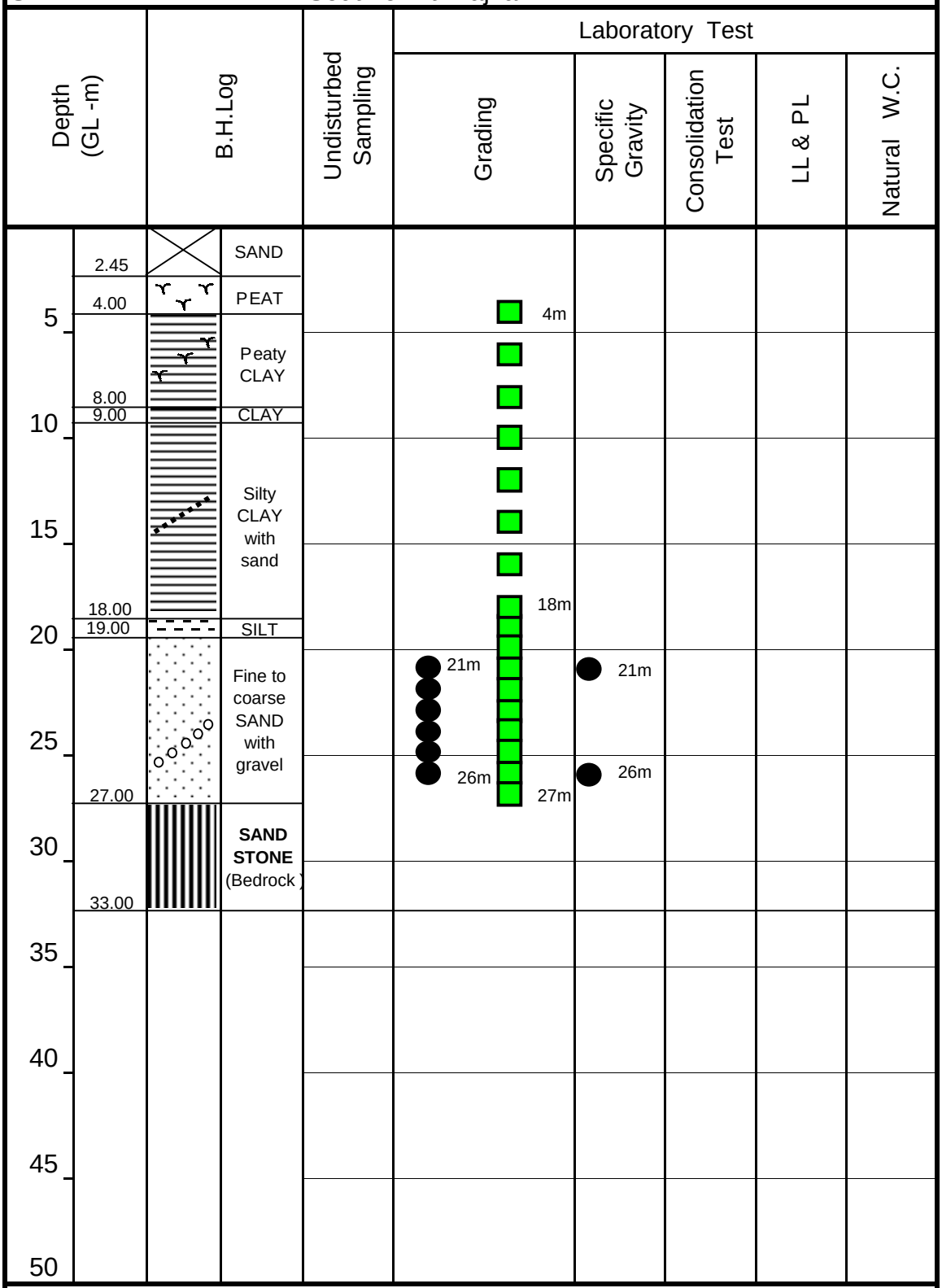
Date: 6.12.2000

Data Book Figure F.2.24 Borehole Log BH10(4)

DATA BOOK F.2.5

DEPTHS OF SAMPLING AND LABORARORY SOIL TESTS

SITE NO. : No.1
BOREHOLE NO. : BH1
SITE NAME : South of Bt. Baj a

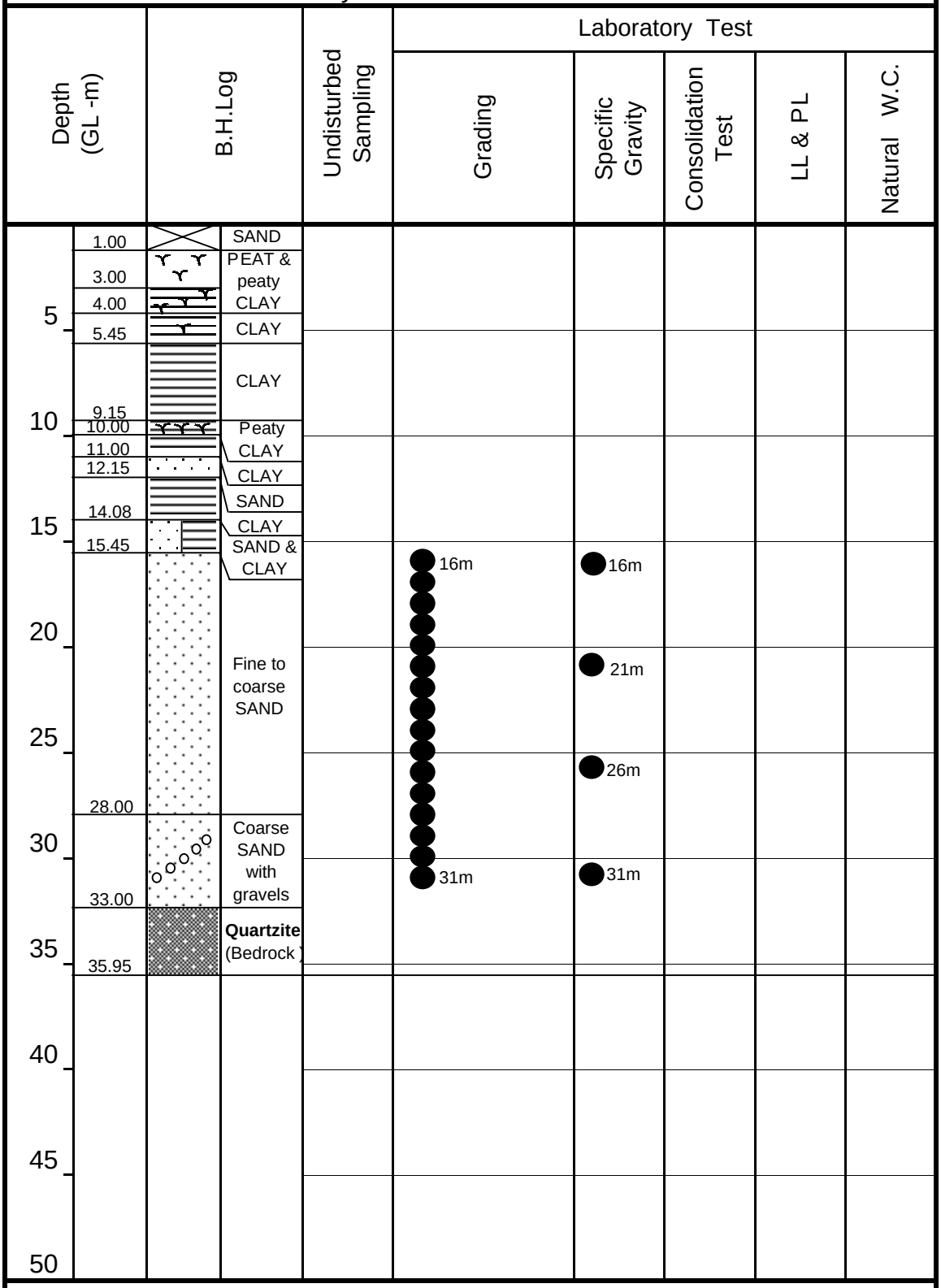


The Study on the Sustainable Groundwater Resources and Environmental Management for the Langat Basin in Malaysia

● S.P.T. sample ○ Undisturbed sample ■ Sampled by percussion at J1-1

Annex Figure F.2.25 Depths of Sampling and Laboratory Soil Tests BH1

SITE NO. : No.2
BOREHOLE NO. : BH2
SITE NAME : Paya Indah



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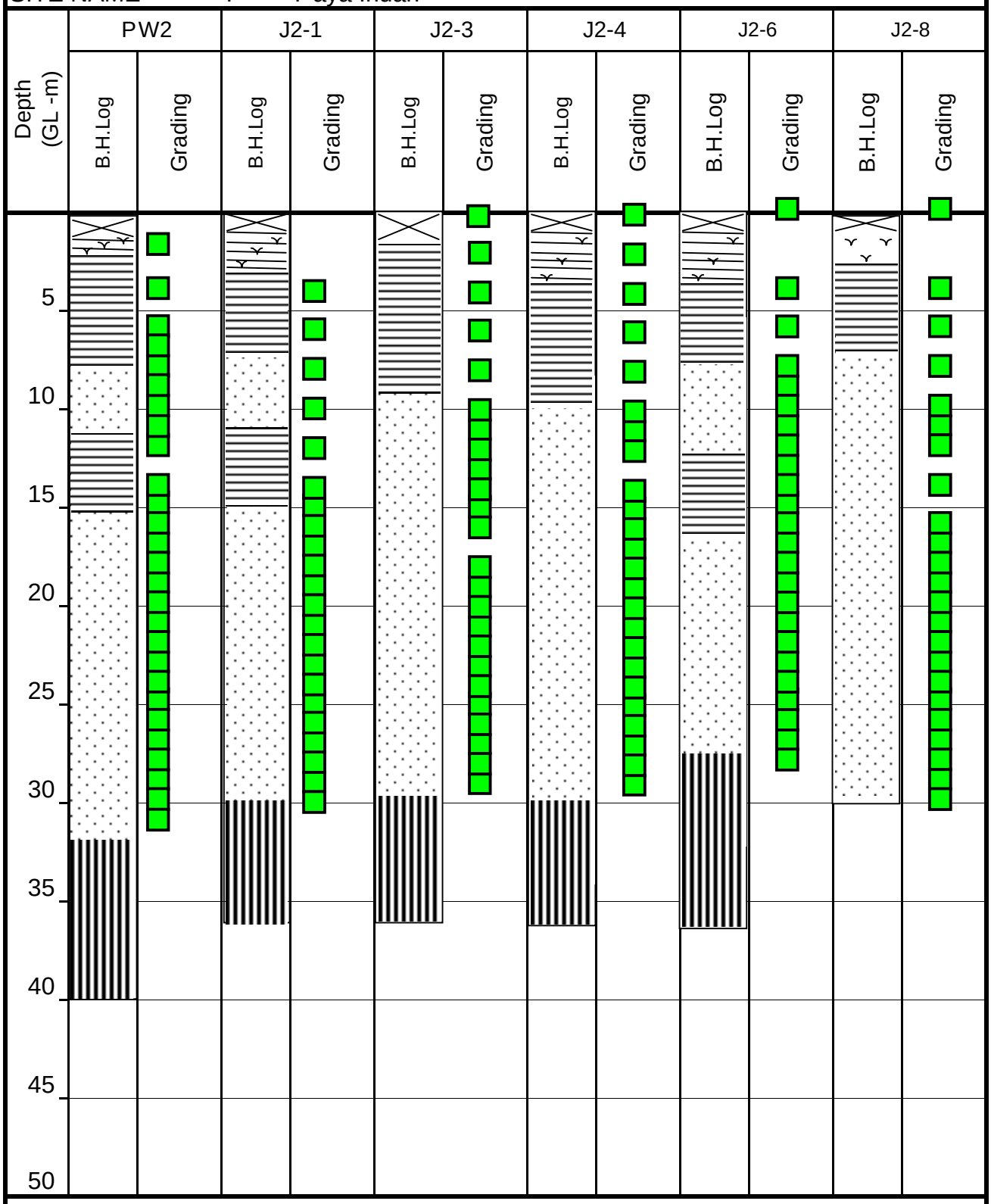
● S.P.T. sample ○ Undisturbed sample

Annex Figure F.2.26 Depths of Sampling and Laboratory Soil Tests BH2

SITE NO. : No.2
BOREHOLE NO. : PW2,J2-1,J2-3,J2-4,J2-6,J2-8
SITE NAME : Paya Indah

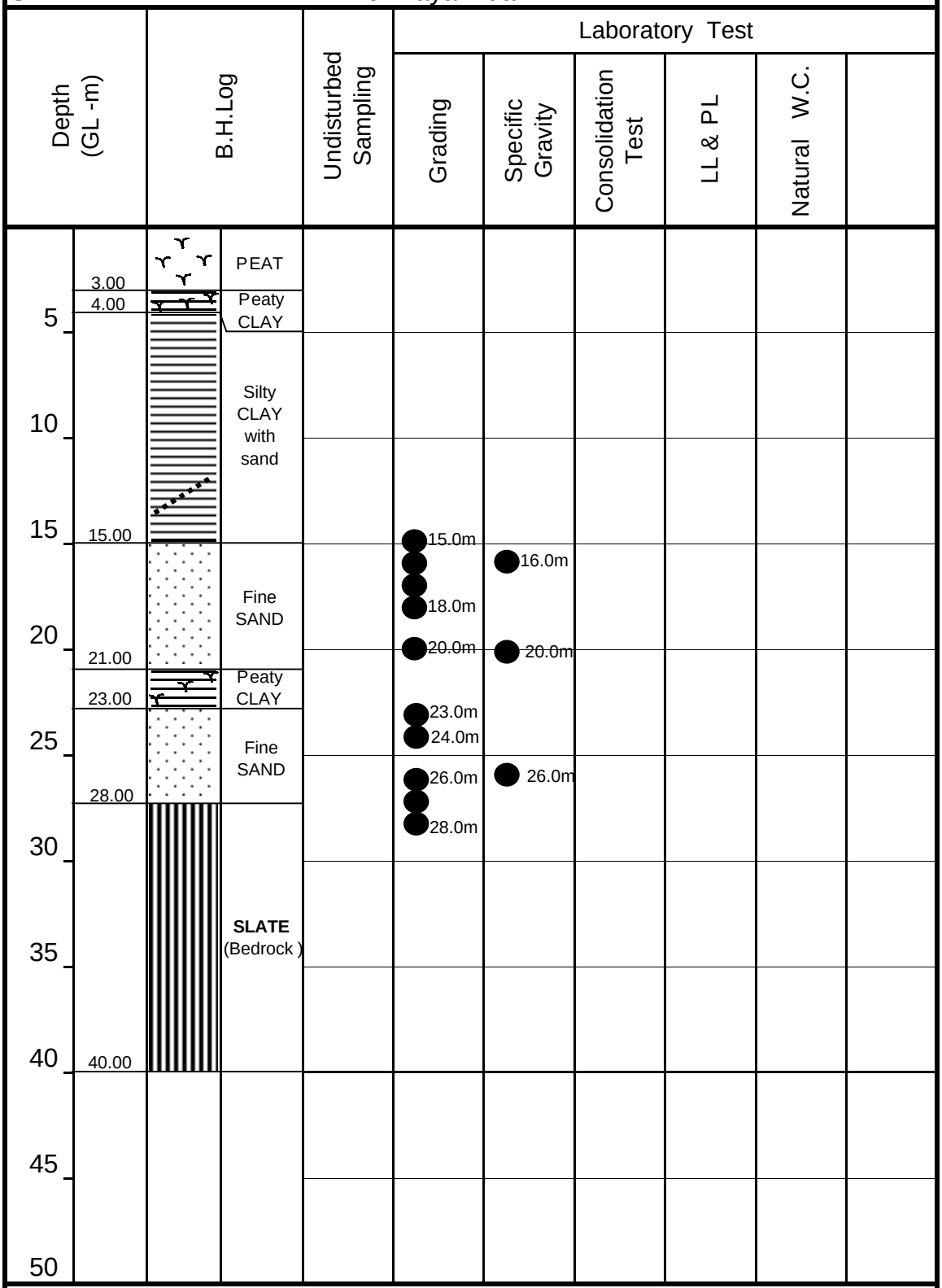


The Study on the Sustainable Groundwater Resources and Environmental Management for the Langat Basin in Malaysia

● S.P.T. sample ○ Undisturbed sample ■ Sampled by percussion at PW2 and etc

Annex Figure F.2.27 Depths of Sampling and Laboratory Soil Tests No.2

SITE NO. : No.3
BOREHOLE NO. : BH3
SITE NAME : NW of Paya Indah

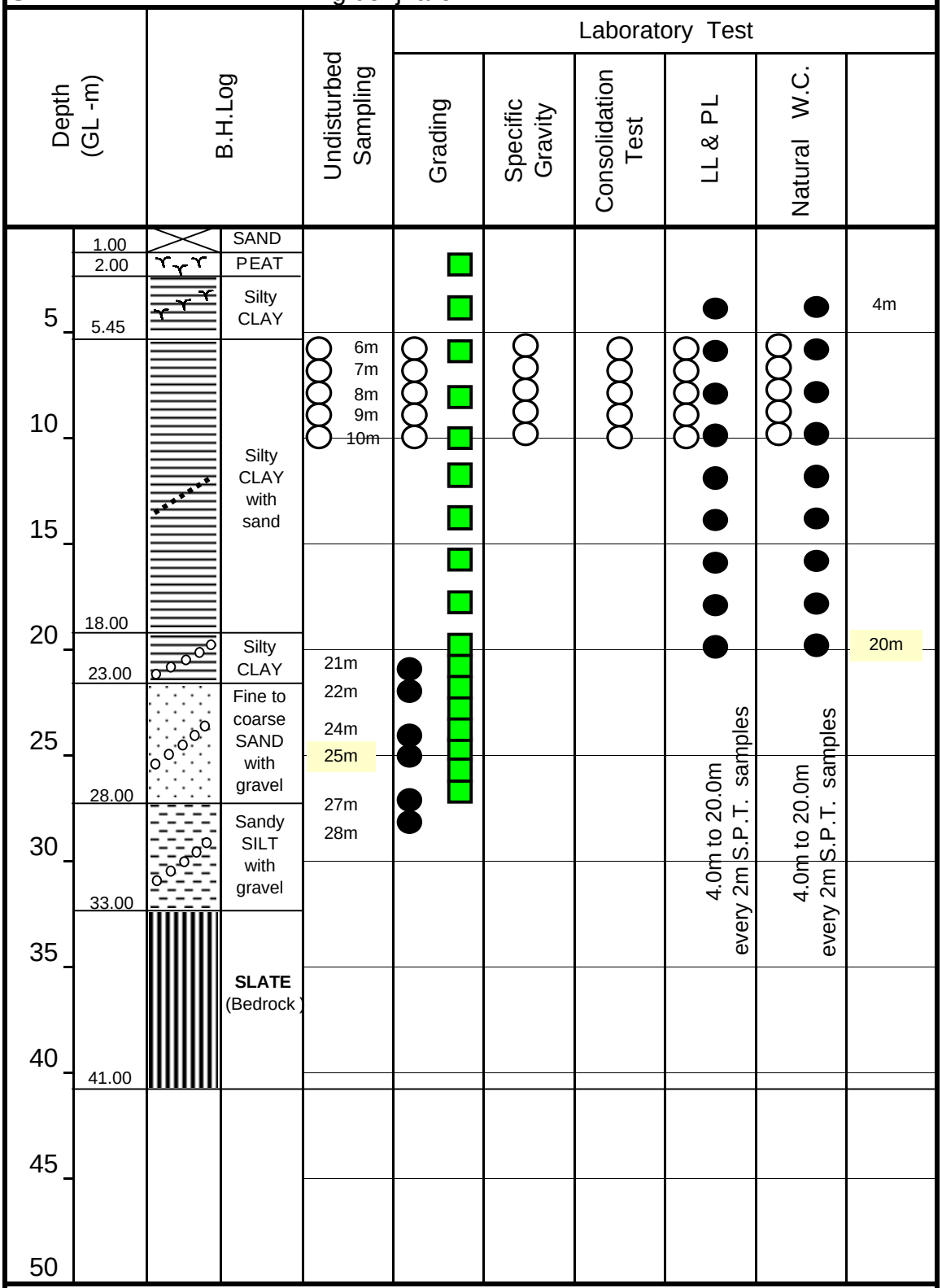


The Study on the Sustainable Groundwater Resources and Environmental Management for the Langat Basin in Malaysia

● S.P.T. sample ○ Undisturbed sample

Annex Figure F.2.28 Depths of Sampling and Laboratory Soil Tests BH3

SITE NO. : No4
BOREHOLE NO. : BH4 and J4-1
SITE NAME : Kg.Jenj arom

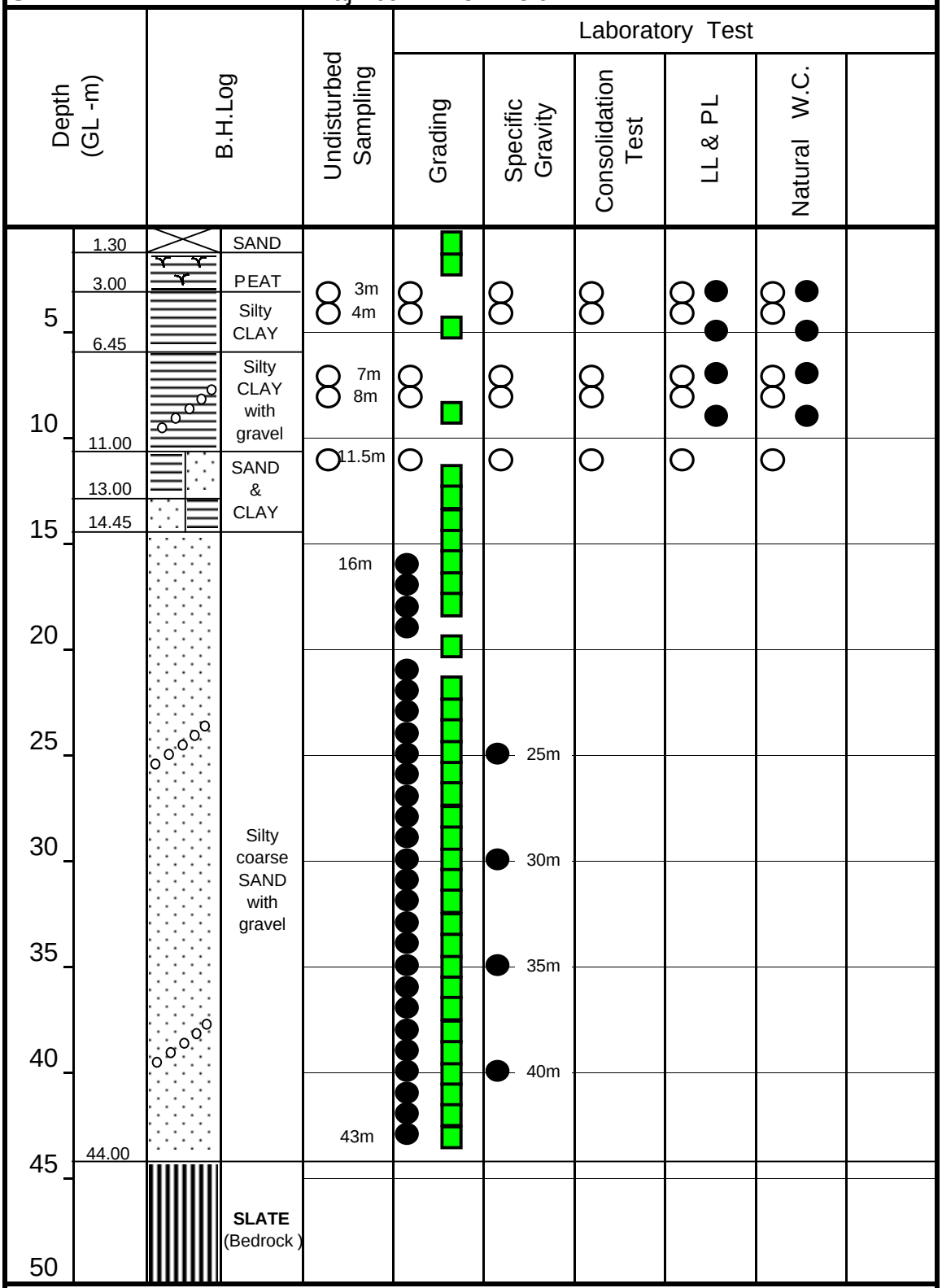


The Study on the Sustainable Groundwater Resources and Environmental Management for the Langat Basin in Malaysia

● S.P.T. sample ○ Undisturbed sample ■ Sampled by percussion at J4-1

Annex Figure F.2.29 Depths of Sampling and Laboratory Soil Tests BH4

SITE NO. : No.5
BOREHOLE NO. : BH5 , EX5 and J5-2
SITE NAME : Kaj ibumi Well Field 2

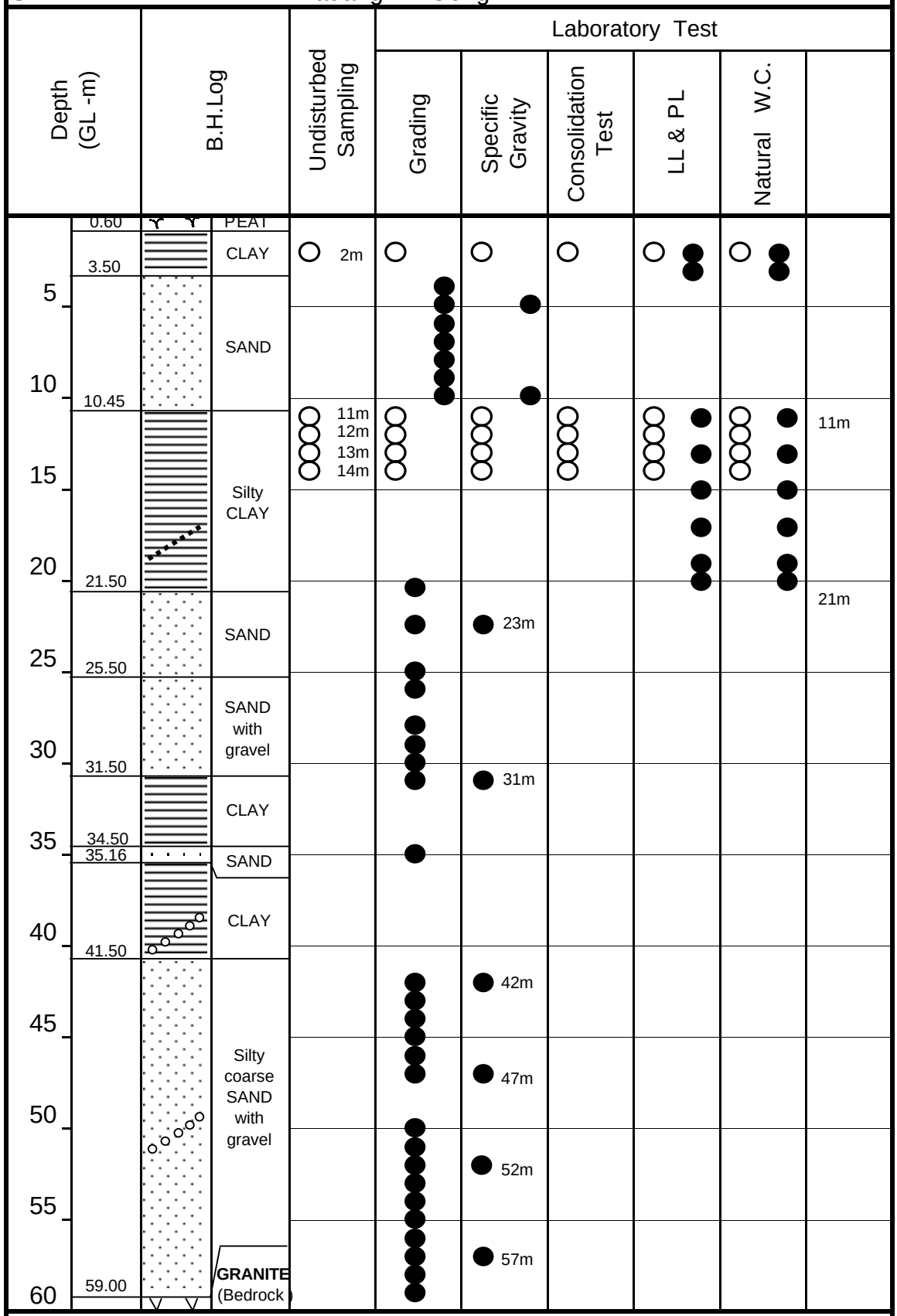


The Study on the Sustainable Groundwater Resources and Environmental Management for the Langat Basin in Malaysia

● S.P.T. sample ○ Undisturbed sample ■ Sampled by percussion at J5-2

Annex Figure F.2.30 Depths of Sampling and Laboratory Soil Tests BH5

SITE NO. : No.6
BOREHOLE NO. : BH6 and J6-1
SITE NAME : Ladang TK.Gong

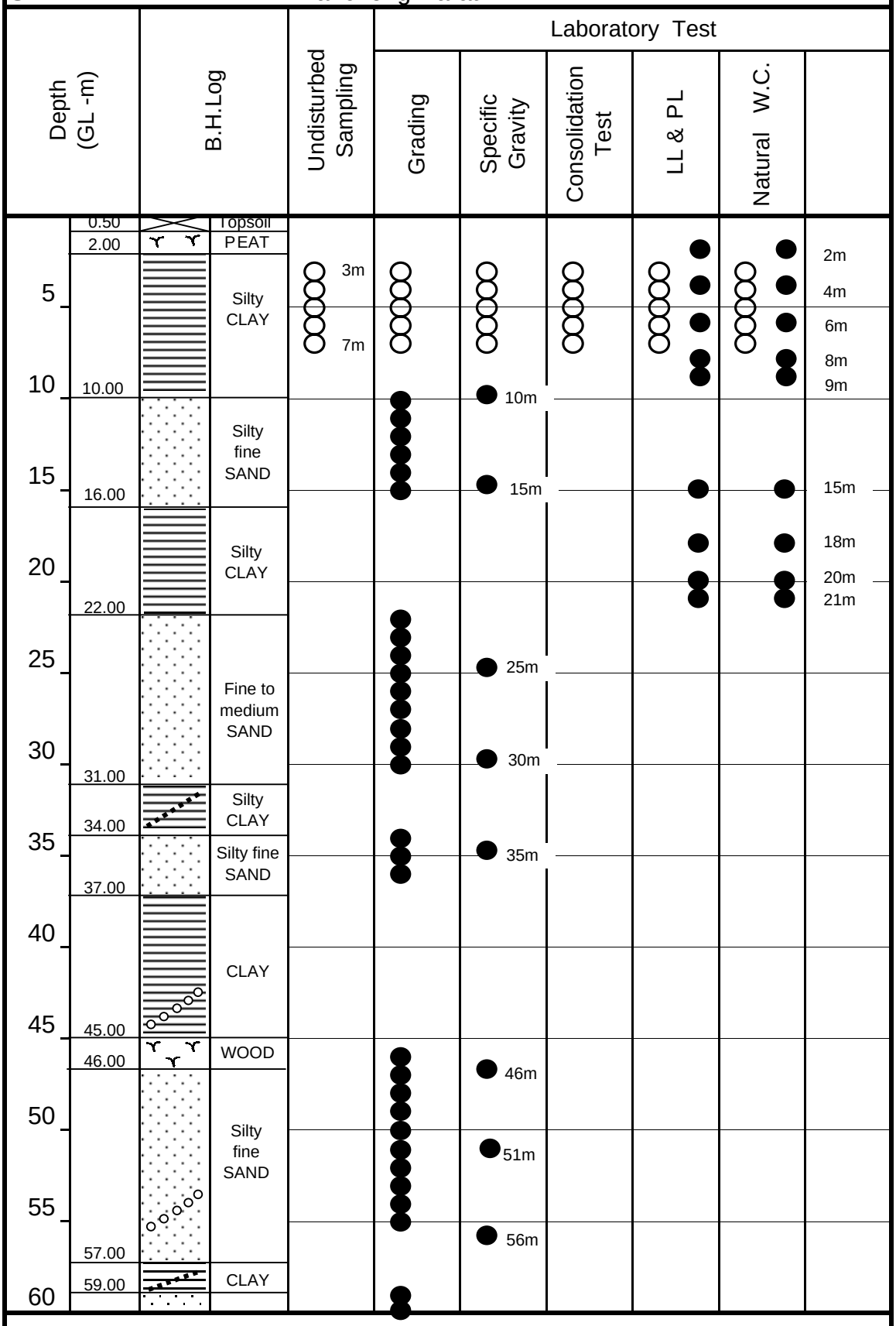


The Study on the Sustainable Groundwater Resources and Environmental Management for the Langat Basin in Malaysia

● S.P.T. sample ○ Undisturbed sample

Annex Figure F.2.31 Depths of Sampling and Laboratory Soil Tests BH6

SITE NO. : No.7
BOREHOLE NO. : BH7 and J7-5
SITE NAME : Kanchong Darat

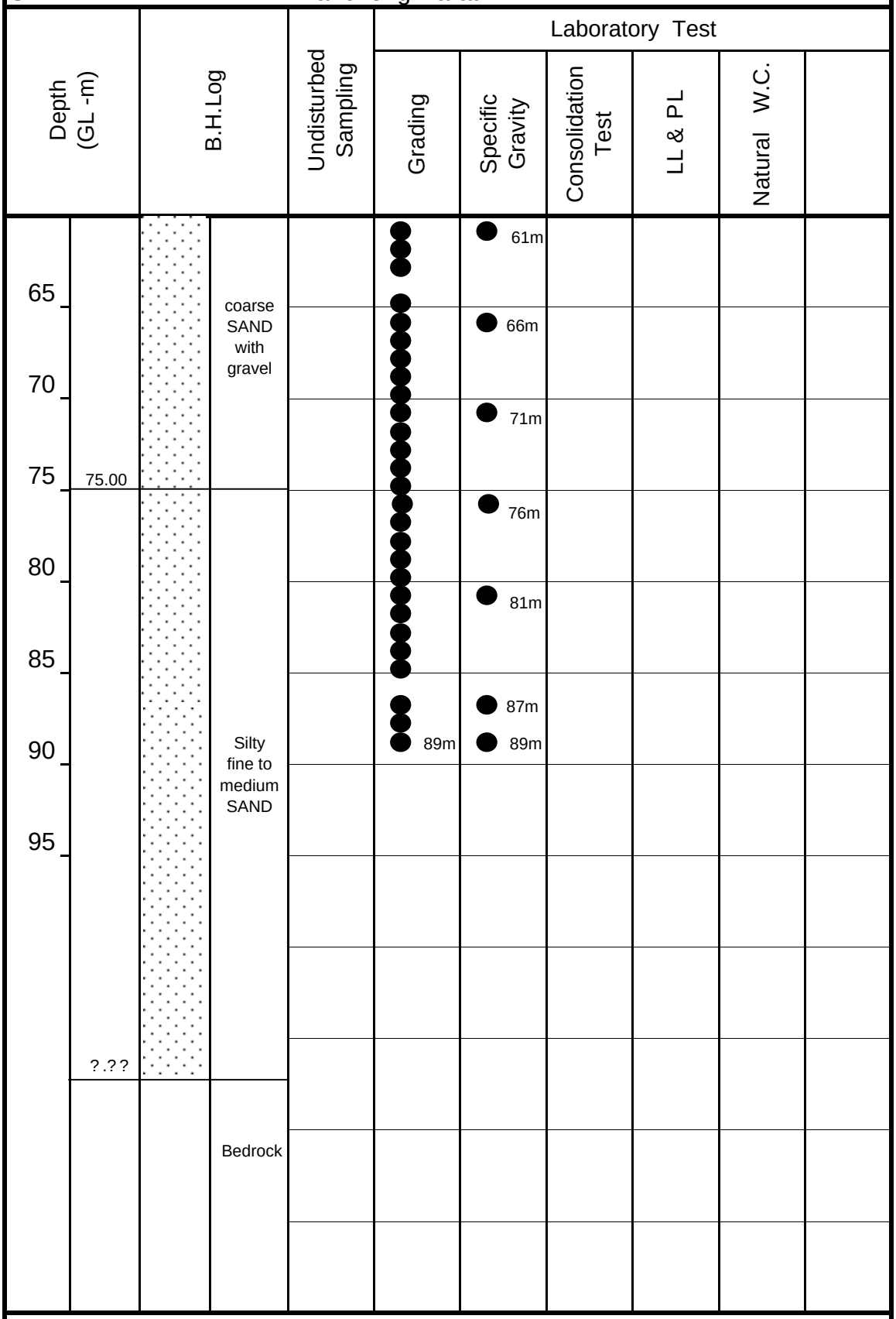


The Study on the Sustainable Groundwater Resources and Environmental Management for the Langat Basin in Malaysia

● S.P.T. sample ○ Undisturbed sample

Annex Figure F.2.32(1) Depths of Sampling and Laboratory Soil Tests BH7

SITE NO. : No.7
BOREHOLE NO. : BH7 and J7-5
SITE NAME : Kanchong Darat

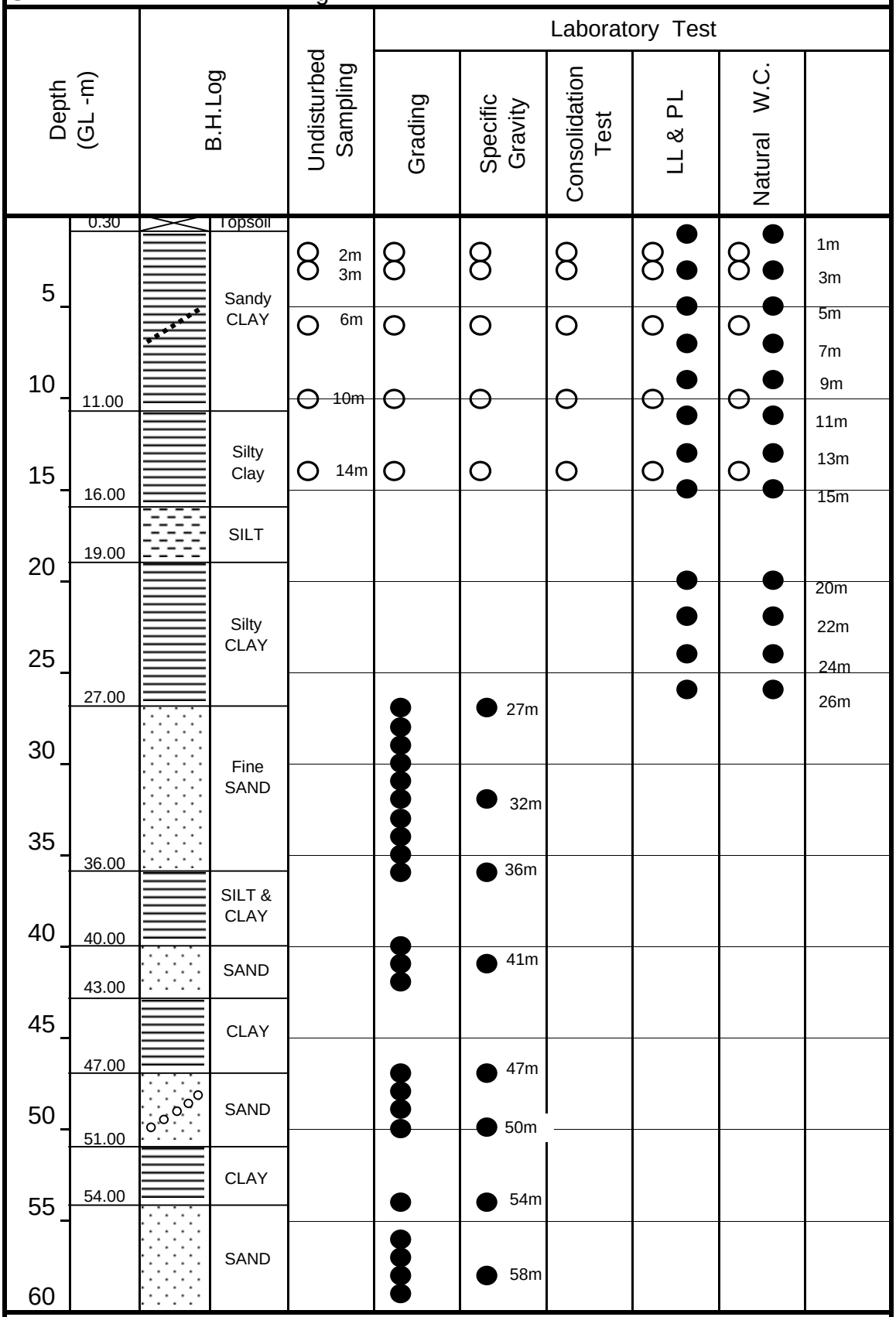


The Study on the Sustainable Groundwater Resources and Environmental Management in the Langat Basin in Malaysia

● S.P.T. sample ○ Undisturbed sample

Annex Figure F.2.32(2) Depths of Sampling and Laboratory Soil Tests BH7

SITE NO. : No.8
BOREHOLE NO. : BH8 and J8-1
SITE NAME : Kg. ENDAH

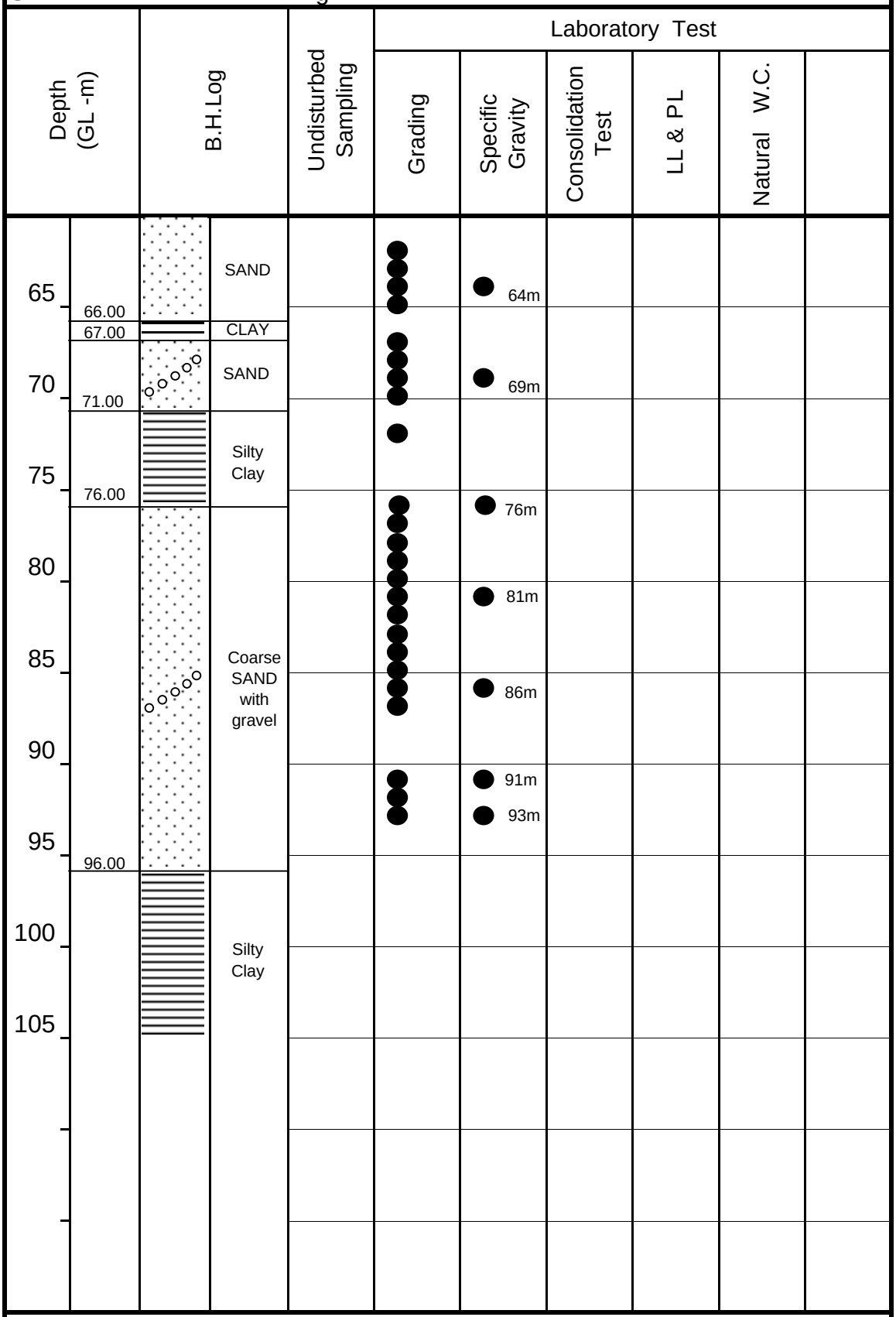


The Study on the Sustainable Groundwater Resources and Environmental Management for the Langat Basin in Malaysia

● S.P.T. sample ○ Undisturbed sample

Annex Figure F.2.33(1) Depths of Sampling and Laboratory Soil Tests BH8

SITE NO. : No.8
BOREHOLE NO. : BH8 and J8-1
SITE NAME : Kg. ENDAH

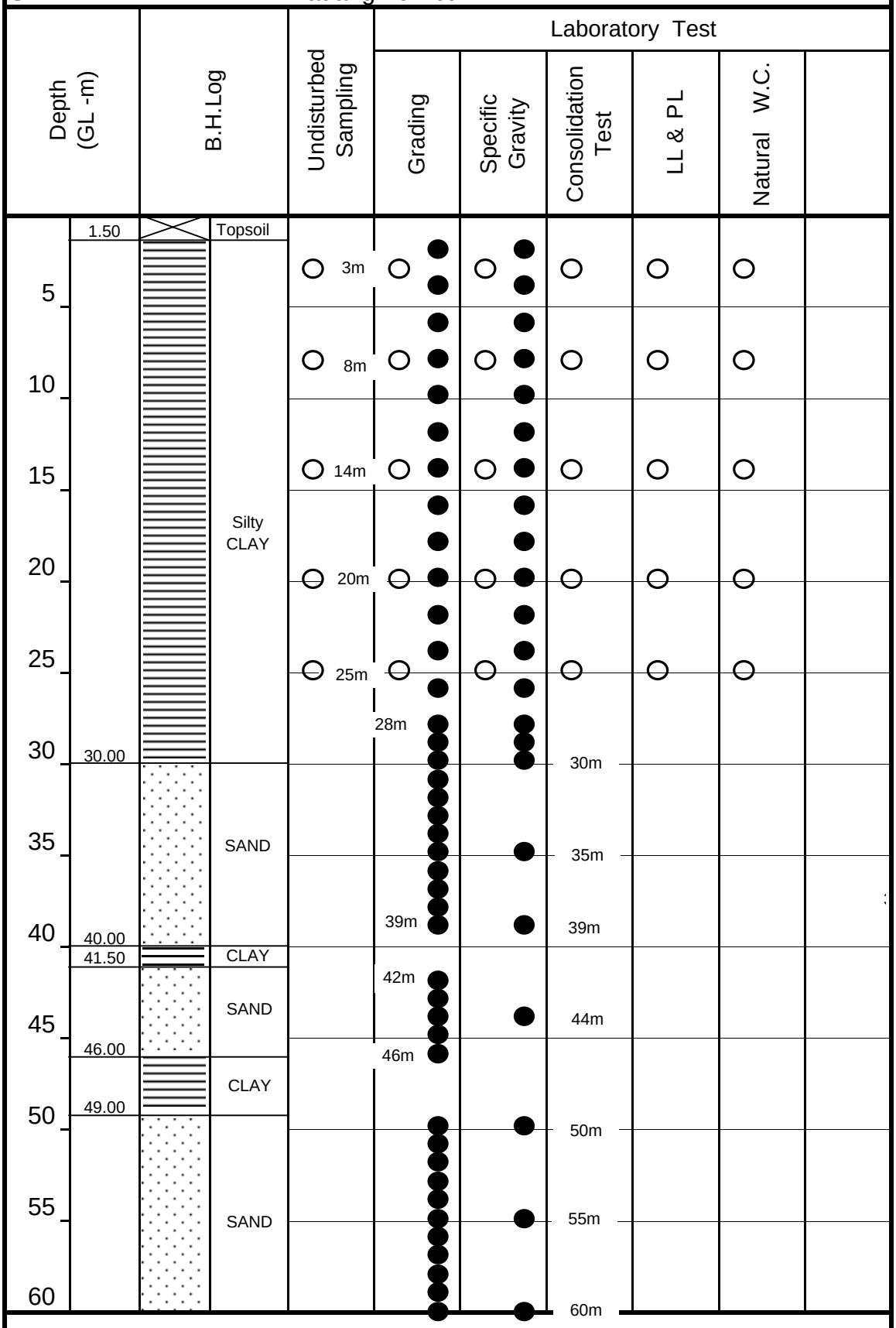


The Study on the Sustainable Groundwater Resources and Environmental Management for the Langat Basin in Malaysia

● S.P.T. sample ○ Undisturbed sample

Annex Figure F.2.33(2) Depths of Sampling and Laboratory Soil Tests BH8

SITE NO. : No.9
BOREHOLE NO. : BH9 and J9-1
SITE NAME : Ladang Tumbuk

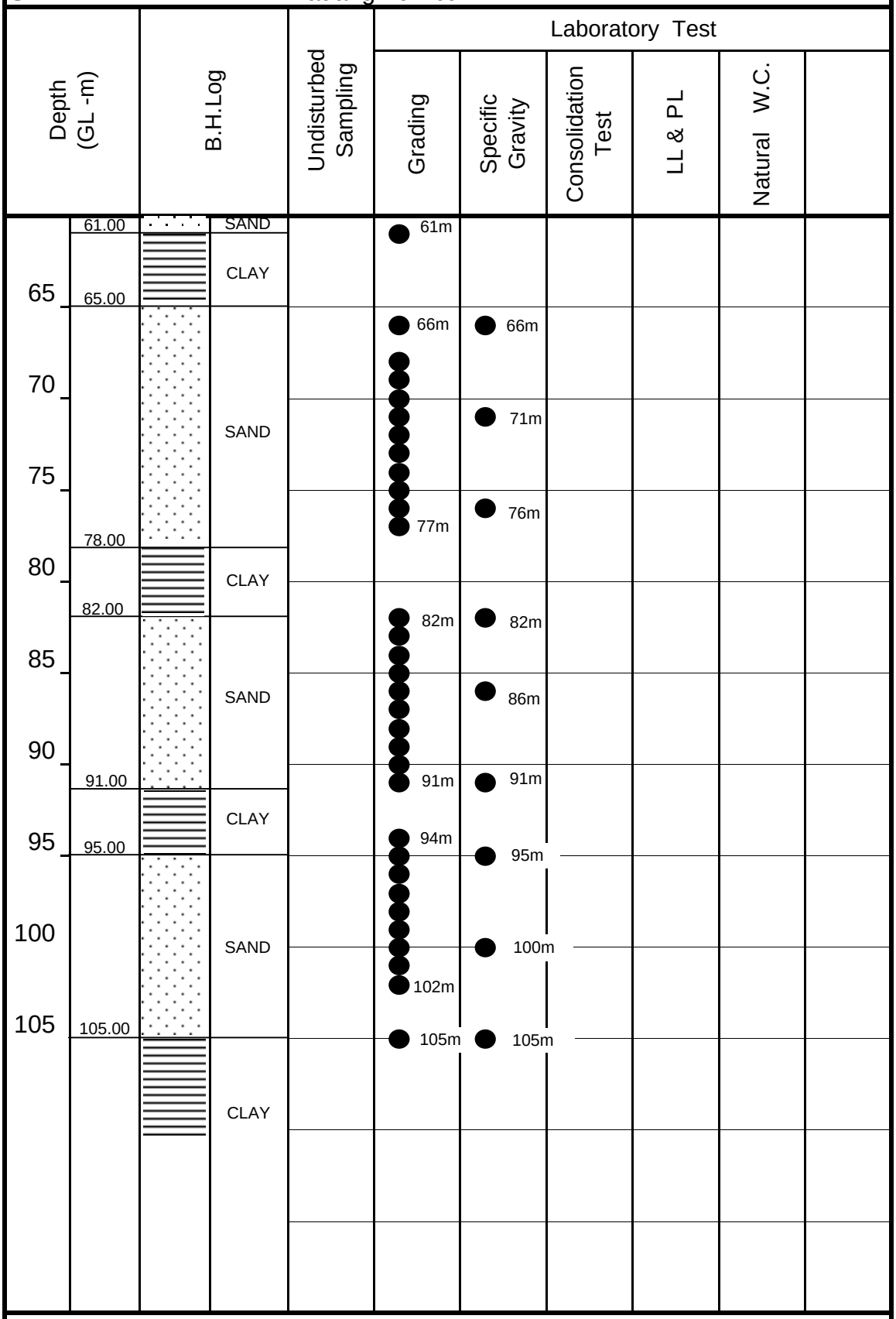


The Study on the Sustainable Groundwater Resources and Environmental Management for the Langat Basin in Malaysia

● S.P.T. sample ○ Undisturbed sample

Annex Figure F.2.34(1) Depths of Sampling and Laboratory Soil Tests BH9

SITE NO. : No.9
BOREHOLE NO. : BH9 and J9-1
SITE NAME : Ladang Tumbuk

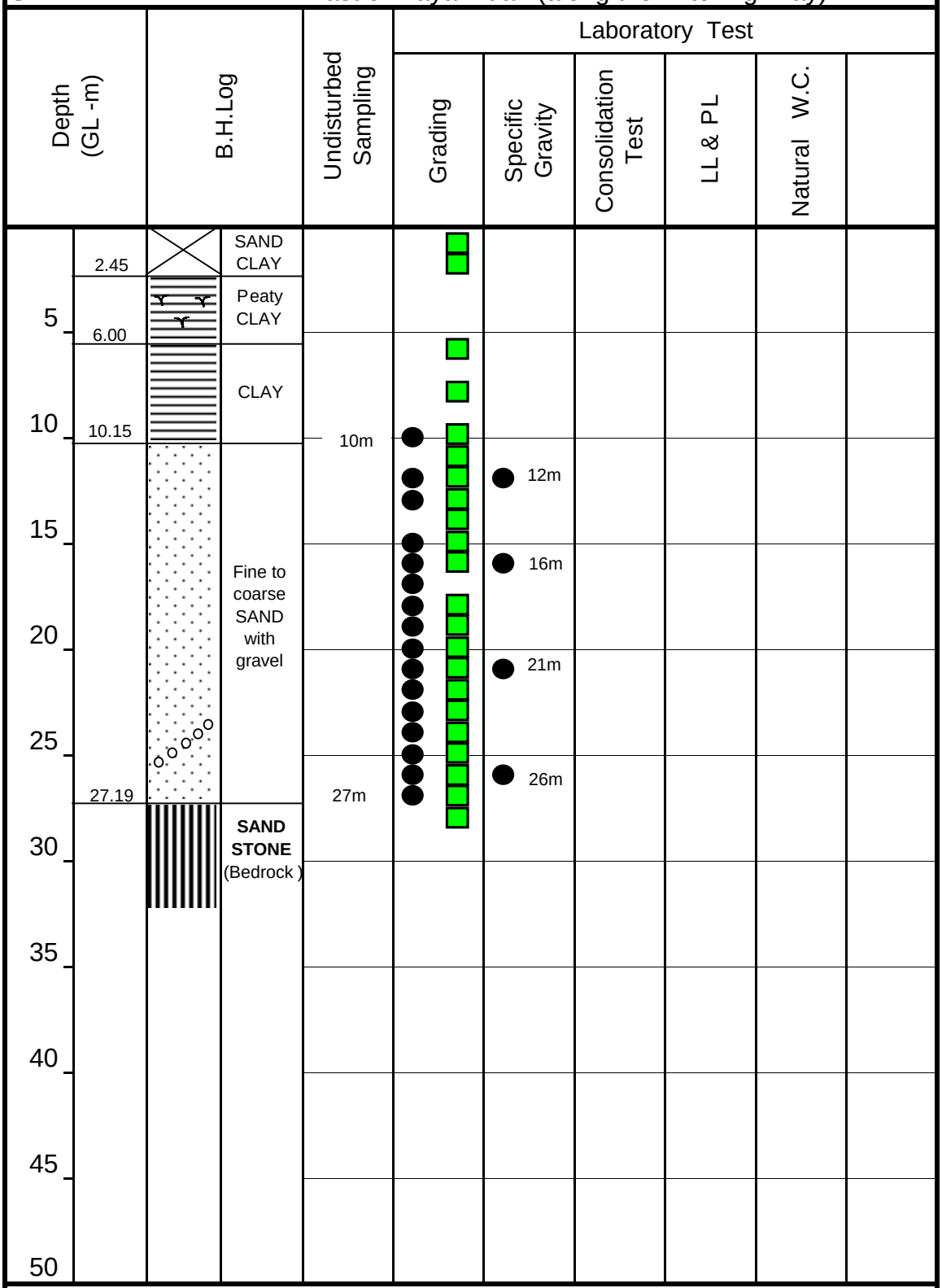


The Study on the Sustainable Groundwater Resources and Environmental Management for the Langat Basin in Malaysia

● S.P.T. sample ○ Undisturbed sample

Annex Figure F.2.34(2) Depths of Sampling and Laboratory Soil Tests BH9

SITE NO. : No.10
BOREHOLE NO. : BH10
SITE NAME : East of Paya Indah (along the Elite Highway)



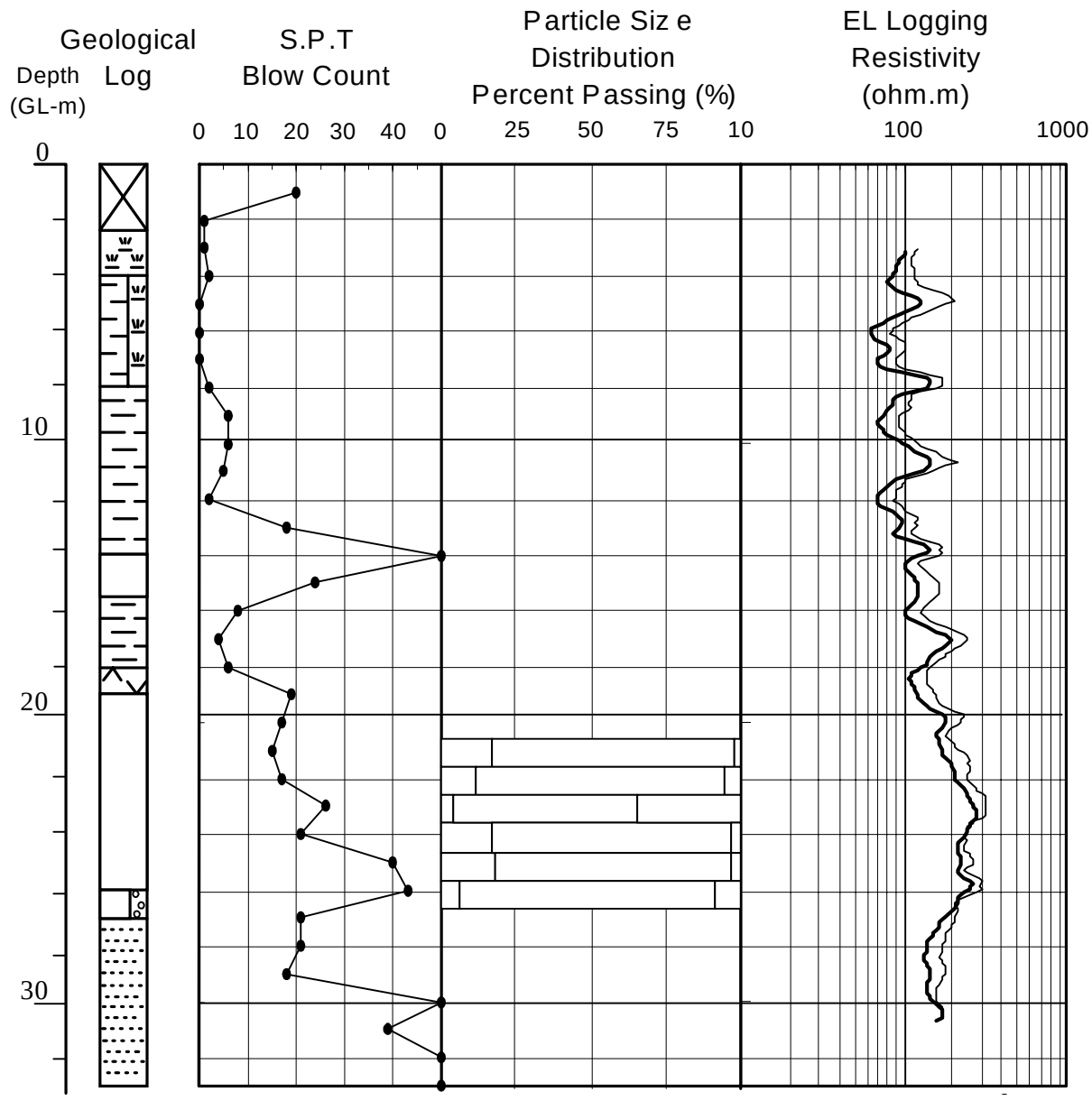
The Study on the Sustainable Groundwater Resources and Environmental Management for the Langat Basin in Malaysia

● S.P.T. sample ○ Undisturbed sample ■ Sampled by percussion at J10-1

Annex Figure F.2.35 Depths of Sampling and Laboratory Soil Tests BH10

DATA BOOK F.2.6

RESULT OF ELECTRICAL LOGGING



LEGEND

Borehole Log

- PEAT
- CLAY
- SILT
- GRAVEL
- SAND
- LIMESTONE
- SHALE, SLATE, PHYRITE
- SANDSTONE, QUARTZITE, SHIST
- Granite

S.P.T.

- N - Value

Particle Size Distribution

- CLAY
- SILT
- SAND
- GRAVEL

EL logging

- Electrode Spacing 50cm
- Electrode Spacing 100cm

Japan International Cooperation Agency

Minerals and Geoscience Department Malaysia

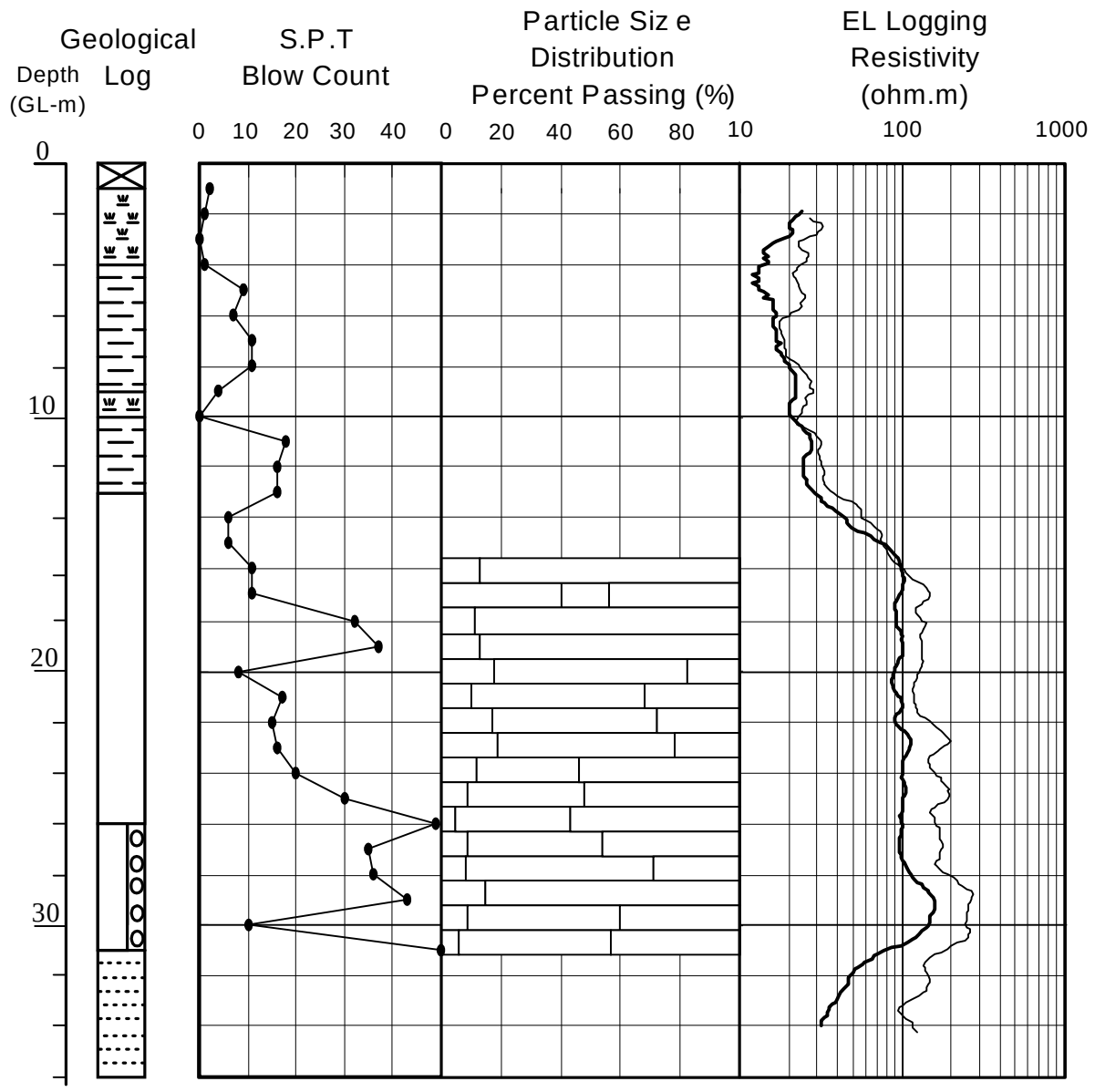
Data Book Figure F.2.36

THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Result of Electrical Logging (BH1)

CTI Engineering International Co., Ltd.

OYO CORPORATION



LEGEND

Borehole Log

- PEAT
- CLAY
- SILT
- GRAVEL
- SAND
- LIMESTONE
- SHALE, SLATE, PHYRITE
- SANDSTONE, QUARTZITE, SHIST
- Granite

S.P.T.

- N - Value

Particle Size Distribution

- CLAY
- SILT
- SAND
- GRAVEL

EL logging

- Electrode Spacing 50cm
- Electrode Spacing 100cm

Japan International Cooperation Agency

Minerals and Geoscience Department Malaysia

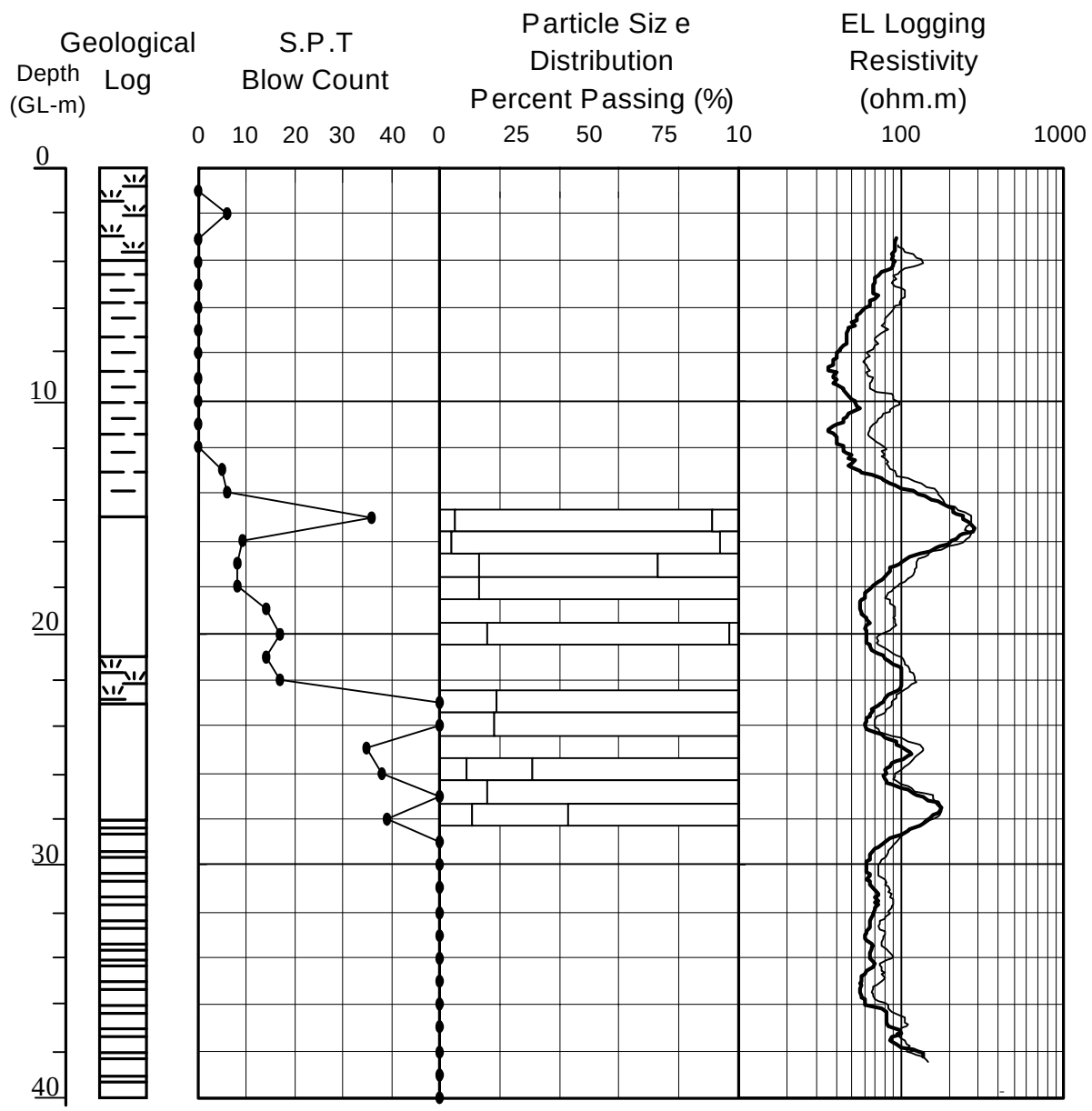
Data Book Figure F.2.37

THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Result of Electrical Logging (BH2)

CTI Engineering International Co., Ltd.

OYO CORPORATION



LEGEND

Borehole Log

- PEAT
- CLAY
- SILT
- GRAVEL
- SAND
- LIMESTONE
- SHALE, SLATE, PHYRITE
- SANDSTONE, QUARTZITE, SHIST
- Granite

S.P.T.

- N - Value

Particle Size Distribution

- CLAY
- SILT
- SAND
- GRAVEL

EL logging

- Electrode Spacing 50cm
- Electrode Spacing 100cm

Japan International Cooperation Agency

Minerals and Geoscience Department Malaysia

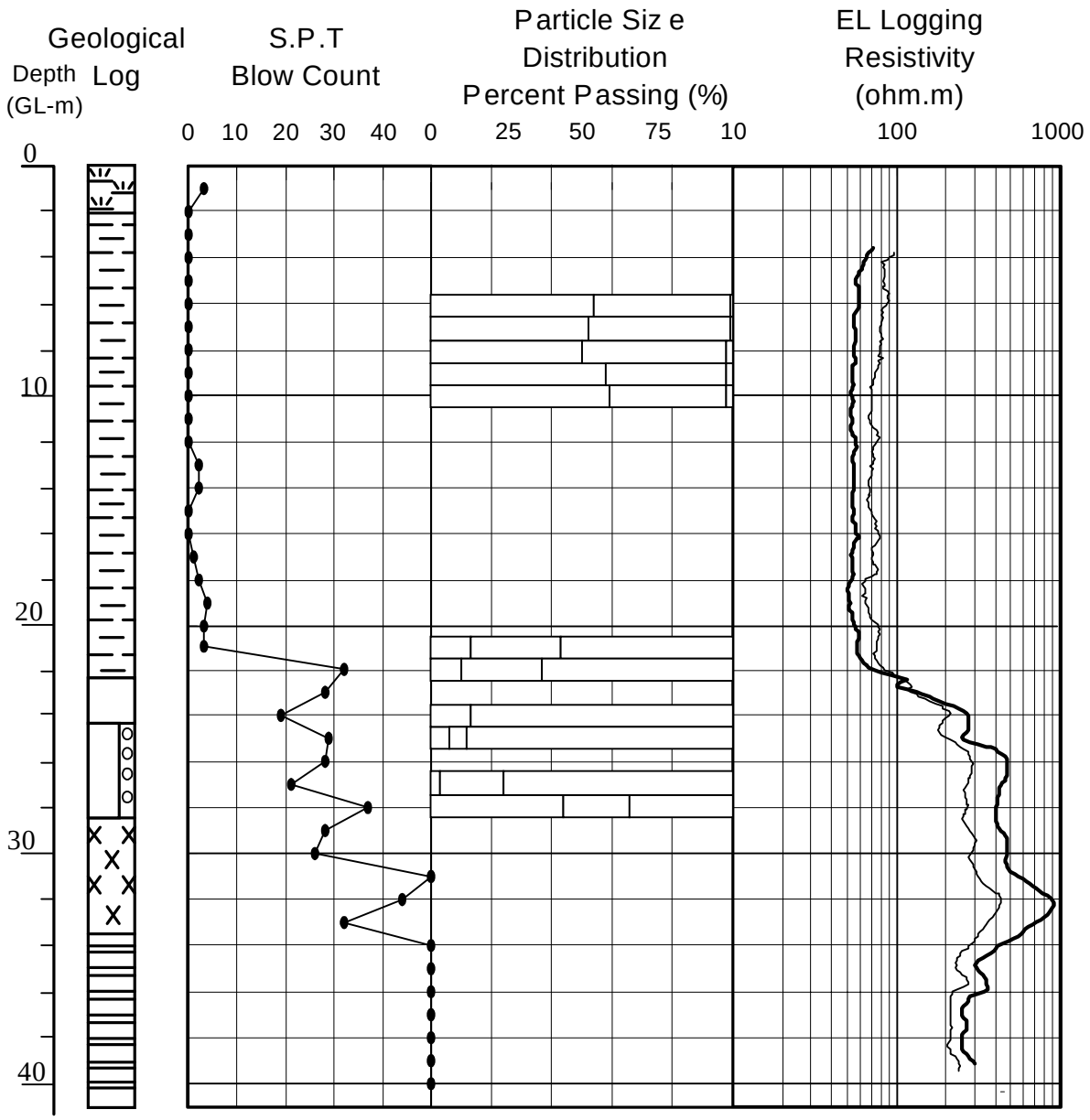
Data Book Figure F.2.38

THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Result of Electrical Logging (BH3)

CTI Engineering International Co., Ltd.

OYO CORPORATION



LEGEND

Borehole Log

- PEAT
- CLAY
- SILT
- GRAVEL
- SAND
- LIMESTONE
- SHALE, SLATE, PHYRITE
- SANDSTONE, QUARTZITE, SHIST
- Granite

S.P.T.

- N - Value

Particle Size Distribution

- CLAY
- SILT
- SAND
- GRAVEL

EL logging

- Electrode Spacing 50cm
- Electrode Spacing 100cm

Japan International Cooperation Agency

Minerals and Geoscience Department Malaysia

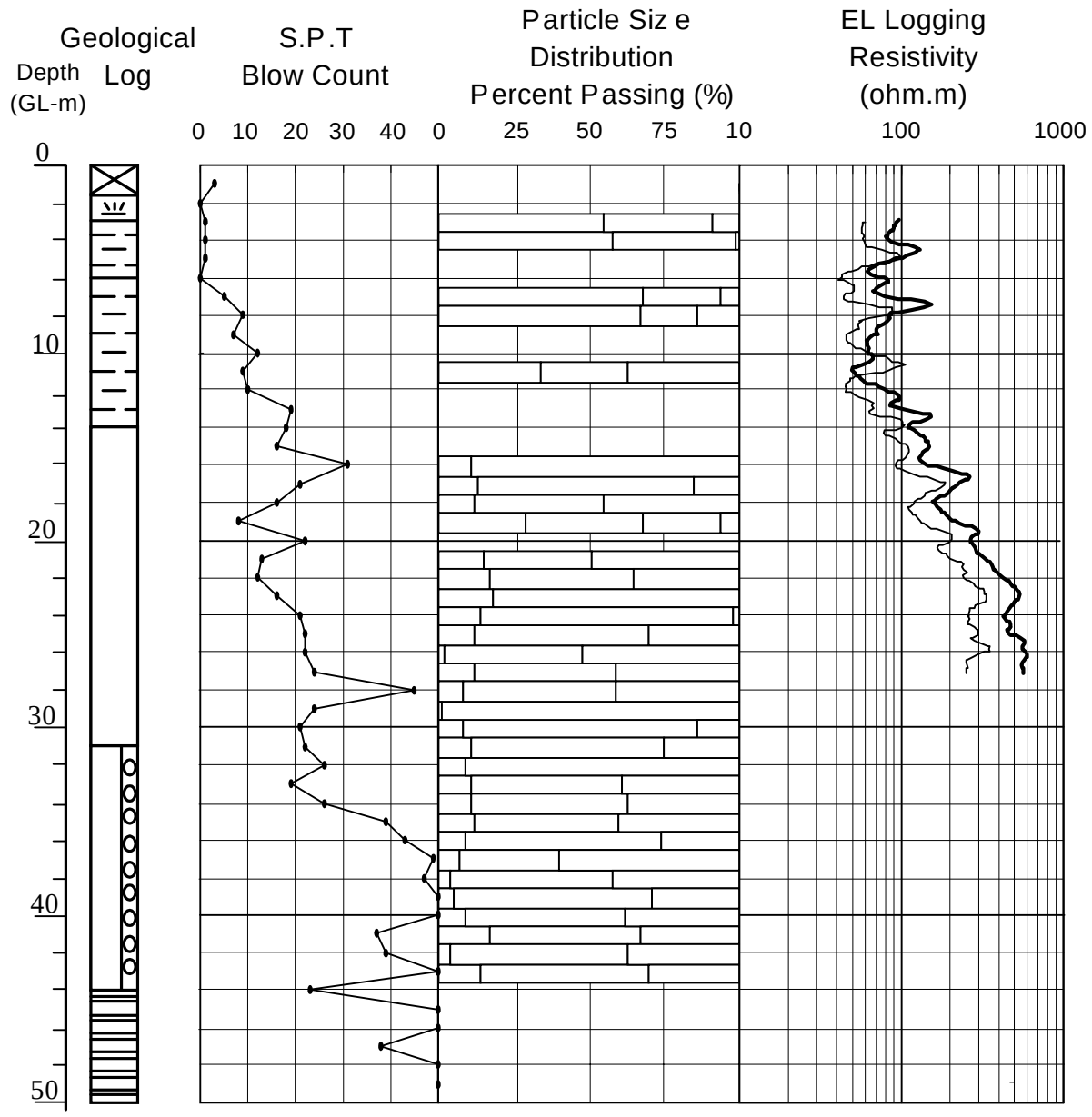
Data Book Figure F.2.39

THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Result of Electrical Logging (BH4)

CTI Engineering International Co., Ltd.

OYO CORPORATION



LEGEND

Borehole Log

- PEAT
- CLAY
- SILT
- GRAVEL
- SAND
- LIMESTONE
- SHALE, SLATE, PHYRITE
- SANDSTONE, QUARTZITE, SHIST
- Granite

S.P.T.

- N - Value

Particle Size Distribution

- CLAY
- SILT
- SAND
- GRAVEL

EL logging

- Electrode Spacing 50cm
- Electrode Spacing 100cm

Japan International Cooperation Agency

Minerals and Geoscience Department Malaysia

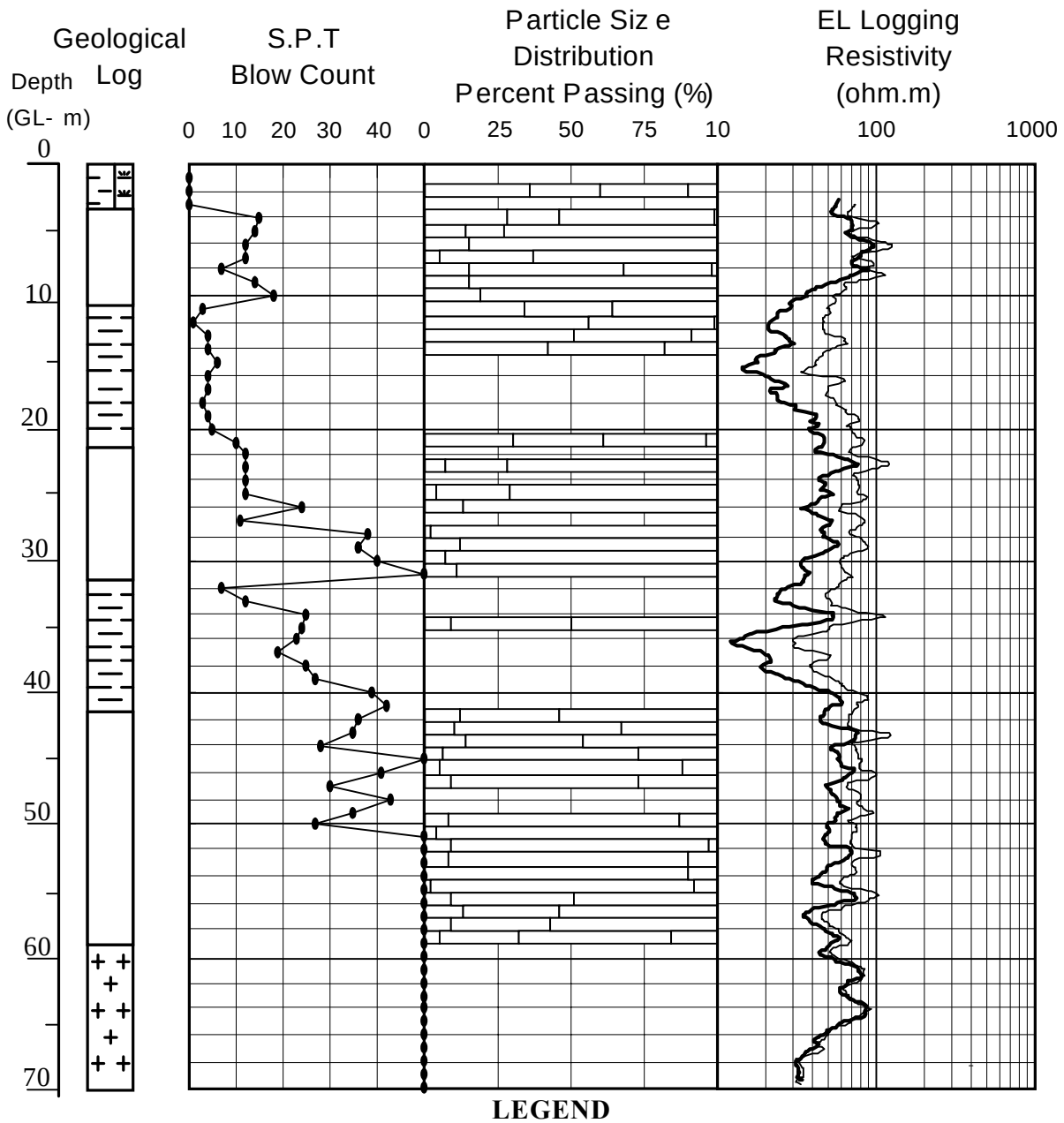
Data Book Figure F.2.40

THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Result of Electrical Logging (BH5)

CTI Engineering International Co., Ltd.

OYO CORPORATION



LEGEND

Borehole Log

- PEAT
- CLAY
- SILT
- GRAVEL
- SAND
- LIMESTONE
- SHALE, SLATE, PHYRITE
- SANDSTONE, QUARTZITE, SHIST
- Granite

S.P.T.

- N - Value

Particle Size Distribution

- CLAY
- SILT
- SAND
- GRAVEL

EL logging

- Electrode Spacing 50cm
- Electrode Spacing 100cm

Japan International Cooperation Agency

Minerals and Geoscience Department Malaysia

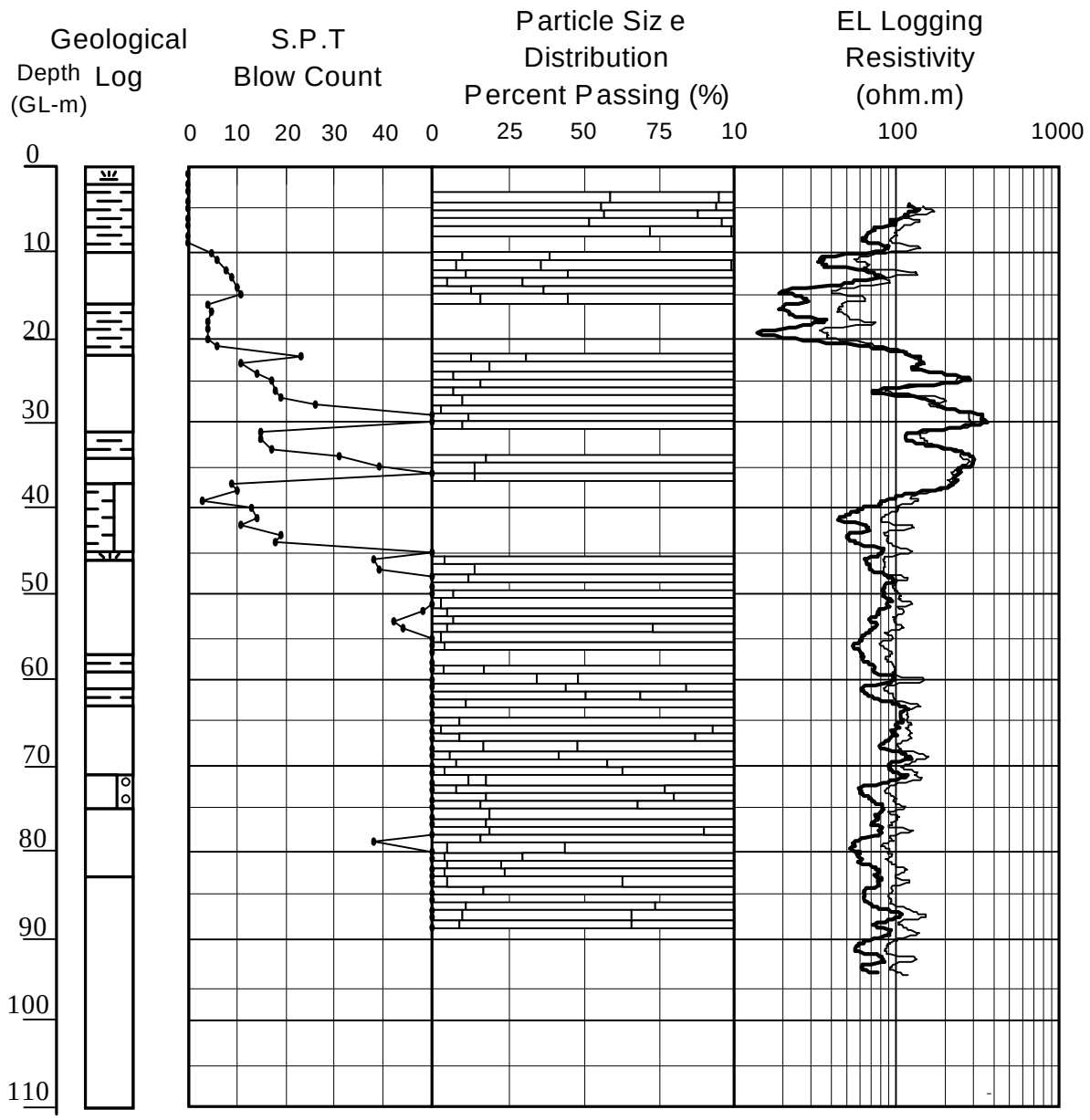
Data Book Figure F.2.41

THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Result of Electrical Logging (BH6)

CTI Engineering International Co., Ltd.

OYO CORPORATION



LEGEND

Borehole Log

- PEAT
- CLAY
- SILT
- GRAVEL
- SAND
- LIMESTONE
- SHALE, SLATE, PHYRITE
- SANDSTONE, QUARTZITE, SHIST
- Granite

S.P.T.

- N - Value

Particle Size Distribution

- CLAY
- SILT
- SAND
- GRAVEL

EL logging

- Electrode Spacing 50cm
- Electrode Spacing 100cm

Japan International Cooperation Agency

Minerals and Geoscience Department Malaysia

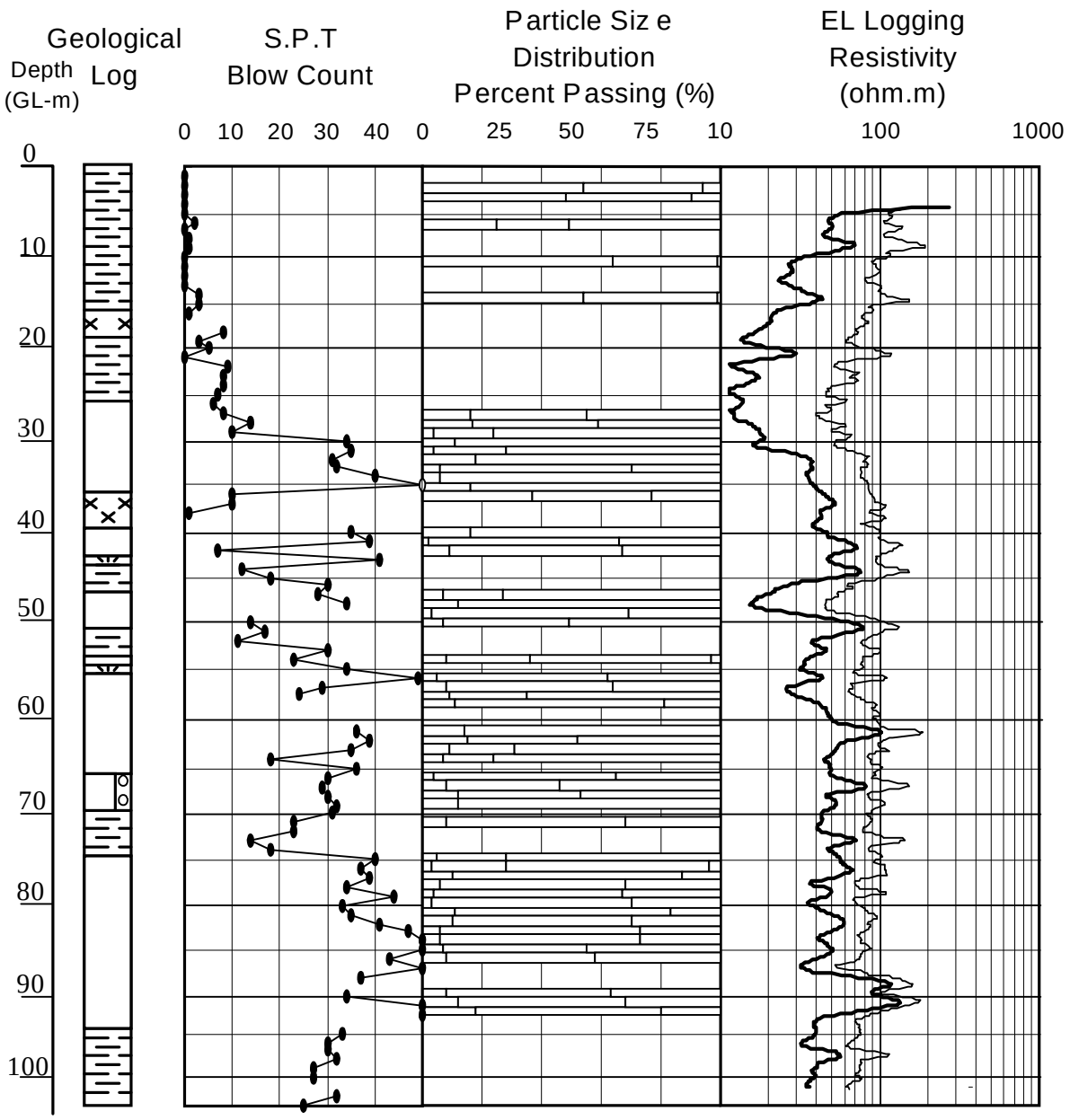
Data Book Figure F.2.42

THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Result of Electrical Logging (BH7)

CTI Engineering International Co., Ltd.

OYO CORPORATION



LEGEND

Borehole Log

- PEAT
- CLAY
- SILT
- GRAVEL
- SAND
- LIMESTONE
- SHALE, SLATE, PHYRITE
- SANDSTONE, QUARTZITE, SHIST
- Granite

S.P.T.

- N - Value

Particle Size Distribution

- CLAY
- SILT
- SAND
- GRAVEL

EL logging

- Electrode Spacing 50cm
- Electrode Spacing 100cm

Japan International Cooperation Agency

Minerals and Geoscience Department Malaysia

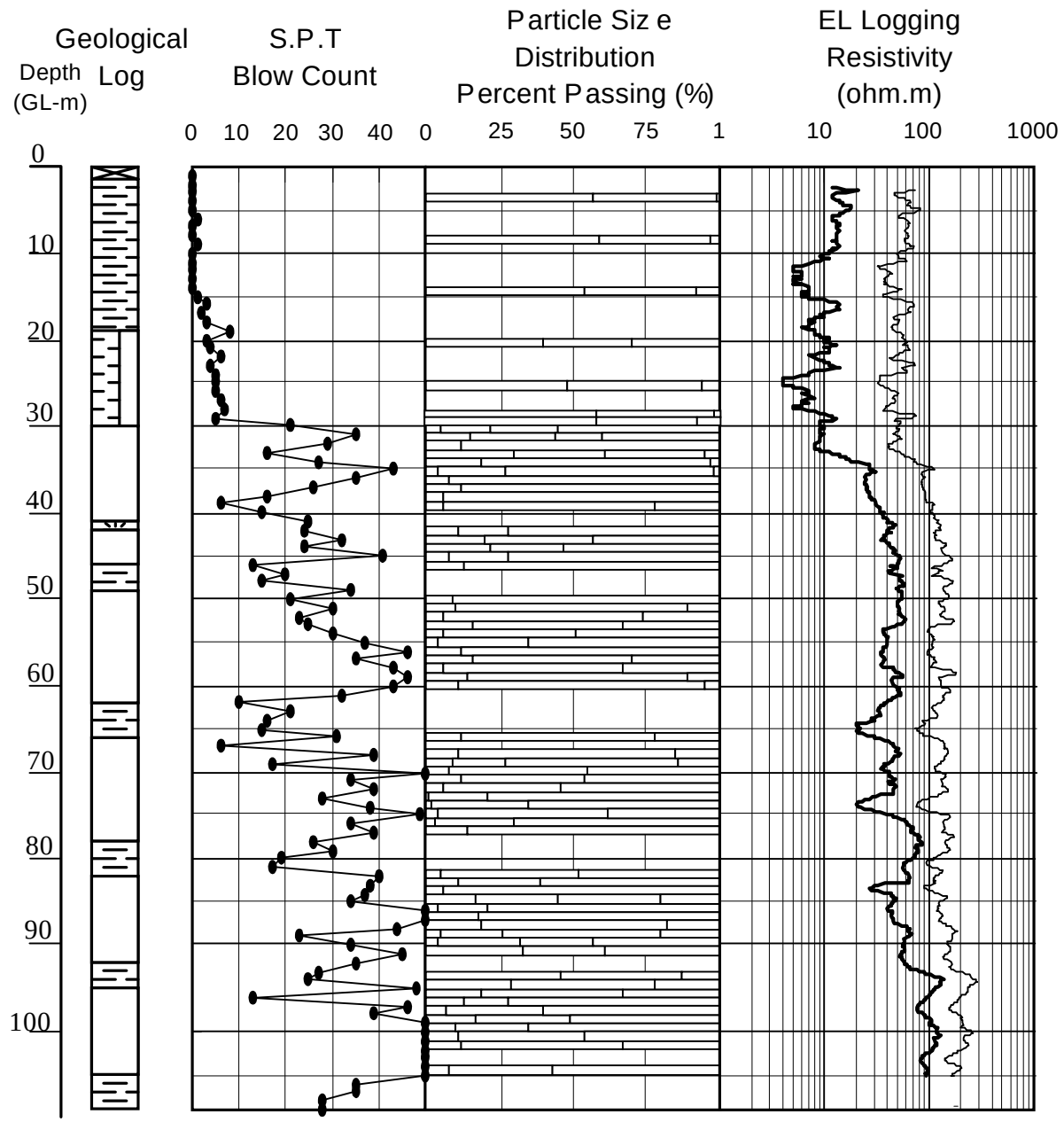
Data Book Figure F.2.43

THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Result of Electrical Logging (BH8)

CTI Engineering International Co., Ltd.

OYO CORPORATION



LEGEND

Borehole Log

- PEAT
- CLAY
- SILT
- GRAVEL
- SAND
- LIMESTONE
- SHALE, SLATE, PHYRITE
- SANDSTONE, QUARTZITE, SHIST
- Granite

S.P.T.

- N - Value

Particle Size Distribution

- CLAY
- SILT
- SAND
- GRAVEL

EL logging

- Electrode Spacing 50cm
- Electrode Spacing 100cm

Japan International Cooperation Agency

Minerals and Geoscience Department Malaysia

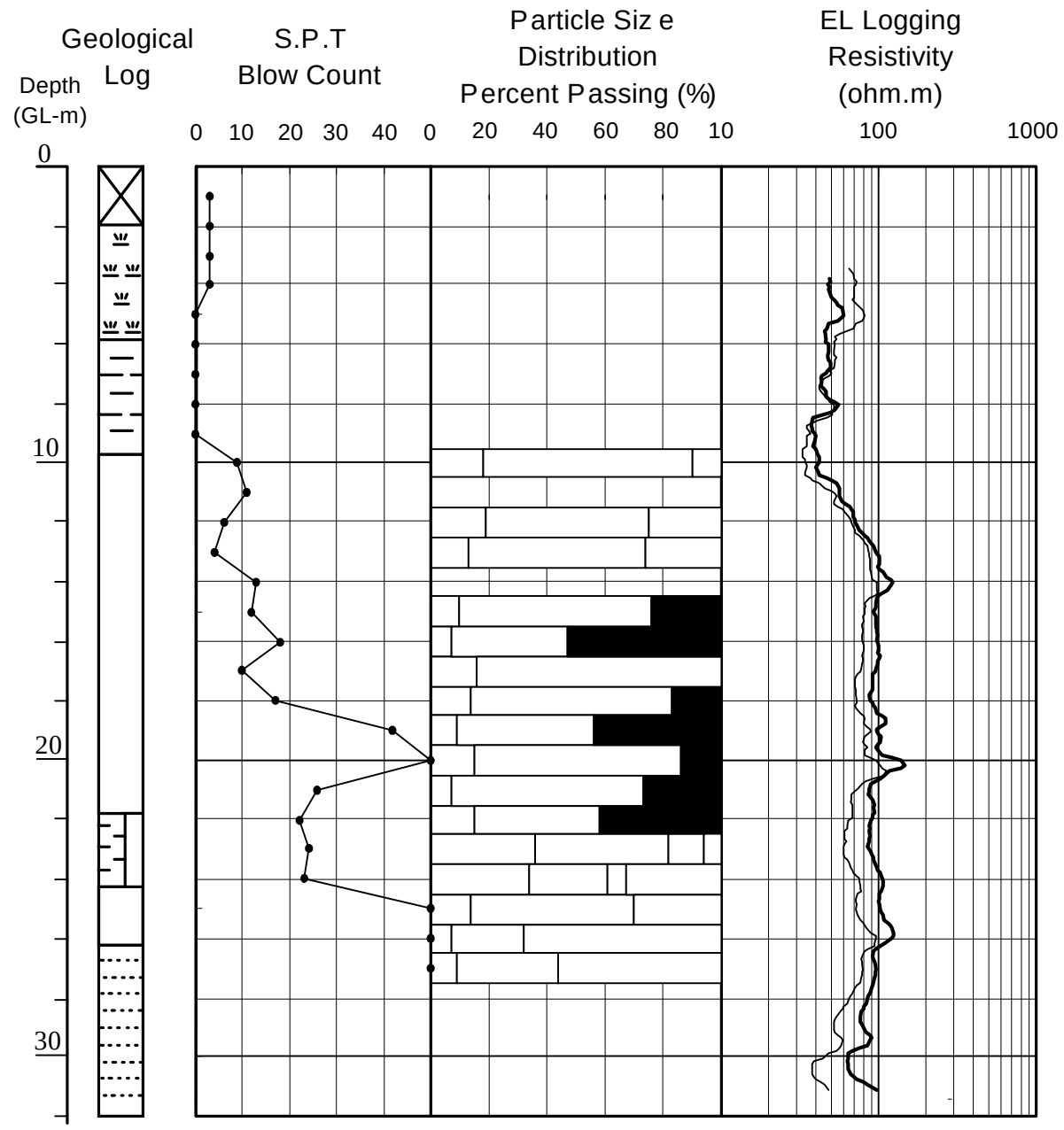
Data Book Figure F.2.44

THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Result of Electrical Logging (BH9)

CTI Engineering International Co., Ltd.

OYO CORPORATION



LEGEND

Borehole Log

- PEAT
- CLAY
- SILT
- GRAVEL
- SAND
- LIMESTONE
- SHALE, SLATE, PHYRITE
- SANDSTONE, QUARTZITE, SHIST
- Granite

S.P.T.

- N - Value

Particle Size Distribution

- CLAY
- SILT
- SAND
- GRAVEL

EL logging

- Electrode Spacing 50cm
- Electrode Spacing 100cm

Japan International Cooperation Agency

Minerals and Geoscience Department Malaysia

Data Book Figure F.2.45

THE STUDY ON THE SUSTAINABLE GROUNDWATER RESOURCES AND ENVIRONMENTAL MANAGEMENT FOR THE LANGAT BASIN IN MALAYSIA

Result of Electrical Logging (BH10)

CTI Engineering International Co., Ltd.

OYO CORPORATION

DATA BOOK

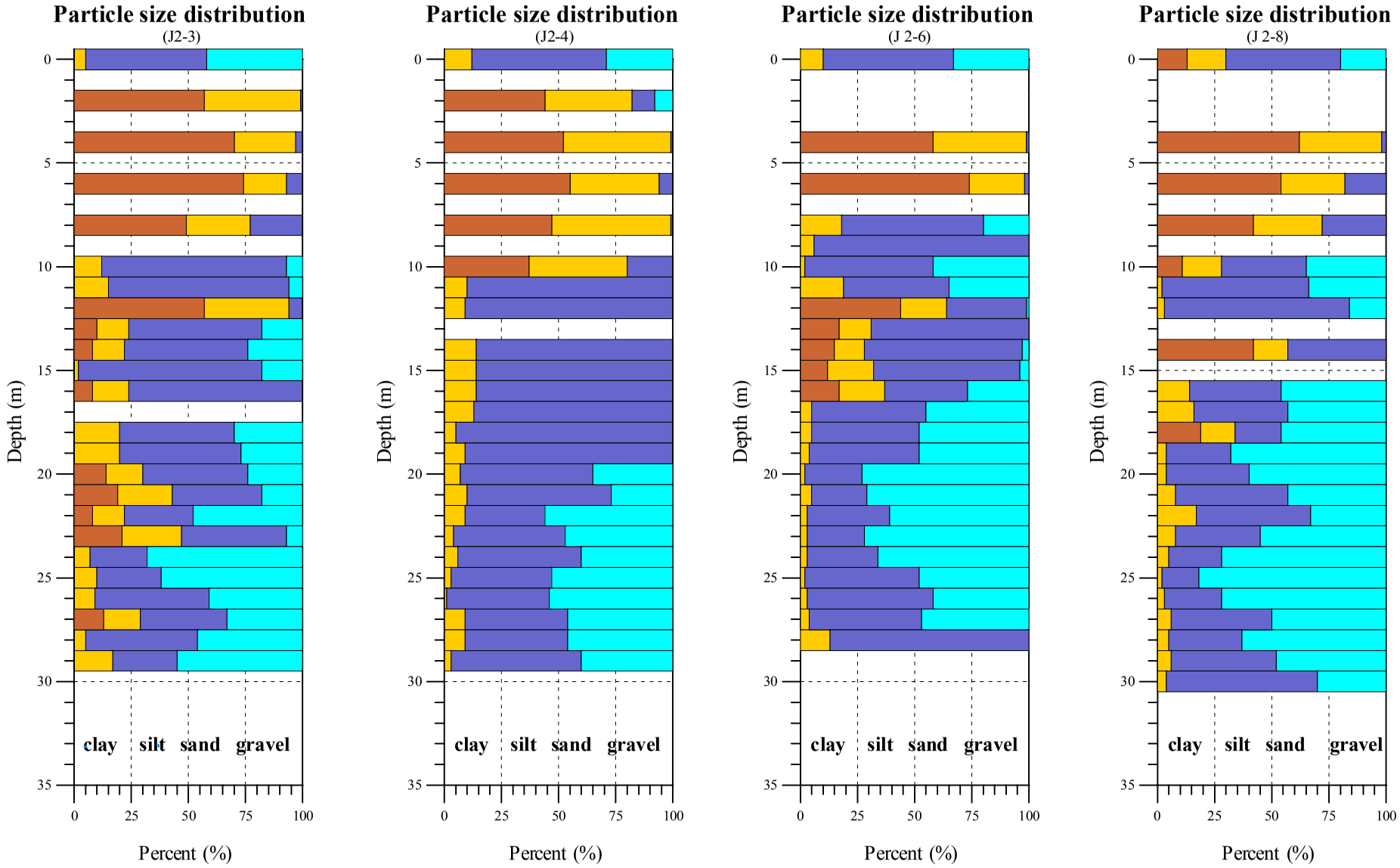
SECTOR G

GROUNDWATER MODELLING

DATA BOOK G.2.1

AQUIFER CHARACTERISTICS AT PAYA INDAH

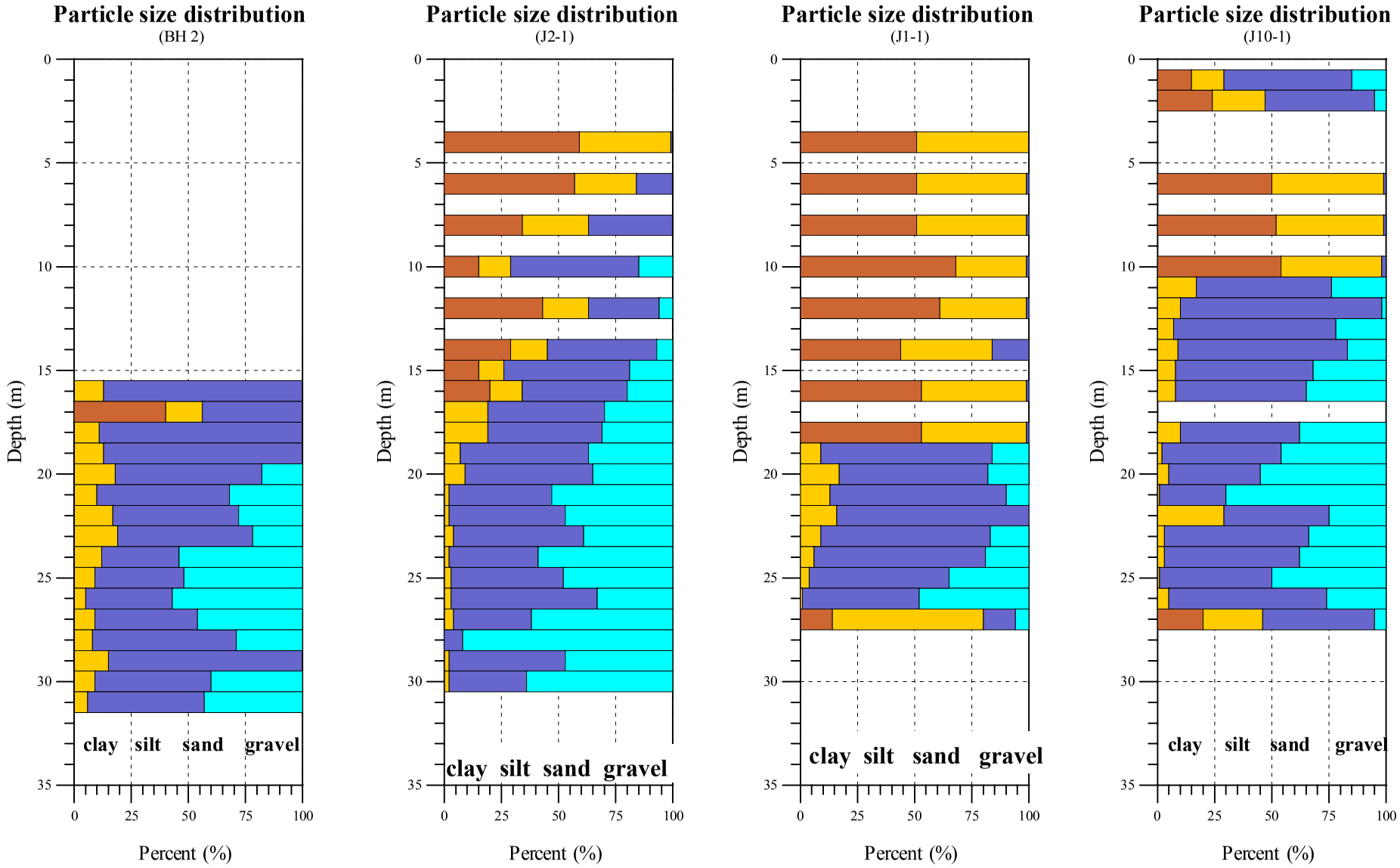
Aquifer Characteristics at Paya Indah (Locality No. 2)



Data Book Figure G.2.1 Aquifer Characteristics at Paya Indah

ro_grain2p1

Aquifer Characteristics at Paya Inda (Locality No. 2)



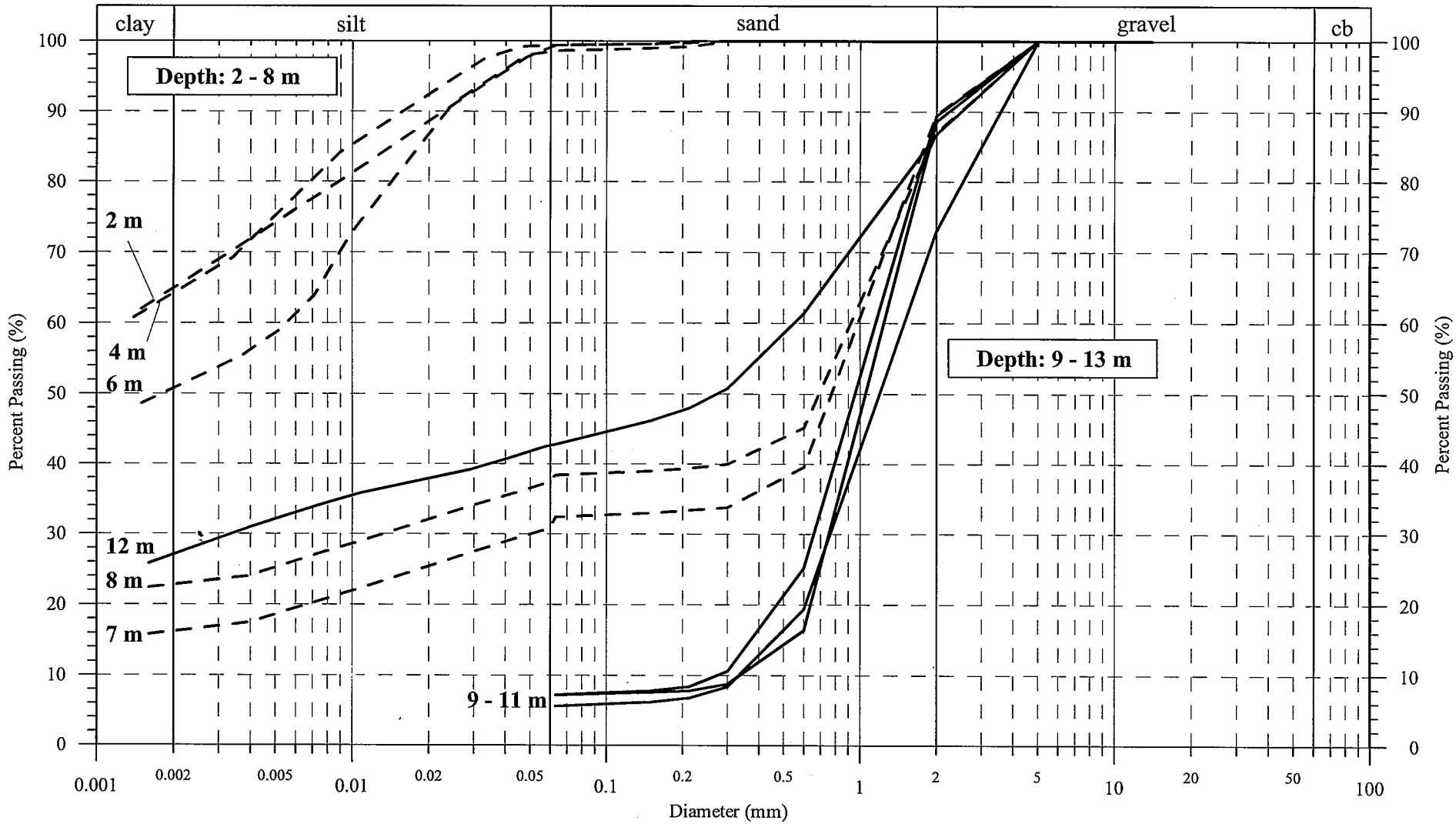
Data Book Figure G.2.2 Aquifer Characteristics at Paya Indah

ro_grain2p2

DATA BOOK G.2.2

PARTICLE SIZE DISTRIBUTION CURVES

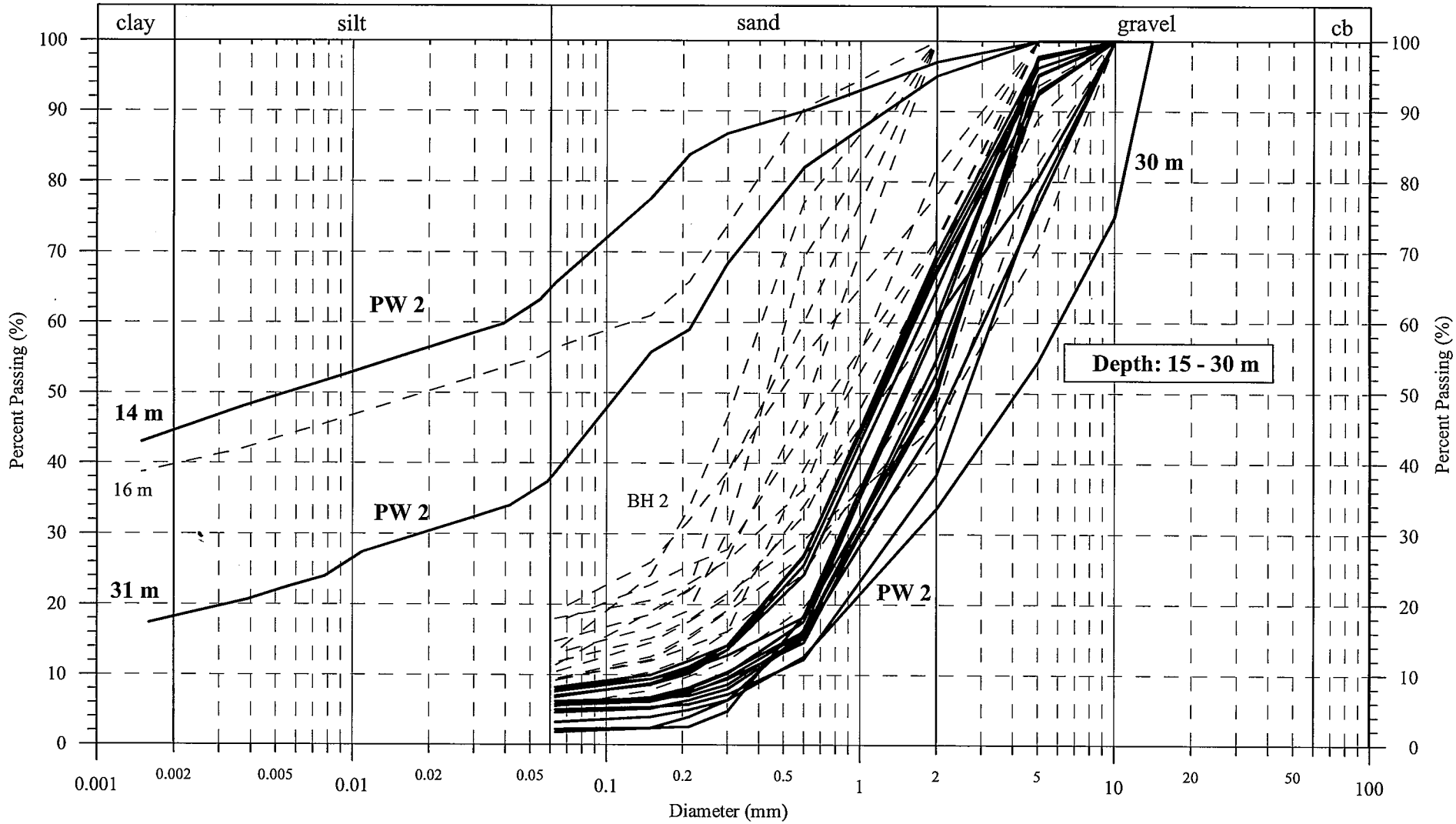
Particle Size Distribution



Data Book Figure G.2.3 Particle Size Distribution Curves at Paya Indah - PW 2, depth 2-13 m

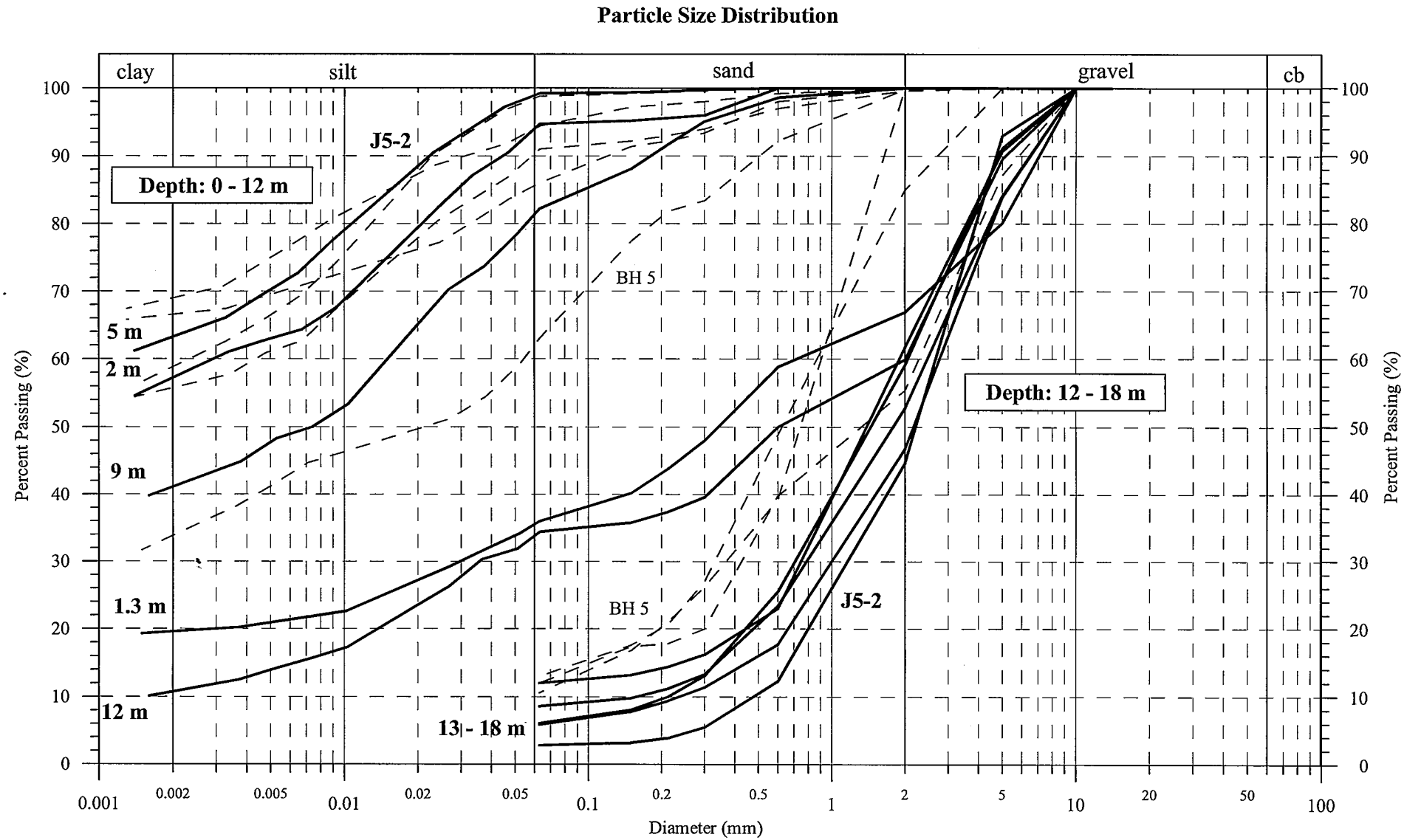
ro_sieve2, 2-13

Particle Size Distribution



Data Book Figure G.2.4 Particle Size Distribution Curves at Paya Indah - comparison of PW 2 and BH 2, depth 14-31 m

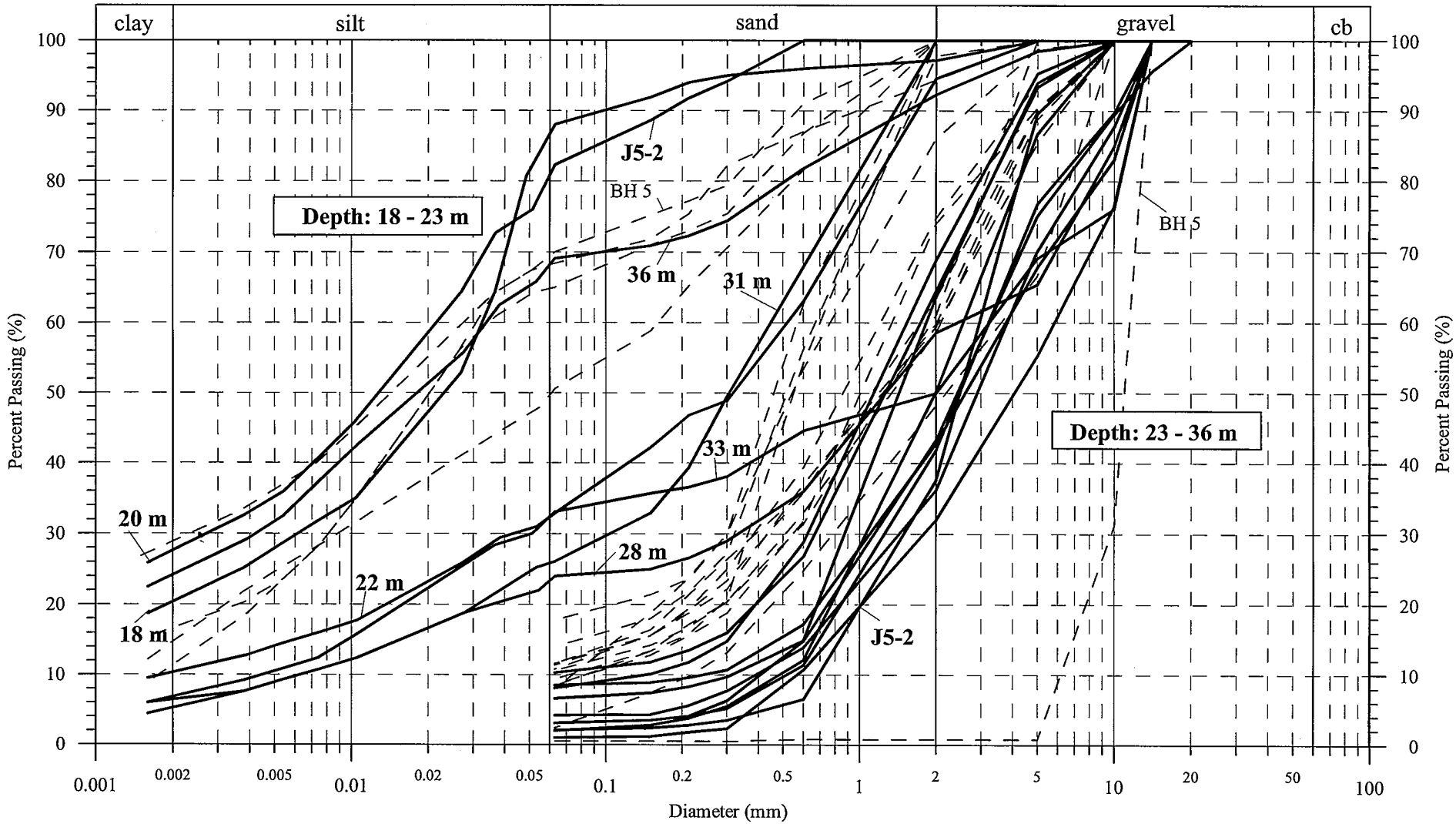
ro_sieve2, 14-31



Data Book Figure G.2.5 Particle Size Distribution Curves at Kajibumi WF 2 - comparison of J5-2 and BH 5, depth 0-18 m

ro_sieve5, 0 -18

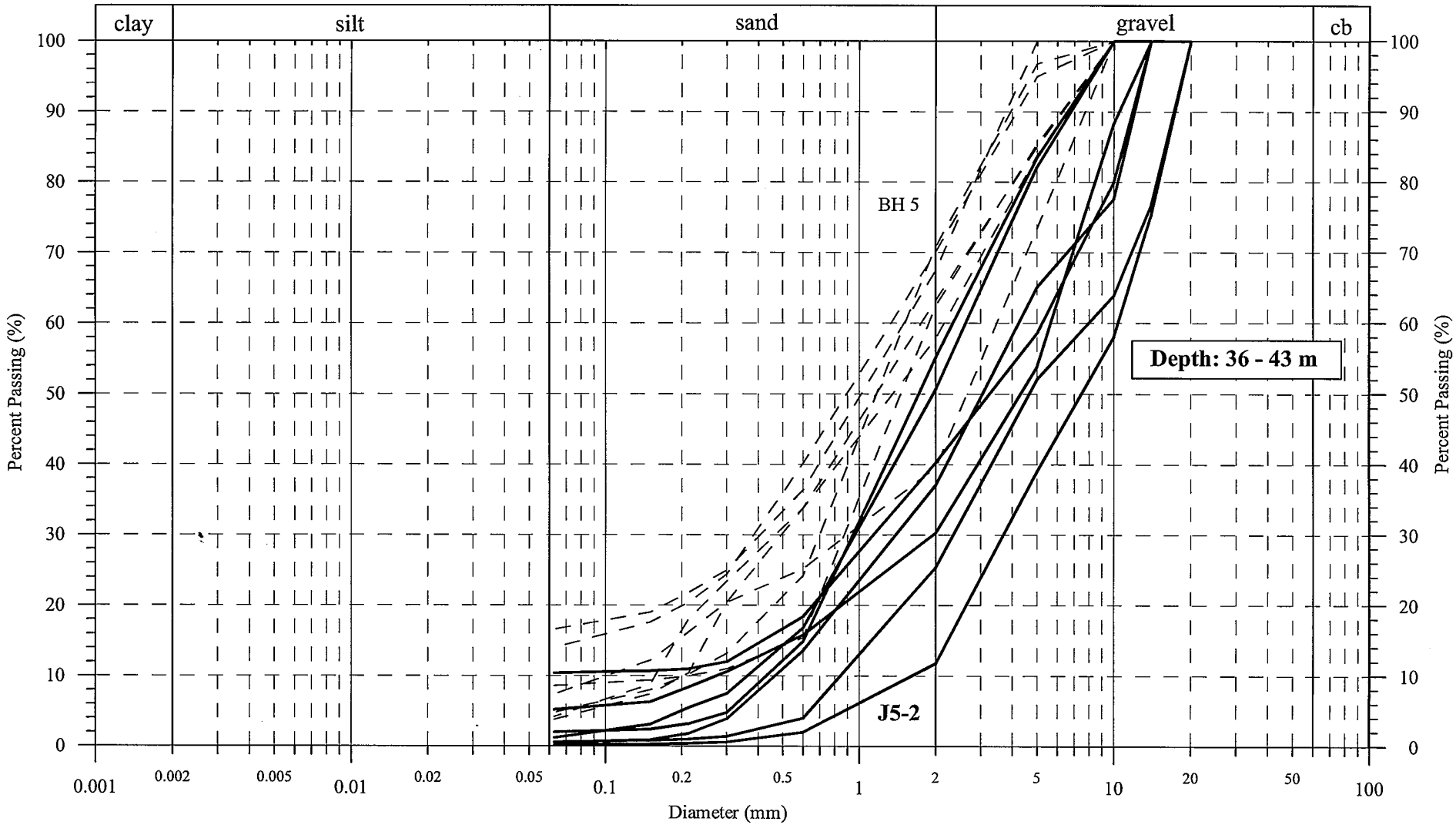
Particle Size Distribution



Data Book Figure G.2.6 Particle Size Distribution Curves at Kajibumi WF 2 - comparison of J5-2 and BH 5, depth 18-36 m

ro_sieve5, 18-36

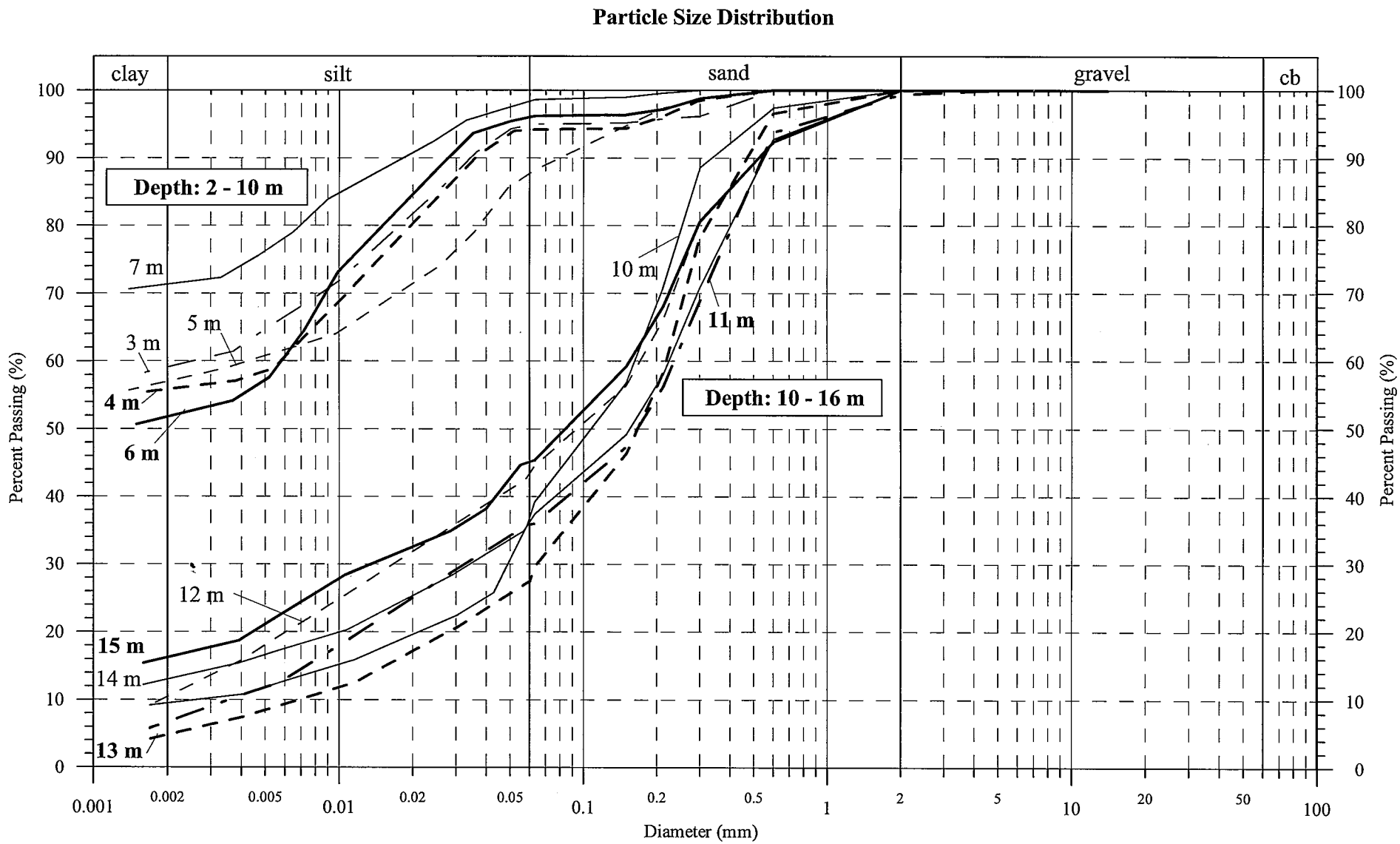
Particle Size Distribution



Data Book Figure G.2.7 Particle Size Distribution Curves at Kajibumi WF 2 - comparison of J5-2 and BH 5, depth 36-43 m

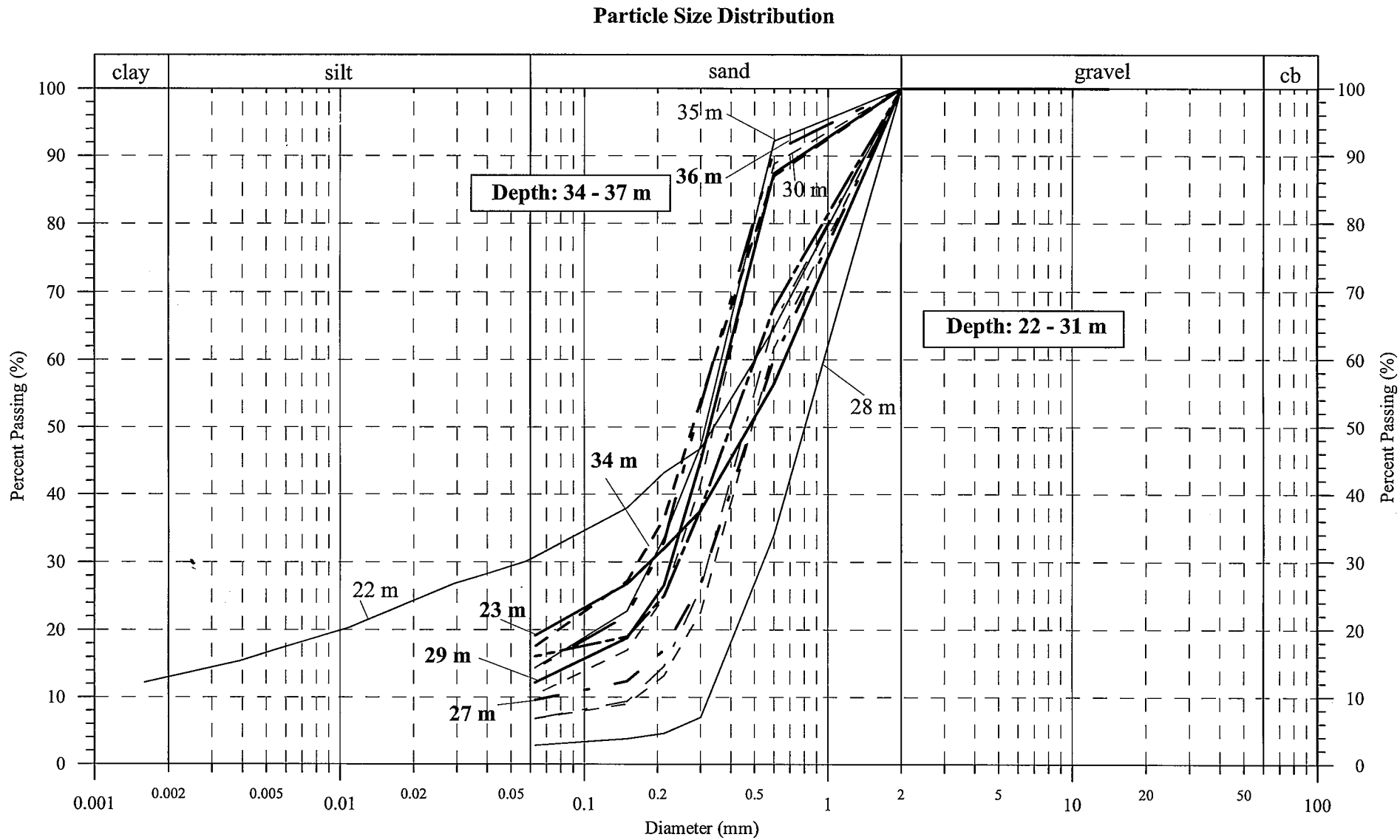
ro_sieve5, 36-43

Particle Size Distribution



Data Book Figure G.2.8 Particle Size Distribution Curves at Kanchong Darat - BH 7, depth 2-16 m

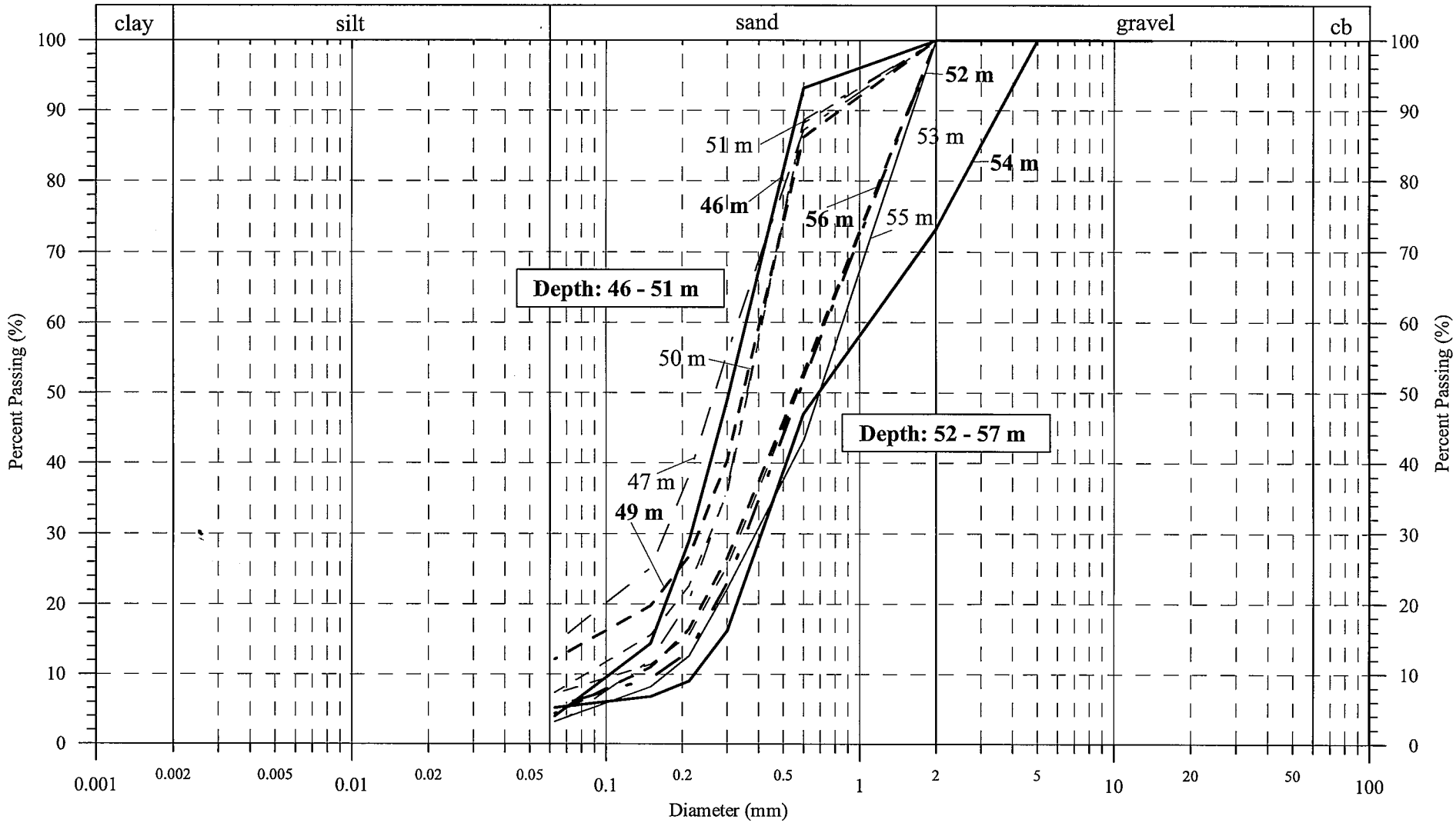
ro_sieve7, 2-16



Data Book Figure G.2.9 Particle Size Distribution Curves at Kanchong Darat - BH 7, depth 22-31 and 34-37 m

ro_sieve7, 22-37

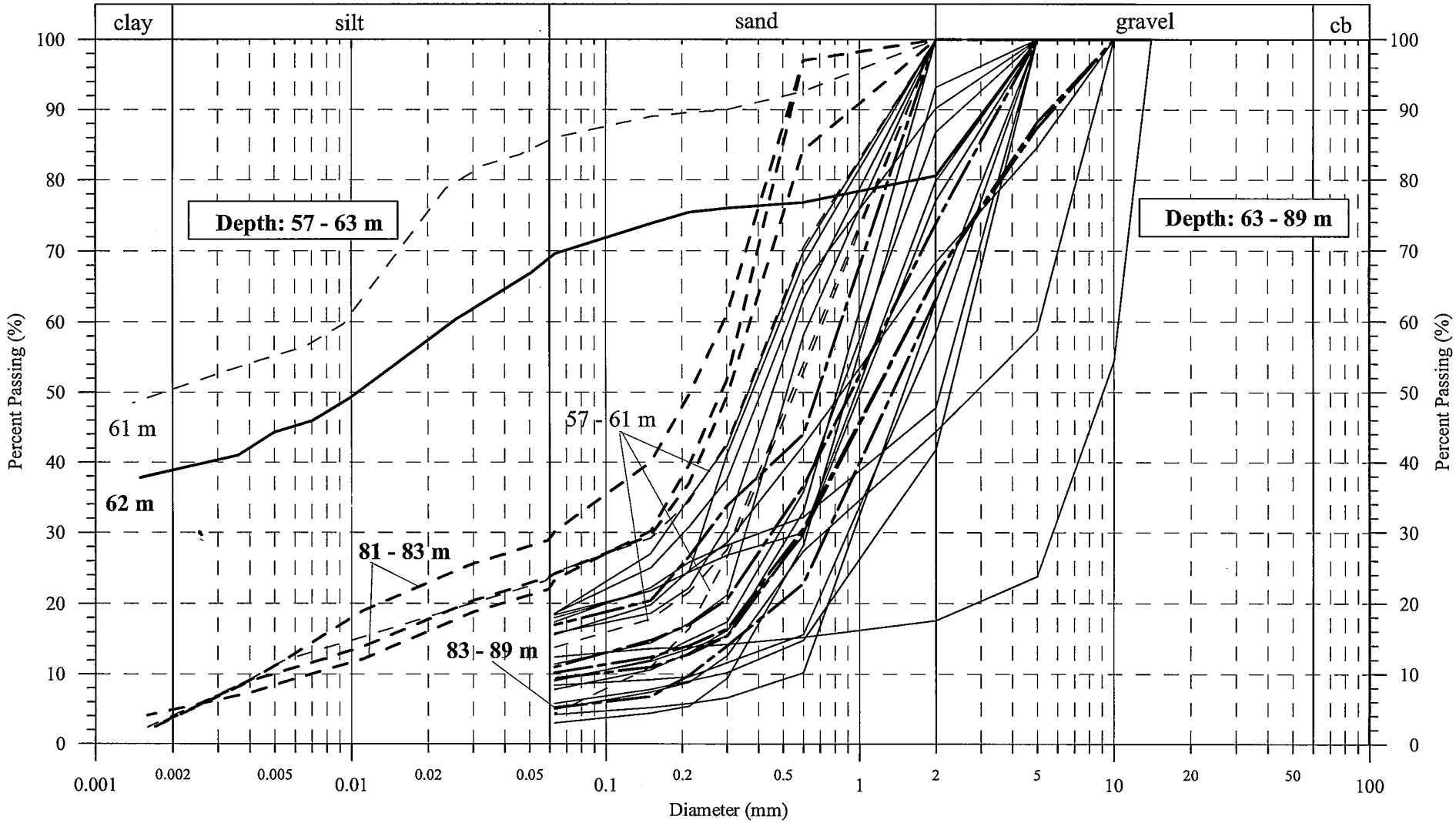
Particle Size Distribution



Data Book Figure G.2.10 Particle Size Distribution Curves at Kanchong Darat - BH 7, depth 46-57 m

ro_sieve7,46-57

Particle Size Distribution

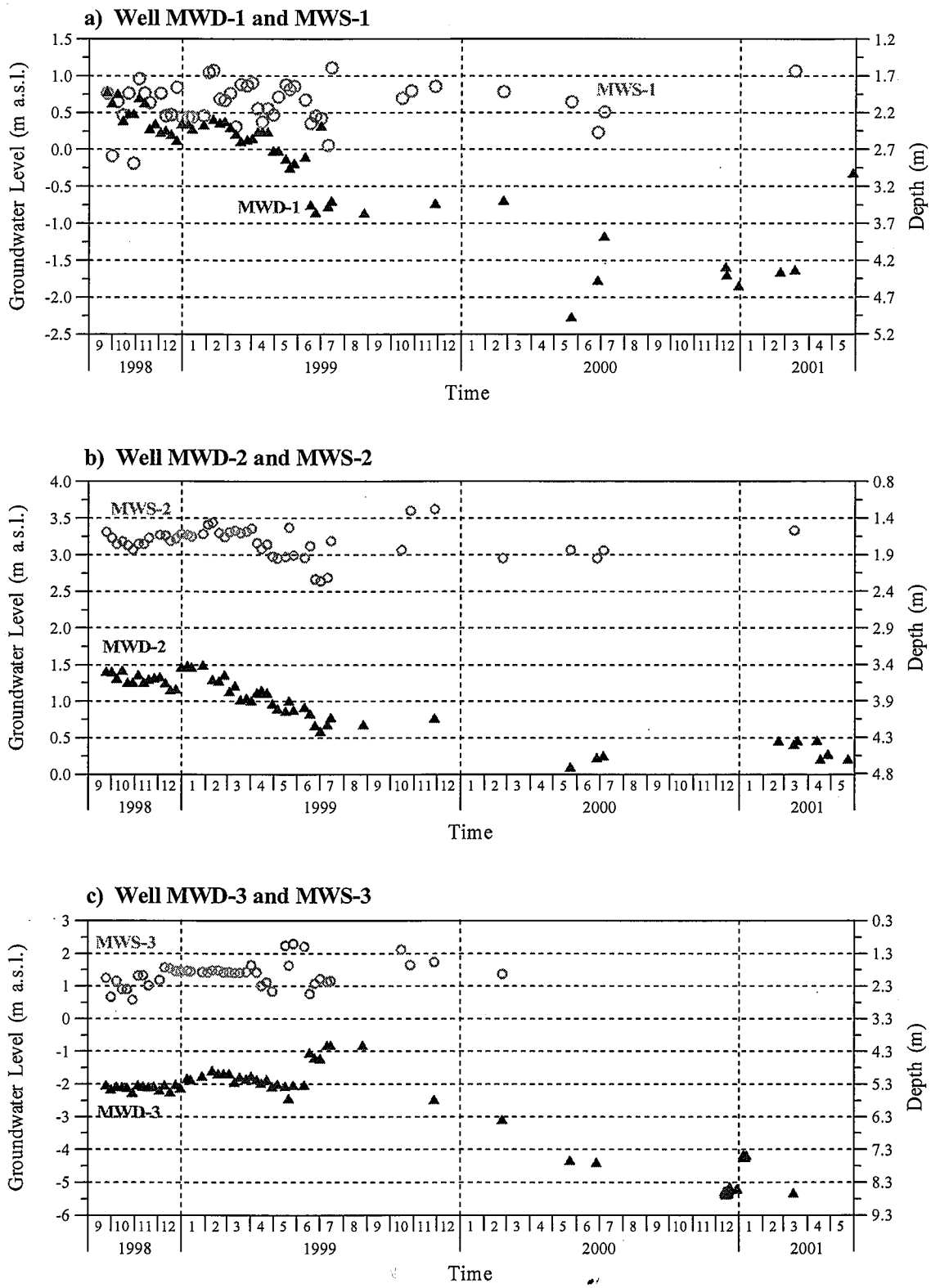


Data Book Figure G.2.11 Particle Size Ddistribution Curves at Kanchong Darat - BH 7, depth 57-89 m

ro_sieve7, 57-89

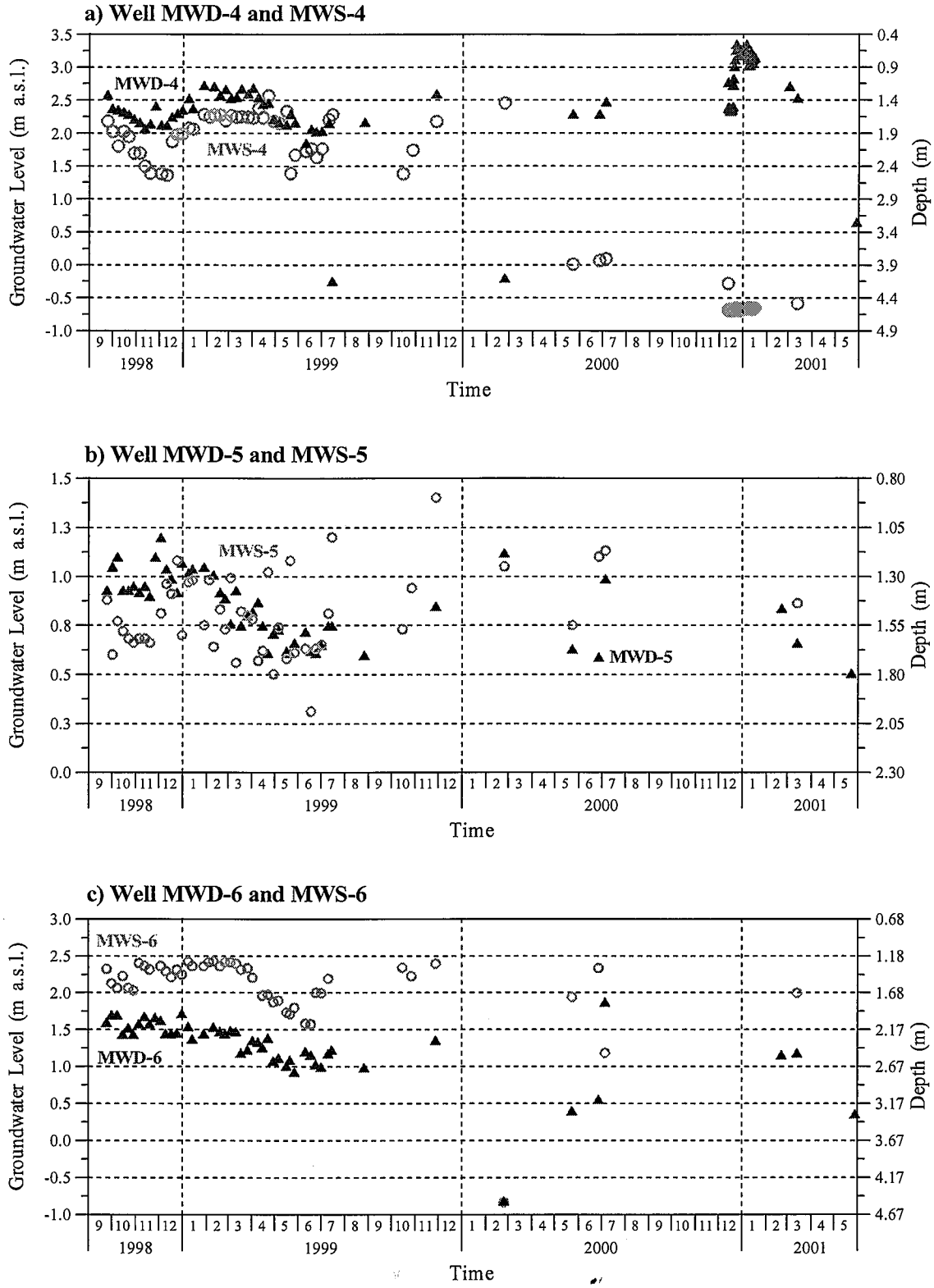
DATA BOOK G.2.3

GROUNDWATER LEVEL MONITORING DATA



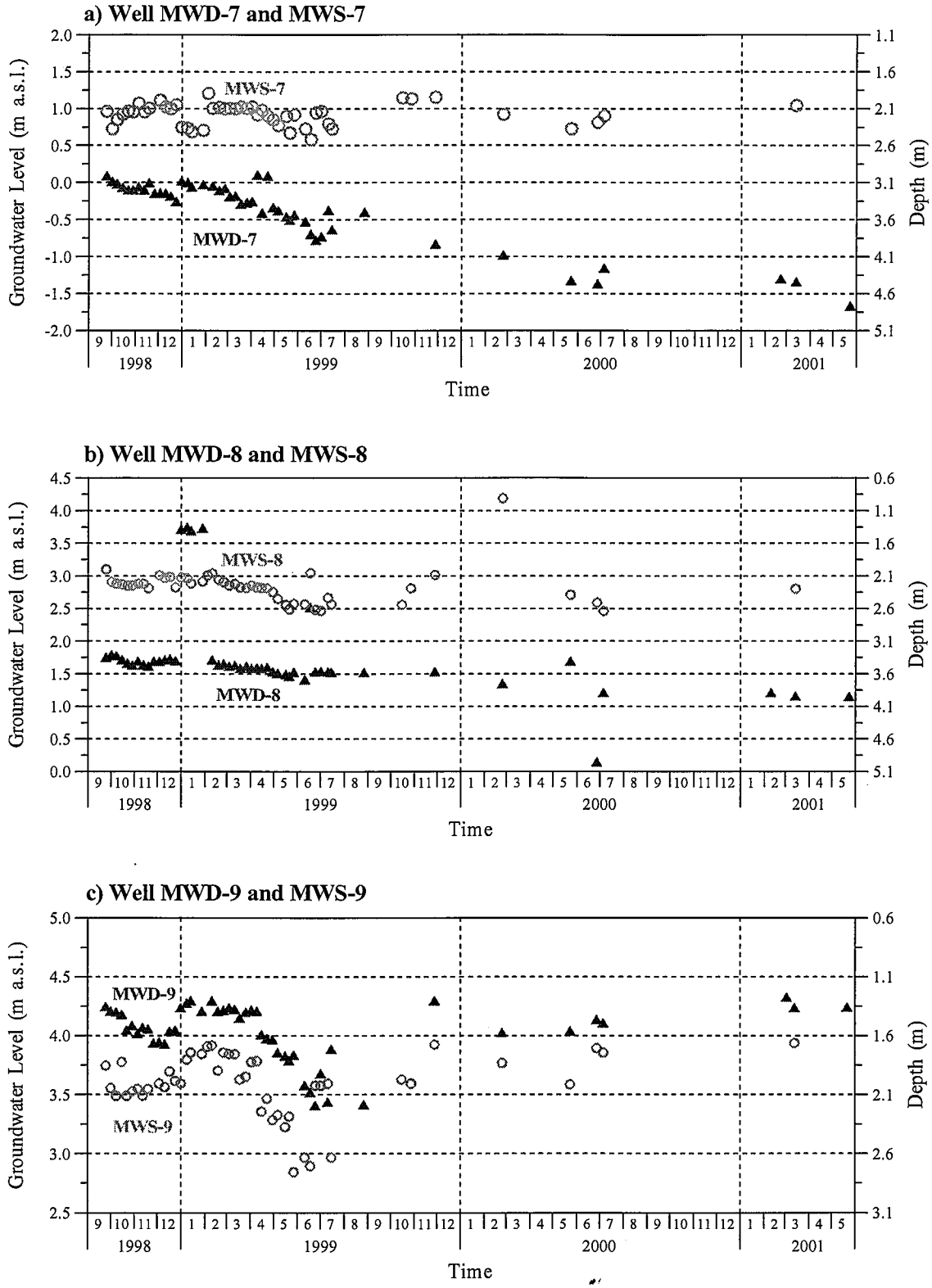
Data Book Figure G.2.12 Groundwater Level Monitoring at Existing JMG Wells (1/4)

ro_MWD_lin1



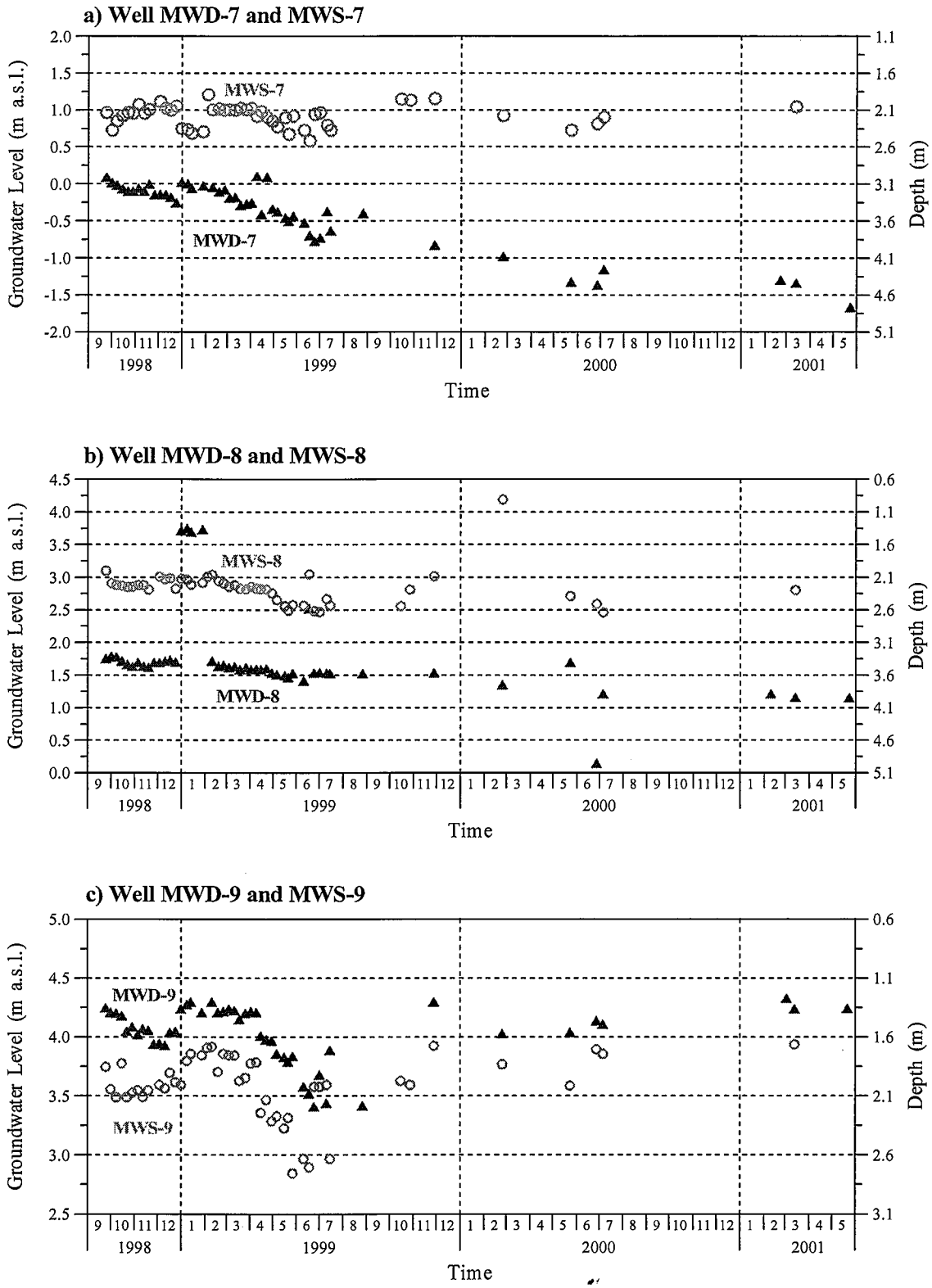
Data Book Figure G.2.13 Groundwater Level Monitoring at Existing JMG Wells (2/4)

ro_MWD_lin2



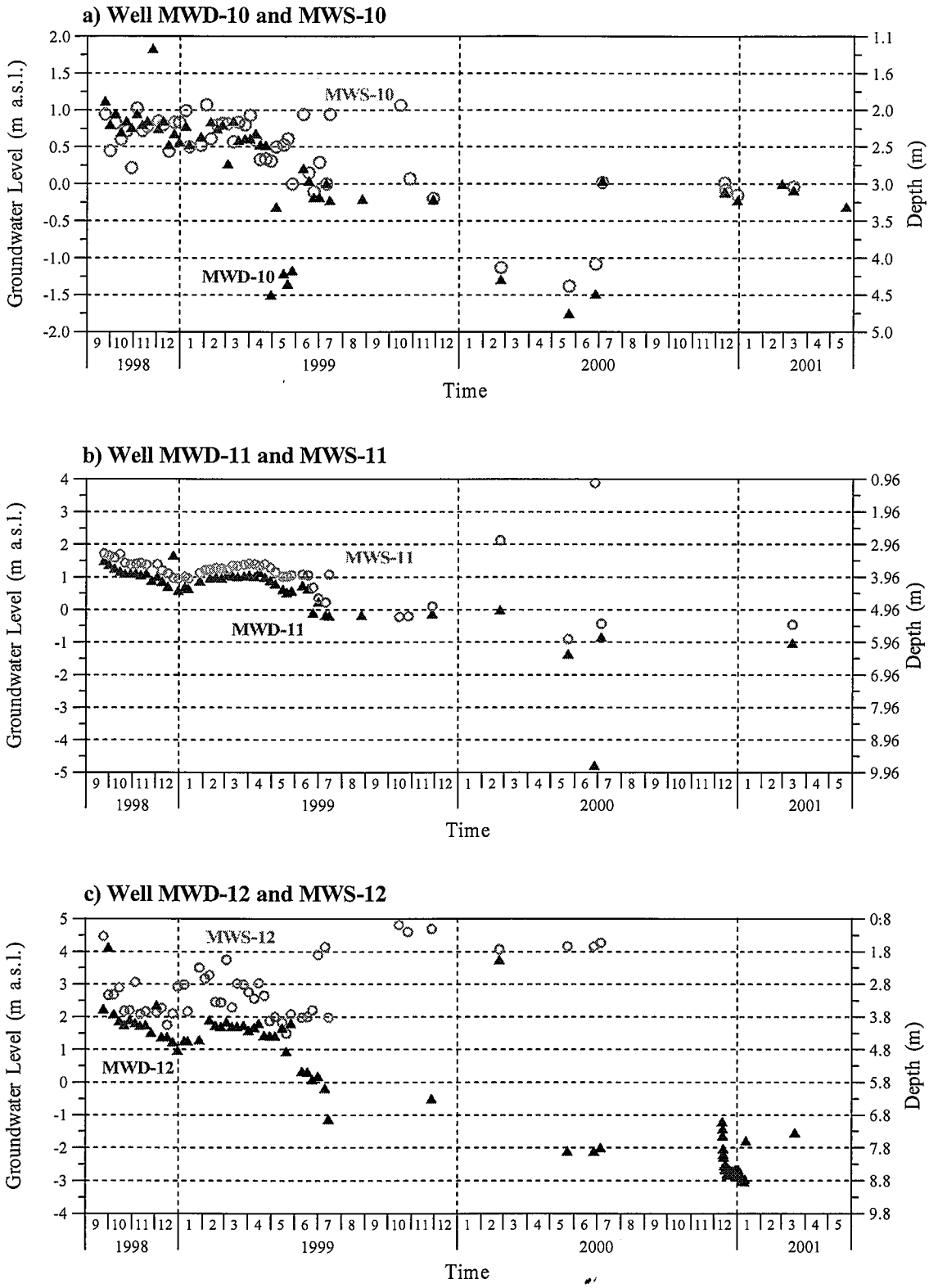
Data Book Figure G.2.14 Groundwater Level Monitoring at Existing JMG Wells (3/4)

ro_MWD_lin3



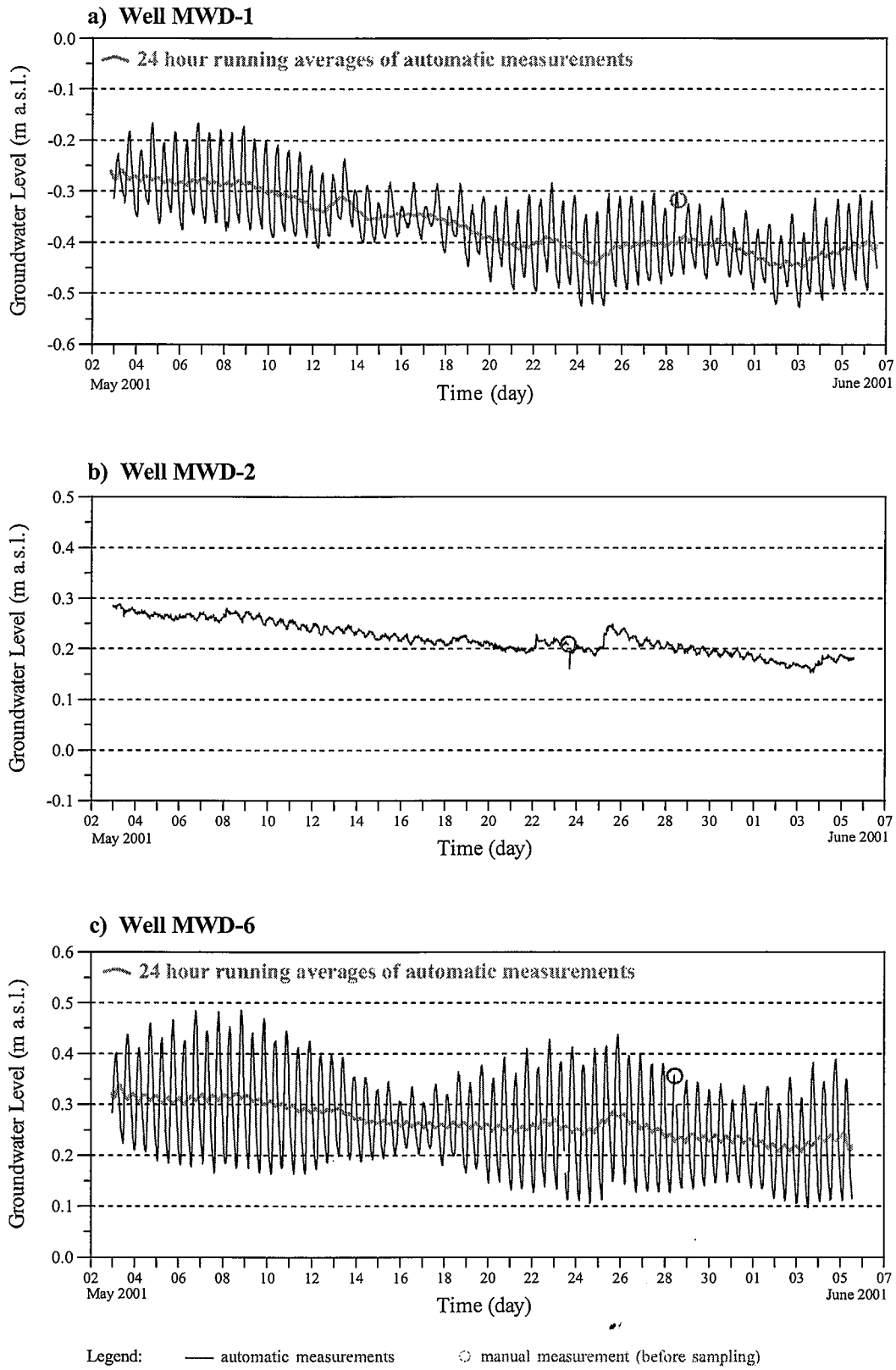
Data Book Figure G.2.14 Groundwater Level Monitoring at Existing JMG Wells (3/4)

ro_MWD_lin3



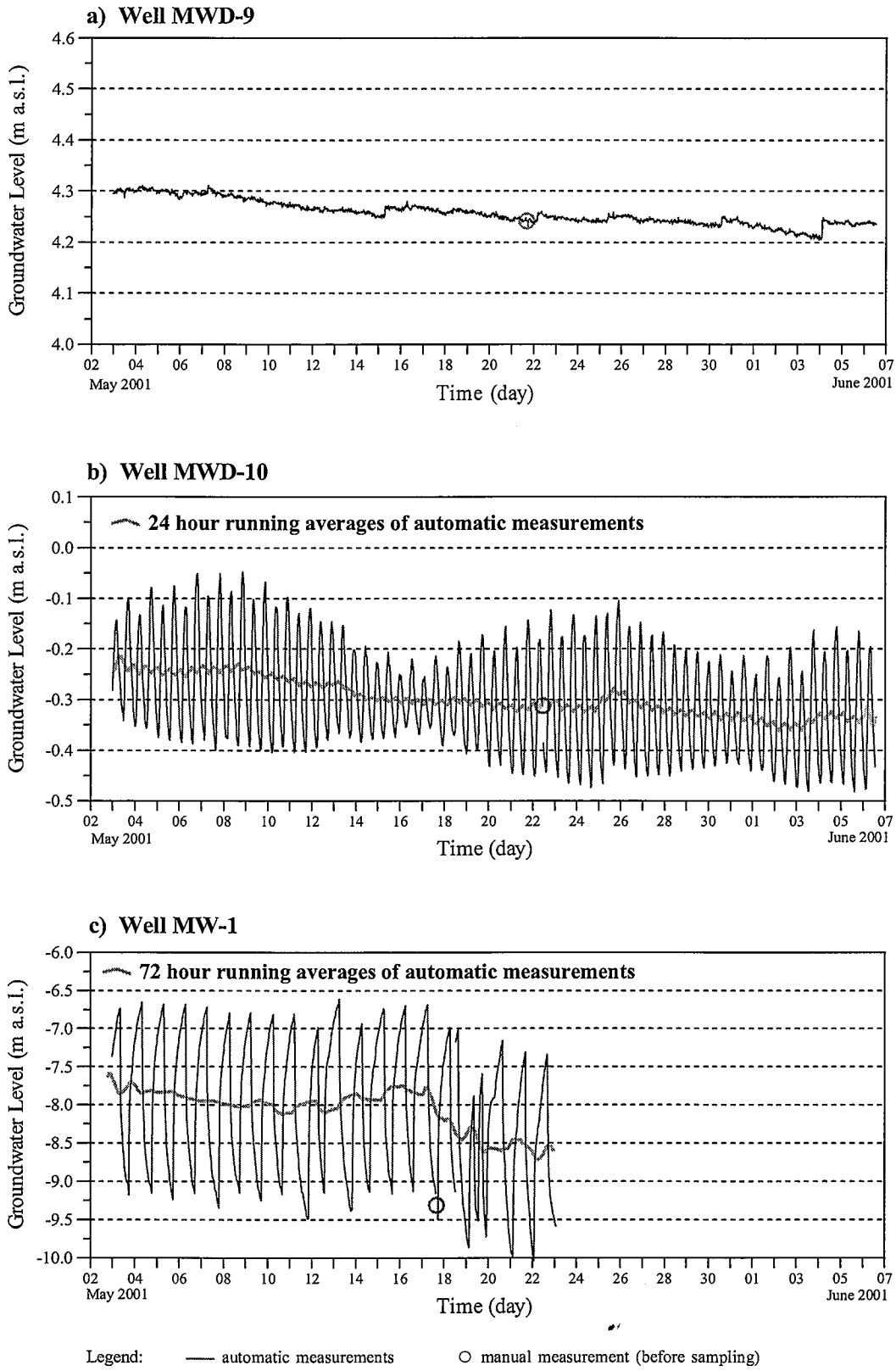
Data Book Figure G.2.15 Groundwater Level Monitoring at Existing JMG Wells (4/4)

ro_MWD_lin4



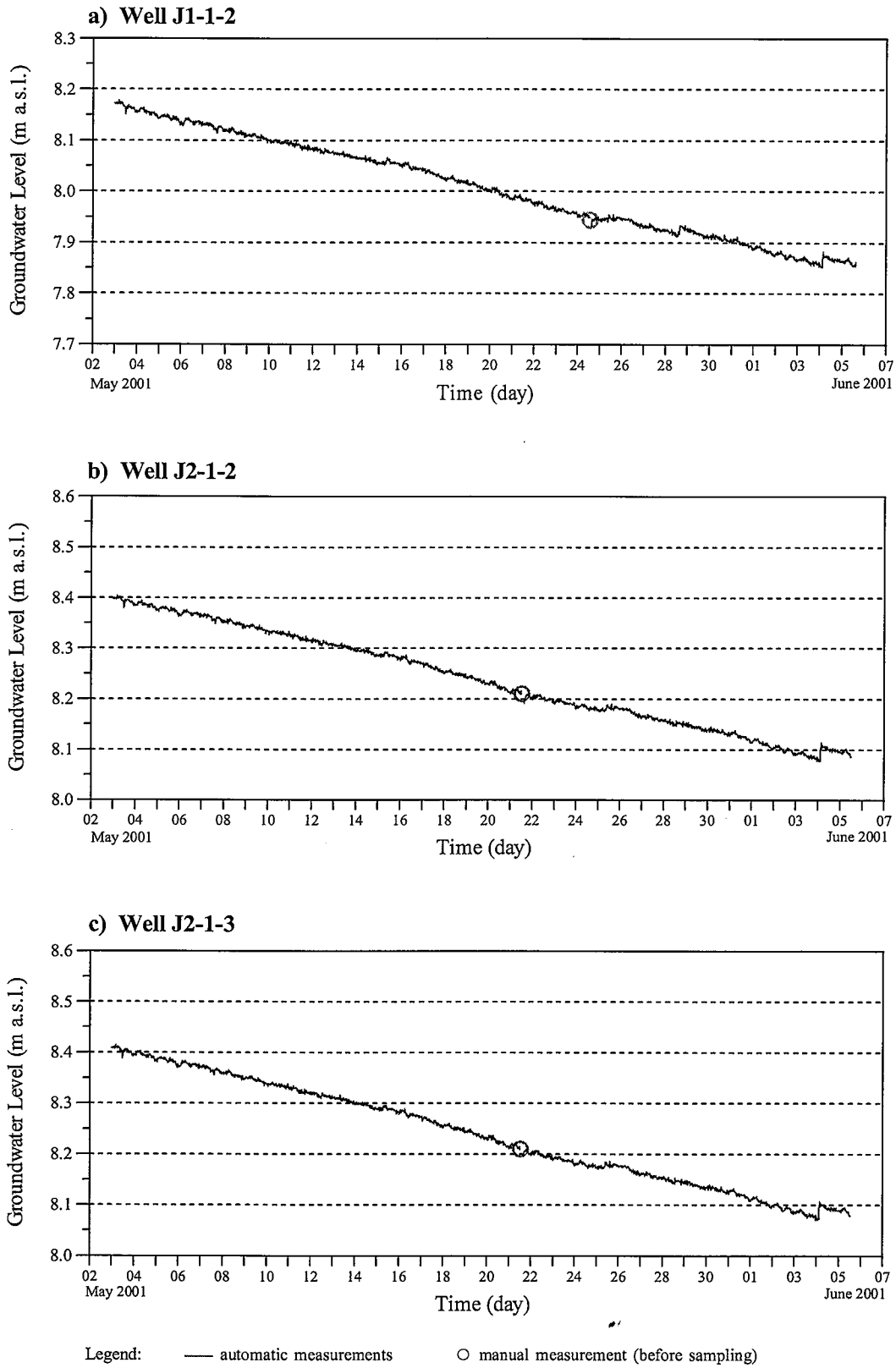
Data Book Figure G.2.16 Groundwater Level Monitoring in the period May 5, 2001 - June 6, 2001 (1/7)

ro_lt_mwd1



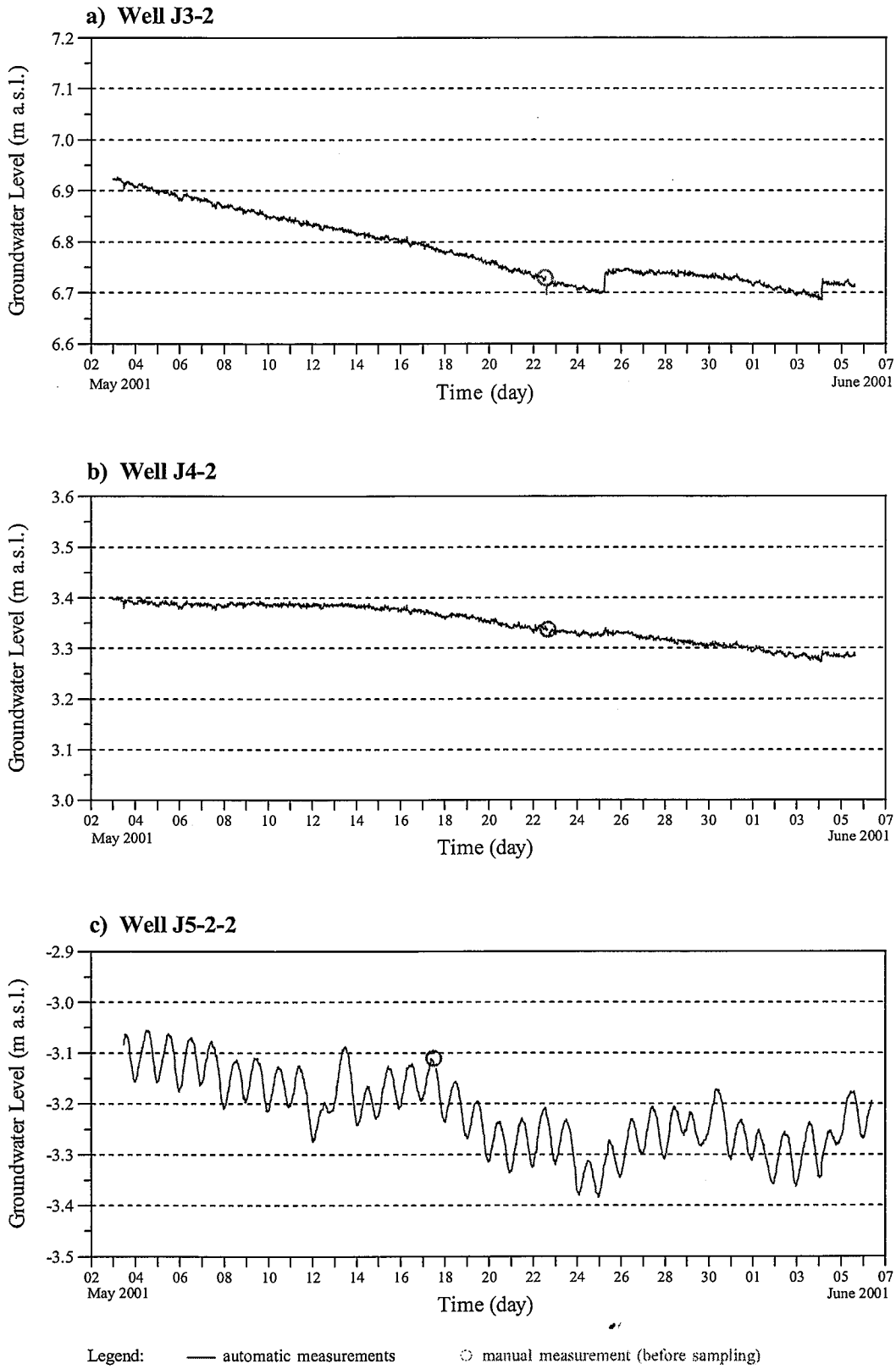
Data Book Figure G.2.17 Groundwater Level Monitoring in the period May 5, 2001 - June 6, 2001 (2/7)

ro_lt_mwd9



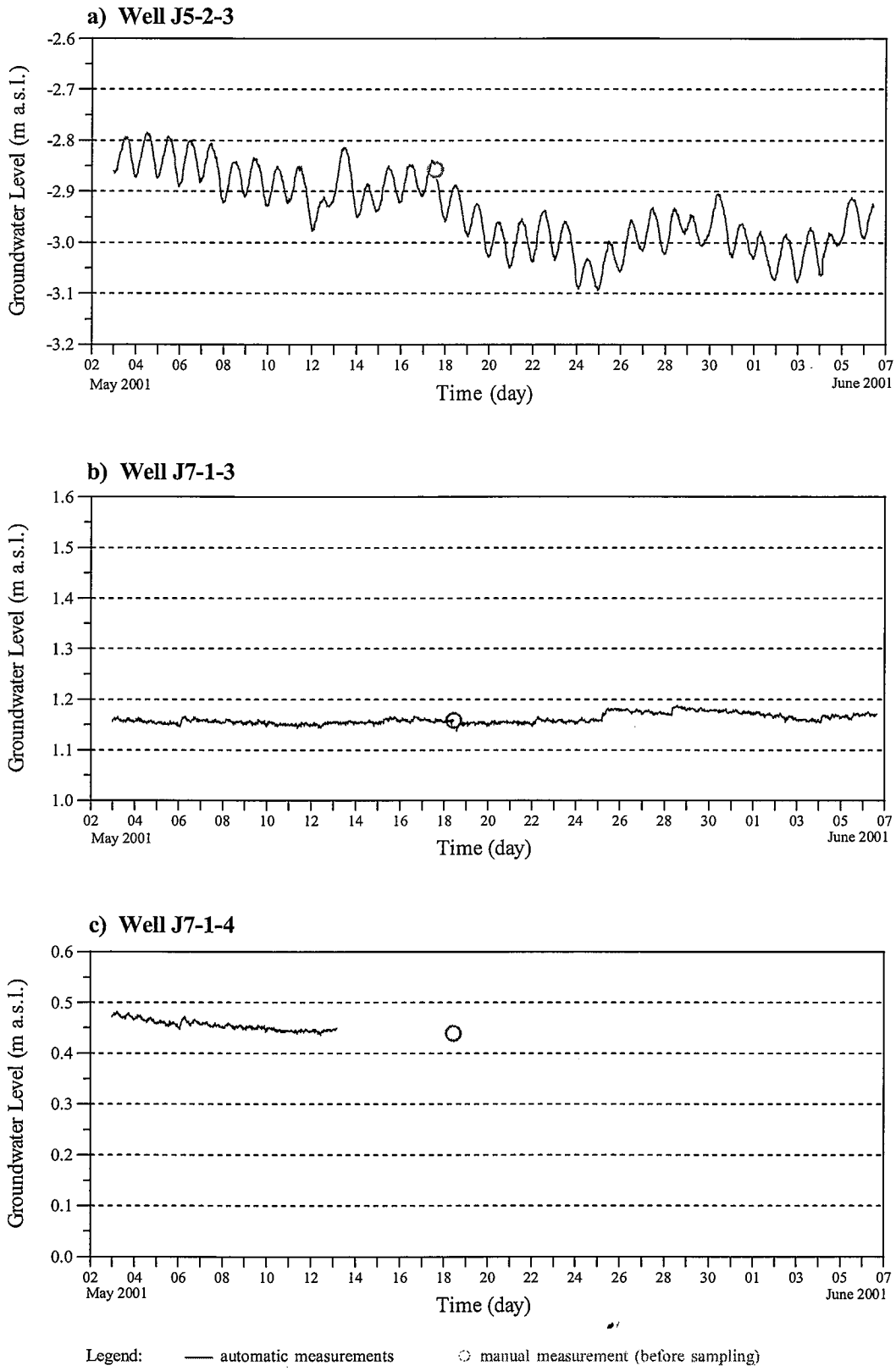
Data Book Figure G.2.18 Groundwater Level Monitoring in the period May 5, 2001 - June 6, 2001 (3/7)

ro_lt_j112



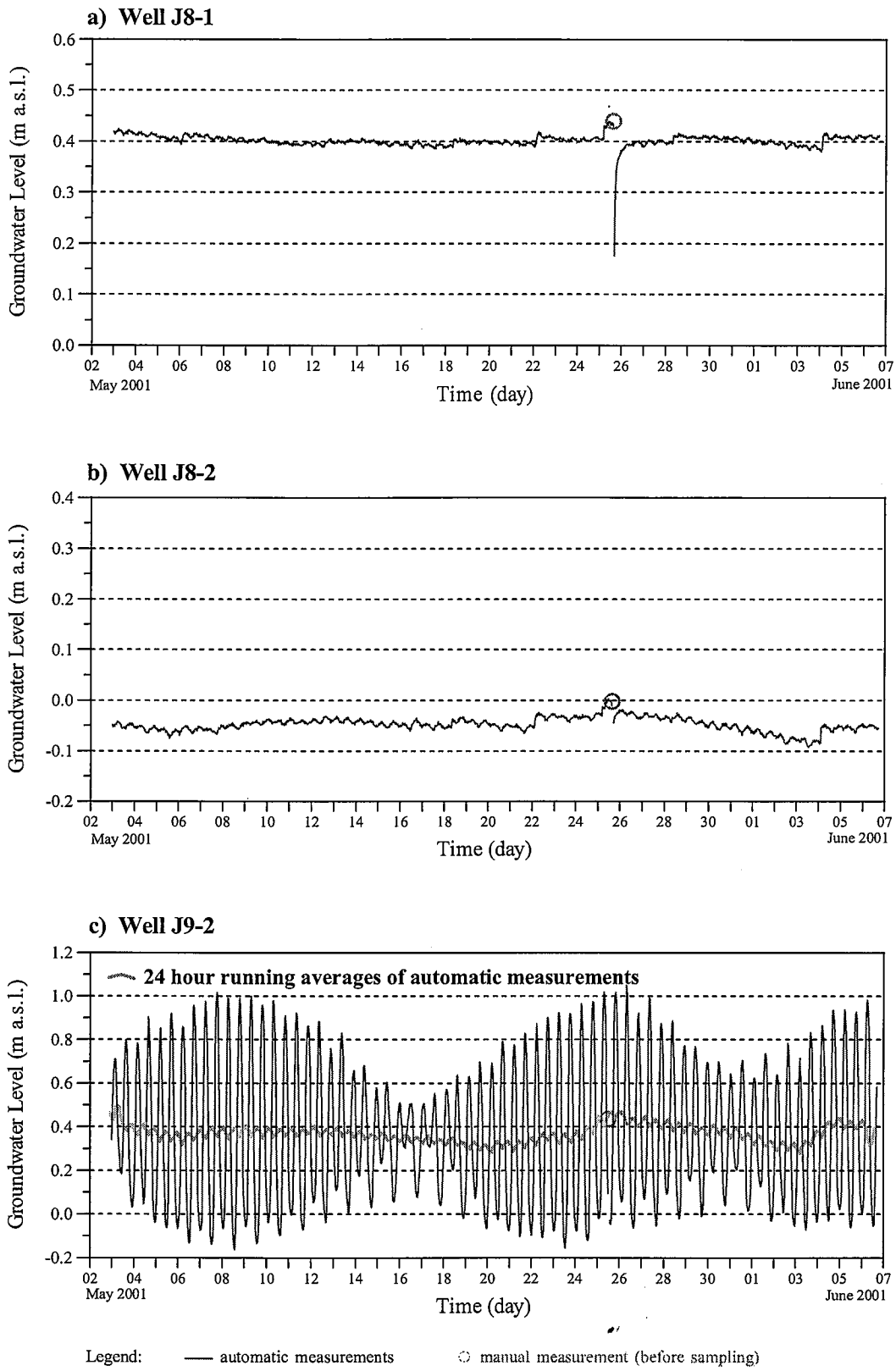
Data Book Figure G.2.19 Groundwater Level Monitoring in the period May 5, 2001 - June 6, 2001 (4/7)

ro_lt_j32



Data Book Figure G.2.20 Groundwater Level Monitoring in the period May 5, 2001 - June 6, 2001 (5/7)

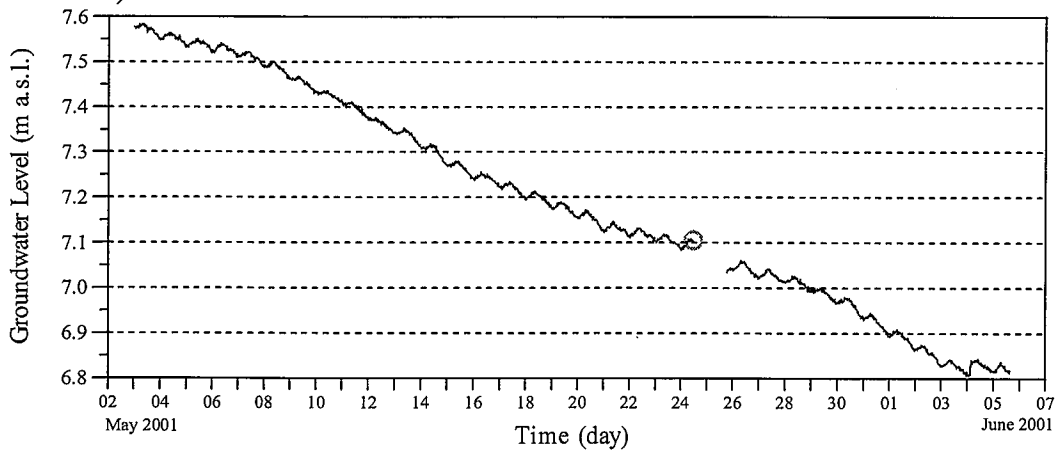
ro_lt_j523



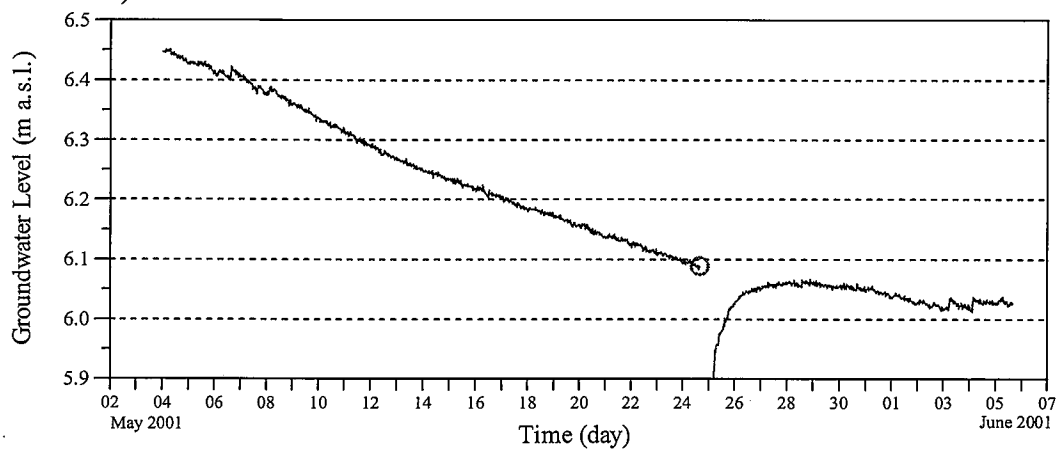
Data Book Figure G.2.21 Groundwater Level Monitoring in the period May 5, 2001 - June 6, 2001 (6/7)

ro_lt_j81

a) Well J10-1-2



b) Well LED-2



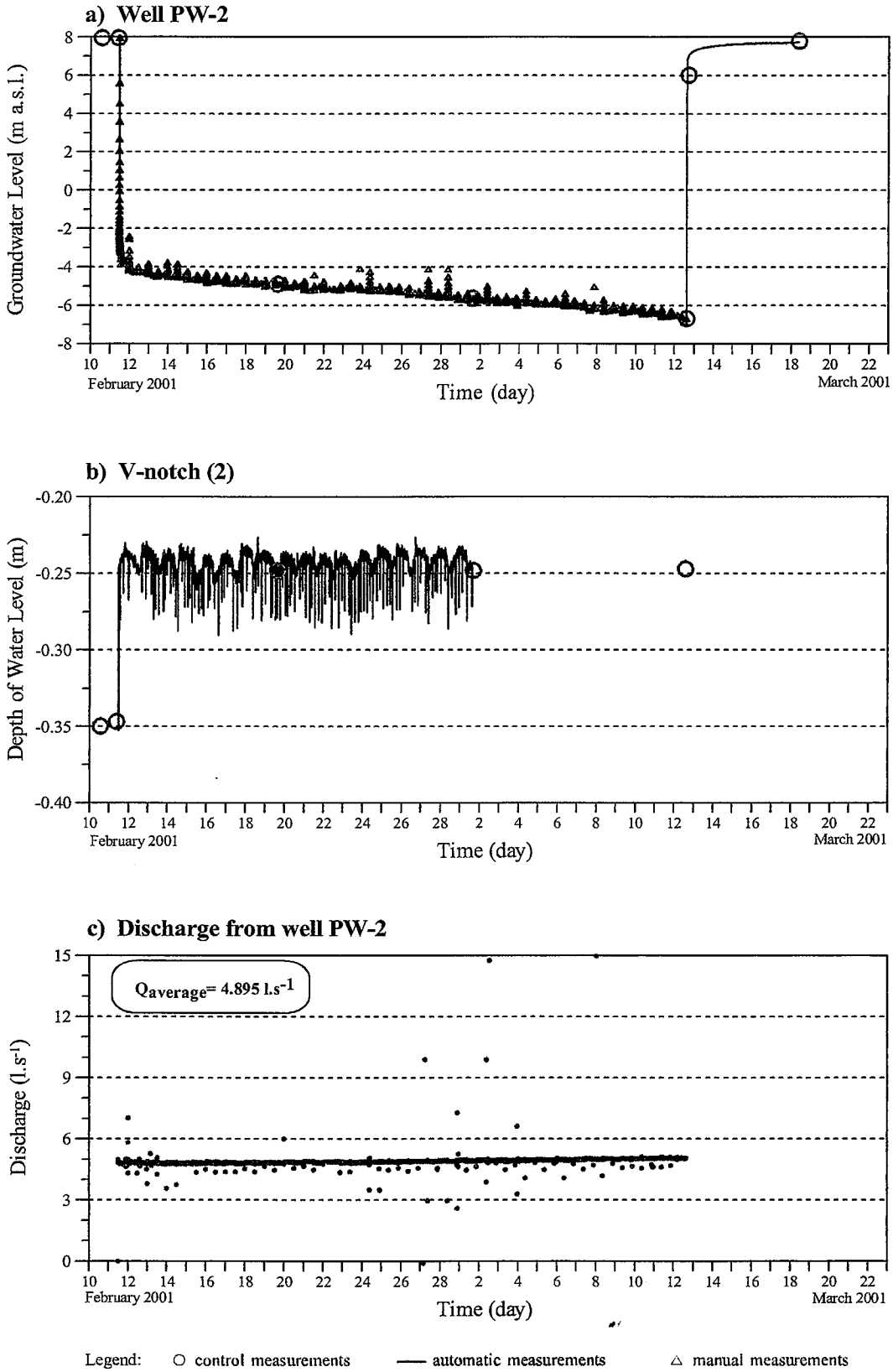
Legend: —— automatic measurements ○ manual measurement (before sampling)

Data Book Figure G.2.22 Groundwater Level Monitoring in the period May 5, 2001 - June 6, 2001 (7/7)

ro_lt_j1012

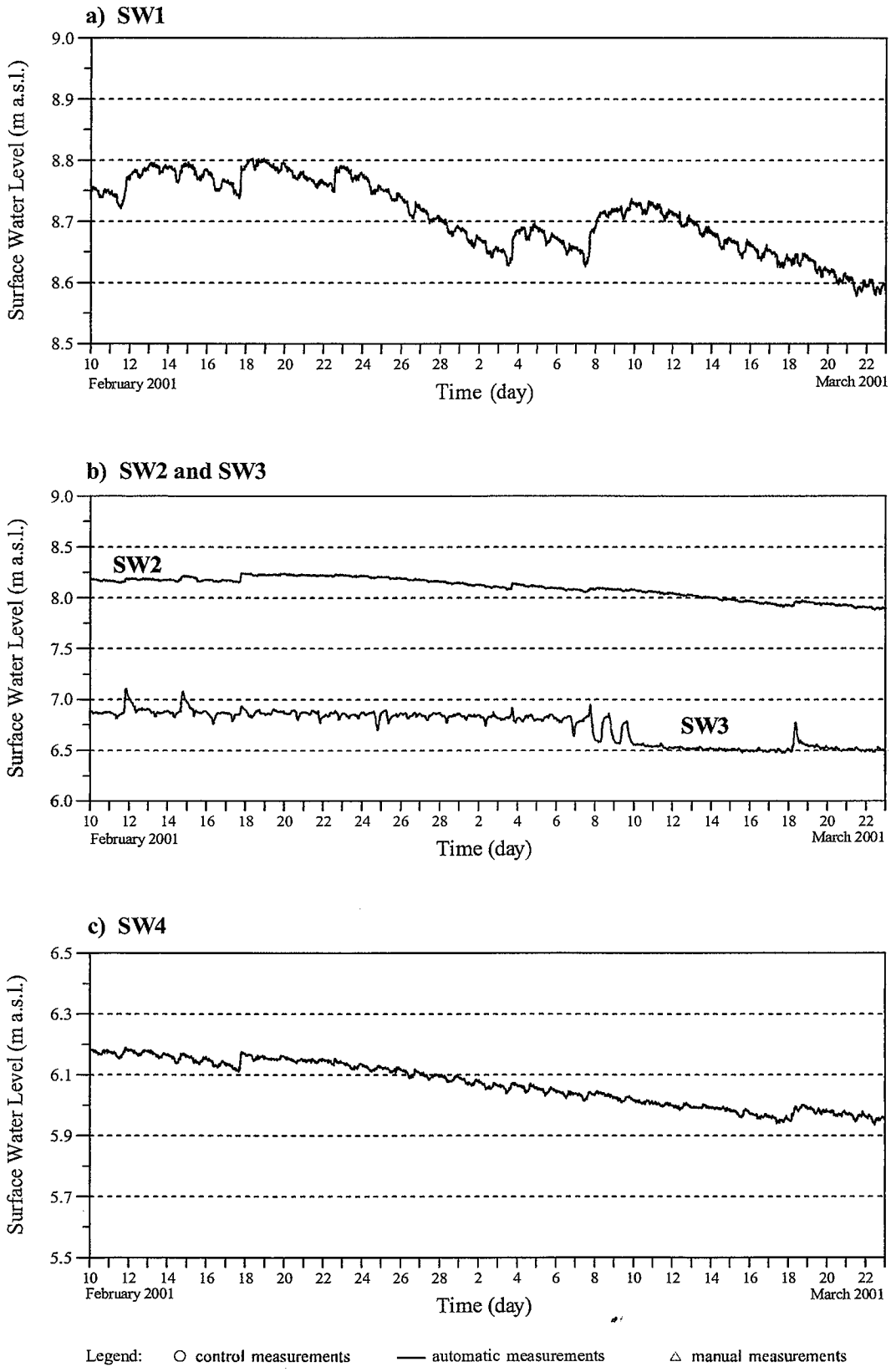
DATA BOOK G.3.1

PUMPING AND RECOVERY TEST DATA
AT
PAYA INDAH



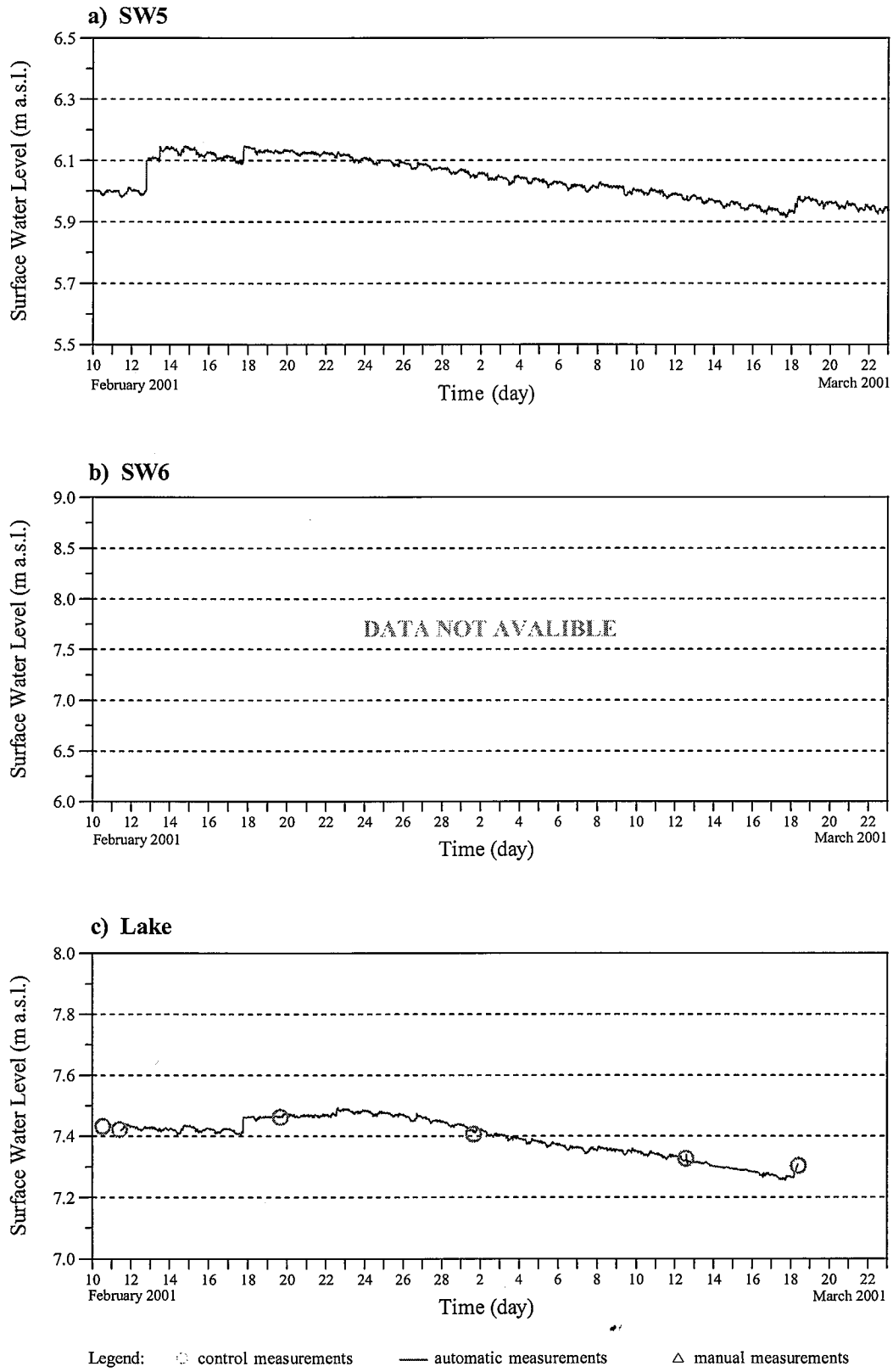
Data Book Figure G.3.1 Paya Indah - well PW2, V-notch (2), discharge - groundwater level and discharge during pumping and recovery test (linear scale)

ro_pw2_lin



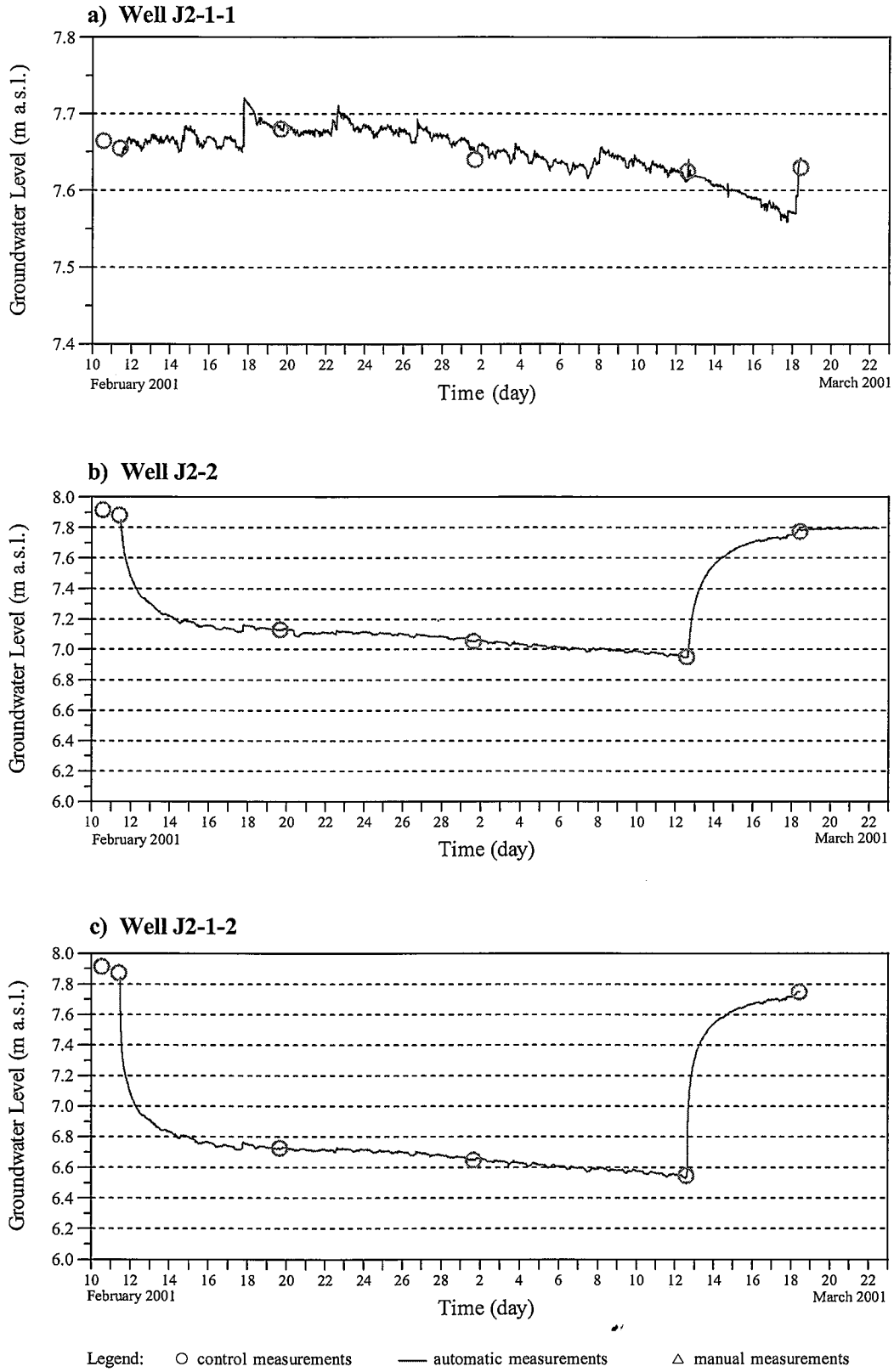
Data Book Figure G.3.2 Paya Indah - SW1, SW2, SW3 and SW4 - surfacewater level during pumping and recovery test (linear scale)

ro_sw1_lin



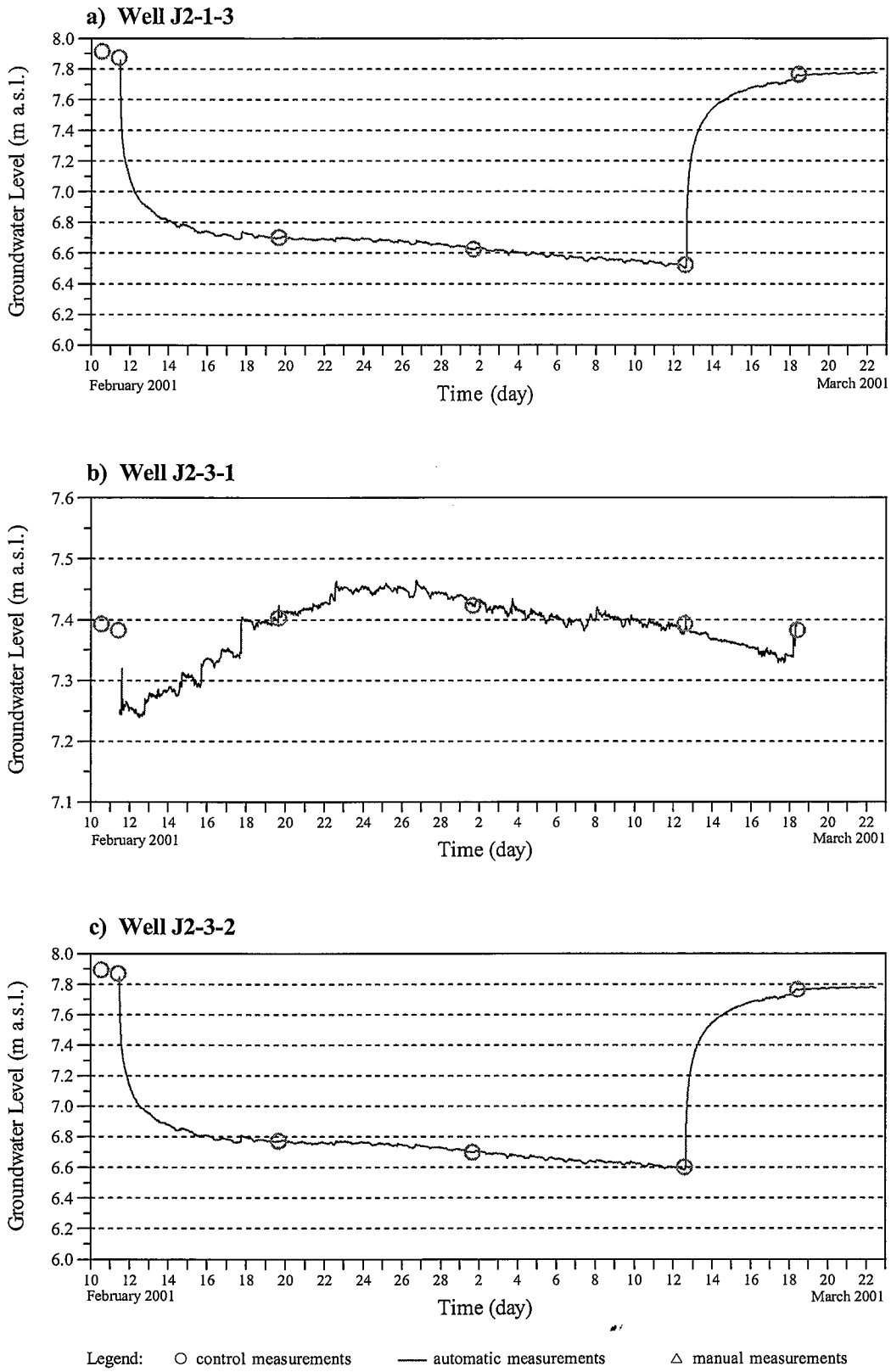
Data Book Figure G.3.3 Paya Indah - SW5, SW6 and Lake surfacewater level during pumping and recovery test (linear scale)

ro_sw5_lin



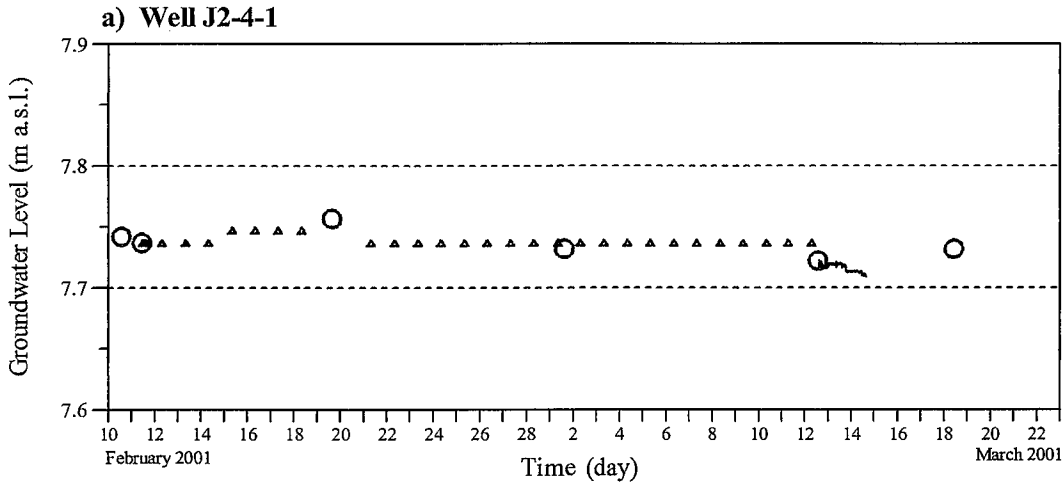
Data Book Figure G.3.4 Paya Indah - well J2-1-1, J2-2 and J2-1-2 - groundwater level during pumping and recovery test (linear scale)

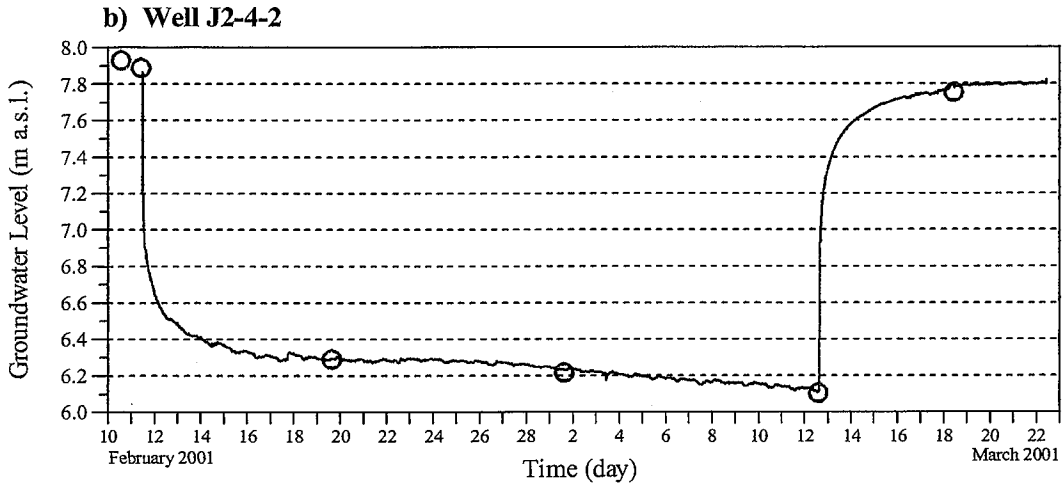
ro_J211_lin

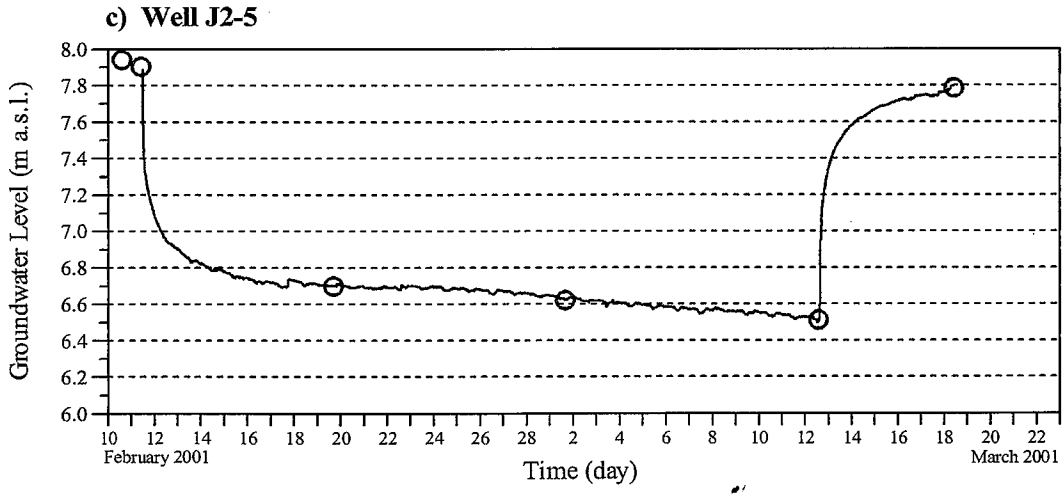


Data Book Figure G.3.5 Paya Indah - well J2-1-3, J2-3-1 and J2-3-2 - groundwater level during pumping and recovery test (linear scale)

ro_J213_lin



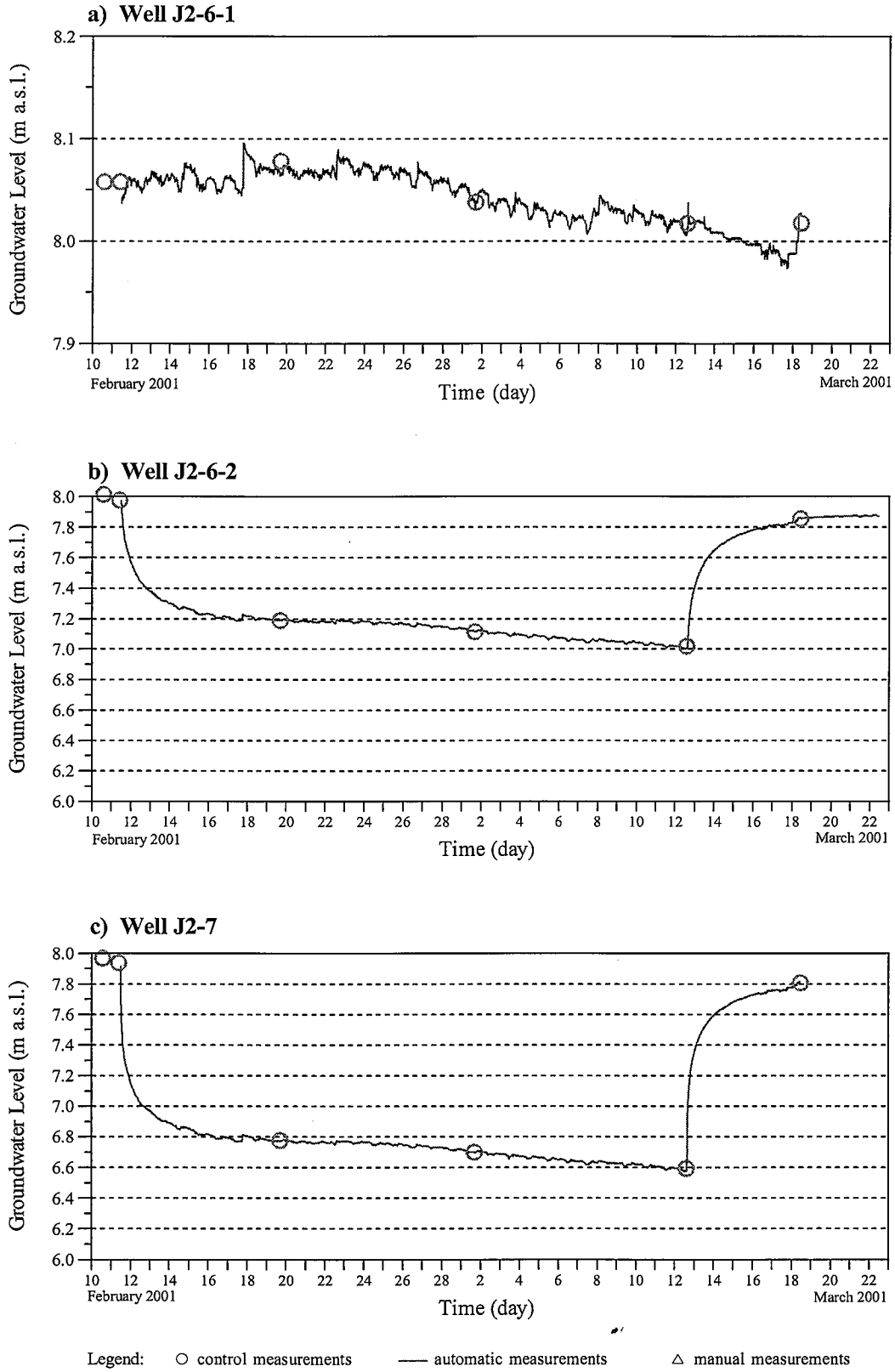




Legend: ○ control measurements —— automatic measurements △ manual measurements

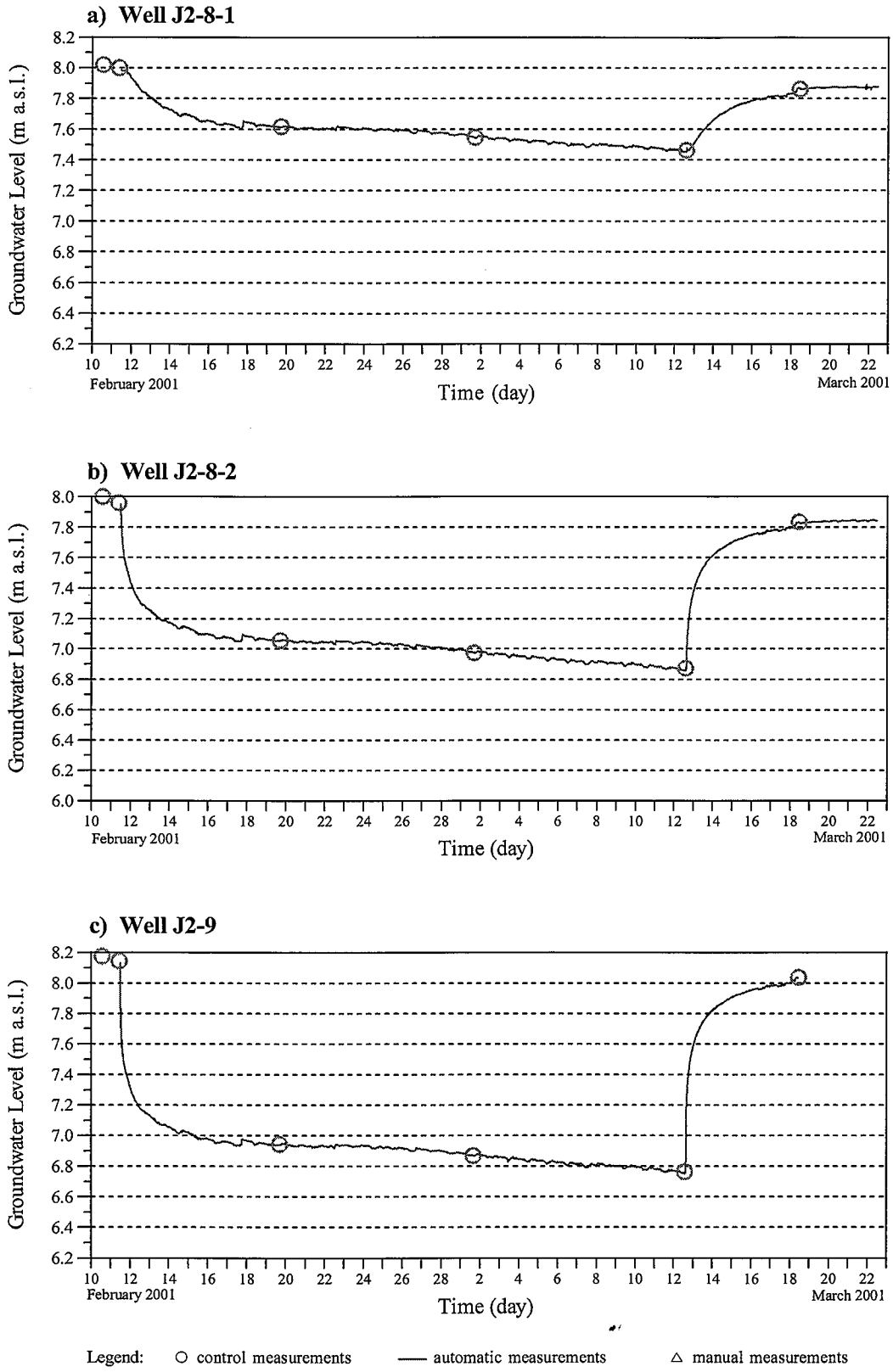
Data Book Figure G.3.6 Paya Indah - well J2-4-1, J2-4-2 and J2-5 - groundwater level during pumping and recovery test (linear scale)

ro_J241_lin



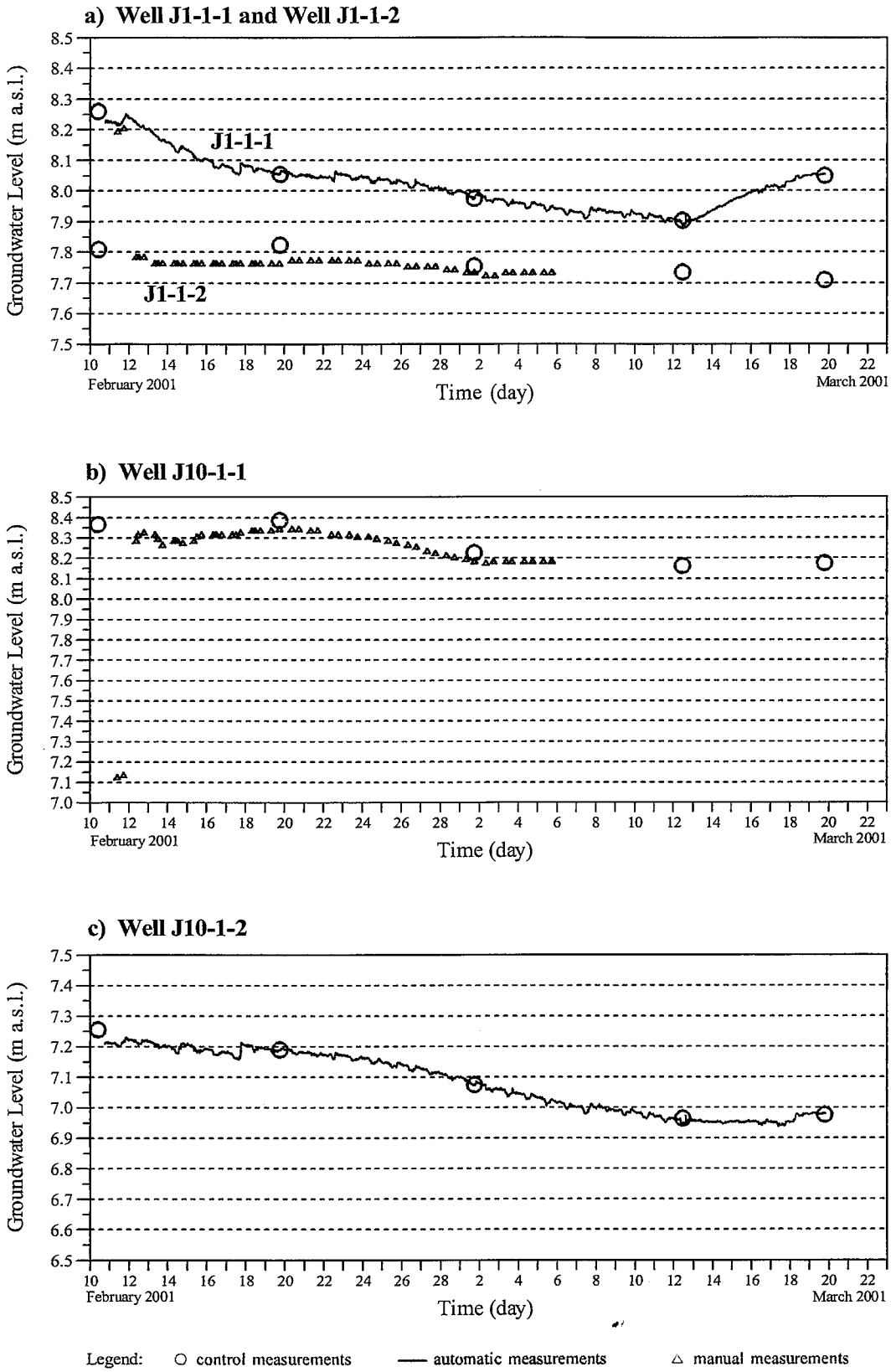
Data Book Figure G.3.7 Paya Indah - well J2-6-1, J2-6-2 and J2-7 - groundwater level during pumping and recovery test (linear scale)

ro_J261_lin



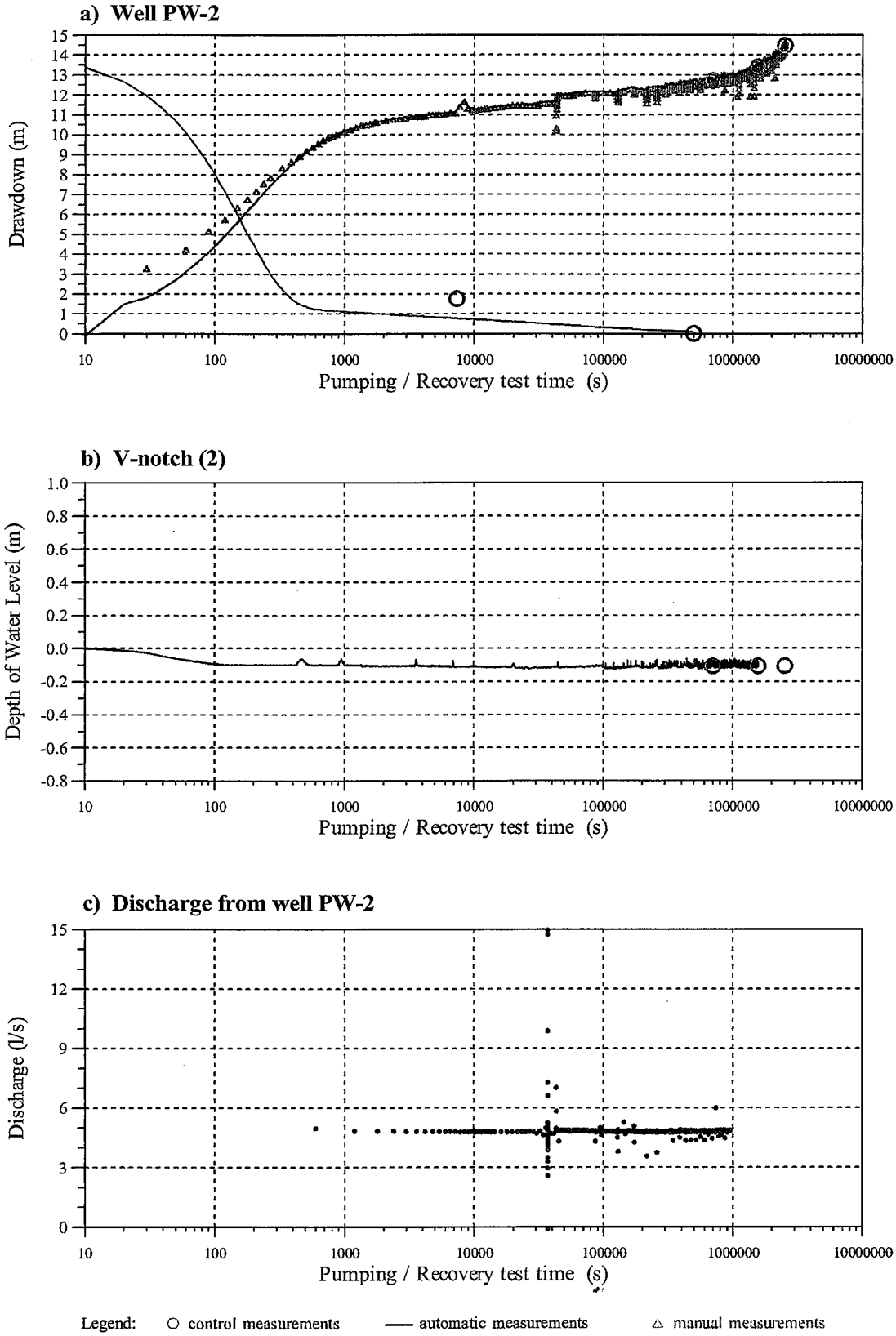
Data Book Figure G.3.8 Paya Indah - well J2-8-1, J2-8-2 and J2-9 - groundwater level during pumping and recovery test (linear scale)

ro_J281_lin



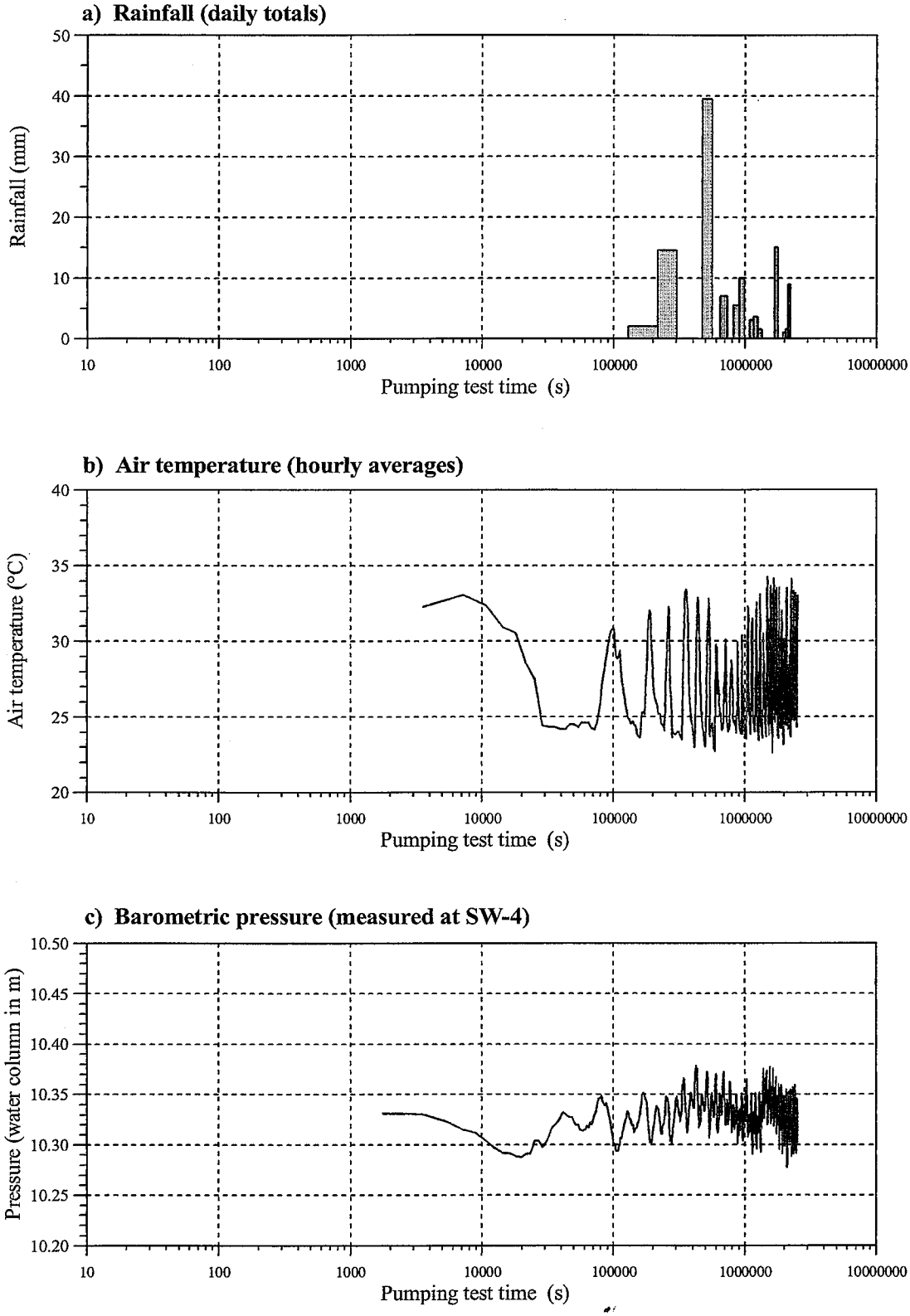
Data Book Figure G.3.9 Paya Indah - well J1-1-1, J1-1-2, J10-1-1 and J10-1-2 - groundwater level during pumping and recovery test (linear scale)

ro_J111_lin



Data Book Figure G.3.10 Paya Indah - well PW2, V-notch (2) and discharge - groundwater level during pumping and recovery test (semilogaritmic scale)

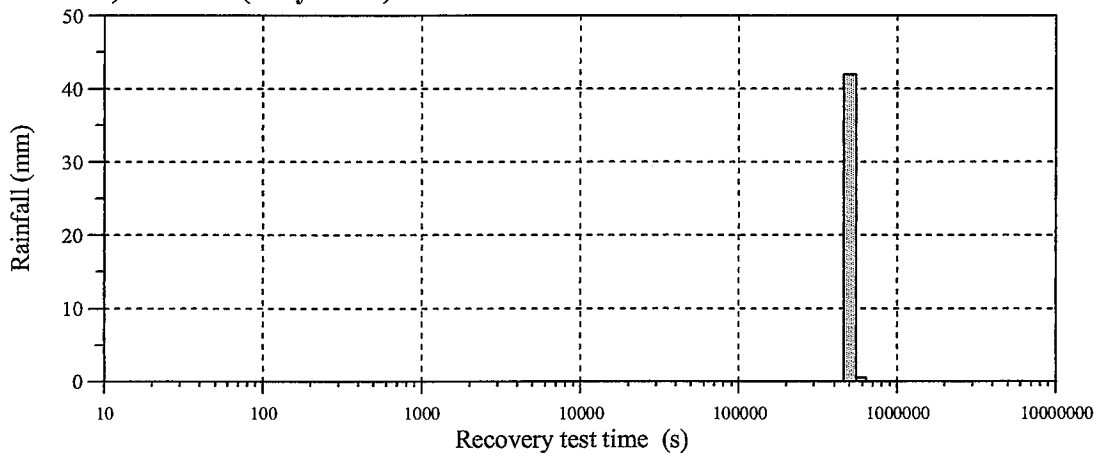
ro_pw2_semi



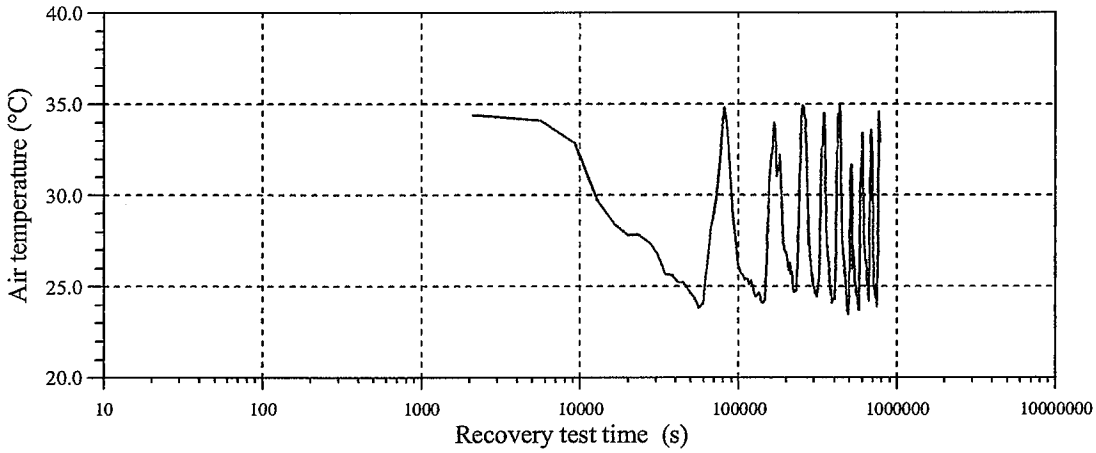
Data Book Figure G.3.11 Paya Indah - Rainfall, Air temperature and Barometric pressure during pumping test (semilogaritmic scale)

ro_rain1_semi

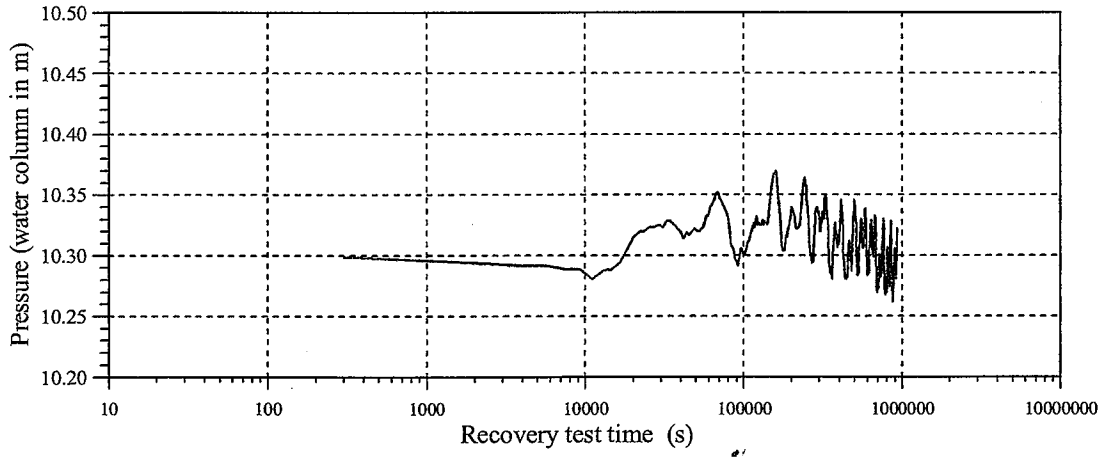
a) Rainfall (daily totals)



b) Air temperature (hourly averages)

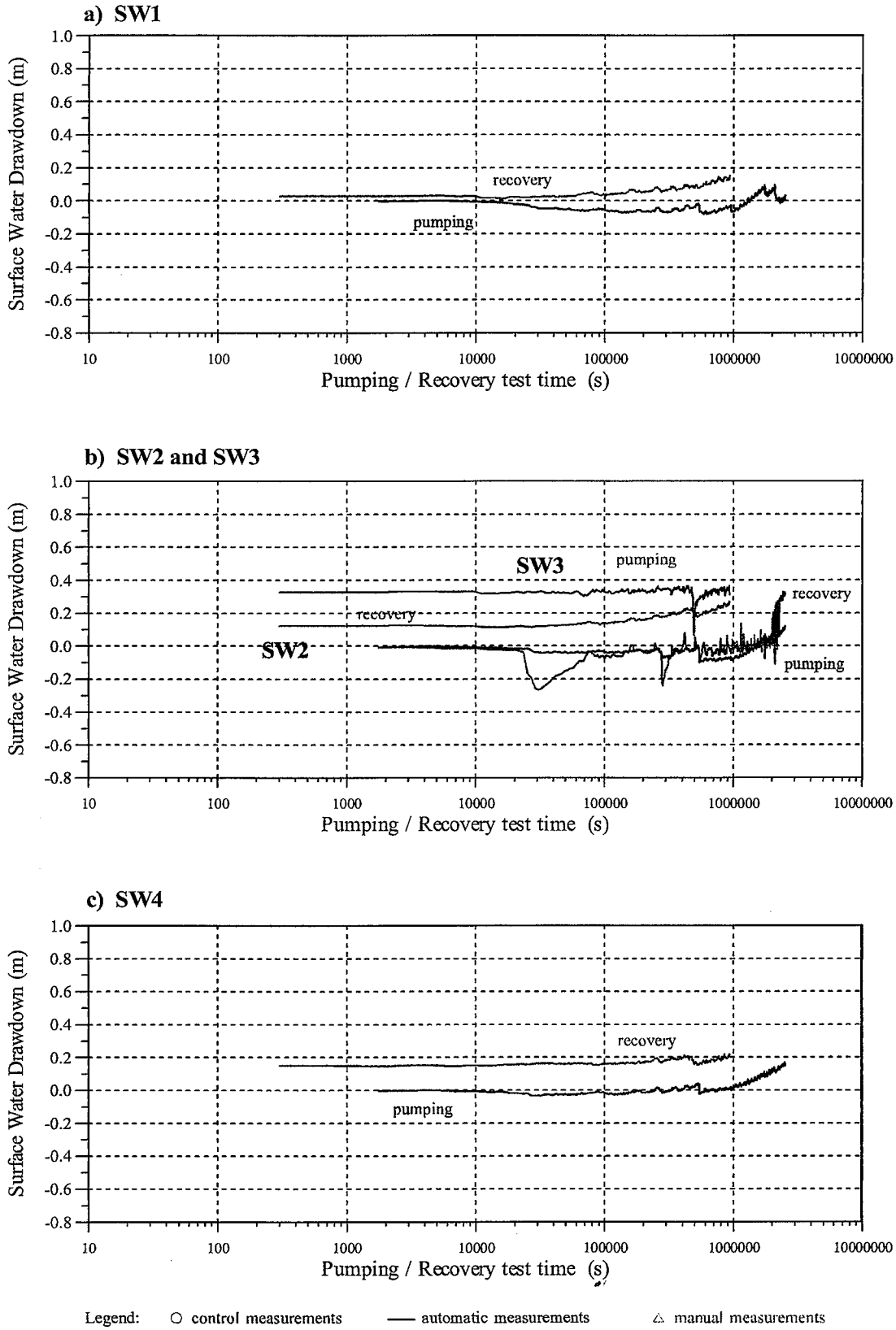


c) Barometric pressure (measured at SW-4)



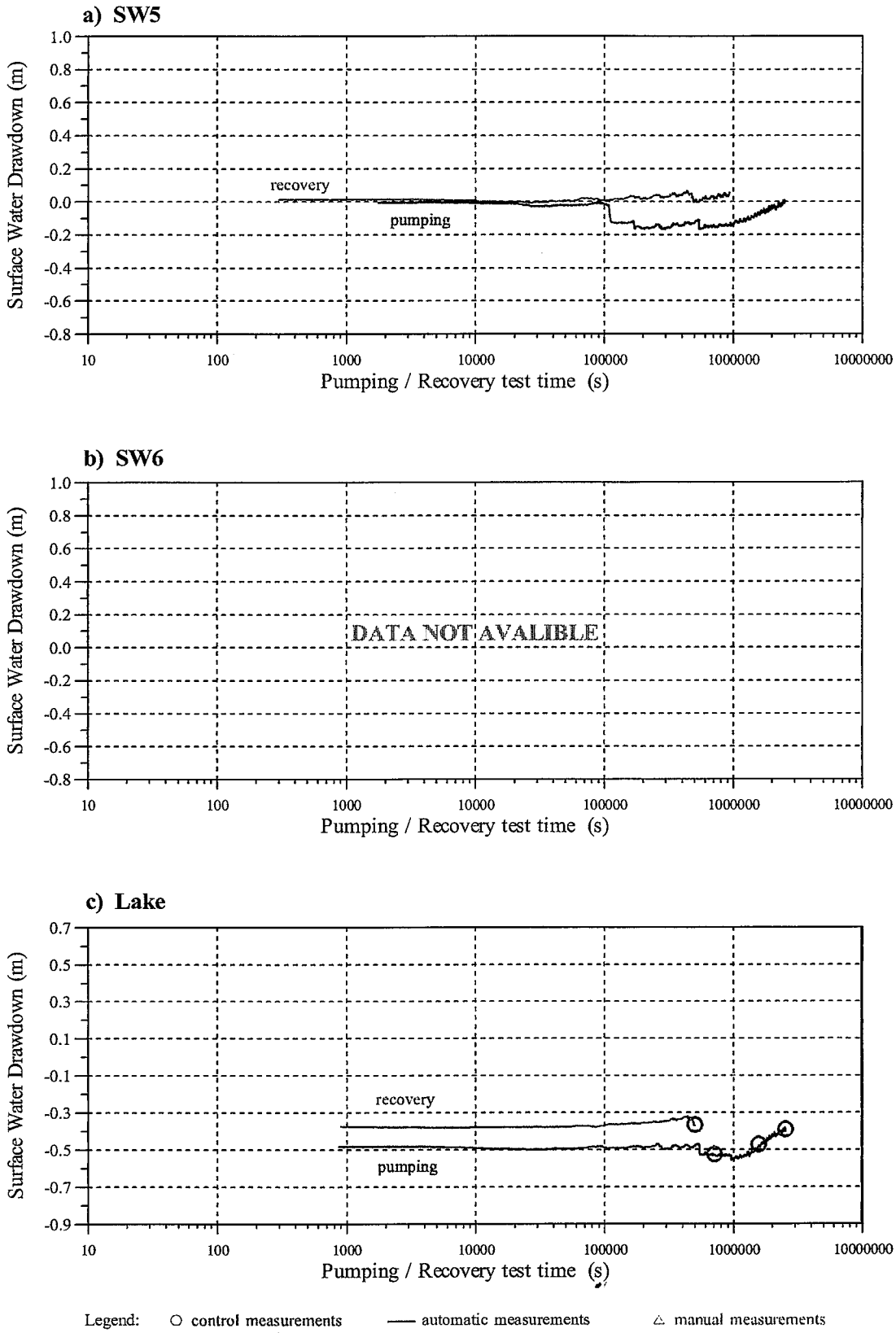
Data Book Figure G.3.12 Paya Indah - Rainfall, Air temperature and Barometric preassure during recovery test (semilogaritmic scale)

ro_rain2_semi



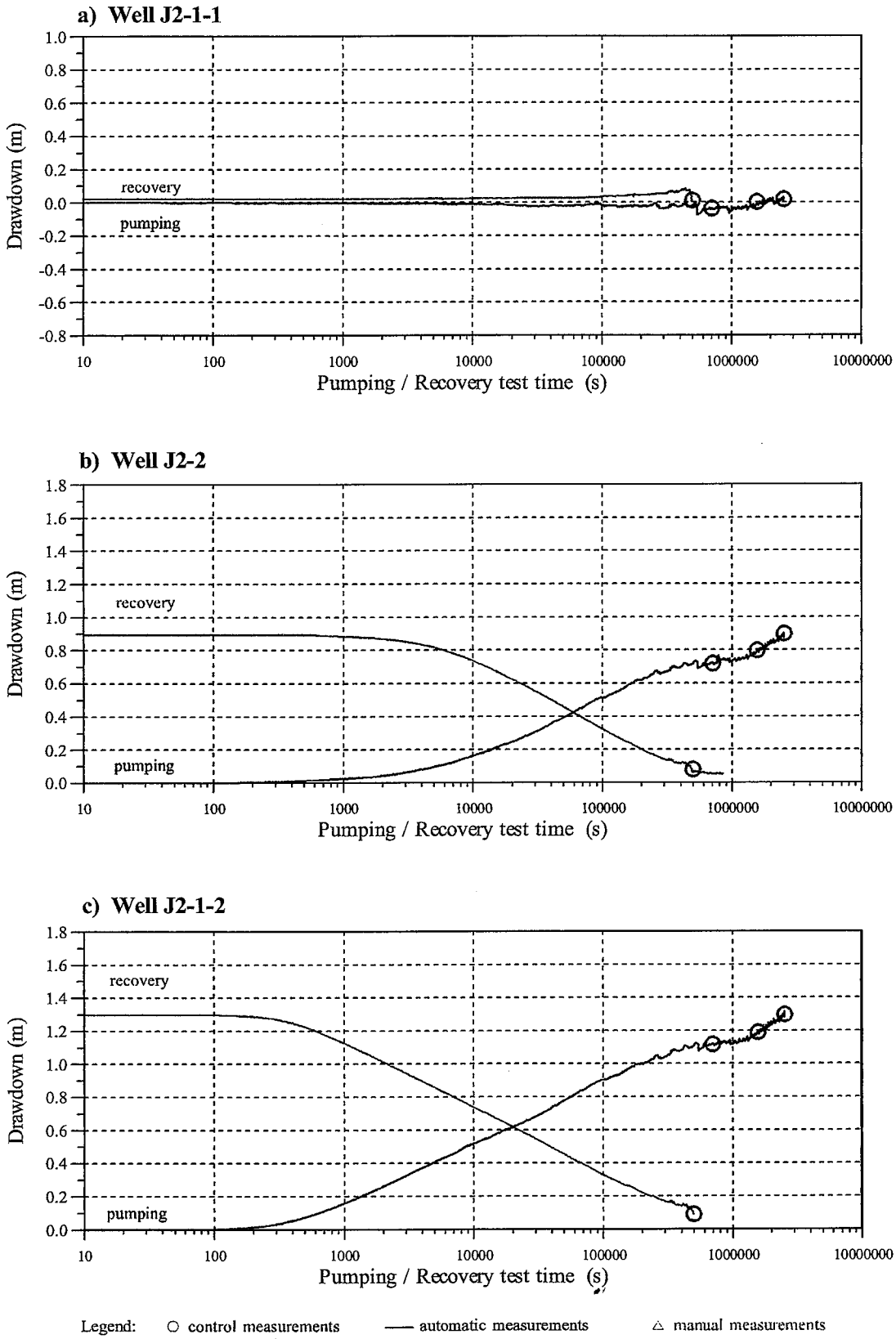
Data Book Figure G.3.13 Paya Indah - SW1, SW2, SW3 and SW4 - surfacewater level during pumping and recovery test (semilogaritmic scale)

ro_sw1_semi



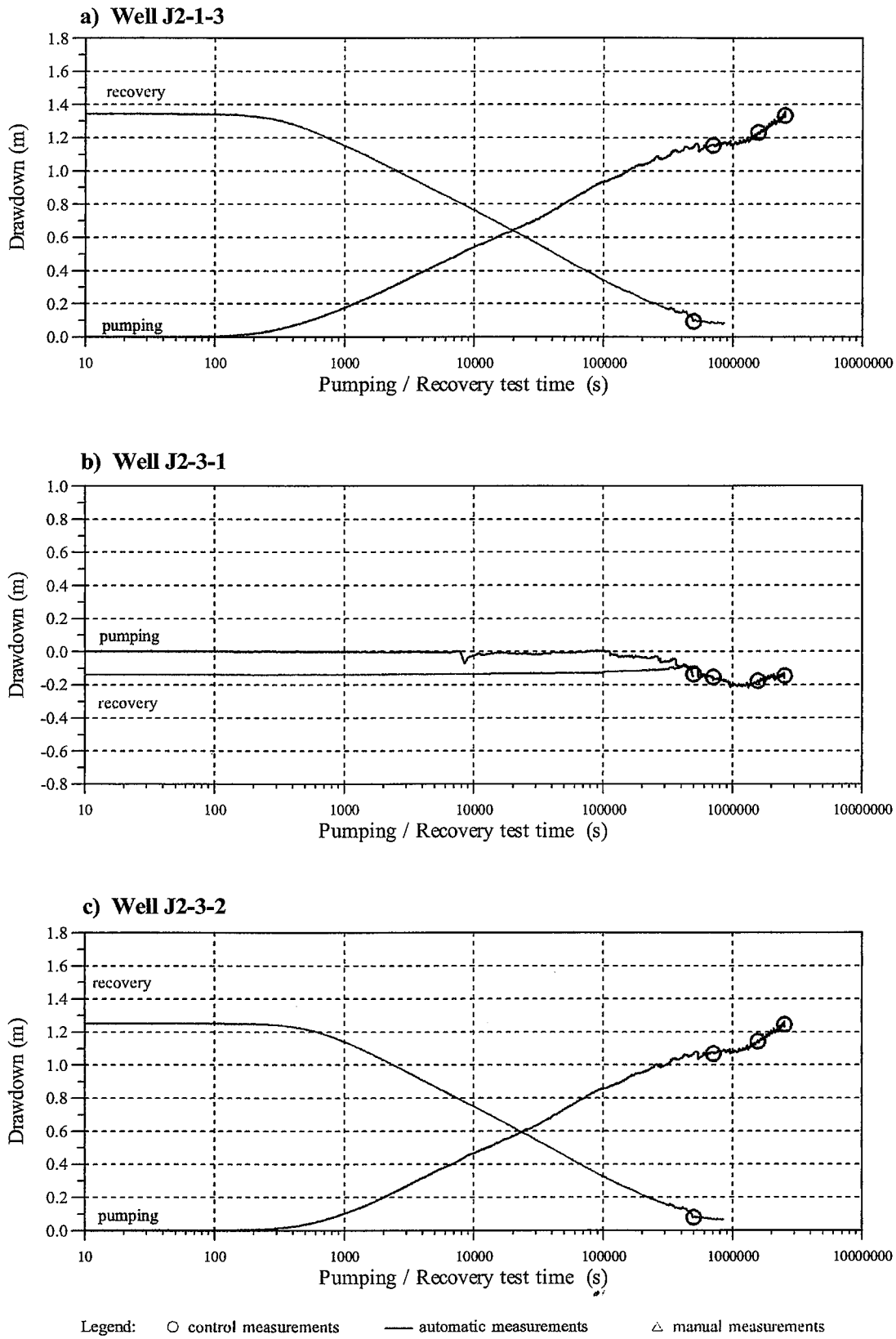
Data Book Figure G.3.14 Paya Indah - SW5, SW6 and Lake - surfacewater level during pumping and recovery test (semilogaritmic scale)

ro_sw5_semi



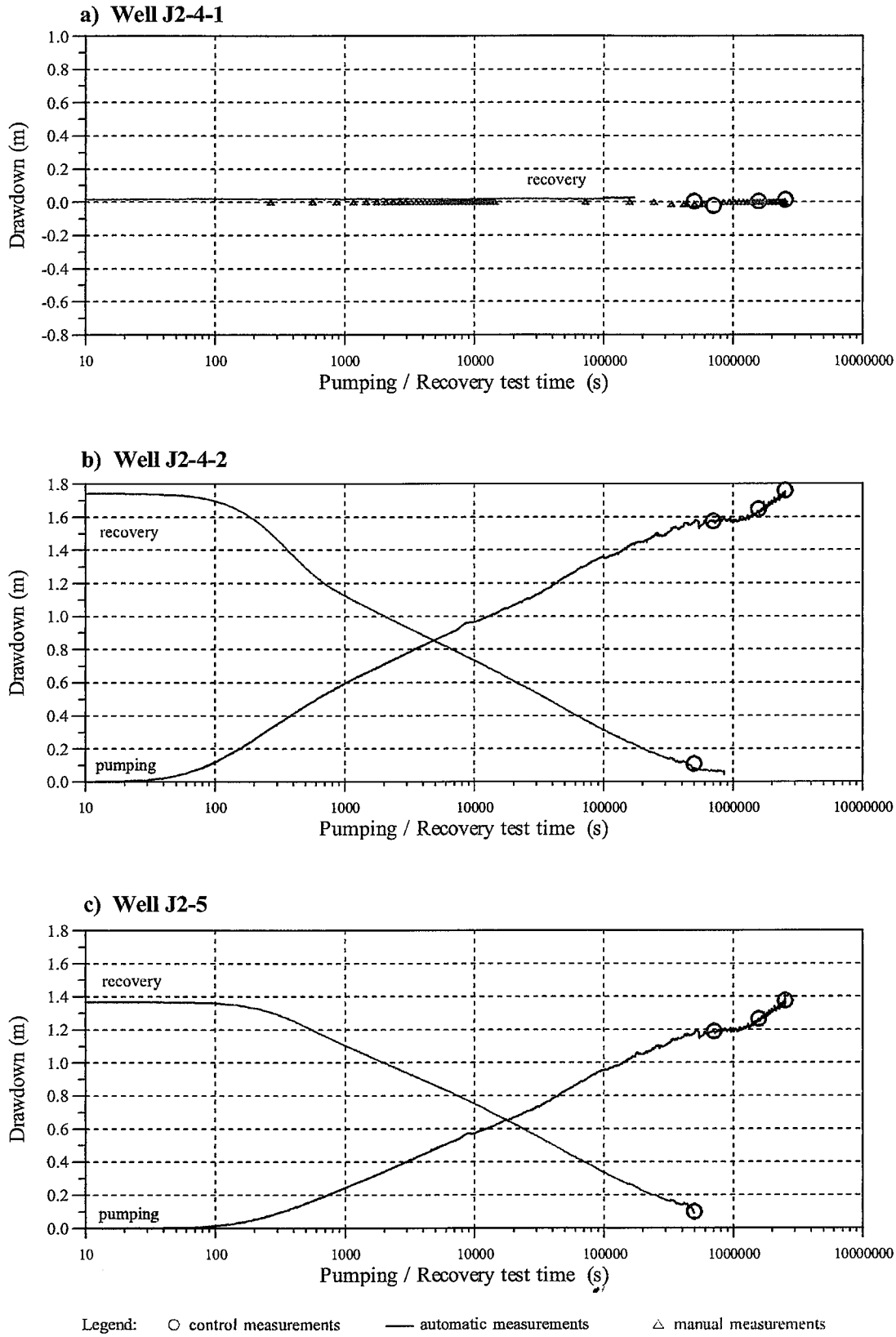
Data Book Figure G.3.15 Paya Indah - well J2-1-1, J2-2 and J2-1-2 - groundwater level during pumping and recovery test (semilogaritmic scale)

ro_J211_semi



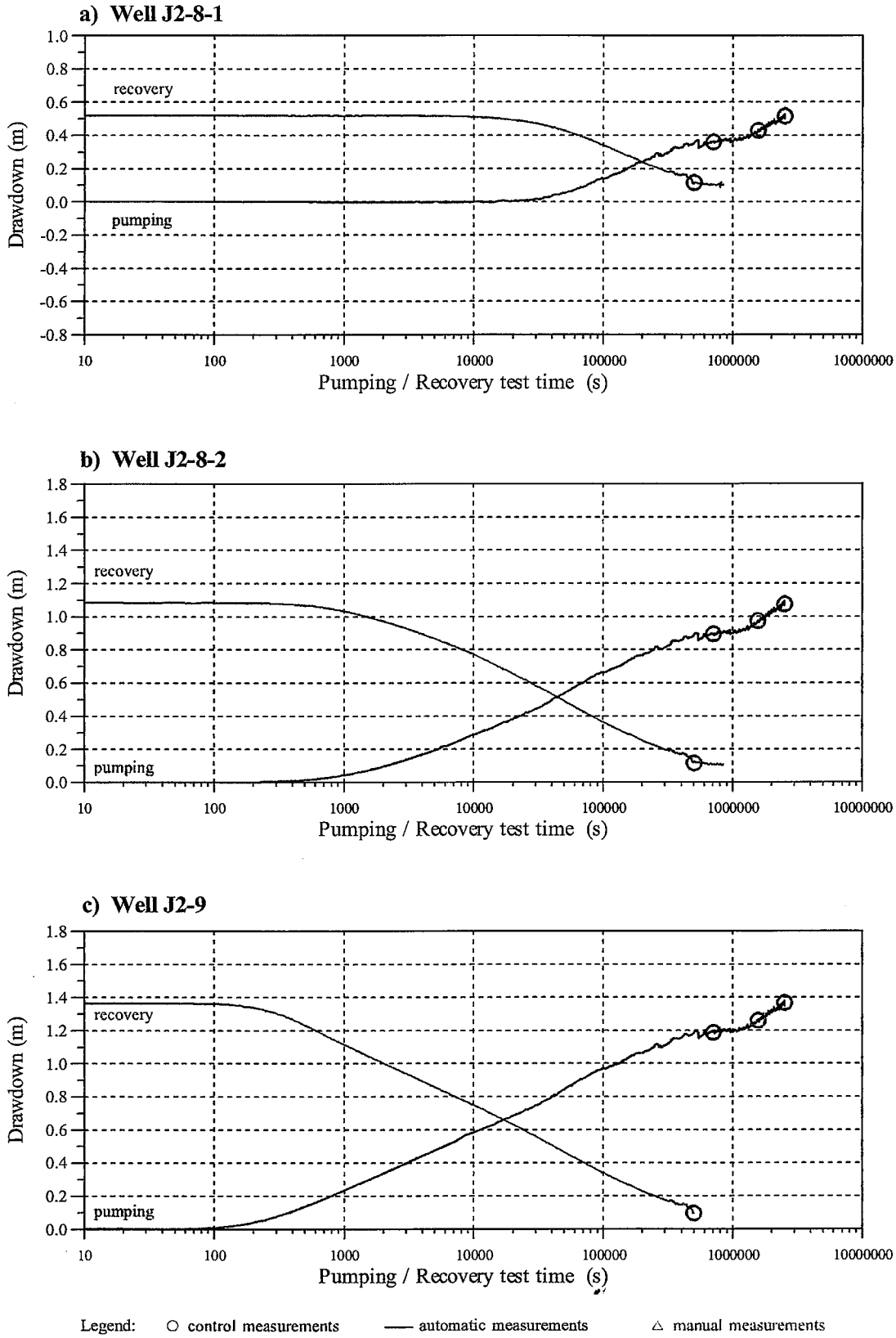
Data Book Figure G.3.16 Paya Indah - well J2-1-3, J2-3-1 and J2-3-2 - groundwater level during pumping and recovery test (semilogaritmic scale)

ro_J213_semi



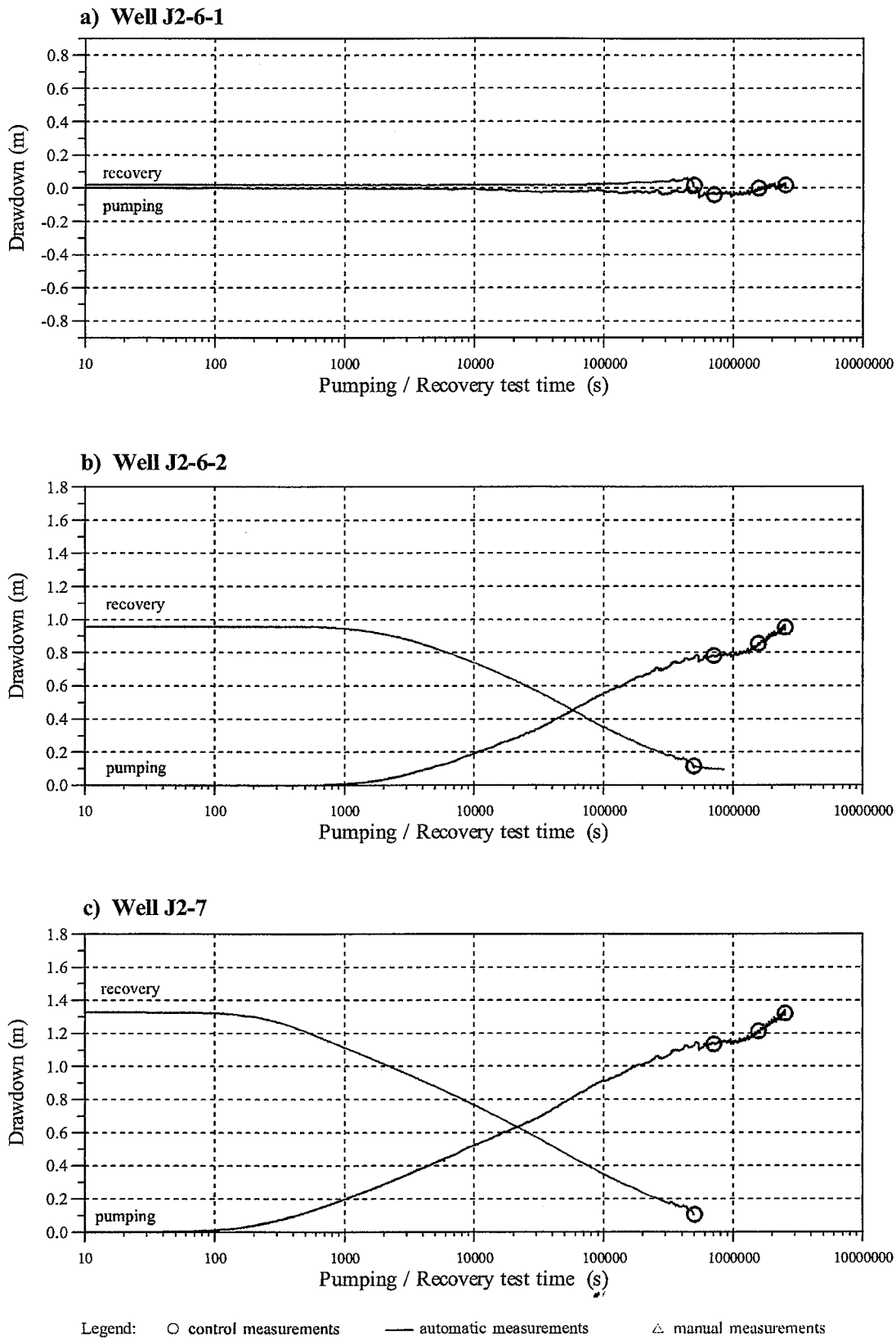
Data Book Figure G.3.17 Paya Indah - well JP2-4-1, J2-4-2 and J2-5 - groundwater level during pumping and recovery test (semilogaritmic scale)

ro_J241_semi



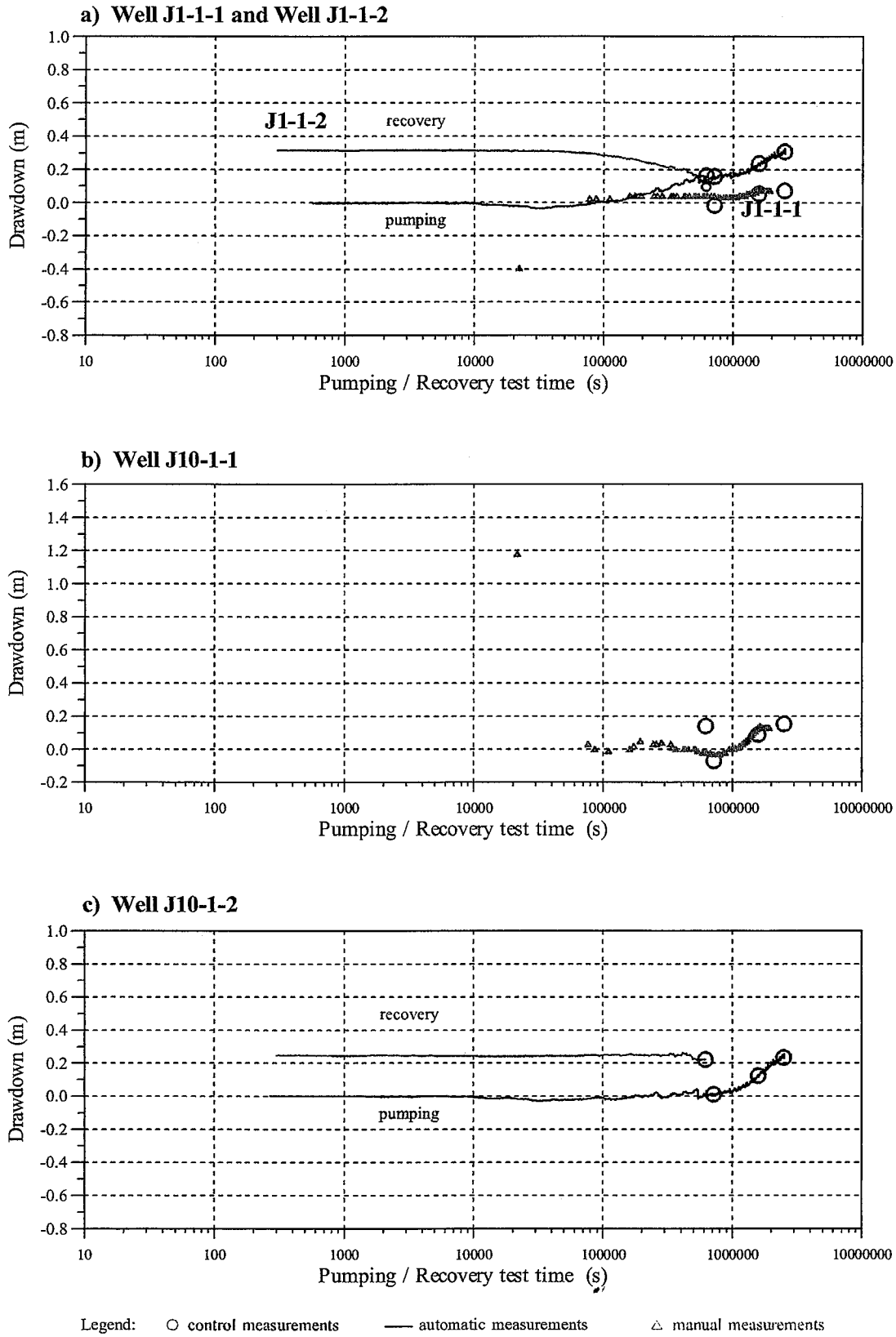
Data Book Figure G.3.18 Paya Indah - well J2-8-1, J2-8-2 and J2-9 - groundwater level during pumping and recovery test (semilogaritmic scale)

ro_J281_semi



Data Book Figure G.3.19 Paya Indah - well J2-6-1, J2-6-2 and J2-7 - groundwater level during pumping and recovery test (semilogaritmic scale)

ro_J261_semi

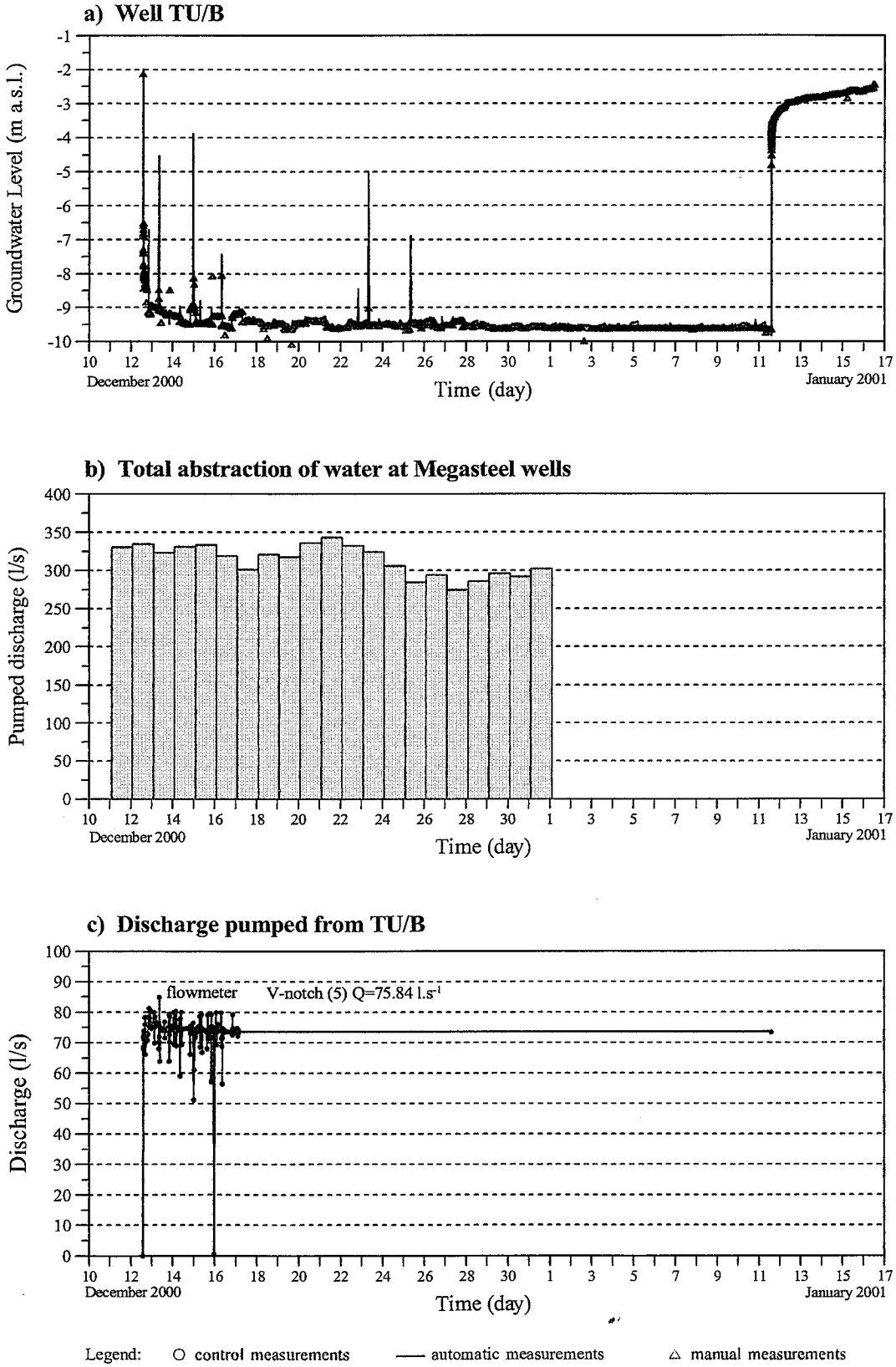


Data Book Figure G.3.20 Paya Indah - well J1-1-1, J1-1-2, J10-1-1 and J10-1-2 - groundwater level during pumping and recovery test (semilogaritmic scale)

ro_J111_semi

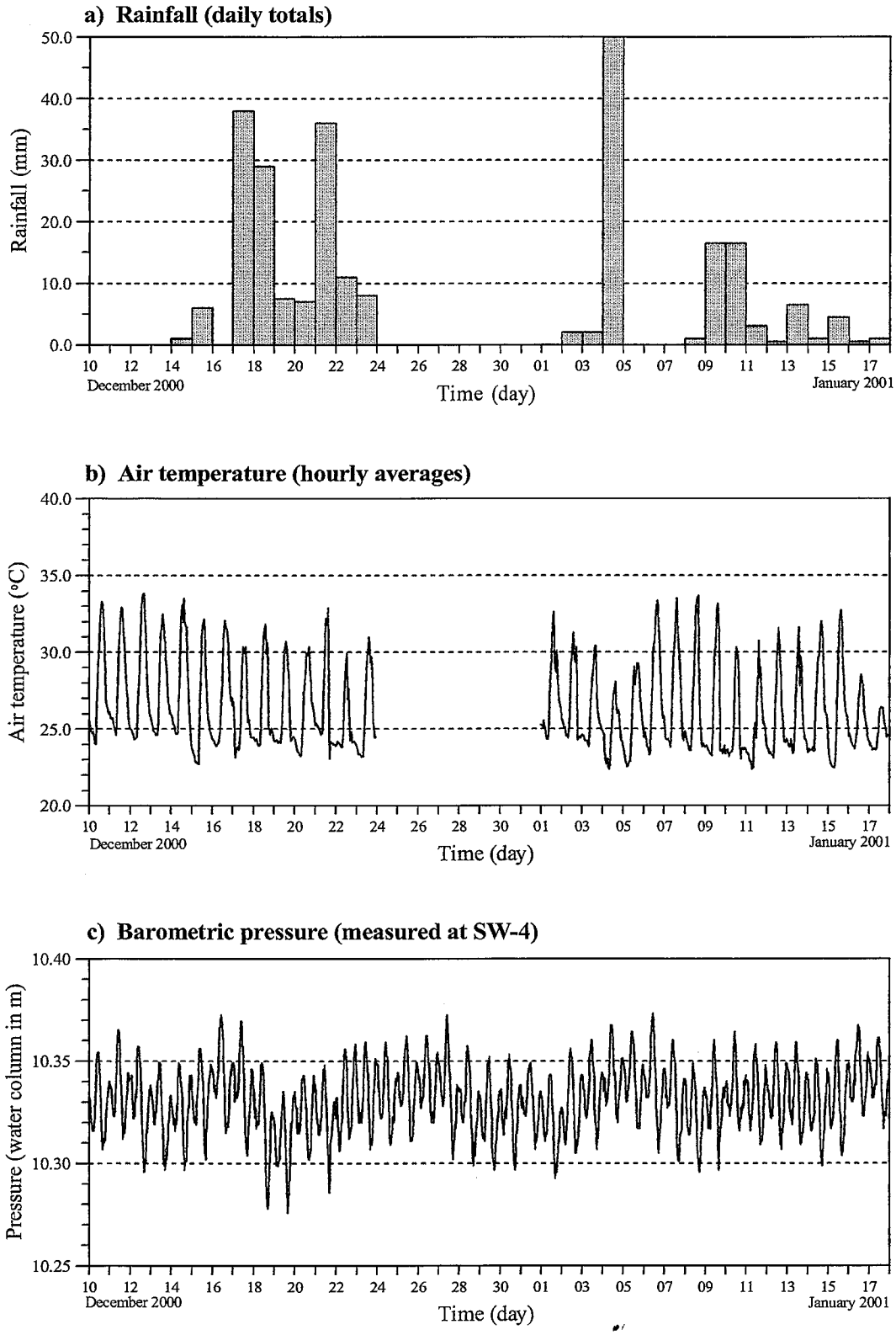
DATA BOOK G.3.2

PUMPING AND RECOVERY TEST DATA
AT
KAJIBUMI WELL FIELD 2



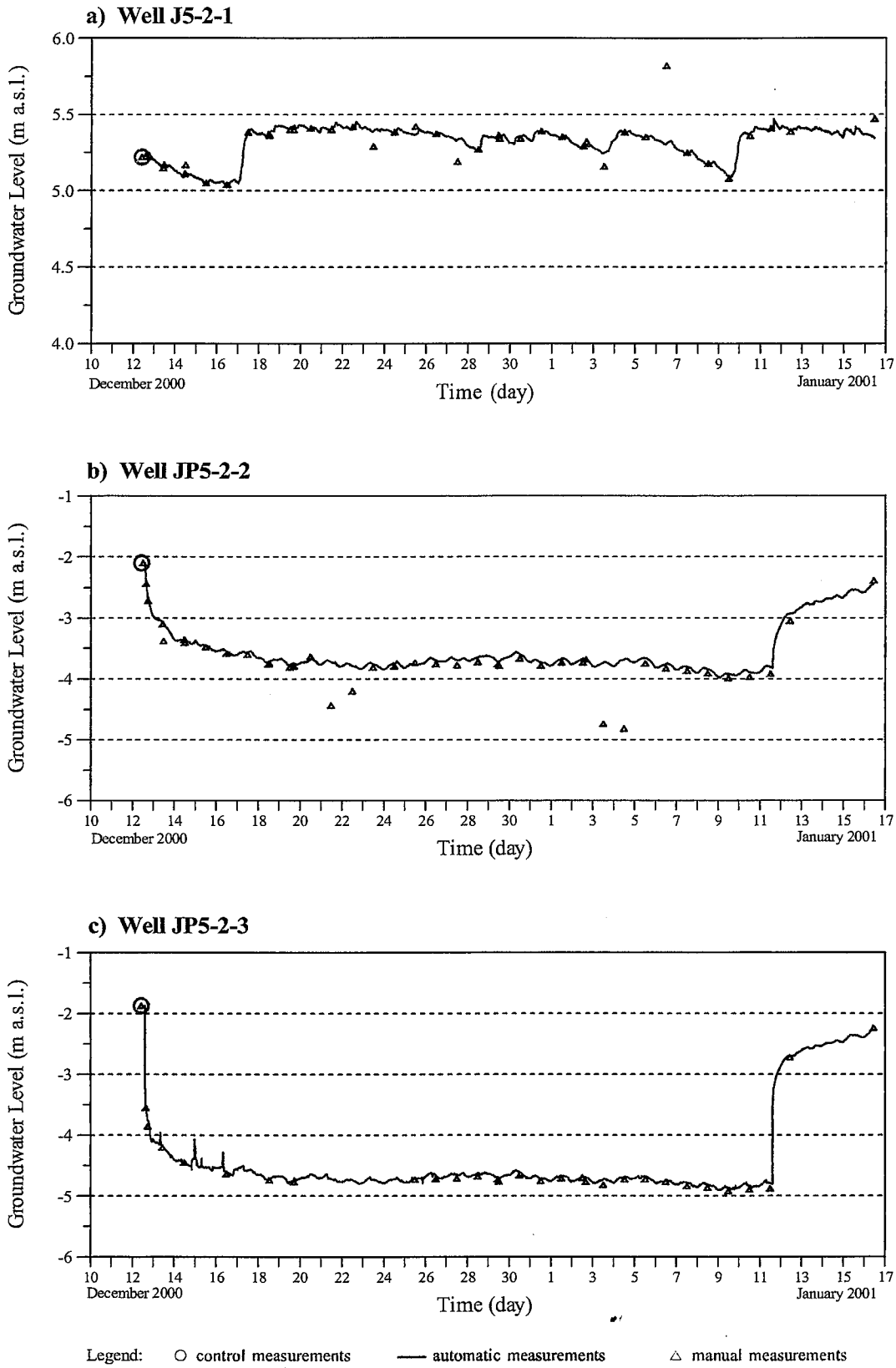
Data Book Figure G.3.21 Kajibumi WF2 - groundwater level and discharge from well TU/B, total abstraction of water at Megasteel wells (linear scale)

ro_tub_lin



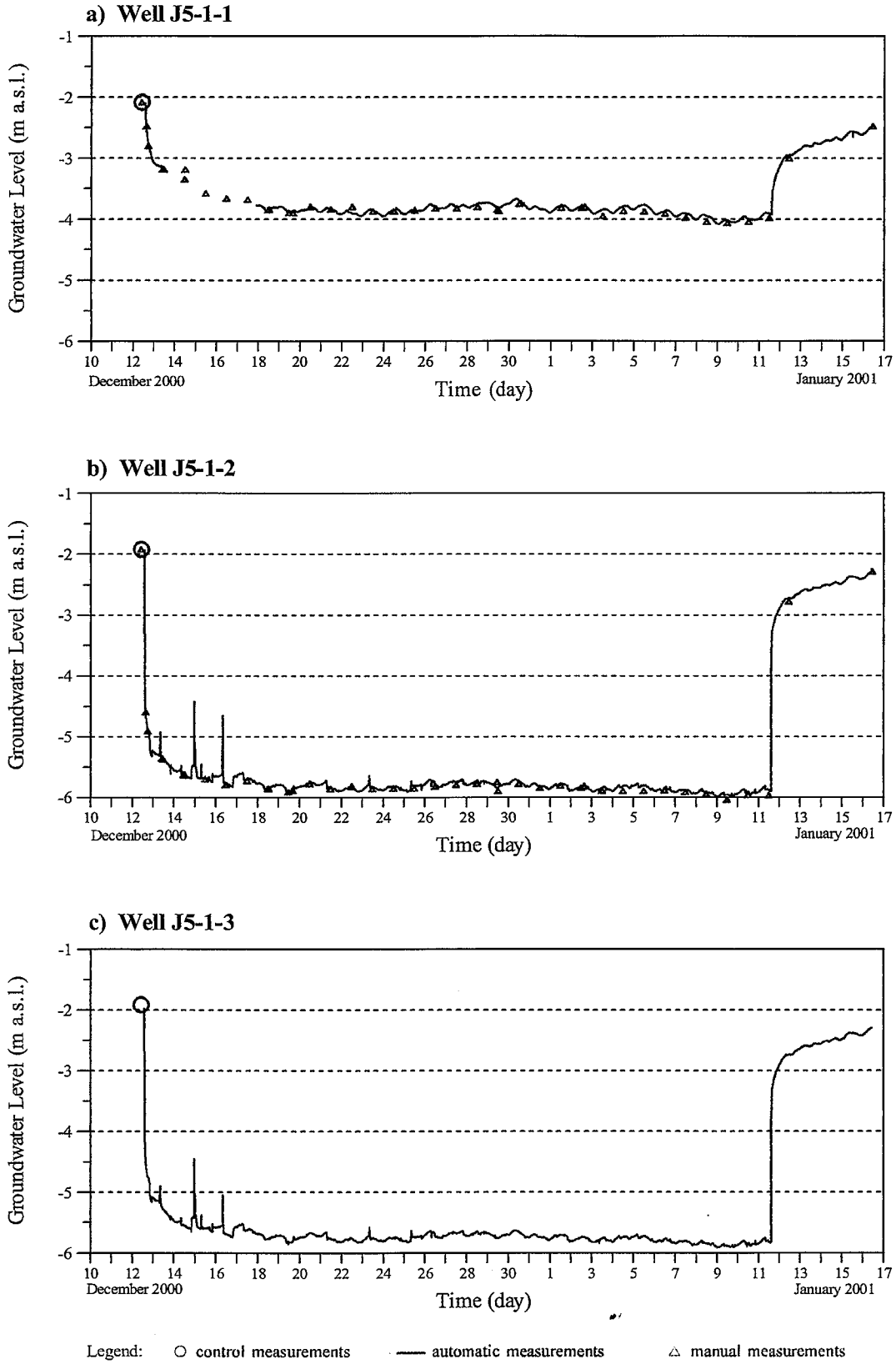
Data Book Figure G.3.22 Kajibumi WF2 - Rainfall, Air temperature and Barometric pressure during pumping and recovery test (linear scale)

ro_rain_lin



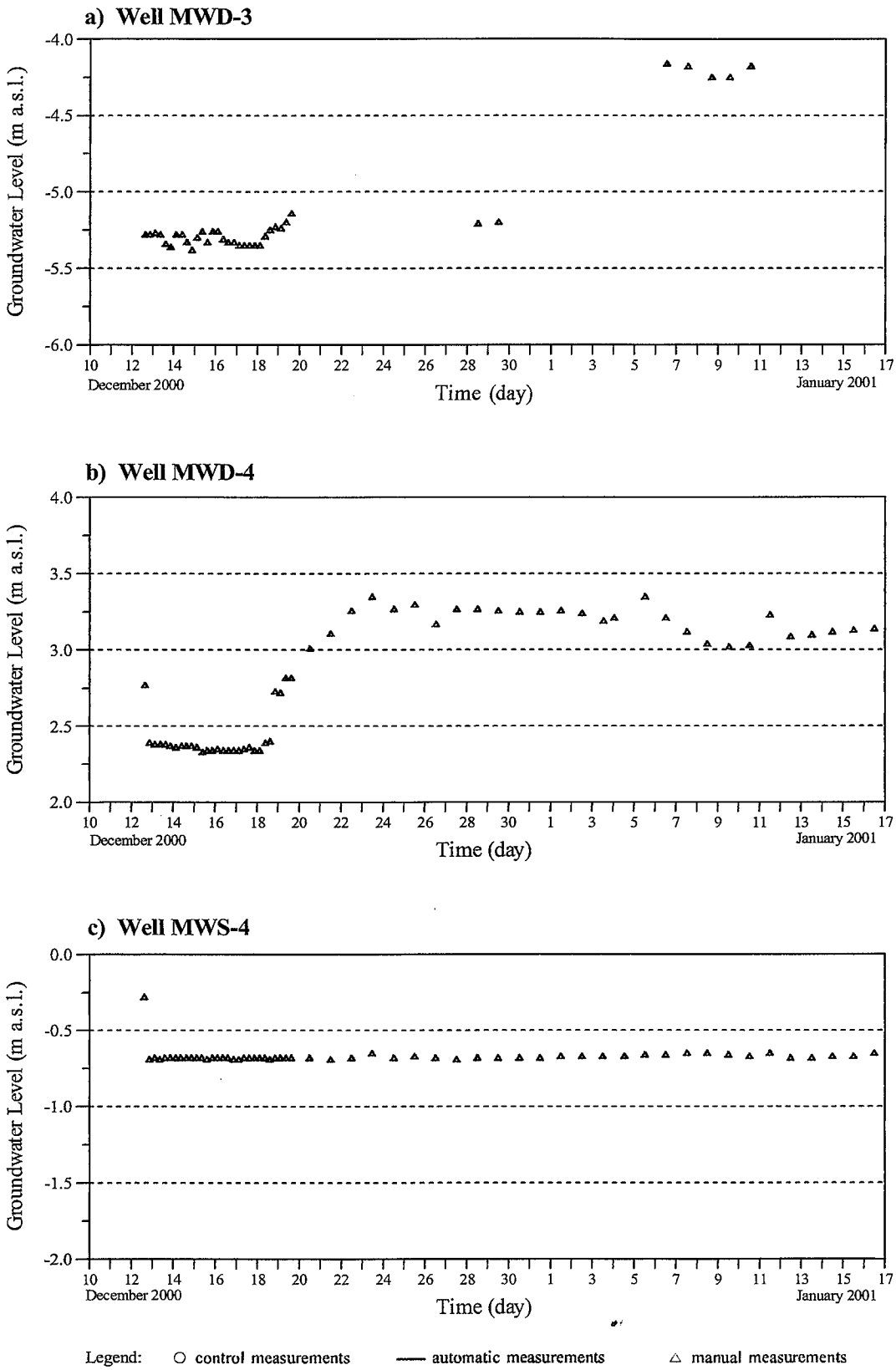
Data Book Figure G.3.23 Kajibumi WF2 - well J5-2-1, J5-2-2 and J5-2-3 groundwater level during pumping and recovery test (linear scale)

ro_J521_lin



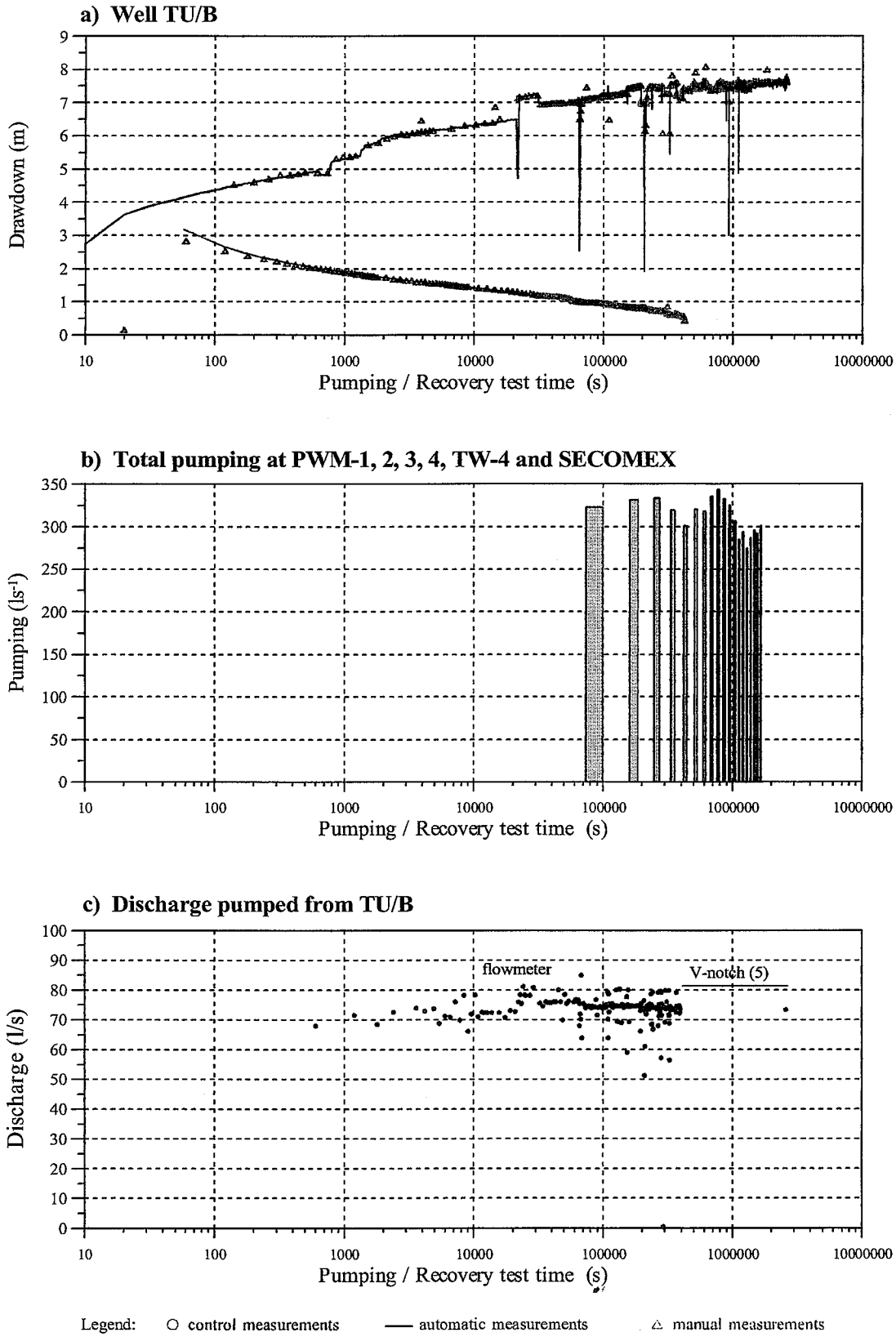
Data Book Figure G.3.24 Kajibumi WF2 - well J5-1-1, J5-1-2 and J5-1-3 groundwater level during pumping and recovery test (linear scale)

ro_J511_lin



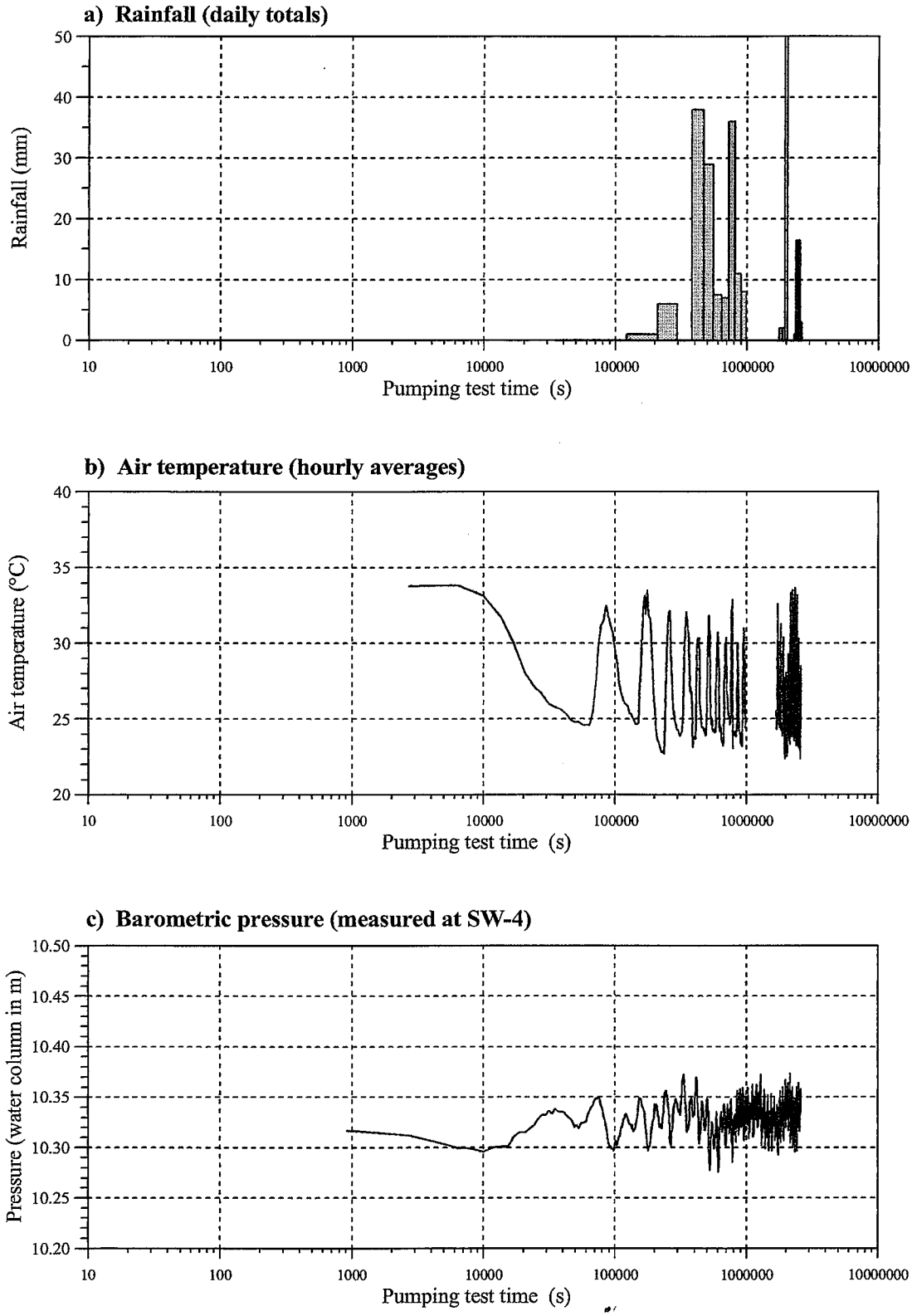
Data Book Figure G.3.25 Kajibumi WF2 - well MWD-3, MWD-4 and MWS-4 groundwater level during pumping and recovery test (linear scale)

ro_mwd3_lin



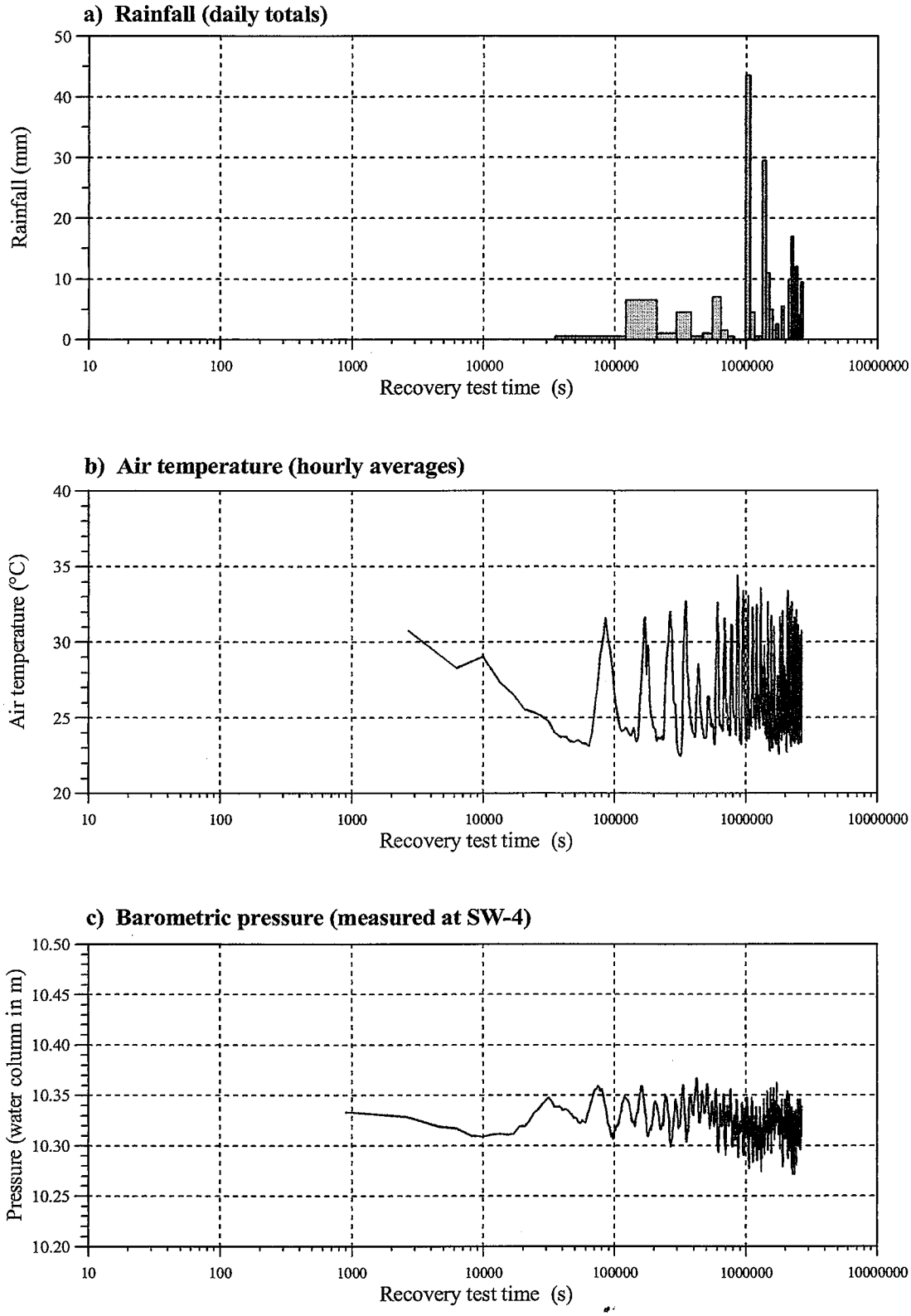
Data Book Figure G.3.26 Kajibumi WF2 - groundwater level and discharges from well TU/B, total abstraction of water at wells in Megasteel (semilogaritmic scale)

ro_tub_semi



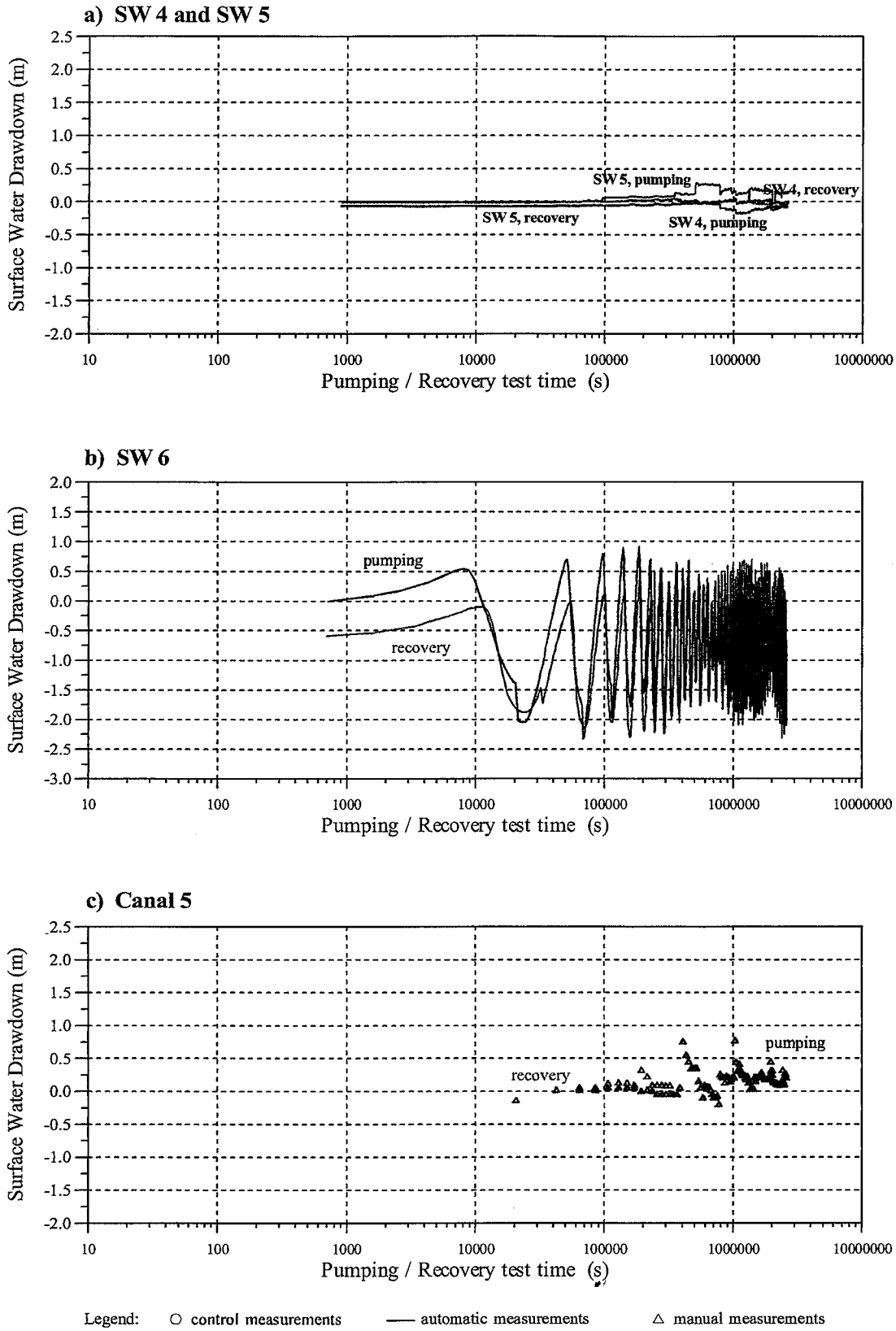
Data Book Figure G.3.27 Kajibumi WF2 - Rainfall, Air temperature and Barometric pressure during pumping test (semilogaritmic scale)

ro_rain1_semi



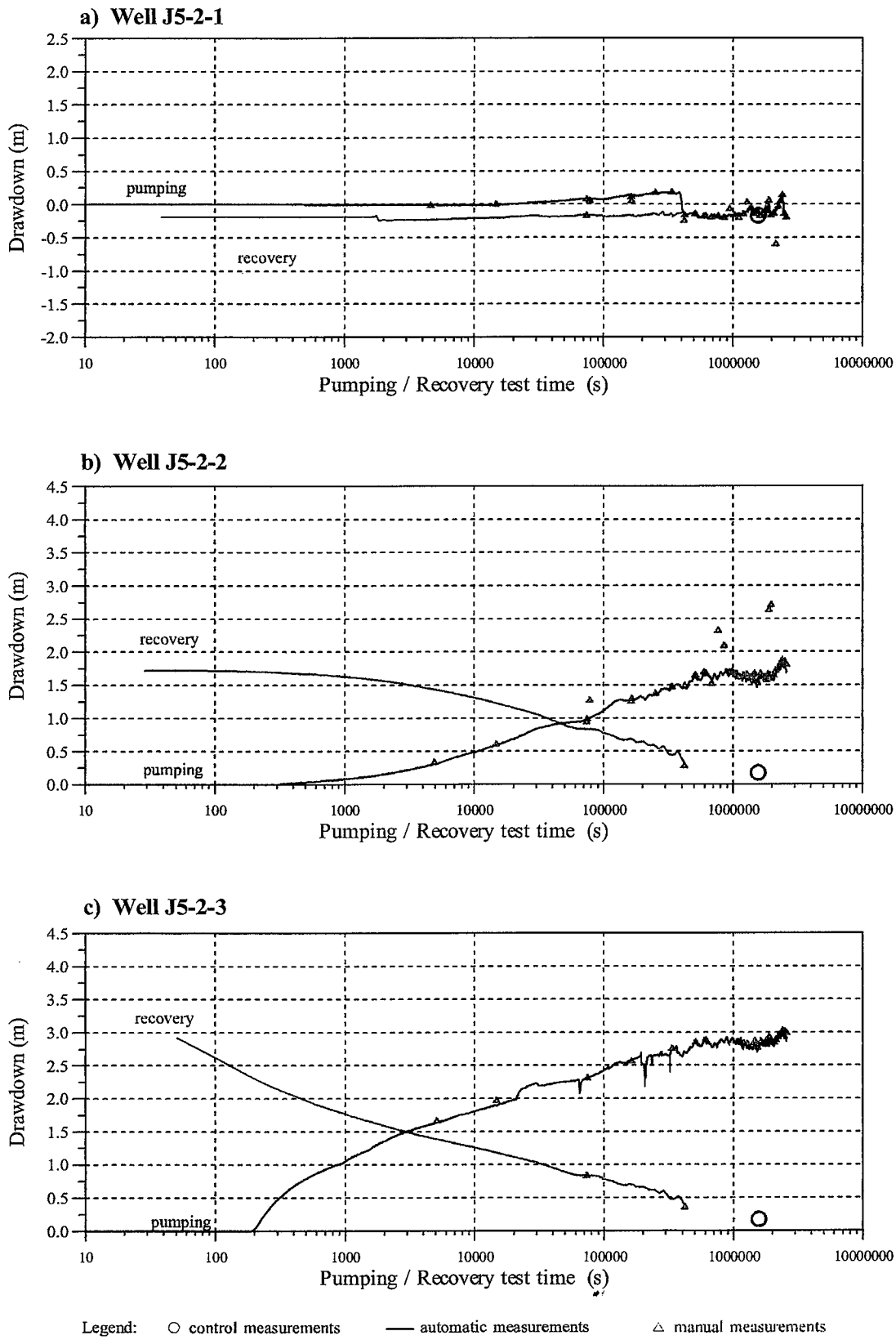
Data Book Figure G.3.28 Kajibumi WF2 - Rainfall, Air temperature and Barometric pressure during recovery test (semilogaritmic scale)

ro_rain2_semi



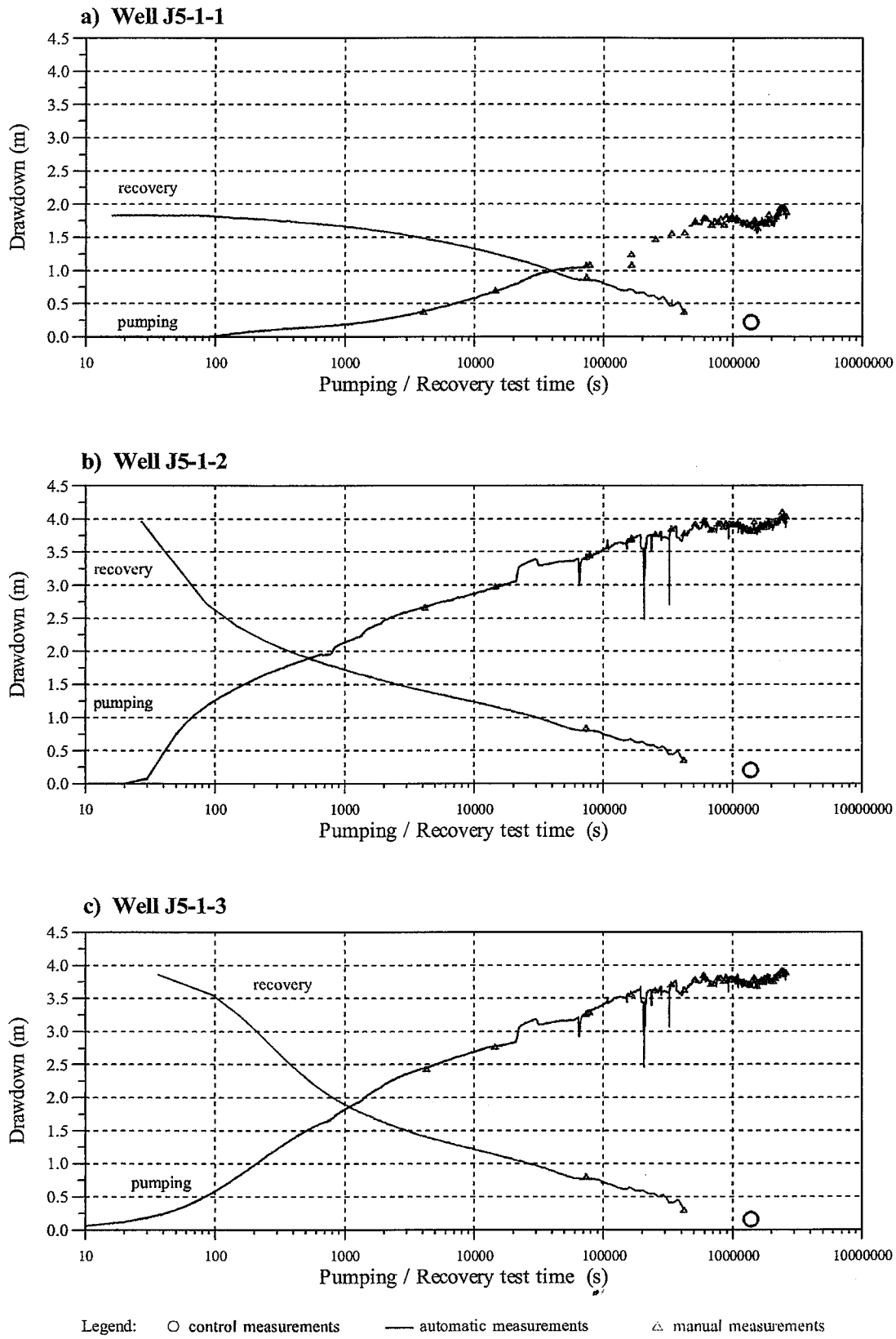
Data Book Figure G.3.29 Kajibumi WF2 - SW 4, SW 5, SW 6 and Canal 5 surfacewater level during pumping and recovery test (semilogaritmic scale)

ro_sw4_semi



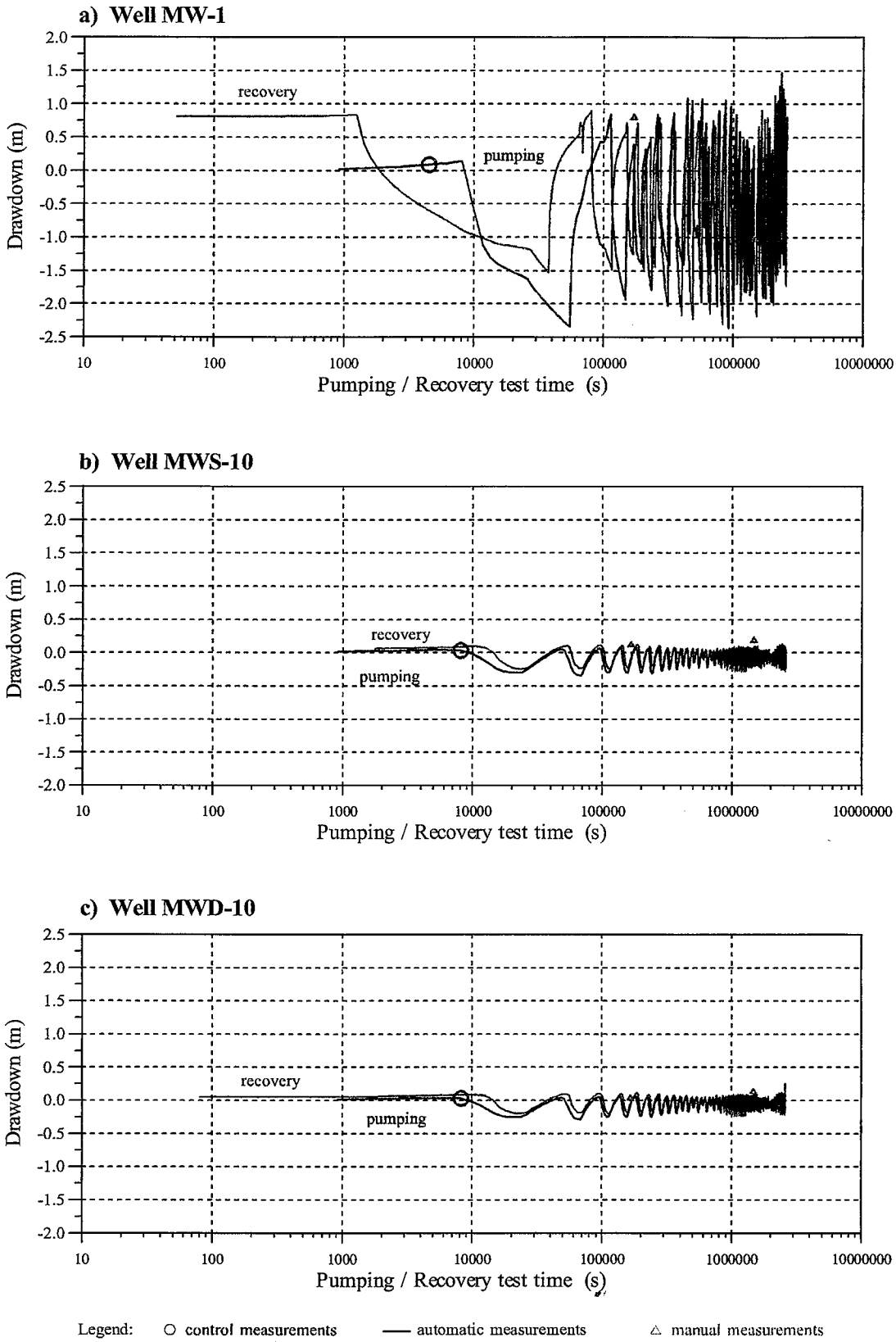
Data Book Figure G.3.30 Kajibumi WF2 - well J5-2-1, J5-2-2 and J5-2-3 groundwater level during pumping and recovery test (semilogaritmic scale)

ro_J521_semi



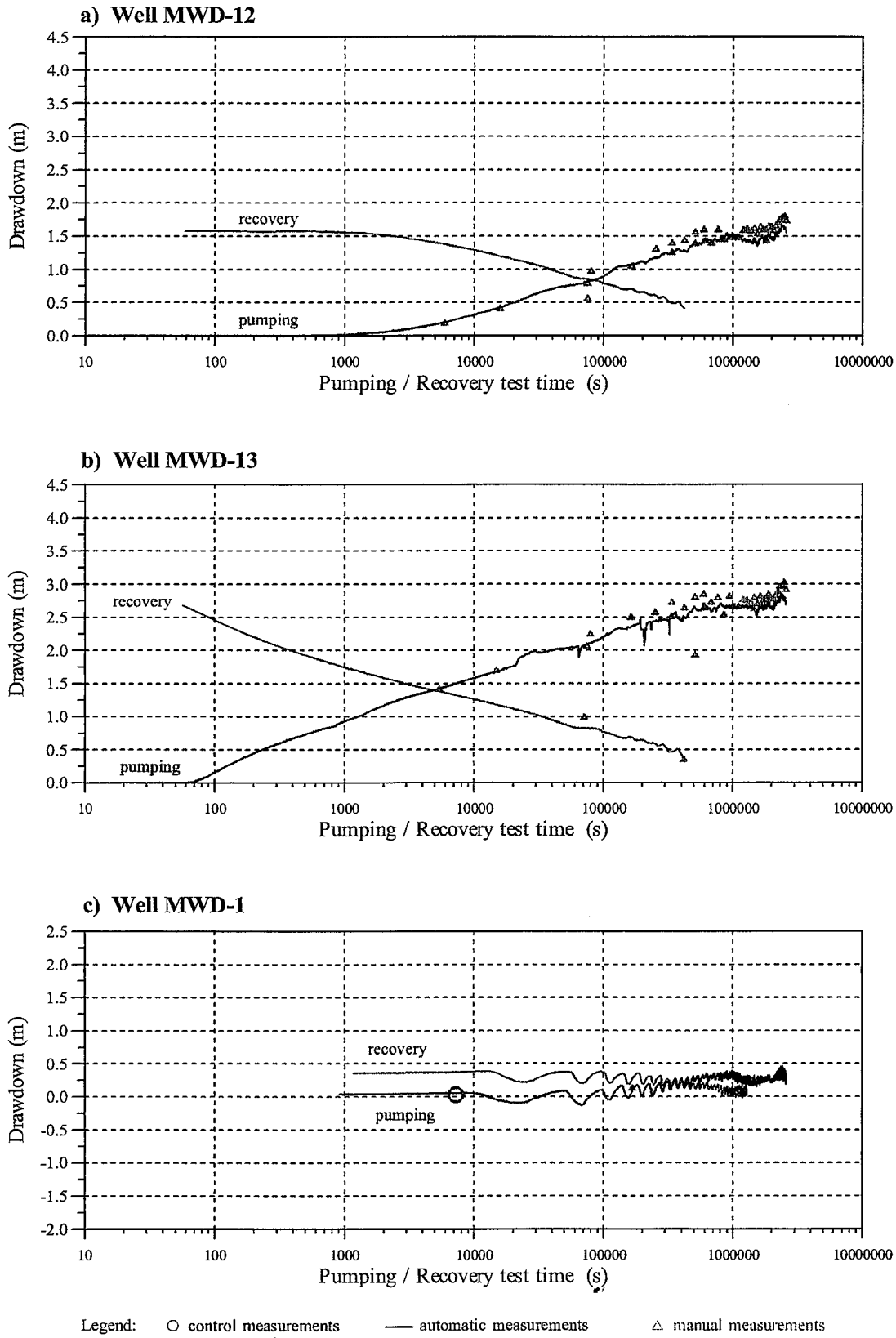
Data Book Figure G.3.31 Kajibumi WF2 - well J5-1-1, J5-1-2 and J5-1-3 groundwater level during pumping and recovery test (semilogaritmic scale)

ro_J511_semi



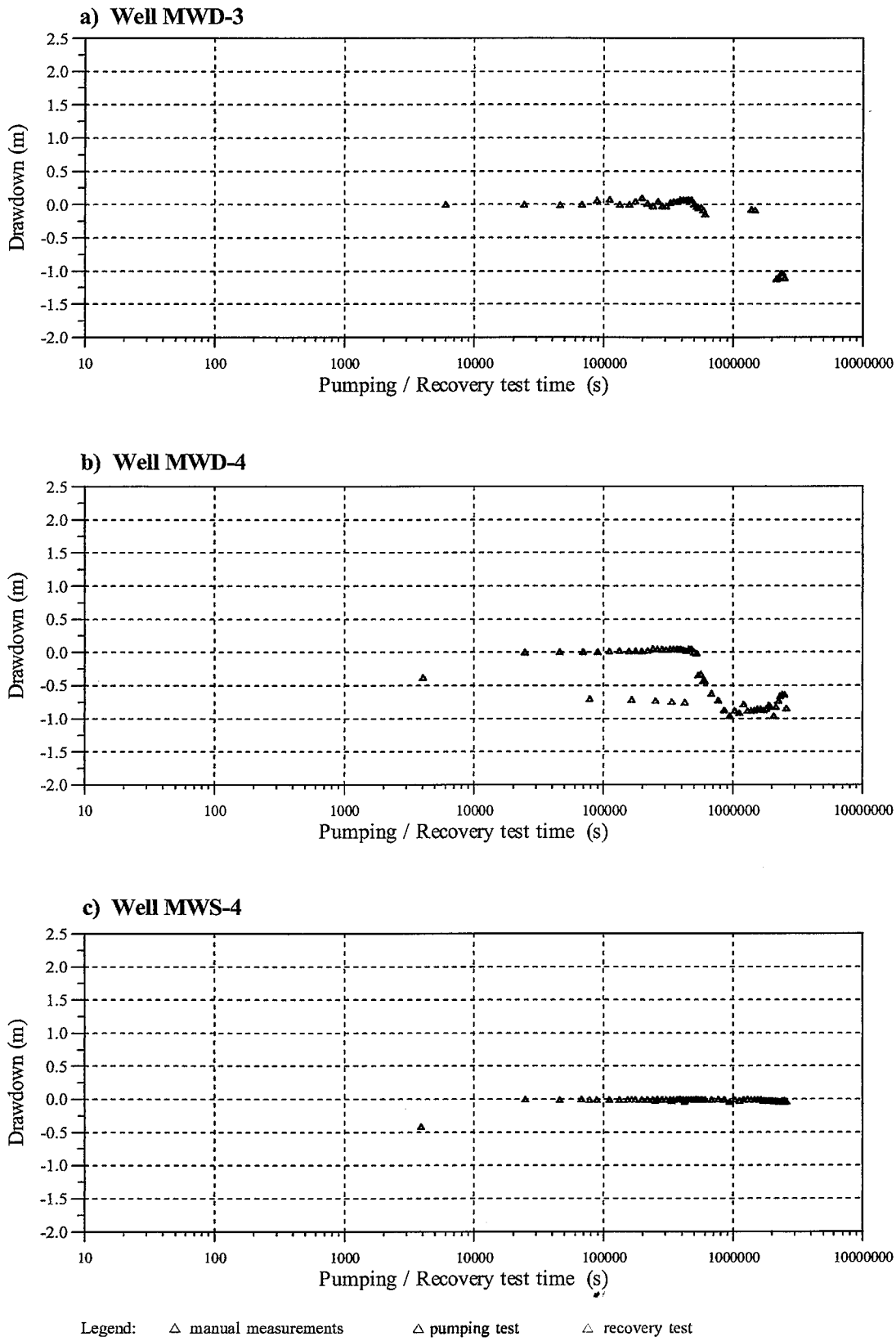
Data Book Figure G.3.32 Kajibumi WF2 - well MW-1, MWS-10 and MWD-10 groundwater level during pumping and recovery test (semilogaritmic scale)

ro_mw1_semi



Data Book Figure G.3.33 Kajibumi WF2 - well MWD-12, MWD-13 and MWD-1 groundwater level during pumping and recovery test (semilogaritmic scale)

ro_mwd12_semi

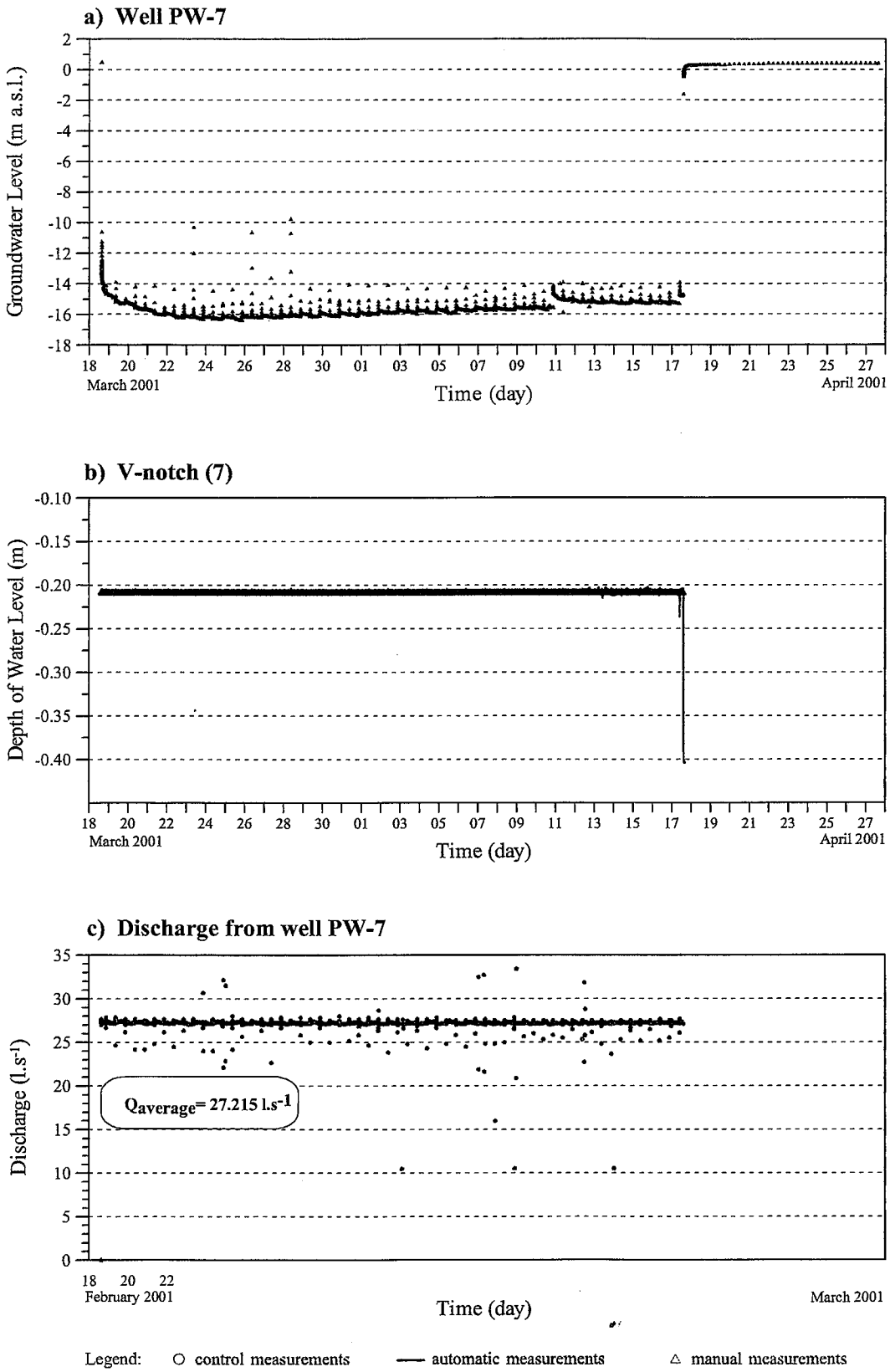


Data Book Figure G.3.34 Kajibumi WF2 - well MWD-3, MWD-4 and MWS-4 groundwater level during pumping and recovery test (semilogaritmic scale)

ro_mwd3_semi

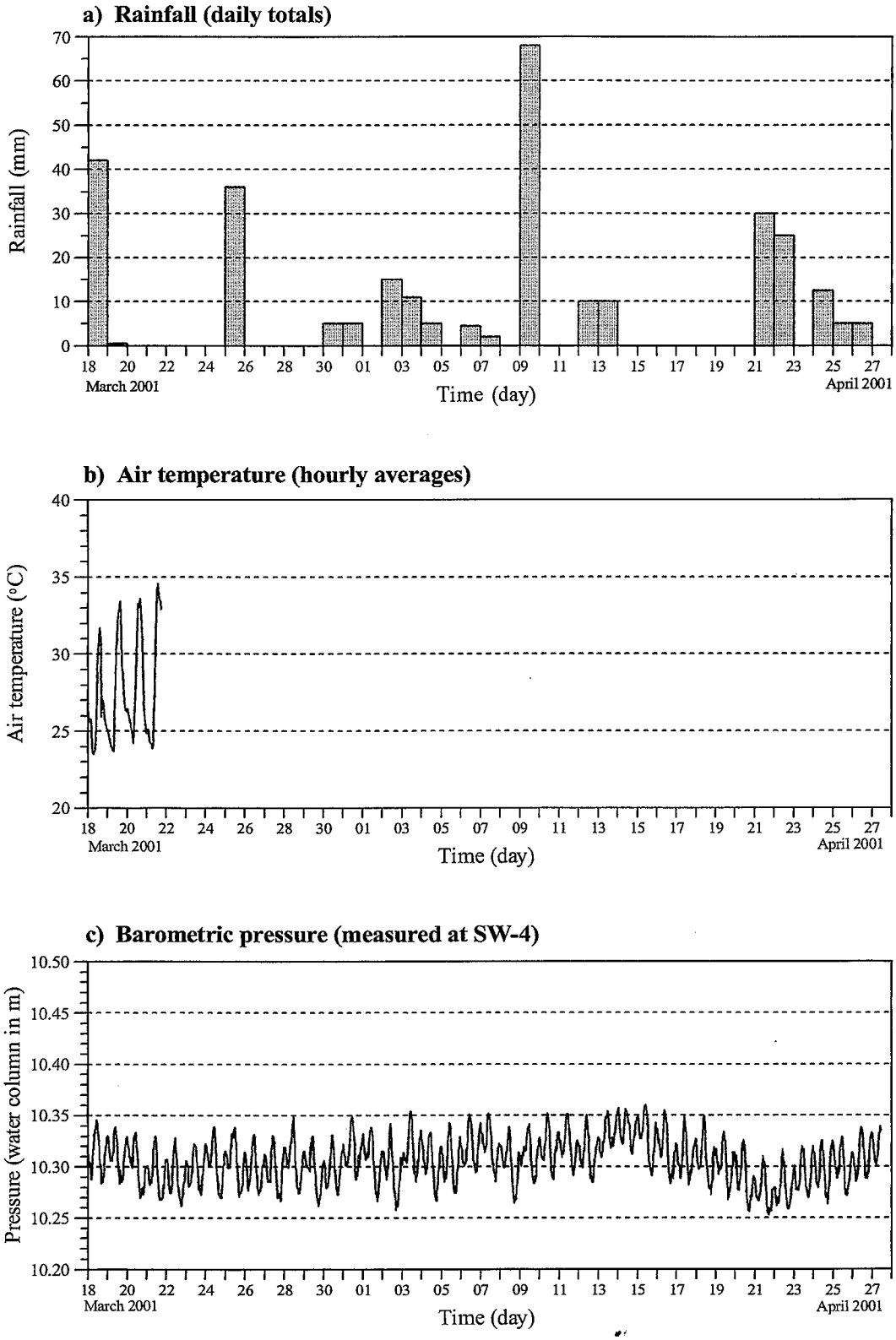
DATA BOOK G.3.3

PUMPING AND RECOVERY TEST DATA
AT
KANCHONG DARAT



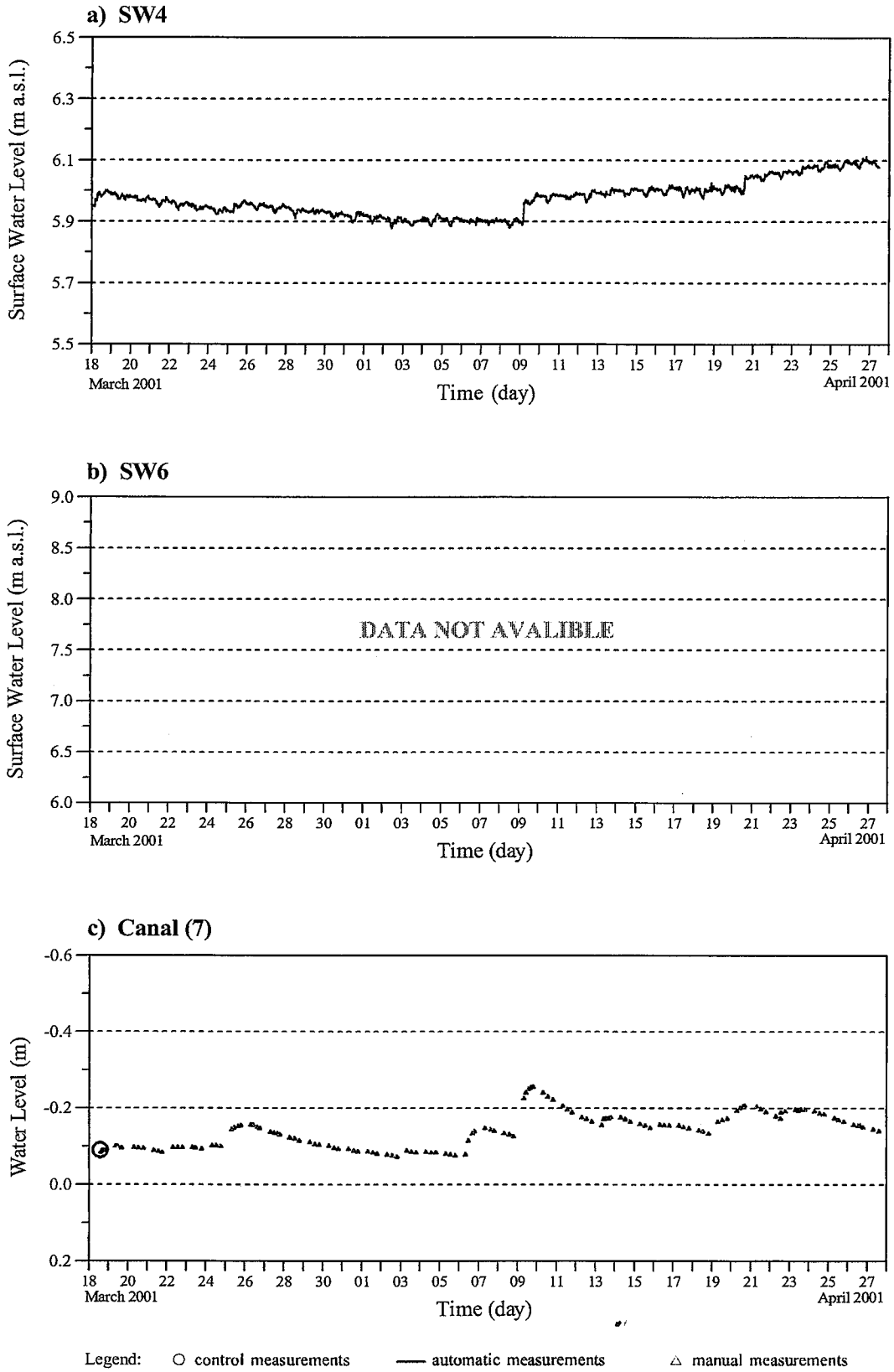
Data Book Figure G.3.35 Kanchong Darat - well PW7, V-notch (7), discharge - groundwater level and discharge during pumping and recovery test (linear scale)

ro_pw7_lin



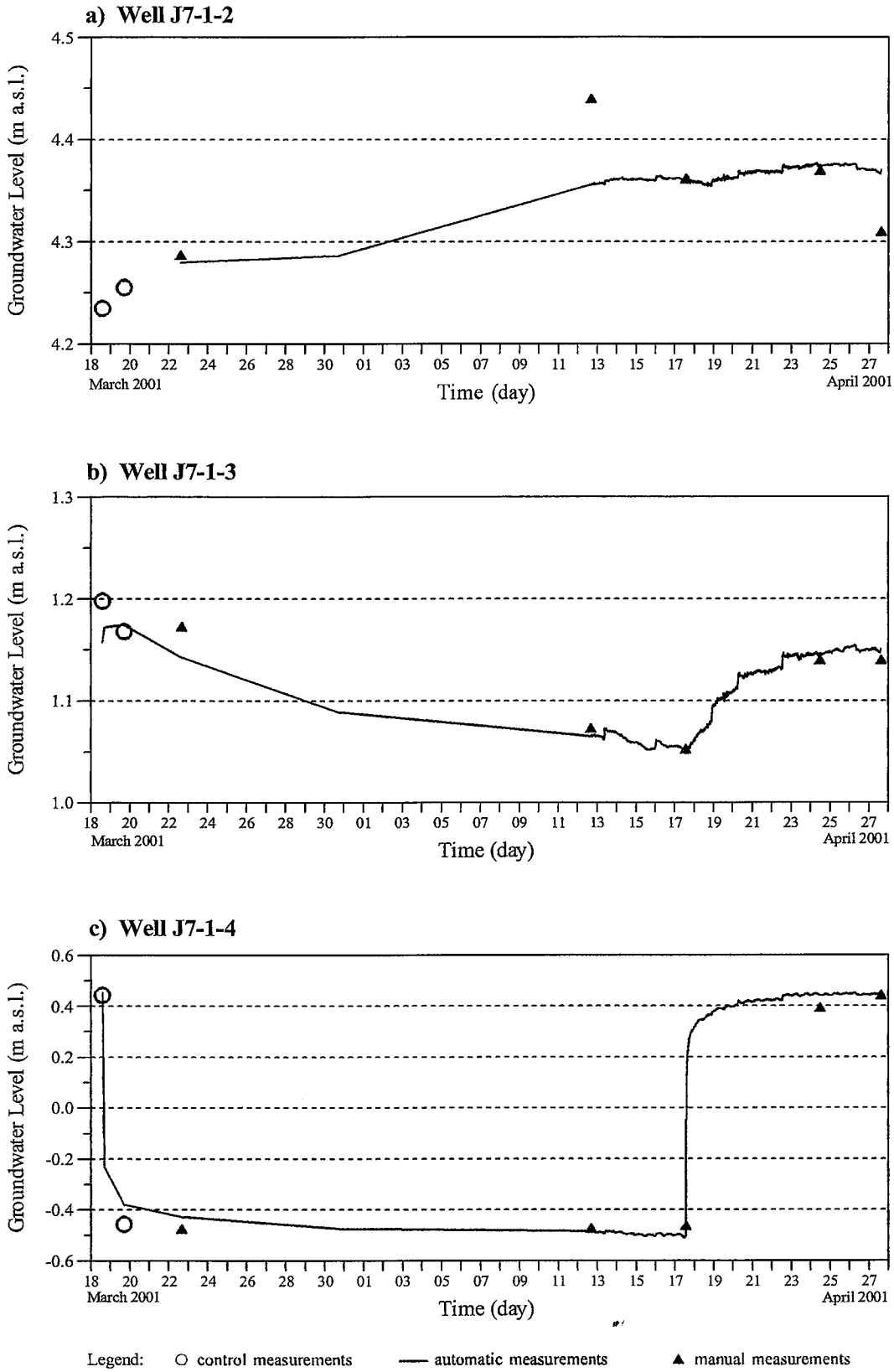
Data Book Figure G.3.36 Kanchong Darat - Rainfall, Air temperature and Barometric pressure during pumping and recovery test (linear scale)

ro_rain7_lin



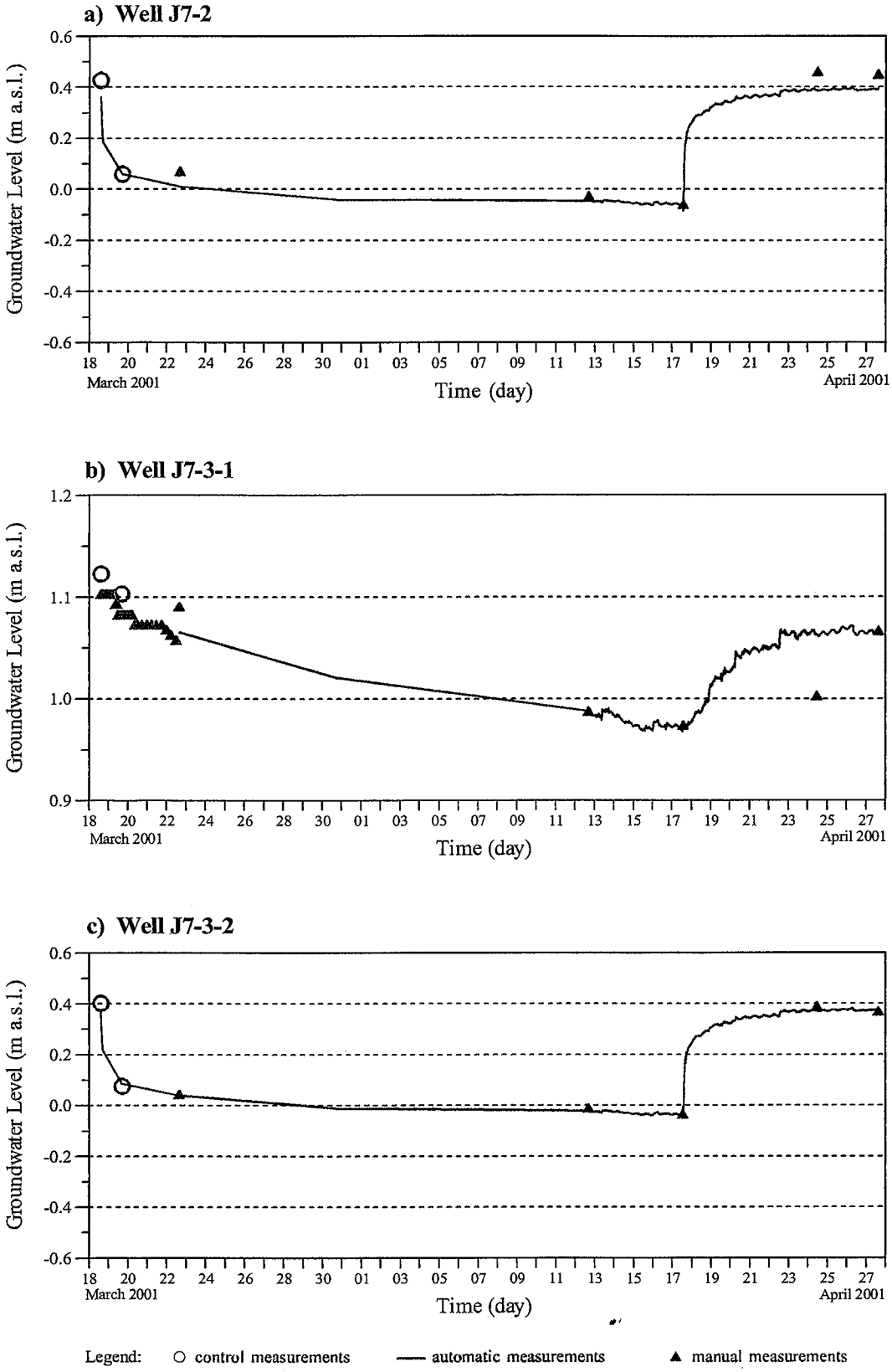
Data Book Figure G.3.37 Kanchong Darat - SW4, SW6 and Canal 7 surface water level during pumping and recovery test (linear scale)

ro_sw4_lin



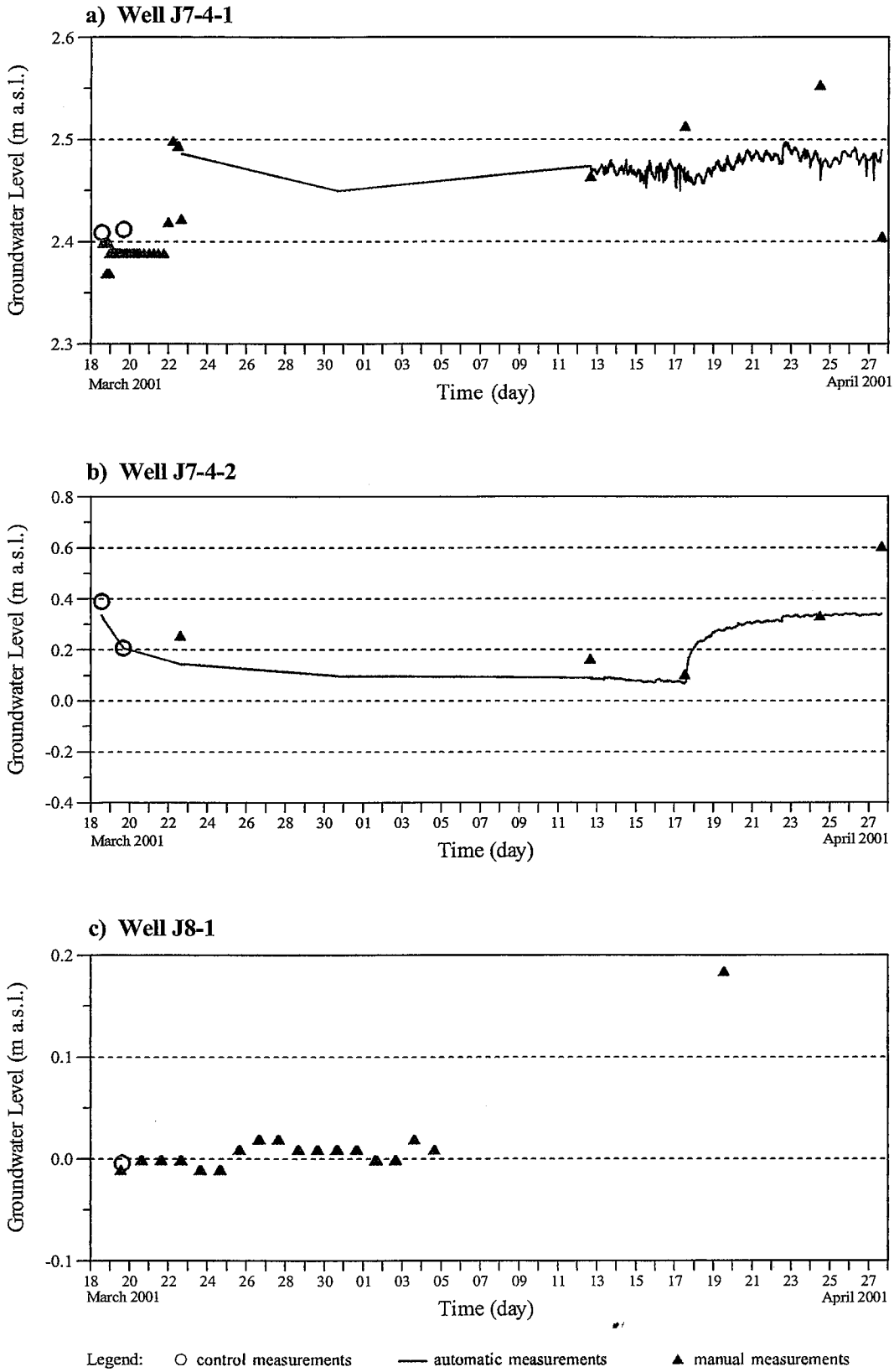
Data Book Figure G.3.38 Kanchong Darat - well J7-1-2, J7-1-3 and J7-1-4 - groundwater level during pumping and recovery test (linear scale)

ro_J712_lin



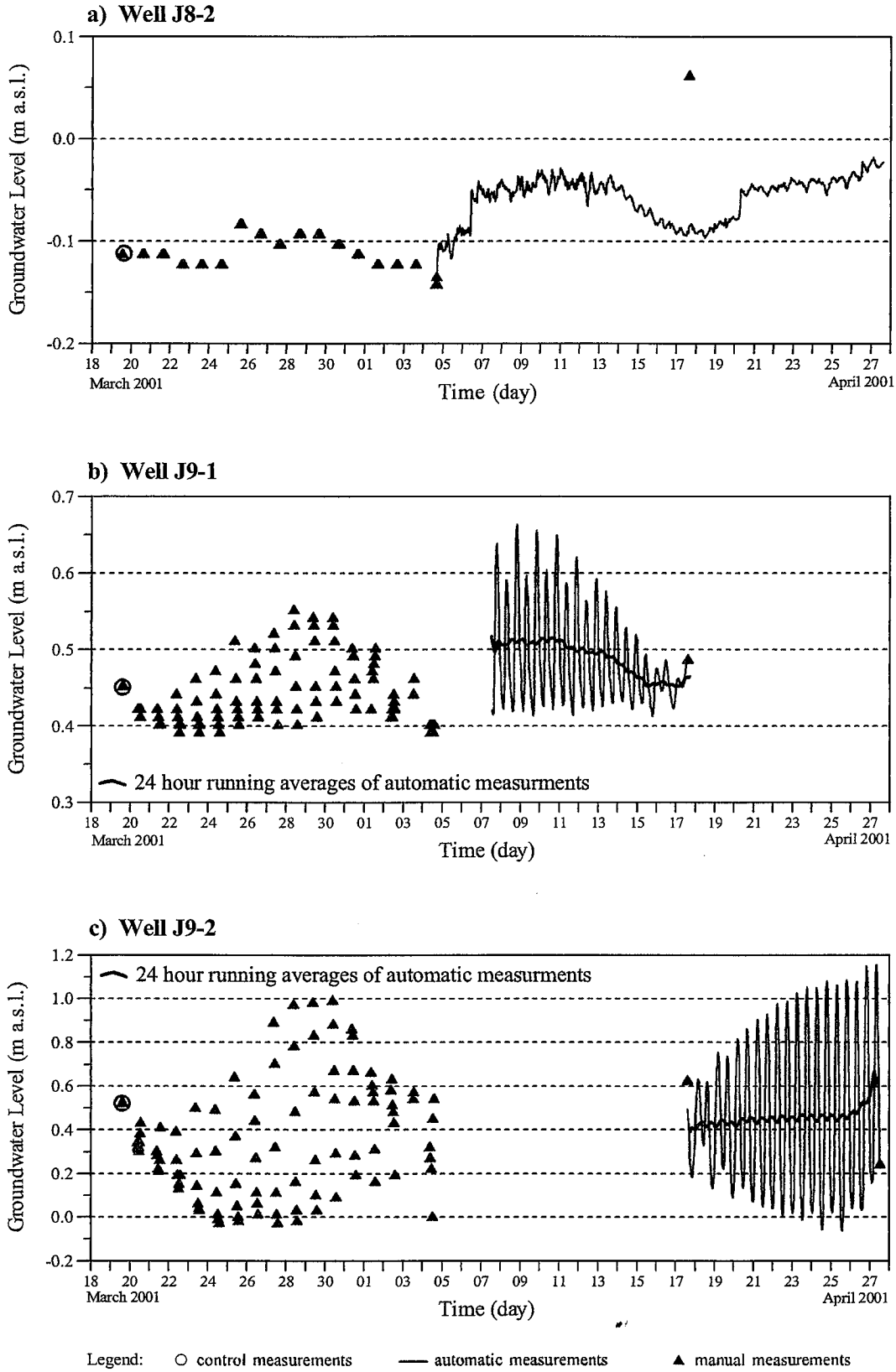
Data Book Figure G.3.39 Kanchong Darat - well J7-2, J7-3-1 and J7-3-2 - groundwater level during pumping and recovery test (linear scale)

ro_J72_lin



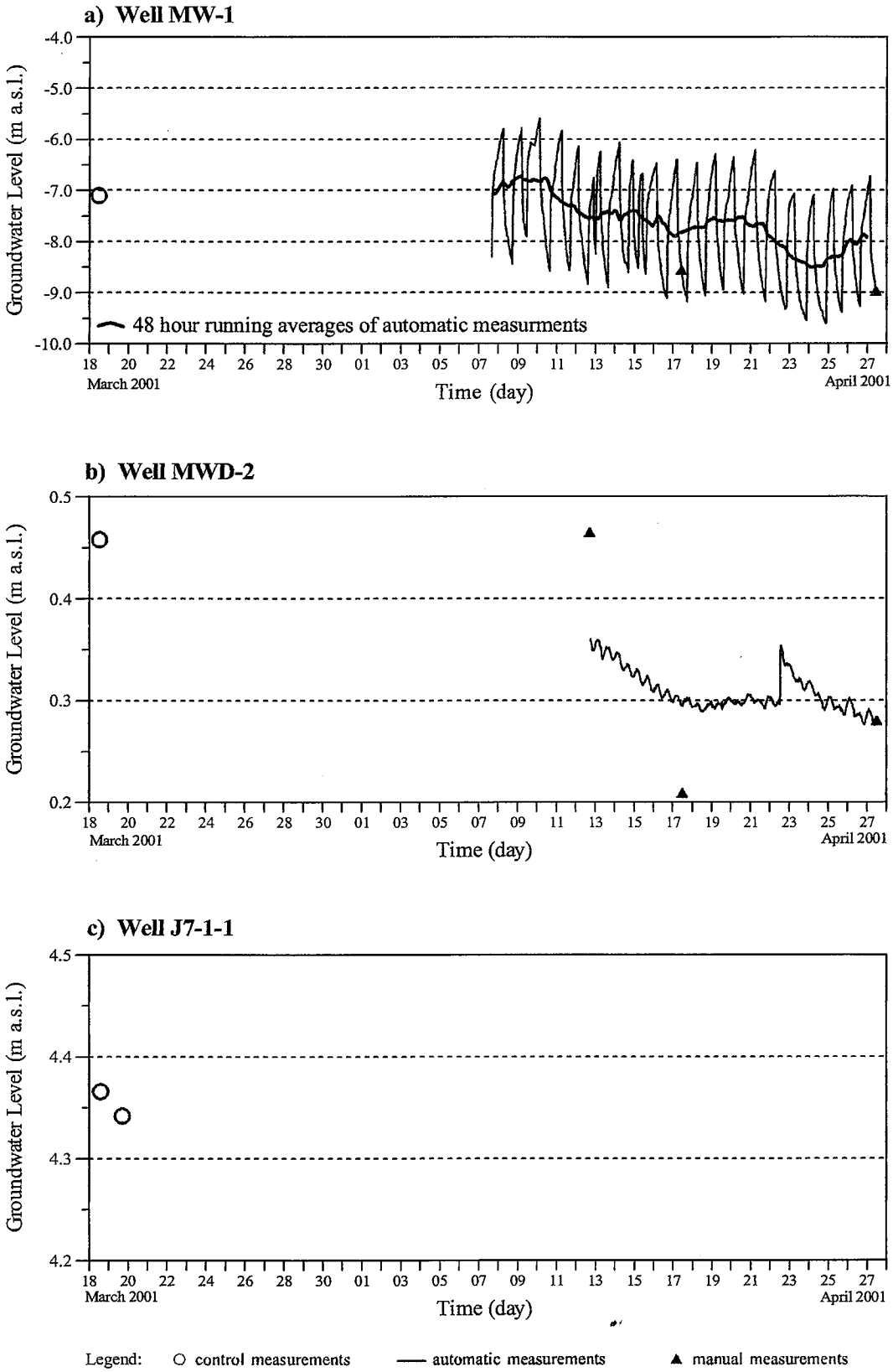
Data Book Figure G.3.40 Kanchong Darat - well J7-4-1, J7-4-2 and J8-1 - groundwater level during pumping and recovery test (linear scale)

ro_J741_lin



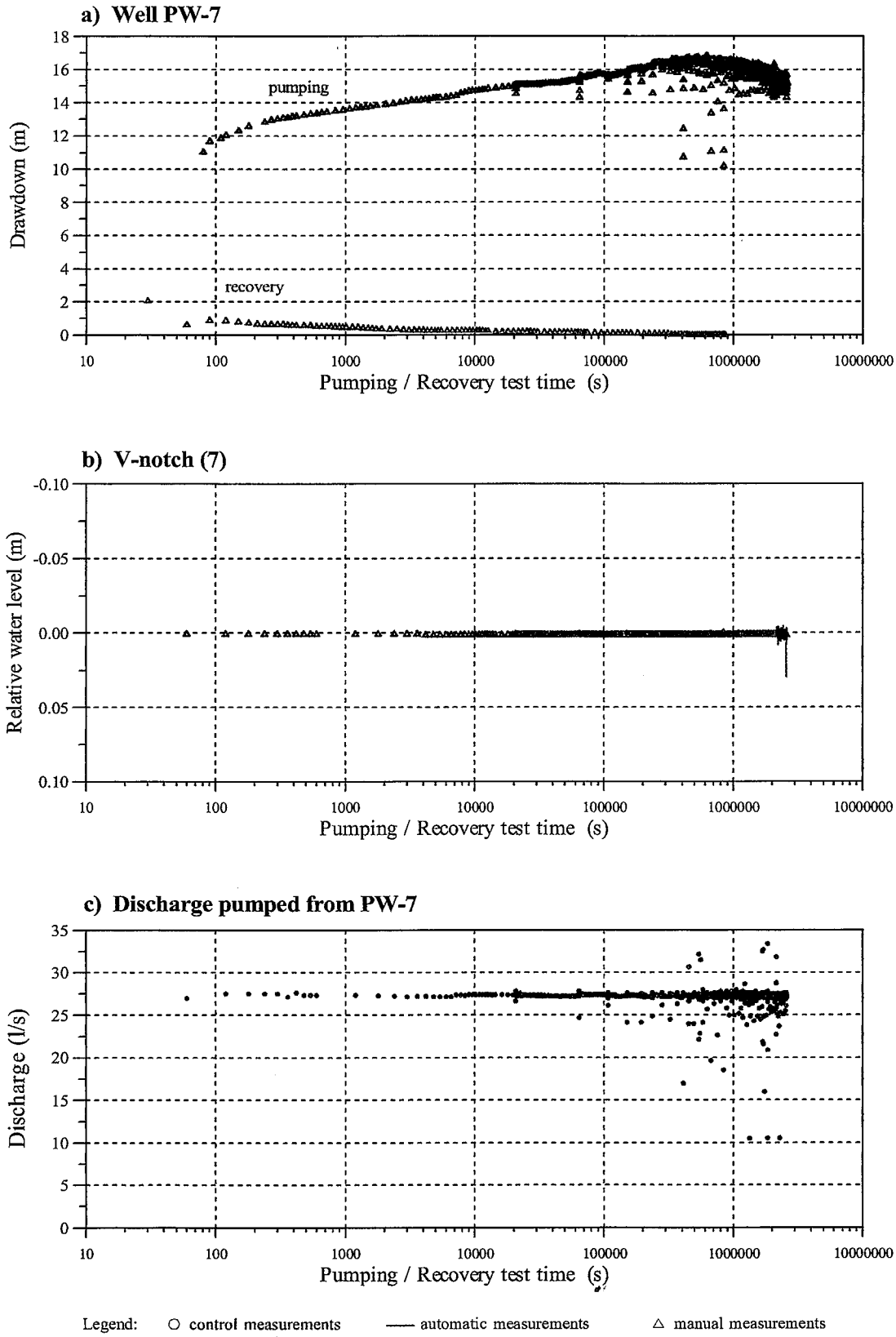
Data Book Figure G.3.41 Kanchong Darat - well J8-2, J9-1 and J9-2 - groundwater level during pumping and recovery test (linear scale)

ro_J82_lin



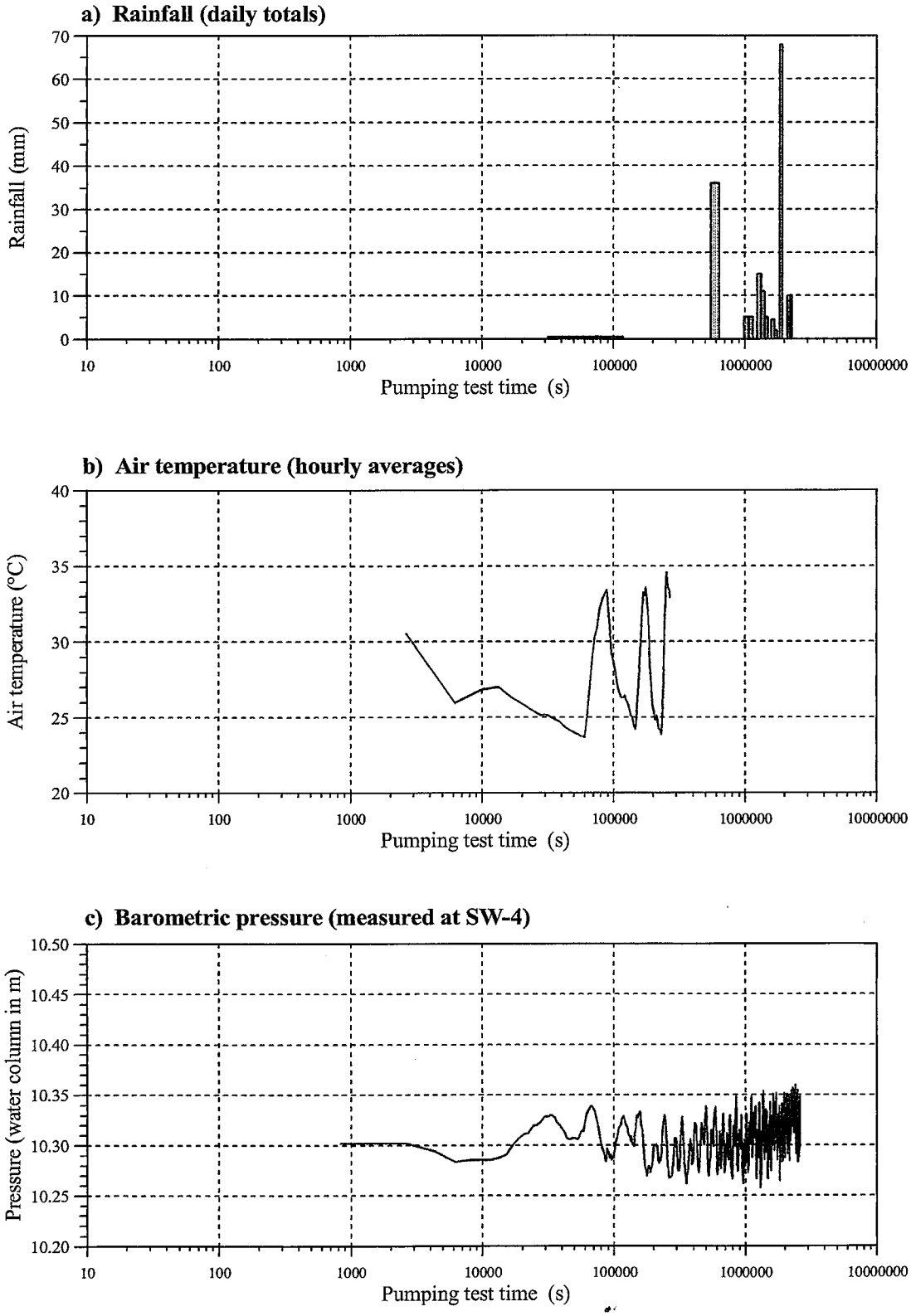
Data Book Figure G.3.42 Kanchong Darat - well MW-1, MWD-2 and J7-1-1 - groundwater level during pumping and recovery test (linear scale)

ro_mw1_lin



Data Book Figure G.3.43 Kanchong Darat - well PW-7, V-notch (7), discharge - groundwater level and discharge during pumping and recovery test (semilogaritmic scale)

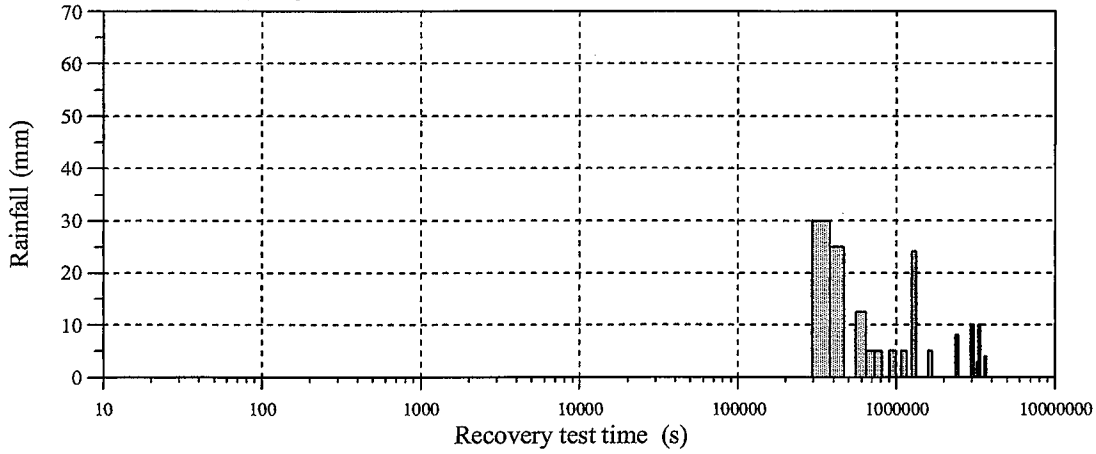
ro_pw7_semi



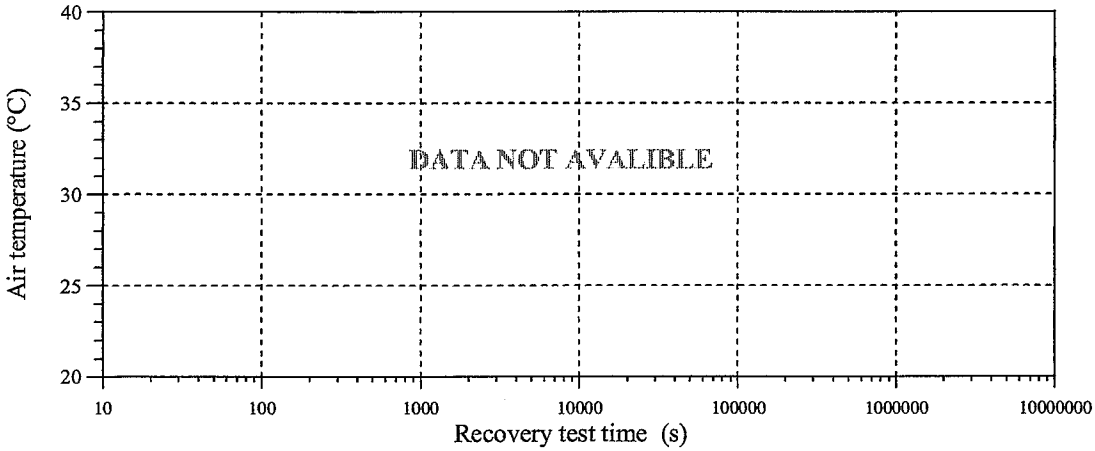
Data Book Figure G.3.44 Kanchong Darat - Rainfall, Air temperature and Barometric pressure during pumping test (semilogaritmic scale)

ro_rain71_semi

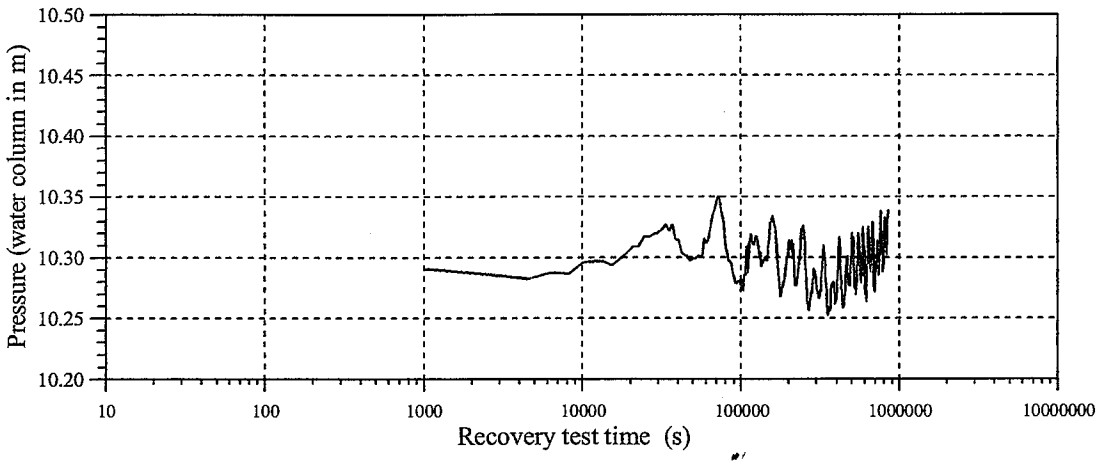
a) Rainfall (daily totals)



b) Air temperature (hourly averages)

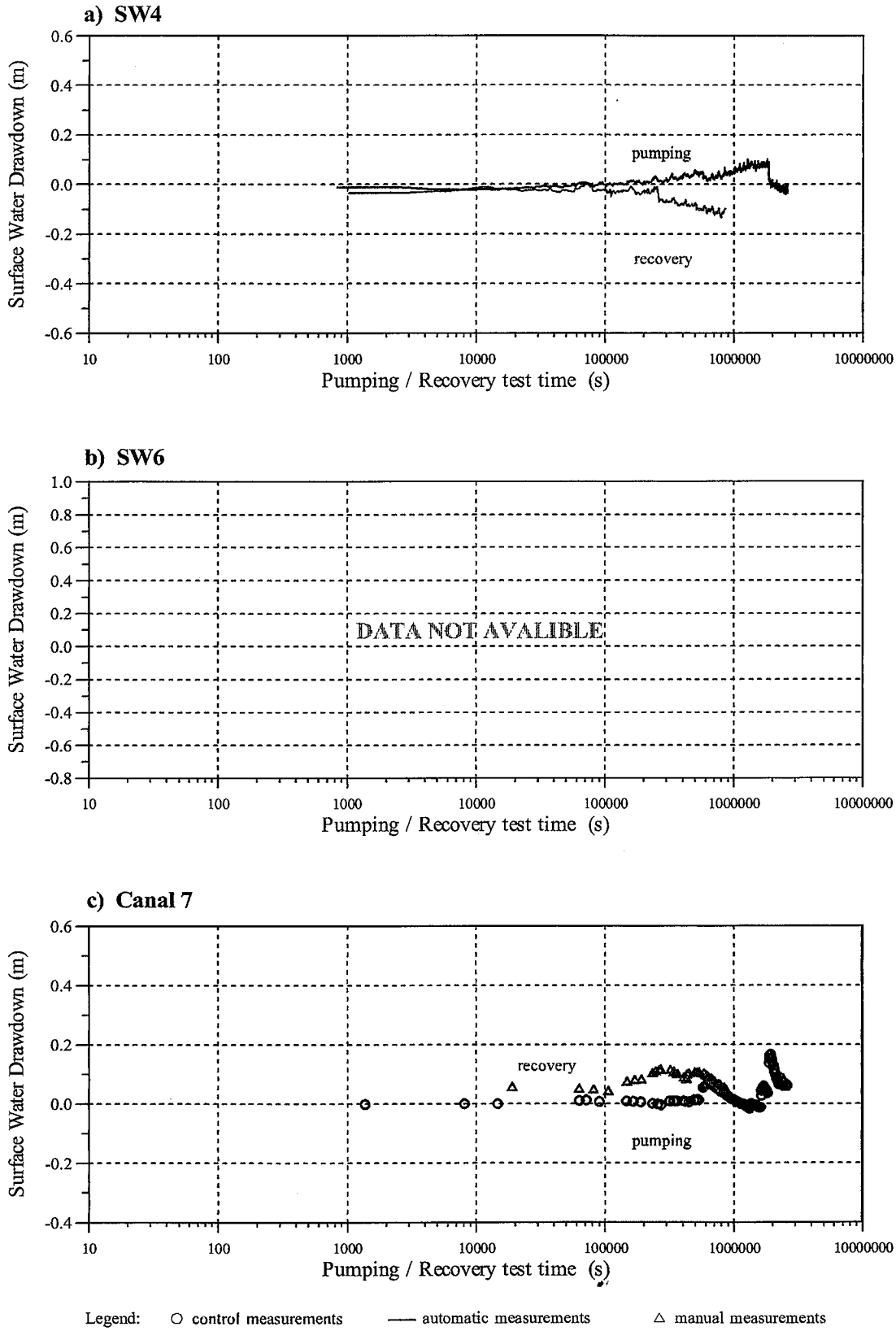


c) Barometric pressure (measured at SW-4)



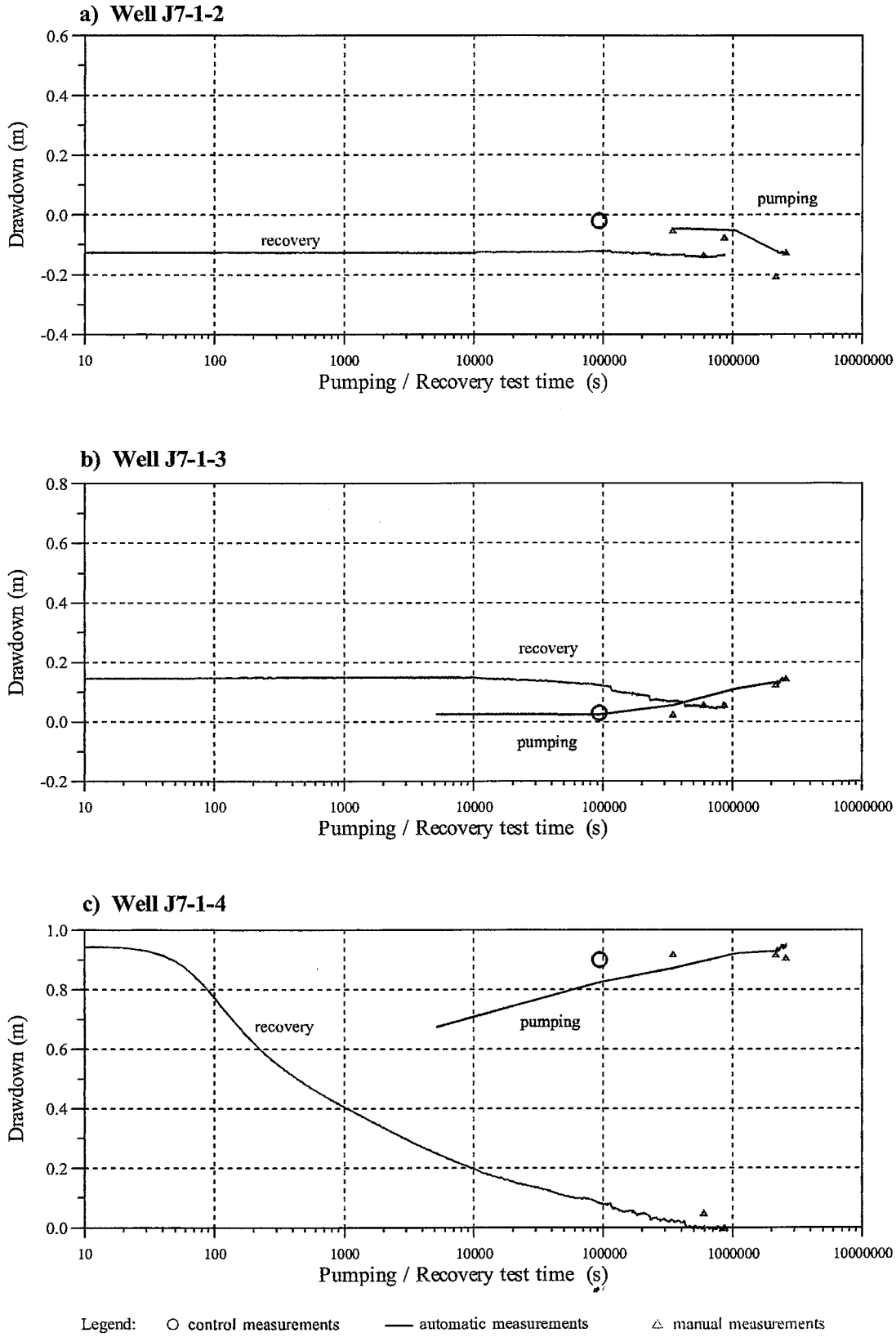
Data Book Figure G.3.45 Kanchong Darat - Rainfall, Air temperature and Barometric pressure during recovery test (semilogaritmic scale)

ro_rain72_semi



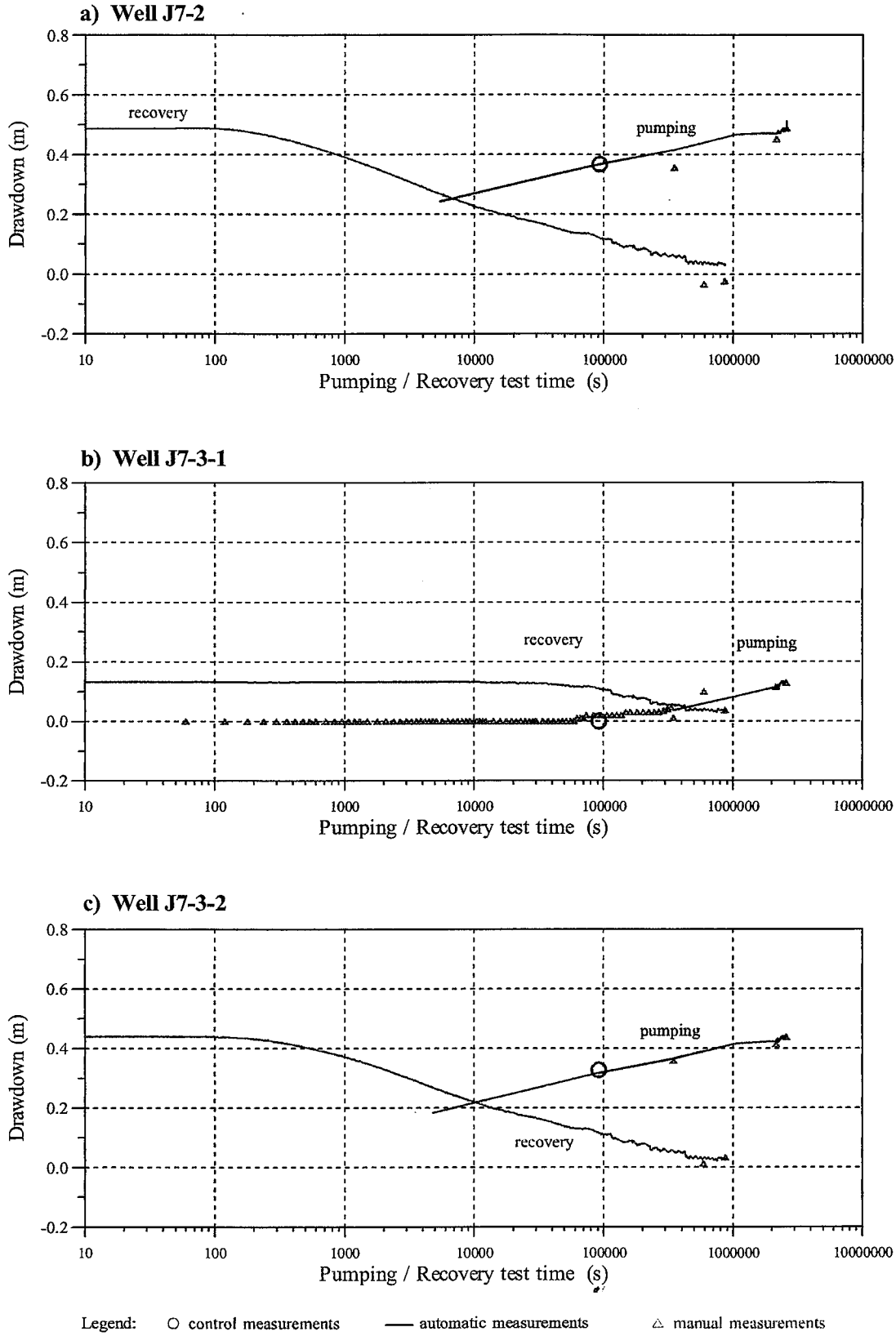
Data Book Figure G.3.46 Kanchong Darat - SW4, SW6 and Canal 7 - surface water level during pumping and recovery test (semilogaritmic scale)

ro_sw4_semi



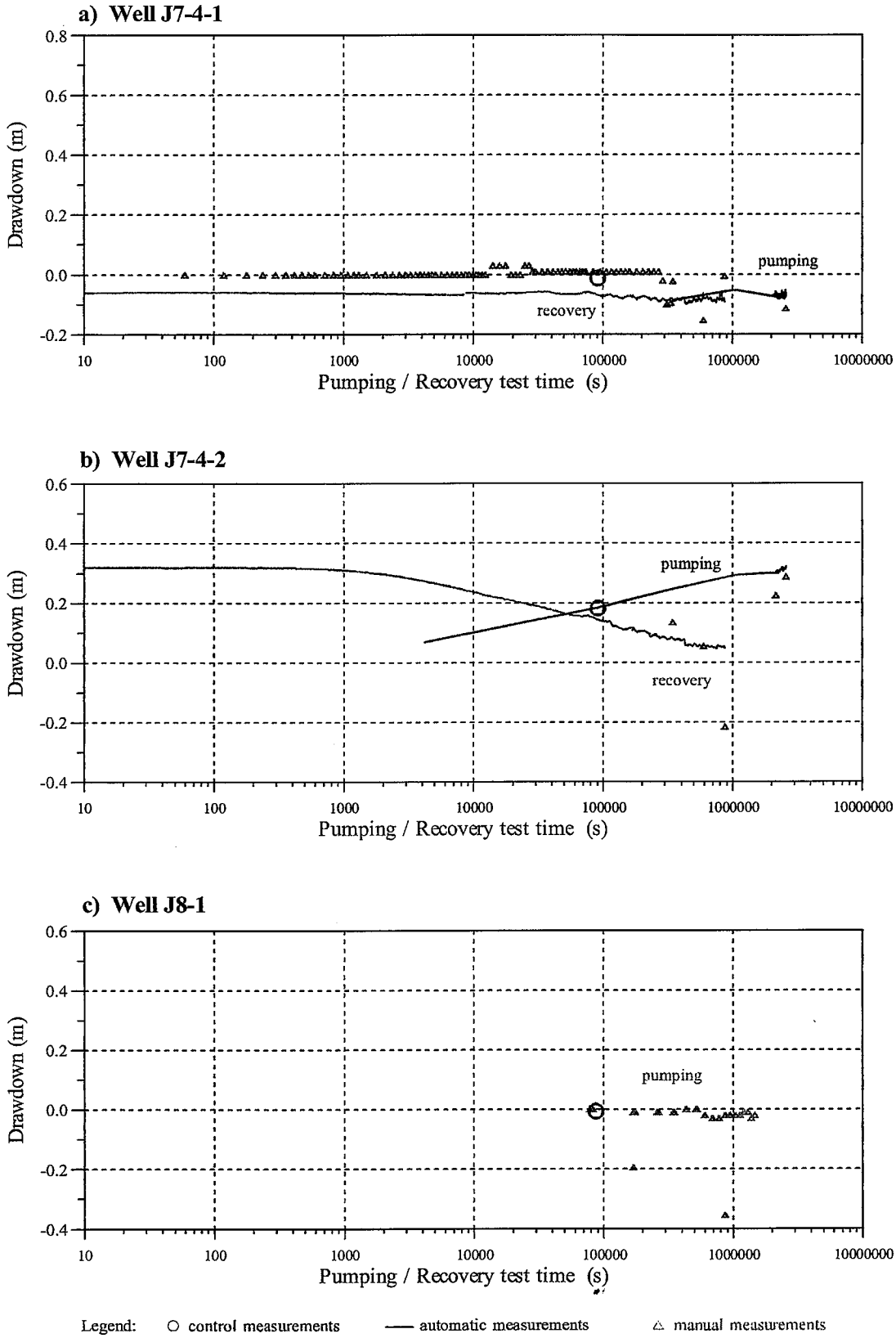
Data Book Figure G.3.47 Kanchong Darat - well J7-1-2, J7-1-3 and J7-1-4 groundwater level during pumping and recovery test (semilogaritmic scale)

ro_J712_semi



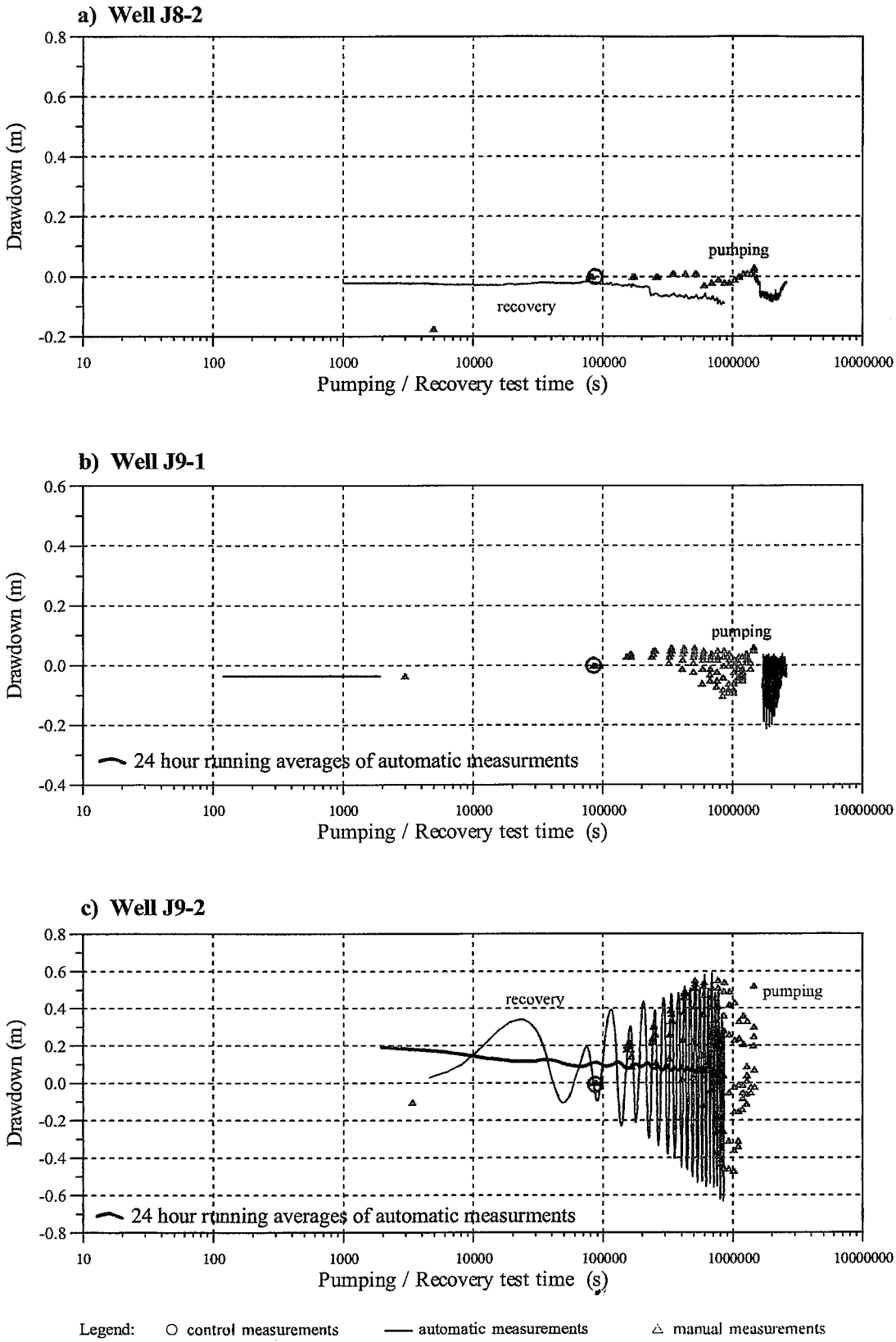
Data Book Figure G.3.48 Kanchong Darat - well J7-2, J7-3-1 and J7-3-2 groundwater level during pumping and recovery test (semilogaritmic scale)

ro_J72_semi



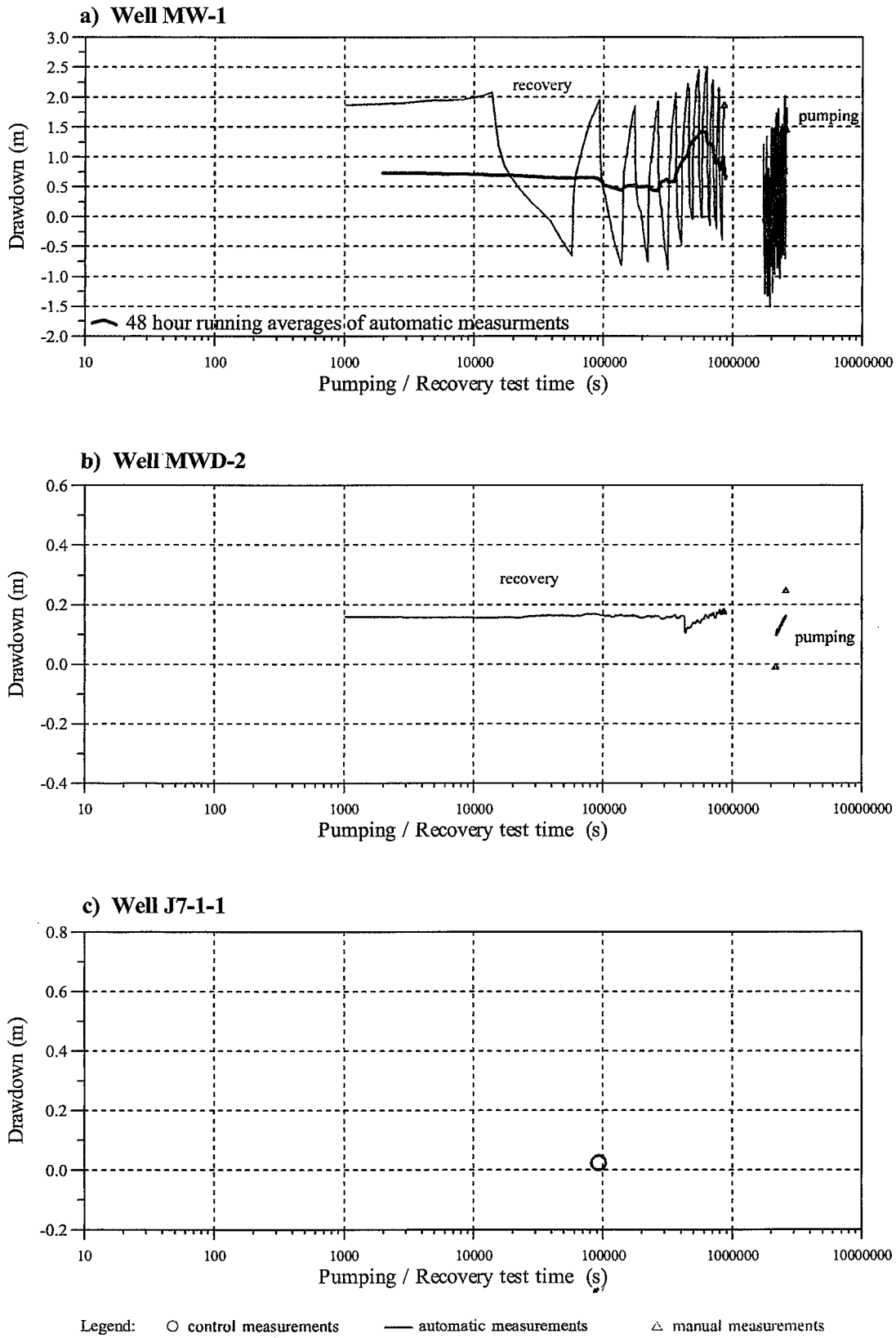
Data Book Figure G.3.49 Kanchong Darat - well J7-4-1, J7-4-2 and J8-1 groundwater level during pumping and recovery test (semilogaritmic scale)

ro_J741_semi



Data Book Figure G.3.50 Kanchong Darat - well J8-2, J9-1 and J9-2 groundwater level during pumping and recovery test (semilogaritmic scale)

ro_J82_semi

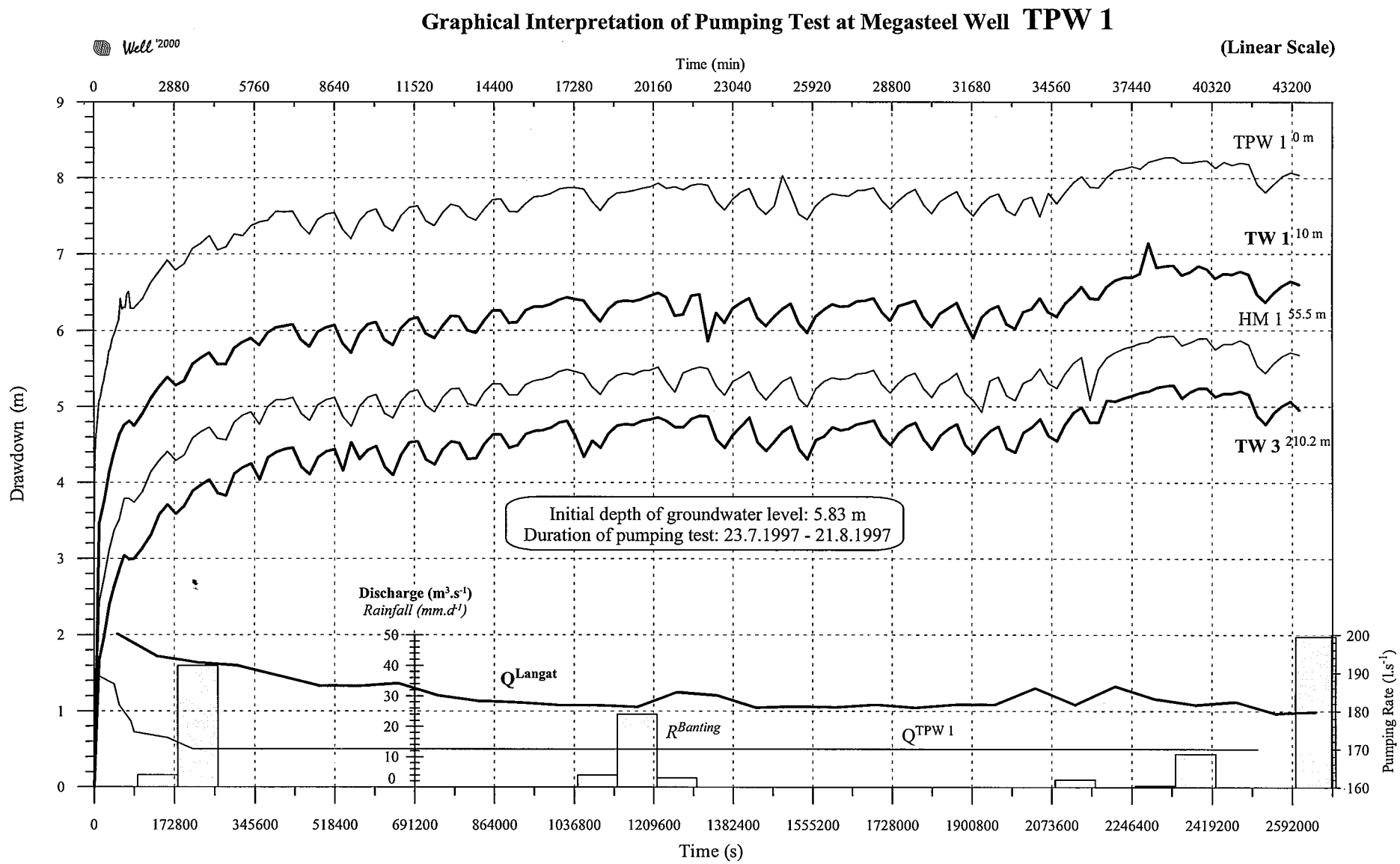


Data Book Figure G.3.51 Kanchong Darat - well MW-1, MWD-2 and J7-1-1 groundwater level during pumping and recovery test (semilogaritmic scale)

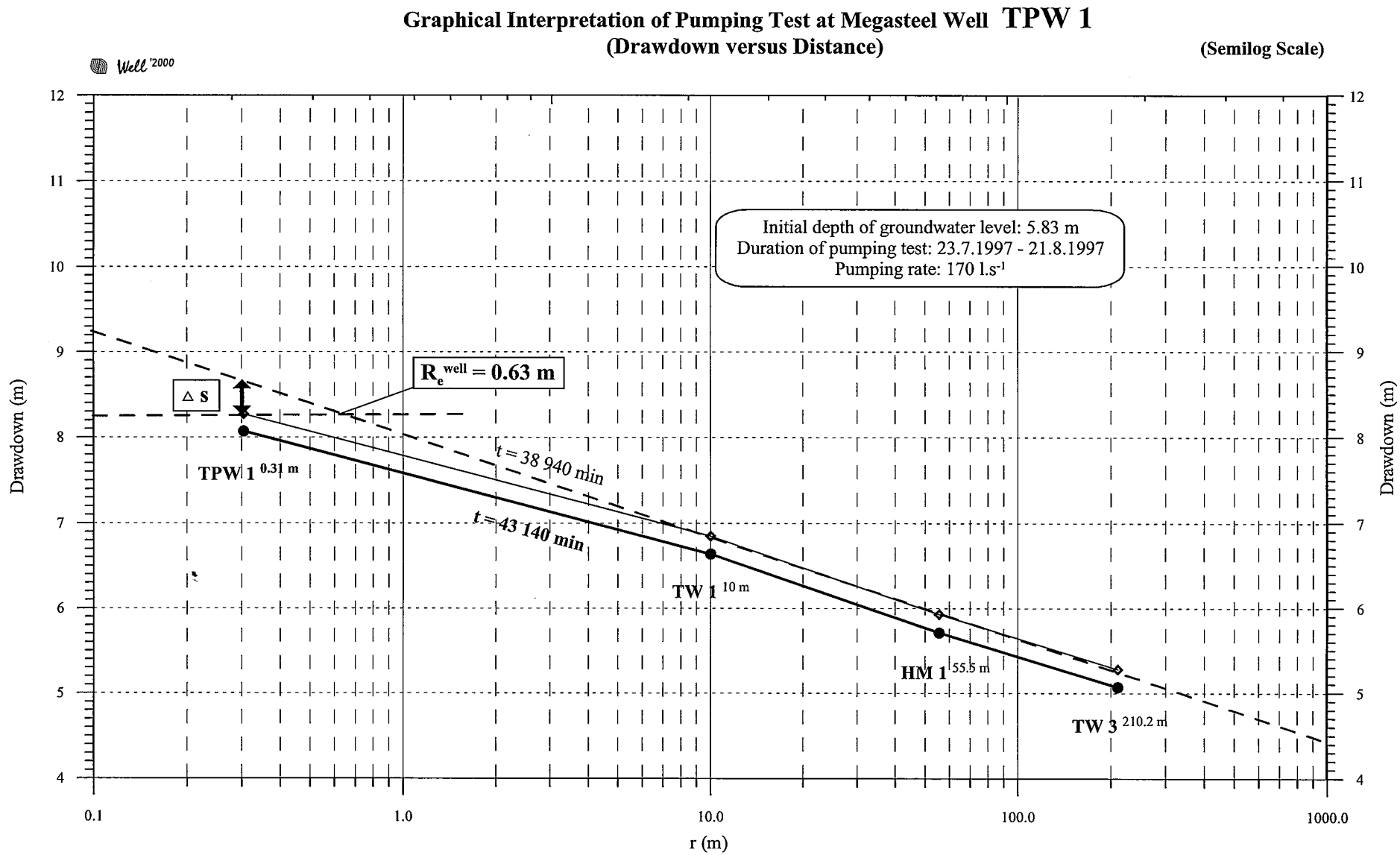
ro_mw1_semi

DATA BOOK G.3.4

GRAPHICAL INTERPRETATION AND MODELLING OF PUMPING AND RECOVERY TEST DATA



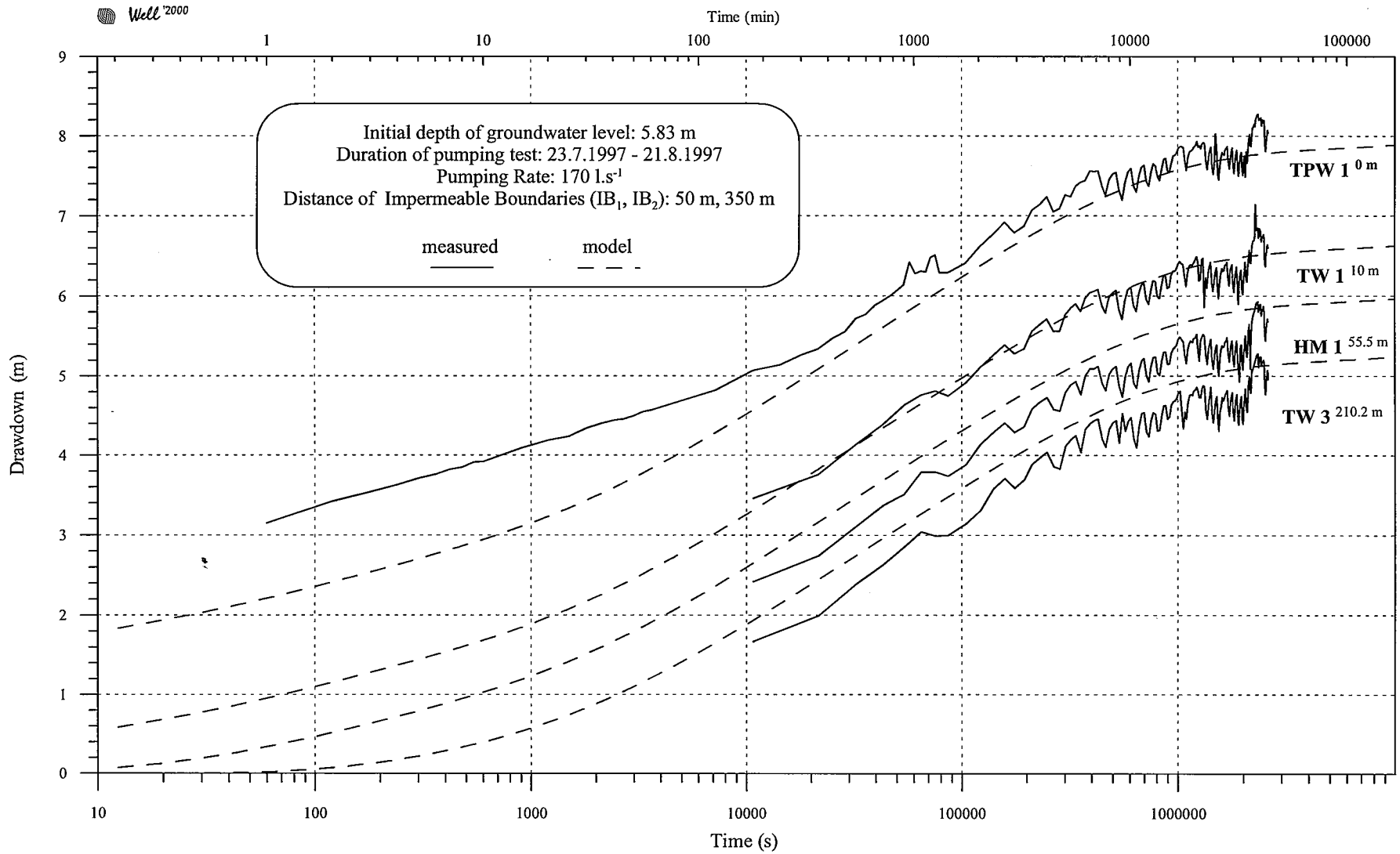
Data Book Figure G.3.52 Graphical Interpretation of Pumping Test at Megasteel Well TPW 1 (Linear Scale)



Data Book Figure G.3.53 Graphical Interpretation of Pumping Test at Megasteel Well TPW 1 (Drawdown versus Distance, Semilog Scale)

Modelling of Pumping Test at Megasteel Well TPW 1

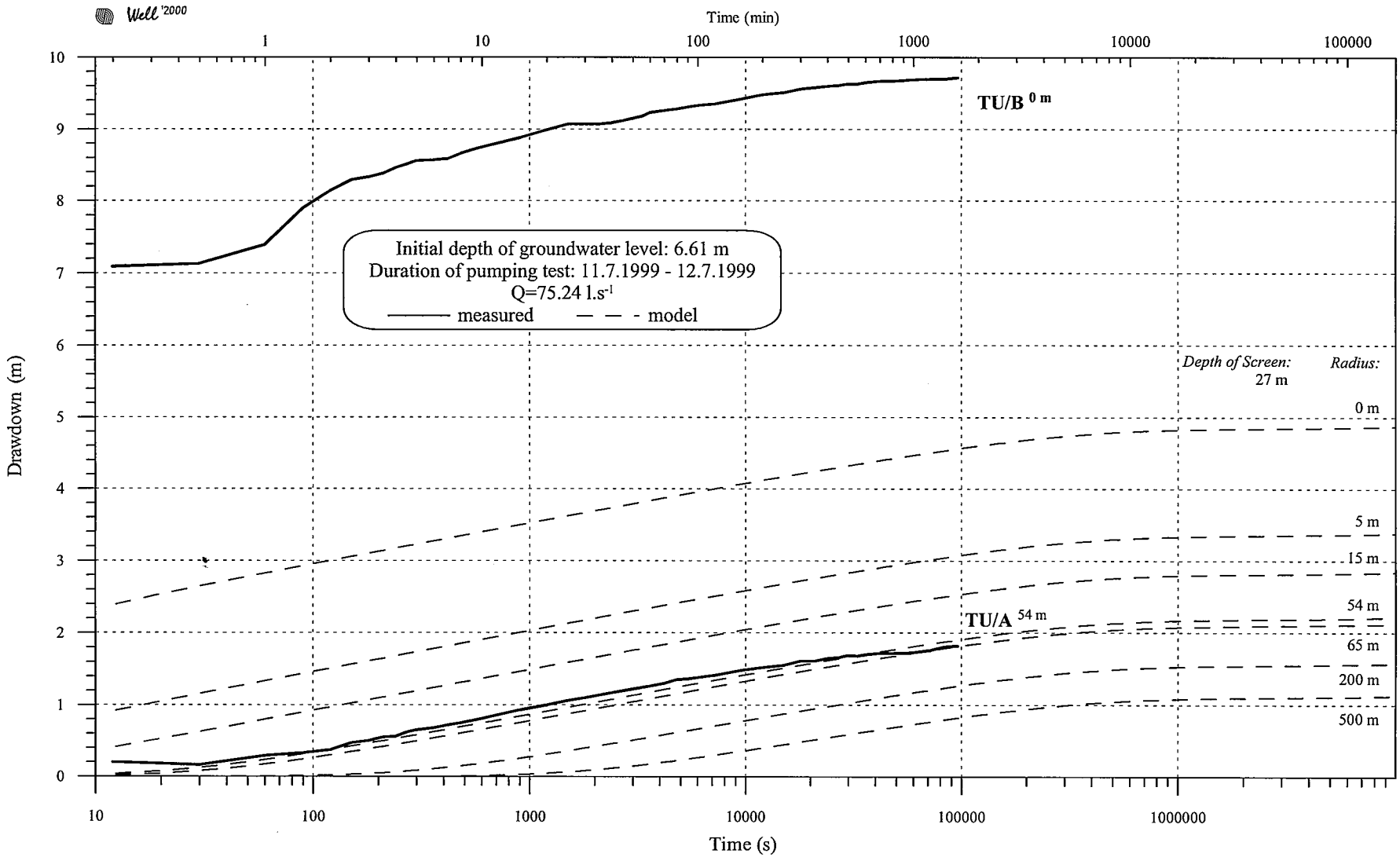
(Semilog Scale)



Data Book Figure G.3.54 Modelling of Pumping Test at Megasteel Well TPW 1 (Semilog Scale)

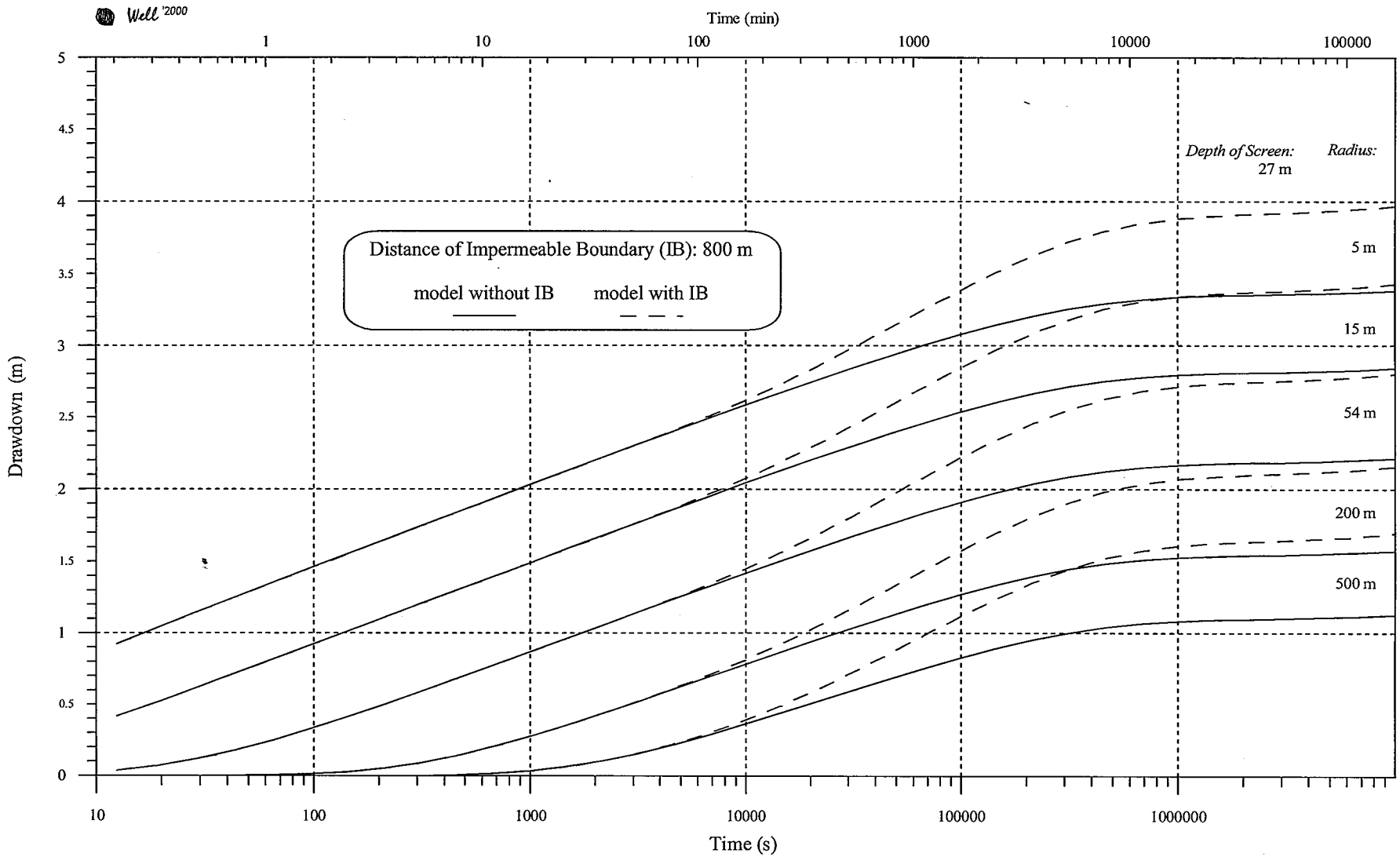
Modelling of Pumping Test at Kajibumi Well TU/B

(Semilog Scale)



Data Book Figure G.3.55 Modelling of Pumping Test at Kajibumi Well TU/B (Semilog Scale)

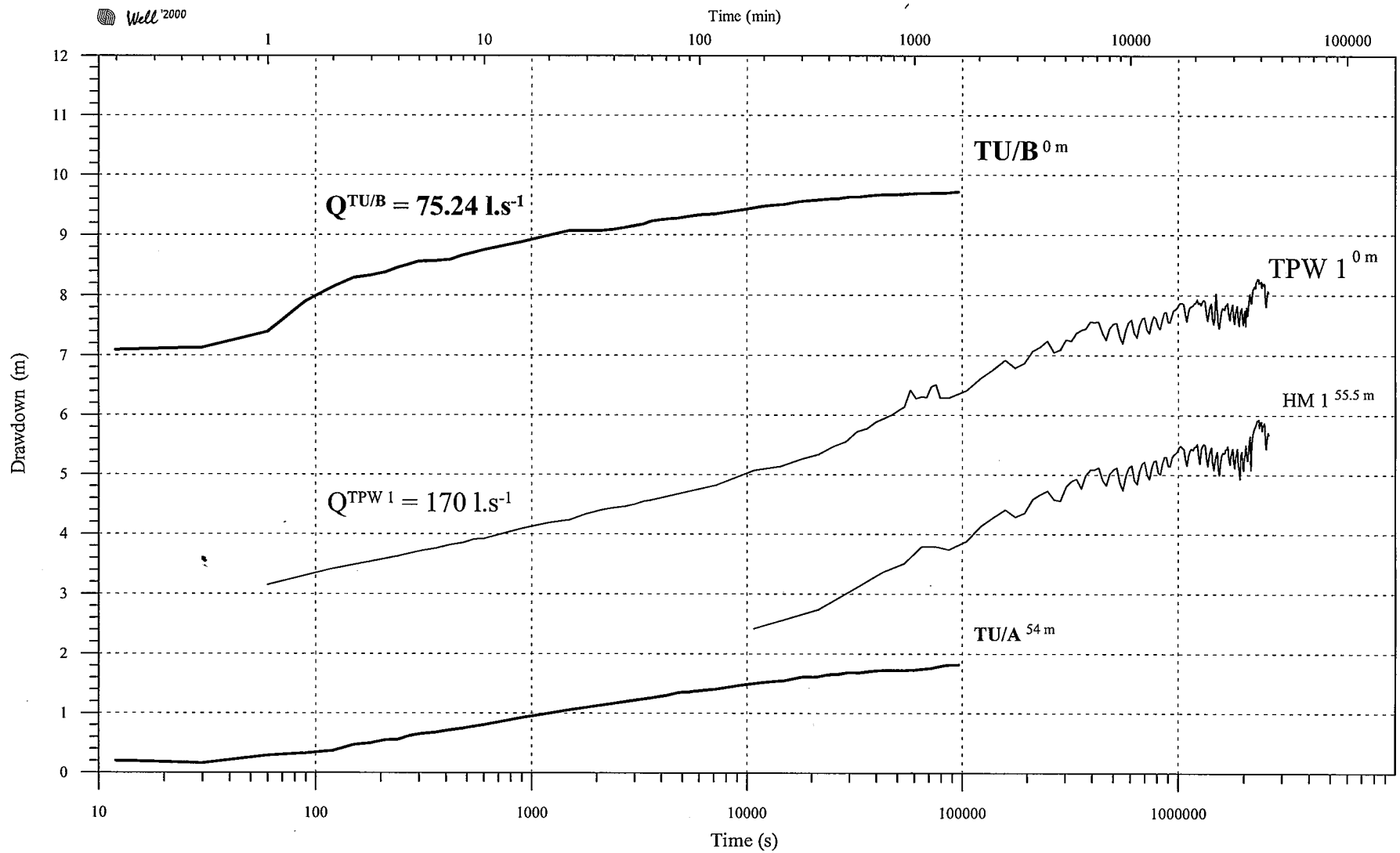
Modelling the Influence of Impermeable Boundary at Kajibumi Well TU/B (Semilog Scale)



Data Book Figure G.3.56 Modelling the Influence of Impermeable Boundary at Kajibumi Well TU/B (Semilog Scale)

Comparison of Pumping Test at Megasteel Well TPW 1 and Kajibumi Well TU/B

(Semilog Scale)



Data Book Figure G.3.57 Comparison of Pumping Test at Megasteel Well TPW 1 and Kajibumi Well TU/B (Semilog Scale)

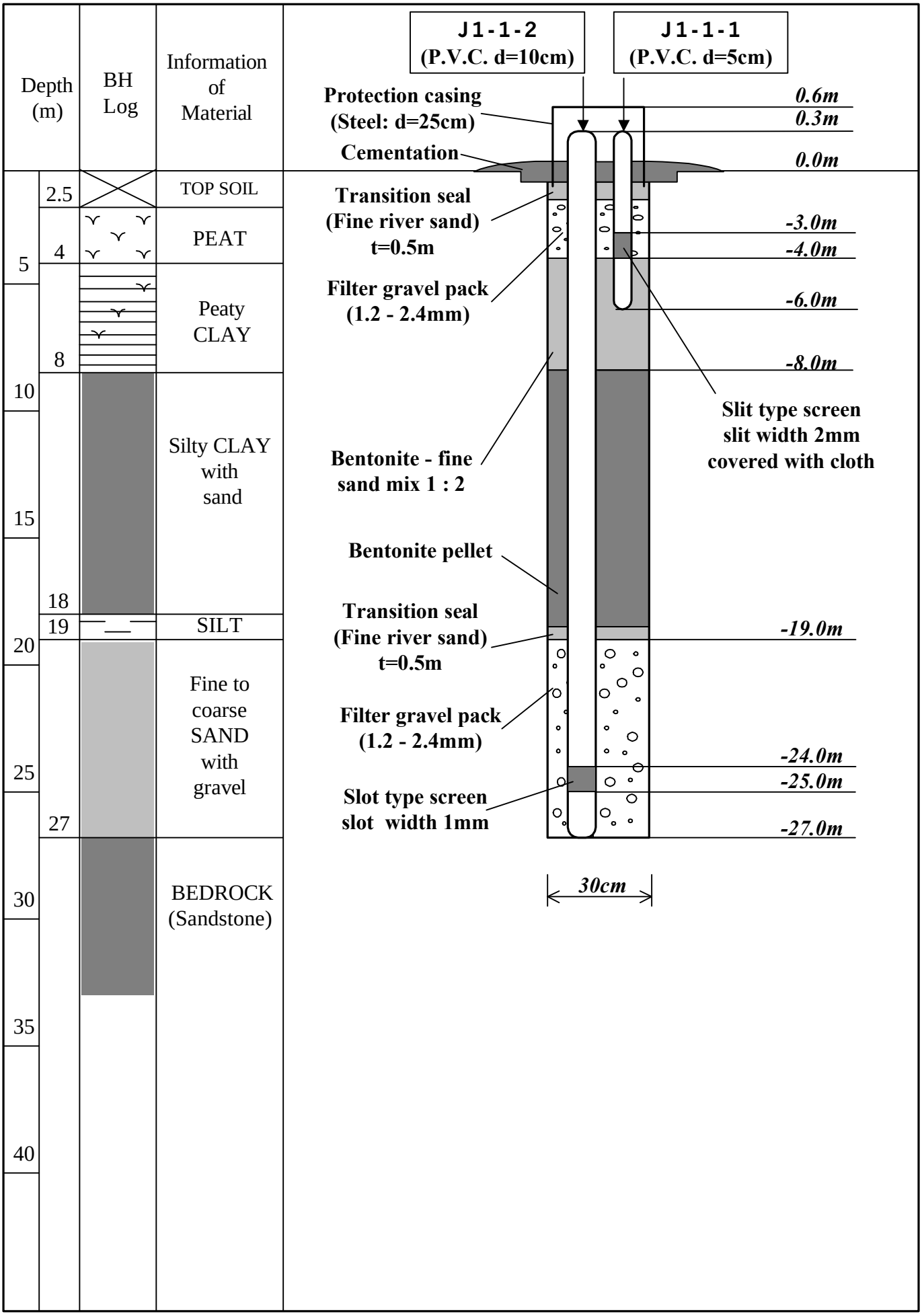
DATA BOOK

SECTOR H

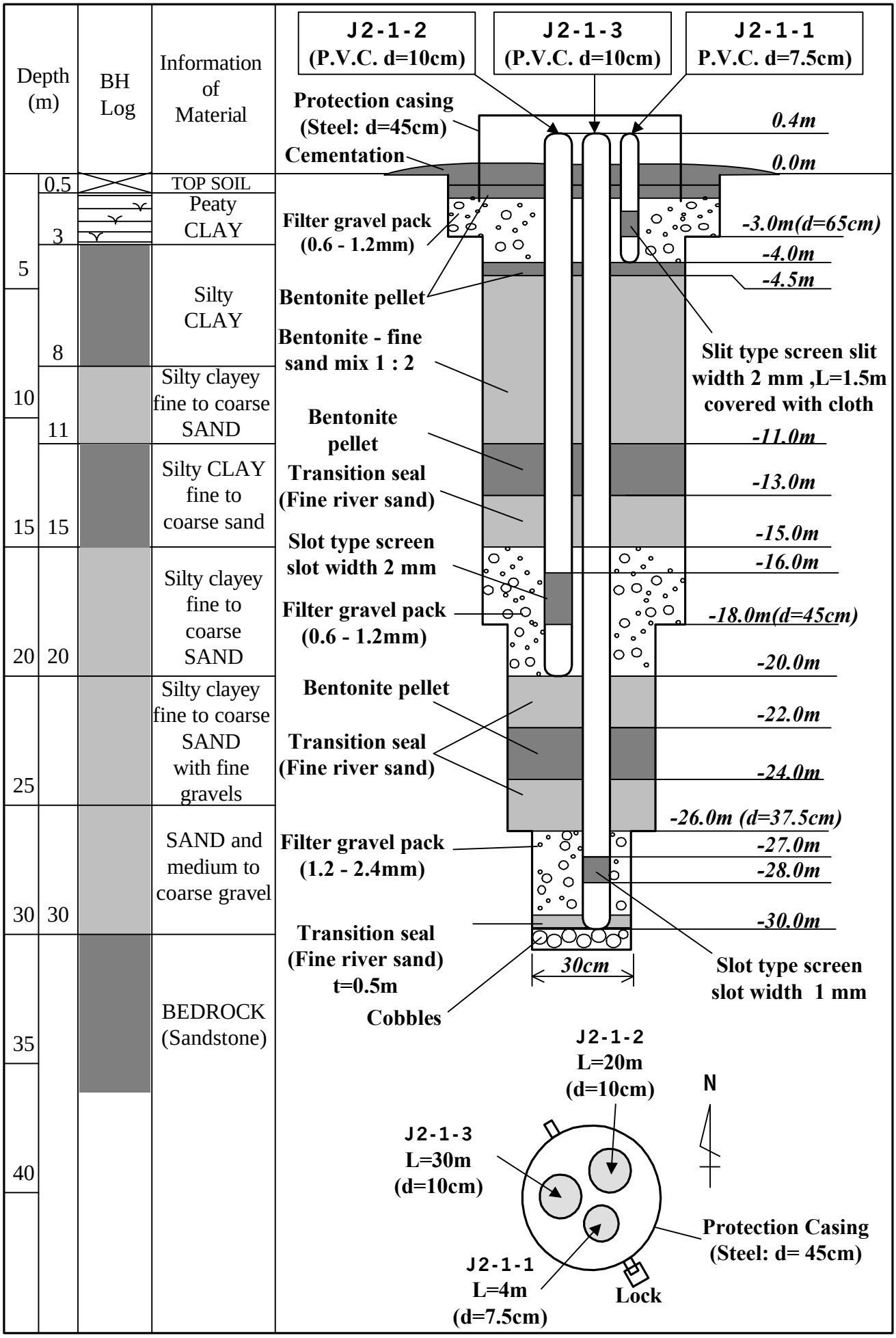
GROUNDWATER MONITORING

DATA BOOK H.2.1

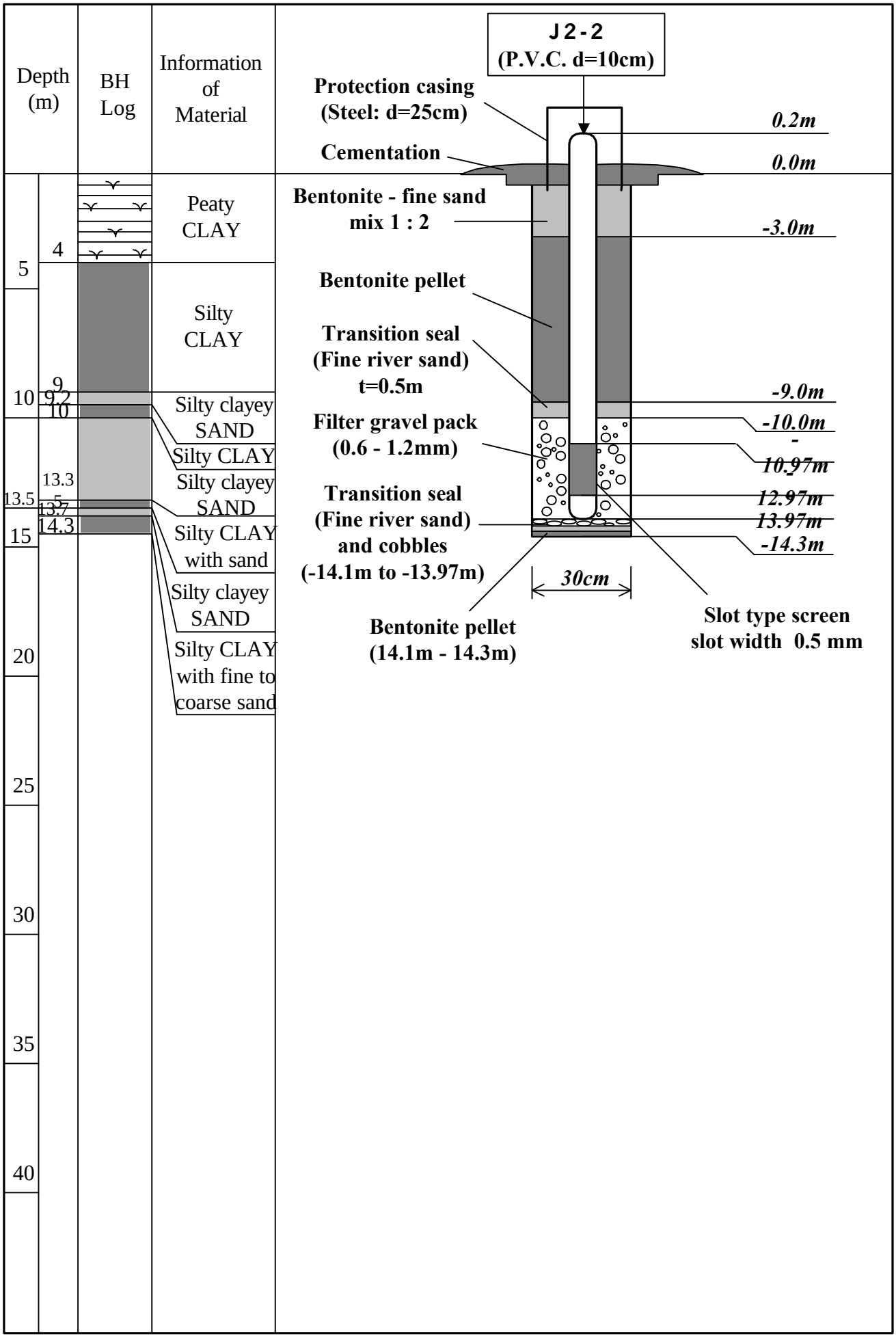
CONSTRUCTION DESIGN OF NEWLY CONSTRUCTED WELLS IN THE STUDY



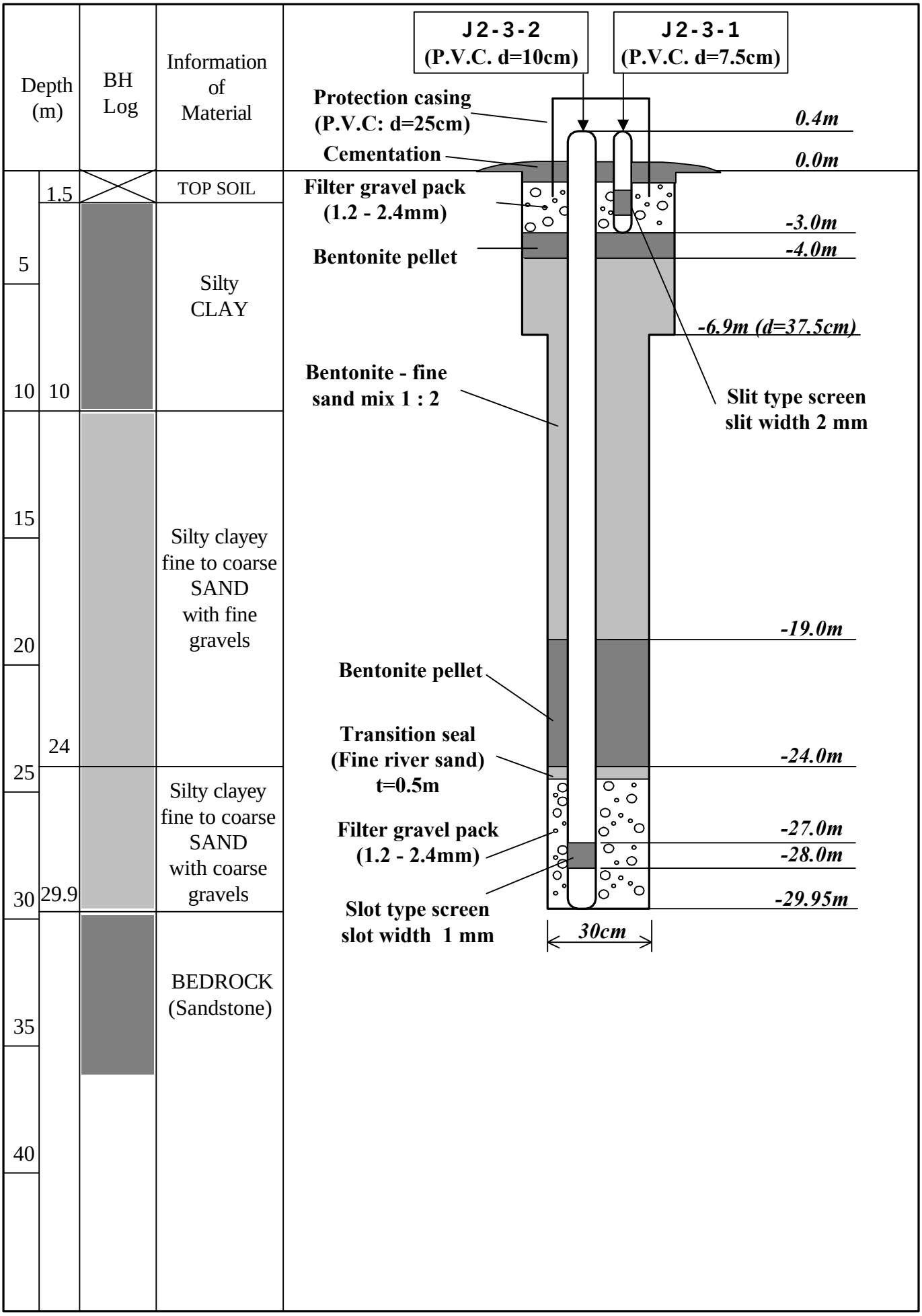
Data Book Figure H.2.1 Construction Design of Monitoring Well (J1-1-1 and J1-1-2)



Data Book Figure H.2.2 Construction Design of Monitoring Well (J2-1-1 to J2-1-3)



Data Book Figure H.2.3 Construction Design of Monitoring Well (J2-2)



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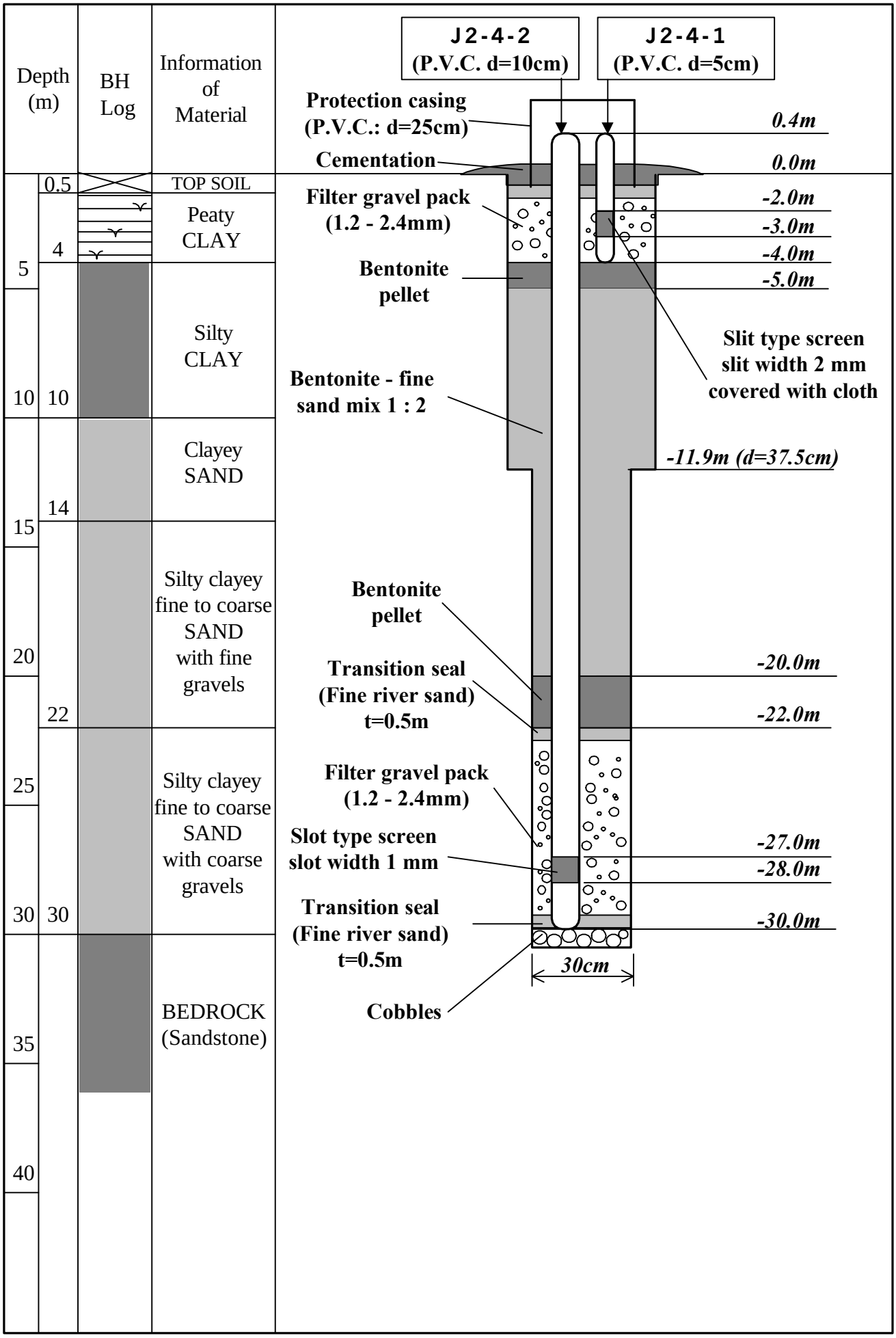
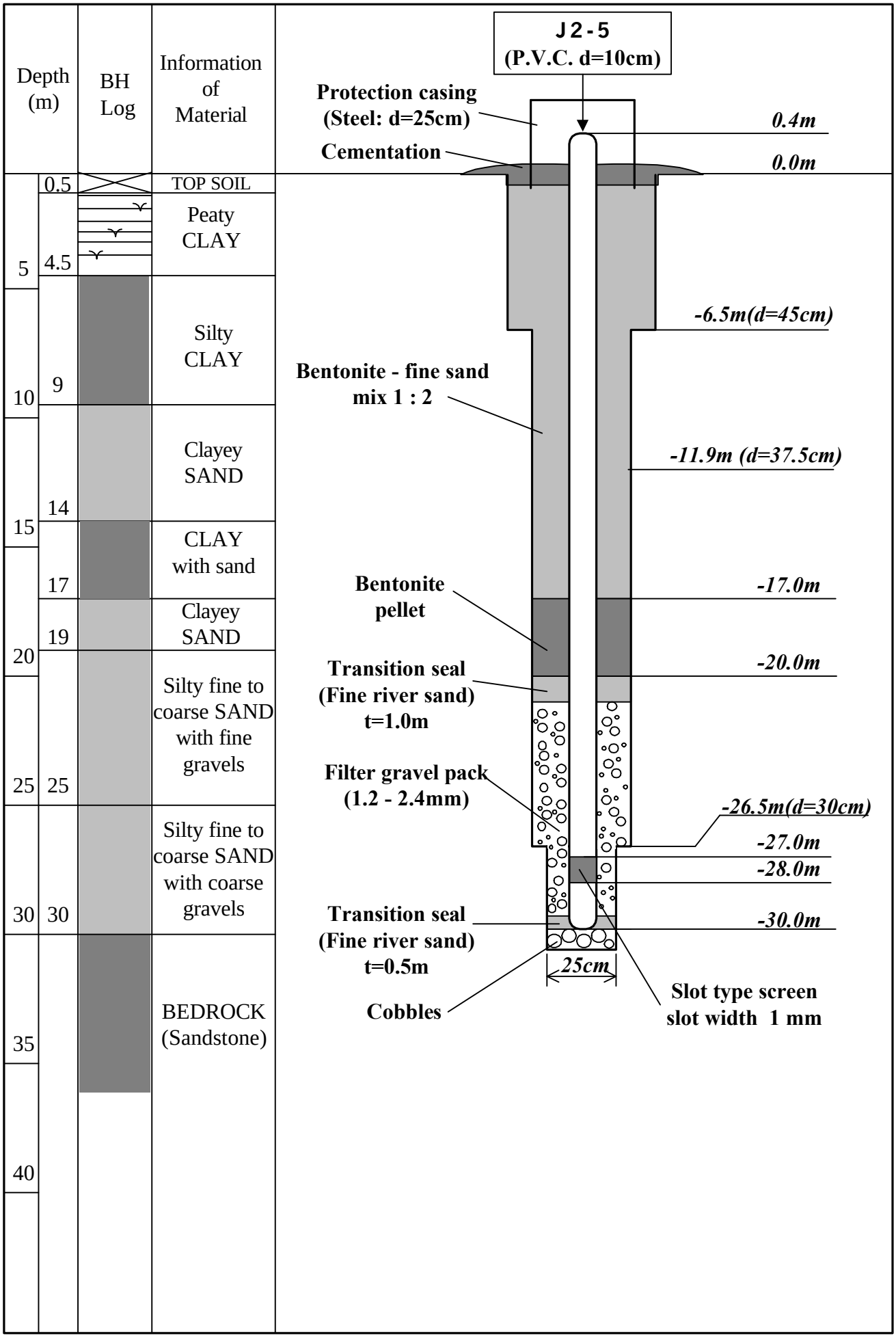
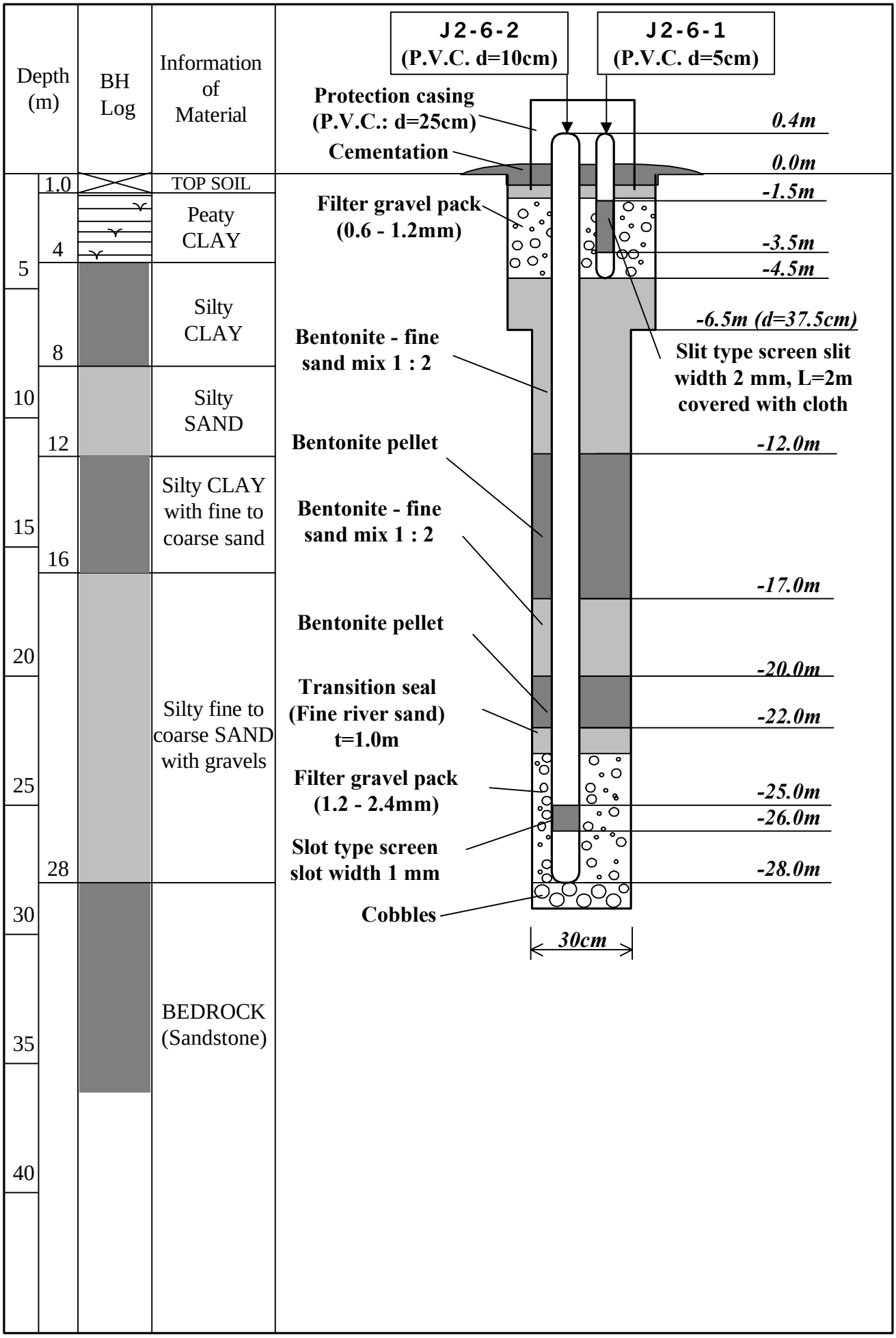


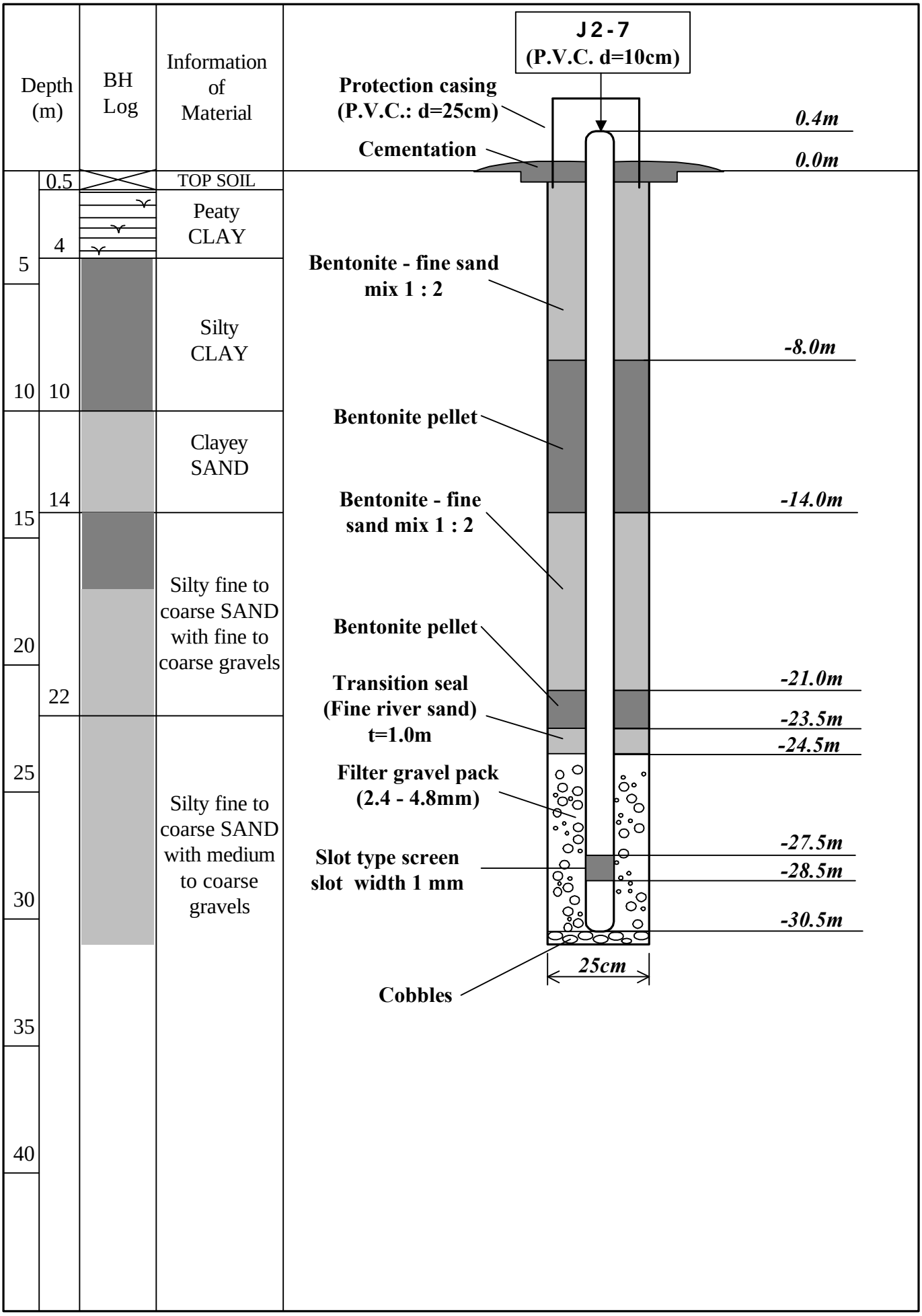
Data Book Figure H.2.5 Construction Design of Monitoring Well (J2-4-1 and J2-4-2)



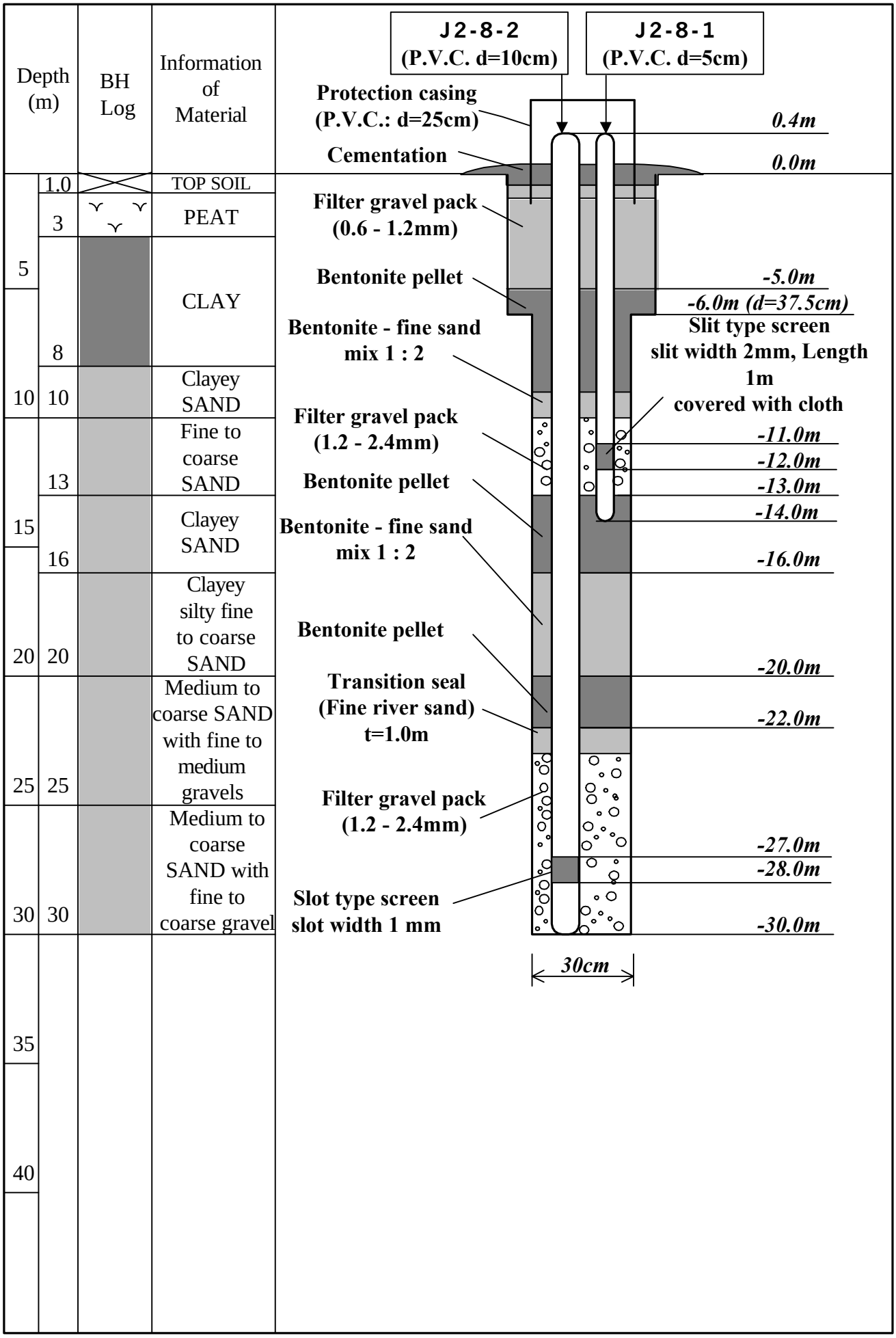
Data Book Figure H.2.6 Construction Design of Monitoring Well (J2-5)



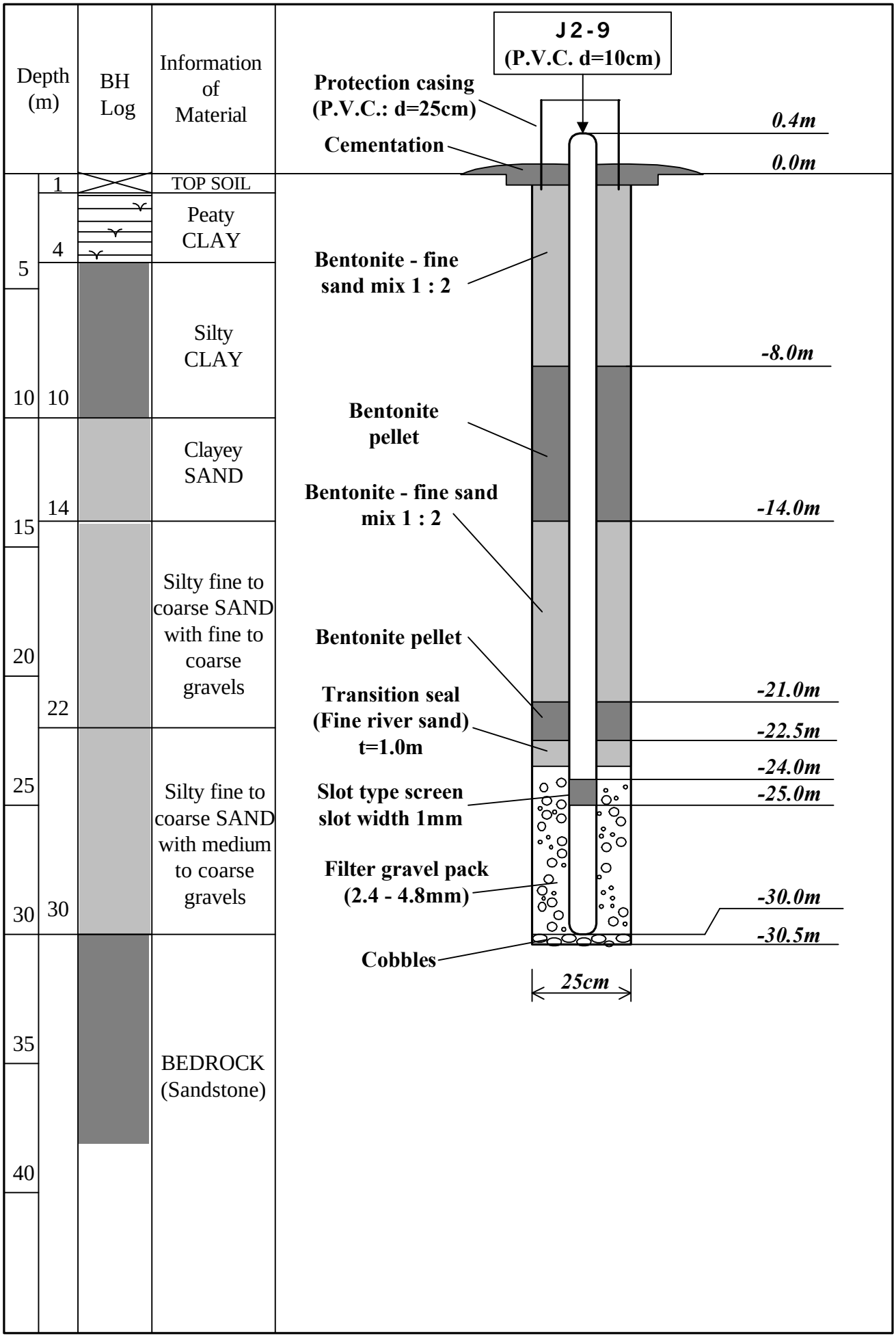
Data Book Figure H.2.7 Construction Design of Monitoring Well (J2-6-1 and J2-6-2)



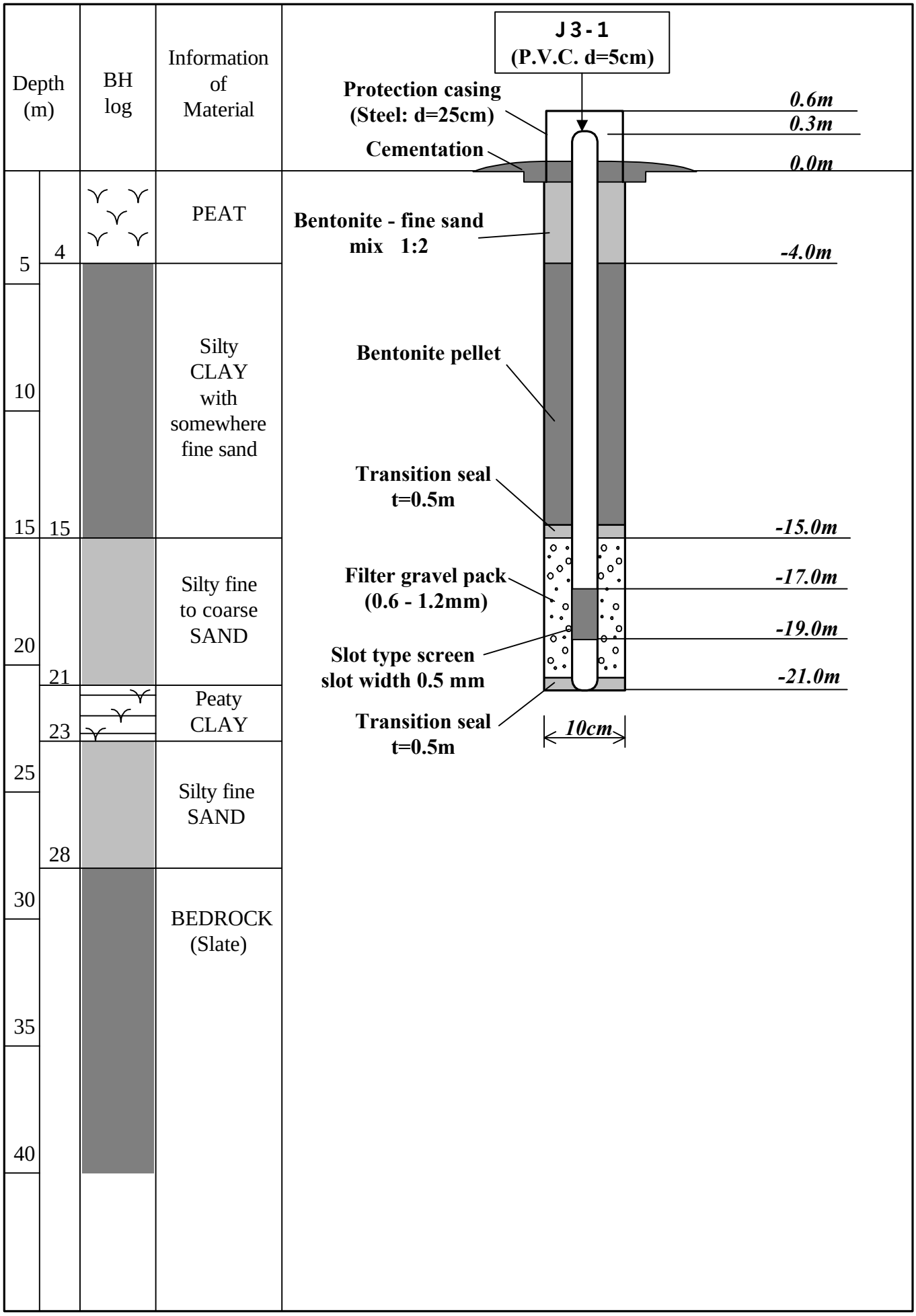
Data Book Figure H.2.8 Construction Design of Monitoring Well (J2-7)



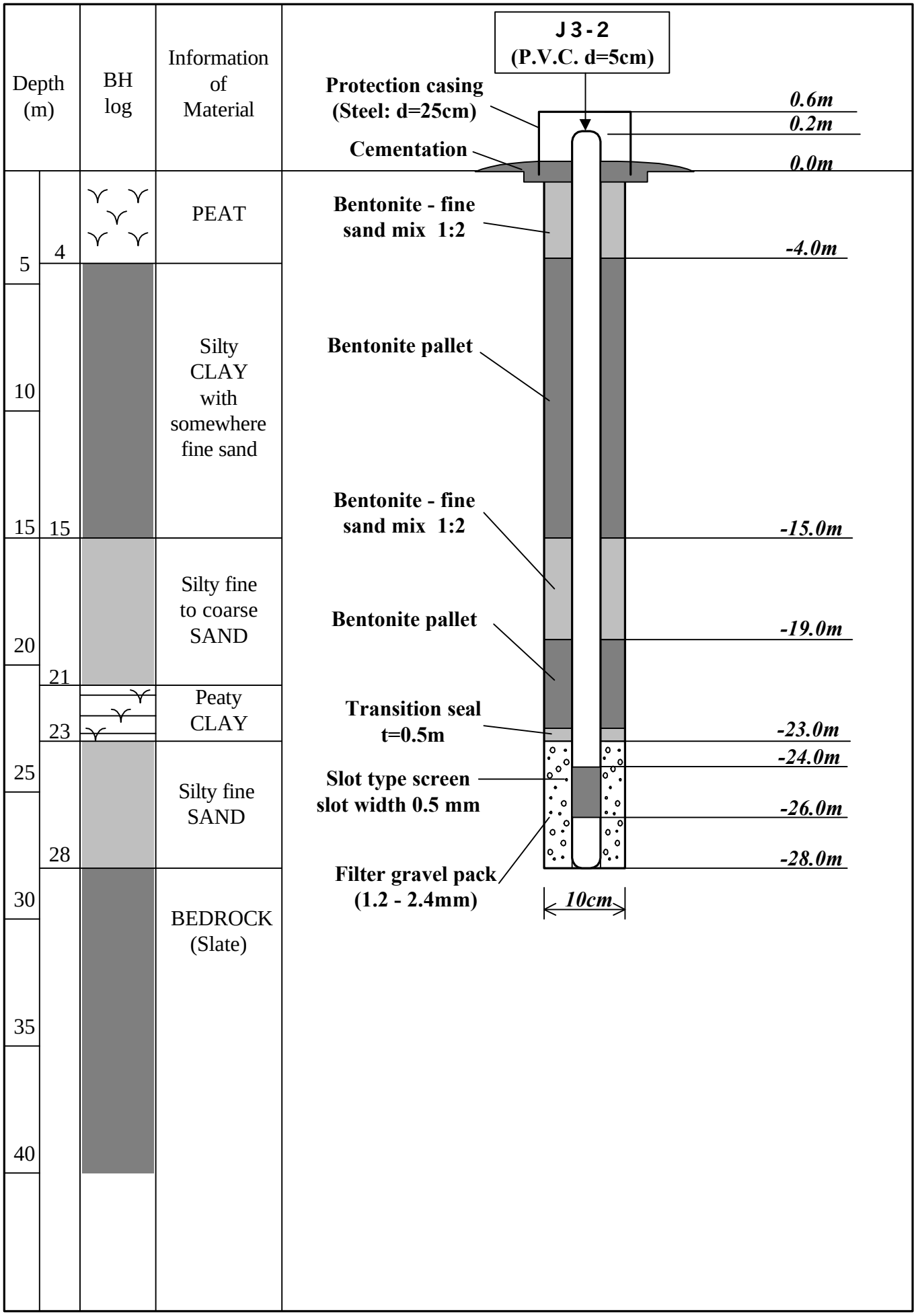
Data Book Figure H.2.9 Construction Design of Monitoring Well (J2-8-1 and J2-8-2)



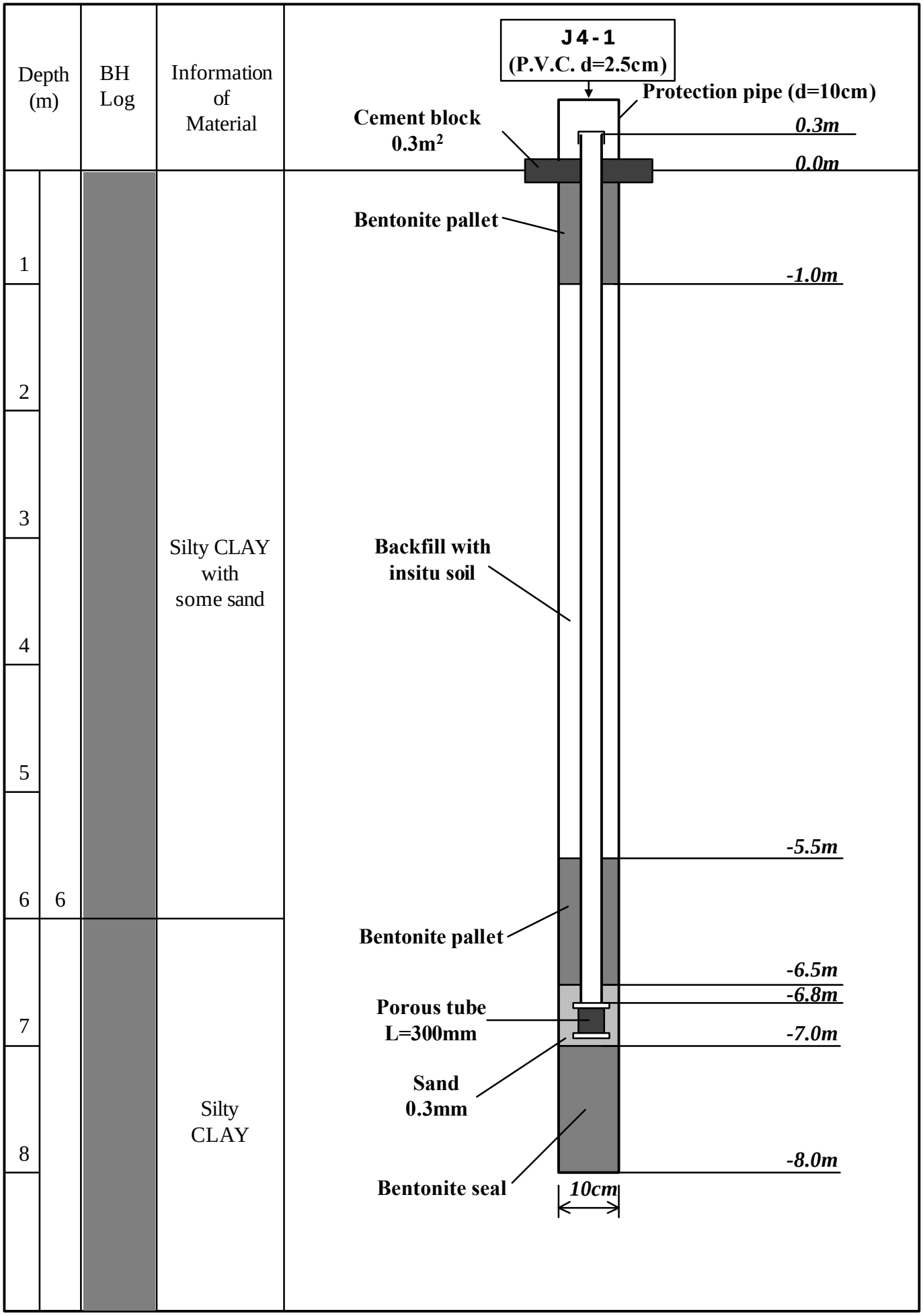
Data Book Figure H.2.10 Construction Design of Monitoring Well (J2-9)



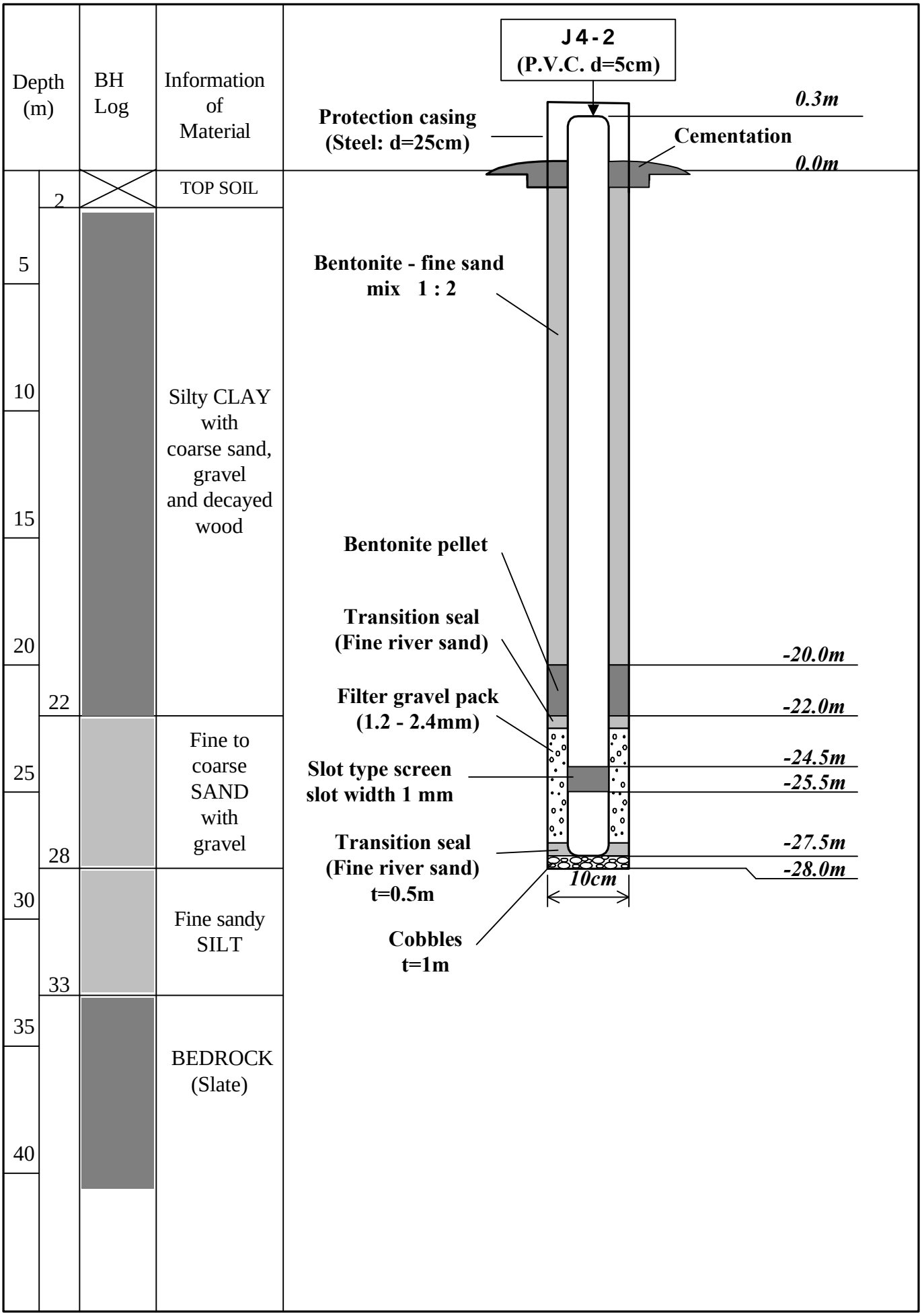
Data Book Figure H.2.11 Construction Design of Monitoring Well (J3-1)



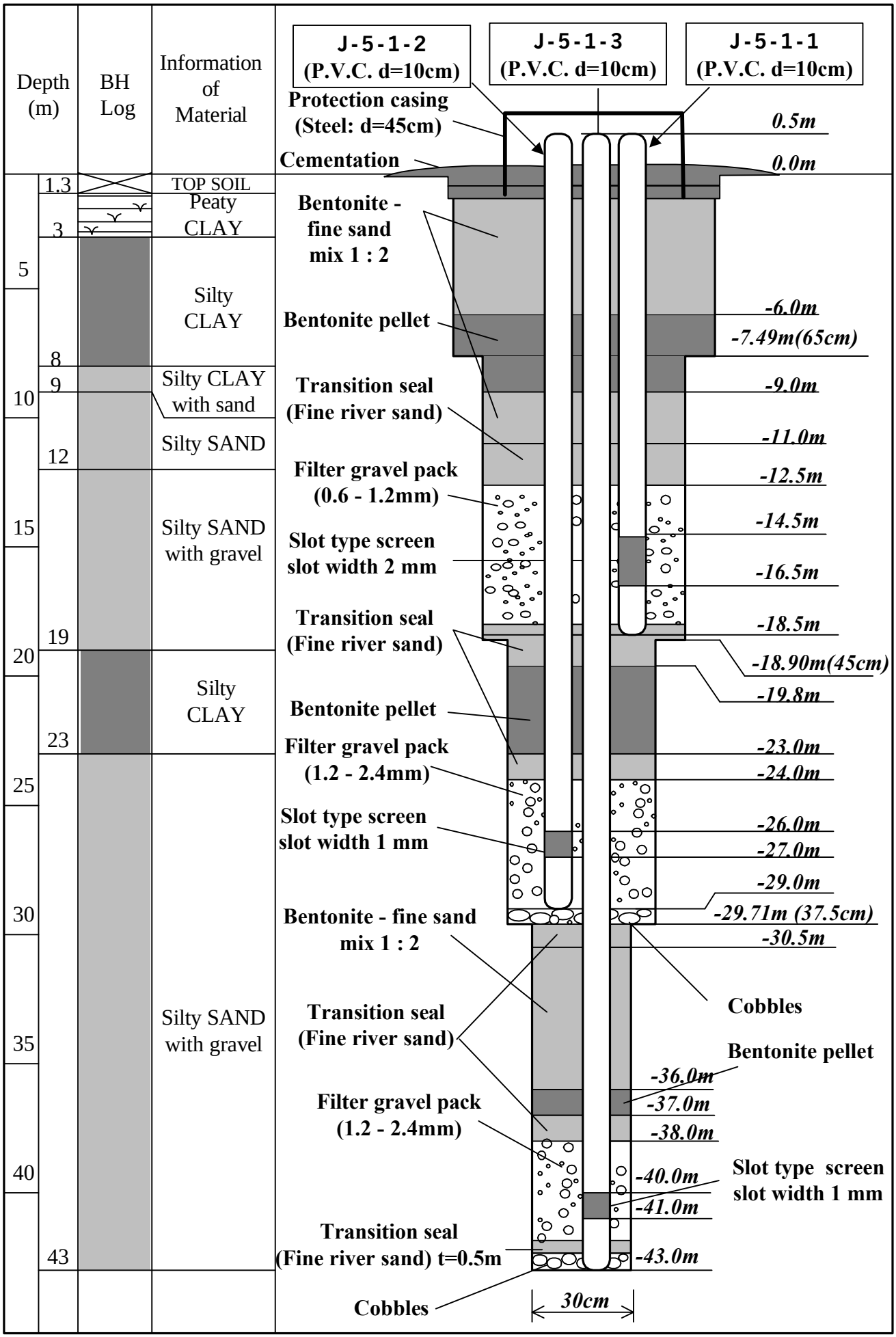
Data Book Figure H.2.12 Construction Design of Monitoring Well (J3-2)



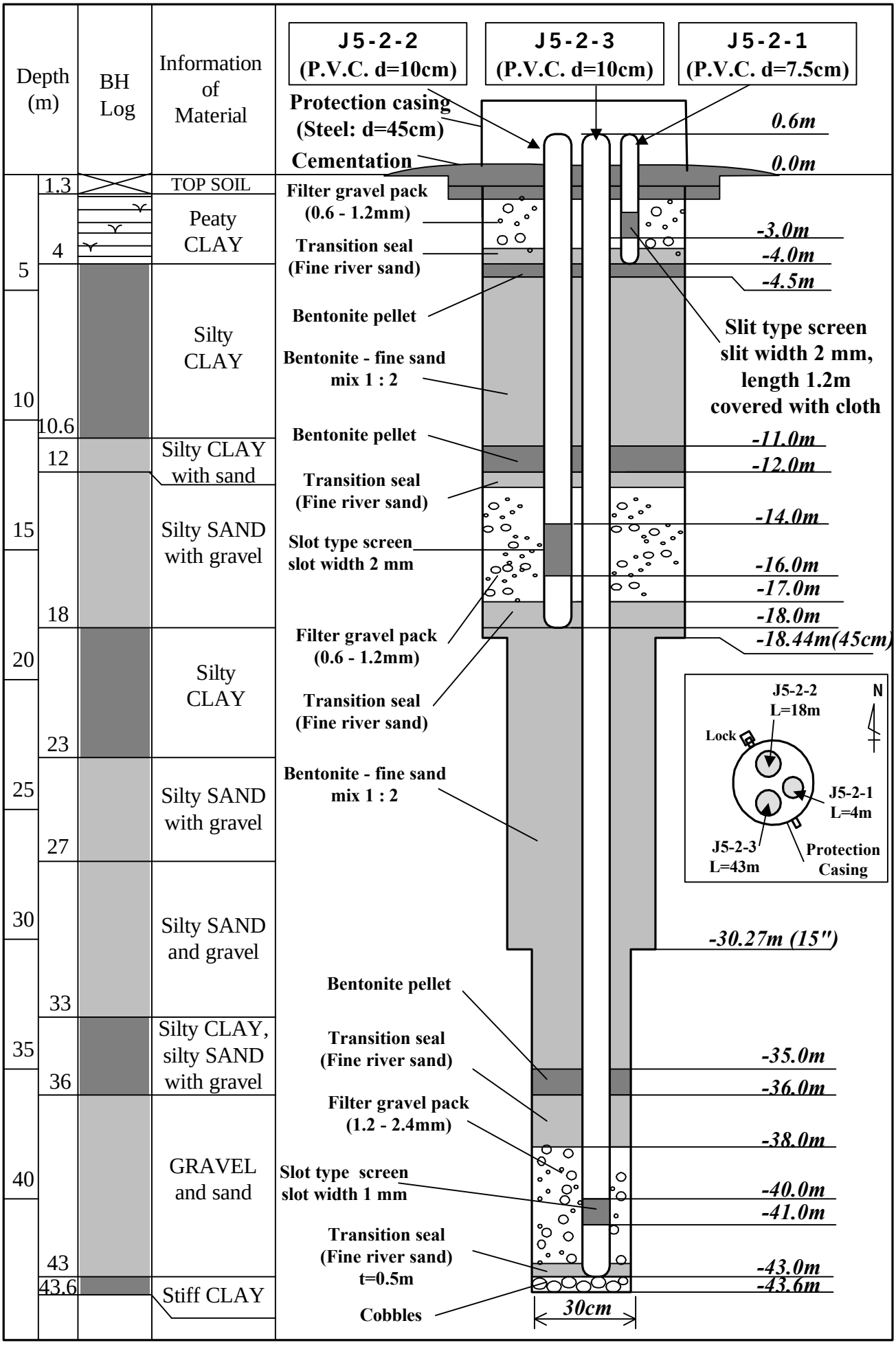
Data Book Figure H.2.13 Construction Design of Monitoring Well
(J4-1 Cagrande Piezometer)



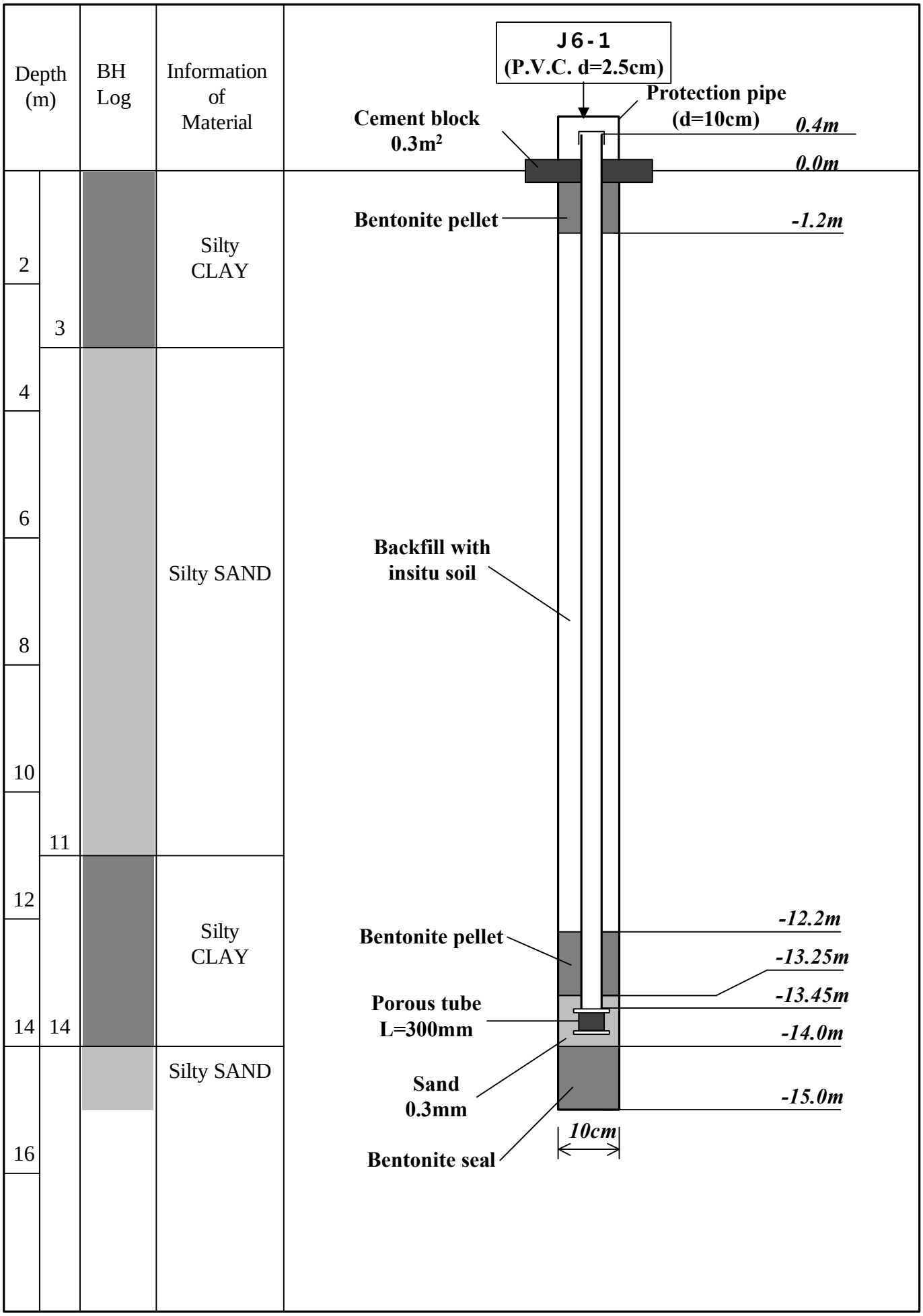
Data Book Figure H.2.14 Construction Design of Monitoring Well (J4-2)



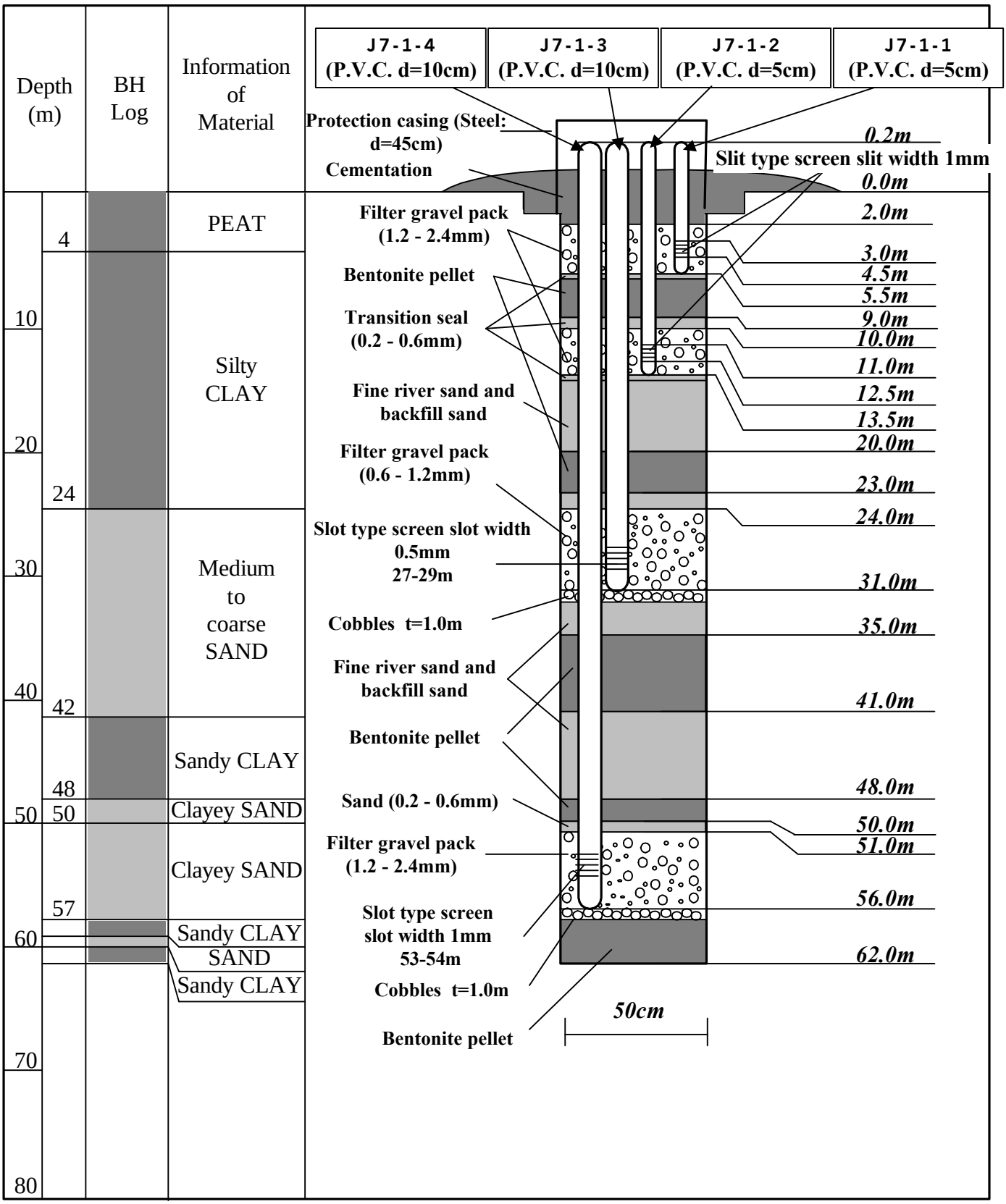
Data Book Figure H.2.15 Construction Design of Monitoring Well (J5-1-1, J5-1-2 and J5-1-3)



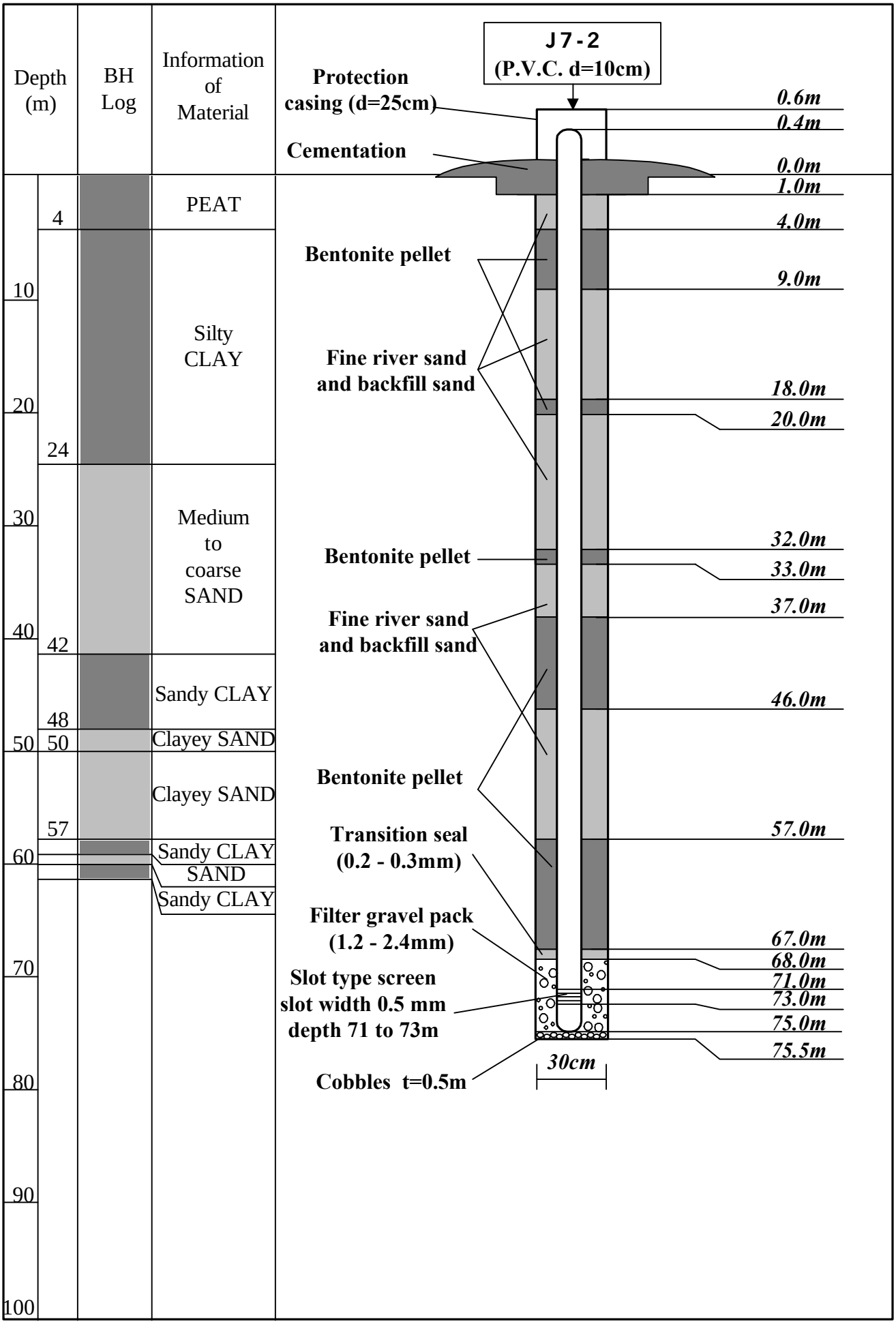
Data Book Figure H.2.16 Construction Design of Monitoring Well (J5-2-1, J5-2-2 and J5-2-3)



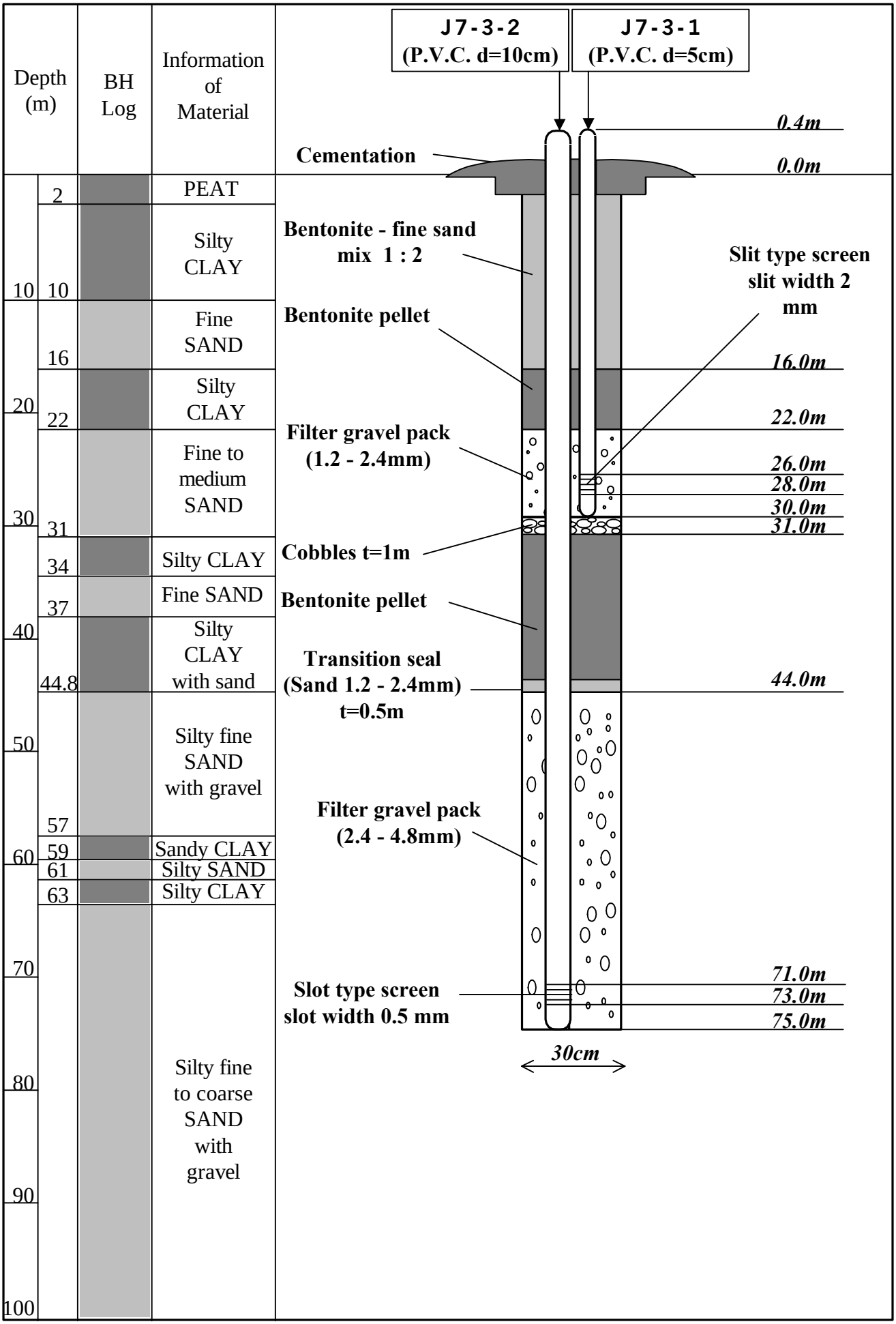
Data Book Figure H.2.17 Construction Design of Monitoring Well
(J6-1 Casagrande Piezometer)



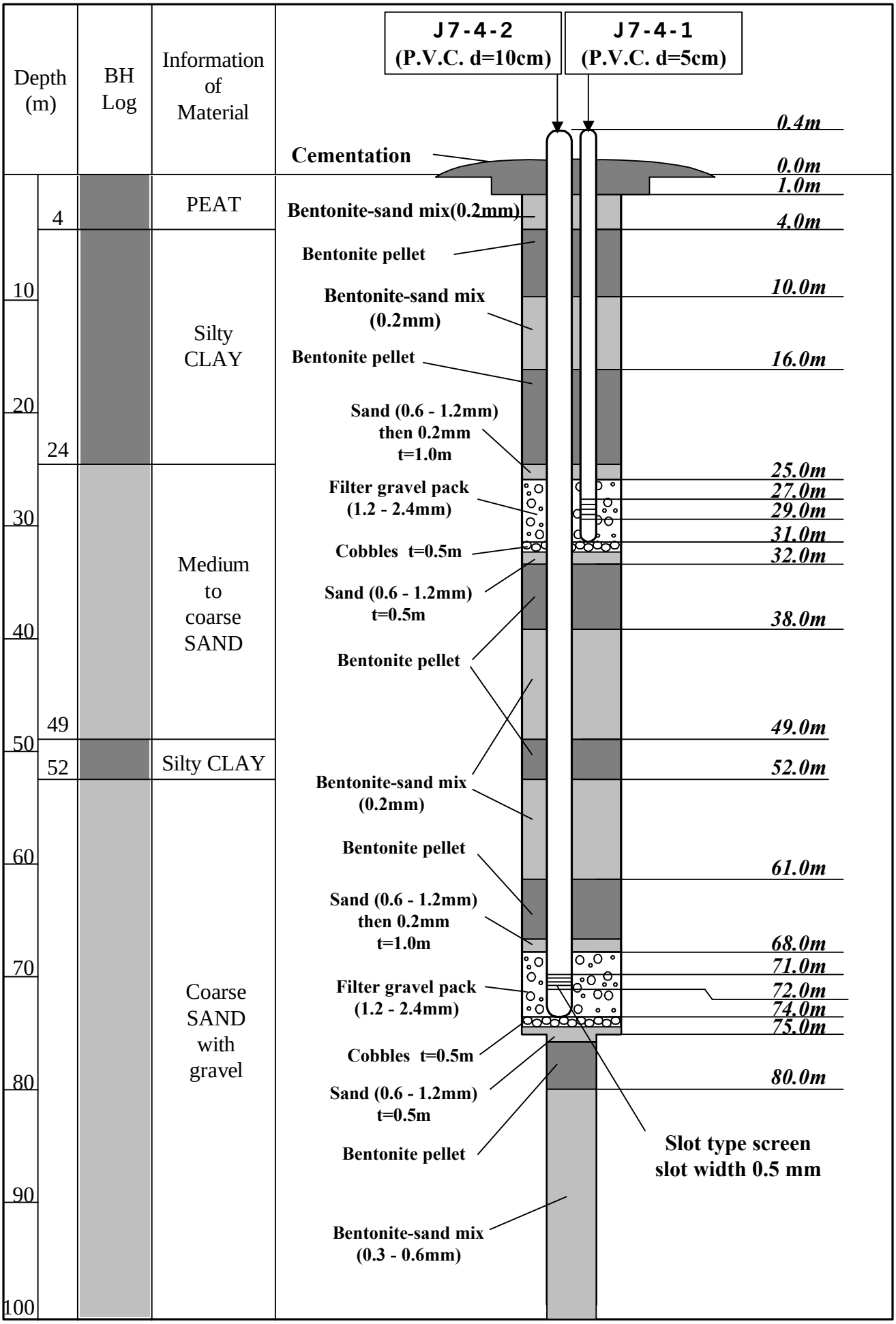
Data Book Figure H.2.18 Construction Design of Monitoring Well (J7-1)



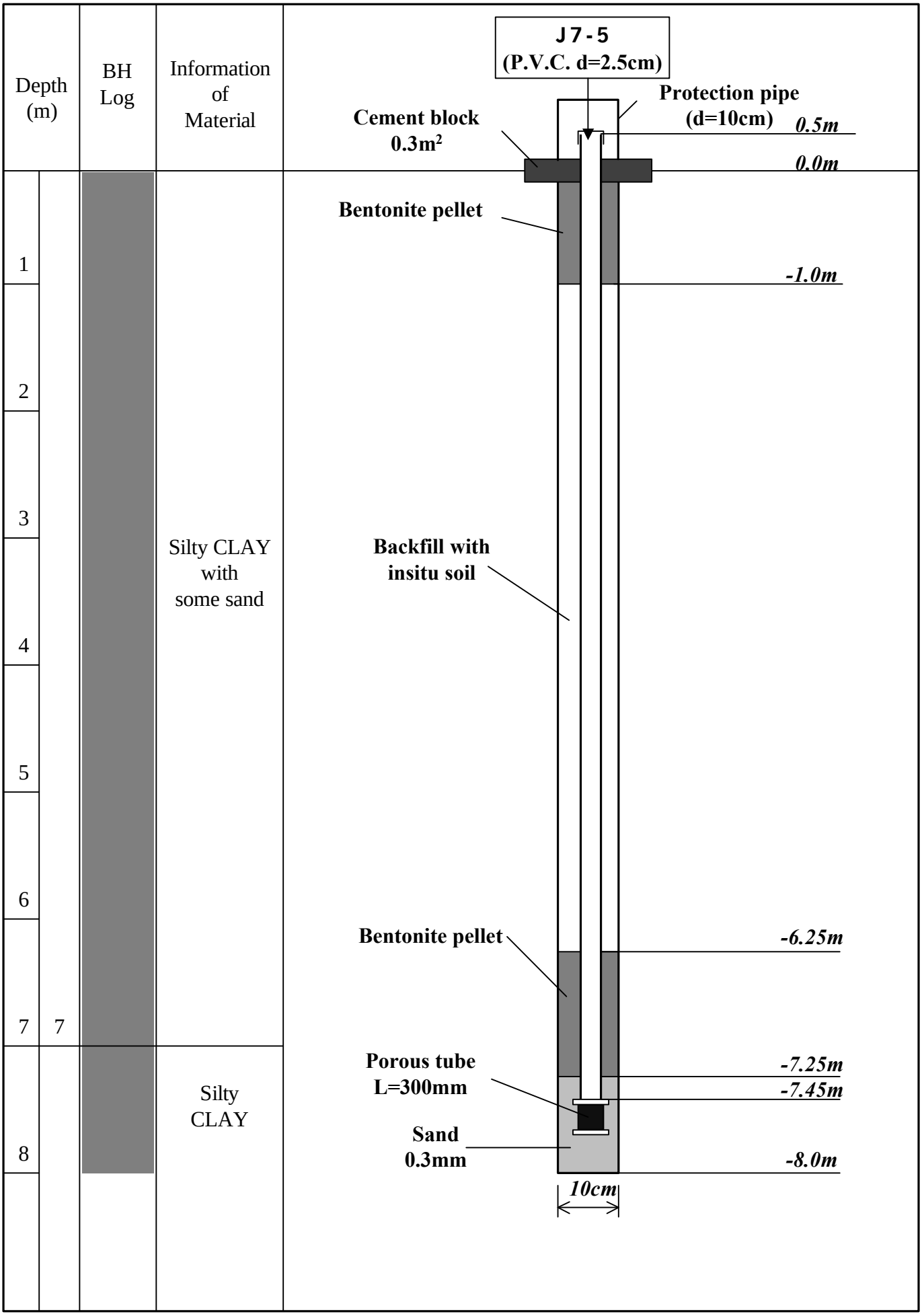
Data Book Figure H.2.19 Construction Design of Monitoring Well (J7-2)



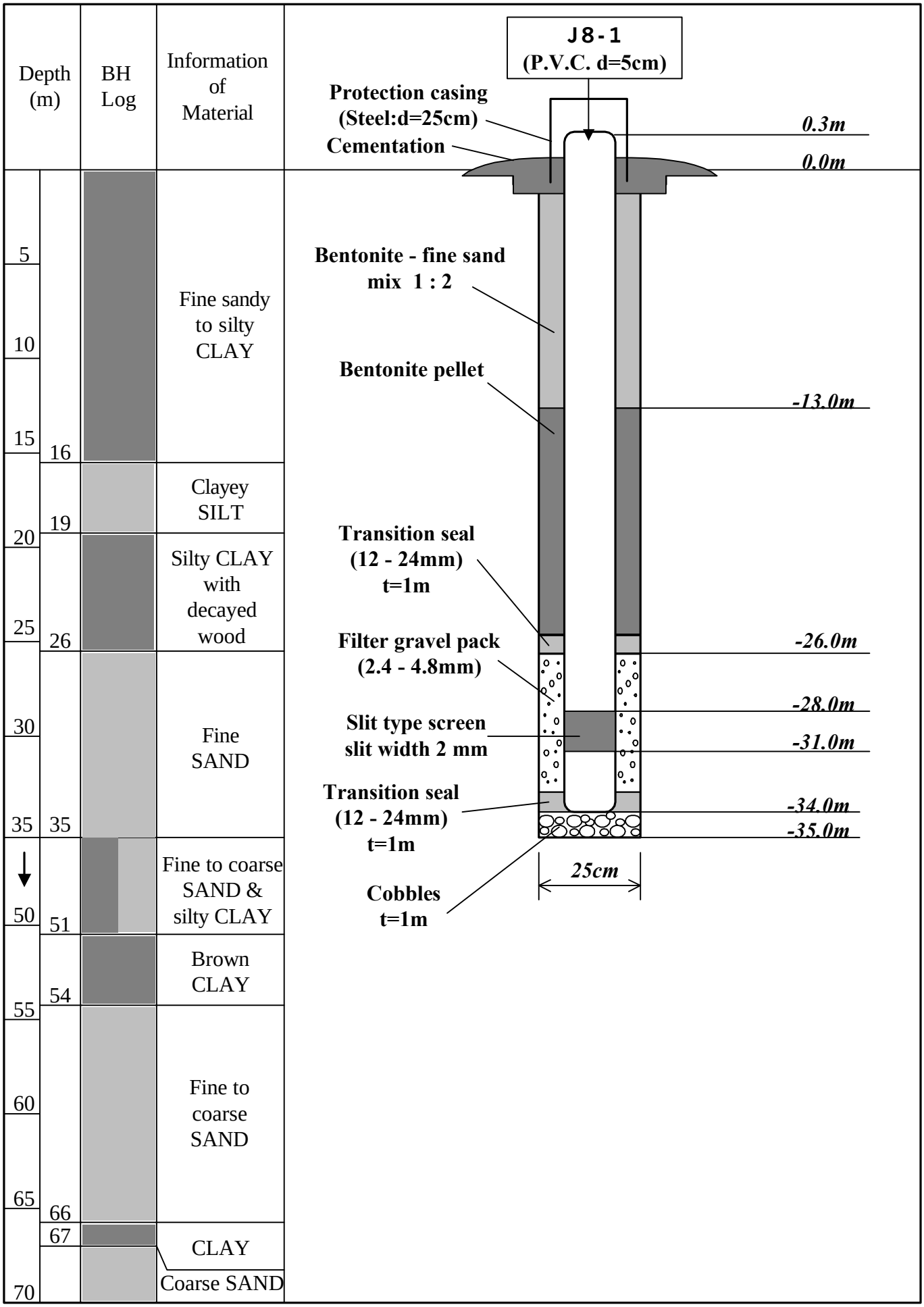
Data Book Figure H.2.20 Construction Design of Monitoring Well (J7-3-1 and J7-3-2)



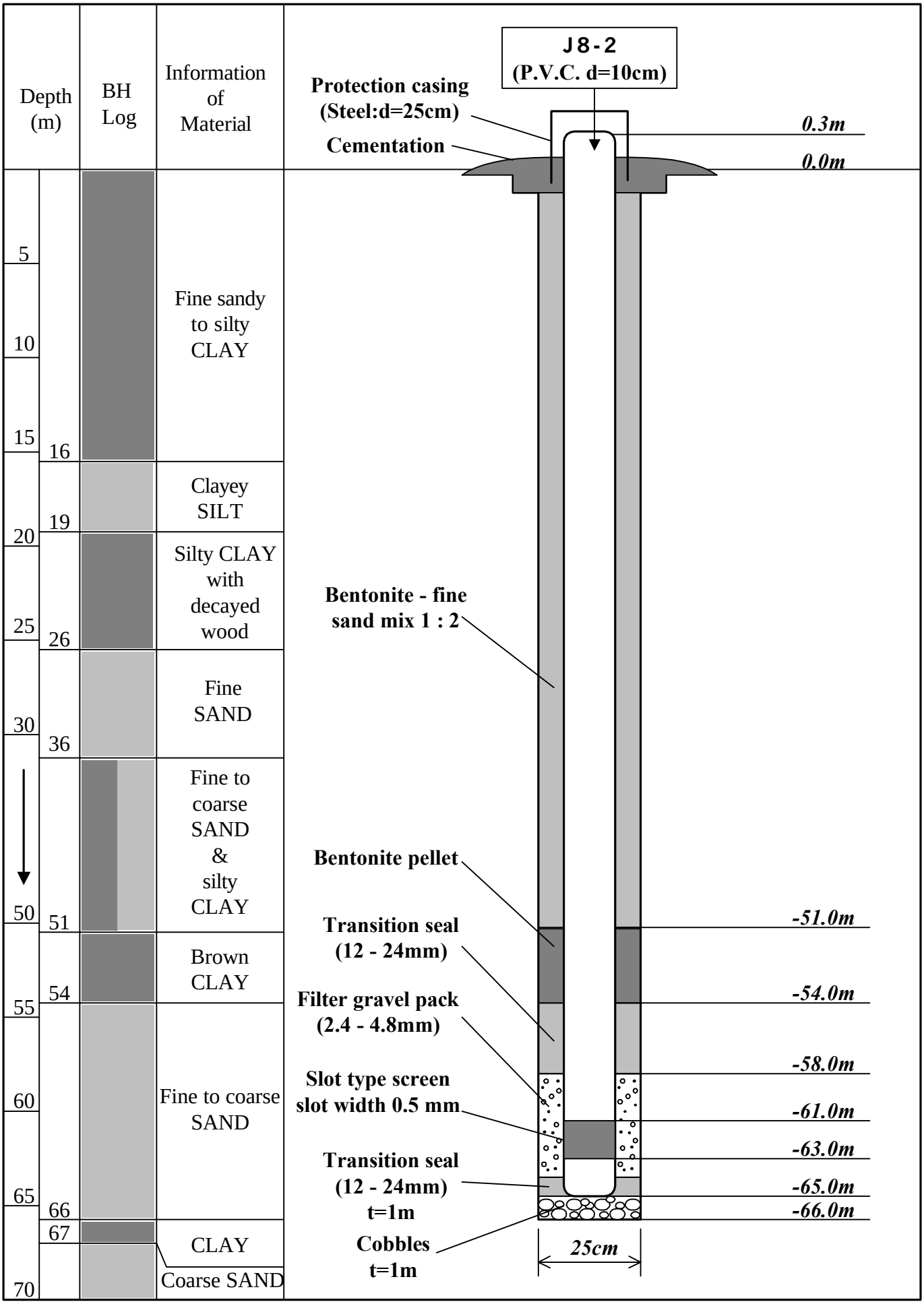
Data Book Figure H.2.21 Construction Design of Monitoring Well (J7-4-1 and J7-4-2)



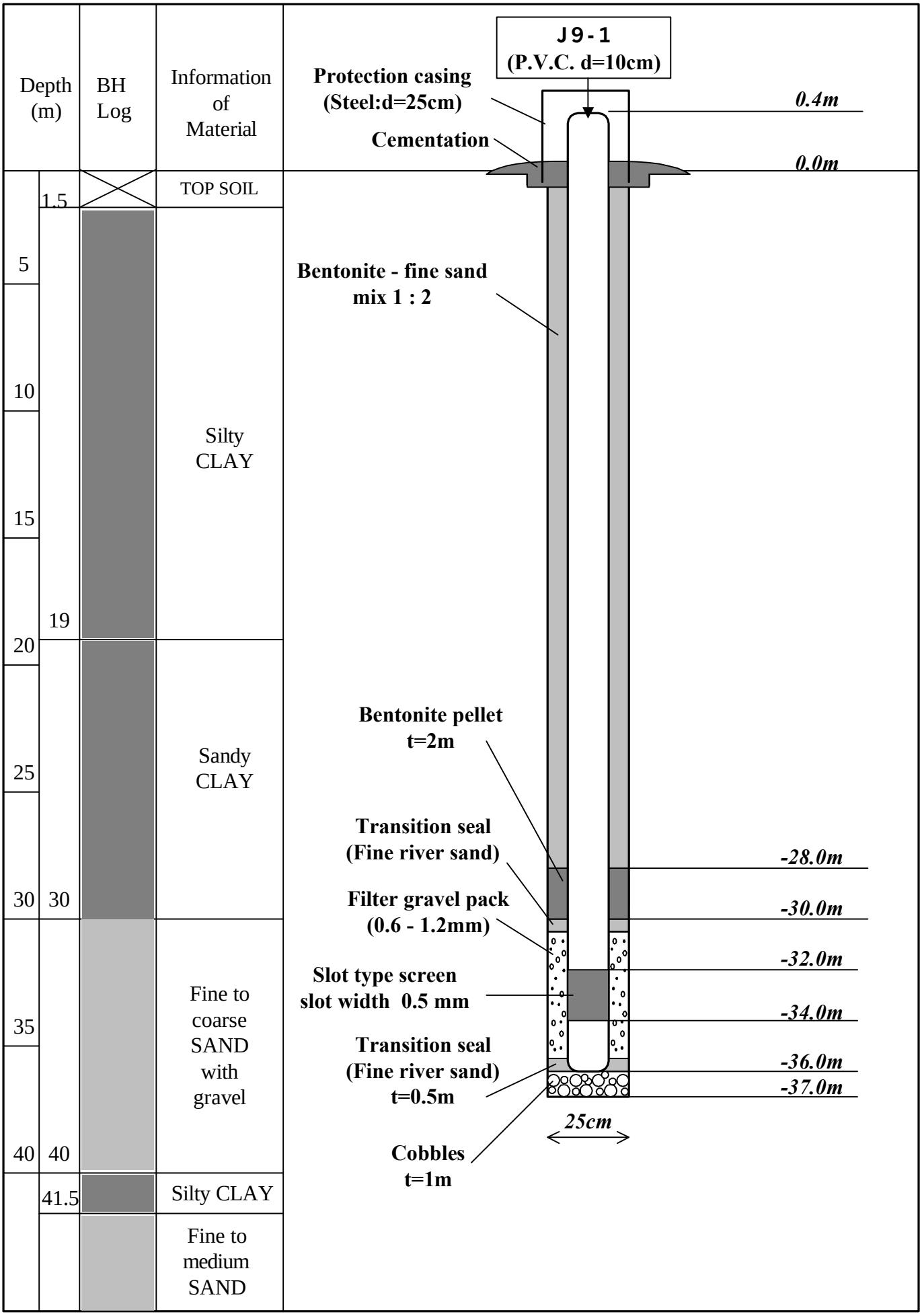
Data Book Figure H.2.22 Construction Design of Monitoring Well
(J7-5 Casagrande Piezometer)



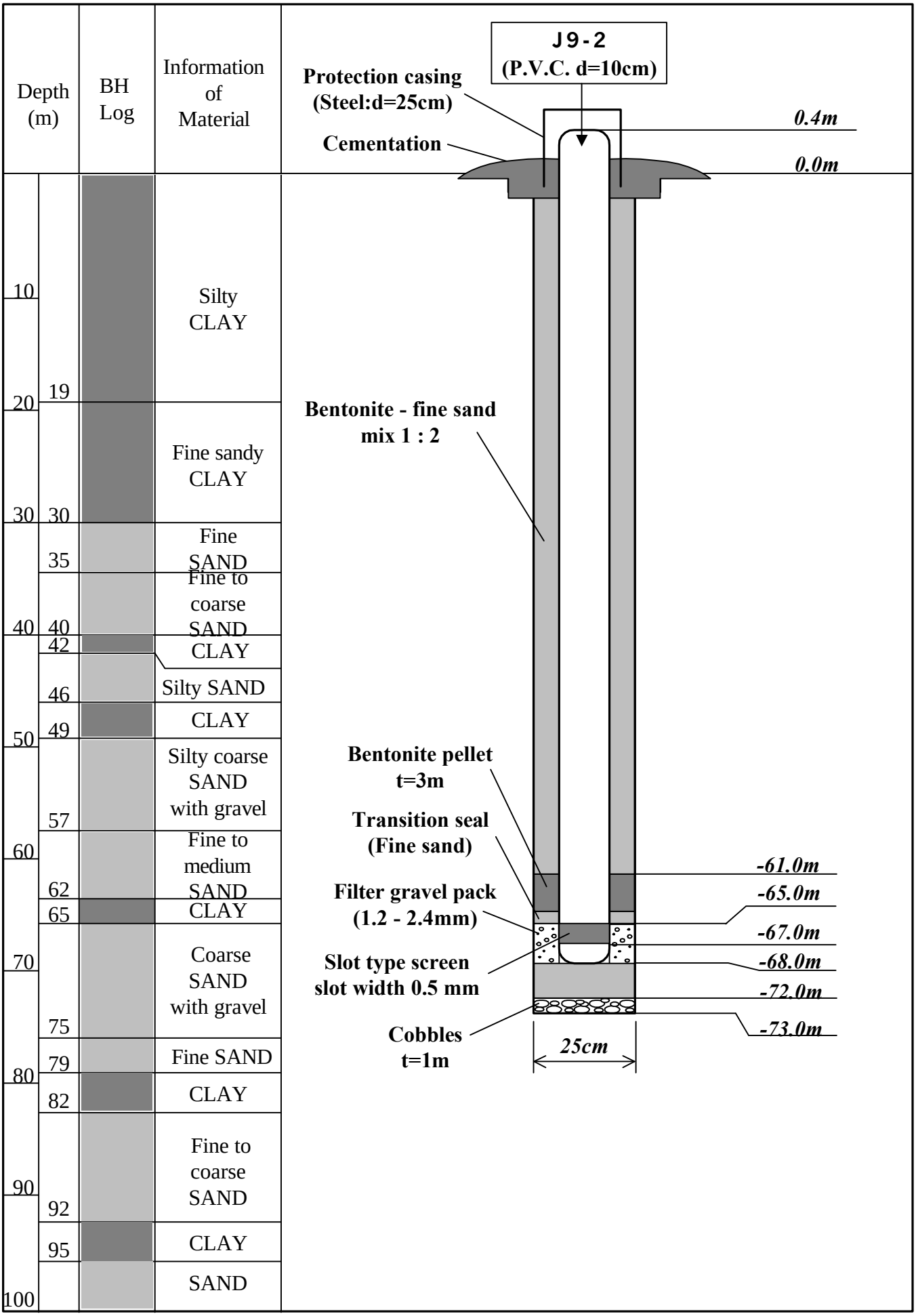
Data Book Figure H.2.23 Construction Design of Monitoring Well (J8-1)



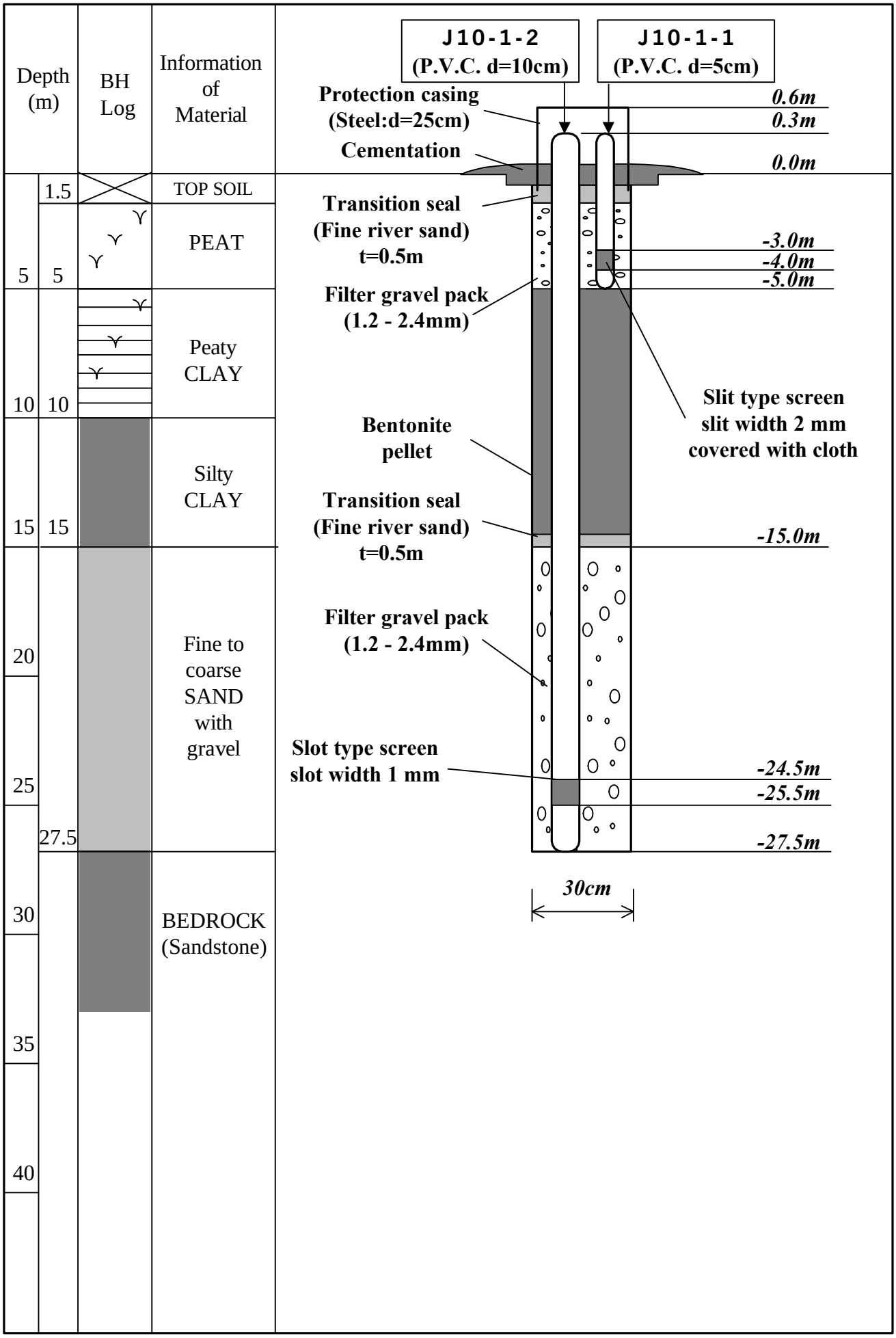
Data Book Figure H.2.24 Construction Design of Monitoring Well (J8-2)



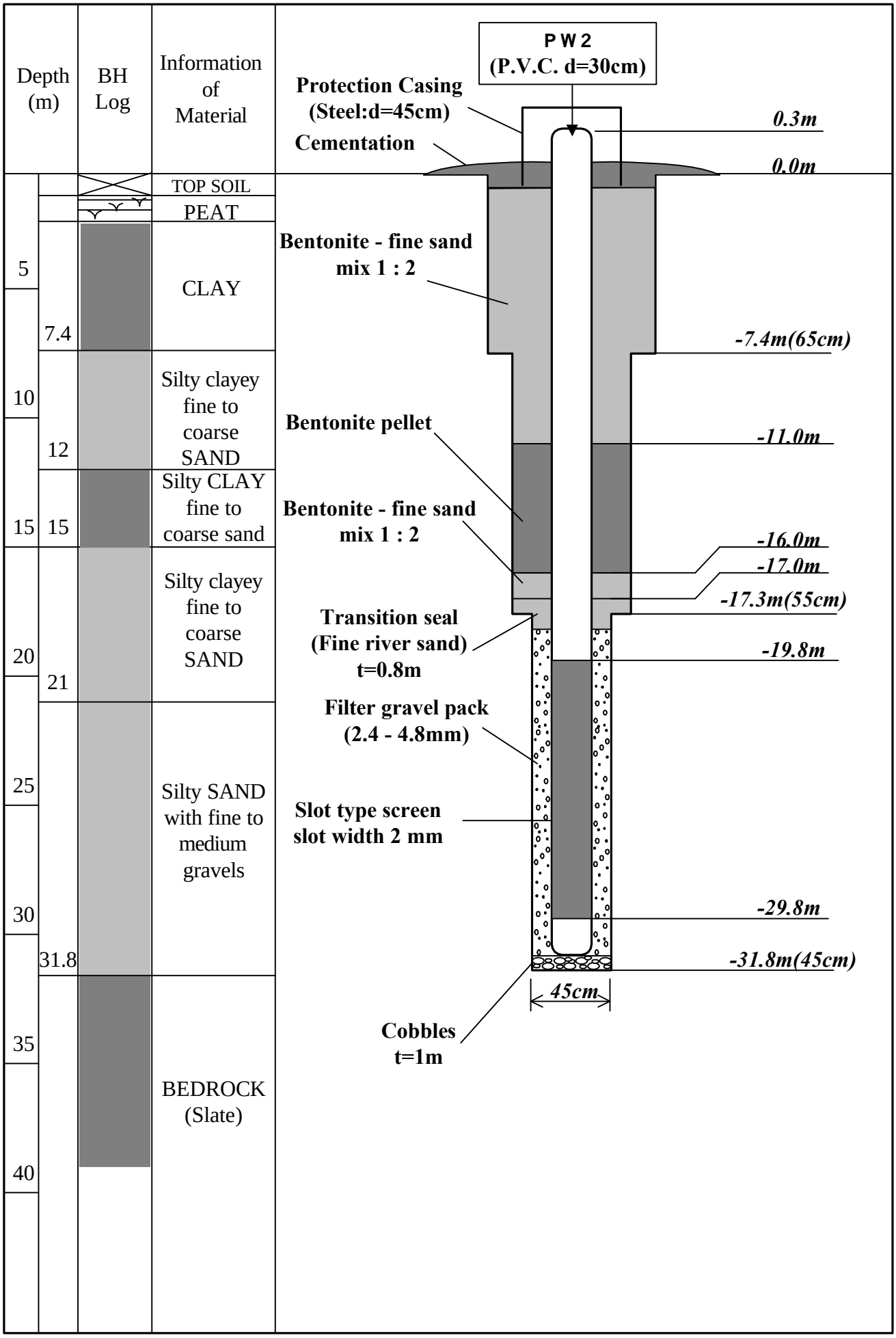
Data Book H.2.25 Construction Design of Monitoring Well (J9-1)



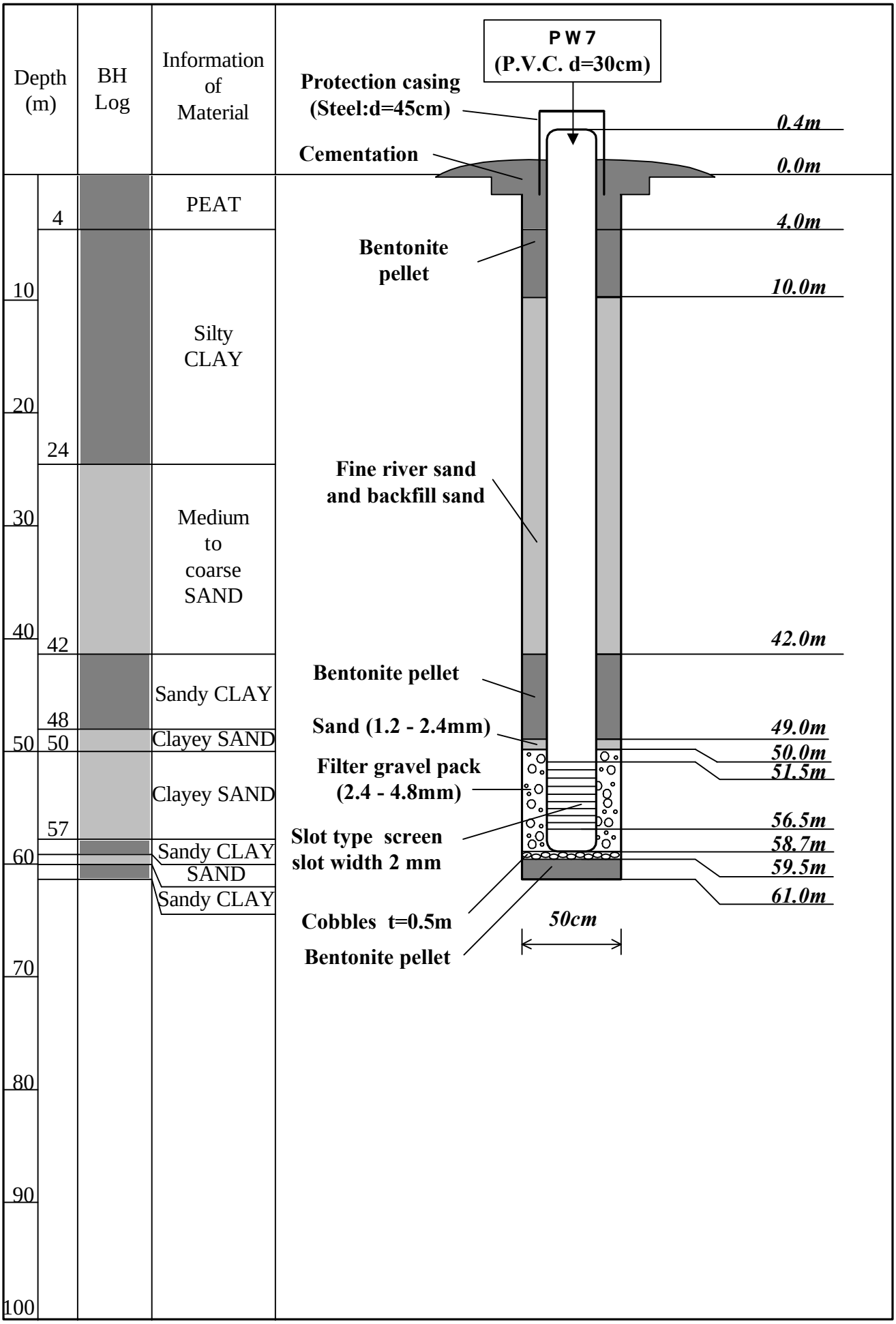
Data Book Figure H.2.26 Construction Design of Monitoring Well (J9-2)



Data Book Figure H.2.27 Construction Design of Monitoring Well (J10-1-1 and J10-1-2)



Data Book Figure H.2.28 Construction Design of Production Well (PW2)



Data Book Figure H.2.29 Construction Design of Production Well (PW7)

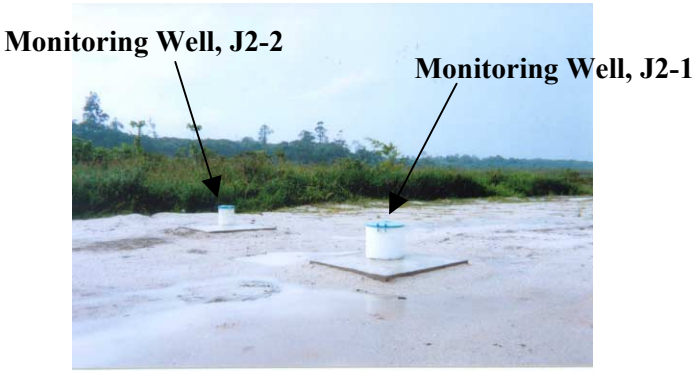
DATA BOOK H.2.2

PHOTOGRAPHS OF NEWLY CONSTRUCTED WELLS IN THE STUDY

Whole view to the Monitoring Well, J1-1(a)

Monitoring Well, J1-1(b)

Data Book Photograph H.2.1 Monitoring Well at Site No.1

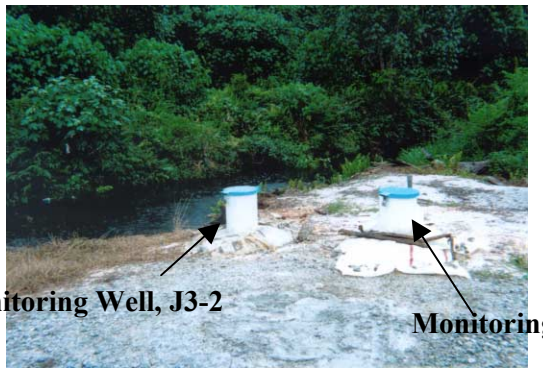


Whole view to the Monitoring Well, J2-1 / J2-2(a)

Monitoring Well, J2-1(b)

Monitoring Well, J2-2(c)

Data Book Photograph H.2.2 Monitoring Wells at Site No.2

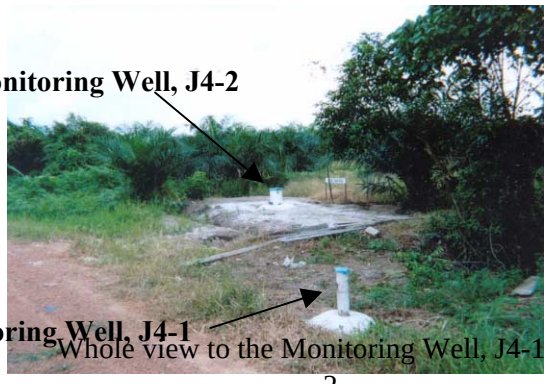


Whole view to the Monitoring Well, J3-1 / J3-2

Monitoring Well, J3-1

Monitoring Well, J3-2

Data Book Photograph H.2.3 Monitoring Wells at Site No.3

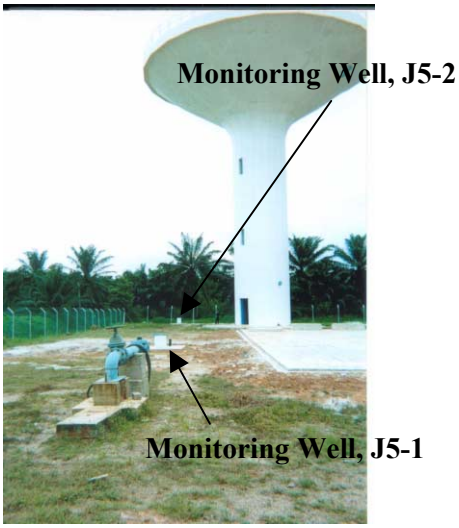


Whole view to the Monitoring Well, J4-1 / J4-2

Monitoring Well, J4-2

↖ Monitoring Well, J4-1

Data Book H.2.4 Monitoring Wells at Site No.4



Whole view to the Monitoring Well, J5-1 / J5-2(a)

Monitoring Well, J5-1(b)

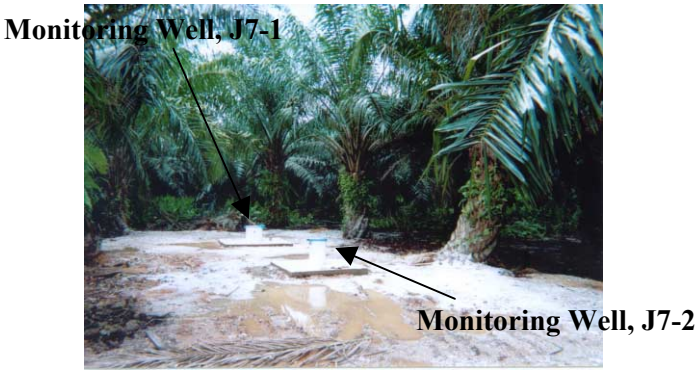
Monitoring Well, J5-2(c)

Data Book Photograph H.2.5 Monitoring Wells at Site No.5

Whole view to the Monitoring Well, J6-1(a)

Monitoring Well, J6-1(b)

Data Book Photograph H.2.6 Monitoring Well at Site No.6



Whole view to the Monitoring Well, J7-1 / J7-2(a)

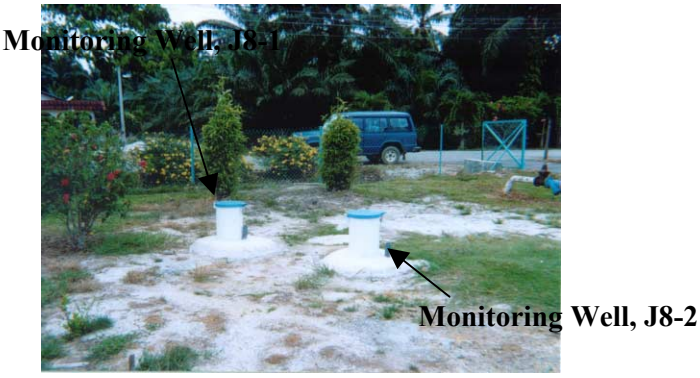
Monitoring Well, J7-1(b)

Monitoring Well, J7-2(c)

Whole view to the Monitoring Well, J7-5(d)

Monitoring Well, J7-5(e) ↗

Data Book Photograph H.2.7 Monitoring Wells at Site No.7

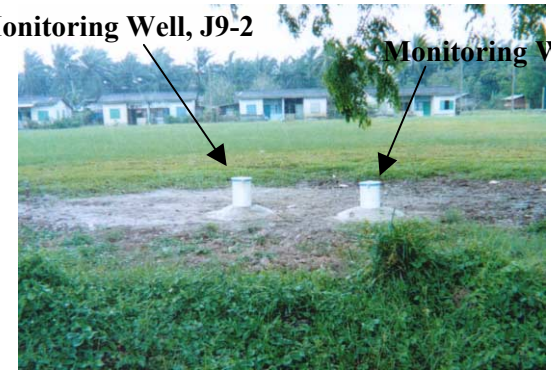


Whole view to the Monitoring Well, J8-1 / J8-2(a)

Monitoring Well, J8-1(b)

Monitoring Well, J8-2(c)

Data Book Photograph H.2.8 Monitoring Wells at Site No.8



Whole view to the Monitoring Well, J9-1 / J9-2(a)

Monitoring Well, J9-1(b)

Monitoring Well, J9-2(c)

Data Book Photograph H.2.9 Monitoring Wells at Site No.9

Whole view to the Monitoring Well, J10-1(a)

Monitoring Well, J10-1(b)

Data Book Photograph H.2.10 Monitoring Well at Site No.10

Whole view to the Pumping Well, PW2(a)

Pumping Well, PW2(b)

Data Book Photograph H.2.11 Pumping Well at Site No.2

Whole view to the Pumping Well, PW7(a)

Pumping Well, PW7(b)

Data Book Photograph H.2.12 Pumping Well at Site No.7

Whole view to the Monitoring Well,

Monitoring Well, LRD2(b)

Data Book Photograph H.2.13 Monitoring Well, LED2

Whole view to the Monitoring Well, Megasteel(a)

Monitoring Well, Megasteel(b)

Data Book Photograph H.2.14 Monitoring Well, Megasteel

Whole view to the Monitoring Well, MWD1(a)

Monitoring Well, MWD1(b)

Data Book Photograph H.2.15 Monitoring Well, MWD1

Whole view to the Monitoring Well, MWD2(a)

Monitoring Well, MWD2(b)

Data Book Photograph H.2.16 Monitoring Well, MWD2

Whole view to the Monitoring Well, MWD6(a)

Monitoring Well, MWD6(b)

Data Book Photograph H.2.17 Monitoring Well, MWD6

Whole view to the Monitoring Well, MWD9(a)

Monitoring Well, MWD9(b)

Data Book Photograph H.2.18 Monitoring Well, MWD9

Whole view to the Monitoring Well, MWD10(a)

Monitoring Well, MWD10(b)

Data Book Photograph H.2.19 Monitoring Well, MWD10

DATA BOOK H.4.1

INSTALLATION OF BENCH MARK REFERENCES

AND DEEP DATUM POINTS

1. List of Deep Datum Drilled and Their Respective Depth: H - 39

2. Schedule of Drilling and Installation of Deep Datum Work: H - 40

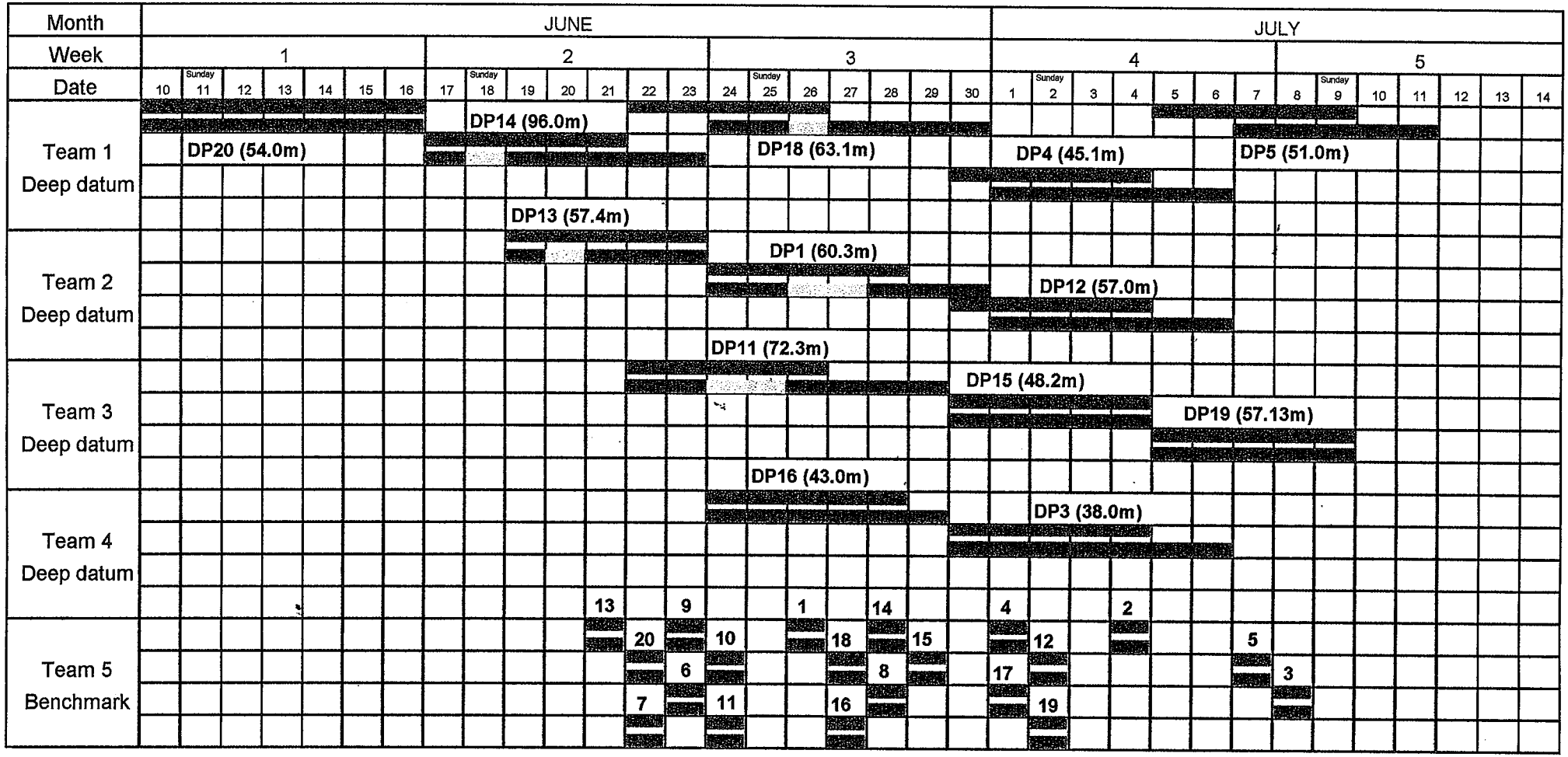
3. Geological Log of Each Deep Datum: H - 41

4. Station Description of Each Bench Mark and Deep Datum: H - 59

Table showing the depth of each deep datum.

Deep datum	*Depth (m)*
1	60.34
3	38.00
4	45.10
5	51.00
11	72.28
12	57.00
13	57.41
14	96.00
15	48.24
16	43.00
18	63.12
19	57.13
20	54.00

Sg. Langat Basin Water Supply - Proposed and actual drilling schedule 114mm dia. borehole for the installation of the deep datum and bench mark reference station



Legend: Proposed Done Not working

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ENGINEERING BORE LOG

PROJECT	SG. LANGAT BASIN WATER SUPPLY - Proposed Drilling 114mm dia. Borehole with 40m max. Depth for the Installation of the Deep Datum Reference Station.	BOREHOLE NO:	DP-1
LOCATION:	Klinik Desa	DATE DRILLED:	25/6/2000 - 29/6/2000
JOB NO:	SFJ/006/2001	REDUCED LEVEL:	4.9580m
TYPE OF BORING:	Rotary	WATER TABLE:	
CONSULTING ENGINEER:	Jurukur Perunding Services Sdn Bhd	CLIENT:	The JICA Study Team

DEPTH (m)	TESTING SAMPLING CORING	SYMBOL	DESCRIPTION OF MATERIAL	DEPTH (m)	Vane Shear Test ● = Undisturbed ○ = Remoulded (100, 200, 300, 400, 500, 600 P.S.F.) / STD. PENETRATION RESISTANCE ▼ = N (blows/ft) (10, 20, 30, 40, 50, 60)
0			Greyish dark brown silty CLAY with traces of sand.	1.0	
			Brownish light to dark grey silty CLAY with traces of sand.	26.0	
			Grey silty SAND.	40.0	
			Light grey silty SAND.	54.0	
54	P1/D1 (N=50/26) R=30/41cm				(4,8,10,12,18,10/3.5cm)
55					
56	P2/D2 (N=50/13) R=15/28cm		Hard		(10,15,23,27/5.5cm)
57	P3/D3 (N=50/17) R=14/32cm		Brownish grey clayey SILT with some sand.		(8,10,18,25,7/2cm)
58					
59	P4/D4 (N=50/22) R=25/37cm				(5,8,12,15,23/7cm)
60	P5/D5 (N=50/19) R=25/34cm			60.34	(6,10,18,21,11/4cm)
61			- end of deep datum - Note: Installation of deep datum at depth 60.00m b.g.l.		

BORING

C = CORING
C.R. = CORE RECOVERY

V = VANE SHEAR TEST

P = STANDARD PENETRATION TEST
N = NO. OF BLOW PER FOOT

UD = UNDISTURBED SAMPLE

D = DISTURBED SAMPLE

REMARKS:

1. R denotes Recovery.
2. Wash Boring from 0.00m to 54.00m b.g.l.

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ENGINEERING BORE LOG

PROJECT	SG. LANGAT BASIN WATER SUPPLY - Proposed Drilling 114mm dia. Borehole with 40m max. Depth for the Installation of the Deep Datum Reference Station.	BOREHOLE NO:	DP-3
LOCATION:	Paya Indah	DATE DRILLED:	1/7/2000 - 4/7/2000
JOB NO:	SFJ/006/2001	REDUCED LEVEL:	7.719m
TYPE OF BORING:	Rotary	WATER TABLE:	0.40m b.g.l. (5/7/2000)
CONSULTING ENGINEER:	Jurukur Perunding Services Sdn Bhd	CLIENT:	The JICA Study Team

DEPTH (m)	TESTING SAMPLING CORING	SYMBOL	DESCRIPTION OF MATERIAL	DEPTH (m)
0			Light grey silty SAND.	1.0
			Dark brown organic materials. (decomposed and rootlets)	2.2
			Greyish brown silty CLAY with decayed woods.	4.2
			Dark brown silty SAND.	6.1
			Light grey silty CLAY.	9.5
34			Grey silty SAND.	34.5
34.5	C1 C.R. 20% RQD 0%		Purplish brown mottled grey,fresh, SANDSTONE,strong.	35.0
35				
36			Probably highly weathered, sandstone.	37.0
37	C2 C.R. 100% RQD 50%		Yellowish brown mottled grey, fresh,SANDSTONE,strong.	38.0
38			- end of deep datum -	
			Note : Installation of deep datum at depth 38.00m b.g.l.	

Vane Shear Test ● = Undisturbed ○ = Remoulded
100 200 300 400 500 600
P.S.P.
STD. PENETRATION RESISTANCE ▼ = N (blows/ft)
10 20 30 40 50 60

BORING
C = CORING
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V = VANE SHEAR TEST
P = STANDARD PENETRATION TEST
N = NO. OF BLOW PER FOOT
UD = UNDISTURBED SAMPLE
D = DISTURBED SAMPLE

REMARKS:
1. R denotes Recovery.
2. Wash Boring from 0.00m to 34.50m b.g.l.

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ENGINEERING BORE LOG

PROJECT	SG. LANGAT BASIN WATER SUPPLY - Proposed Drilling 114mm dia. Borehole with 40m max. Depth for the Installation of the Deep Datum Reference Station.	BOREHOLE NO:	DP-4
LOCATION:	2 JMG Monitoring Wells in Olak Lempit	DATE DRILLED:	3/7/2000 - 4/7/2000
JOB NO:	SFJ/006/2001	REDUCED LEVEL:	5.101m
TYPE OF BORING:	Rotary	WATER TABLE:	
CONSULTING ENGINEER:	Jurukur Perunding Services Sdn Bhd	CLIENT:	The JICA Study Team

DEPTH (m)	TESTING SAMPLING CORING	SYMBOL	DESCRIPTION OF MATERIAL	DEPTH (m)	Vane Shear Test ● = Undisturbed ○ = Remoulded (P.S.P. 100 200 300 400 500 600) / STD. PENETRATION RESISTANCE ▼ = N (blows/ft) (10 20 30 40 50 60)
0			Greyish brown silty CLAY with traces of sand.	18.0	
			Light to dark grey silty SAND.	39.0	
39	P1/D1 (N=50/10.5) R=12/25.5cm		Very Dense Grey silty SAND.		(5,13,21,29/3cm)
40					
41	P2/D2 (N=50/10) R=10/10cm				(30,20/2.5cm)
42	P3/D3 (N=50/14.5) R=13/14.5cm				(25,25/7cm)
43					
44	P4/D4 (N=50/11.5) R=14/26.5cm				(9,14,19,31/4cm)
45	P5/D5 (N=50/9.5) R=9/9.5cm		- end of deep datum -	45.095	(37,13/2cm)
46			Note: Installation of deep datum at depth 45.00m b.g.l.		

BORING
C = CORING
C.R. = CORE RECOVERY
V = VANE SHEAR TEST
P = STANDARD PENETRATION TEST
N = NO. OF BLOW PER FOOT
UD = UNDISTURBED SAMPLE
D = DISTURBED SAMPLE

REMARKS:
1. R denotes Recovery.
2. Wash Boring from 0.00m to 39.00m b.g.l.

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ENGINEERING BORE LOG

PROJECT	SG. LANGAT BASIN WATER SUPPLY - Proposed Drilling 114mm dia. Borehole with 40m max. Depth for the Installation of the Deep Datum Reference Station.	BOREHOLE NO:	DP-5
LOCATION:	SJK (Tamil),Sg. Sedu	DATE DRILLED:	8/7/2000 - 10/7/2000
JOB NO:	SFJ/006/2001	REDUCED LEVEL:	2.918m
TYPE OF BORING:	Rotary	WATER TABLE:	
CONSULTING ENGINEER:	Jurukur Perunding Services Sdn Bhd	CLIENT:	The JICA Study Team

DEPTH (m)	TESTING SAMPLING CORING	SYMBOL	DESCRIPTION OF MATERIAL	DEPTH (m)	Vane Shear Test ● = Undisturbed ○ = Remoulded (100, 200, 300, 400, 500, 600) P.S.P. / STD. PENETRATION RESISTANCE ▼ = N (blows/ft) (10, 20, 30, 40, 50, 60)
0			Brownish grey silty SAND.	45.0	
45	P1/D1 (N=50/24.5) R=15/39.5cm		Very Dense Light to dark grey silty SAND.		(5,7,8,12,17,13/2cm)
46					
47	P2/D2 (N=50/10.5) R=12/25.5cm			47.5	(12,17,21,29/3cm)
48	P3/D3 (N=50/9) R=6/9cm		Very Dense Grey silty SAND with some gravel.		(39,11/1.5cm)
49					
50	P4/D4 (N=50/6) R=6/6cm				(50/6cm)
51	P5+ (N=50/2) R=Nil			51.02	(50/2cm)
52			- end of deep datum - Note: Installation of deep datum at depth 51.00m b.g.l.		

BORING
C = CORING
C.R. = CORE RECOVERY
V = VANE SHEAR TEST
P = STANDARD PENETRATION TEST
N = NO. OF BLOW PER FOOT
UD = UNDISTURBED SAMPLE
D = DISTURBED SAMPLE

REMARKS:
1. R denotes Recovery.
2. Wash Boring from 0.00m to 45.00m b.g.l.
3. + denotes SPT Hammer Rebound.

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ENGINEERING BORE LOG

PROJECT	SG. LANGAT BASIN WATER SUPPLY - Proposed Drilling 114mm dia. Borehole with 40m max. Depth for the Installation of the Deep Datum Reference Station.	BOREHOLE NO:	DP-11
LOCATION:	Sekolah Menengah Jugra	DATE DRILLED:	24/6/2000 - 29/6/2000
JOB NO:	SFJ/006/2001	REDUCED LEVEL:	2.566m
TYPE OF BORING:	Rotary	WATER TABLE:	
CONSULTING ENGINEER:	Jurukur Perunding Services Sdn Bhd	CLIENT:	The JICA Study Team

DEPTH (m)	TESTING SAMPLING CORING	SYMBOL	DESCRIPTION OF MATERIAL	DEPTH (m)	Vane Shear Test ● = Undisturbed ○ = Remoulded (100 200 300 400 500 600) P.S.P. / STD. PENETRATION RESISTANCE ▼ = N (blows/ft) (10 20 30 40 50 60)
0			Greyish brown silty CLAY with traces of sand.	20.0	
			Grey silty SAND.	42.0	
42	P1/D2 (N=50/21) R=9/36cm				(4,7,12,18,20/6cm)
43					
44	P2/D2 (N=50/13) R=18/28cm		Very Dense Light to dark grey silty SAND with a little gravel.		(6,12,26,24/5.5cm)
45	P3 (N=50/12) R=Nil				(8,15,29,21/4.5cm)
46				46.5	
47	P4/D3 (N=30) R=45/45cm		Dense Light grey silty SAND with some gravel.	47.0	
			Wash boring from 47.00m to 57.00m b.g.l.		
57				57.0	

BORING
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V = VANE SHEAR TEST.

P = STANDARD PENETRATION TEST
N = NO. OF BLOW PER FOOT
UD = UNDISTURBED SAMPLE
D = DISTURBED SAMPLE

REMARKS:
1. R denotes Recovery.
2. Wash Boring from 0.00m to 39.00m b.g.l.

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ENGINEERING BORE LOG

PROJECT	SG. LANGAT BASIN WATER SUPPLY - Proposed Drilling 114mm dia. Borehole with 40m max. Depth for the Installation of the Deep Datum Reference Station.	BOREHOLE NO:	DP-11
LOCATION:	Sekolah Menengah Jugra	DATE DRILLED:	24/6/2000 - 29/6/2000
JOB NO:	SFJ/006/2001	REDUCED LEVEL:	2.566m
TYPE OF BORING:	Rotary	WATER TABLE:	
CONSULTING ENGINEER:	Jurukur Perunding Services Sdn Bhd	CLIENT:	The JICA Study Team

DEPTH (m)	TESTING SAMPLING CORING	SYMBOL	DESCRIPTION OF MATERIAL	DEPTH (m)	Vane Shear Test ● = Undisturbed ○ = Remoulded (P.S.F. 100 200 300 400 500 600) / STD. PENETRATION RESISTANCE ▼ = N (blows/ft) (10 20 30 40 50 60)
	P5/D4 (N=25) R=30/45cm		Medium Dense Brownish grey sandy SILT.	58.0	(2,3,4,5,6,10)
58			Wash boring from 58.00m to 66.00m b.g.l.	66.0	
66	P6/D5 (N=50/14) R=20/29cm		Very Dense Grey silty SAND with some gravel.	66.7	(5,12,21,29/6.5cm)
67					
68	P7/D6 (N=50/11) R=10/26cm				(6,14,31,19/3.5cm)
69	P8/D7 (N=50/12) R=12/27cm		Very Dense Brownish light to dark grey silty SAND with traces of gravel.		(8,15,28,22/4.5cm)
70	P9/D8 (N=50/14) R=15/29cm				(6,13,24,26/6.5cm)
71					
72					

BORING
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N = NO. OF BLOW PER FOOT
UD = UNDISTURBED SAMPLE
D = DISTURBED SAMPLE

REMARKS:

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ENGINEERING BORE LOG

PROJECT	SG. LANGAT BASIN WATER SUPPLY - Proposed Drilling 114mm dia. Borehole with 40m max. Depth for the Installation of the Deep Datum Reference Station.	BOREHOLE NO:	DP-11
LOCATION:	Sekolah Menengah Jugra	DATE DRILLED:	24/6/2000 - 29/6/2000
JOB NO:	SFJ/006/2001	REDUCED LEVEL:	2.566m
TYPE OF BORING:	Rotary	WATER TABLE:	
CONSULTING ENGINEER:	Jurukur Perunding Services Sdn Bhd	CLIENT:	The JICA Study Team

DEPTH (m)	TESTING SAMPLING CORING	SYMBOL	DESCRIPTION OF MATERIAL	DEPTH (m)	Vane Shear Test ● = Undisturbed ○ = Remoulded (100 200 300 400 500 600) P.S.P. / STD. PENETRATION RESISTANCE ▼ = N (blows/ft) (10 20 30 40 50 60)
	P10/D9 (N=50/13) R=20/28cm		- ditto -	72.28	(7,15,27,23/5.5cm)
73			- end of deep datum -		
			Note : Installation of deep datum at depth 72.00m b.g.l.		

BORING

C = CORING
C.R. = CORE RECOVERY

V = VANE SHEAR TEST

P = STANDARD PENETRATION TEST
N = NO. OF BLOW PER FOOT

UD = UNDISTURBED SAMPLE

D = DISTURBED SAMPLE

REMARKS:

Soils & Foundations Sdn. Bhd.

ENGINEERING BORE LOG

PROJECT	SG. LANGAT BASIN WATER SUPPLY - Proposed Drilling 114mm dia. Borehole with 40m max. Depth for the Installation of the Deep Datum Reference Station.	BOREHOLE NO:	DP-12
LOCATION:	2 JMG Monitoring Wells along the North-South Central Link	DATE DRILLED:	3/7/2000 - 6/7/2000
JOB NO:	SFJ/006/2001	REDUCED LEVEL:	9.262m
TYPE OF BORING:	Rotary	WATER TABLE:	
CONSULTING ENGINEER:	Jurukur Perunding Services Sdn Bhd	CLIENT:	The JICA Study Team

DEPTH (m)	TESTING SAMPLING CORING	SYMBOL	DESCRIPTION OF MATERIAL	DEPTH (m)
0			Brownish grey silty SAND.	54.0
54	C1 C.R. 66% RQD 0%		Light grey highly weathered, LIMESTONE weak.	57.0
55 55.5				
56	C2 C.R. 60% RQD 0%			
57			- end of deep datum - <u>Note :</u> Installation of deep datum at depth 57.00m b.g.l.	

Vane Shear Test ● = Undisturbed ○ = Remoulded
P.S.F. 100 200 300 400 500 600
STD. PENETRATION RESISTANCE ▼ = N (blows/ft)
10 20 30 40 50 60

BORING
C = CORING
C.R. = CORE RECOVERY
V = VANE SHEAR TEST
P = STANDARD PENETRATION TEST
N = NO. OF BLOW PER FOOT
UD = UNDISTURBED SAMPLE
D = DISTURBED SAMPLE

REMARKS:
1. R denotes Recovery.
2. Wash Boring from 0.00m to 39.00m b.g.l.

Soils & Foundations Sdn. Bhd.

ENGINEERING BORE LOG

PROJECT	SG. LANGAT BASIN WATER SUPPLY - Proposed Drilling 114mm dia. Borehole with 40m max. Depth for the Installation of the Deep Datum Reference Station.	BOREHOLE NO:	DP-13
LOCATION:	Sek. Agama Menengah Unwanus Saadah,Kancong Darat	DATE DRILLED:	19/6/2000 - 22/6/2000
JOB NO:	SFJ/006/2001	REDUCED LEVEL:	3.6647m
TYPE OF BORING:	Rotary	WATER TABLE:	
CONSULTING ENGINEER:	Jurukur Perunding Services Sdn Bhd	CLIENT:	The JICA Study Team

DEPTH (m)	TESTING SAMPLING CORING	SYMBOL	DESCRIPTION OF MATERIAL	DEPTH (m)	Vane Shear Test ● = Undisturbed ○ = Remoulded (100 200 300 400 500 600 P.S.F.) / STD. PENETRATION RESISTANCE ▼ = N (blows/ft) (10 20 30 40 50 60)
0			Yellowish brown silty CLAY.	1.5	
			Brownish grey silty SAND.	12.0	
			Brownish grey silty CLAY.	32.0	
			Whitish light grey silty SAND.	51.0	
51	P1/D1 (N=50/28) R=10/43cm		Very Dense		(8,10,10,13,15,12/5.5cm)
52					
53	P2/D2 (N=50/24) R=15/39cm				(5,8,12,14,18,6/1.5cm)
54	P3/D3 (N=50/22) R=12/37cm		Grey silty SAND.		(8,10,15,18,17/7cm)
55					
56	P4/D4 (N=50/27) R=15/42cm				(7,8,10,15,15,10/4.5cm)
57	P5/D5 (N=50/25.5) R=20/40.5cm			57.405	(6,8,10,14,17,9/3cm)
58			- end of deep datum - Note: Installation of deep datum at depth 57.00m b.g.l.		

BORING
C = CORING
C.R. = CORE RECOVERY
V = VANE SHEAR TEST
P = STANDARD PENETRATION TEST
N = NO. OF BLOW PER FOOT
UD = UNDISTURBED SAMPLE
D = DISTURBED SAMPLE

REMARKS:
1. R denotes Recovery.
2. Wash Boring from 0.00m to 51.00m b.g.l.

Soils & Foundations Sdn. Bhd.

ENGINEERING BORE LOG

PROJECT	SG. LANGAT BASIN WATER SUPPLY - Proposed Drilling 114mm dia. Borehole with 40m max. Depth for the Installation of the Deep Datum Reference Station.	BOREHOLE NO:	DP-14
LOCATION:	Sekolah Kebangsaan Sg. Lang, Banting.	DATE DRILLED:	17/6/2000 - 20/6/2000
JOB NO:	SFJ/006/2001	REDUCED LEVEL:	3.5733m
TYPE OF BORING:	Rotary	WATER TABLE:	
CONSULTING ENGINEER:	Jurukur Perunding Services Sdn Bhd	CLIENT:	The JICA Study Team

DEPTH (m)	TESTING SAMPLING CORING	SYMBOL	DESCRIPTION OF MATERIAL	DEPTH (m)	Vane Shear Test ● = Undisturbed ○ = Remoulded (100 200 300 400 500 600 P.S.F.) / STD. PENETRATION RESISTANCE ▼ = N (blows/ft) (10 20 30 40 50 60)
0			Yellowish brown clayey SILT with gravel.	0.7	
10			Light to dark grey clayey SILT with traces of sand.	9.0	
			Light to dark grey silty SAND with traces of gravel.	18.0	
20, 30, 40, 50			Brownish light to dark grey silty SAND.	60.0	
60	P1/D1 (N=50/11) R=8/11cm		Very Dense Brownish light to dark grey silty SAND.	61.5	(25,25/3.5cm)
61, 80, 90			Brownish light to dark grey silty SAND.	96.0	
100			- end of deep datum -		

Note:

Installation of deep datum at depth 66.00m b.g.l.

BORING

C = CORING
C.R. = CORE RECOVERY

V = VANE SHEAR TEST

P = STANDARD PENETRATION TEST
N = NO. OF BLOW PER FOOT

UD = UNDISTURBED SAMPLE

D = DISTURBED SAMPLE

REMARKS:

1. R denotes Recovery.
2. Wash Boring from 0.00m to 60.00m b.g.l. and 60.15m to 96.00m b.g.l.

Soils & Foundations Sdn. Bhd.

ENGINEERING BORE LOG

PROJECT	SG. LANGAT BASIN WATER SUPPLY - Proposed Drilling 114m dia, Borehole with 40m max. Depth for the Installation of the Deep Datum Reference Station.	BOREHOLE NO:	DP-15
LOCATION:	2JMG Monitoring Wells in Ladang Brooklands	DATE DRILLED:	1/7/2000 - 3/7/2000
JOB NO:	SFJ/006/2001	REDUCED LEVEL:	3.290m
TYPE OF BORING:	Rotary	WATER TABLE:	
CONSULTING ENGINEER:	Jurukur Perunding Services Sdn Bhd	CLIENT:	The JICA Study Team

DEPTH (m)	TESTING SAMPLING CORING	SYMBOL	DESCRIPTION OF MATERIAL	DEPTH (m)	Vane Shear Test ● = Undisturbed ○ = Remoulded (100 200 300 400 500 600 P.S.F.) / STD. PENETRATION RESISTANCE ▼ = N (blows/ft) (10 20 30 40 50 60)
0			Brownish grey silty CLAY.	15.0	
			Light to dark grey silty SAND with traces of gravel.	42.0	
42	P1/D1 (N=50/21) R=18/36cm		Very Dense Light grey silty SAND.		(6,8,10,15,25/6cm)
43					
44	P2/D2 (N=50/20) R=15/35cm				(6,9,12,15,23/5cm)
45	P3 (N=50/18) R=Nil				(7,10,13,18,19/3cm)
46					
47	P4/D3 (N=50/13) R=10/28cm				(9,15,26,24/5.5cm)
48	P5/D4 (N=50/9) R=12/24cm			48.24	(12,17,35,15/1.5cm)
49			- end of deep datum - <u>Note :</u> Installation of deep datum at depth 48.00m b.g.l.		

BORING
C = CORING
C.R. = CORE RECOVERY
V = VANE SHEAR TEST
P = STANDARD PENETRATION TEST
N = NO. OF BLOW PER FOOT
UD = UNDISTURBED SAMPLE
D = DISTURBED SAMPLE

REMARKS:
1. R denotes Recovery.
2. Wash Boring from 0.00m to 42.00m b.g.l.

Soils & Foundations Sdn. Bhd.

ENGINEERING BORE LOG

PROJECT	SG. LANGAT BASIN WATER SUPPLY - Proposed Drilling 114mm dia. Borehole with 40m max. Depth for the Installation of the Deep Datum Reference Station.	BOREHOLE NO:	DP-16
LOCATION:	Balai Rakyat Layang Labi,Kg. Labohan Dagang	DATE DRILLED:	26/6/2000
JOB NO:	SFJ/006/2001	REDUCED LEVEL:	3.657m
TYPE OF BORING:	Rotary	WATER TABLE:	
CONSULTING ENGINEER:	Jurukur Perunding Services Sdn Bhd	CLIENT:	The JICA Stdy Team

DEPTH (m)	TESTING SAMPLING CORING	SYMBOL	DESCRIPTION OF MATERIAL	DEPTH (m)
0			Dark brown clayey SILT with some sand and rootlets.	0.4
			Brownish grey silty SAND.	11.0
			Light grey silty SAND.	12.5
			Brownish dark grey silty CLAY.	16.0
			Light grey silty SAND.	40.0
40				
41	C1		Dark grey,moderately weathered,	
	C.R. 33%		LIMESTONE,medium Strong.	
42	RQD 0%			
				43.0
43			- end of deep datum -	
			Note: Installation of deep datum at depth 43.00m b.g.l.	

Vane Shear Test ● = Undisturbed ○ = Remoulded
P.S.F. 100 200 300 400 500 600
STD. PENETRATION RESISTANCE ▼ = N (blows/ft)
10 20 30 40 50 60

BORING
C = CORING
C.R. = CORE RECOVERY
V = VANE SHEAR TEST
P = STANDARD PENETRATION TEST
N = NO. OF BLOW PER FOOT
UD = UNDISTURBED SAMPLE
D = DISTURBED SAMPLE

REMARKS:
1. R denotes Recovery.
2. Wash Boring from 0.00m to 43.0m b.g.l.

Soils & Foundations Sdn. Bhd. — **ENGINEERING BORE LOG**

PROJECT	SG. LANGAT BASIN WATER SUPPLY - Proposed Drilling 114m dia, Borehole with 40m max. Depth for the Installation of the Deep Datum Reference Station.	BOREHOLE NO:	DP-18
LOCATION:	Estate Felcra,Kelanang	DATE DRILLED:	25/6/2000 - 29/6/2000
JOB NO:	SFJ/006/2001	REDUCED LEVEL:	5.018m
TYPE OF BORING:	Rotary	WATER TABLE:	
CONSULTING ENGINEER:	Jurukur Perunding Services Sdn Bhd	CLIENT:	The JICA Study Team

DEPTH (m)	TESTING SAMPLING CORING	SYMBOL	DESCRIPTION OF MATERIAL	DEPTH (m)	Vane Shear Test ● = Undisturbed ○ = Remoulded (100 200 300 400 500 600) P.S.P. / STD. PENETRATION RESISTANCE ▼ = N (blows/ft) (10 20 30 40 50 60)
0			Greyish brown clayey SILT with some sand	27.0	
			Browish grey silty SAND.	57.0	
57	P1/D1 (N=50/9.5) R=12/24.5cm		Very Dense Grey silty SAND with some gravel.		(7,12,25,25/2cm)
58					
59	P2/D2 (N=50/11.5) R=10/11.5cm				(30,20/4cm)
60	P3/D3 (N=50/10.5) R=13/25.5cm				(5,17,24,26/3cm)
61					
62	P4/D4 (N=50/11.5) R=10/11.5cm				(17,33/4cm)
63	P5/D5 (N=50/12) R=8/12cm			63.12	(21,29/4.5cm)
64			- end of deep datum - Note : Installation of deep datum at depth 63.0mm b.g.l.		

BORING
C = CORING
C.R. = CORE RECOVERY
V = VANE SHEAR TEST
P = STANDARD PENETRATION TEST
N = NO. OF BLOW PER FOOT
UD = UNDISTURBED SAMPLE
D = DISTURBED SAMPLE

REMARKS:
1. R denotes Recovery.
2. Wash Boring from 0.00m to 57.00m b.g.l.

Soils & Foundations Sdn. Bhd.

ENGINEERING BORE LOG

PROJECT	SG. LANGAT BASIN WATER SUPPLY - Proposed Drilling 114mm dia. Borehole with 40m max. Depth for the Installation of the Deep Datum Reference Station.	BOREHOLE NO:	DP-19
LOCATION:	Estate Labu	DATE DRILLED:	5/7/2000 - 6/7/2000
JOB NO:	SFJ/006/2001	REDUCED LEVEL:	4.702m
TYPE OF BORING:	Rotary	WATER TABLE:	
CONSULTING ENGINEER:	Jurukur Perunding Services Sdn Bhd	CLIENT:	The JICA Study Team

DEPTH (m)	TESTING SAMPLING CORING	SYMBOL	DESCRIPTION OF MATERIAL	DEPTH (m)	Vane Shear Test ● = Undisturbed ○ = Remoulded (P.S.P. 100, 200, 300, 400, 500, 600) / STD. PENETRATION RESISTANCE ▼ = N (blows/ft) (10, 20, 30, 40, 50, 60)
0			Greyish brown silty CLAY.	18.0	
			Light grey silty SAND.	42.0	
42	P1/D1 (N=19) R=35/45cm		Very Stiff Brownish grey silty CLAY with some sand.	40.45	(3,3, 4,4,5,6)
			Wash boring from 42.45m to 51.00m b.g.l.	51.0	
51	P2/D2 (N=50/12) R=15/27cm		Hard Brownish light to dark grey clayey SILT with some sand and traces of gravel.		(6,10,25,25/4.5cm)
52					
53	P3/D3 (N=50/11) R=13/26cm				(8,12,27,23/3.5cm)
54					

BORING

C = CORING
C.R. = CORE RECOVERY

V = VANE SHEAR TEST

P = STANDARD PENETRATION TEST
N = NO. OF BLOW PER FOOT

UD = UNDISTURBED SAMPLE

D = DISTURBED SAMPLE

REMARKS:

1. R denotes Recovery.
2. Wash Boring from 0.00m to 42.00m b.g.l.

Soils & Foundations Sdn. Bhd.

ENGINEERING BORE LOG

PROJECT	SG. LANGAT BASIN WATER SUPPLY - Proposed Drilling 114mm dia. Borehole with 40m max. Depth for the Installation of the Deep Datum Reference Station.	BOREHOLE NO:	DP-19
LOCATION:	Estate Labu	DATE DRILLED:	5/7/2000 - 6/7/2000
JOB NO:	SFJ/006/2001	REDUCED LEVEL:	4.702m
TYPE OF BORING:	Rotary	WATER TABLE:	
CONSULTING ENGINEER:	Jurukur Perunding Services Sdn Bhd	CLIENT:	The JICA Study Team

DEPTH (m)	TESTING SAMPLING CORING	SYMBOL	DESCRIPTION OF MATERIAL	DEPTH (m)	STD. PENETRATION RESISTANCE (N (blows/ft))
55	P4/D4 (N=50/11) R=10/26cm		Hard Brownish light to dark grey clayey SILT with some sand and traces of gravel.		(10,12,34,16/3.5cm)
56	P5/D5 (N=50/12) R=15/27cm				(8,12,29,21/4.5cm)
57	P6 (N=50/13) R=Nil			57.13	(25,25/4.5cm)
58			- end of deep datum - Note : Installation of deep datum at depth 57.00m b.g.l.		

Vane Shear Test ● = Undisturbed ○ = Remoulded
P.S.P. 100 200 300 400 500 600
STD. PENETRATION RESISTANCE ▼ = N (blows/ft)
10 20 30 40 50 60

BORING
C = CORING
C.R. = CORE RECOVERY
V = VANE SHEAR TEST
P = STANDARD PENETRATION TEST
N = NO. OF BLOW PER FOOT
UD = UNDISTURBED SAMPLE
D = DISTURBED SAMPLE

REMARKS:

Soils & Foundations Sdn. Bhd.

ENGINEERING BORE LOG

PROJECT	SG. LANGAT BASIN WATER SUPPLY - Proposed Drilling 114mm dia. Borehole with 40m max. Depth for the Installation of the Deep Datum Reference Station.	BOREHOLE NO:	DP-20
LOCATION:	Pumping Station No.4, KLIAB	DATE DRILLED:	10/6/2000 - 15/6/2000
JOB NO:	SFJ/006/2001	REDUCED LEVEL:	6.964m
TYPE OF BORING:	Rotary	WATER TABLE:	
CONSULTING ENGINEER:	Jurukur Perunding Services Sdn Bhd	CLIENT:	The JICA Study Team

DEPTH (m)	TESTING SAMPLING CORING	SYMBOL	DESCRIPTION OF MATERIAL	DEPTH (m)	Vane Shear Test (● = Undisturbed, ○ = Remoulded) P.S.F. 100 200 300 400 500 600 / STD. PENETRATION RESISTANCE (▼ = N (blows/ft)) 10 20 30 40 50 60
0			Greyish brown clayey SILT with some sand, rootlets and traces gravel.	0.3	
			Brownish grey silty SAND.	8.6	
			Brownish grey silty CLAY with traces of sand.	12.0	
			Brownish grey silty CLAY with some sand.	15.0	
			Grey silty SAND.	17.5	
24			Greyish brown clayey SILT with traces of sand.	24.0	
25			Greyish brown clayey SILT with some sand and a little gravel.	25.0	
26	P1/D1 (N=50/25.5) R=22/40.5cm				(5,9,15,11,11,13/3cm)
27	P2/D2 (N=50/15) R=15/15cm		Hard		(12,38/7.5cm)
28			Greyish brown mottled reddish brown clayey SILT with some sand and traces of gravel.		
29	P3/D3 (N=50/14.5) R=14/14.5cm				(15,35/7cm)
30	P4/D4 (N=50/12.5) R=10/12.5cm				(25,25/5cm)
31				31.5	
32	C1 C.R. 0% RQD 0%		Probably completely weathered rock.		
33				33.0	

BORING

C = CORING
C.R. = CORE RECOVERY

V = VANE SHEAR TEST

P = STANDARD PENETRATION TEST
N = NO. OF BLOW PER FOOT

UD = UNDISTURBED SAMPLE

D = DISTURBED SAMPLE

REMARKS:

1. R denotes Recovery.
2. Wash Boring from 0.00m to 24.00m b.g.l. and 36.20m to 49.50m b.g.l.

Soils & Foundations Sdn. Bhd.

ENGINEERING BORE LOG

PROJECT	SG. LANGAT BASIN WATER SUPPLY - Proposed Drilling 114mm dia. Borehole with 40m max. Depth for the Installation of the Deep Datum Reference Station.	BOREHOLE NO:	DP-20
LOCATION:	Pumping Station No.4, KLIAB	DATE DRILLED:	10/6/2000 - 15/6/2000
JOB NO:	SFJ/006/2001	REDUCED LEVEL:	6.964m
TYPE OF BORING:	Rotary	WATER TABLE:	
CONSULTING ENGINEER:	Jurukur Perunding Services Sdn Bhd	CLIENT:	The JICA Study Team

DEPTH (m)	TESTING SAMPLING CORING	SYMBOL	DESCRIPTION OF MATERIAL	DEPTH (m)	Vane Shear Test ● = Undisturbed ○ = Remoulded (100, 200, 300, 400, 500, 600) / STD. PENETRATION RESISTANCE ▼ = N (blows/ft) (10, 20, 30, 40, 50, 60)
34	P5/D5 (N=50/11.5) R=8/11.5cm		Hard Reddish to yellowish brown clayey SILT with some sand and a little gravel.		(23,27/4cm)
35	P6/D6 (N=50/11.5) R=6/11.5cm			35.4	(27,23/4cm)
36	P7/D7 (N=50/11) R=10/11cm		Hard Purplish brown mottled grey clayey SILT with some sand and gravel.	36.2	(18,32/3.5cm)
37			Purplish brown mottled grey clayey SILT with some sand and gravel.		
38					
40					
50			Greyish brown clayey SILT with some sand and traces of gravel.	49.5	
51	C2 C.R. 33% RQD 0%			51.0	
52			Brownish purple, highly to slightly weathered, SANDSTONE, weak to medium strong.		
53	C3 C.R. 20% RQD 0%				
54			- end of deep datum - Note: Installation of deep datum at depth 54.00m b.g.l.	54.0	

BORING
C = CORING
C.R. = CORE RECOVERY
V = VANE SHEAR TEST
P = STANDARD PENETRATION TEST
N = NO. OF BLOW PER FOOT
UD = UNDISTURBED SAMPLE
D = DISTURBED SAMPLE

REMARKS:

Station	Type of Marker	Operated by	LEE SIAU HO
BM 01	GI pipe - Benchmark	Checked by	S.PRABAGARAN
		Date	2000 AUGUST 7

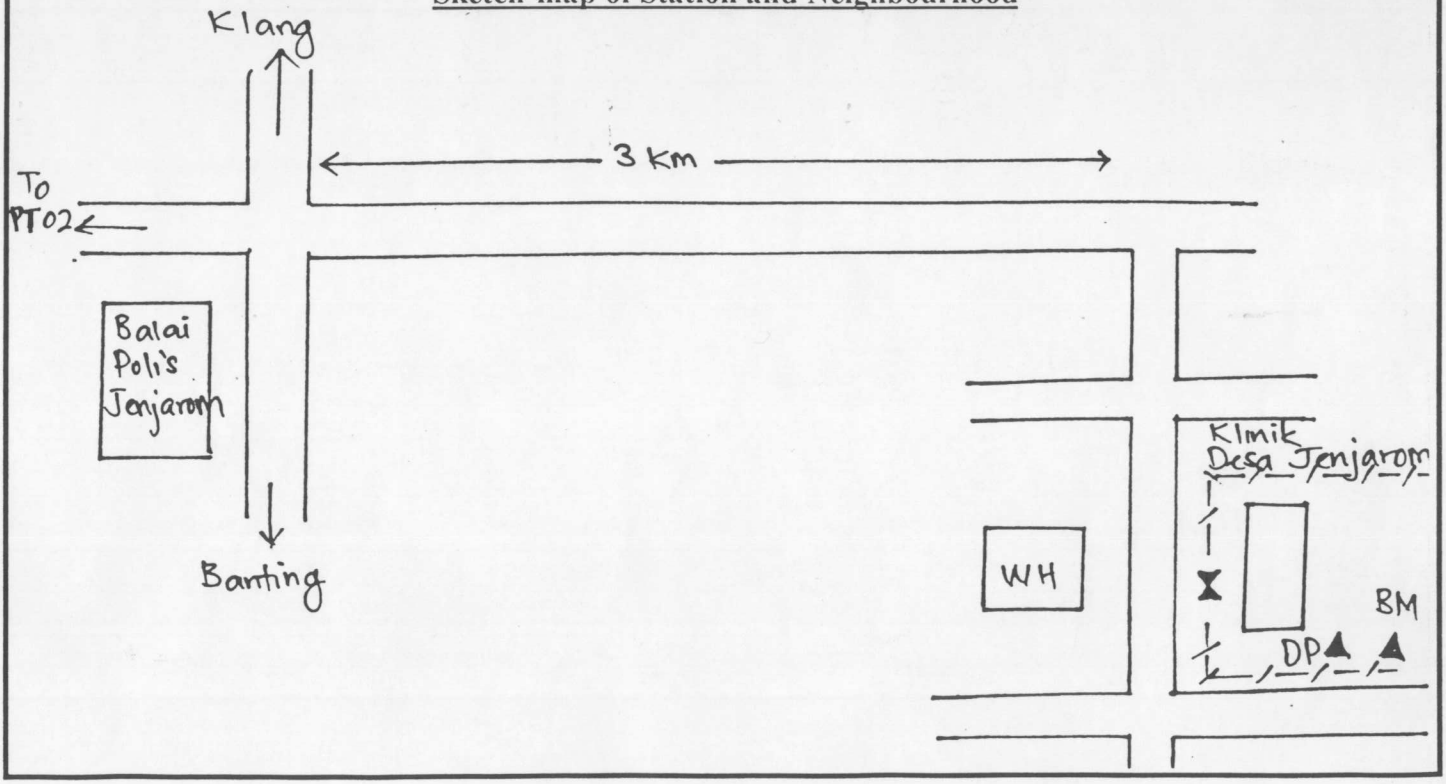
Coordinates of Station

Coordinate System	N	E	RL (M)
Geographical (M. Everest)	02° 53' 20.4"	101° 31' 34.7"	4.66185
R.S.O	319764.39205	392187.83629	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood



Station	Type of Marker	Operated by	LEE SIAU HO
DP 01	GI pipe-Deep Datum	Checked by	S.PRABAGARAN
		Date	2000 JULY 13

Coordinates of Station

Coordinate System	N	E	Reduced Level (m)
Geographical (M. Everest)	02° 53' 20.3"	101° 31' 34.6"	4.76077
R.S.O	319761.32817	392184.74050	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood

Please refer sketch of BM 01

Station	Type of Marker	Operated by	LEE SIAU HO
BM 02	GI pipe – Benchmark	Checked by	S.PRABAGARAN
		Date	2000 AUGUST 7

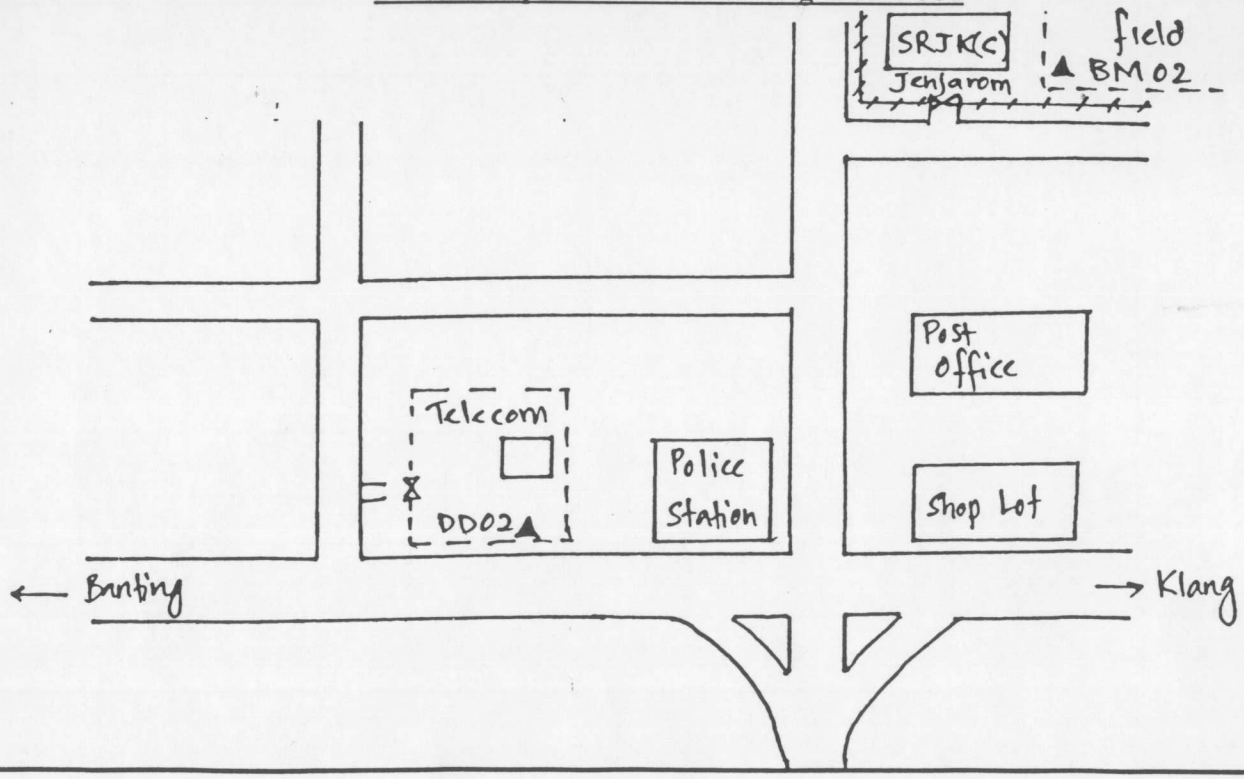
Coordinates of Station

Coordinate System	N	E	RL (M)
Geographical (M. Everest)	02° 52'31.2"	101° 29'53.8"	3.70385
R.S.O	318260.97908	389068.08996	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood



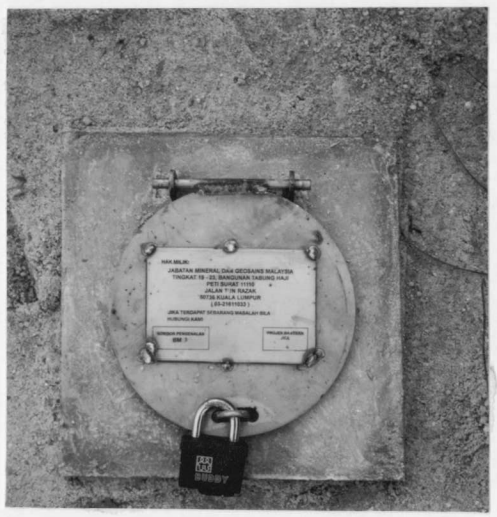
Station	Type of Marker	Operated by	CHIN JIUNN JEONG
BM 03	GI pipe – Benchmark	Checked by	S.PRABAGARAN
		Date	2000 JULY 13

Coordinates of Station

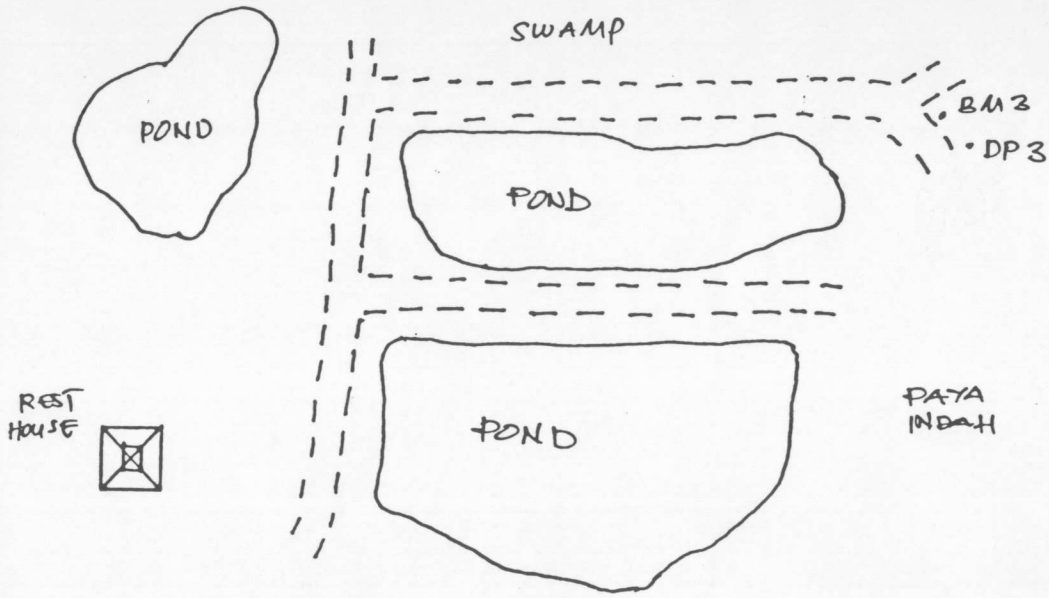
Coordinate System	N	E	RL (M)
Geographical (M. Everest)	02° 52' 42.7"	101° 37' 14.6"	7.59964
R.S.O	318580.79958	402681.46537	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point



Sketch-map of Station and Neighbourhood



Station	Type of Marker	Operated by	CHIN JIUNN JEONG
DP 03	GI pipe-Deep Datum	Checked by	S.PRABAGARAN
		Date	2000 JULY 13

Coordinates of Station

Coordinate System	N	E	Reduced Level (m)
Geographical (M. Everest)	02° 52' 42.7 "	101° 37' 14.7"	7.56103
R.S.O	318580.79221	402684.55345	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood

Please refer sketch of BM 03

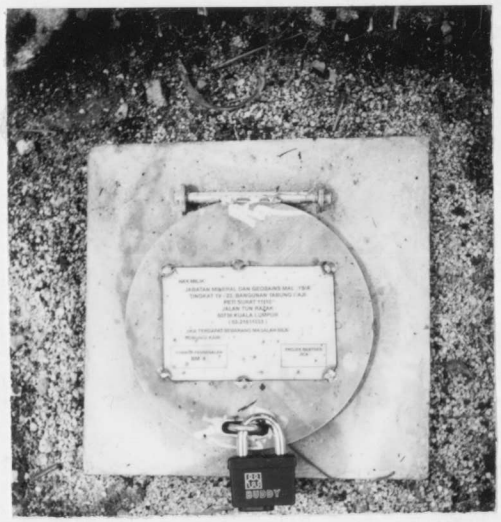
Station	Type of Marker	Operated by	LEE SIAU HO
BM 04	GI pipe – Benchmark	Checked by	S.PRABAGARAN
		Date	2000 AUGUST 7

Coordinates of Station

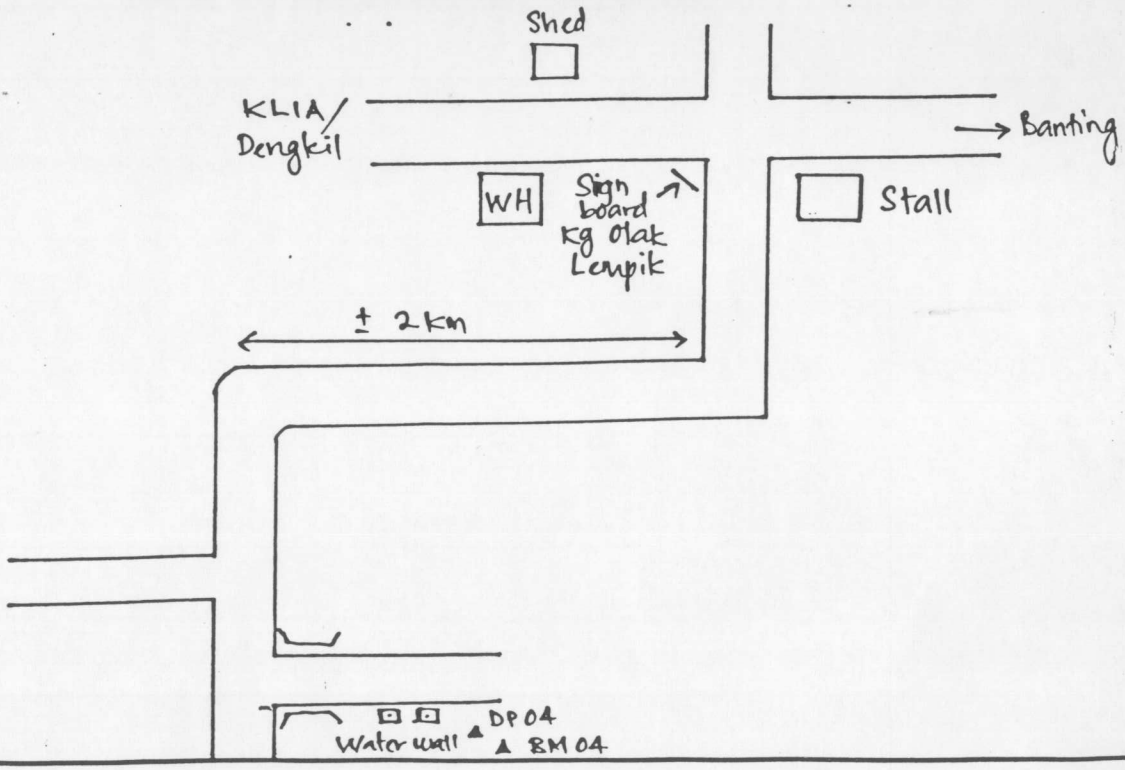
Coordinate System	N	E	RL (M)
Geographical (M. Everest)	02° 50' 48.7"	101° 34' 13.6"	4.77087
R.S.O	315092.72012	397083.46989	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point



Sketch-map of Station and Neighbourhood



Station	Type of Marker	Operated by	LEE SIAU HO
DP 04	GI pipe-Deep Datum	Checked by	S.PRABAGARAN
		Date	2000 JULY 13

Coordinates of Station

Coordinate System	N	E	Reduced Level (m)
Geographical (M. Everest)	02° 50' 48.7"	101° 34' 13.7"	4.92062
R.S.O	315092.71261	397086.55812	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood

Please refer sketch of BM 04

Station	Type of Marker	Operated by	LEE SIAU HO
BM 05	GI pipe – Benchmark	Checked by	S.PRABAGARAN
		Date	2000 AUGUST 7

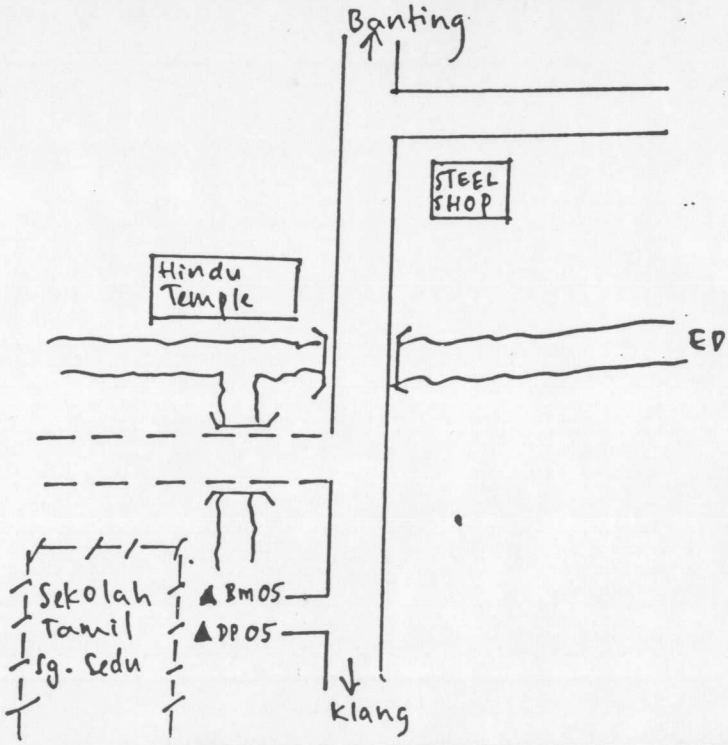
Coordinates of Station

Coordinate System	N	E	RL (M)
Geographical (M. Everest)	02° 50' 32.9"	101° 31' 32.9"	2.82516
R.S.O	314619.60230	392119.44958	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood



Station	Type of Marker	Operated by	LEE SIAU HO
BM 06	GI pipe – Benchmark	Checked by	S.PRABAGARAN
		Date	2000 AUGUST 7

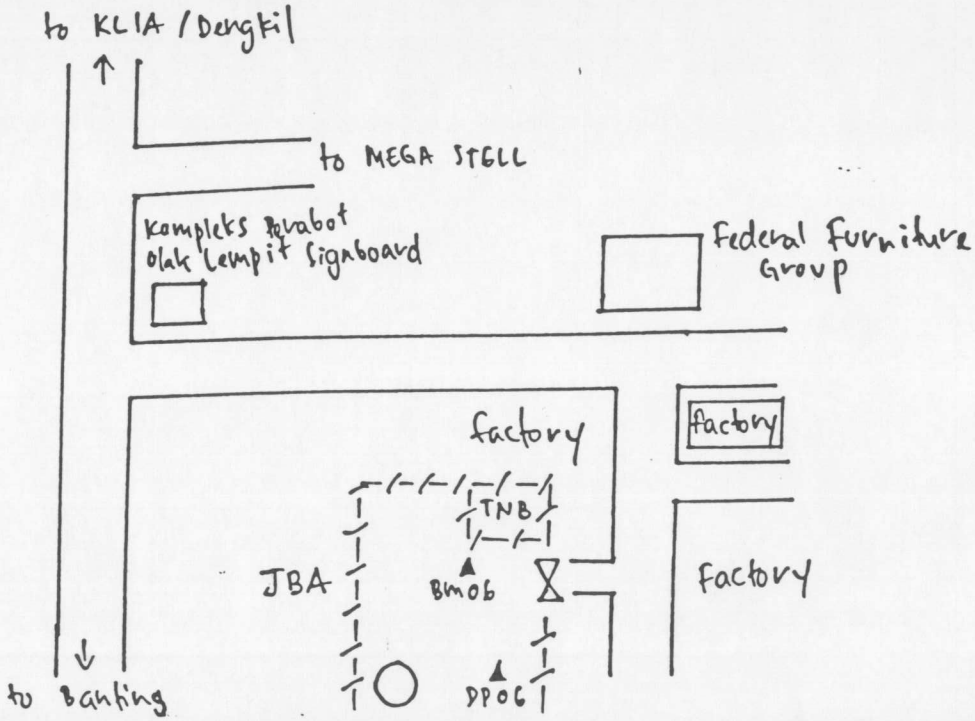
Coordinates of Station

Coordinate System	N	E	RL (M)
Geographical (M. Everest)	02° 49' 56.9"	101° 36' 20.4"	5.68421
R.S.O	313492.20827	400995.51585	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood



Station	Type of Marker	Operated by	LEE SIAU HO
BM 07	GI pipe - Benchmark	Checked by	S.PRABAGARAN
		Date	2000 AUGUST 7

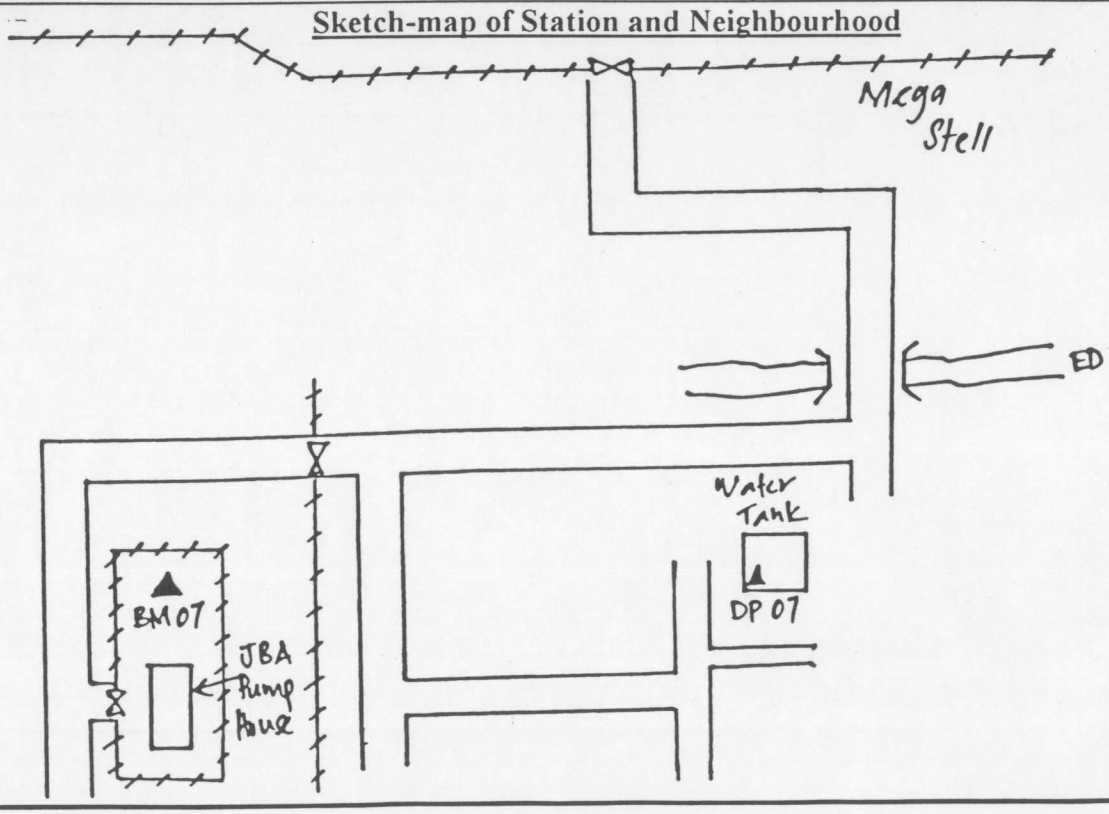
Coordinates of Station

Coordinate System	N	E	RL (M)
Geographical (M. Everest)	02° 48' 41.2"	101° 35' 58.7"	4.67127
R.S.O	311168.64214	400319.79987	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood



Station	Type of Marker	Operated by	LEE SIAU HO
BM 08	GI pipe – Benchmark	Checked by	S.PRABAGARAN
		Date	2000 AUGUST 7

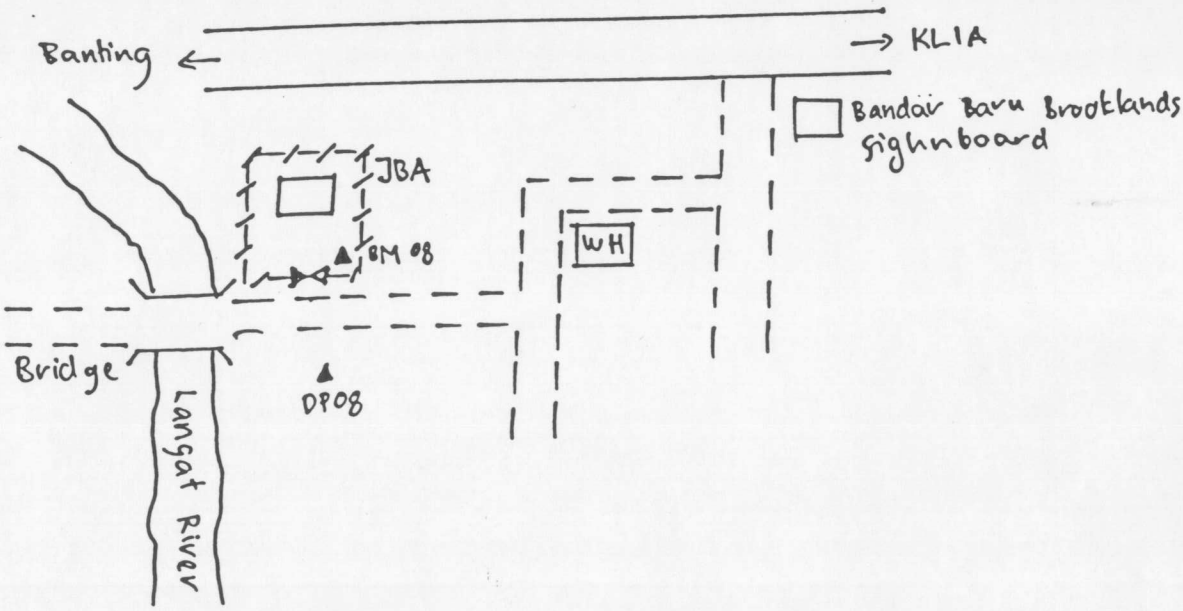
Coordinates of Station

Coordinate System	N	E	RL (M)
Geographical (M. Everest)	02° 49' 10.9"	101° 33' 11.3"	2.66756
R.S.O	312093.40008	395152.14481	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood



Station	Type of Marker	Operated by	LEE SIAU HO
BM 09	GI pipe – Benchmark	Checked by	S.PRABAGARAN
		Date	2000 AUGUST 7

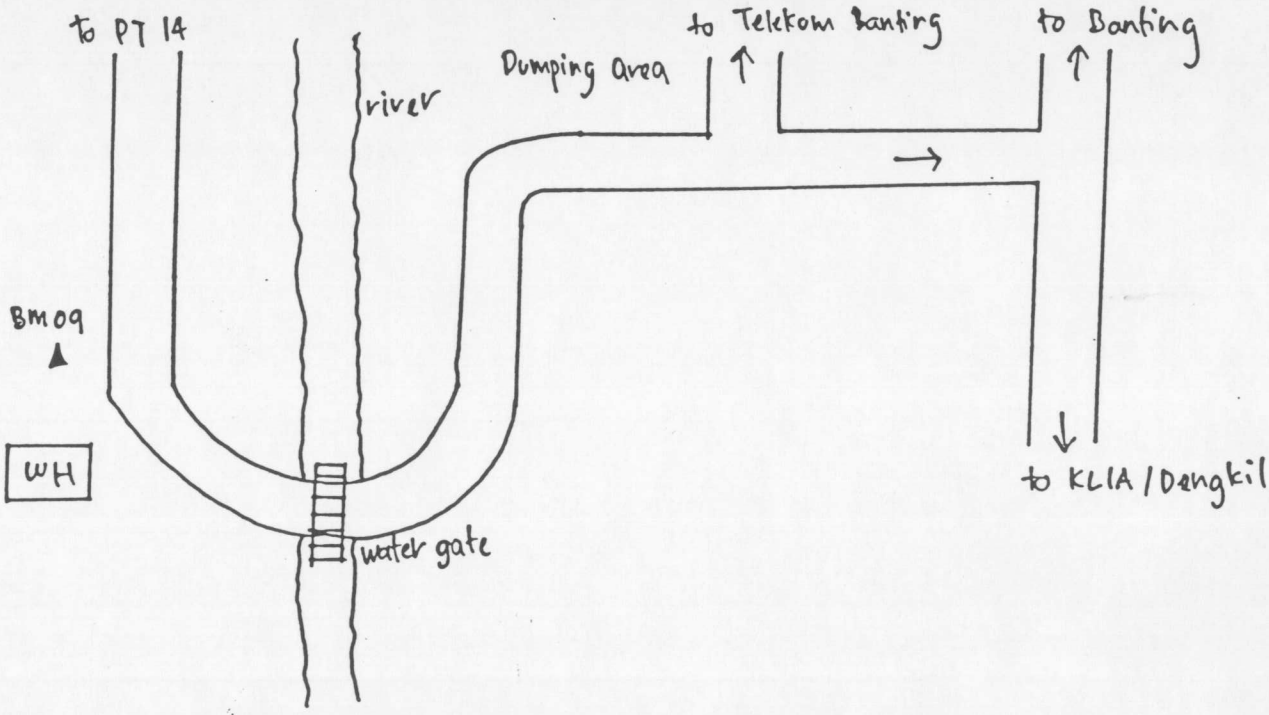
Coordinates of Station

Coordinate System	N	E	RL (M)
Geographical (M. Everest)	02° 48' 40.7"	101° 30' 52.0"	1.87121
R.S.O	311176.36856	390847.76271	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood



Station	Type of Marker	Operated by	LEE SIAU HO
BM 10	GI pipe - Benchmark	Checked by	S.PRABAGARAN
		Date	2000 AUGUST 7

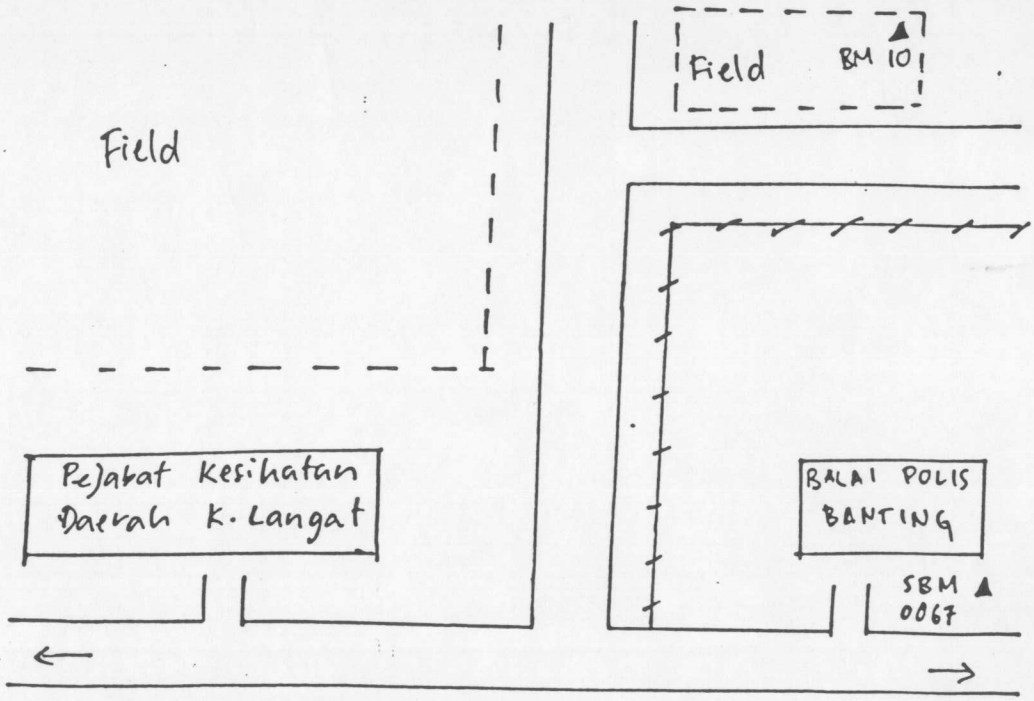
Coordinates of Station

Coordinate System	N	E	RL (M)
Geographical (M. Everest)	02° 48' 22.8"	101° 29' 33.9"	2.70279
R.S.O	310632.55901	388434.33526	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood



Station	Type of Marker	Operated by	CHIN JIUNN JEONG
BM 11	GI pipe - Benchmark	Checked by	S.PRABAGARAN
		Date	2000 JULY 13

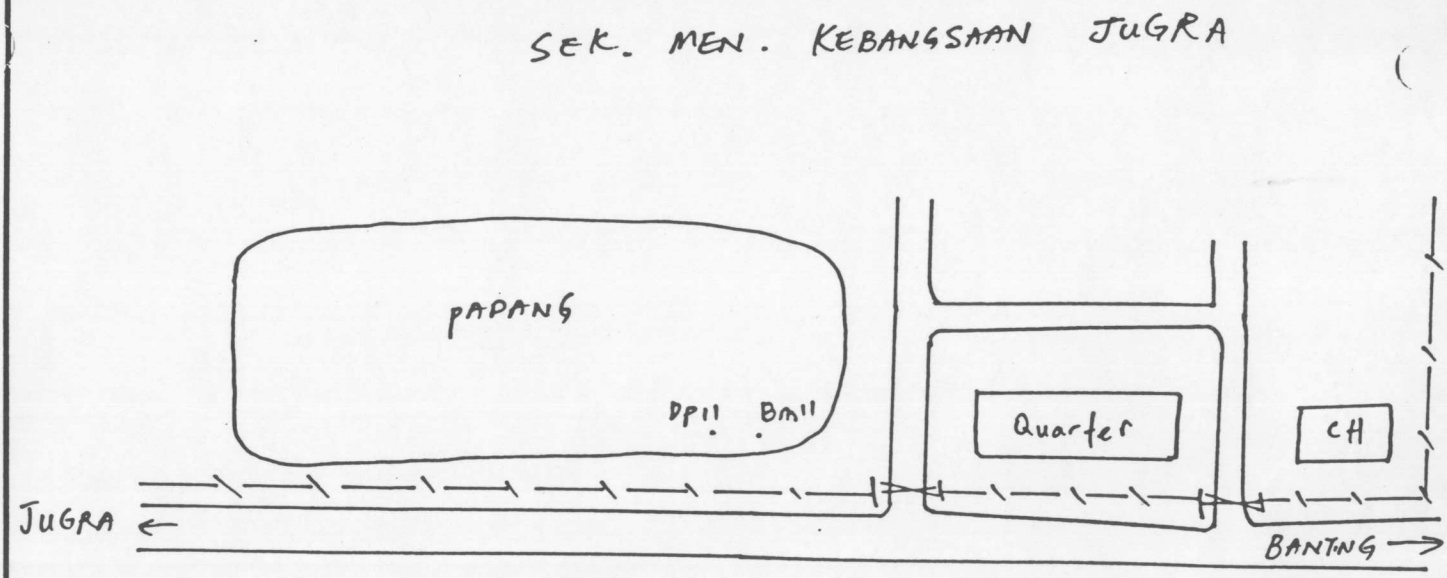
Coordinates of Station

Coordinate System	N	E	RL (M)
Geographical (M. Everest)	02° 49' 10.8"	101° 27' 29.4"	2.54350
R.S.O	312116.68329	384592.96149	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood



Station	Type of Marker	Operated by	CHIN JIUNN JEONG
BM 12	GI pipe - Benchmark	Checked by	S.PRABAGARAN
		Date	2000 JULY 13

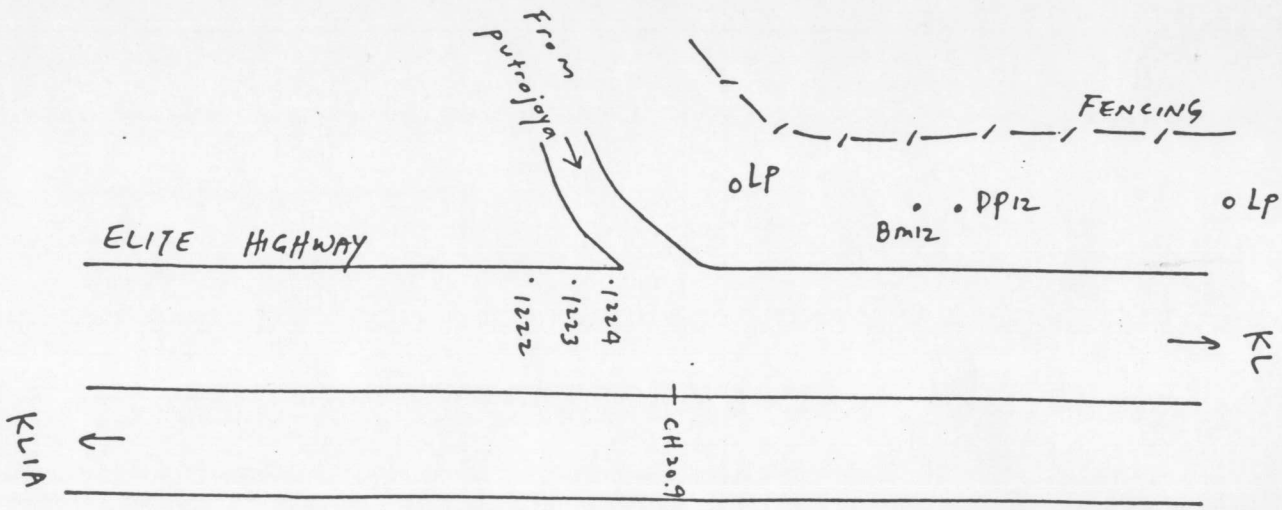
Coordinates of Station

Coordinate System	N	E	RL (M)
Geographical (M. Everest)	02° 55' 33.5"	101° 36' 13.1"	9.06287
R.S.O	323831.48330	400794.95253	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood



Station	Type of Marker	Operated by	CHIN JIUNN JEONG
DP 12	GI pipe-Deep Datum	Checked by	S.PRABAGARAN
		Date	2000 JULY 13

Coordinates of Station

Coordinate System	N	E	Reduced Level (m)
Geographical (M. Everest)	02° 55' 33.6"	101° 36' 13.1"	9.10890
R.S.O	323834.55479	400794.95996	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood

Please refer sketch of BM 12

Station	Type of Marker	Operated by	CHIN JIUNN JEONG
BM 13	GI pipe - Benchmark	Checked by	S.PRABAGARAN
		Date	2000 JULY 13

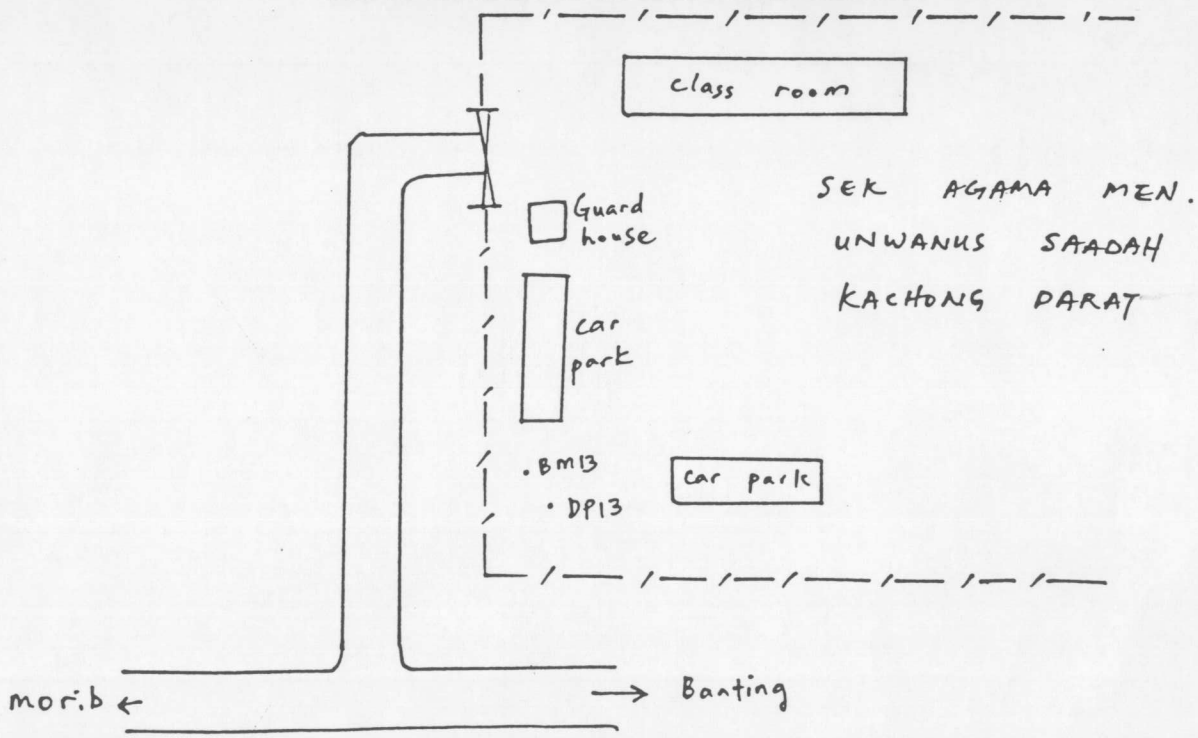
Coordinates of Station

Coordinate System	N	E	RL (M)
Geographical (M. Everest)	02° 46' 47.1"	101° 28' 19.9"	3.72964
R.S.O	307698.69436	386141.46333	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood



Station	Type of Marker	Operated by	LEE SIAU HO
BM 14	GI pipe - Benchmark	Checked by	S.PRABAGARAN
		Date	2000 AUGUST 7

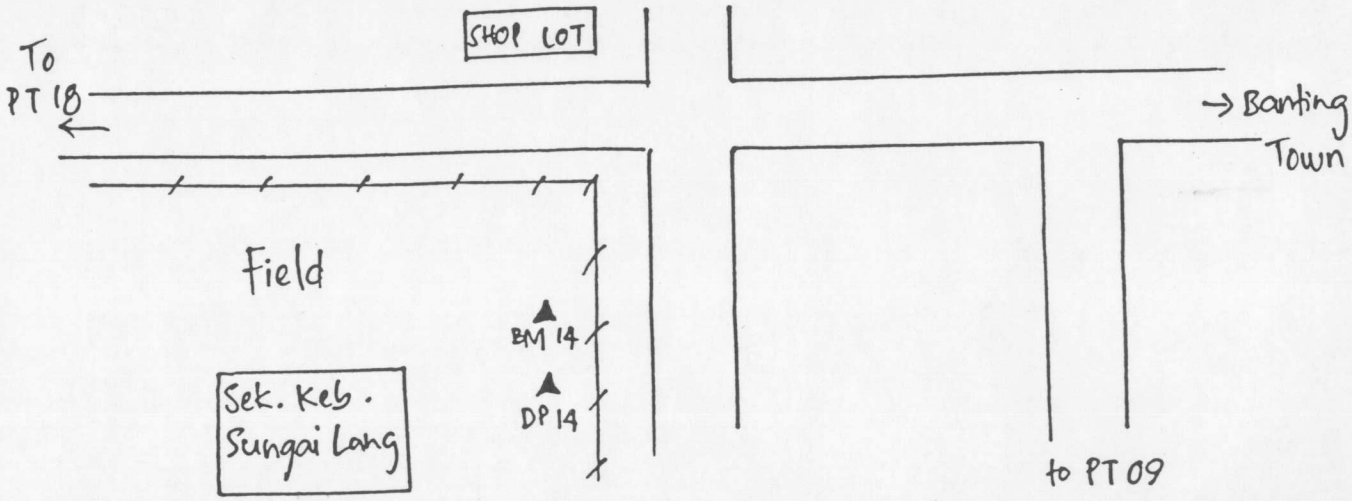
Coordinates of Station

Coordinate System	N	E	RL (M)
Geographical (M. Everest)	02° 47' 24.3"	101° 31' 16.6"	3.52519
R.S.O	308827.74633	391601.70558	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood



Station	Type of Marker	Operated by	LEE SIAU HO
BM 15	GI pipe - Benchmark	Checked by	S.PRABAGARAN
		Date	2000 AUGUST 7

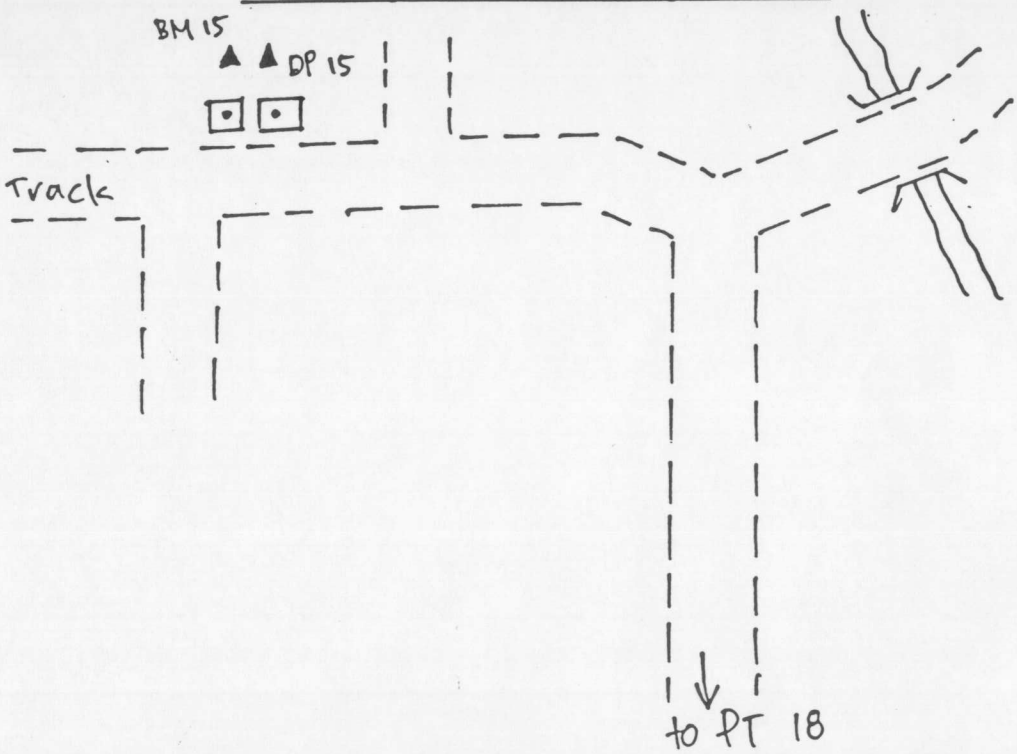
Coordinates of Station

Coordinate System	N	E	RL (M)
Geographical (M. Everest)	02° 47' 45.1"	101° 35' 00.7"	3.28042
R.S.O	309449.78066	398524.42428	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood



Station	Type of Marker	Operated by	LEE SIAU HO
BM 16	GI pipe - Benchmark	Checked by	S.PRABAGARAN
		Date	2000 AUGUST 7

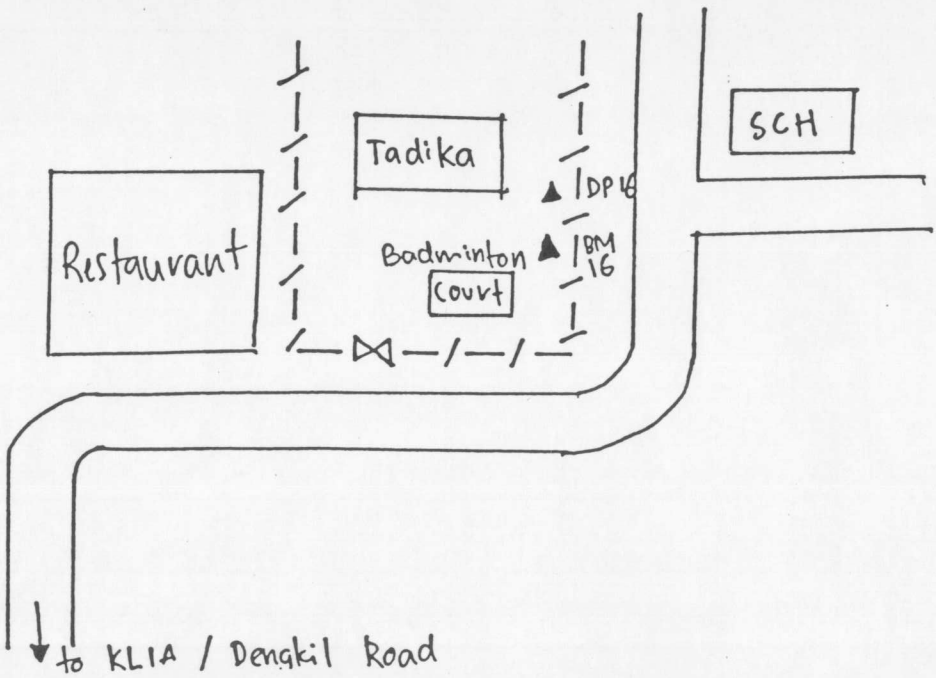
Coordinates of Station

Coordinate System	N	E	RL (M)
Geographical (M. Everest)	02° 47' 44.4"	101° 37' 09.4"	3.54858
R.S.O	309418.80290	402449.10548	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood



Station	Type of Marker	Operated by	LEE SIAU HO
DP 16	GI pipe-Deep Datum	Checked by	S.PRABAGARAN
		Date	2000 JULY 13

Coordinates of Station

Coordinate System	N	E	Reduced Level (m)
Geographical (M. Everest)	02° 47' 44.2"	101° 37' 09.3"	3.50590
R.S.O	309412.66709	402496.00260	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood

Please refer sketch of BM 16

Station	Type of Marker	Operated by	LEE SIAU HO
BM 17	GI pipe - Benchmark	Checked by	S.PRABAGARAN
		Date	2000 AUGUST 7

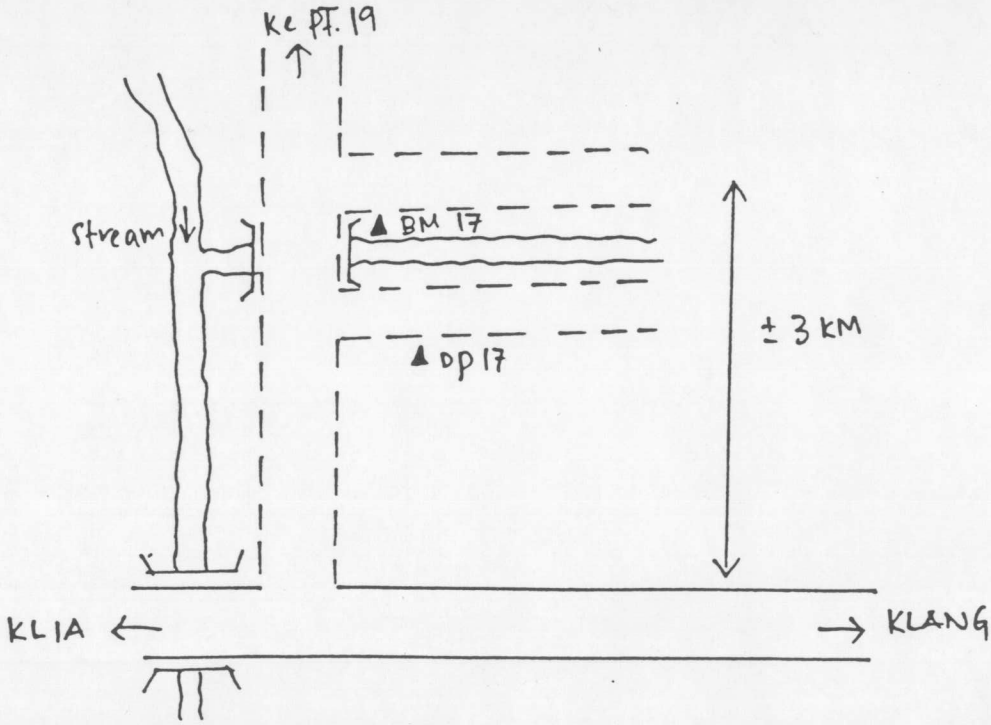
Coordinates of Station

Coordinate System	N	E	RL (M)
Geographical (M. Everest)	02° 46' 55.7"	101° 39' 21.8"	4.13413
R.S.O	307913.37883	406584.58858	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood



Station	Type of Marker	Operated by	LEE SIAU HO
BM 18	GI pipe - Benchmark	Checked by	S.PRABAGARAN
		Date	2000 AUGUST 7

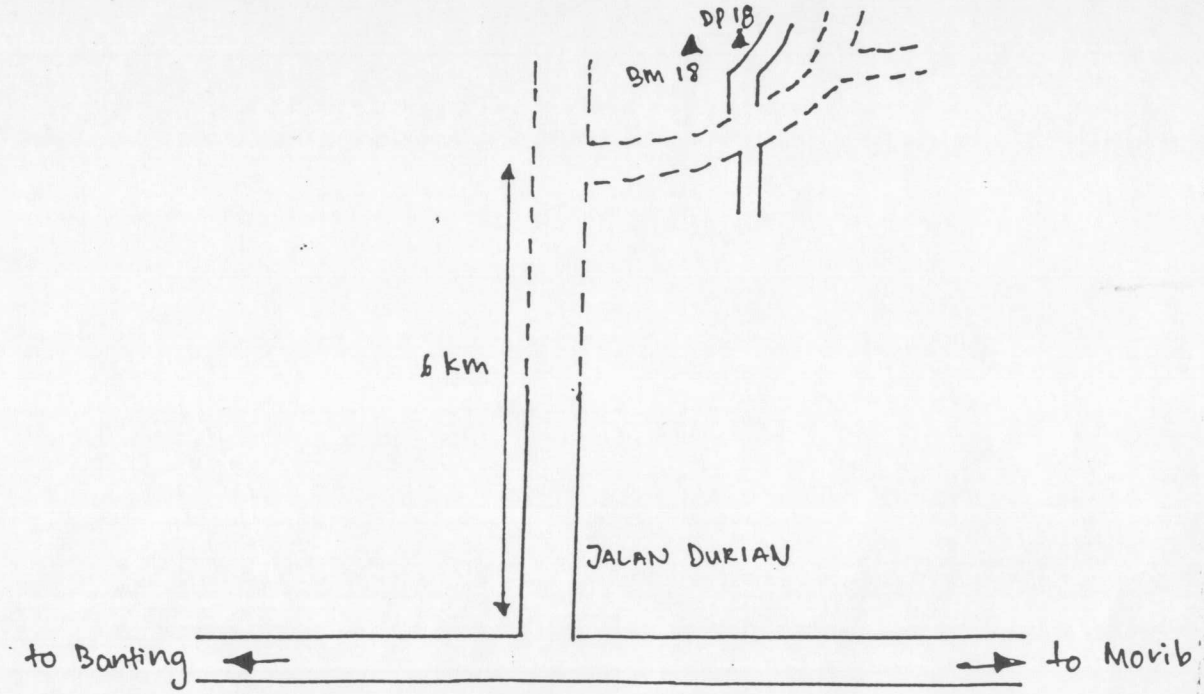
Coordinates of Station

Coordinate System	N	E	RL (M)
Geographical (M. Everest)	02° 45' 29.3"	101° 32' 10.2"	5.12695
R.S.O	305291.27372	393248.47134	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood



Station	Type of Marker	Operated by	LEE SIAU HO
BM 19	GI pipe - Benchmark	Checked by	S.PRABAGARAN
		Date	2000 AUGUST 7

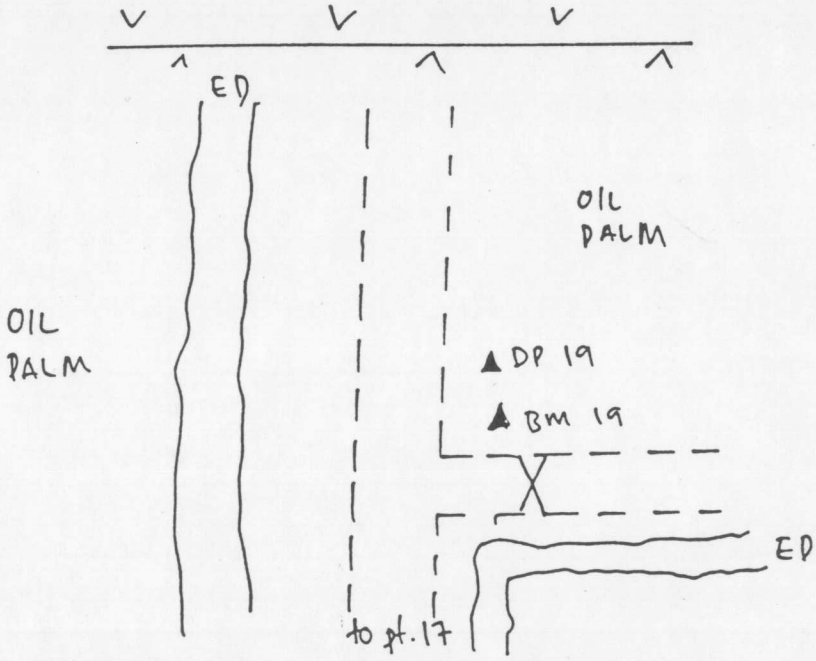
Coordinates of Station

Coordinate System	N	E	RL (M)
Geographical (M. Everest)	02° 45' 23.1"	101° 38' 03.4"	4.33001
R.S.O	305074.76223	404156.64414	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point

Sketch-map of Station and Neighbourhood



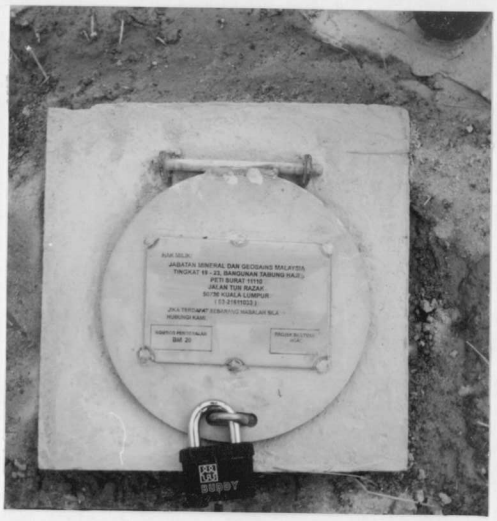
Station	Type of Marker	Operated by	LEE SIAU HO
BM 20	GI pipe-Deep Datum	Checked by	S.PRABAGARAN
		Date	2000 AUGUST 7

Coordinates of Station

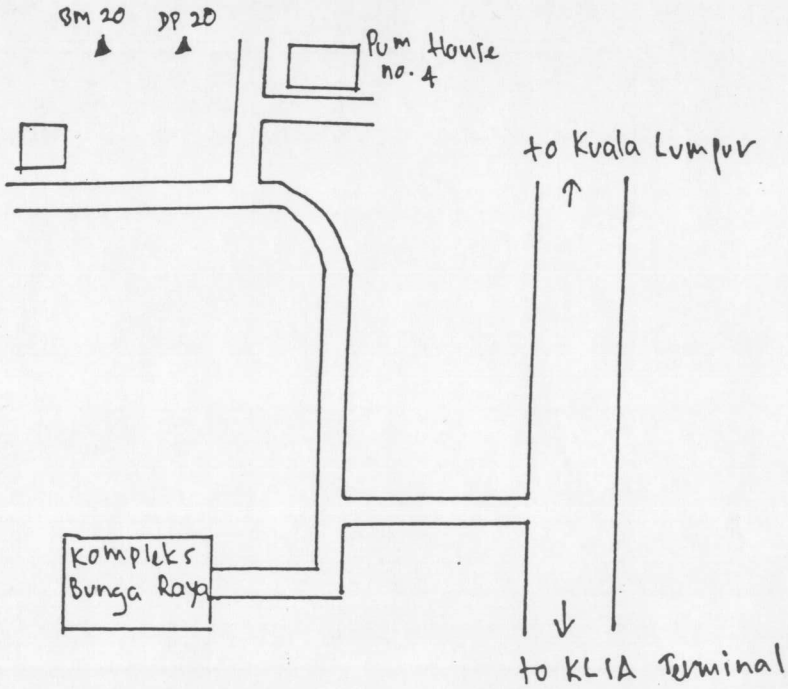
Coordinate System	N	E	Reduced Level (m)
Geographical (M. Everest)	02° 44' 45.4"	101° 41' 38.6"	6.80861
R.S.O	303901.47760	410800.34085	
State Cassini	-	-	

Photograph of Station

Photograph of Signal Point



Sketch-map of Station and Neighbourhood



DATA BOOK H.4.2

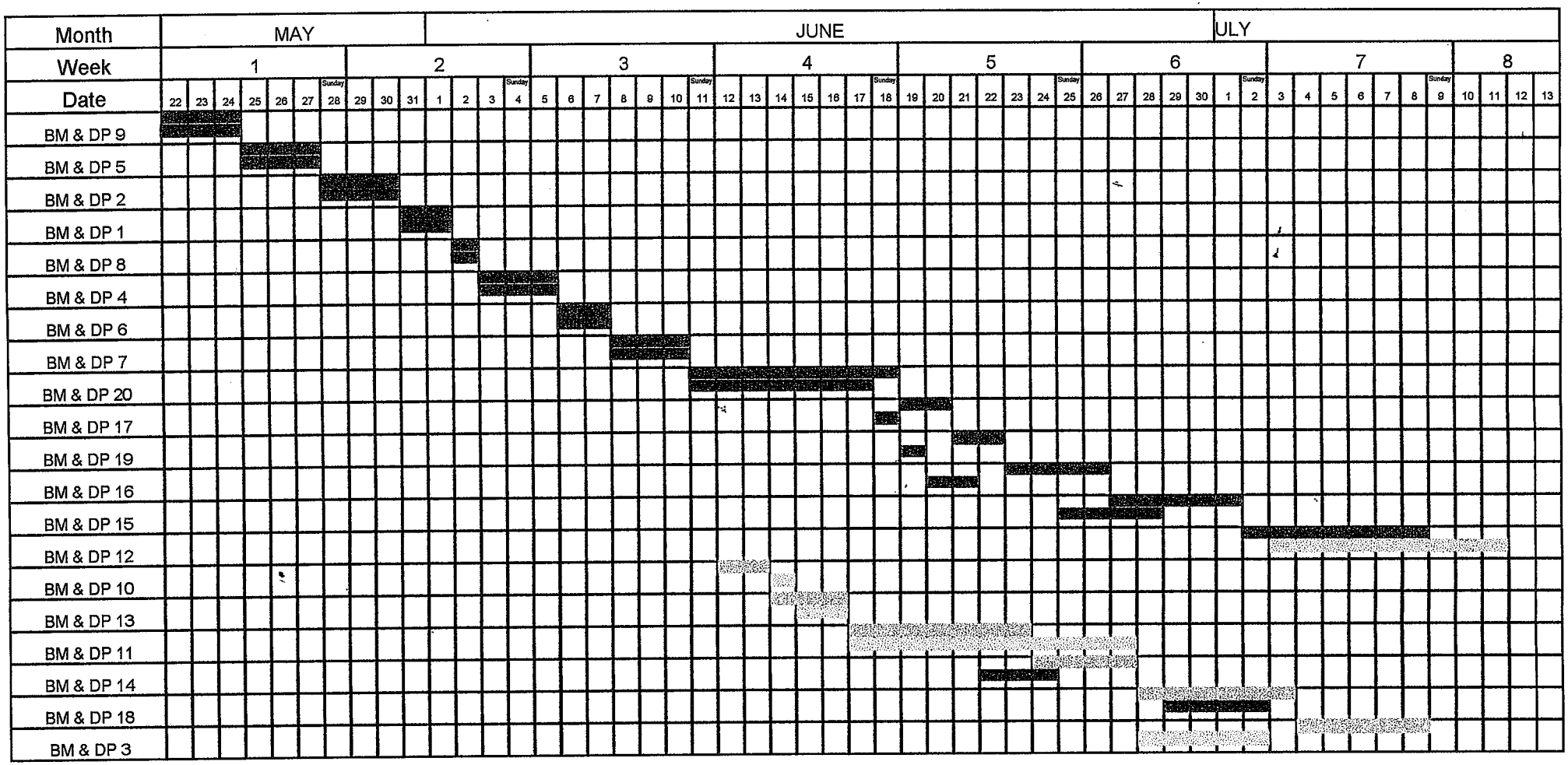
PRECISE LEVELLING OF BENCH MARK REFERENCES

AND DEEP DATUM POINTS

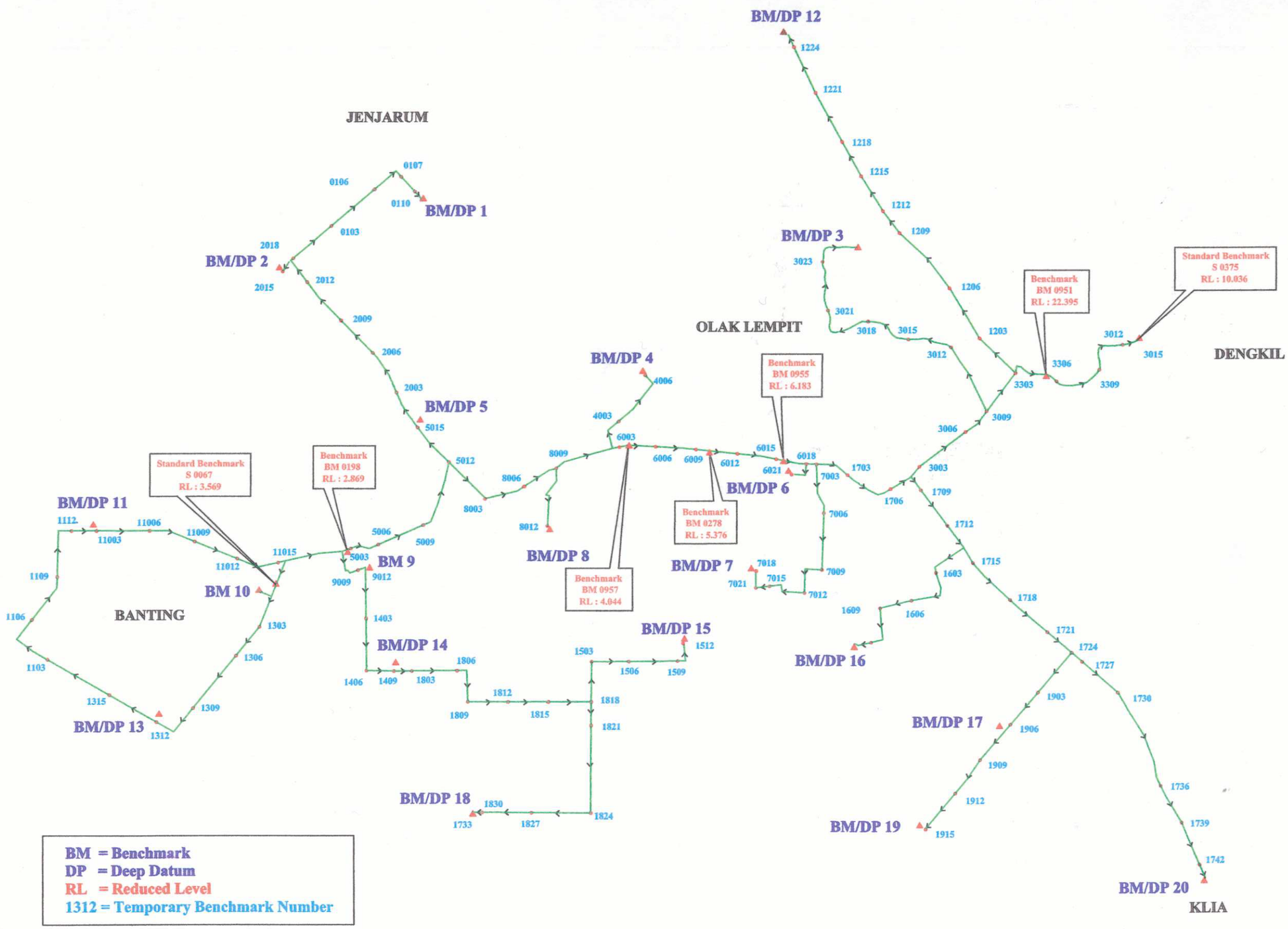
1. Schedule of the Precise Levelling Work: H - 85

2. Route Map showing All the Routes, Deep Datum Points, Bench Marks and Temporary Bench Marks: H - 87

Sg. Langat Basin Water Supply - Proposed and Actual Schedule for the Precise Levelling Work.



Team A : Proposed
Done

Team B : Proposed
Done

LEVELLING ROUTE MAP