

S.I. For Flood Mitigation Scheme

PROJECT: At-Sg Pinang

LOCATION: Penang

SEALAND DRILLERS (M) SDN. BHD.

Job Ref.: SJ/918/90

SUMMARY OF LABORATORY TEST RESULTS

LABORATORY TESTS

Borehole No.	Sample No.	Depth (m)	M/C %	B.D. Mg/m ³	D.D. Mg/m ³	Triaxial Compression U.U.		Atterberg Limits				Particle Size Distribution				Specific Gravity	Consolidation Test		Compection Test	
						c kN/m ²	d deg.	L.L. %	P.L. %	P.I. %	Clay %	Silt %	Sand %	Gravels %	Po kN/m ²		Cc	O.M.C. %	Max. Y d	Ng/m ³
BH 02	P2	2.15 - 2.45	17									(15)	85	0	2.602					
	P4	4.15 - 4.45	23									(20)	78	2	2.612					
	P7	7.15 - 7.45	18									(13)	82	5	2.575					
	P10	10.15 - 10.45	23									(6)	92	2	2.669					
	P16	16.15 - 16.45	21									(15)	80	5	2.692					
	P22	22.15 - 22.45	19									(20)	75	5	2.605					
BH 03	P2	2.15 - 2.45	16									47	43	10	0	2.618				
	P4	4.15 - 4.45	18									50	48	2	0	2.699				
	P8	8.15 - 8.45	18									55	42	3	0	2.657				
	P11	11.15 - 11.45	39									58	37	5	0	2.624				
	P14	14.15 - 14.45	23									(10)	90	0	2.533					
	P17	17.15 - 17.45	29									48	37	12	3	2.547				
BH R1	P1	1.15 - 1.45	19									65	32	3	0	2.107				
	P8	8.15 - 8.45	22									(13)	82	5	2.355					
BH R2	P2	2.15 - 2.45	22									(16)	84	0	2.547					
	P6	6.15 - 6.45	45									57	38	5	0	2.198				

PROJECT: S.I. For Flood Mitigation Scheme
At Sg Pinang

SEALAND DRILLERS (M) SDN. BHD.

Job Ref.: SJ/918/90

LOCATION: Penang

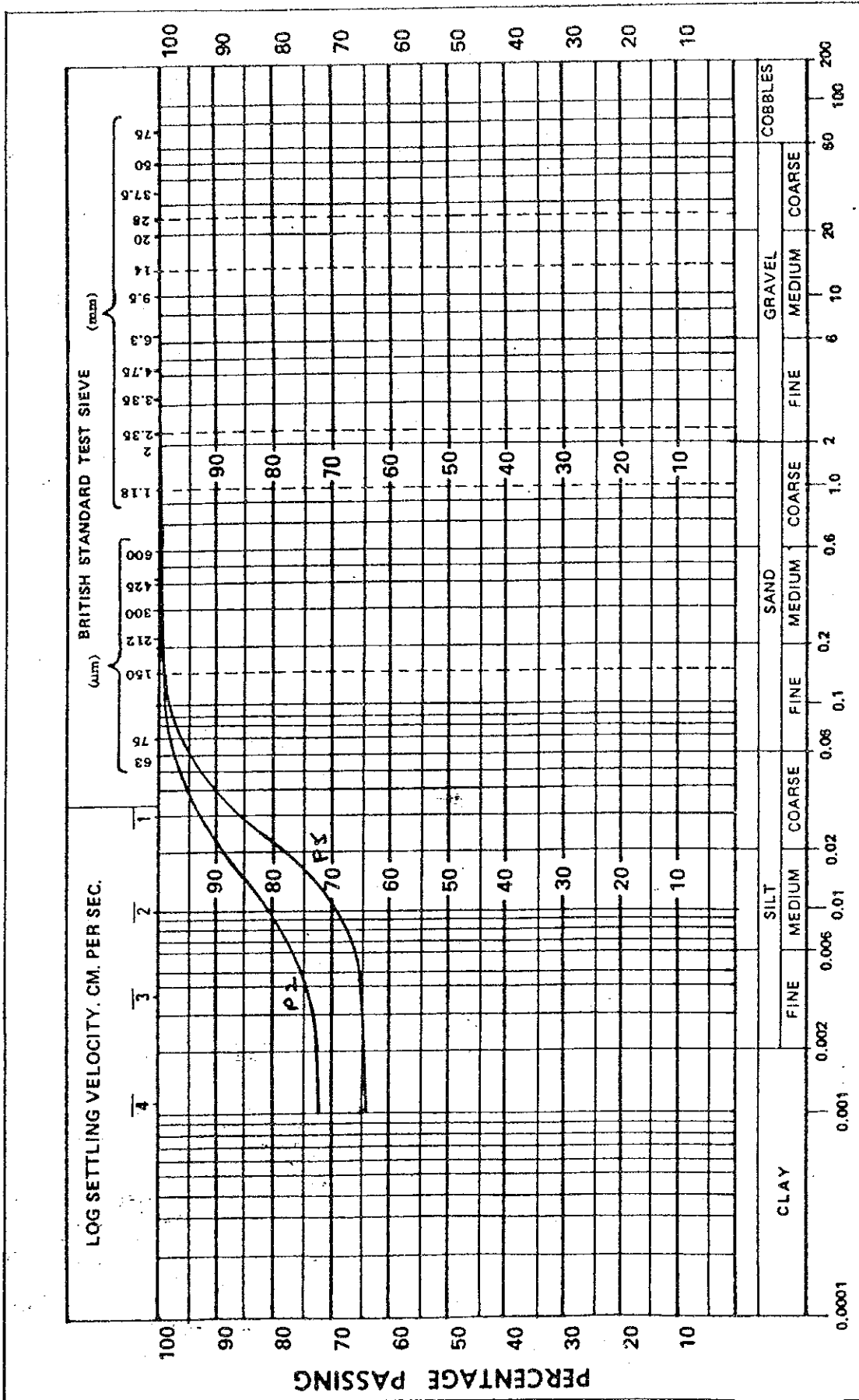
SUMMARY OF LABORATORY TEST RESULTS

LABORATORY TESTS

Borehole No.	Sample No.	Depth (m)	M/C %	B.D. Mg/m ³	D.D. Mg/m ³	Triaxial Compression U.U.		Atterberg Limits			Particle Size Distribution					Specific Gravity	Consolidation Test		Compaction Test	
						c kN/m ²	φ deg.	L.L. %	P.L. %	P.I. %	Clay %	Silt %	Sand %	Gravels %	Po kN/m ²		Cc	O.M.C. %	Max. γ _d Mg/m ³	
BH R3	P1	1.15 - 1.45	29									(15)	85	0	2.404					
	P4	4.15 - 4.45	68								57	43	0	0	2.063					
	P9	9.15 - 9.45	19								(15)	85	0	0	2.383					
BH R4	P2	2.15 - 2.45	37								55	30	15	0	2.381					
	P6	6.15 - 6.45	21								47	28	23	2	2.458					
BH R5	P3	3.15 - 3.45	19								(34)	63	3	3	2.598					
	P8	8.15 - 8.45	15								(5)	90	5	5	2.557					
BH R6	P2	2.15 - 2.45	25								(7)	93	0	0	2.521					

SEALAND DRILLERS (M) SDN. BHD.

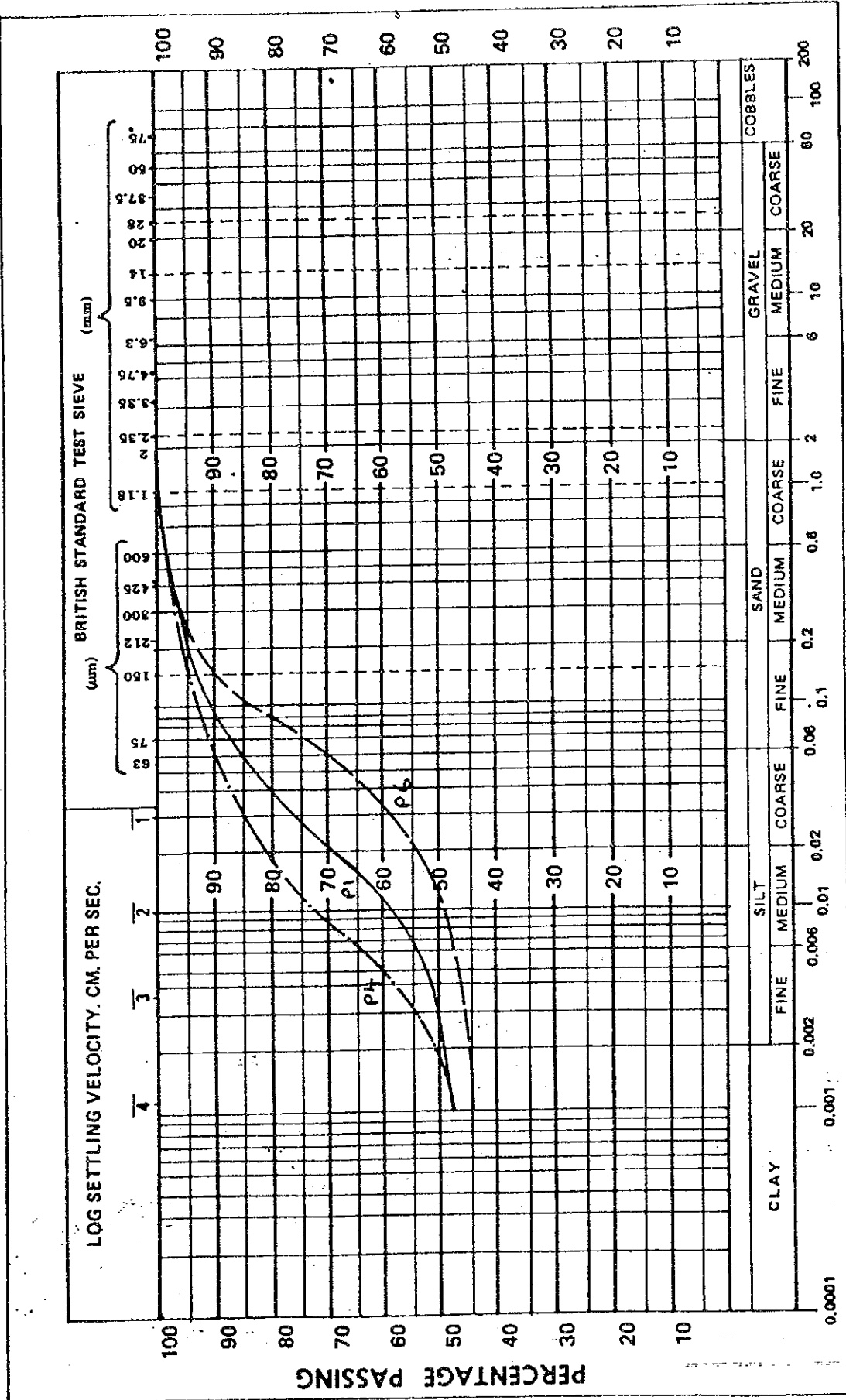
PARTICLE SIZE DISTRIBUTION



JOB NO SJ/918/90
 BORE REF BH- P1A
 LOCATION Sg Pinang Penang
 SAMPLE NO P2 P5

SEALAND DRILLERS (M) SDN. BHD.

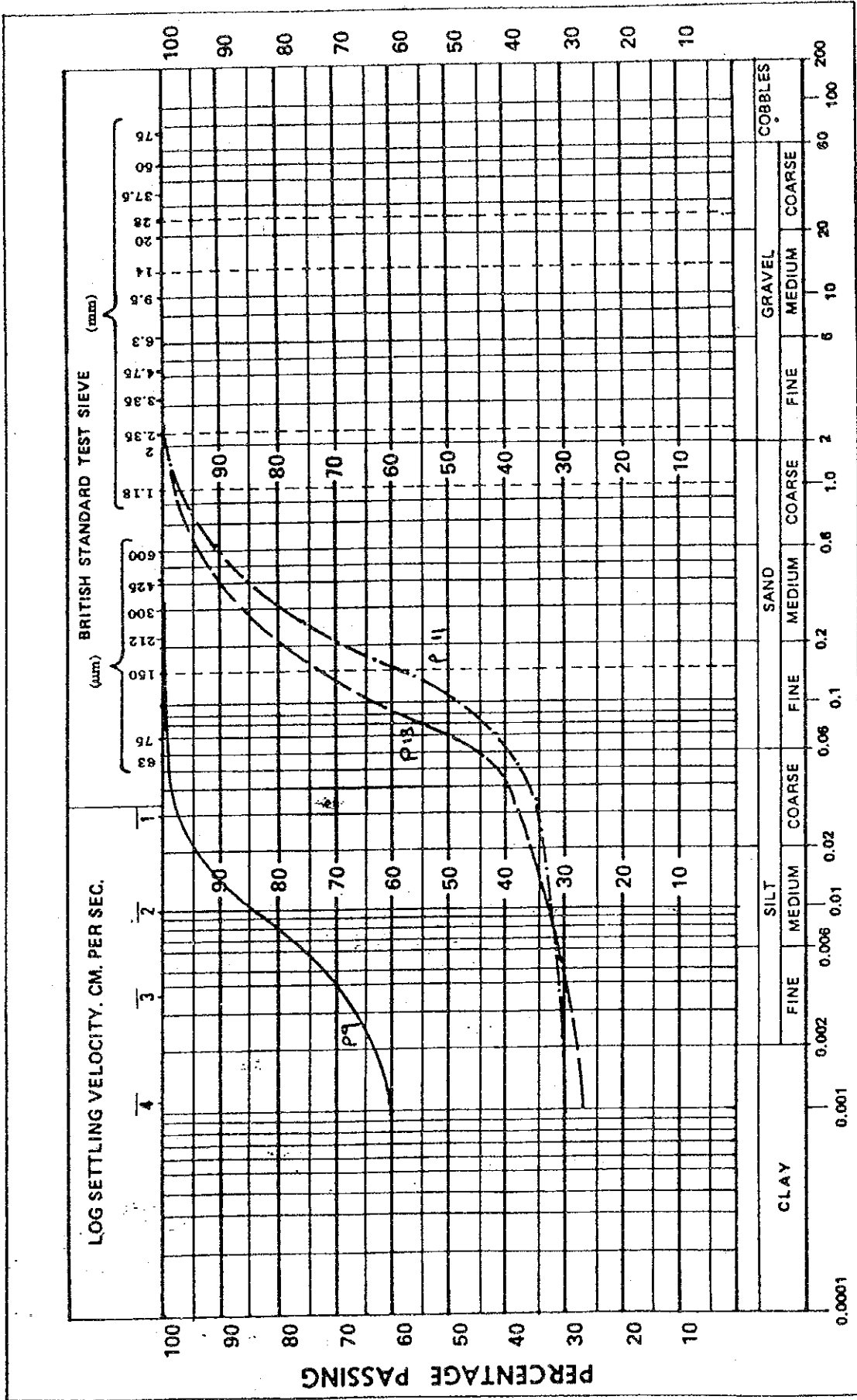
PARTICLE SIZE DISTRIBUTION



JOB NO SJ/918/90
 LOCATION Sg Pinang Penang
 BORE REF BH- P1
 SAMPLE NO P1 P4 P6
 PARTICLE SIZE - mm

SEALAND DRILLERS (M) SDN. BHD.

PARTICLE SIZE DISTRIBUTION



PARTICLE SIZE - mm

SJ/918/90

BORE REF BH-P1

Sg Pinang Penang

P13

LOCATION

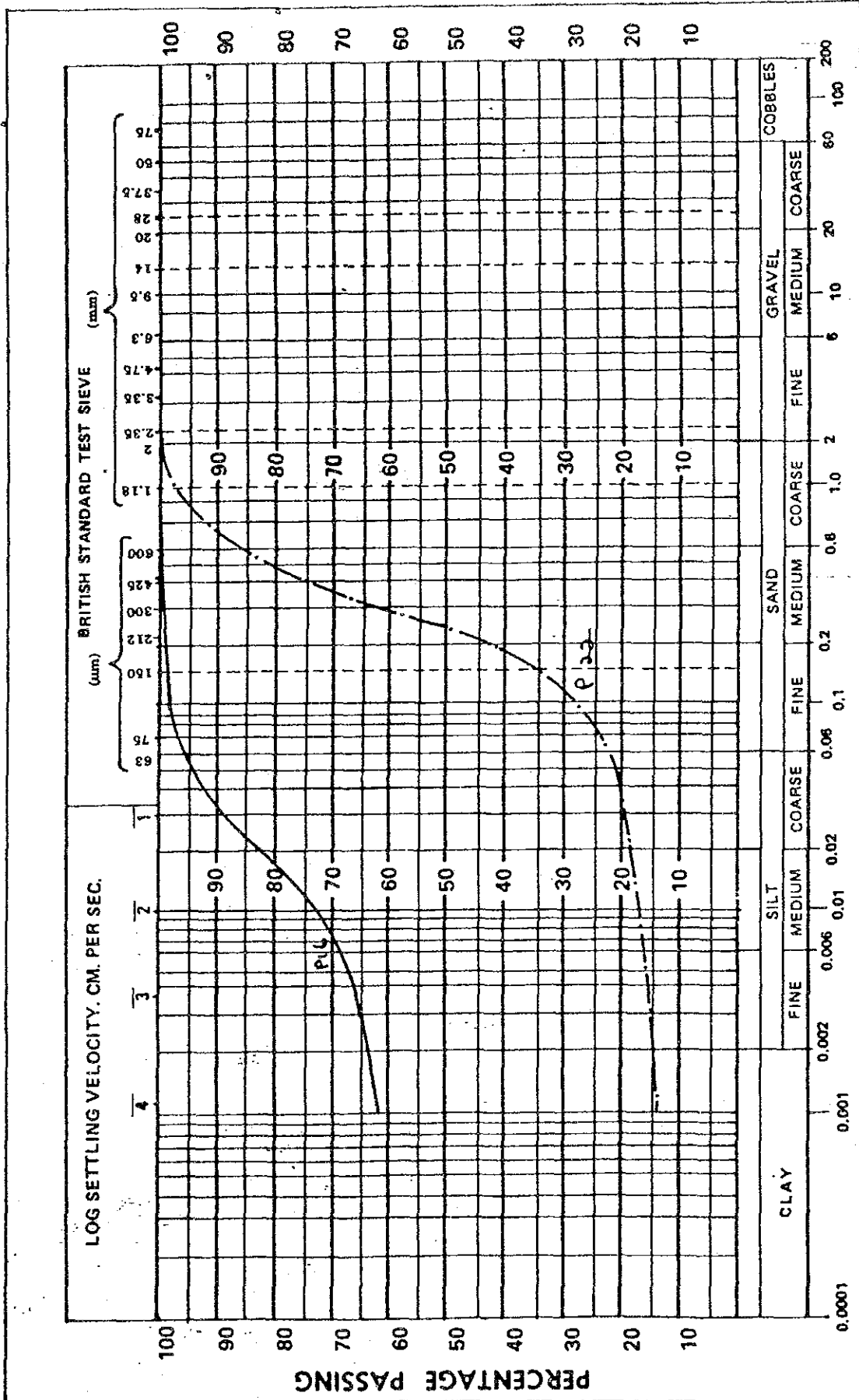
P11

P9

SAMPLE NO

SEALAND DRILLERS (M) SDN. BHD.

PARTICLE SIZE DISTRIBUTION



PARTICLE SIZE - mm

JOB NO SJ/918/90

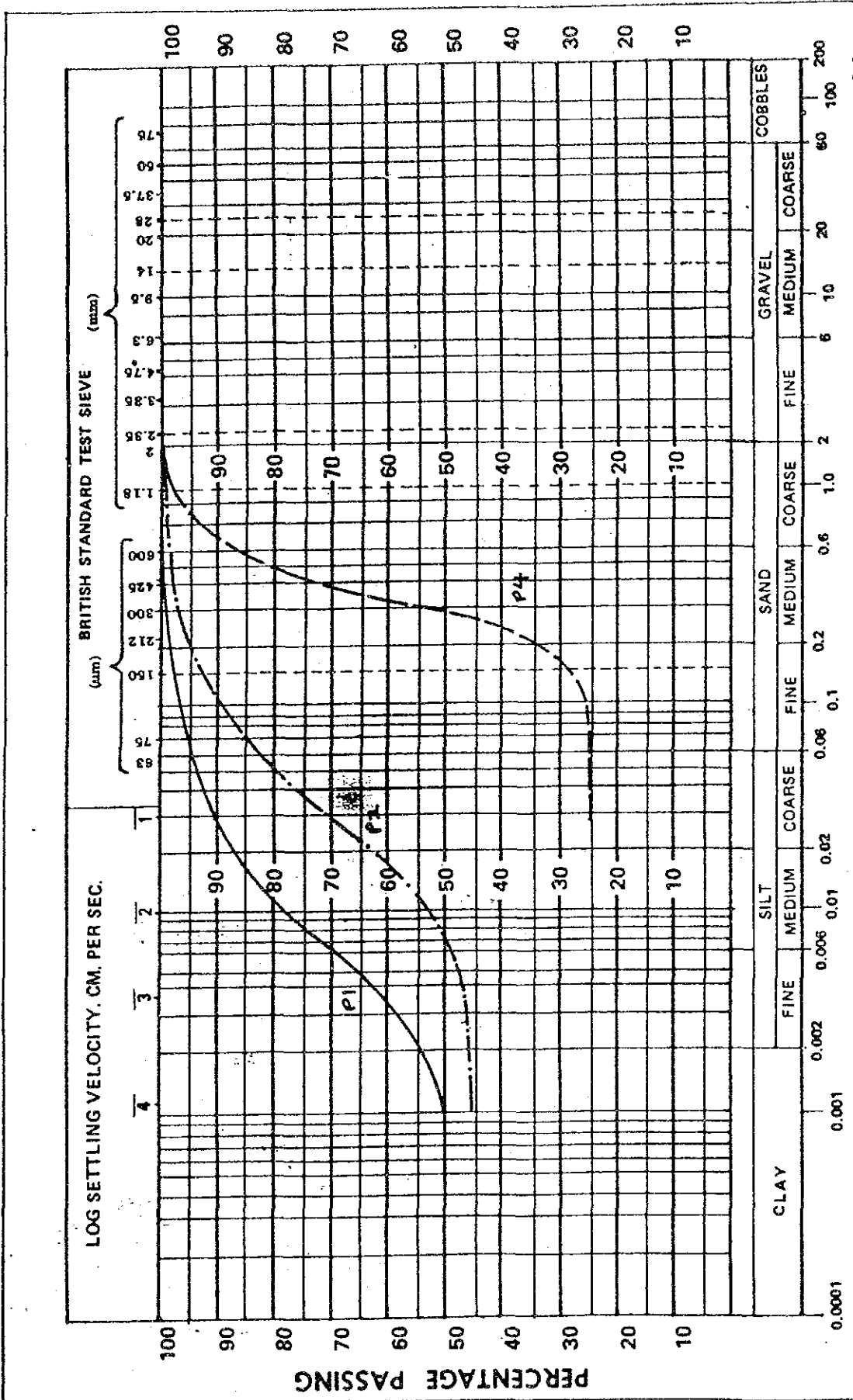
LOCATION Sg P1 nang Penang

BORE REF BH- P1

SAMPLE NO P16 P22

SEALAND DRILLERS (M) SDN. BHD.

PARTICLE SIZE DISTRIBUTION



PARTICLE SIZE - mm

JOB NO SJ/918/90

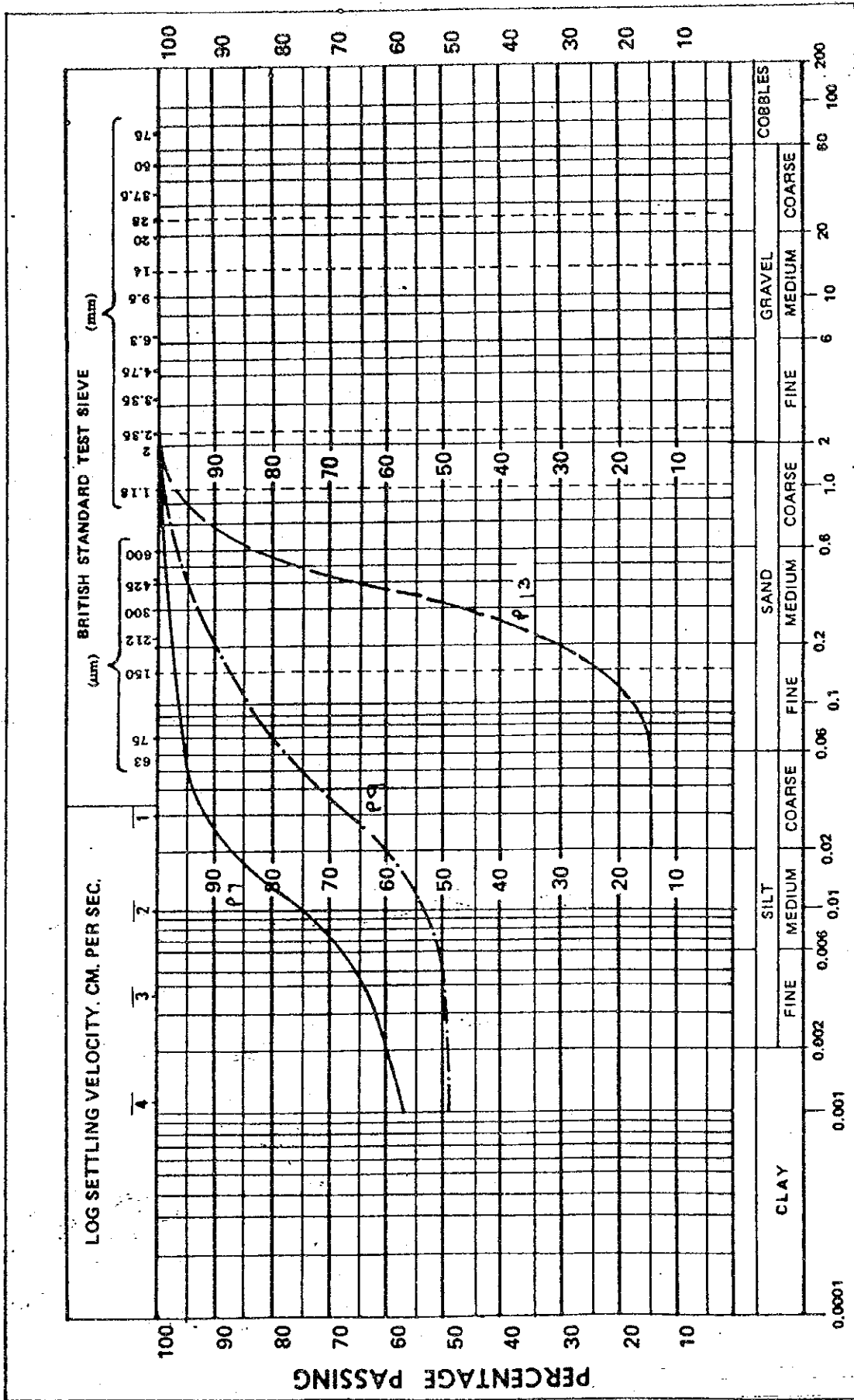
BORE REF BH-P2

LOCATION Sg Pinang Penang

SAMPLE NO P1 P2 P4

SEALAND DRILLERS (M) SDN. BHD.

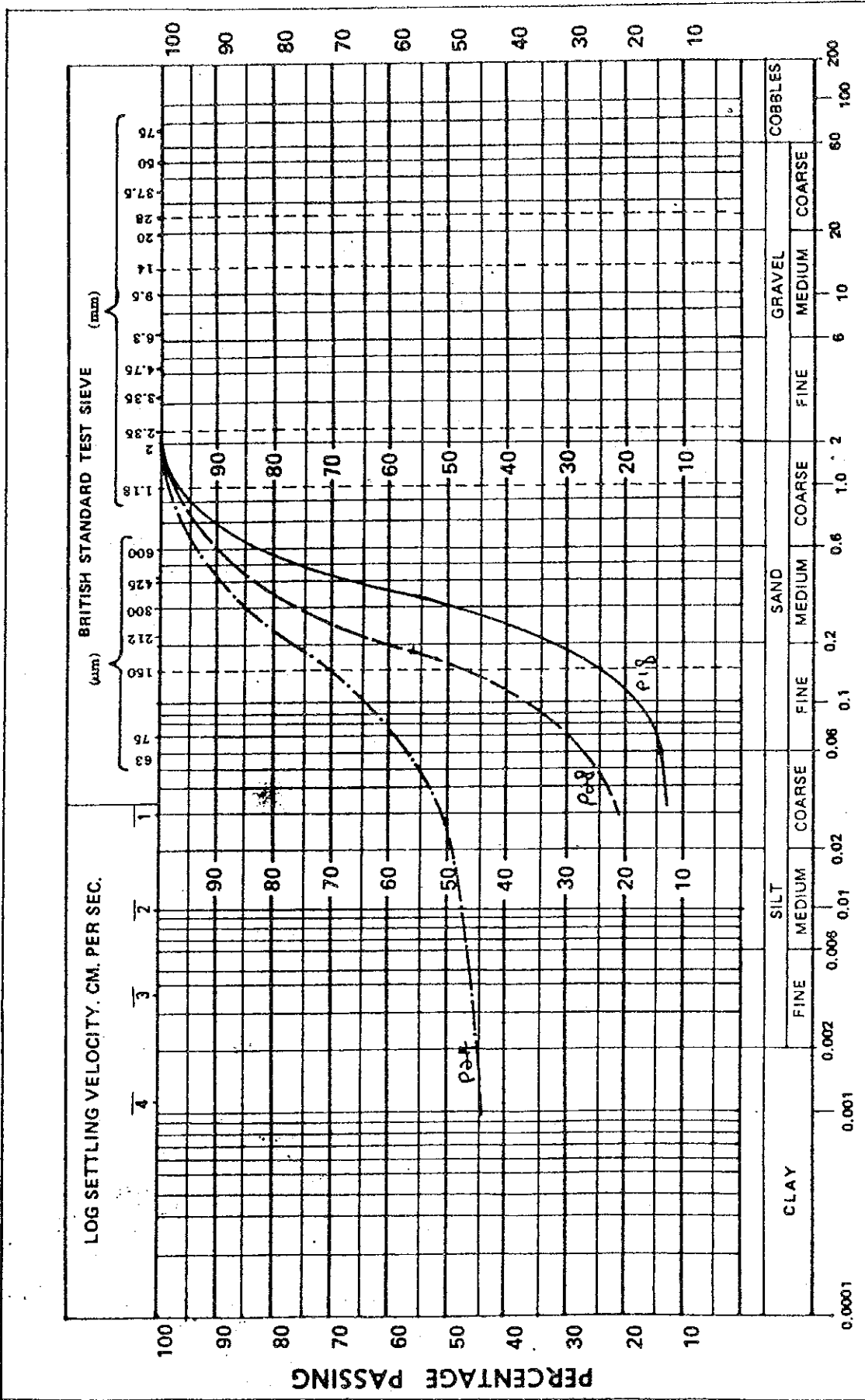
PARTICLE SIZE DISTRIBUTION



JOB NO S.J/918/90 BORE REF BH - P2
 LOCATION Sg Pinang Penang SAMPLE NO P7 P9 P13
 PARTICLE SIZE - mm

SEALAND DRILLERS (M) SDN. BHD.

PARTICLE SIZE DISTRIBUTION



PARTICLE SIZE - mm

JOB NO SJ/918/90

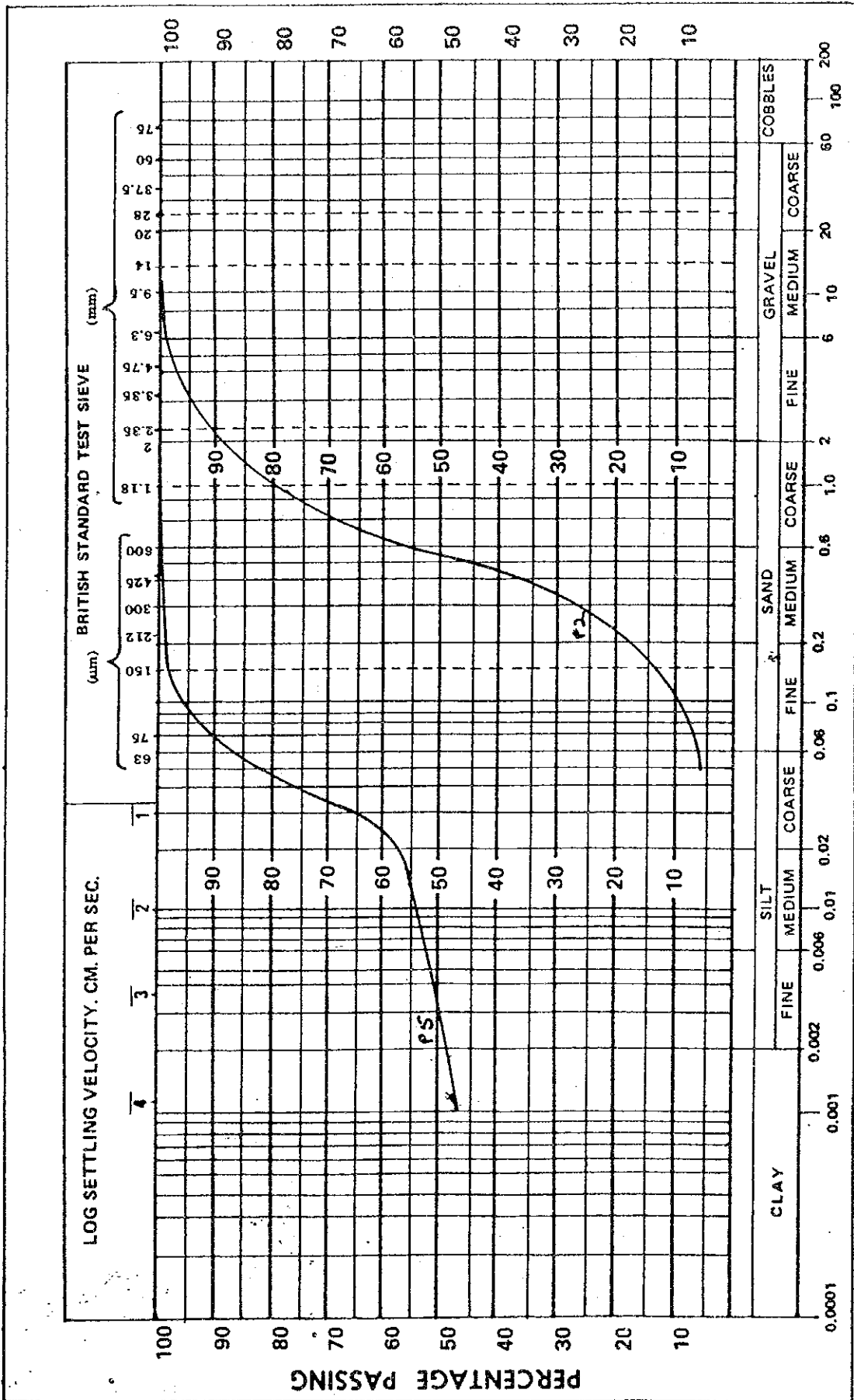
BORE REF 8H- P2

LOCATION Sg Pinang Penang

SAMPLE NO P18 P24 P28

SEALAND DRILLERS (M) SDN. BHD.

PARTICLE SIZE DISTRIBUTION



PARTICLE SIZE - mm

JOB NO SJ/918/90

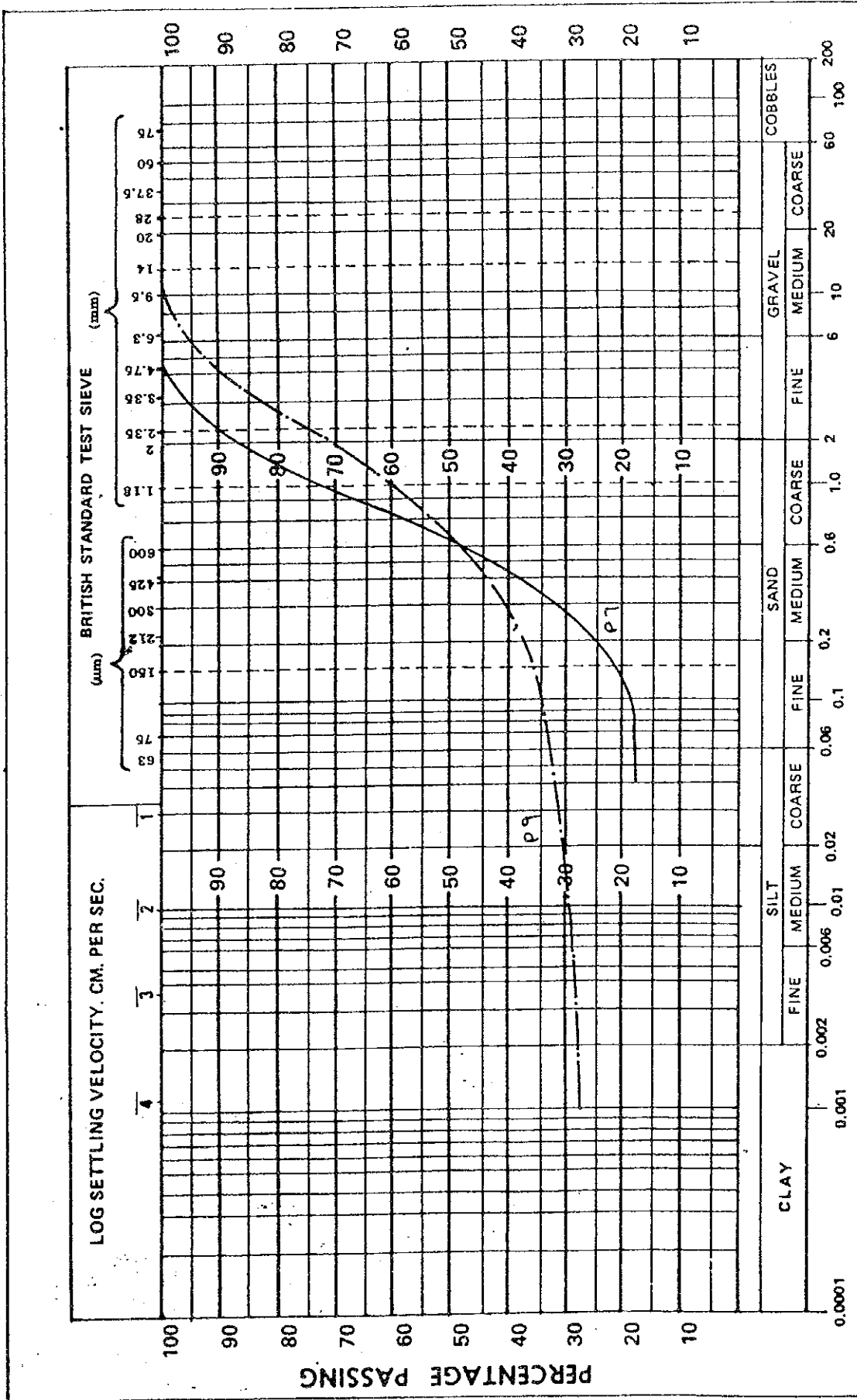
BORE REF BH-01

LOCATION Sg Pinang Penang

SAMPLE NO P2 P5

SEALAND DRILLERS (M) SDN. BHD.

PARTICLE SIZE DISTRIBUTION



PARTICLE SIZE - mm

JOB NO SJ/918/90

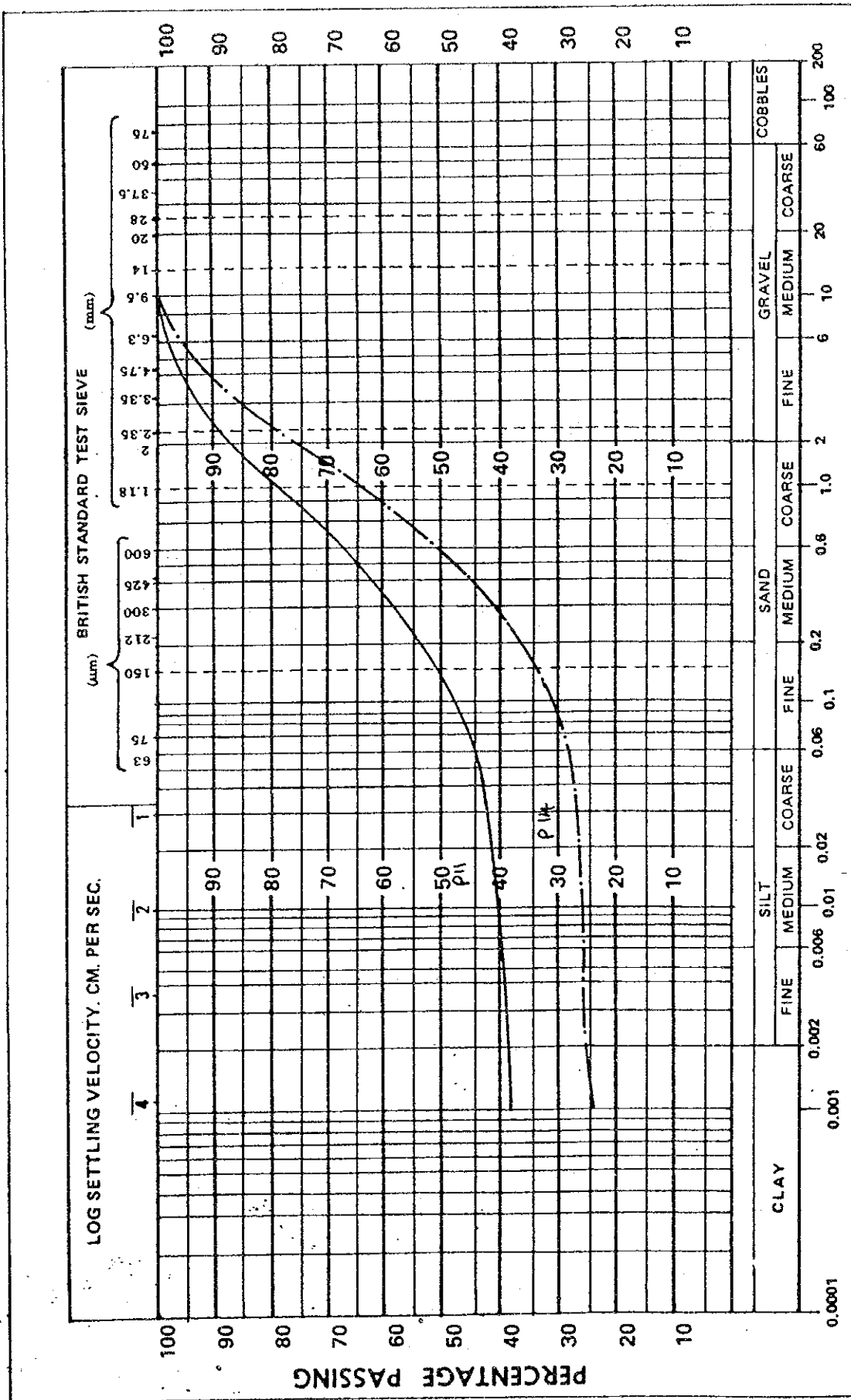
BORE REF 5H-01

LOCATION Sq Pinang Penang

SAMPLE NO P7 P9

SEALAND DRILLERS (M) SDN. BHD.

PARTICLE SIZE DISTRIBUTION



PARTICLE SIZE-- mm

SJ/918/90

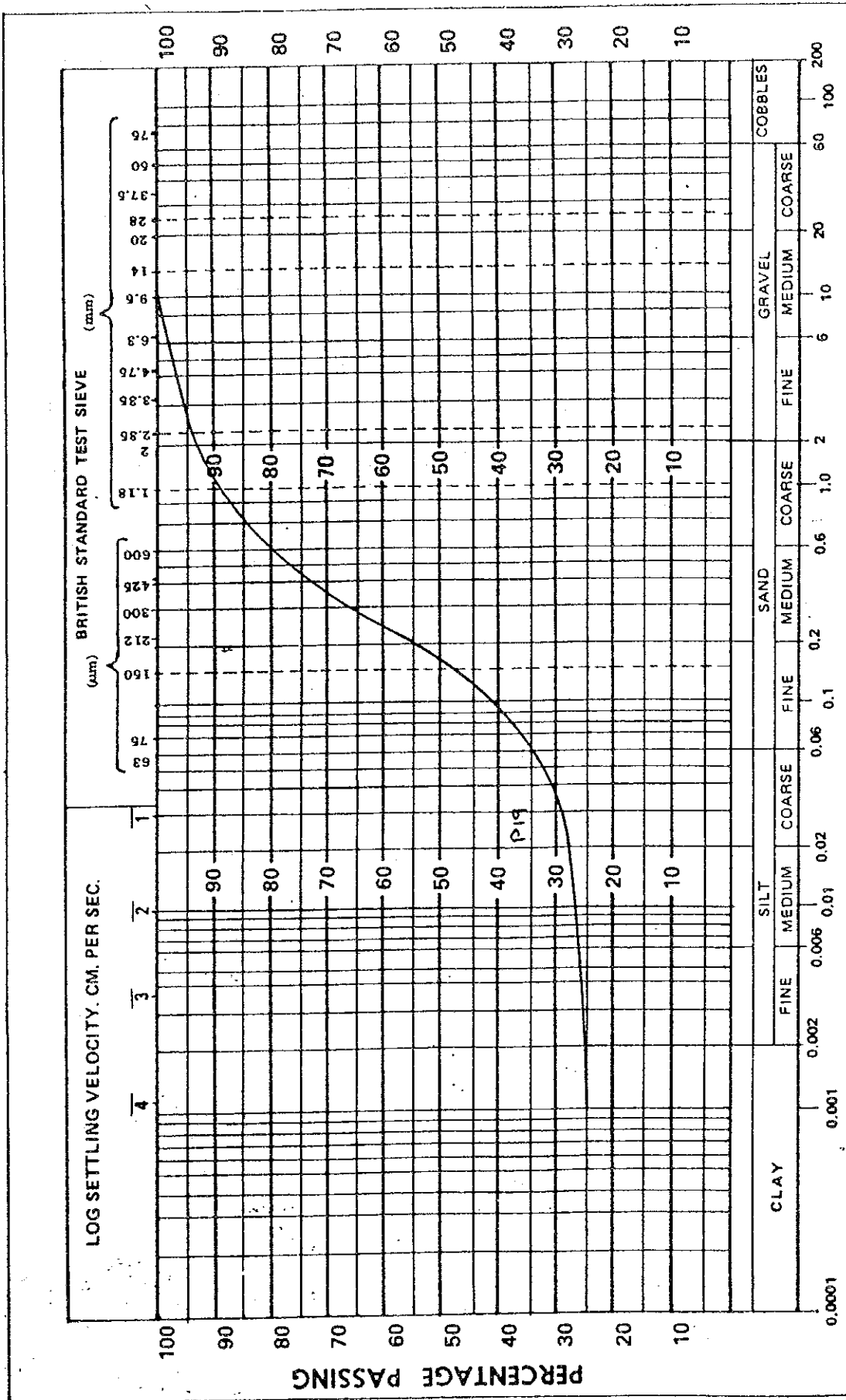
BORE REF BH- 01

LOCATION Sg Pinang Penang

SAMPLE NO P11 P14

SEALAND DRILLERS (M) SDN. BHD.

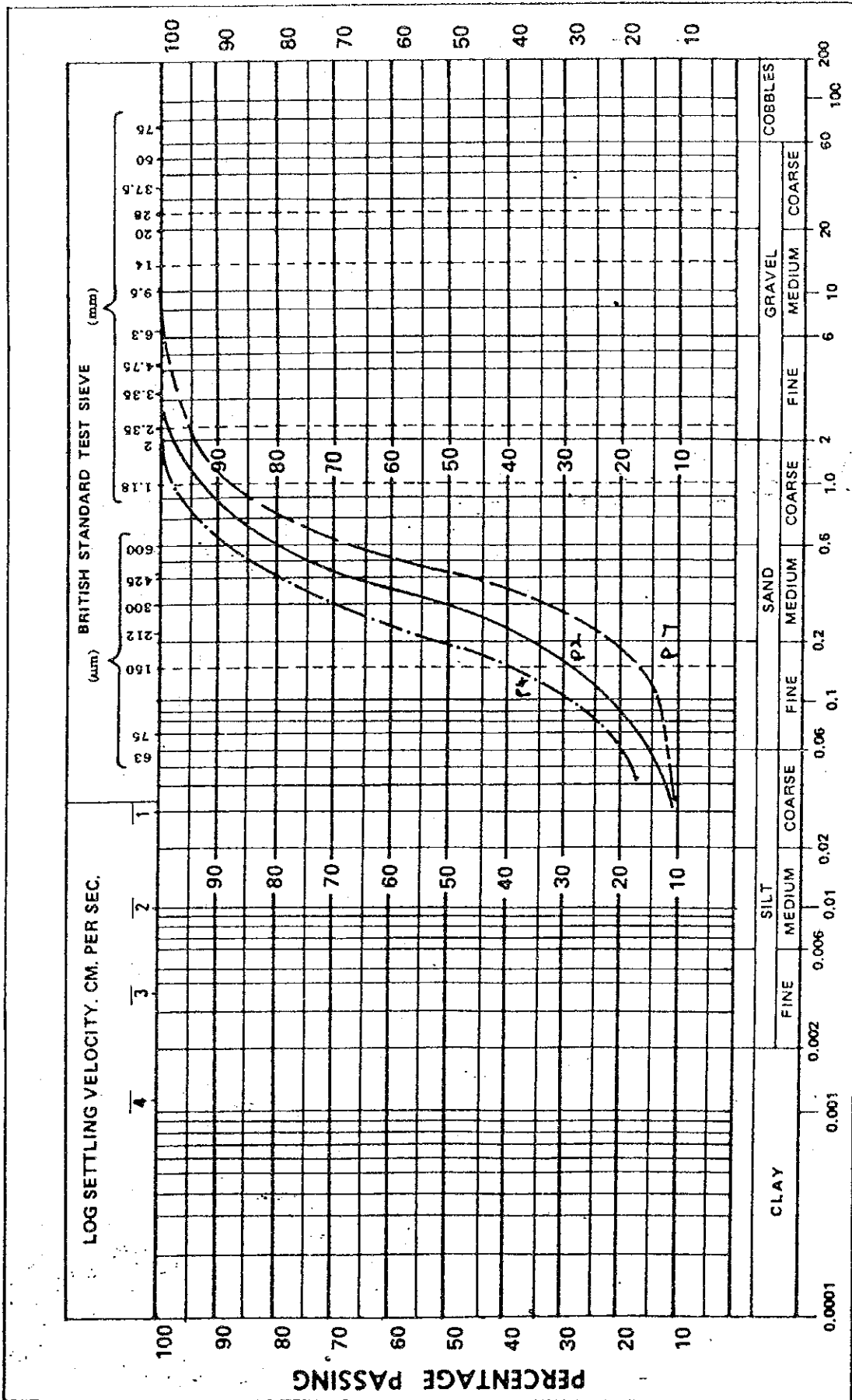
PARTICLE SIZE DISTRIBUTION



JOB NO SJ/918/90
 BORE REF RH-01
 LOCATION Sg Pinang Penang
 SAMPLE NO P19
 PARTICLE SIZE - mm

SEALAND DRILLERS (M) SDN. BHD.

PARTICLE SIZE DISTRIBUTION



PARTICLE SIZE - mm

SJ/918/90

BORE REF BH-02

JOB NO

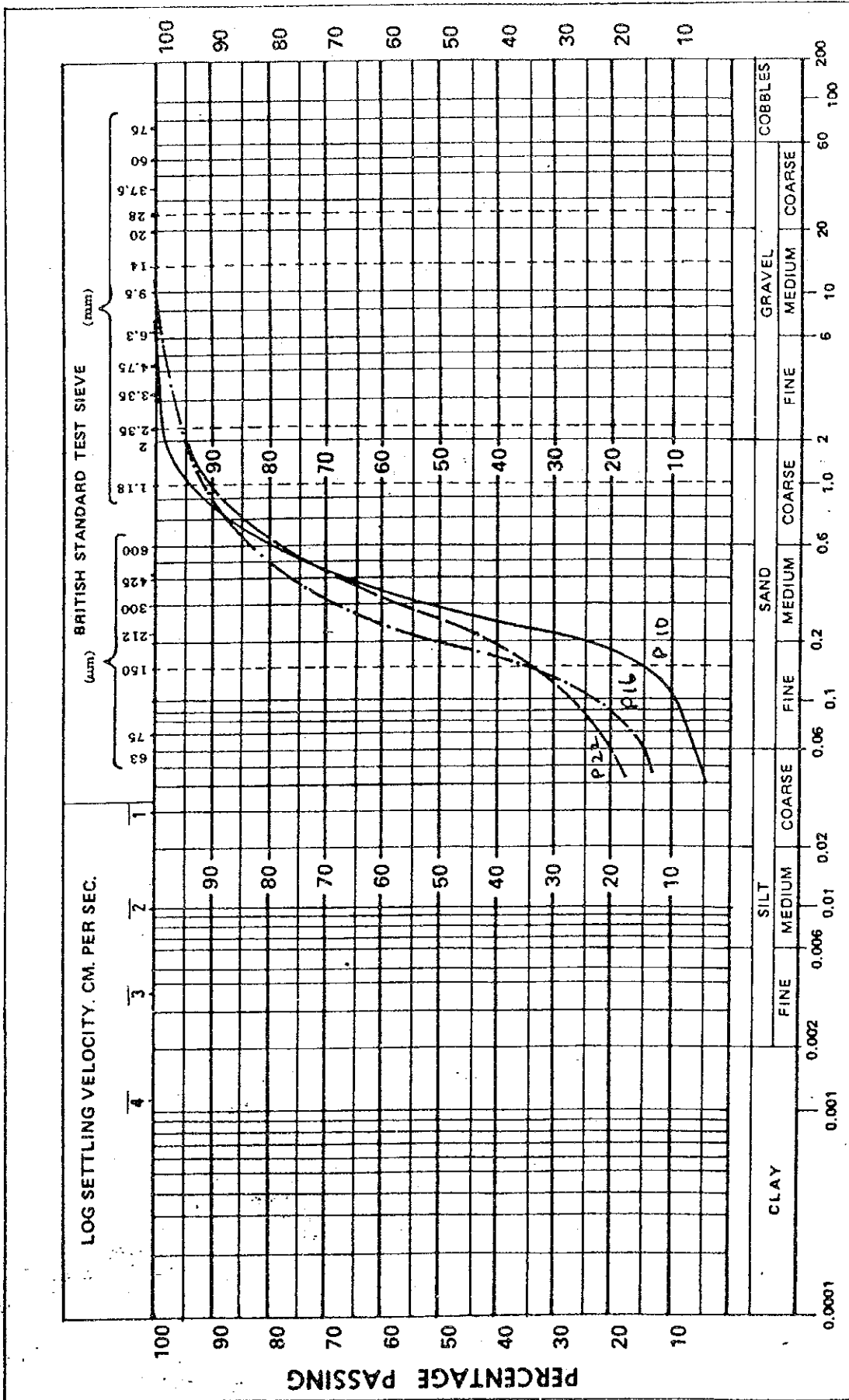
Sg Pinang Penang

LOCATION

SAMPLE NO P2 P4 P7

SEALAND DRILLERS (M) SDN. BHD.

PARTICLE SIZE DISTRIBUTION



PARTICLE SIZE - mm

JOB NO. SJ/918/90

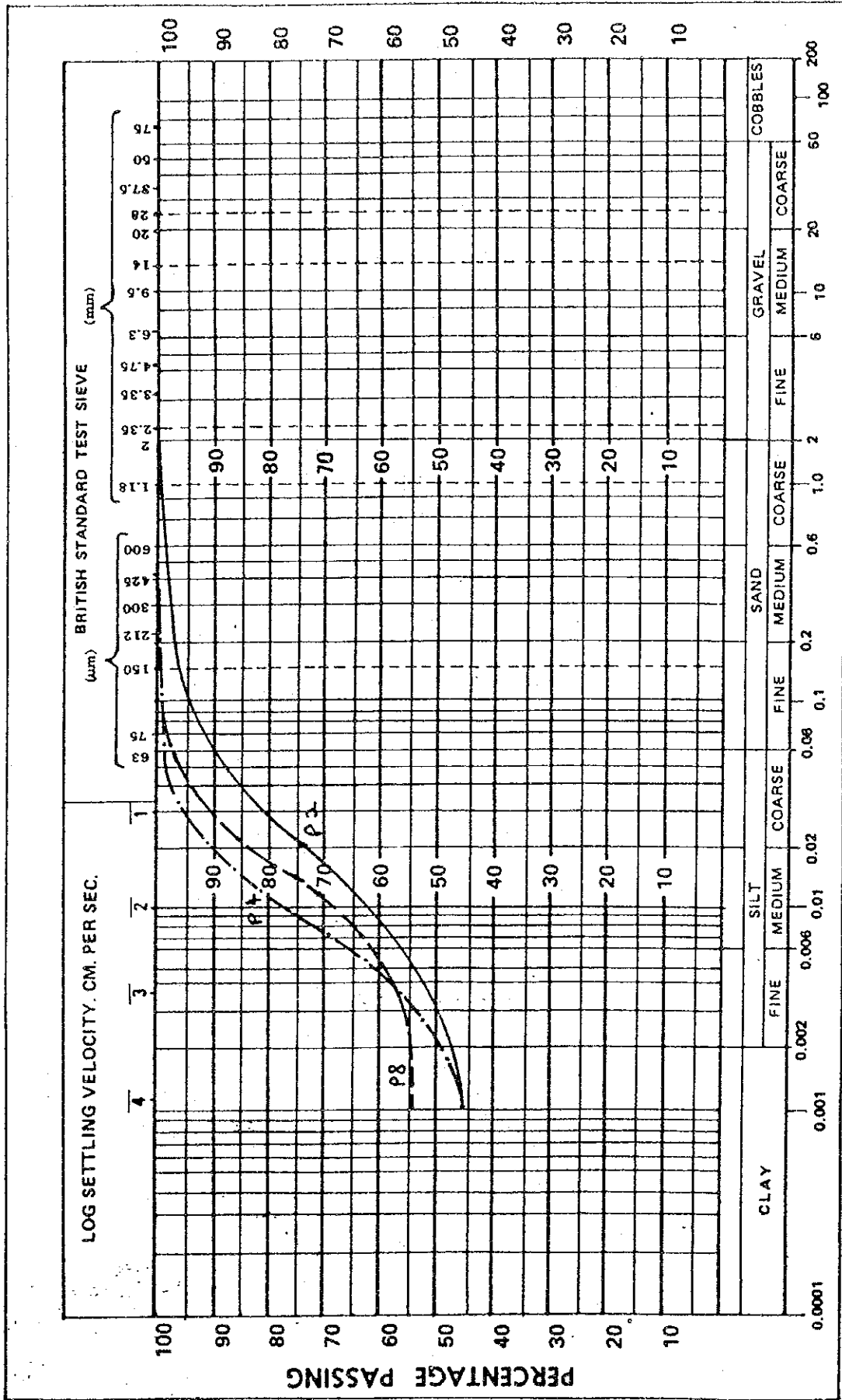
BORE REF. BH-D2

LOCATION Sg. Pinang, Penang

SAMPLE NO. P10 P16 P22

SEALAND DRILLERS (M) SDN. BHD.

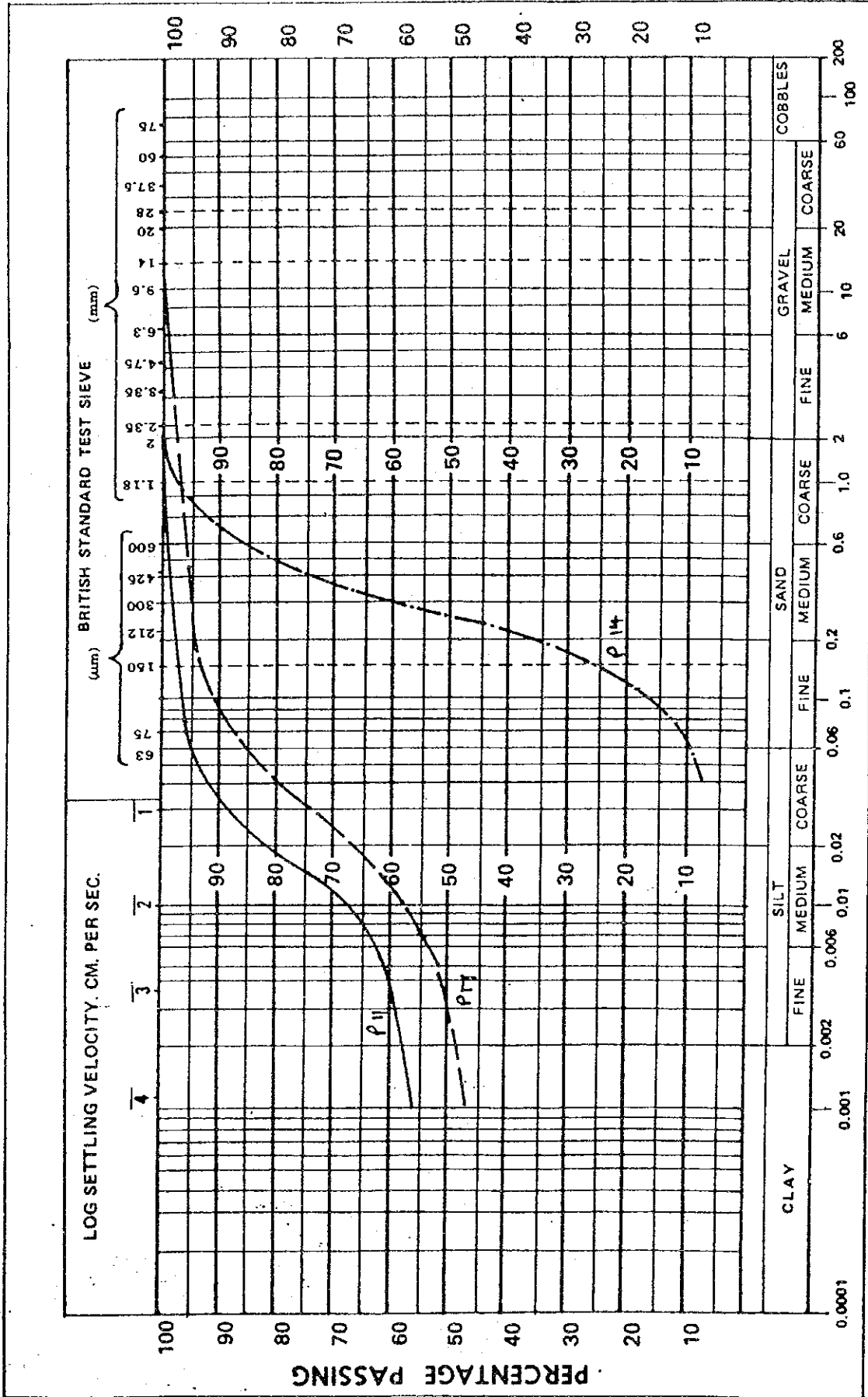
PARTICLE SIZE DISTRIBUTION



JOB NO SJ/918/90 BORE REF 8H-D3
 LOCATION Sg Pinang Penang SAMPLE NO P2 P4 P8
 PARTICLE SIZE - mm

SEALAND DRILLERS (M) SDN. BHD.

PARTICLE SIZE DISTRIBUTION



PARTICLE SIZE - mm

JOB NO SJ/918/90

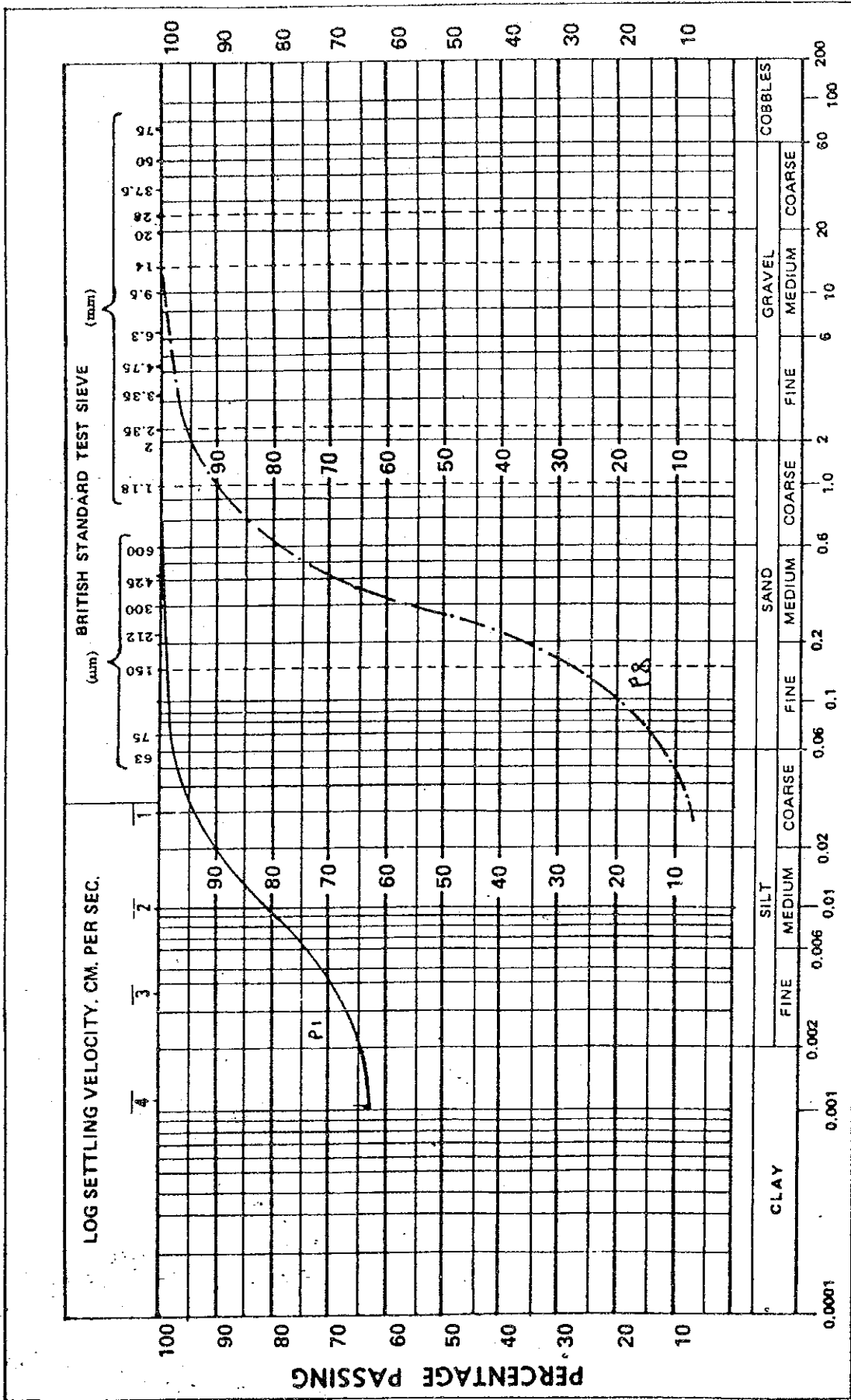
BORE REF BH-03

LOCATION Sg Pinang Penang

SAMPLE NO P11 P14 P17

SEALAND DRILLERS (M) SDN. BHD.

PARTICLE SIZE DISTRIBUTION



PARTICLE SIZE - mm

JOB NO SJ/918/90

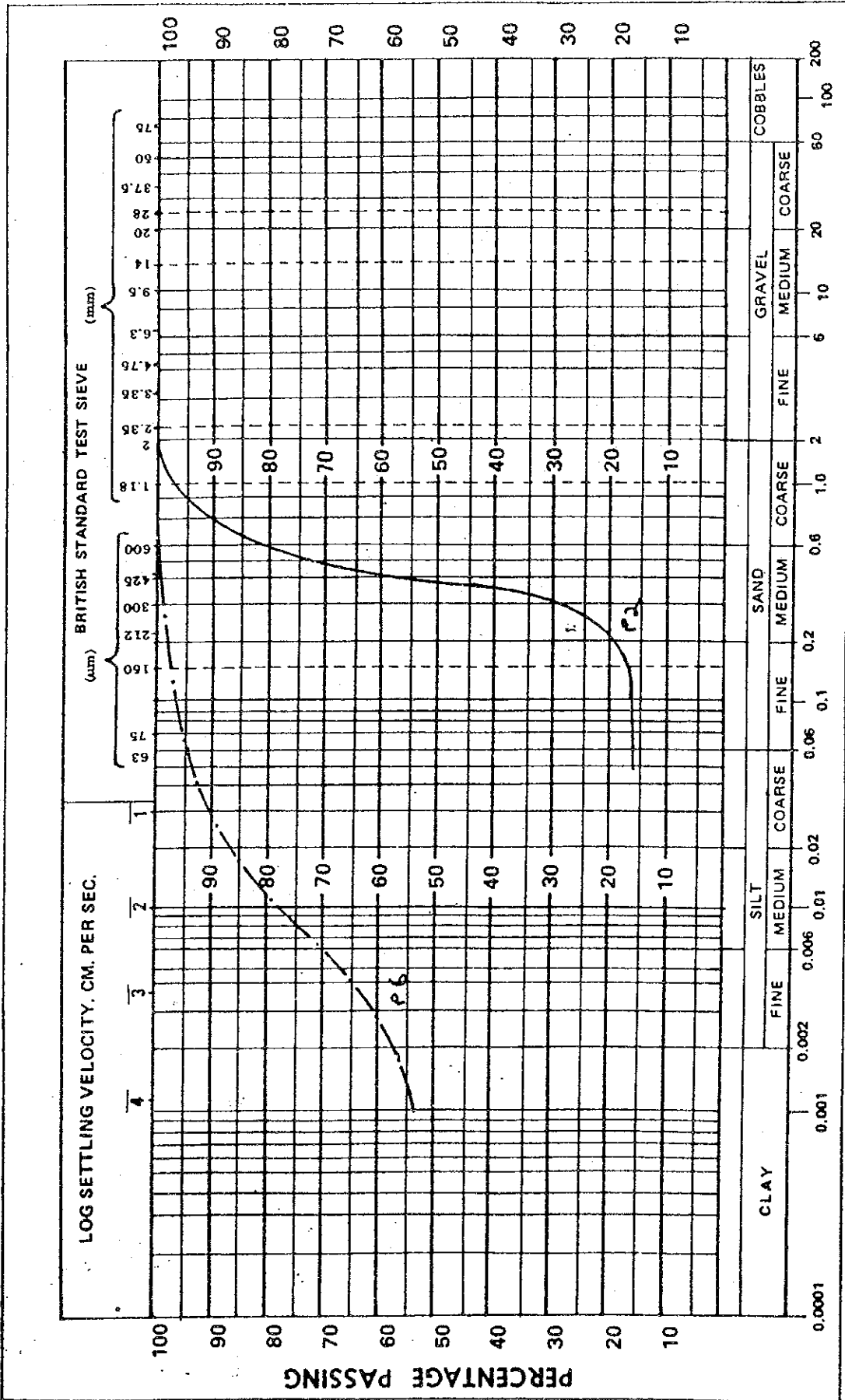
BORE REF 8H- R1

LOCATION Sg Pinang Penang

SAMPLE NO P1 P8

SEALAND DRILLERS (M) SDN. BHD.

PARTICLE SIZE DISTRIBUTION



PARTICLE SIZE - mm

JOB NO SJ/918/90

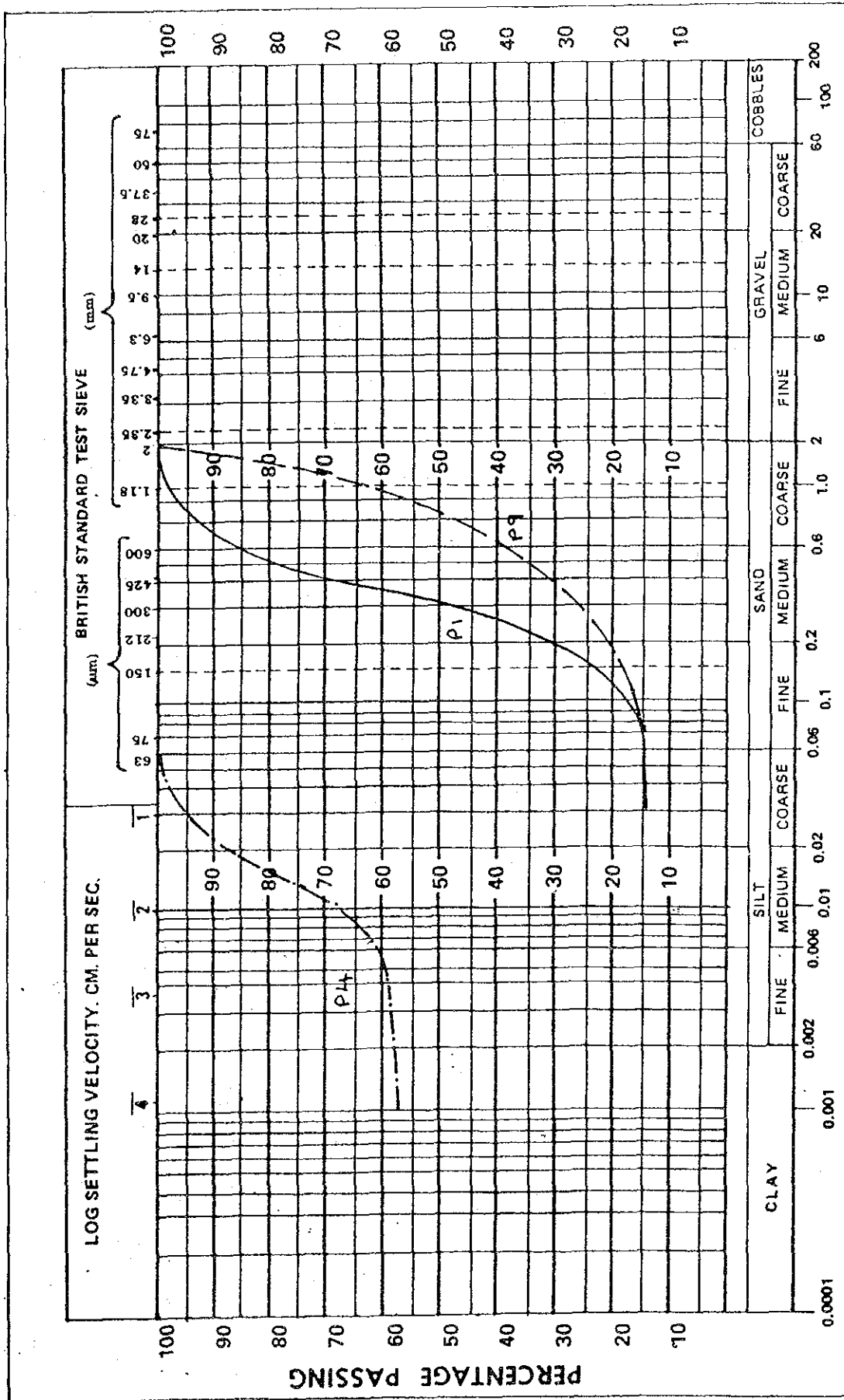
BORE REF BH-R2

LOCATION Sg. Pinang, Penang

SAMPLE NO P2 P6

SEALAND DRILLERS (M) SDN. BHD.

PARTICLE SIZE DISTRIBUTION



PARTICLE SIZE - mm

JOB NO SJ/918/90

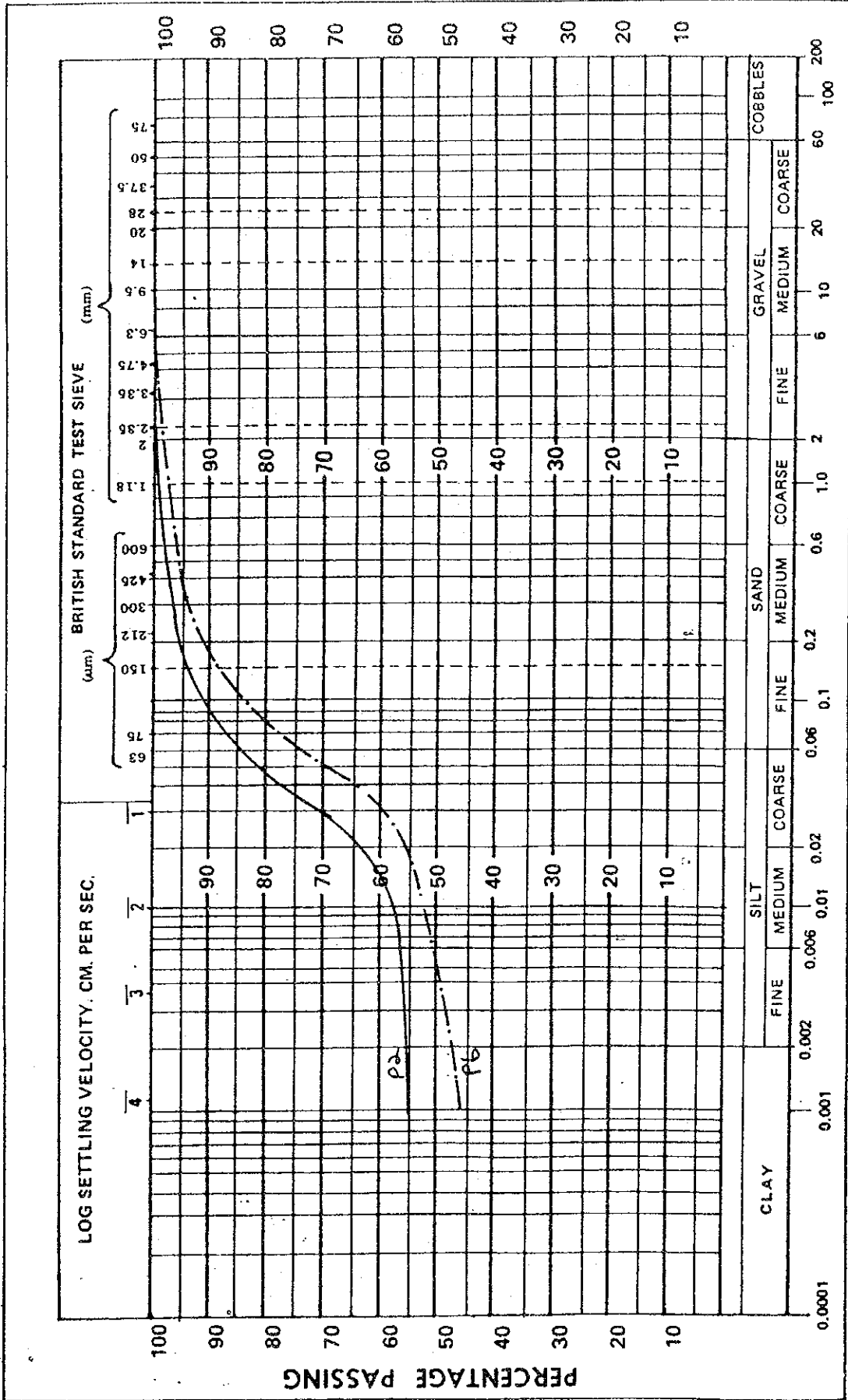
BORE REF SH-R3

LOCATION Sg Pinang Penang

SAMPLE NO P1 P4 P9

SEALAND DRILLERS (M) SDN. BHD.

PARTICLE SIZE DISTRIBUTION

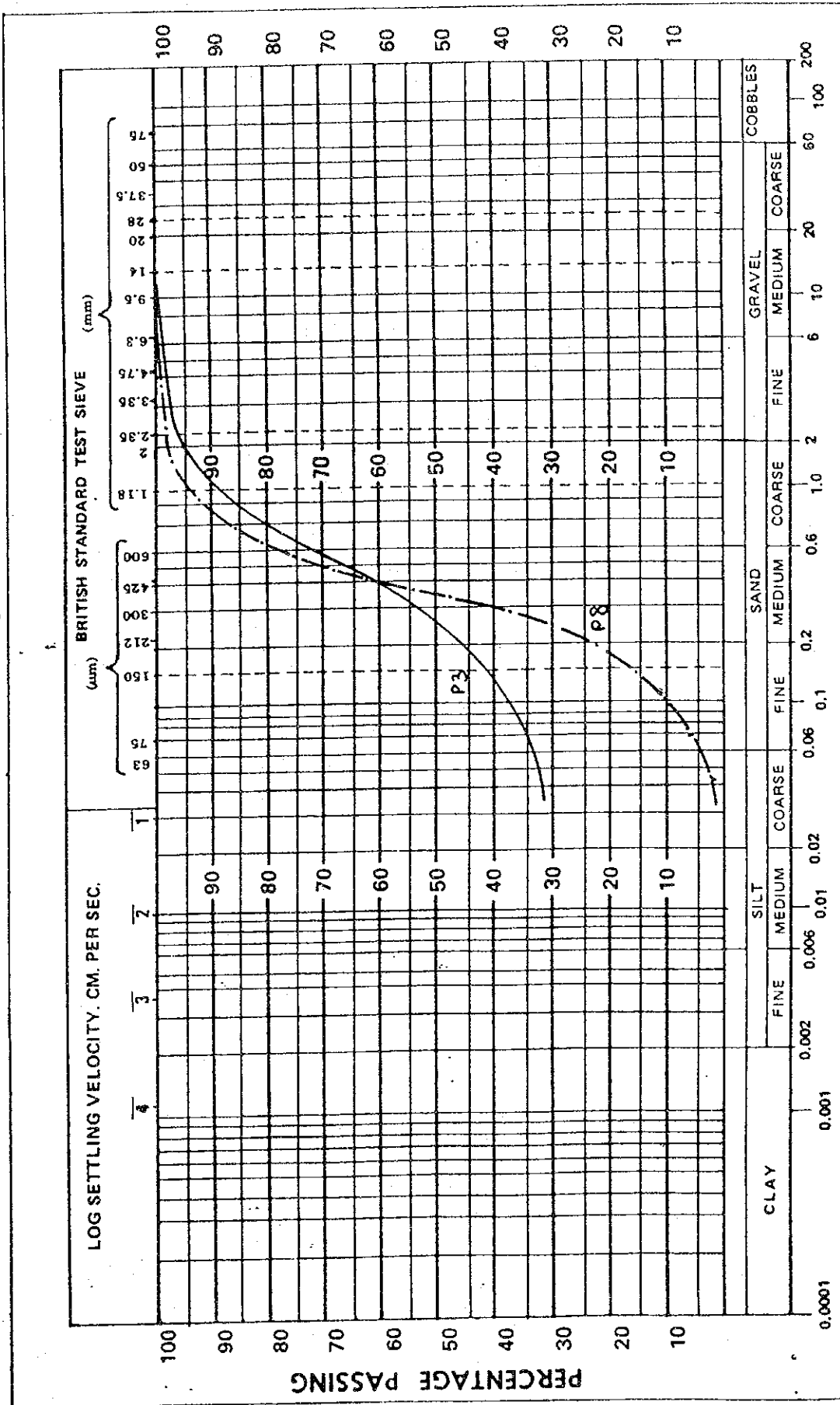


PARTICLE SIZE - mm

JOB NO SJ/918/90
 LOCATION Sg Pinang Penang
 BORE REF BH- R4
 SAMPLE NO P2 P6

SEALAND DRILLERS (M) SDN. BHD.

PARTICLE SIZE DISTRIBUTION



JOB NO SJ/918/90

BORE REF 9H-R5

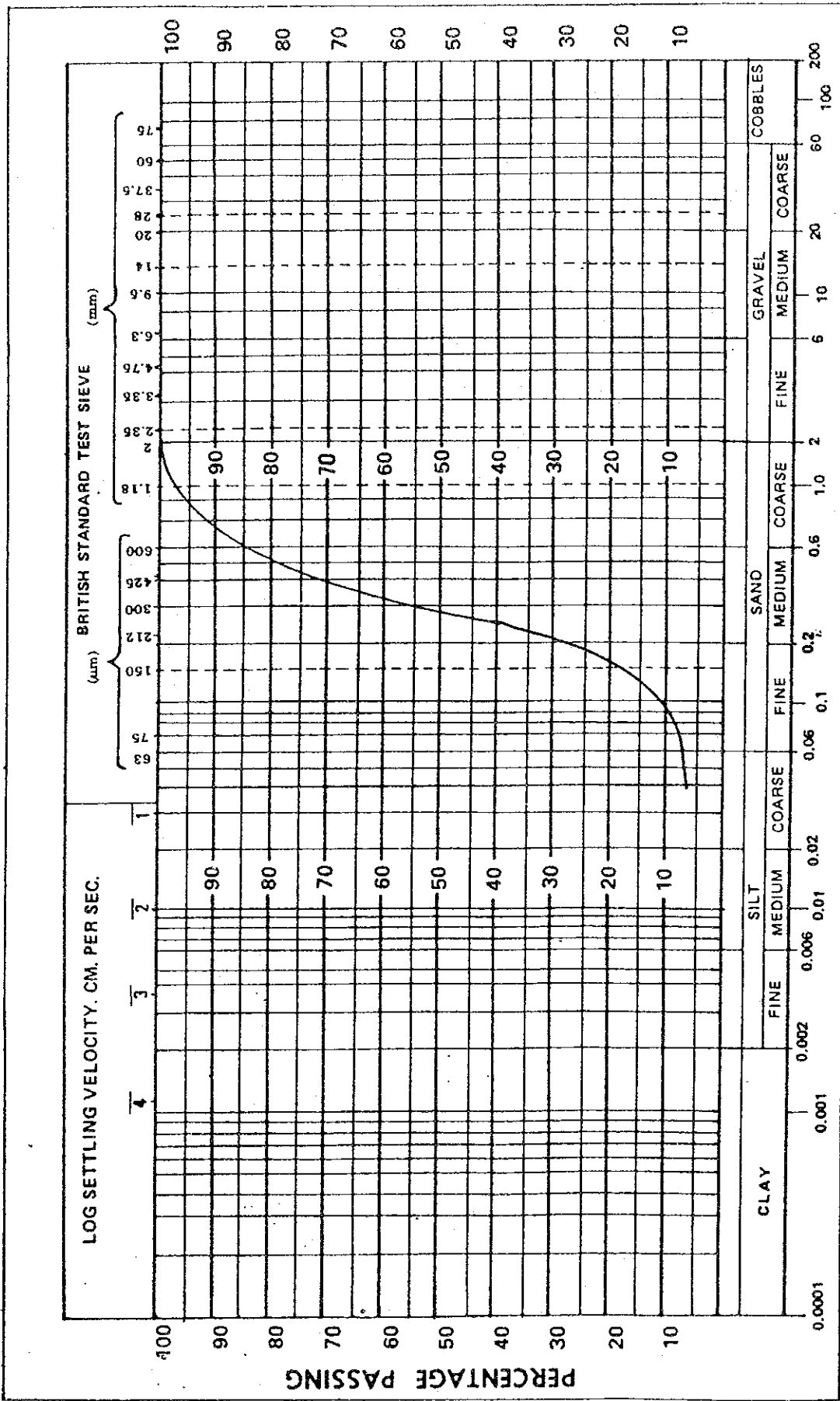
LOCATION Sg Pinang Penang

SAMPLE NO P3 P6

PARTICLE SIZE - mm

SEALAND DRILLERS (M) SDN. BHD.

PARTICLE SIZE DISTRIBUTION



PARTICLE SIZE - mm

JOB NO SJ/918/90

BORE REF BH- R6

LOCATION Sg Pijang Penang

SAMPLE NO P2

APPENDIX C

WATER QUALITY TEST RESULTS



EDTECH ASSOCIATES SDN BERHAD.
ANALYTICAL AND CONSULTING CHEMISTS

PENANG
123-L, Macalister Road, P. O. Box 163, 10720 Penang, Malaysia. Tel: 04-375986, Fax: 04-379410, Telex: MA 40297.

KUALA LUMPUR
99-A, Jalan SS 21/37, Damansara Utama, 47400 Petaling Jaya, Malaysia. Tel: 03-7187152, Fax: 03-7192572.

Lab. Report No. CB. 19575

RESULTS OF ANALYSIS:

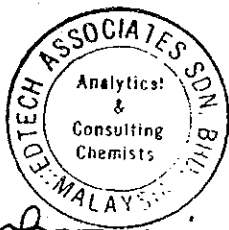
Point No.	pH	Dissolved Oxygen (mg/l)	Ammon. Nitrogen (mg/l)	C.O.D. (mg/l)	B.O.D. (mg/l)	Coliform Count (MPN) per 100 ml	Escherichia Coli Count (MPN) per 100 ml	Susp. Solids (mg/l)	Temp. (C)
D1	7.71	0.1	25	120	67	Greater than 2400	Greater than 2400	105	29
D2	7.63	0.4	14	95	51	Greater than 2400	Greater than 2400	86	29
D3	7.62	0.2	20	115	56	Greater than 2400	Greater than 2400	93	29
D4	7.84	0.8	10	70	37	Greater than 2400	Greater than 2400	53	29

Point No:

Colour

Odour

D1	Light greyish green	Intense
D2	Light greyish green	Intense
D3	Light greyish green	Intense
D4	Light greyish green	Intense



Yeoh Guan Aun

Yeoh Guan Aun,
BSc, AMIC, PMIFT, MAIC, C Chem, MRSC
Member: AOAC, IUPAC, AOCS, ASTM
(ANALYTICAL CHEMIST)





EDTECH ASSOCIATES SDN BERHAD.

ANALYTICAL AND CONSULTING CHEMISTS

PENANG
123-L, Macalister Road, P. O. Box 163, 10720 Penang, Malaysia. Tel: 04-375986, Fax: 04-379410, Telex: MA 40297.


KUALA LUMPUR
99-A, Jalan SS 21/37, Damansara Utama, 47400 Petaling Jaya, Malaysia. Tel: 03-7187152, Fax: 03-7192572.

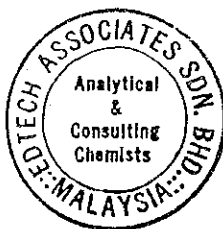
Lab. Report No. CB. 19667

RESULTS OF ANALYSIS:

Point No.	pH	Dissolved Oxygen (mg/l)	Ammon. Nitrogen (mg/l)	C.O.D. (mg/l)	B.O.D. (mg/l)	Coliform Count (MPN) per ml	Escherichia Coli Count (MPN) per ml	Susp. Solids (mg/l)	Temp. (C)
D1	7.92	1.0	18	65	36	Greater than 2400	Greater than 2400	57	27.5
D2	7.74	1.7	10	50	28	Greater than 2400	Greater than 2400	38	27.0
D3	8.05	1.5	14	54	29	Greater than 2400	Greater than 2400	41	27.5
D4	7.84	1.1	12	40	20	Greater than 2400	Greater than 2400	27	27.5

Point No:	Colour	Odour
D1	Light greyish green	Intense
D2	Light greyish green	Intense
D3	Light greyish green	Intense
D4	Light greyish green	Intense


Yeoh Guan Aun,
BSc, AMIC, PMIFT, MAIC, C Chem, MRSC
Member: AOAC, IUPAC, AOCS, ASTM
(ANALYTICAL CHEMIST)





EDTECH ASSOCIATES SDN BERHAD.

ANALYTICAL AND CONSULTING CHEMISTS

PENANG
123-L, Macalister Road, P. O. Box 163, 10720 Penang, Malaysia. Tel: 04-375986, Fax: 04-379410, Telex: MA 40297.

KUALA LUMPUR
99-A, Jalan SS 21/37, Damansara Utama, 47400 Petaling Jaya, Malaysia. Tel: 03-7187152, Fax: 03-7192572.

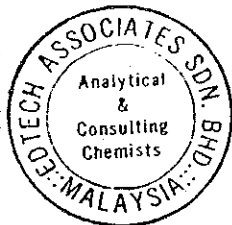
Lab. Report No. CB. 19731

RESULTS OF ANALYSIS:

Point No.	pH	Dissolved Oxygen (mg/l)	Ammon. Nitrogen (mg/l)	C.O.D. (mg/l)	B.O.D. (mg/l)	Coliform Count (MPN) per ml	Escherichia Coli Count (MPN) per ml	Susp. Solids (mg/l)	Temp. (C)
D1	7.68	1.3	14.6	53	27	Greater than 2.4×10^4	1.6×10^4	48	28.2
D2	7.70	1.8	8.4	47	25	Greater than 2.4×10^4	1.6×10^4	34	28.2
D3	7.82	2.3	8.0	45	22	Greater than 2.4×10^4	9.2×10^3	32	28.4
D4	7.84	2.5	6.2	36	18	1.6×10^4	2.8×10^3	22	28.6

<u>Point No:</u>	<u>Colour</u>	<u>Odour</u>
D1	Light greyish green	Intense
D2	Light greyish green	Intense
D3	Light greyish green	Intense
D4	Light greyish green	Intense

Yeoh Guan Aun,
BSc, AMIC, PMIFT, MAIC, C Chem, MRSC
Member: AOAC, IUPAC, AOCS, ASTM
(ANALYTICAL CHEMIST)





BIOCHEM Laboratories Sdn. Bhd.

51-C, Beach Street, 10300 Penang, Malaysia.

Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612532

M/s Kiso-Jiban Consultants (M) Sdn Bhd
115-1, Jalan Mega Mendung
Kompleks Bandar 5
Jalan Kelang Lama
58200 Kuala Lumpur

Lab. Ref. C90/1206-5

August 23, 1990

SAMPLING FOR COMMUNAL PLANT SURVEY (6TH - 7TH AUGUST 1990)

TANK NO.: 1
TYPE: ACTIVATED SLUDGE
PLANT NAME: HALAMAN ZOO

PHYSICAL EXAMINATION

TIME	SAMPLING POINT	COLOUR	APPEARANCE	SMELL
7.00AM	INLET	LIGHT BROWN	TURBID	SMELLY
7.00AM	P/S	LIGHT BROWN	TURBID	SMELLY
7.00AM	A/T	LIGHT BROWN	CLEAR	SMELLY
7.00AM	F/S/	LIGHT BROWN	TURBID	SMELLY
10.00AM	INLET	LIGHT BROWN	TURBID	SMELLY
10.00AM	P/S	LIGHT BROWN	TURBID	VERY SMELLY
10.00AM	A/T	LIGHT BROWN	CLEAR	SMELLY
10.00AM	F/S	LIGHT BROWN	CLEAR	SMELLY
1.00PM	INLET	LIGHT BROWN	CLEAR	SMELLY
1.00PM	P/S	LIGHT BROWN	TURBID	VERY SMELLY
1.00PM	A/T	LIGHT BROWN	TURBID	SLIGHT SMELL
1.00PM	F/S	LIGHT BROWN	TURBID	SMELLY
4.00PM	INLET	LIGHT BROWN	CLEAR	SMELLY
4.00PM	P/S	LIGHT BROWN	TURBID	VERY SMELLY
4.00PM	A/T	LIGHT BROWN	TURBID	SLIGHT SMELL
4.00PM	F/S	LIGHT BROWN	TURBID	SMELLY

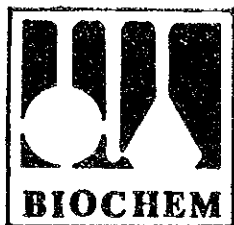
/2



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS

ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry



BIOCHEM Laboratories Sdn. Bhd.

51-C, Beach Street, 10300 Penang, Malaysia.

Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612532

/2

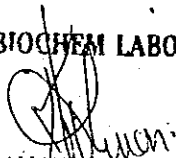
TIME	SAMPLE ING POINT	COLOUR	APPEARANCE	SMELL
7.00PM	INLET	LIGHT BROWN	CLEAR	SMELLY
7.00PM	P/S	LIGHT BROWN	TURBID	VERY SMELLY
7.00PM	A/T	LIGHT BROWN	TURBID	SLIGHT SMELL
7.00PM	F/S	LIGHT BROWN	CLOUDY	SMELLY
10.00PM	INLET	LIGHT BROWN	CLEAR	SMELLY
10.00PM	P/S	LIGHT BROWN	TURBID	SMELLY
10.00PM	A/T	LIGHT BROWN	CLOUDY	SMELLY
10.00PM	F/S	LIGHT BROWN	TURBID	SMELLY
1.00AM	INLET	LIGHT BROWN	TURBID	SMELLY
1.00AM	P/S	LIGHT BROWN	TURBID	VERY SMELLY
1.00AM	A/T	LIGHT BROWN	CLOUDY	SMELLY
1.00AM	F/S	LIGHT BROWN	TURBID	SMELLY
4.00AM	INLET	LIGHT BROWN	CLEAR	SMELLY
4.00AM	P/S	LIGHT BROWN	TURBID	SMELLY
4.00AM	A/T	LIGHT BROWN	CLOUDY	SMELLY
4.00AM	F/S	LIGHT BROWN	TURBID	SMELLY

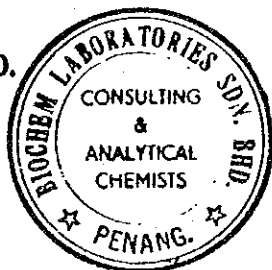
P/S = OUTLET OF PRIMARY SEDIMENTATION TANK

A/T = OUTLET OF AERATION TANK

F/S = OUTLET OF FINAL SEDIMENTATION TANK

BIOCHEM LABORATORIES SDN. BHD.

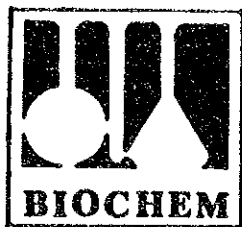

KANAKA MENON,
B.Sc. (HONS) C.M.L.T., D.A.P. & E
(MICROBIOLOGIST)



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS

ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry



BIOCHEM Laboratories Sdn. Bhd.

51-C, Beach Street, 10300 Penang, Malaysia.

Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612532

M/s Kiso-Jiban Consultants (M) Sdn Bhd
115-1, Jalan Mega Mendung
Kompleks Bandar 5
Jalan Kelang Lama
58200 Kuala Lumpur

Lab. Ref. C90/1206-6

August 23, 1990

SAMPLING FOR COMMUNAL PLANT SURVEY (6TH - 7TH AUGUST 1990)

TANK NO.: 2
TYPE: SEPTIC TANK WITH T/FILTER
PLANT NAME: KAMPONG MELAYU

PHYSICAL EXAMINATION

TIME	SAMPLING POINT	COLOUR	APPEARANCE	SMELL
7.30AM	INLET	LIGHT BROWN	TURBID	SMELLY
7.30AM	S/T	DARK BROWN	CLOUDY	VERY SMELLY
7.30AM	T/F	LIGHT BROWN	TURBID	SMELLY
10.30AM	INLET	LIGHT BROWN	TURBID	SMELLY
10.30AM	S/T	DARK BROWN	CLOUDY	VERY SMELLY
10.30AM	T/F	LIGHT BROWN	CLEAR	SMELLY
1.30PM	INLET	LIGHT BROWN	TURBID	SMELLY
4.30PM	INLET	LIGHT BROWN	TURBID	SMELLY
7.30PM	INLET	LIGHT BROWN	TURBID	SLIGHT SMELL
7.30PM	S/T	DARK BROWN	CLOUDY	VERY SMELLY
7.30PM	T/F	LIGHT BROWN	CLEAR	SLIGHT SMELL
10.30PM	INLET	WHITE	CLEAR	SLIGHT SMELL
1.30AM	INLET	LIGHT BROWN	CLEAR	SLIGHT SMELL
4.30AM	INLET	WHITISH	CLEAR	LITTLE SMELL

S/T = OUTLET OF SEPTIC TANK

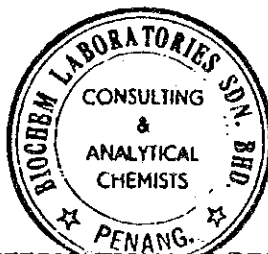
T/F = OUTLET OF TRICKLING FILTER

BIOCHEM LABORATORIES SDN. BHD.

Kanaka Menon
KANAKA MENON,
B.Sc. (HONS) C.M.L.T., D.A.P. & E

MICROBIOLOGIST
AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS

ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS



Accredited by Malaysian Institute of Chemistry



BIOCHEM Laboratories Sdn. Bhd.

51-C, Beach Street, 10300 Penang, Malaysia.

Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612532

M/s Kiso-Jiban Consultants (M) Sdn Bhd
115-1, Jalan Mega Mendung
Kompleks Bandar 5
Jalan Kelang Lama
58200 Kuala Lumpur

Lab. Ref. C90/1206-7

August 23, 1990

SAMPLING FOR COMMUNAL PLANT SURVEY (6TH - 7TH AUGUST 1990)

TANK NO.: 3
TYPE: SEPTIC TANK WITH R/FILTER
PLANT NAME: AIR PUTIH

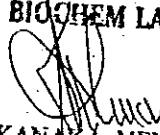
PHYSICAL EXAMINATION

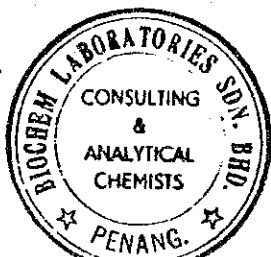
TIME	SAMPLING POINT	COLOUR	APPEARANCE	SMELL
8.00AM	INLET	LIGHT BROWN	CLOUDY	SMELLY
8.00AM	S/T	DARK BROWN	CLOUDY	VERY SMELLY
8.00AM	R/F	COLOURLESS	CLEAR	SLIGHT SMELL
11.00AM	INLET	LIGHT BROWN	TURBID	SMELLY
2.00PM	INLET	LIGHT BROWN	TURBID	SMELLY
5.00PM	INLET	LIGHT BROWN	TURBID	SMELLY
5.00PM	S/T	DARK BROWN	CLOUDY	VERY SMELLY
5.00PM	R/F	COLOURLESS	CLEAR	SLIGHT SMELL
8.00PM	INLET	BROWN	TURBID	VERY SMELLY
8.00PM	S/T	DARK BROWN	CLOUDY	VERY SMELLY
8.00PM	R/F	COLOURLESS	CLEAR	SLIGHT SMELL
11.00PM	INLET	LIGHT BROWN	TURBID	SMELLY
2.00AM	INLET	WHITE	CLEAR	SLIGHT SMELL
5.00AM	INLET	BLACK	TURBID	VERY SMELLY

S/T = OUTLET OF SEPTIC TANK

R/F = OUTLET OF RECTANGULAR FILTER

BIOCHEM LABORATORIES SDN. BHD.


KANAKA MENON,
B.Sc. (HONS) C.M.L.T., D.A.P. & E
(MICROBIOLOGIST)



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS

ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry

RECEIVED 28 AUG 1990



BIOCHEM Laboratories Sdn. Bhd.

51-C, Beach Street, 10300 Penang, Malaysia.

Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612532

M/s Kiso-Jiban Consultants (M) Sdn Bhd
115-1, Jalan Mega Mendung
Kompleks Bandar 5
Jalan Kelang Lama
58200 Kuala Lumpur

Lab. Ref. C90/1206-8

August 23, 1990

SAMPLING FOR COMMUNAL PLANT SURVEY (6TH - 7TH AUGUST 1990)

TANK NO.: 4
TYPE: ACTIVATED SLUDGE
PLANT NAME: BATU MAUNG

PHYSICAL EXAMINATION

TIME	SAMPLING POINT	COLOUR	APPEARANCE	SMELL
9.00AM	INLET	DARK BROWN	CLOUDY	SMELLY
9.00AM	P/S	DARK BROWN	CLOUDY	VERY SMELLY
9.00AM	A/T	LIGHT BROWN	TURBID	SLIGHT SMELL
9.00AM	F/S	DARK BROWN	TURBID	SMELLY
12.00PM	INLET	BLACK	TURBID	SMELLY
12.00PM	P/S	BLACK	CLOUDY	VERY SMELLY
12.00PM	A/T	LIGHT BROWN	TURBID	SLIGHT SMELL
12.00PM	F/S	DARK BROWN	TURBID	SMELLY
3.00PM	INLET	BLACK	TURBID	SMELLY
3.00PM	P/S	BLACK	CLOUDY	VERY SMELLY
3.00PM	A/T	LIGHT BROWN	TURBID	SLIGHT SMELL
3.00PM	F/S	DARK BROWN	TURBID	SMELLY
6.00PM	INLET	BLACK	TURBID	SMELLY
6.00PM	P/S	BLACK	CLOUDY	VERY SMELLY
6.00PM	A/T	LIGHT BROWN	TURBID	SLIGHT SMELL
6.00PM	F/S	DARK BROWN	TURBID	SMELLY

/2



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS

ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry



BIOCHEM Laboratories Sdn. Bhd.

51-C, Beach Street, 10300 Penang, Malaysia.

Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612532

/2

TIME	SAMPLING POINT	COLOUR	APPEARANCE	SMELL
9.00PM	INLET	BLACK	TURBID	SMELLY
9.00PM	P/S	DARK BROWN	TURBID	VERY SMELLY
9.00PM	A/T	LIGHT BROWN	TURBID	SMELLY
9.00PM	F/S	DARK BROWN	TURBID	SMELLY
12.00AM	INLET	BLACK	TURBID	SMELLY
12.00AM	P/S	DARK BROWN	CLOUDY	VERY SMELLY
12.00AM	A/T	LIGHT BROWN	TURBID	SMELLY
12.00AM	F/S	DARK BROWN	CLOUDY	SMELLY
3.00AM	INLET	DARK BROWN	TURBID	SMELLY
3.00AM	P/S	BLACK	CLOUDY	VERY SMELLY
3.00AM	A/T	LIGHT BROWN	TURBID	SMELLY
3.00AM	F/S	DARK BROWN	CLOUDY	SMELLY
6.00AM	INLET	BLACK	TURBID	SMELLY
6.00AM	P/S	BLACK	CLOUDY	VERY SMELLY
6.00AM	A/T	LIGHT BROWN	TURBID	SMELLY
6.00AM	F/S	BLACK	CLOUDY	SMELLY

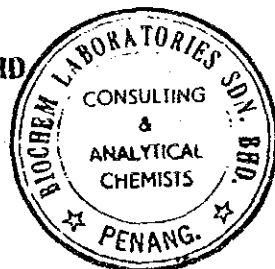
P/S = OUTLET OF PRIMARY SEDIMENTATION TANK

A/T = OUTLET OF AERATION TANK

F/S = OUTLET OF FINAL SEDIMENTATION TANK

BIOCHEM LABORATORIES SDN. BHD.

Kanaka Menon
KANAKA MENON,
B.Sc. (HONS) C.M.L.T., D.A.F. & E
(MICROBIOLOGIST)



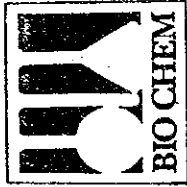
AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS

ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry



BIOCHEM Laboratories Sdn. Bhd.
 51-C, Beach Street, 10300 Penang, Malaysia.
 Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612532



BIOCHEM Laboratories Sdn. Bhd.
 51-C, Beach Street, 10300 Penang, Malaysia.
 Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612532

cm³/l

TIME	SAMPLING POINT	pH	DISSOLVED OXYGEN (DO)	TEMPERATURE (°C)	COD (mg/L)	BOD ₅ (mg/L)
1.00	P/S	7.0	1.4	26	231	89
1.00	A/T	6.1	1.6	28	111	81
1.00	F/S	6.4	1.4	28	99	72
4.00	INLET	8.4	1.4	26	138	67
4.00	P/S	7.0	0.6	26	223	86
4.00	A/T	6.0	0.6	28	61	23
4.00	F/S	6.2	0.8	28	46	78

P/S - OUTLET OF PRIMARY SEDIMENTATION TANK

A/T - OUTLET OF AERATION TANK

F/S - OUTLET OF FINAL SEDIMENTATION TANK

BIOCHEM LABORATORIES SDN. BHD.

Khoo Boo Citai
 KHOO BOO CITAI
 B.Sc (HONS), M.Sc., AMTC, LRSC
 (ANALYTICAL CHEMIST)



SUSPENDED SOLIDS (mg/L)	AMMONICAL NITROGEN (mg/L)	TOTAL PHOSPHATE (mg/L)	TOTAL NITROGEN (mg/L)	COLIFORM COUNT (PER 400 ml)	ESCHERICHIA COLI (PER 100 ml)
40	32.0	5.14	58.0	2.4 X 10 ⁸	2.4 X 10 ⁸
180	15.5	4.5	28.0	5.4 X 10 ⁷	1.7 X 10 ⁷
15	19.0	5.24	34.5	3.5 X 10 ⁶	2.4 X 10 ⁶
5	31.0	4.84	62.3	5.4 X 10 ⁷	1.3 X 10 ⁷
30	33.0	5.54	59.7	9.2 X 10 ⁷	3.5 X 10 ⁷
155	18.0	4.70	34.2	4.6 X 10 ⁶	1.3 X 10 ⁶
10	20.0	10.1	34.8	3.5 X 10 ⁶	1.3 X 10 ⁶



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS
 ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS
 ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry



BIOCHEM Laboratories Sdn. Bhd.
 51-C, Beach Street, 10300 Penang, Malaysia.
 Tel: 613612, 611212 Telex MA 41069 BIOLAB Fax 04-612532

M/S Kluang-Johor Consultants (M) Sdn. Bhd.
 115-1, Jalan Mega Mendung
 Kompleks Bandar 5
 Jalan Kelang Lama
 58300 Kuala Lumpur

SAMPLING FOR CORONAL PLANT SURVEY (GTH - 7TH AUGUST 1990)

TANK NO: 2

TYPE: SEPTIC TANK WITH T/FILTER
 PLANT NAME: WAMPONG MELAYU

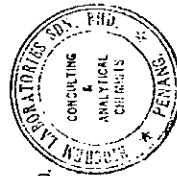
TIME	SAMPLING POINT	pH	DISSOLVED OXYGEN (DO)	TEMPERATURE (°C)	COD (MG/L)	BOD ₅ (MG/L)
7.30 am	INLET	7.6	4.0	26	246	108
7.30 am	S/T	6.5	1.2	26	115	23
7.30 am	T/F	7.5	4.8	26	38.5	23
10.30 am	INLET	6.8	3.6	27	115	54
10.30 am	S/T	6.5	1.0	26	69	55
10.30 am	T/F	7.4	4.2	29	33.8	25
1.30 pm	INLET	7.0	4.33	28	99.5	26
4.30 pm	INLET	6.8	2.6	27	154	31
7.30 pm	INLET	7.5	3.6	27	230	48
7.30 pm	S/T	7.4	1.0	27	147	35
7.30 pm	T/F	7.4	3.1	27	185	48
10.30 pm	INLET	7.1	3.8	27	61	44
1.30 am	INLET	6.6	4.2	26	104	47
4.30 am	INLET	6.1	3.7	26	15	5

S/T = OUTLET OF SEPTIC TANK

T/F = OUTLET OF TRICKLING FILTER

BIOCHEM LABORATORIES SDN. BHD.

Boo Chai
 KHOO BOO CHAI
 B. Sc. (HONS.), M.Sc. AMIC, LRSC
 ANALYTICAL CHEMIST



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS
 ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry



BIOCHEM Laboratories Sdn. Bhd.
 51-C, Beach Street, 10300 Penang, Malaysia.
 Tel: 613612, 611212 Telex MA 41069 BIOLAB Fax 04-612532

Lab. Ref. CS0/1206

August 14 1990

SUSPENDED SOLIDS (MG/L)	AMMONIACAL NITROGEN (MG/L)	TOTAL PHOSPHATE (MG/L)	TOTAL NITROGEN (MG/L)	COLIFORM COUNT (PER 100 ML)	ESCHERICHIA COLI (PER 100 ML)
185	22	3.6	33.8	1.4 X 10 ⁷	1.4 X 10 ⁷
60	17	0.84	17.0	5.4 X 10 ⁶	5.4 X 10 ⁶
190	19.6	2.4	37.9	1.1 X 10 ⁷	1.1 X 10 ⁷
15	13.5	1.6	24.2	2.4 X 10 ⁸	3.3 X 10 ⁶
85	13.5	1.7	24.1	7.9 X 10 ⁶	7.9 X 10 ⁶
15	18.0	1.84	35.8	3.5 X 10 ⁶	2.4 X 10 ⁶
35	9.5	0.74	23.3	3.5 X 10 ⁶	2.4 X 10 ⁶
155	10.0	1.84	19.9	3.5 X 10 ⁷	2.4 X 10 ⁷
85	12.0	0.40	20.5	1.7 X 10 ⁶	1.7 X 10 ⁶
125	12.5	1.66	22.7	5.4 X 10 ⁶	5.4 X 10 ⁶
140	17.5	2.64	31.6	7.0 X 10 ⁶	4.9 X 10 ⁶
15	25.5	0.50	20.5	1.6 X 10 ⁶	1.6 X 10 ⁶
5	28	0.30	50.5	5.4 X 10 ⁵	5.4 X 10 ⁵
5	6.5	0.1	13.9	2.2 X 10 ⁵	1.4 X 10 ⁵



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS
 ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry



BIOCHEM Laboratories Sdn. Bhd.
 51-C, Beach Street, 10300 Penang, Malaysia.
 Tel: 613612, 611212 Telex MA 41069 BIOLAB Fax 04-612532

K/S Elso-Jibon Consultants (M) Sdn. Bhd.
 113-1, Jalan Meja Menunggu
 Kompleks Bandar 5
 Jalan Kelang Lama
 58200 Kuala Lumpur

SAMPLING FOR CONSUMAL PLANT SURVEY (6TH - 7TH AUGUST 1990)

TANK No: 3

TYPE: SEPTIC TANK WITH R/FILTER
 PLANT NAME: JALAN AIR PUTIH

TIME	SAMPLING POINT	pH	DISSOLVED OXYGEN (DO)	TEMPERATURE (°C)	COD (mg/L)	BOD ₅ (mg/L)	SUSPENDED SOLIDS (mg/L)	AMPHIPHILIC NITROGEN (mg/L)	TOTAL PHOSPHATE (mg/L)	TOTAL NITROGEN (mg/L)	COLIFORM COUNT (PER 100 ml)	ESCHERICHIA COLI (PER 100 ml)
8.00 am	INLET	8.3	2.8	26	477	161	290	5.0	10.4	21.8	5.4 X 10 ⁷	3.5 X 10 ⁷
9.00 am	S/T	6.8	1.0	26	1088	452	960	4.5	8.95	17.3	5.4 X 10 ⁷	5.4 X 10 ⁷
8.00 am	R/F	6.1	1.6	26	34.5	8	15	0.45	0.20	2.05	3.5 X 10 ³	3.5 X 10 ³
11.00 am	INLET	7.6	2.8	28	169	116	55	11.8	8.14	25.0	9.2 X 10 ⁷	9.2 X 10 ⁷
2.00 pm	INLET	7.9	2.4	28	192	171	75	29.5	6.54	46.3	9.2 X 10 ⁷	3.5 X 10 ⁷
5.00 pm	INLET	7.5	2.2	27	279	61	105	32.8	7.7	57.9	1.7 X 10 ⁸	4.6 X 10 ⁷
5.00 pm	S/T	6.8	1.2	27	115	83	2195	29.5	15.3	57.8	1.1 X 10 ⁷	1.1 X 10 ⁷
5.00 pm	R/F	5.8	1.6	26	46	12	320	2.8	0.20	33.7	5.6 X 10 ³	3.5 X 10 ³
8.00 pm	INLET	7.9	2.2	28	333	82	75	29.5	5.9	54.3	9.2 X 10 ⁷	9.2 X 10 ⁷
8.00 pm	S/T	6.8	1.4	28	719	337	1330	31.5	10.84	62.8	3.5 X 10 ⁷	1.7 X 10 ⁷
8.00 pm	R/F	6.9	1.4	27	68	22	35	3.0	0.2	25.6	5.4 X 10 ³	2.4 X 10 ³
11.00 pm	INLET	7.5	1.4	28	292	167	100	13.5	6.24	22.3	3.5 X 10 ⁸	1.7 X 10 ⁸
2.00 am	INLET	7.2	1.6	27	38	9	5	10.8	5.1	18.3	1.6 X 10 ⁸	9.2 X 10 ⁷
5.00 am	INLET	7.5	0.6	26	96	22	5	35.0	5.1	62.0	2.4 X 10 ⁸	2.4 X 10 ⁸

S/T = OUTLET OF SEPTIC TANK
 R/F = OUTLET OF RECTANGULAR FILTER



BIOCHEM LABORATORIES SDN. BHD.
Khoo Boo Chai
 KHOO BOO CHAI
 B.Sc. (HONS), M.Sc., AMIC, LRSC
 ANALYTICAL CHEMIST



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS
 ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry



BIOCHEM Laboratories Sdn. Bhd.
 51-C, Beach Street, 10300 Penang, Malaysia.
 Tel: 613612, 611212 Telex MA 41069 BIOLAB Fax 04-612532

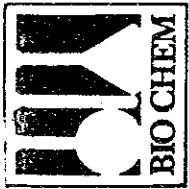
Lab. Ref. C90/1206-1

August 14 1990



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS
 ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry



BIOCHEM Laboratories Sdn. Bhd.
 51-C, Beach Street, 10300 Penang, Malaysia.
 Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612532

an Consultants (M) Sdn. Bhd.
 Kompleks Bandar 5
 Jalan Keleny Lama
 58200 Kuala Lumpur

SAMPLING FOR COMMUNAL PLANT SURVEY (5TH - 7TH AUGUST 1990)

TANK NO: 4

TYPES: ACTIVATED SLUDGE
 PLANT NAME: BATU MAUNG

TIME	SAMPLING POINT	pH	DISSOLVED OXYGEN (DO)	TEMPERATURE (°C)	COD (mg/L)	BOD ₅ (mg/L)
9.00am	INLET	7.5	1.6	28	323	81
9.00am	F/S	7.3	1.4	27	315	108
9.00am	A/T	7.4	3.9	28	199	60
9.00am	F/S	7.3	3	28	223	72
12.00am	INLET	7.2	1.6	28	185	26
12.00am	F/S	7.0	1.8	29	308	130
12.00am	A/T	7.0	1.8	29	208	54
12.00am	F/S	7.1	1.4	29	192	53
3.00pm	INLET	6.9	1.6	29	307	86
3.00pm	F/S	7.1	1.4	29	253	109
3.00pm	A/T	7.4	1.4	30	192	47
3.00pm	F/S	7.2	3.4	30	154	51
6.00pm	INLET	7.0	1.6	29	215	90
6.00pm	F/S	7.0	1.2	28	246	69
6.00pm	A/T	6.5	2.0	30	154	42
6.00pm	F/S	7.1	1.2	29	161	41
9.00pm	INLET	7.0	1.5	28	230	108
9.00pm	F/S	7.0	1.2	28	154	87
9.00pm	A/T	6.9	0.6	30	100	33
9.00pm	F/S	7.2	1.4	29	107	39
12.00pm	INLET	6.9	0.8	28	246	114
12.00pm	F/S	7.0	0.8	28	199	86
12.00pm	A/T	6.5	2.6	29	169	60
12.00pm	F/S	7.0	3.0	28	261	60



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS
 ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS
 Accredited by Malaysian Institute of Chemistry



BIOCHEM Laboratories Sdn. Bhd.
 51-C, Beach Street, 10300 Penang, Malaysia.
 Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612532

Lab. Ref. C90/1206-4

August 14 1990

SUSPENDED SOLIDS (mg/L)	AMMONIACAL NITROGEN (mg/L)	TOTAL PHOSPHATE (mg/L)	TOTAL NITROGEN (mg/L)	COLIFORM COUNT (PER 100 ml)	ESCHERICHIA COLI (PER 200 ml)
95	15	9.4	47.5	5.4 X 10 ⁷	1.7 X 10 ⁷
40	16	8.64	48.4	9.2 X 10 ⁷	5.4 X 10 ⁷
90	15	9.2	45.6	9.2 X 10 ⁶	5.4 X 10 ⁶
38	13.2	9.0	43.6	1.8 X 10 ⁷	1.6 X 10 ⁷
70	15.5	6.2	58.5	8.0 X 10 ⁷	2.6 X 10 ⁷
90	14.0	5.9	55.0	3.8 X 10 ⁸	2.4 X 10 ⁷
48	22.1	9.24	57.5	5.4 X 10 ⁷	1.1 X 10 ⁷
53	25	9.94	61.9	5.4 X 10 ⁷	2.7 X 10 ⁶
30	20.5	4.14	46.3	9.2 X 10 ⁷	5.4 X 10 ⁷
30	25.6	5.9	46.4	9.2 X 10 ⁷	3.9 X 10 ⁷
60	28.0	5.9	45.6	1.3 X 10 ⁷	2.2 X 10 ⁶
10	30	8.82	47.8	2.4 X 10 ⁷	1.3 X 10 ⁷
175	19.5	3.4	41.2	9.2 X 10 ⁷	9.2 X 10 ⁷
129	22	6.0	43.4	2.4 X 10 ⁸	2.4 X 10 ⁸
325	21.5	8.5	40.8	3.8 X 10 ⁷	1.1 X 10 ⁷
396	25.0	9.3	47.8	1.3 X 10 ⁷	1.3 X 10 ⁷
20	19.0	2.54	42.8	3.8 X 10 ⁷	2.4 X 10 ⁷
30	23.5	3.44	45.7	1.6 X 10 ⁸	1.6 X 10 ⁸
80	20.5	7.9	42.9	1.8 X 10 ⁷	1.6 X 10 ⁷
123	25.0	8.2	49.8	9.2 X 10 ⁶	9.2 X 10 ⁶
175	41.0	4.84	65.2	3.5 X 10 ⁷	4.9 X 10 ⁶
205	31.5	4.40	55.6	5.4 X 10 ⁷	5.4 X 10 ⁷
140	26.5	7.04	54.8	1.6 X 10 ⁷	1.6 X 10 ⁷
110	25.5	7.24	52.3	1.6 X 10 ⁷	9.2 X 10 ⁵

/2



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS
 ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS
 Accredited by Malaysian Institute of Chemistry



BIOCHEM Laboratories Sdn. Bhd.
 51-C, Beach Street, 10300 Penang, Malaysia.
 Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612532



BIOCHEM Laboratories Sdn. Bhd.
 51-C, Beach Street, 10300 Penang, Malaysia.
 Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612532

cont'd/2

TIME	SAMPLING POINT	PH	DISSOLVED OXYGEN (DO)	TEMPERATURE (°C)	CO ₂ (mg/L)	BOD ₅ (mg/L)
3.00 am	INLET	6.5	0.3	28	123	89
3.00 am	P/S	6.6	0.6	28	192	88
3.00 am	A/T	6.6	4.8	28	127	58
3.00 am	F/S	6.9	3.8	28	131	53
6.00 am	INLET	7.1	0.1	29	192	100
6.00 am	P/S	6.9	0.1	29	234	84
6.00 am	A/T	7.0	4.4	28	146	56
6.00 am	F/S	7.1	4.4	28	177	52

P/S - OUTLET OF PRIMARY SEDIMENTATION TANK
 A/T - OUTLET OF AERATION TANK
 F/S - OUTLET OF FINAL SEDIMENTATION TANK



BIOCHEM LABORATORIES SDN. BHD.

Choo Boon Chan
 PUTHOO BOO CITAI
 M.Sc. (HONS), M.Sc. AMIC, LRSC
 ANALYTICAL CHEMIST

SUSPENDED SOLIDS (mg/L)	AMMONICAL NITROGEN (mg/L)	TOTAL PHOSPHATE (mg/L)	TOTAL NITROGEN (mg/L)	COLIFORM COUNT (PER 100 ml)	ESCHERICHIA COLI (PER 100 ml)
60	28.0	3.9	57.4	2.4 X 10 ⁸	1.6 X 10 ⁸
70	25.5	4.04	55.3	2.4 X 10 ⁹	1.6 X 10 ⁹
75	23.5	7.54	52.2	5.4 X 10 ⁸	3.5 X 10 ⁸
110	23.5	7.54	49.9	2.4 X 10 ⁷	3.6 X 10 ⁷
5	30	3.5	35.1	2.4 X 10 ⁸	4.3 X 10 ⁷
5	28.0	6.8	51.5	9.2 X 10 ⁷	7.9 X 10 ⁶
60	26.5	8.76	49.5	2.2 X 10 ⁷	4.9 X 10 ⁶
93	33	4.84	56.8	2.4 X 10 ⁷	1.7 X 10 ⁶



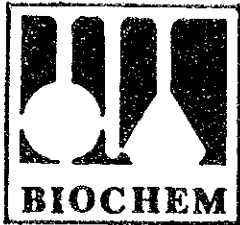
AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS
 ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS
 ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry



BIOCHEM Laboratories Sdn. Bhd.

51-C, Beach Street, 10300 Penang, Malaysia.

Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612532

M/S Kiso Jiban Consultants (M) Sdn Bhd
115-1, Jalan Mega Mandung
Kompleks Bandar 5
Jalan Kelang Lama
58200 Kuala Lumpur

Lab. Ref. C90/1206-3

August 14, 1990

SAMPLING FOR COMMUNAL PLANT SURVEY AUGUST 6 - 7, 1990

TANK NO. 1

TYPE : ACTIVATED SLUDGE

PLANT NAME : HALAMAN ZOO 2

<u>TIME</u>	<u>SAMPLING POINT</u>	<u>MLSS</u>
10.00 a.m.	A/T	12.4 mg/l

TANK NO. 4

TYPE : ACTIVATED SLUDGE

PLANT NAME : BATU MAUNG

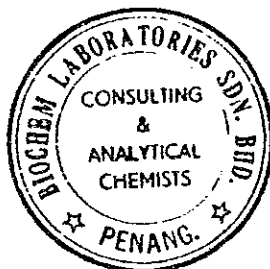
<u>TIME</u>	<u>SAMPLING POINT</u>	<u>MLSS</u>
12.00 noon	A/T	412 mg/l

BIOCHEM LABORATORIES SDN. BHD.

Khooboochai

KHOO BOO CHAI

B. Sc. (HONS.), M.Sc., AMIC, LRSC
(ANALYTICAL CHEMIST).



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS

ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry



BIOCHEM Laboratories Sdn. Bhd.
51-C, Beach Street, 10300 Penang, Malaysia.
Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612532

M/S Kiso-Jiban Consultants (M) Sdn. Bhd.
115-1, Jalan Mega Mendung
Kompleks Bandar 5
Jalan Kelang Lama
58200 Kuala Lumpur

SAMPLING FOR COMMUNAL PLANT SURVEY (22ND - 23RD AUGUST 1990)

TANK NO: 1
TYPE: ACTIVATED SLUDGE
PLANT NAME: HALAMAN 200 2

(PHYSICAL EXAMINATION)

TIME	SAMPLING POINT	COLOUR	APPEARANCE	SMELL	pH	DO	TEMP (°C)	COD (mg/L)	BOD (mg/L)
7.00 am	INLET	LIGHT BROWN	CLOUDY	SWELL	6.8	3.8	27	299	130
"	P/S	DARK BROWN	CLOUDY	SWELL	7.5	3.8	27	488	204
"	A/T	DARK BROWN	CLOUDY	SWELL	6.4	0.8	27	488	133
"	F/S	LIGHT BROWN	CLOUDY	SWELL	6.5	1.0	28	314	97
10.00 am	INLET	BROWN	CLOUDY	SLIGHT SWELL	6.7	4.3	28	409	119
"	P/S	LIGHT BROWN	CLOUDY	SLIGHT SWELL	6.9	3.7	29	330	87
"	A/T	DARK BROWN	TURBID	BAD SWELL	6.2	0.6	28	126	110
"	F/S	LIGHT BROWN	CLOUDY	SWELL	6.5	0.7	28	63	58
1.00 pm (1300)	INLET	LIGHT BROWN	CLOUDY	SWELL	6.5	0.6	28	275	77
"	P/S	LIGHT BROWN	CLOUDY	SWELL	6.5	3.0	30	440	175
"	A/T	DARK BROWN	CLOUDY	SWELL	6.9	3.7	28	157	59
"	F/S	LIGHT YELLOW	TURBID	SLIGHT SWELL	6.9	0.6	28	118	46
4.00 pm (1600)	INLET	LIGHT BROWN	TURBID	SWELL	6.9	4.1	30	157	104
"	P/S	LIGHT BROWN	TURBID	SWELL	6.6	4.0	28	165	94
"	A/T	DARK BROWN	TURBID	SWELL	6.2	0.4	27	181	92
"	F/S	LIGHT BROWN	TURBID	SWELL	6.4	0.7	28	141	62
7.00 pm (1900)	INLET	LIGHT BROWN	TURBID	SLIGHT SWELL	6.2	4.2	28	118	104
"	P/S	LIGHT BROWN	TURBID	SLIGHT SWELL	6.2	2.6	28	133	107
"	A/T	LIGHT BROWN	TURBID	SLIGHT SWELL	6.2	1.0	28	94	67
"	F/S	LIGHT BROWN	TURBID	SLIGHT SWELL	6.2	0.8	28	86	70

BIOCHEM LABORATOIRES
AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS
ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS
Accredited by Malaysian Institute of Chemistry



BIOCHEM Laboratories Sdn. Bhd.
51-C, Beach Street, 10300 Penang, Malaysia.
Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612532

Lab. Ref. C90/1268

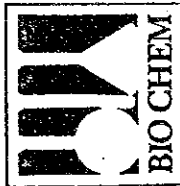
August 30 1990

SUSPENDED SOLIDS (mg/L)	AMMONICAL NITROGEN (mg/L)	TOTAL PHOSPHATE (mg/L)	TOTAL NITROGEN (mg/L)	COLIFORM COUNT (PER 100 ML)	ESCHERICHIA COLI (PER 100 ML)
115	32	7.8	57	5.4 X 10 ⁷	4.9 X 10 ⁶
219	42	8.65	84	1.3 X 10 ⁷	1.3 X 10 ⁷
156	19	4.2	37.2	7.0 X 10 ⁶	7.0 X 10 ⁶
112	18	5.14	36.5	3.5 X 10 ⁶	3.5 X 10 ⁶
227	21	5.95	40	2.6 X 10 ⁷	1.7 X 10 ⁷
303	32	7.50	64.6	2.2 X 10 ⁷	1.1 X 10 ⁷
2076	21.2	8.65	43.0	2.8 X 10 ⁸	2.1 X 10 ⁸
49	20	5.15	42.7	3.5 X 10 ⁶	1.3 X 10 ⁶
84	18	4.05	34.2	2.2 X 10 ⁷	1.4 X 10 ⁷
143	20.5	3.65	37.8	3.5 X 10 ⁷	3.5 X 10 ⁷
455	25	5.20	46.9	2.4 X 10 ⁷	1.3 X 10 ⁷
22	23.0	5.15	42.7	4.0 X 10 ⁷	7.0 X 10 ⁶
106	21.2	8.20	39.8	3.5 X 10 ⁷	4.6 X 10 ⁶
65	19.5	7.80	36.5	3.5 X 10 ⁷	1.7 X 10 ⁷
276	18	6.40	35.1	1.6 X 10 ⁸	7.9 X 10 ⁶
23	18.5	5.20	34.6	1.1 X 10 ⁷	2.1 X 10 ⁶
144	30.0	5.20	53.7	3.5 X 10 ⁶	3.5 X 10 ⁶
208	20.0	3.25	36.6	7.0 X 10 ⁷	4.6 X 10 ⁷
204	21.0	5.50	39.5	5.4 X 10 ⁷	5.4 X 10 ⁷
44	4.85	4.55	31.6	9.2 X 10 ⁶	2.2 X 10 ⁶

BIOCHEM LABORATOIRES
AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS
ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS
Accredited by Malaysian Institute of Chemistry



BIOCHEM Laboratories Sdn. Bhd.
51-C, Beach Street, 10300 Penang, Malaysia.
Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612332



BIOCHEM Laboratories Sdn. Bhd.
51-C, Beach Street, 10300 Penang, Malaysia.
Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612332

/2

TIME	SAMPLING POINT	COLOUR	APPEARANCE	SMELL	pH	DO	TEMP (°C)	COD (mg/L)	BOD (mg/L)
10.00pm	INLET	LIGHT BROWN	TURBID	SMELL	7.4	3.0	28	196	84
"	F/S	LIGHT BROWN	TURBID	SLIGHT SMELL	6.4	0.6	28	322	141
"	A/T	LIGHT BROWN	TURBID	SLIGHT SMELL	6.4	0.6	28	102	47
"	F/S	LIGHT BROWN	TURBID	SLIGHT SMELL	6.5	0.6	28	173	34
1.00am	INLET	LIGHT BROWN	TURBID	SMELL	7.8	2.0	27	236	95
"	F/S	LIGHT BROWN	TURBID	SMELL	6.8	0.6	27	377	65
"	A/T	LIGHT BROWN	TURBID	SMELL	6.4	0.4	28	102	42
"	F/S	LIGHT BROWN	TURBID	SMELL	6.7	0.4	28	118	60
4.00am	INLET	DARK BROWN	TURBID	BAD SMELL	7.7	1.0	27	566	170
"	F/S	LIGHT BROWN	TURBID	BAD SMELL	6.5	0.4	27	417	129
"	A/T	BLACK	TURBID	BAD SMELL	6.2	0.6	28	78	25
"	F/S	LIGHT BROWN	TURBID	BAD SMELL	6.9	0.5	28	70	23

DO = DISSOLVED OXYGEN

TEMP = TEMPERATURE

P/S = OUTLET OF PRIMARY SEDIMENTATION TANK

A/T = OUTLET OF AERATION TANK

F/S = OUTLET OF FINAL SEDIMENTATION TANK



BIOCHEM LABORATORIES SDN. BHD.

Choo Boon Chai

KHOO BOO CHAI
B. Sc (HONS), M.Sc. AMIC, LRSC
(ANALYTICAL CHEMIST)

SUSPENDED SOLIDS (mg/L)	AMMONICAL NITROGEN (mg/L)	TOTAL PHOSPHATE (mg/L)	TOTAL NITROGEN (mg/L)	COLIFORM COUNT (PER 100 ml)	ESCHERICHIA COLI (PER 100 ml)
41	35.0	5.00	63.0	1.1 X 10 ⁸	7.0 X 10 ⁷
162	34.0	6.4	60.6	7.0 X 10 ⁸	4.9 X 10 ⁸
482	21.5	5.60	40.4	1.7 X 10 ⁷	7.9 X 10 ⁶
55	21.0	5.20	40.9	2.4 X 10 ⁶	4.9 X 10 ⁵
34	57.0	7.30	101.2	9.2 X 10 ⁸	5.4 X 10 ⁸
113	34.0	5.60	61.4	1.7 X 10 ⁷	1.7 X 10 ⁷
370	22.5	5.40	42.9	9.2 X 10 ⁶	9.2 X 10 ⁶
51	21.0	5.15	41.5	1.3 X 10 ⁶	1.3 X 10 ⁶
470	86	9.45	141.0	2.4 X 10 ⁷	2.4 X 10 ⁷
191	57	9.05	102.0	1.4 X 10 ⁸	6.4 X 10 ⁷
375	21	5.2	40.1	1.3 X 10 ⁷	1.3 X 10 ⁷
85	22	4.95	40.4	1.3 X 10 ⁶	1.3 X 10 ⁶



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS
ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS
ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry



BIOCHEM Laboratories Sdn. Bhd.
 31-C, Beach Street, 10300 Penang, Malaysia.
 Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612332

M/S Kiso-Jiban Consultants (M) Sdn. Bhd.
 115-1, Jalan Mega Mendung
 Kompleks Bandar 5
 Jalan Kelang Lama,
 58200 Kuala Lumpur

SAMPLING FOR COMMUNAL PLANT SURVEY (22ND - 23RD AUGUST 1990)

TANK NO: 4
 TYPE: ACTIVATED SLUDGE
 PLANT NAME: BATU MAUNG

(PHYSICAL EXAMINATION)

TIME	SAMPLING POINT	COLOUR	APPEARANCE	SMELL	pH	DO	TEMP (°C)	COD (mg/L)	BOD (mg/L)
9.00am	INLET	BLACK	CLOUDY	SWEET	7.2	1.2	28	425	140
"	P/S	BLACK	CLOUDY	SWEET	7.2	0.2	29	488	144
"	A/T	BLACK	CLOUDY	SWEET	6.6	0.5	29	299	134
12.00pm	INLET	GREY BLACK	CLOUDY	BAD	6.4	0.4	31	409	178
"	P/S	BLACK	CLOUDY	BAD	6.4	0.7	30	377	185
"	A/T	GREY BLACK	CLOUDY	BAD	6.5	0.6	29	346	139
3.00pm	INLET (1500)	LIGHT BROWN	TURBID	BAD	6.5	1.8	33	259	153
"	P/S	LIGHT BROWN	TURBID	BAD	6.5	0.3	30	314	120
"	A/T	LIGHT BROWN	TURBID	BAD	6.5	0.6	29	488	123
"	F/S	LIGHT BROWN	TURBID	BAD	6.5	0.6	30	346	81
6.00pm	INLET (1800)	GREY BLACK	TURBID	BAD	6.3	1.4	31	212	112
"	P/S	LIGHT GREEN	TURBID	BAD	6.2	1.4	29	251	120
"	A/T	GREY BLACK	TURBID	BAD	6.4	1.0	29	472	99
"	F/S	LIGHT BROWN	TURBID	SWEET	6.4	0.7	28	283	97
9.00pm	INLET (2100)	LIGHT BROWN	TURBID	SWEET	6.5	1.4	28	196	129
"	P/S	LIGHT BROWN	TURBID	SWEET	6.3	1.0	28	220	114
"	A/T	BLACK	TURBID	SWEET	6.5	0.2	29	307	100
"	F/S	LIGHT BROWN	TURBID	SWEET	6.6	0.4	28	220	100



BIOCHEM Laboratories Sdn. Bhd.
 31-C, Beach Street, 10300 Penang, Malaysia.
 Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612332

Lab. Ref. C90/1268-1

August 30 1990

SUSPENDED SOLIDS (mg/L)	AMMONICAL NITROGEN (mg/L)	TOTAL PHOSPHATE (mg/L)	TOTAL NITROGEN (mg/L)	COLIFORM COUNT (PER 100 ml)	ESCHERICHIA COLI (PER 100 ml)
203	32	5.35	69.7	5.4 X 10 ⁷	4.8 X 10 ⁶
290	38	5.0	82.9	1.7 X 10 ⁸	7.9 X 10 ⁷
617	26.5	4.65	57.7	1.4 X 10 ⁸	9.5 X 10 ⁷
1198	18	5.55	41.0	1.6 X 10 ⁸	1.6 X 10 ⁸
387	22	6.10	89.7	9.2 X 10 ⁷	3.5 X 10 ⁷
318	26.5	5.60	57.8	3.5 X 10 ⁸	1.3 X 10 ⁸
133	22.0	3.65	48.0	1.1 X 10 ⁸	1.1 X 10 ⁸
155	21.0	4.20	46.2	9.2 X 10 ⁷	7.9 X 10 ⁷
155	28.5	5.90	62.1	9.2 X 10 ⁷	3.5 X 10 ⁷
106	28.0	5.45	61.0	1.7 X 10 ⁸	7.9 X 10 ⁷
353	26.0	5.70	57.8	9.2 X 10 ⁸	1.7 X 10 ⁷
297	22.5	2.45	49.5	4.8 X 10 ⁷	1.7 X 10 ⁷
387	26.0	6.60	56.9	1.6 X 10 ⁸	9.2 X 10 ⁷
150	29.5	6.00	64.0	3.5 X 10 ⁷	1.7 X 10 ⁷
141	19.0	3.45	42.1	2.4 X 10 ⁷	2.4 X 10 ⁷
193	19.5	3.45	43.1	5.4 X 10 ⁷	3.5 X 10 ⁷
706	27.0	4.05	59.0	1.1 X 10 ⁸	1.1 X 10 ⁸
176	26.0	5.70	56.8	7.9 X 10 ⁷	4.9 X 10 ⁷

/2



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS
 ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS
 ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry



BIOCHEM Laboratories Sdn. Bhd.
51-C, Beach Street, 10300 Penang, Malaysia.
Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612532



BIOCHEM Laboratories Sdn. Bhd.
51-C, Beach Street, 10300 Penang, Malaysia.
Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612532

/2

TIME	SAMPLING POINT	COLOUR	APPEARANCE	SMELL	pH	DO	TEMP (°C)	COD (mg/L)	BOD5 (mg/L)	SUSPENDED SOLIDS (mg/L)	AMMONIACAL NITROGEN (mg/L)	TOTAL PHOSPHATE (mg/L)	TOTAL NITROGEN (mg/L)	COLIFORM COUNT (PER 100 ml)	ESCHERICHIA COLI (PER 100 ml)
12.00pm	INLET	LIGHT BROWN	TURBID	BAD SMELL	6.6	1.0	29	259	107	40	35.0	5.45	74.5	9.2 X 10 ⁷	5.4 X 10 ⁷
"	P/S	LIGHT BROWN	TURBID	SMELL	6.5	0.9	28	409	100	470	31.0	6.60	67.5	1.6 X 10 ⁸	5.4 X 10 ⁷
"	A/T	GREY BLACK	TURBID	BAD SMELL	6.8	0.6	29	299	87	1028	31.0	5.15	67.4	2.8 X 10 ⁸	1.8 X 10 ⁸
"	P/S	LIGHT BROWN	TURBID	SMELL	6.8	0.6	27	307	74	165	26.0	4.80	56.8	1.4 X 10 ⁸	9.5 X 10 ⁷
3.00pm	INLET	LIGHT BROWN	TURBID	SMELL	7.7	1.0	27	259	111	83	40.0	4.50	85.5	2.2 X 10 ⁸	1.7 X 10 ⁸
"	P/S	LIGHT BROWN	TURBID	SMELL	6.2	0.6	28	307	95	58	38.0	5.15	81.5	1.4 X 10 ⁷	1.4 X 10 ⁷
"	A/T	LIGHT BROWN	CLEAR	SMELL	6.9	0.5	28	259	85	599	28.0	4.80	60.7	1.7 X 10 ⁸	1.1 X 10 ⁸
"	P/S	LIGHT BROWN	CLEAR	SMELL	6.9	0.5	28	291	92	183	27.5	4.80	59.6	9.2 X 10 ⁷	5.4 X 10 ⁷
6.00pm	INLET	BLACK	TURBID	BAD SMELL	6.8	0.6	28	181	54	67	41.0	3.25	87.8	1.3 X 10 ⁷	1.3 X 10 ⁷
"	P/S	BLACK	TURBID	BAD SMELL	6.5	0.6	28	181	64	38	42.0	4.4	89.0	1.3 X 10 ⁷	1.3 X 10 ⁷
"	A/T	GREY BLACK	TURBID	BAD SMELL	6.7	1.0	29	267	64	959	26.0	4.70	56.7	7.9 X 10 ⁷	3.3 X 10 ⁷
"	P/S	DARK GREY	TURBID	BAD SMELL	6.6	0.8	28	251	52	339	28.0	4.40	60.6	1.7 X 10 ⁸	1.7 X 10 ⁸

DO = DISSOLVED OXYGEN

TEMP = TEMPERATURE

P/S = OUTLET OF PRIMARY SEDIMENTATION TANK

A/T = OUTLET OF AERATION TANK

F/S = OUTLET OF FINAL SEDIMENTATION TANK



BIOCHEM LABORATORIES SDN. BHD.

Shoo Bee Chai
KITOO BOO CHAI
B.Sc (HONS), M.Sc. ANLIC, LRSC
(ANALYTICAL CHEMIST)



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS
ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry



AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS
ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry



BIOCHEM Laboratories Sdn. Bhd.

51-C, Beach Street, 10300 Penang, Malaysia.

Tel: 613612, 611212 Telex: MA 41069 BIOLAB Fax 04-612532

M/S Kiso Jiban Consultants (M) Sdn Bhd
115-1, Jalan Mega Mendung
Kompleks Bandar 5
Jalan Kelang Lama
58200 Kuala Lumpur

Lab. Ref. C90/1269

August 30 1990

SAMPLING FOR COMMUNAL PLANT SURVEY AUGUST 22 - 23 1990

TANK NO: 1
TYPE : ACTIVATED SLUDGE
PLANT NAME : HALAMAN ZOO 2

<u>TIME</u>	<u>SAMPLING POINT</u>	<u>MLSS</u>
7.00 p.m.	INLET	3416 mg/L

TANK NO: 4
TYPE: ACTIVATED SLUDGE
PLANT NAME: BATU MAUNG

<u>TIME</u>	<u>SAMPLING POINT</u>	<u>MLSS</u>
3.00 a.m.	F/S	486 mg/L

F/S = OUTLET OF FINAL SEDIMENTATION TANK

BIOCHEM LABORATORIES SDN. BHD:

Khooboochai

KHOO BOO CHAI
B. Sc (HONS), M.Sc. AMIC, LRSC
ANALYTICAL CHEMIST

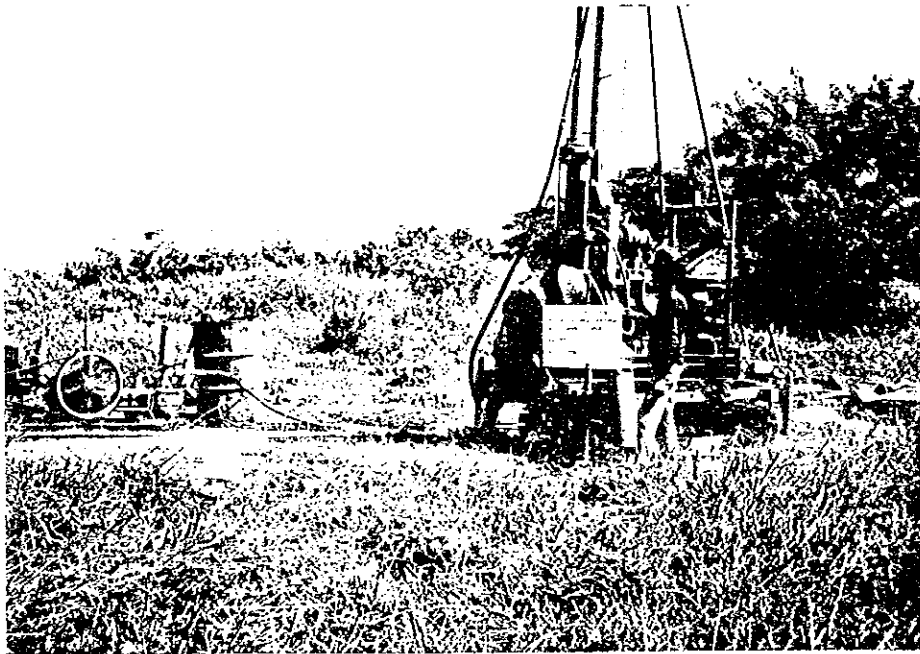
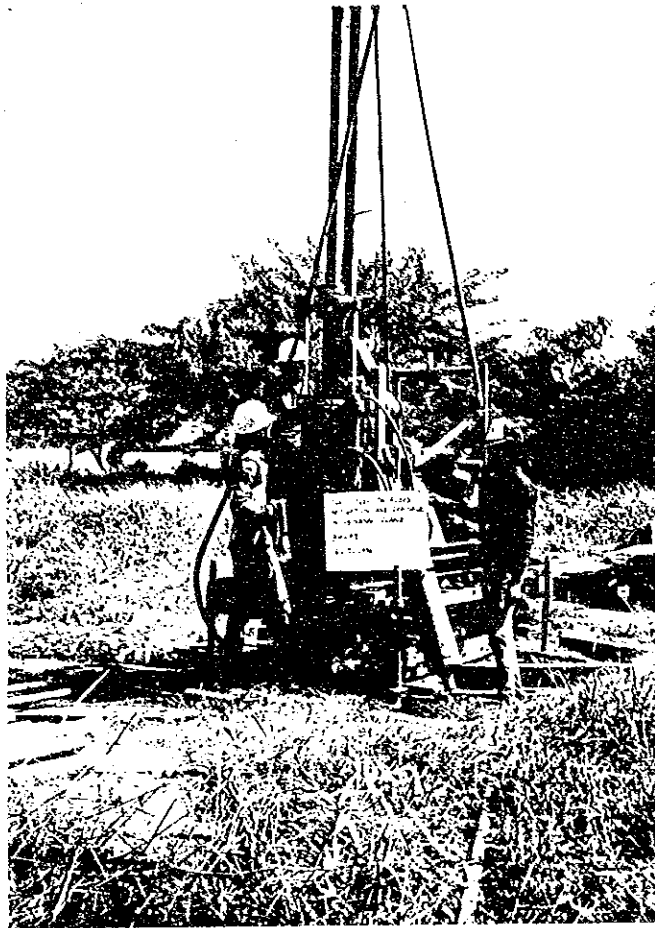


AFFILIATE MEMBER, UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS

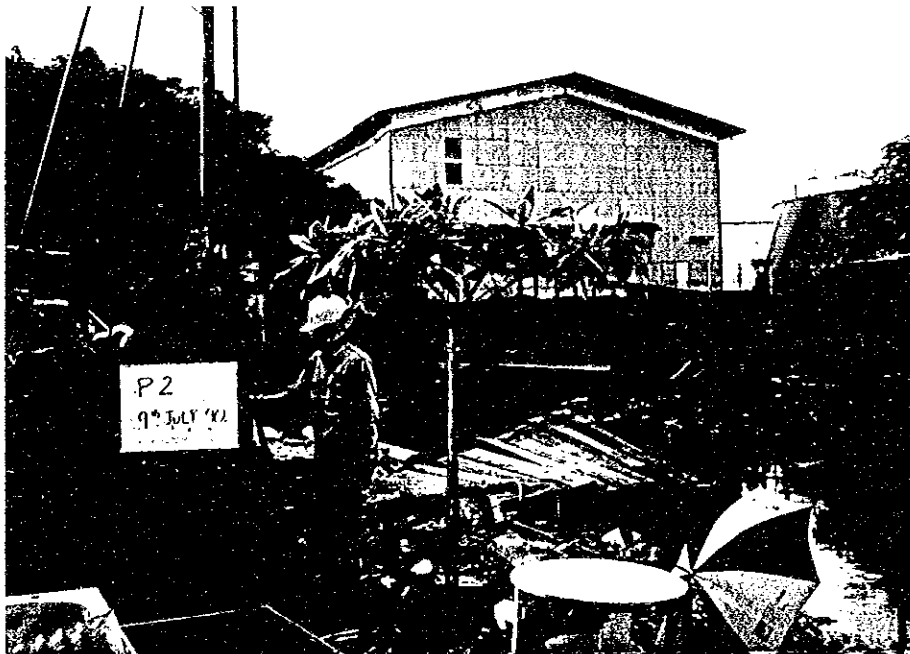
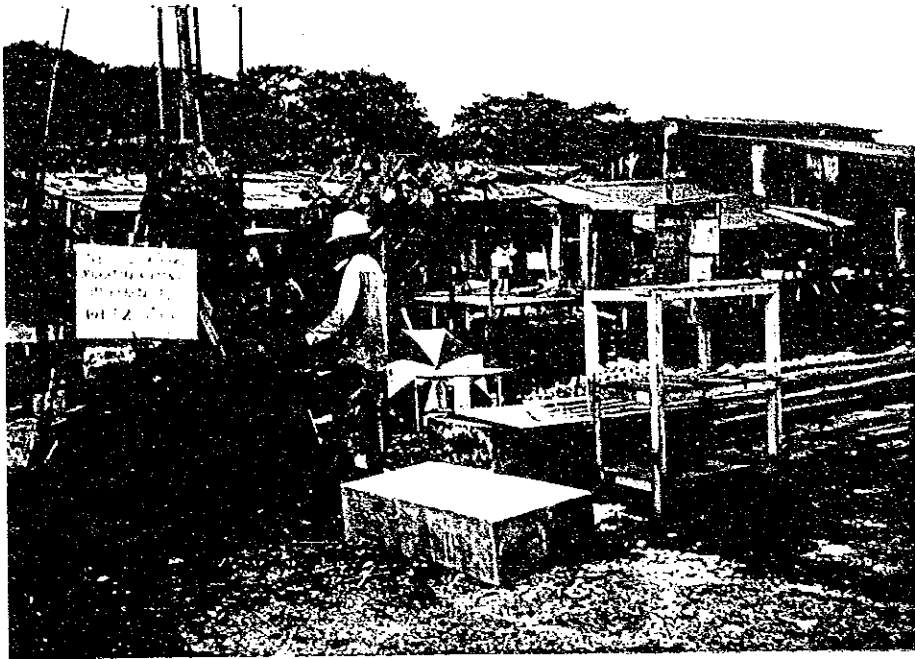
ANALYTICAL CHEMISTS - MICROBIOLOGICAL TESTINGS - INDUSTRIAL CONSULTANTS

Accredited by Malaysian Institute of Chemistry

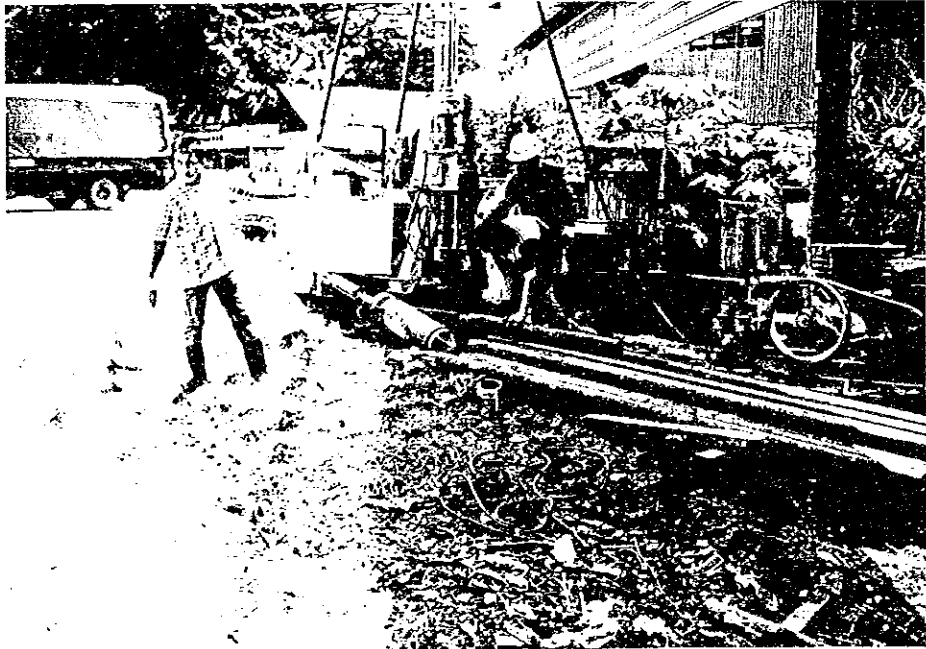
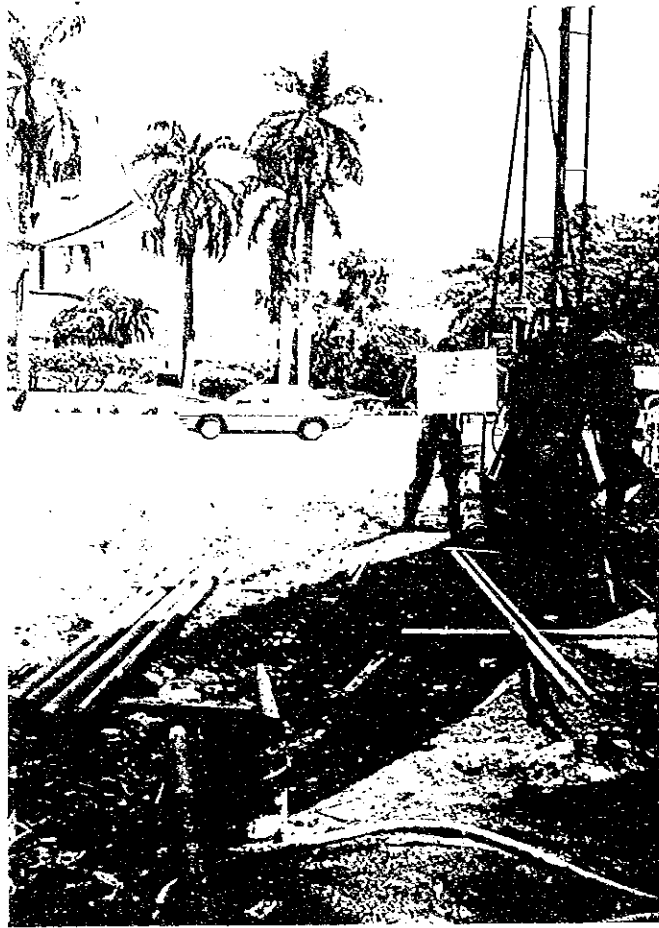
APPENDIX D
PHOTOGRAPHIC RECORDS OF
SOIL INVESTIGATION WORKS



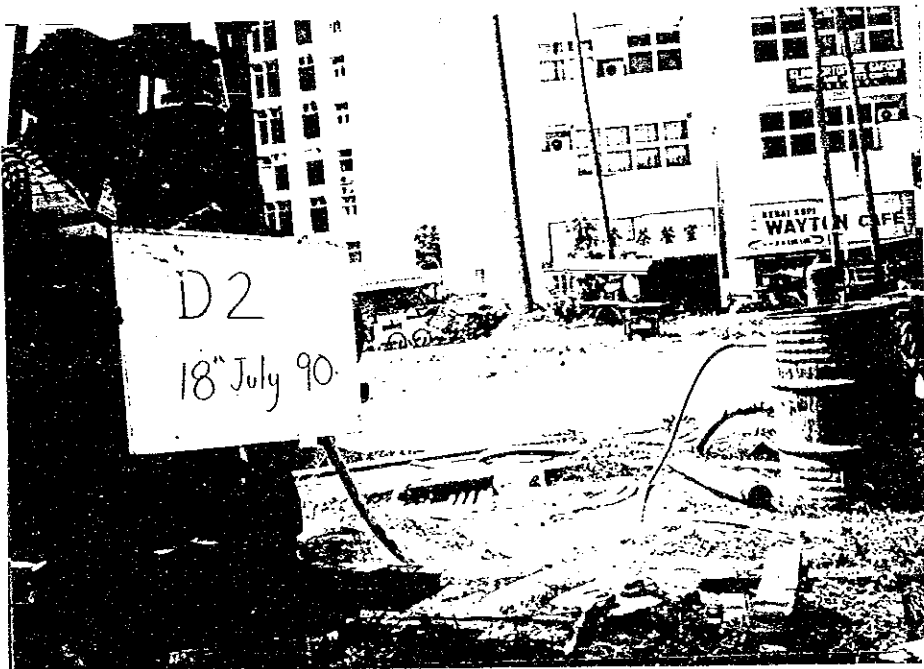
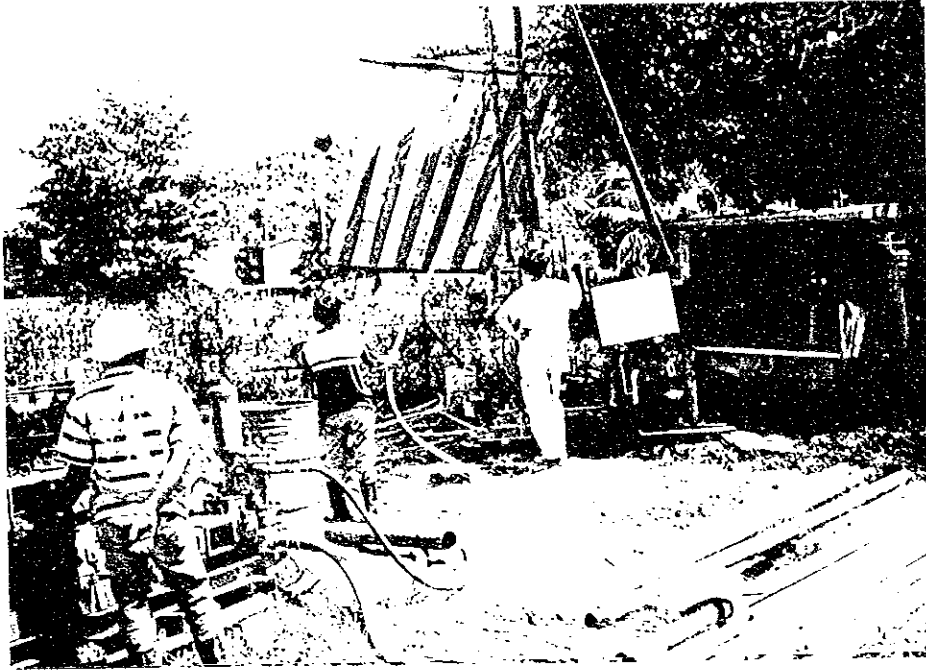
BOREHOLE BH-P 1



BOREHOLE BH-P '2



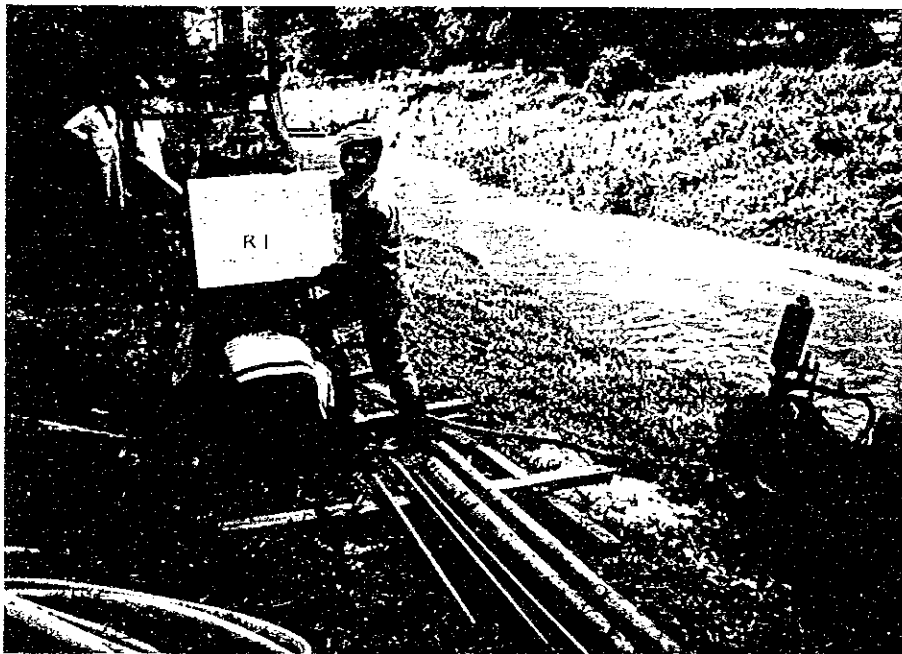
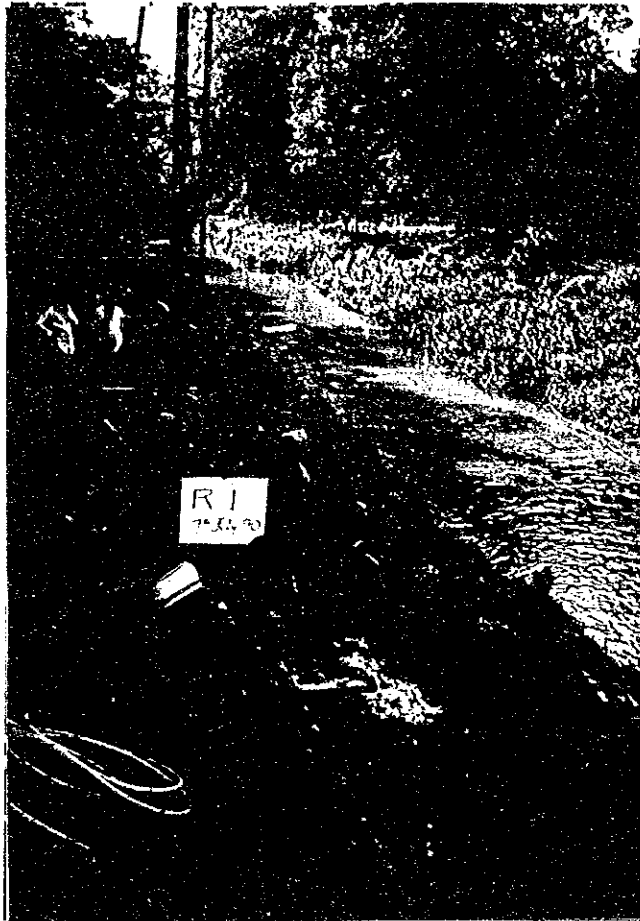
BOREHOLE BH-D1



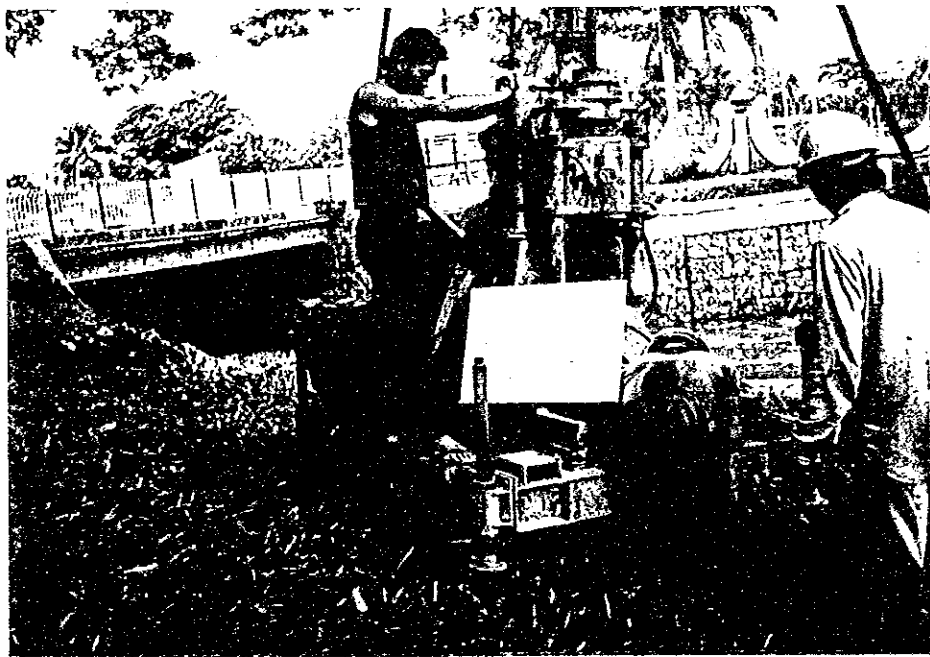
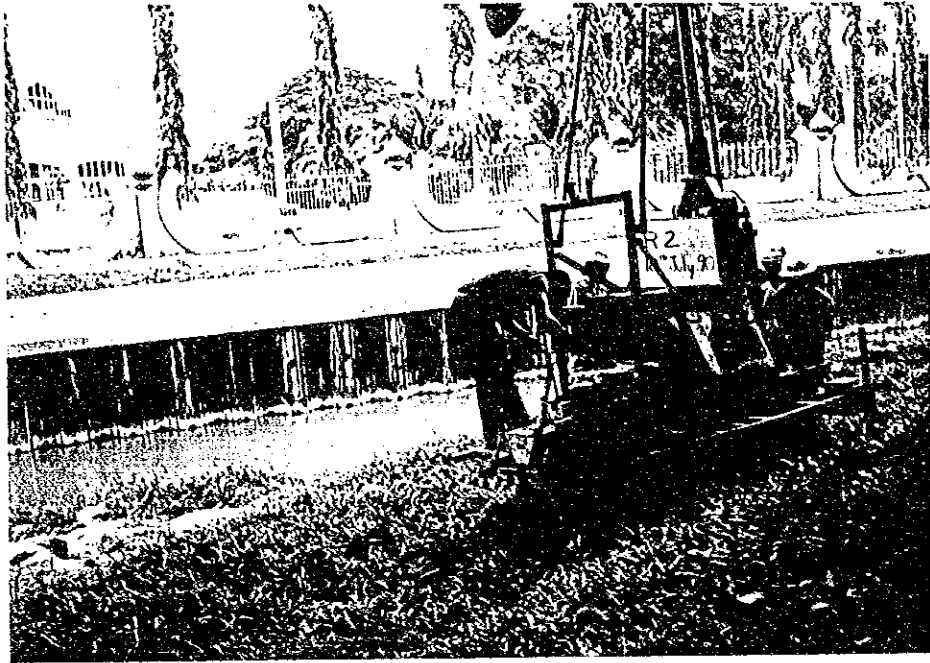
BOREHOLE BH-D2



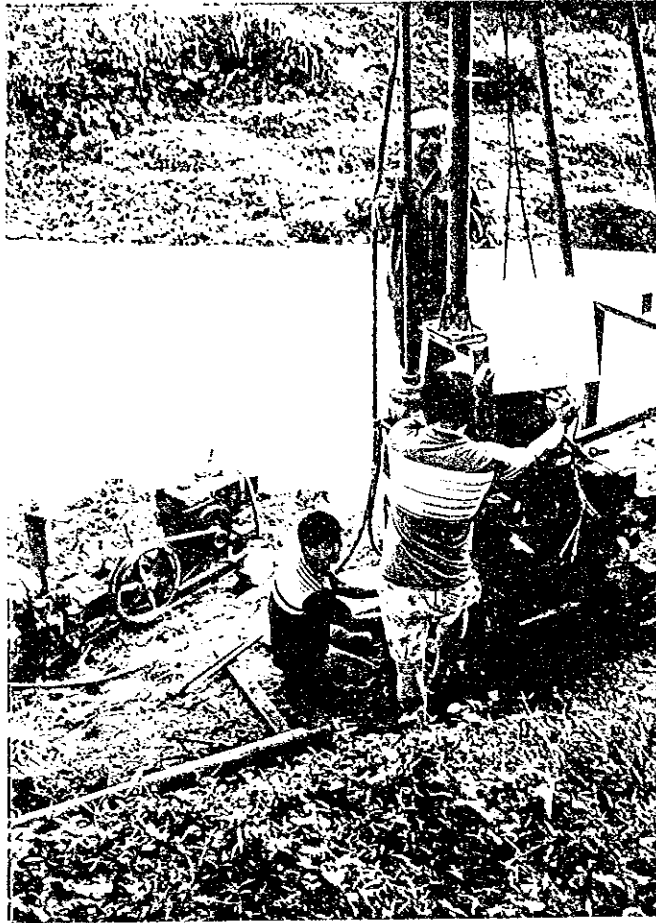
BOREHOLE BH-D3



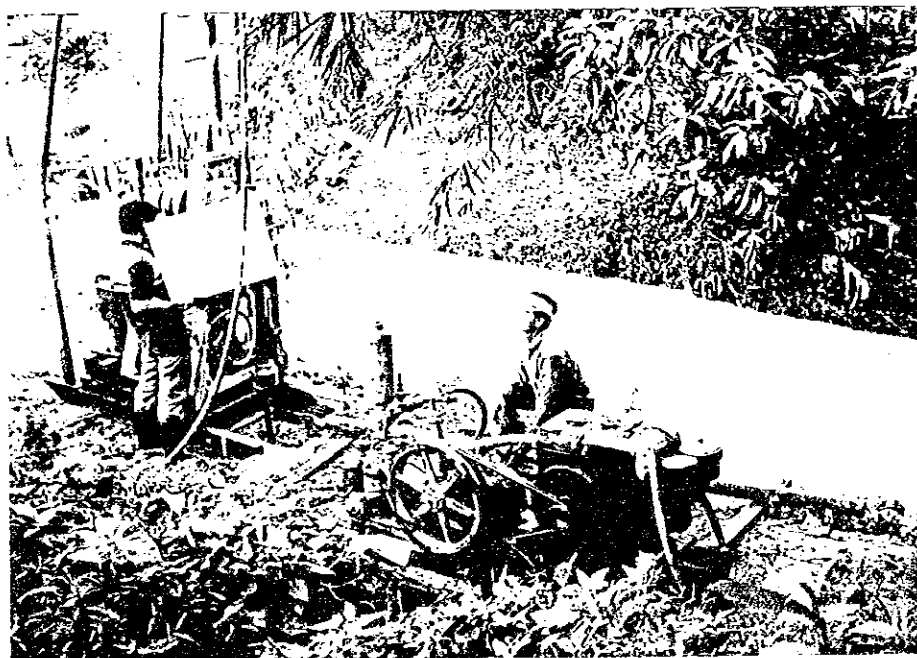
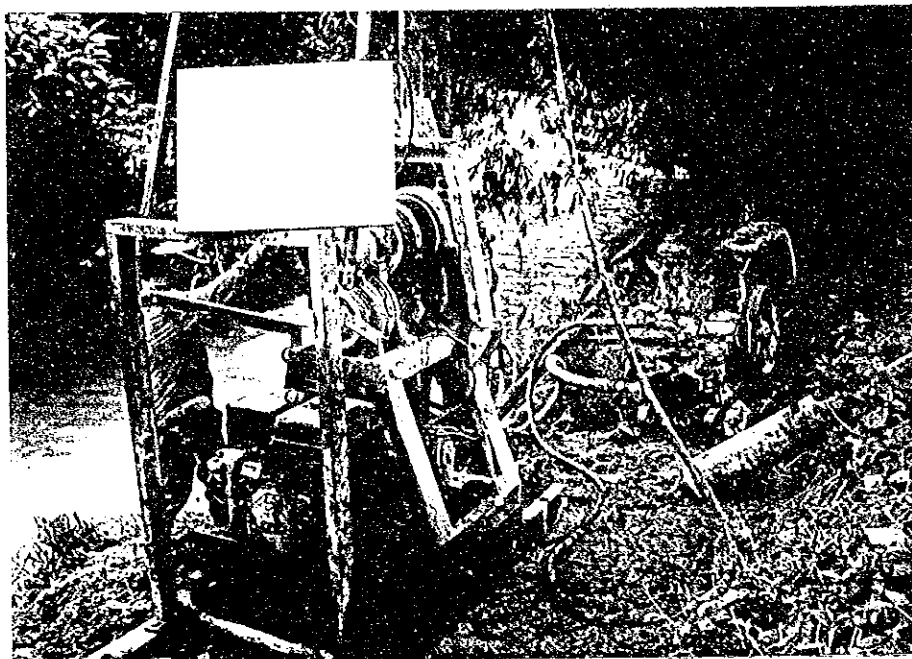
BOREHOLE BH-R1



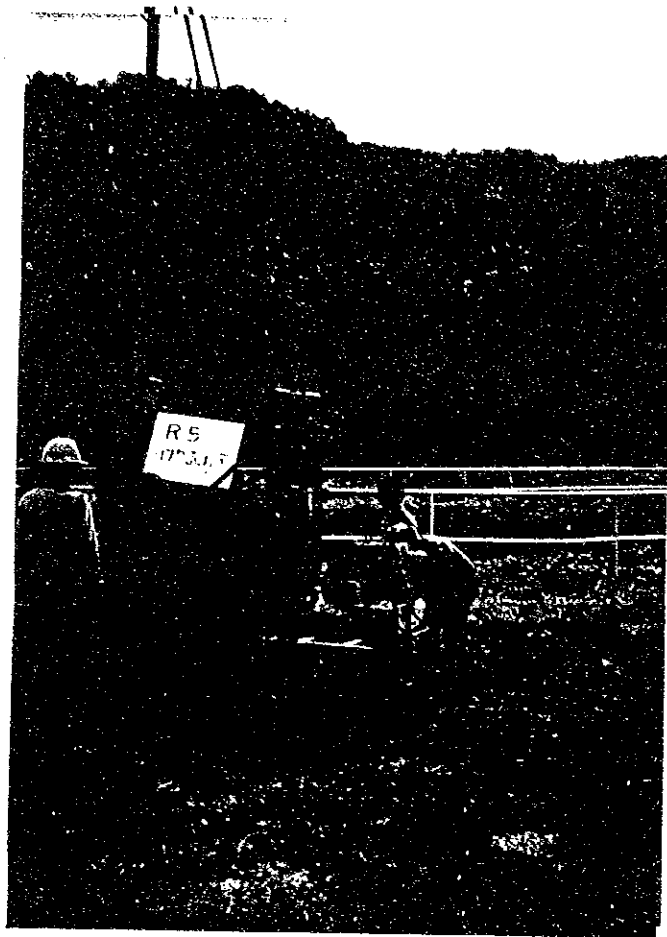
BOREHOLE BH-R2



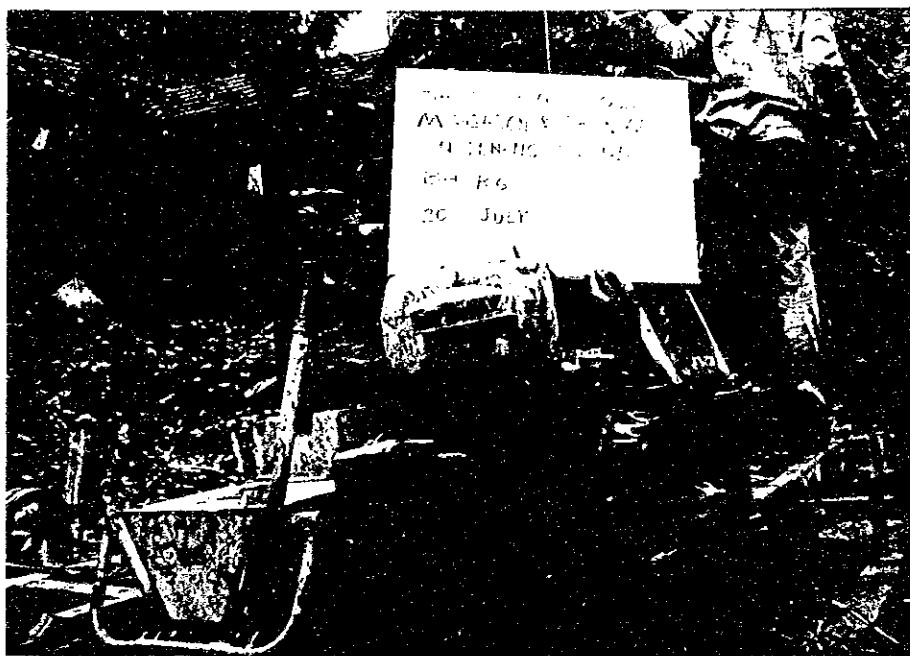
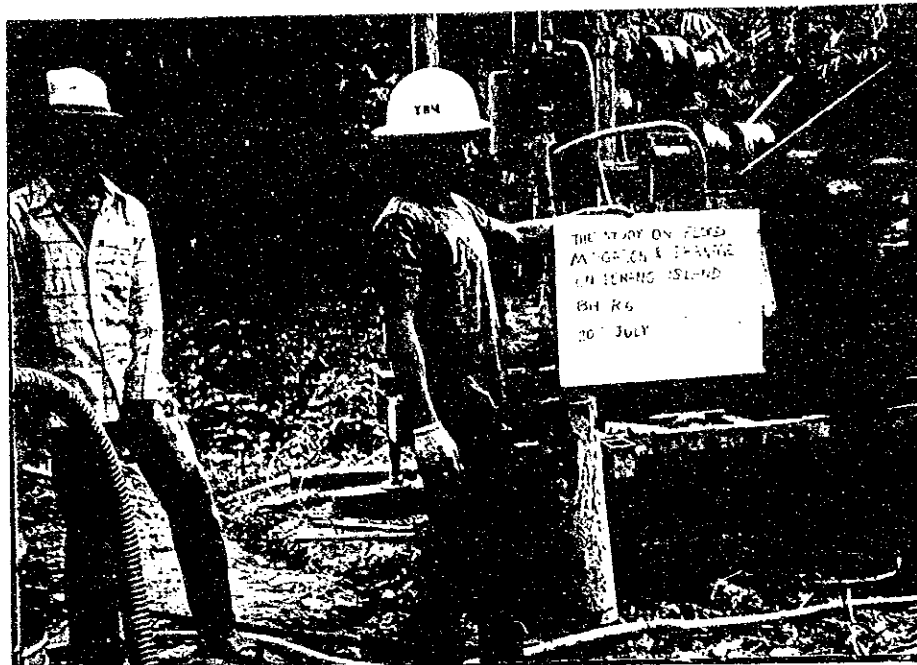
BOREHOLE BH-R3



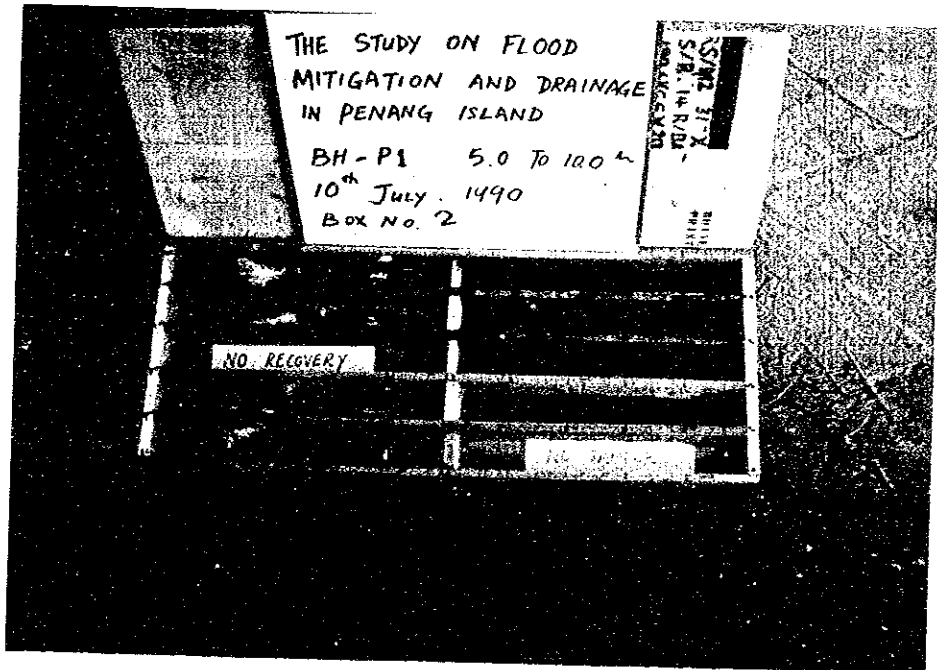
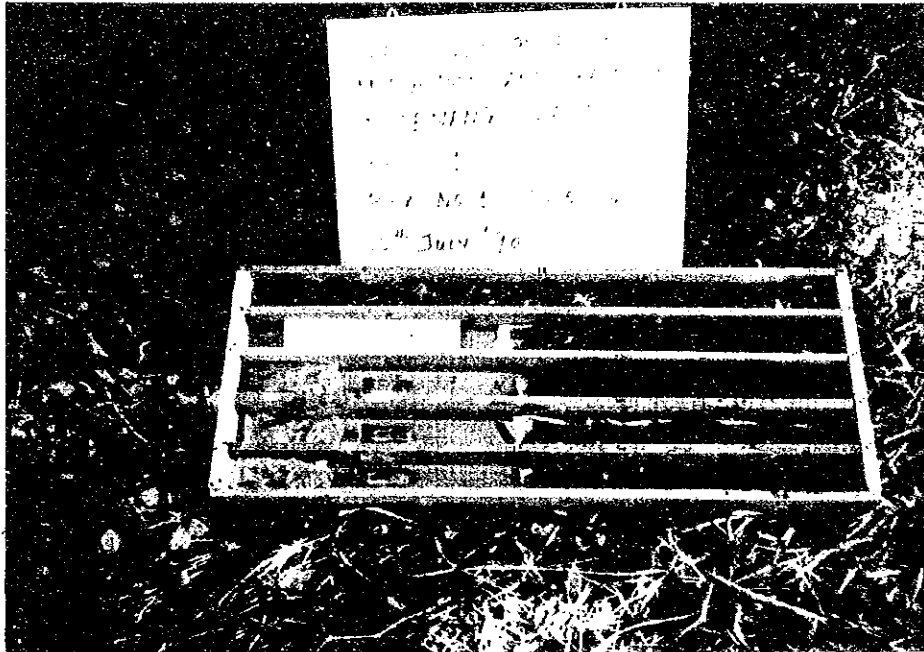
BOREHOLE BH-R4



BOREHOLE BH-R5

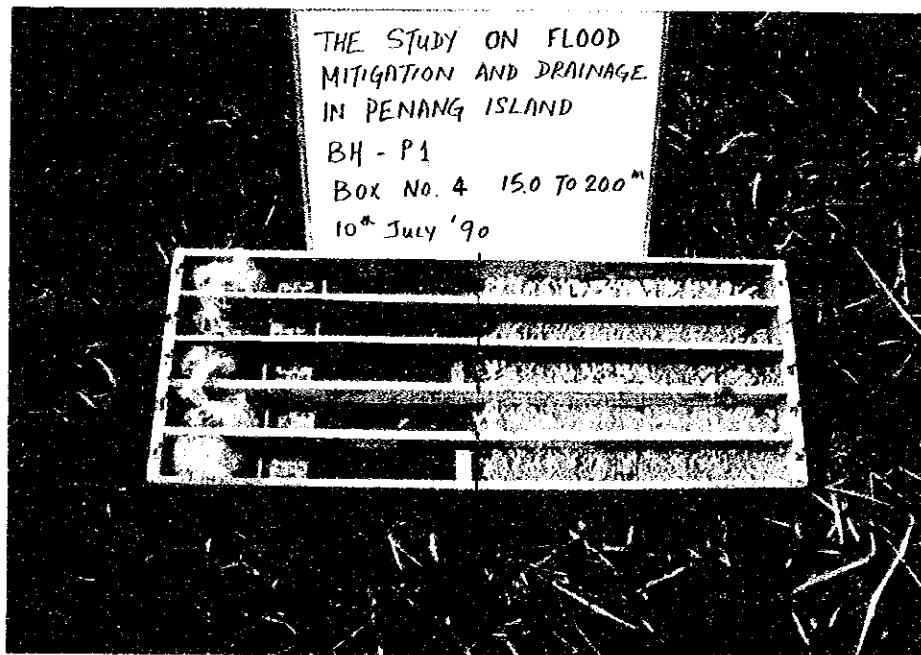
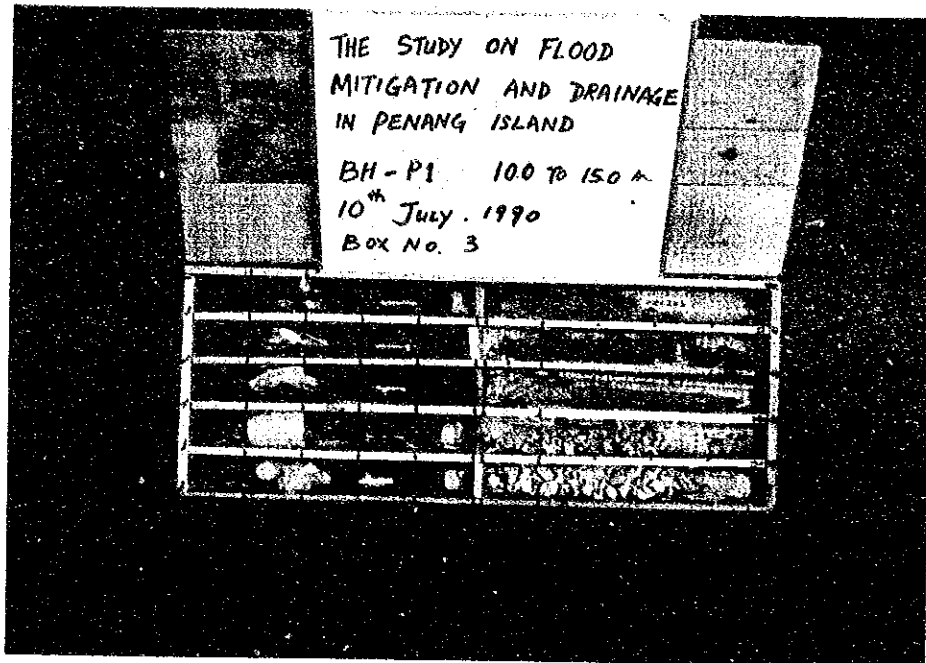


BOREHOLE BH-R6



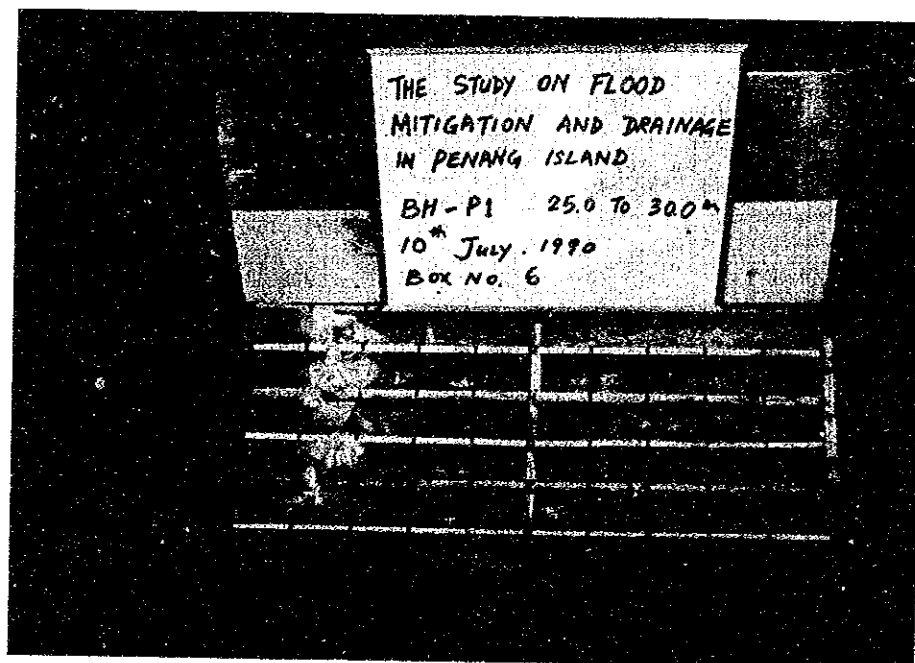
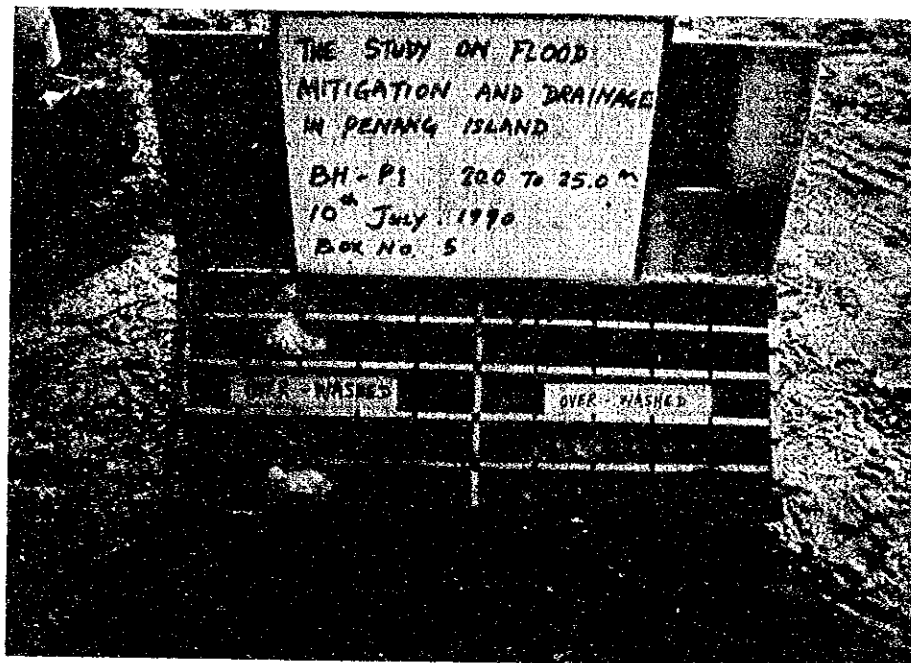
Borehole No. : P1

Depth : 0.00 - 10.00m



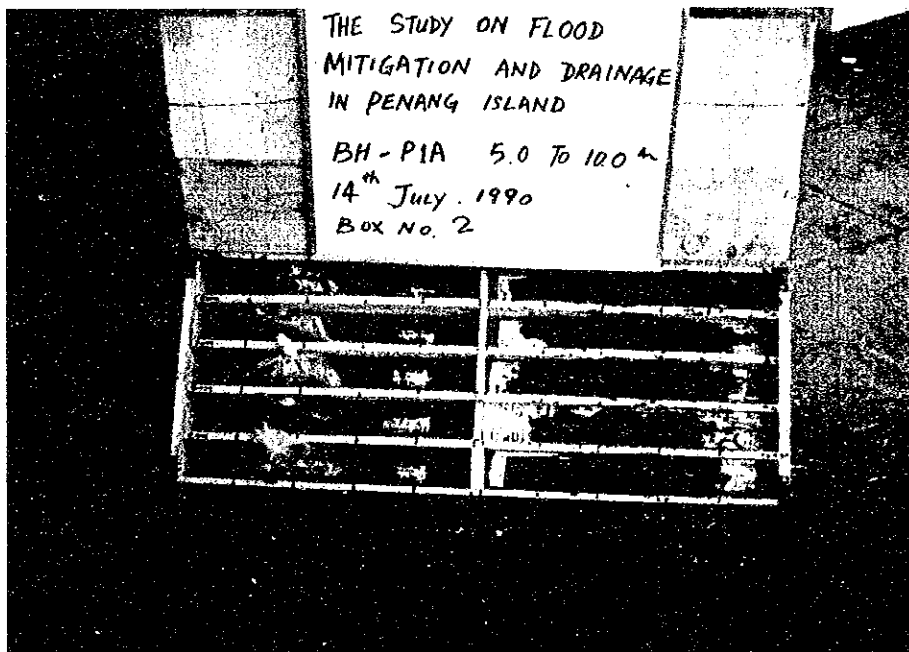
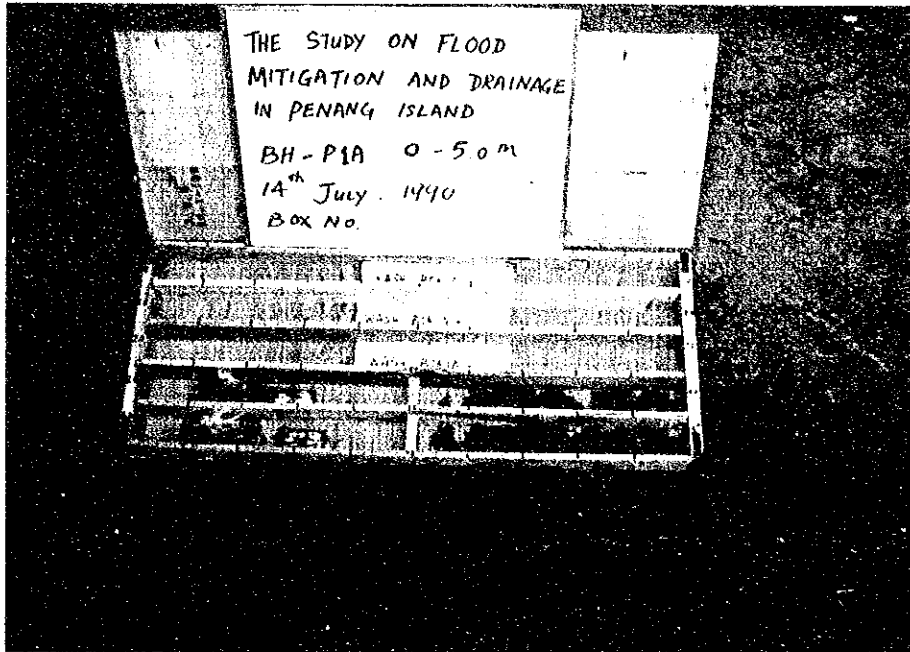
Borehole No. : P.1

Depth : 10.00 - 20.00m



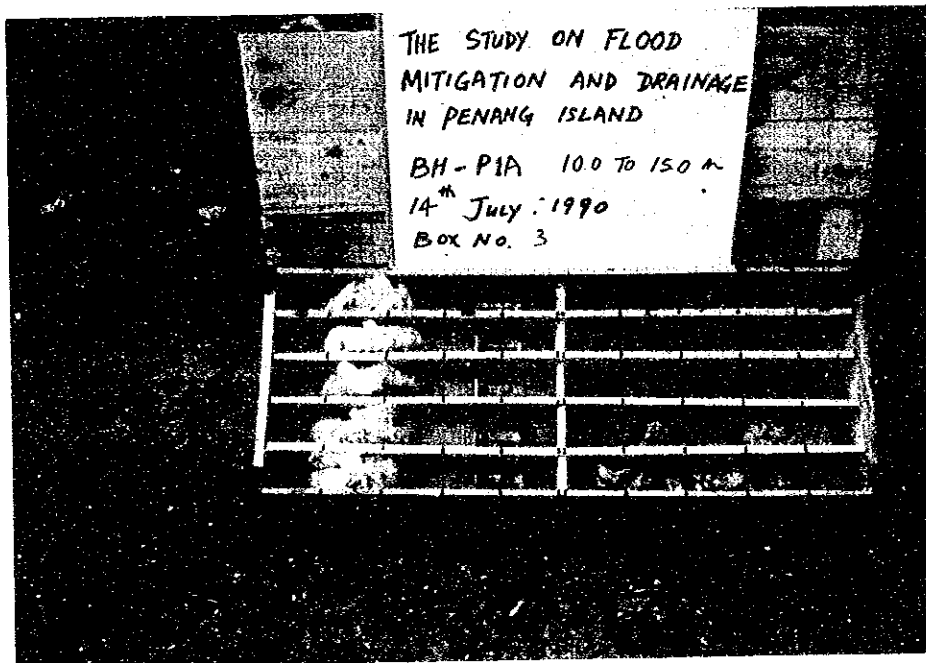
Borehole No. : P11

Depth : 20.00 - 30.00m



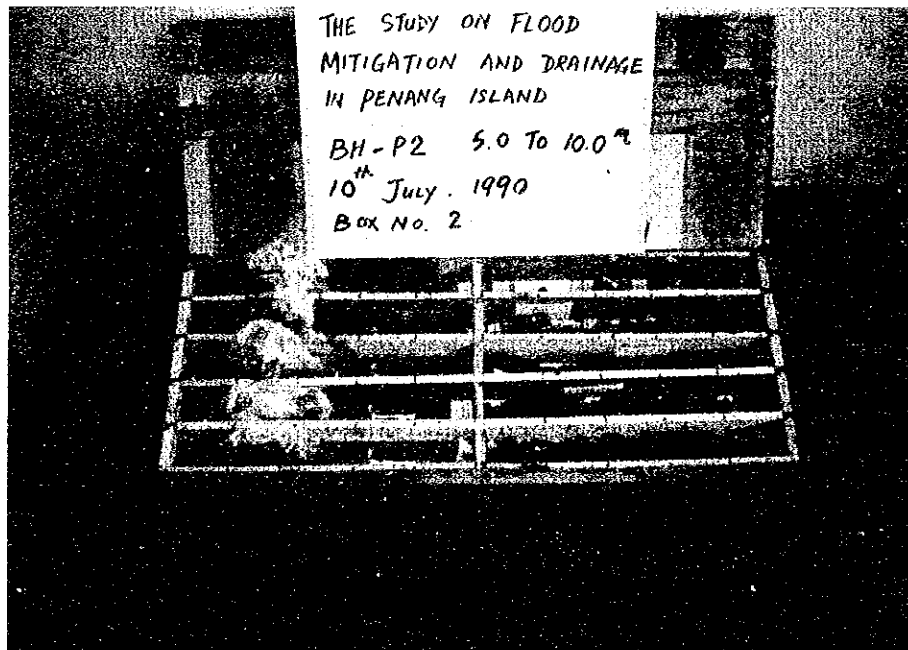
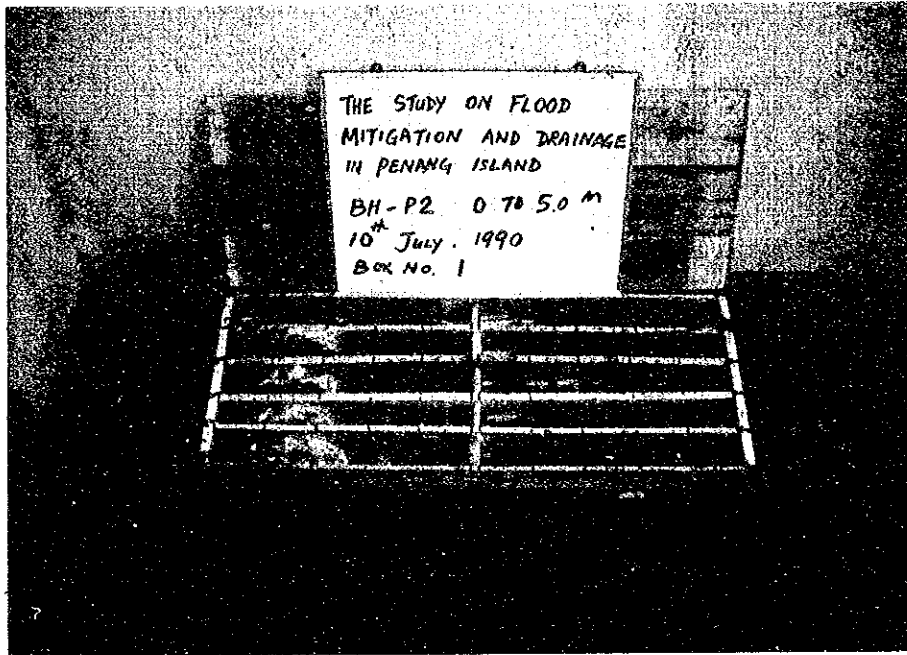
Borehole No. : P:1A

Depth : 0.00 - 10.00m



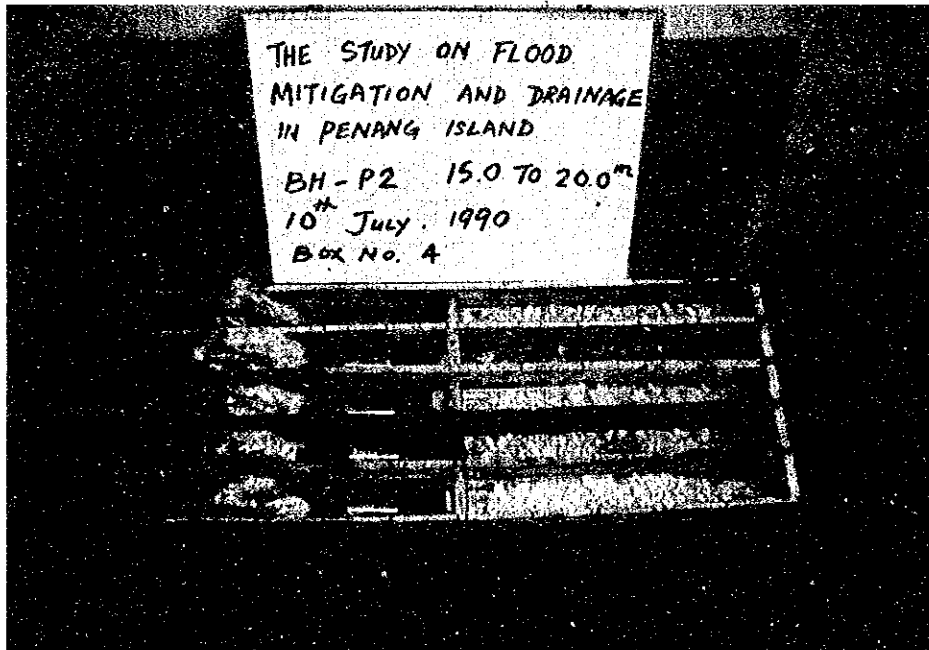
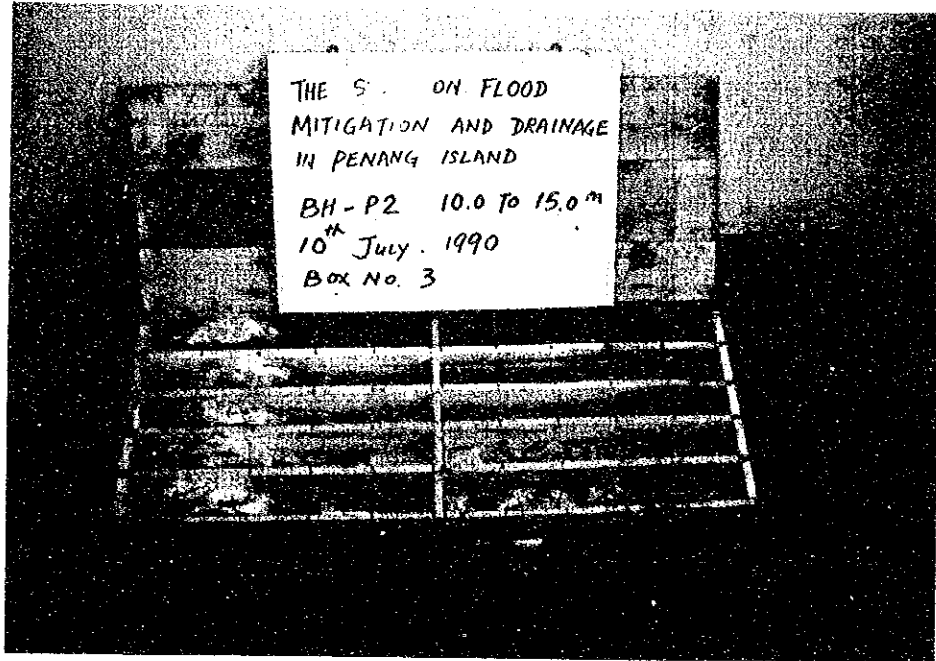
Borehole No. : P1A

Depth : 10.00 - 15.00m



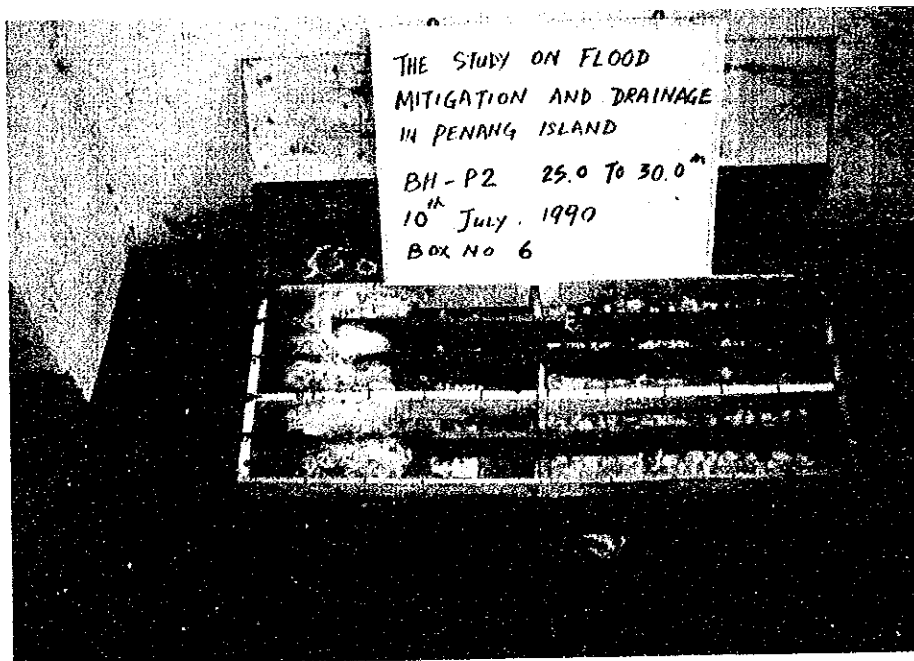
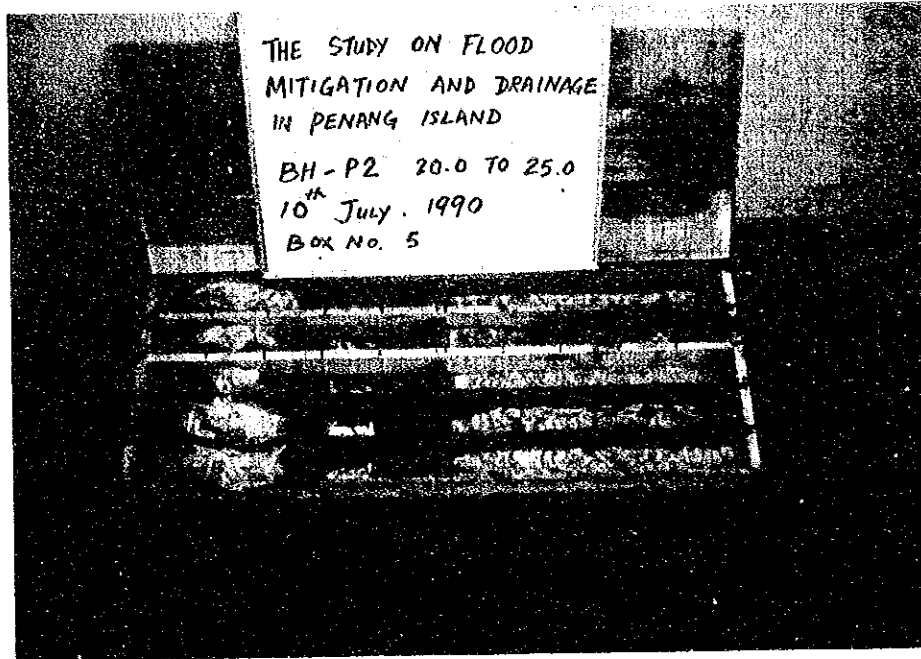
Borehole No. : P 2

Depth : 0.00 - 10.00



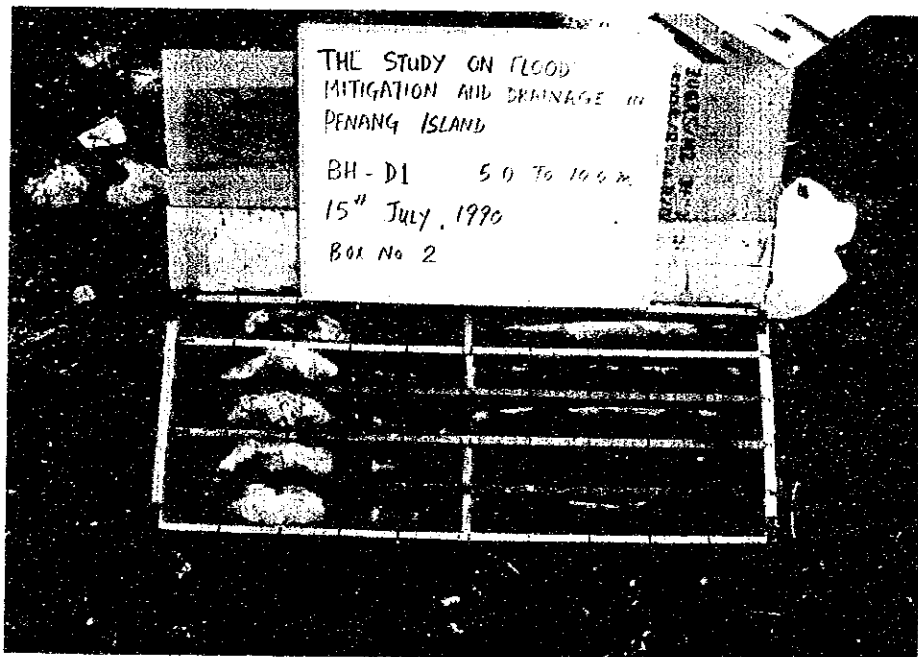
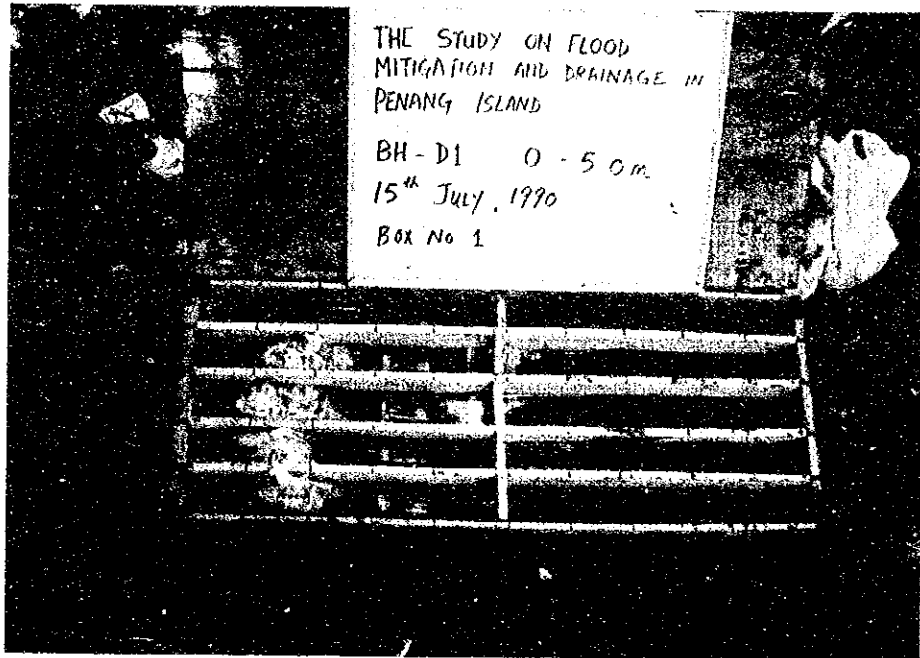
Borehole No. : P 2

Depth : 10.00 - 20.00 m



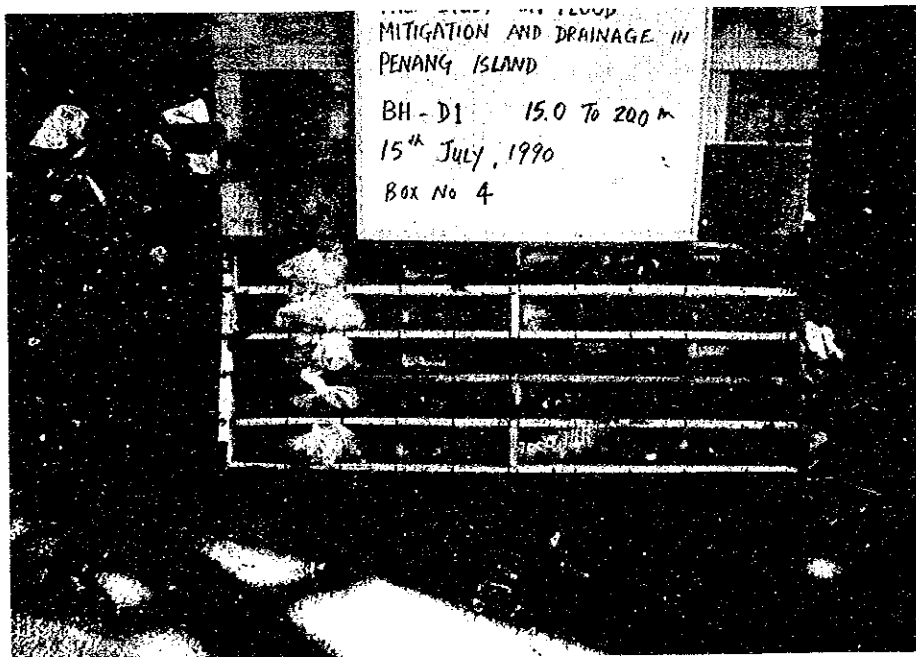
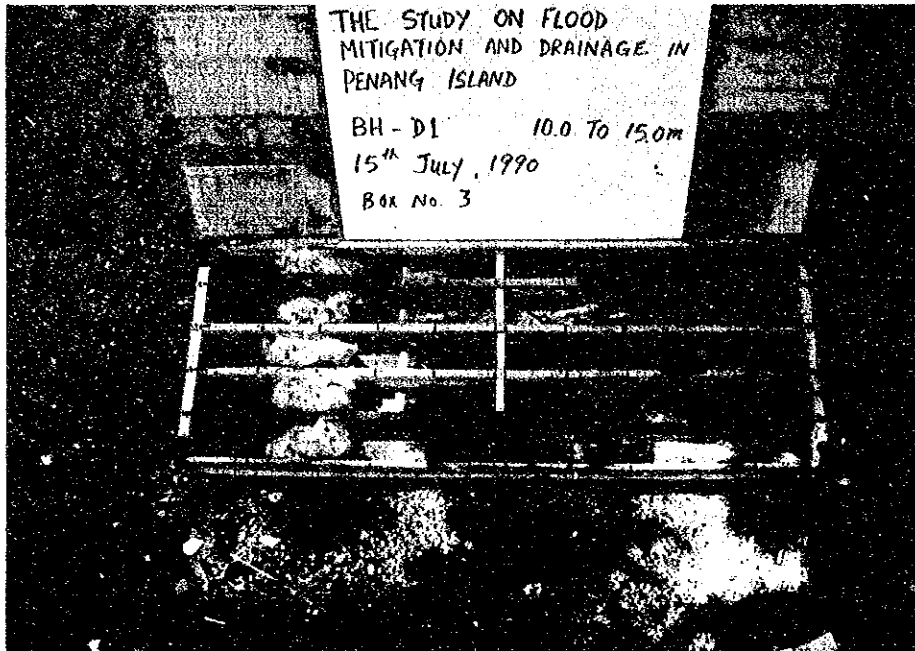
Borehole No. : P.2

Depth : 20.00 - 30.00m



Borehole No. : D1

Depth : 0.00 - 10.00m



Borehole No. : D1

Depth : 10.00 - 20.00m

D-21

