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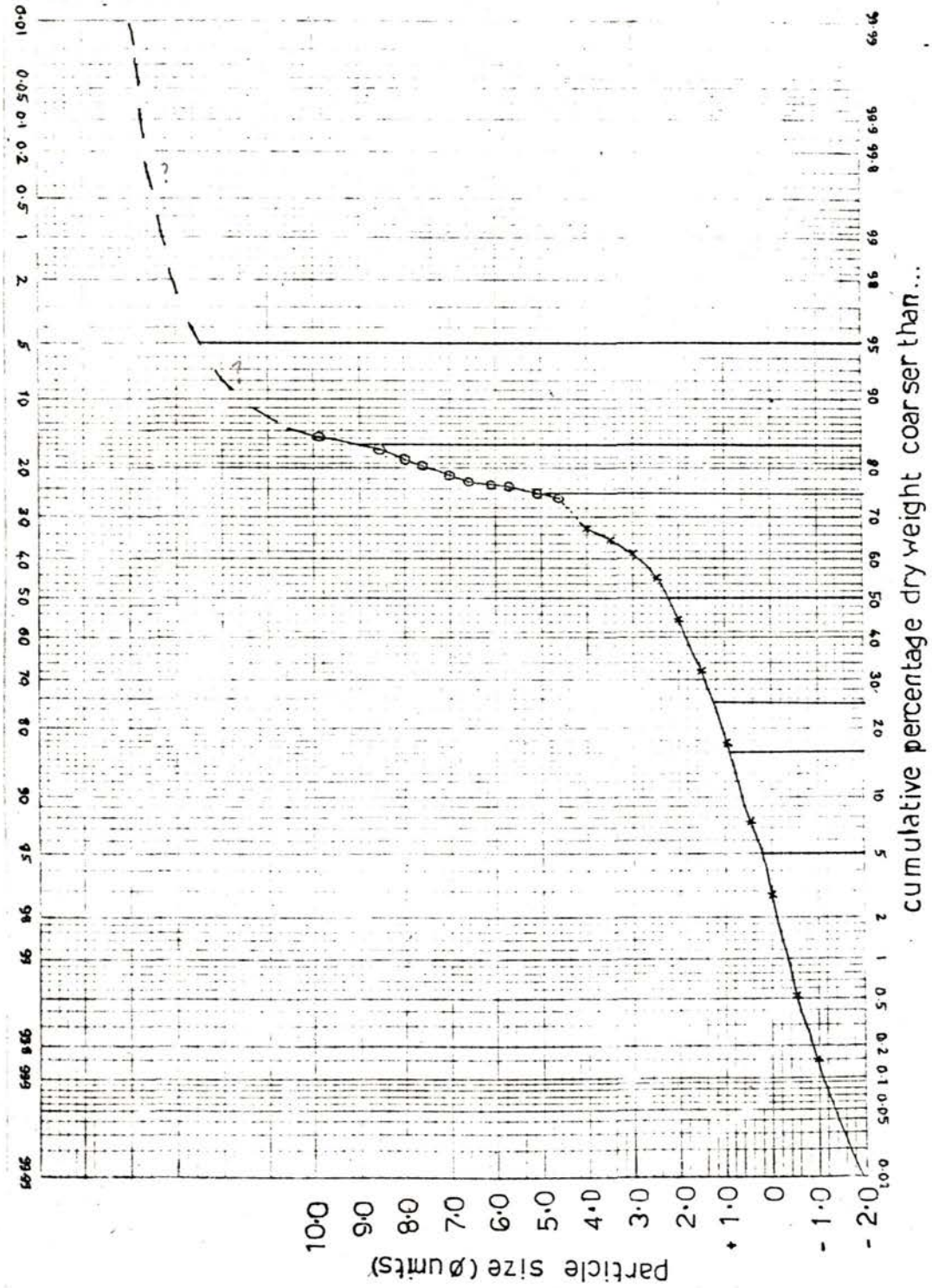
APPENDIX A

REPRESENTATIVE GRAIN SIZE DISTRIBUTION CURVE (SAMPLE X 2)



X = sieved samples; 0 = analysis by hydrometer method.

APPENDIX B

DESCRIPTION OF CORES OBTAINED FROM LAKE II

CORE NO. & WATER DEPTH	CORE DEPTH	DESCRIPTION
1. (0.6 m)	0 - 2.5	Loose sand; stained with organic matter; charcoal
	2.5 - 25.5	Grey (N7/0 Munsell Colour) sandy clay; fine root channels throughout.
	25.5 - 32	Loose sand; little organic staining
2. (2.0 m)	0 - 2.5	Loose sand; organic staining; charcoal
	2.5 - 7.5	Sandy organic mud.
	7.5 - 10.5	Organic mud (gyttja)
	10.5 - 16.5	Grey (N7/0) clay
	16.5 - 25.0	Grey (N7/0) sandy clay
	25.0 - 32.5	Grey (N7/0) clay; no apparent structures
	32.5 - 41.5	Grey (N7/0) sandy clay
	41.5 - 49.0	Grey (N7/0) clay; no apparent structures; some charcoal.
		NB: Sheared diagonally between 25 and 41.5 cm, therefore depths only approximate.
3. (3.6 m)	0 - 23.5	Dark brownish black peat; fibrous; coherent; probably stratified; elasticity 3*
	23.5 - 24.5	Light grey to yellow clay in form of granules.
	24.5 - 26.0	Peat (fibrous)
	26.0 - 29.0	Light grey to yellow clay granules; fibrous.
	29.0 - 30.0	Peat containing remains of rhizome
	30.0 - 33.0	Dark brown organic mud (gyttja)
	33.0 - 36.5	Grey (N7/0) clay

CORE NO. & WATER DEPTH	CORE DEPTH	DESCRIPTION
4. (3.6 m)	0 - 18.0	Dark brown fibrous peat; coherent; elasticity 2*
	18.0 - 19.5	Light grey to yellow clay granules
	19.5 - 34.0	Dark brown, fibrous peat containing abundant charcoal.
	34.0 - 44.0	Grey (N7/0) sandy clay; rootlets.
5. (3.2 m)	0 - 11.5	Dark brown, very fibrous peat composed of macroscopic plant remains; elasticity 4*
	11.5 - 16.0	Dark brown organic mud (gyttja) containing some macroscpoic root remains.
	16.0 - 18.5	Grey-brown (5YR5/2) clay containing rootlets.
	18.5 - 25.5	Brownish black organic mud (gyttja) containing root fibres; charcoal at base.
	25.5 - 30.0	Clay, organically stained at top and becoming more grey at depth; contains rootlets and charcoal.
Channel I - II (2.5 m)	0 - 2.5	Loose sand.
	2.5 - 14.5	Interlaminated sand and clay; grey (N7/0) contains rootlets.
	14.5 - 19.0	Core of decaying wood; horizontal repose.
	19.0 - 24.5	Grey (N7/0) sandy clay.
	25.5 - 28.0	Grey (N7/0) clay.
	28.0 - 31.0	Grey (N7/0) sandy clay.

* After Troels-Smith (1955).

APPENDIX C

DESCRIPTIONS OF PEAT ISLAND SECTIONS

1. METHOD

The descriptive method of Troels-Smith (1955) was followed. Characterization of the physical features, humicity (i.e. degree of decomposition), and component parts is on a 5-class scale;

0	0 - absence of
1	1/4 - minor presence of
2	2/4 - medium presence of
3	3/4 - major presence of
4	4/4 - maximum or sole presence of
Traces +	1/8 - slight present of

Nigror - Degree of Darkness

nig. 0	lightest shades e.g. lake marl.
nig. 1 - 3	intermediate stages.
nig. 4	darkest shades e.g. dy; completely disintegrated peat.

Stratificatio - Degree of Stratification

Strf. 0	complete homogeneity and/or deposit breaks with equal ease in all directions.
Strf. 1 - 3	intermediate stages.
Strf. 4	thin minor layers and/or splits very easily into very thin horizontal layers.

Elasticitas - Degree of Elasticity

elas. 0	total absence of elasticity e.g. sand
elas. 1 - 3	intermediate stages
elas. 4	highest degree of elasticity e.g. swamp peat

Siccitas - Degree of Dryness

sicc. 0	clear water
sicc. 1	thoroughly saturated
sicc. 2	saturated
sicc. 3	not saturated
sicc. 4	air-dry (feels warm)

Humositas - Degree of Humicity

humo. 0	plant structure fresh and well preserved; squeezing yields clear water.
humo. 1	plant structure well preserved; squeezing yields turbid water; up to one quarter of mass squeezed through fingers.
humo. 2	plant structure partly decayed; squeezing yields up to half mass.
humo. 3	plant structure in advanced stage of decay; squeezing yields up to three-quarters of mass.
humo. 4	plant structure hardly discernible or completely absent; squeezing yields whole of mass through fingers.

The following component parts are distinguished :

Substantia humosa - Sh - humous substance, consists of completely disintegrated or nearly disintegrated, or decomposed, organic substances or precipitated humic acids, and appears as a dark or blackish homogenous substance without macroscopic structure. If in the field, it cannot be ascertained whether a given deposit, or part of it, is Limus humosus (dy, or gel-mud), completely disintegrated Turfa (peat), completely disintegrated or decomposed Detritus, the deposit may be characterized as Substantia humosa.

Turfa - of macroscopic structure, and may consist of mosses or of roots of woody or herbaceous plants. Stumps, trunks, stems, etc. belong to Turfa if connected with the root system. According as Turfa is made up of mosses, ligneous or herbaceous plants, distinction may be made between T. bryophytica, T. lignosa and T. herbacea. Humified turfa may be characterized in two ways, either 1) through the degree of humicity of 2) as the proportion of Sh and T.

Detritus - consists of fragments, varying in size, of the superterranean parts of plants. It may be divided into three groups :

1) D. lignosus, parts of wood and bark
2) D. herbosus, herbaceous plant portions, and
3) D. granosus, comprising fragments <2mm and >0.1 mm of wood and bark, as well as of herbaceous parts of plants.

Humicity may be indicated but is usually very difficult to ascertain.

Other accessory elements are also classified by Troels-Smith but these were not required in the present study.

2. DESCRIPTIONS

LAKE II, A

nig. 3	*Turfa herbacea*[1]
strf. 4	brown to blackish brown
elas. 2	homogeneous; fibrous
sic. 2	
humo. 1	

LAKE II, B

nig. 3	*Turfa herbacea*[1]
strf. 3	greenish brown to black
elas. 2	homogeneous; fibrous
sic. 2	
humo. 1	

LAKE II, C

nig. 3	*Turfa herbacea*[1]
strf. 2	dark brown
elas. 2	heterogeneous (large and small frags.)
sic. 2	fibrous; non-cohesive
humo. 1	

LAKE II, D

nig. 3	*Turfa herbacea*[2]
strf. 2	greenish brown
elas. 1	heterogeneous; fibrous; cohesive
sic. 2	
humo. 2	

LAKE II, E

nig. 4	*Turfa herbacea*[3]
strf. 1	greenish brown
elas. 1	heterogeneous; fibrous; non-cohesive
sic. 2	
humo. 3	

LAKE I, F

nig. 3	*Turfa herbacea*
strf. 3	Upper layer very fibrous; no ground
elas. 3 (upper layer)	substance; very cohesive.
1 (lower layer)	Lower layer fibrous but non-cohesive
sic. 2	
humo. 2 (upper layer)	
3 (lower layer)	

LAKE I, G

nig. 3	*Turfa herbacea*[3]
strf. 4	greenish brown (darker at surface)
elas. 1	heterogeneous; coherent; fibrous
sic. 2	
humo. 3	

APPENDIX D

BORE HOLE DESCRIPTIONS

s = sand(y); c = clay(ey); l = loam(y); co = coarse; m = medium; f = fine; br = brown; bl = black; r = red; y = yellow; gr = grey; dk = dark; wh = white; gl = gleyed; ssf = sandstone fragments; ↑ = increasing (or darker) with depth; ↓ = decreasing (or lighter) with depth; pr = plant remains

A. SHALLOW AUGER HOLES (locations on Fig. 1.2)

TRANSECT &/OR HOLE NUMBER	DEPTH (M)	TEXTURE	COLOUR	REMARKS
AI	0 - 0.3	msl	br-bl (10YR2/2)	
	0.3 - 1.3	mscl	r-br (5YR4/6)	
	1.3 - 1.9	msc	y-br	mottled
AII	0 - 0.4	msl	10YR2/2	
	0.4 - 1.3	mscl	5YR4/6	
	1.3 - 1.6	msc	y-br	dark mottles; ssf at base
AIII	0 - 0.2	msl	10YR2/2	
	0.2 - 0.5	mscl	5YR4/6	
	0.5 - 1.5	msc	y-br	dark mottles; ssf at base
AIV	0 - 0.2	msl	10YR2/2	
	0.2 - 0.9	mscl	5YR4/6	
	0.9 - 3.3	msc	y-br	mottles↑; ssf at 1.5 m
AV	0 - 0.3	msl	10YR2/2	
	0.3 - 0.8	mscl	5YR4/6	ssf at base

TRANSECT &/OR HOLE NUMBER	DEPTH (M)	TEXTURE	COLOUR	REMARKS
AVI	0 - 0.3	msl	10YR2/2	
	0.3 - 1.2	mscl	5YR4/6	ssf at 0.8 m
AVII	0 - 0.3	msl	10YR2/2	
	0.3 - 1.5	mscl	5YR4/6	
	1.5 - 1.9	msc	gr-r-br	mottled
AVIII	0 - 0.3	msl	10YR2/2	
	0.3 - 1.3	mscl	5YR4/6	
	1.3 - 3.6	msc;↑	y-br	mottles ↑
AIX	0 - 0.2	msl	10YR2/2	
	0.2 - 1.3	mscl	5YR4/6	gr mottles at 0.8 m
	1.3 - 1.5	mscl	gr (N7/0)	y-br-r mottles
AX	0 - 0.8	c	bl	pr. NB dredged from swamp
	0.8 - 1.6	msc	dk gr	pr.
AXII	0 - 1.1	c	bl; ↓	pr; megascleres and gemmoscleres
	1.1 - 2.2	m/co sc	N7/0	br mottles; megascleres
	2.2 - 2.25	m/co s	gr-wh	
	2.25 - 2.35	msc	N7/0	
	2.35 - 2.4	m/co s	gr-wh	
	2.4 - 2.7	msc	N7/0	r-br mottles
	2.7 - 2.75	m/co s	N7/0	
	2.75 - 3.2	msc	N7/0	r-br-y mottles
	3.2 - 3.25	m/co s	N7/0	
	3.25 - 4.0	msc	N7/0	r-br mottles

TRANSECT &/OR HOLE NUMBER	DEPTH (M)	TEXTURE	COLOUR	REMARKS
AXIII	0 - 0.8	c	bl; ↓	pr
	0.8 - 0.85	m/co s	N7/0	
	0.85 - 1.8	msc	N7/0	r mottles ↑
	1.8 - 1.85	m/co s	bl	
	1.85 - 2.1	msc	N7/0	
	2.1 - 2.15	m/co s	N7/0	
	2.15 - 2.25	msc	N7/0	
	2.25 - 2.3	m/co s	N7/0	
	2.3 - 2.75	msc	N7/0	br mottles
	2.75 - 2.8	m/co s	N7/0	
	2.8 - 3.5	msc	N7/0	r-br mottles
AXIV	0 - 0.2	msl	br-bl	megascleres
	0.2 - 0.6	msc	bl	pr
	0.6 - 2.6	msc	N7/0	wh-br mottles
	2.6 - 2.8	m/co s	N7/0	r mottles
	2.8 - 3.2	msc	N7/0	br-r-y mottles
AXV	0 - 0.4	msl	10YR2/2	
	0.4 - 0.6	mscl	5YR4/6	
	0.6 - 2.7	msc	dk gr	pr; quartz pebbles at 2.2 m
	2.7 - 2.75	m/co s	N7/0	
	2.75 - 3.2	msc	N7/0	r-br mottles
AXVI	0 - 0.2	msl	10YR2/2	
	0.2 - 0.6	mscl	5YR4/6	r mottles at base
	0.6 - 3.2	msc	N7/0	r-y mottles at 1.9 m and deeper than 2.9 m; ssf at 0.8 m

TRANSECT &/OR HOLE NUMBER	DEPTH (M)	TEXTURE	COLOUR	REMARKS
AXVII	0 - 0.2	msl	10YR2/2	
	0.2 - 0.6	mscl	5YR4/6	r mottles at base
	0.6 - 1.7	msc	N7/0	ssf at 0.8 to 1.0 m
AXVIII	0 - 0.2	msl	10YR2/2	
	0.2 - 1.7	mscl	5YR4/6	r mottles at 0.5 m and below 1.3 m; ssf at 1.2 m
AXIX	0 - 0.2	msl	10YR2/2	
	0.2 - 1.6	mscl	5YR4/6	gr↑; r mottles below 1.0 m; ssf at 1.3 m
AXX	0 - 0.3	msl	10YR2/2	
	0.3 - 2.2	mscl; ↑	y-br	gr-r-wh mottles↑; ssf and wood at 1.3 m
BI	0 - 0.3	ms	br-gr (5YR4/1)	charcoal; pH 5.5
	0.3 - 0.6	mcs	7.5YR6/1	r-br mottles; pH 5.0
	0.6 - 0.9	mcs	10YR7/1	y-br mottles
BII	0 - 0.3	ms	5YR4/1	pH 5.0
	0.3 - 0.6	ms	7.5YR7/2	
	0.6 - 0.9	mcs	10YR7/3	r-br mottles
	0.9 - 1.2	mscl	10YR7/3	y mottles
	1.2 - 1.5	mscl	10YR7/3	r-br-gr mottles

TRANSECT &/OR HOLE NUMBER	DEPTH (M)	TEXTURE	COLOUR	REMARKS
BIII	0 - 0.3	ms	10YR6/3	charcoal; pH 5.0
	0.3 - 0.9	mcs	10YR5/4	
BIV	0 - 0.3	ms	10YR5/3	pH 5.5
	0.3 - 0.6	mcs	10YR6/3	
	0.6 - 1.8	mscl	10YR6/8	br mottles; ssf
BV	0 - 0.6	msl	10YR3/3	pH 5.5
	0.6 - 0.9	mscl	10YR4/6	
	0.9 - 1.2	mscl	7.5YR5/6	
	1.2 - 1.8	mscl	7.5YR5/6	ssf
BVI	0 - 0.5	msl	10YR3/3	crumbstructure; ssf from bedrock beneath; pH 5.5
BVII	0 - 0.6	ms	7.5YR5/2	charcoal; pH 5.5
	0.6 - 1.2	mscl	10YR3/3	7.5YR 6/8 mottles pH 5.0
	1.2 - 1.5	msc	10YR3/3	gr-br mottles
	1.5 - 3.0	msc	N6/0	y-br mottles
	3.0 - 4.5	msc	N6/0	
	4.5 - 5.7	msc; ↑	N6/0	y-br mottles
BVIII	0 - 0.3	ms	10YR3/2	pH 5.5
	0.3 - 0.6	mcs	10YR6/6	br mottles
	0.6 - 1.5	mcs	10YR5/6	r-br mottles
BIX	0 - 0.6	msl	7.5YR3/3	pH 5.5
	0.6 - 1.5	mscl; ↑	7.5YR4/6	
BX	0 - 0.6	msl	7.5YR3/3	pH 5.0
	0.6 - 1.2	mscl; ↑	7.5YR4/6	pH 5.5; ssf from bedrock at base

B. DEEP DRILL HOLES

HOLE NUMBER	MAXIMUM DEPTH (M)	TEXTURE	COLOUR	pH	SPICULE ABUNDANCE[1]	LOSS ON IGNITION (90 DWT)
BH1	1.0	ms	5YR6/2	4.5	M : 3 G : 1	-
	1.5	sc	N7/0	5.0	0	-
	3.6	sc	5YR5/8	"	0	-
	4.2	c	N7/0	"	0	-
	5.1	sc	5YR5/8; N7/0	"	0	-
	18.0	sc	as above plus 10YR6/6	"	0	-
BH2	1.0	ms	5YR6/2	4.5	-	-
	3.0	sc	5YR5/8	5.0	-	-
	7.5	sc	5YR5/8 N7/0	"	-	-
	7.8	ms	N7/0	4.5	0	-
	9.0	sc	N7/0	5.0	-	-
	9.3	ms	10YR6/3 10YR6/1	"	-	-
	11.3	sc	as above	"	0	-
	12.0	ms	N7/0	"	-	-
	12.8	c	N7/0	5.5	-	-
	14.3	sc	N7/0	5.0	0	-
	17.3	peat	N1.5/0	6.22[2]	M : 3-5[3]	65.4
	18.0	gl c	N3/0	6.15[2]	2	-
	25.5	sc	N4/0	5.0	0	3.6
	26.0	no sample				
	29.5	sc	N4/0	5.0	0	4.1

HOLE NUMBER	MAXIMUM DEPTH (M)	TEXTURE	COLOUR	pH	SPICULE ABUNDANCE	LOSS ON IGNITION (% DWT)
BH4	0.5	ms	10YR6/3 10YR6/1	4.5	-	-
	1.8	fsc	as above	5.0	-	-
	3.0	c	N3/0	4.5	M : 2	9.7
	3.6	cs	as above	5.0	-	-
	6.0	cs	10YR6/3 10YR6/1	"	-	-
	6.9	sc	N7/0	"	-	-
	8.4	c	N1.5/0	4.5	0	6.5
	11.0	sc	N7/0	5.0	-	-
	11.3	cs	10YR6/3 10YR6/1	"	-	-
	13.0	sc	N2/0	"	-	-
	13.3	cs	10YR6/3 10YR6/1	"	-	-
	16.0	c	N2/0	4.5	0	3.8
	18.3	sc	10YR6/3 10YR6/1	5.0	-	-
	20.0	sc	7.5YR5/6	5.0	-	4.2
	21.0	c	2.5GY2/1	"	-	3.6
	22.0	sc	7.5YR5/6	"	-	-
BH5	1.6	cs	5YR6/2	4.5	-	-
	3.3	sc	5YR5/8	5.5	-	-
	5.0	sc	7.5YR5/6	"	-	-
	6.6	c	7.5YR2/1	4.5	0	7.3
	7.6	sc	2.5YR4/1	5.0	-	3.6
	8.5	sc	2.5YR5/1	"	-	6.2
	10.0	sc	N7/0	"	-	-
	11.6	sc	N7/0 10YR5/6	"	-	-
	13.3	sc	7.5YR6/1	"	-	-
	15.0	sc	10YR6/3	5.5	-	-
	16.6	sc	5YR5/8	5.0	-	-
	18.3	sc	N7/0 10YR5/6	"	-	-

HOLE NUMBER	MAXIMUM DEPTH (M)	TEXTURE	COLOUR	pH	SPICULE ABUNDANCE	LOSS ON IGNITION (% DWT)
BH5 (Cont'd)	20.0	sc	N8/0	"	-	-
	23.3	sc	7.5YR5/6	"	-	-
	25.0	sc	7.5YR5/6 5YR5/8	"	-	-
	25.6	sc	10YR3/3	"	0	-
	26.6	sc	10YR4/4	"	0	3.0
	28.3	sc	5YR2/4	"	-	-
	30.0	sc	2.5YR4/1	"	-	-
	30.3	sc	7.5YR5/2 7.5YR3/1	"	0	3.5
	32.6	sc	N7/0 7.5YR5/2	"	-	0

1 Relative abundance of spicules in six slides of each sample; 0 = absent, 1-4 = intermediate; 5 = very abundant; m = megasclere, g = gemmosclere

2 Dr. G. S. Hope, pers. comm.

3 Maximum abundance in centre (approx.) of deposit.

FIG. 1·2 : TH


COURTODJAH CREEK
BLUE GUM CREEK
LITTLE RIVER
CEDAR CREEK
BLUE GUM CK.
LITTLE RIVER
Δ1588'
Δ1182'
DRY LAKE
transect A
BH1
BH2
transect B
BH4
BH5
THIRLMERE LAKES
COURTODJAH
A
B
C
D
E
F
G
H
I
J
K
IA
I
II
III
IV

FIG. 1·2: THIRLMERE LAKES AND ENVIRONS

CONTOUR LINE
CATCHMENT BOUNDARY
STREAM
TOWN
SWAMP
SEISMIC SURVEY TRAVERSE
SHALLOW BORE HOLE LOCATIONS
BH2 DEEP BORE HOLE LOCATIONS
ALLUVIAL FAN SAMPLE LOCATIONS
D E CROSS VALLEY PROFILE LOCATIONS

0 0·5 1·0 1·5 2·0 2·5 3·0 km

CONTOUR INTERVAL : 200 feet

△1182'

STONEQUARRY CREEK

PICTON

CEDAR CREEK

MATTHEWS CREEK

THIRLMERE

BH1 DRY LAKE

transect A

BH5

THIRLMERE LAKES

IA

I

IV

BH2

transect B

BH4

II

III

REDBANK CREEK

TAHMOOR

COURIDJAH

BARGO RIVER

BARGO R.

GUM CK.