UR1986_46

1986/46. A bore log register for Tasmania.

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Abstract

A set of borehole logs (6168 at the present time) has been catalogued and entered onto computer file.

The information recorded is indicated on the data input sheet (Appendix 2). The logs are contained in a series of 33 books which are housed in the library and will also be microfilmed.

The DORIS program (Richardson and Telfer 1986, included as Appendix 1) enables a user search by:

Locality	E.L. or M.L.
Quadrangle No.	Organisation
1:50 000 map sheet no.	Drilled by
AMG map reference	Date commenced
Purpose	Drill type
Report	Geophysical logging
Core held	

If core is held, a link with a core storage data base, CORLIBRARY (Telfer, 1986) will provide details of its location. A sample of printout is included as Appendix 3 (p. 46-5, 46-6) and is the result of a search for boreholes drilled in the Moina district. It shows that there are 12 holes recorded in this district and that core is held for seven of them. Only four core locations are given which indicates that the core records are not yet complete. A core data input sheet is included as Appendix 4.

THE REGISTER

The bore log register contains records of:

(1) All boreholes drilled by and for the Department of Mines except water bores which are catalogued separately by the Engineering Geology Section.

(2) All exploration boreholes for which the Department of Mines holds the core.

(3) Exploration boreholes for which logs were sent to the Department separately from company reports. A systematic search of company reports on open file will be necessary before all available data have been catalogued. Approximately 2000 more logs have yet to be added *and the borehole register will not be fully functional until this is done.*

Prior to computerisation, a hand-written locality index was prepared. This contains additional information for which computer storage space was not available, principally the cross-referencing of alternative borehole designations. It is a useful reference book to keep with the set of logs. Better documentation of drilling in more recent times should obviate the necessity of maintaining this index in future but the index is still being kept up to date and should continue to be so until such time as it is deemed to be superfluous.

Many of the earlier boreholes were logged but not written up in reports and the log in the set of logs may be the only one in existence. It can be assumed that all future computer entries will relate to a written log in a report but it is still considered that the practice of maintaining a set of logs to match computer entries should be continued.

At present no-one has been delegated to complete and maintain the register and unless this is done, the work to date will have been wasted.

When the register is completed the industry should be made aware of the facility so that it will be fully utilised.

The procedure followed in the recording of new information is to:

       (1)   Allocate a reference number.

       (2)   Compile a computer entry data sheet.

       (3)   Make an appropriate entry in the locality index.

       (4)   Obtain a copy of the log for the set of logs.

       (5)   Enter into the computer file.

A need exists for a rational borehole numbering system which would avoid the confusion caused by having duplication, sometimes multiplication, of names for one borehole or boreholes for one name.

Although the computer borehole reference number is unique, it is important that the borehole number is also unique.

This applies mainly to drilling by the Department but would also apply to company drilling in cases where holes have not been numbered (e.g. two recent diamond drill holes near Miena which were drilled by a contractor for a building stone project).

The new number should be sufficiently distinguishable from the 6 digit reference number to avoid confusion and it is proposed that a quadrangle number/serial number/purpose would serve this need, e.g. 40/5/S: quadrangle 40, borehole no. 5 since the new numbering system started and S for stratigraphic using the 5 purposes listed on the data sheet. The symbol for purpose is not necessary but helps to distinguish the designation from the construction materials register numbering system.

REFERENCES

RICHARDSON, R. G.; TELFER, A. L. 1986. DORIS - a drill log record information system (revision 1). *Unpubl. Rep. Dep. Mines Tasm.* 1986/36.
TELFER, A. L. 1986. CORLIBRARY - a core library index. *Unpubl. Rep. Dep. Mines Tasm.* 1986/44.

                                                  [31 July 1986]

APPENDIX 1

DORIS - A drill log record information system

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The following notes are taken from Unpublished Report 1986/36, which should be consulted for further details and FORTRAN program listings.

THE PROGRAMS

LOGADD

This program accepts data from the keyboard and copies it to a file in a format suitable for editing. Prompts are used to guide the user. The file created (LOGTEMP.TMP) is then edited using the standard edit facilities.

LOGMERGE

The data from LOGTEMP.TMP are converted to the format of the data base. The data base is copied to a temporary work file and the new data are added to the end of this. The combined file is then copied back to the original data base file.

LOGSORT

The data are sorted into ascending reference number order and written to a temporary file in the new order. The temporary file is then copied back to the original data base file.

LOGSRCH

The data base is searched for the occurrence of specified strings and a point-in-polygon algorithm is used to locate data from within a specified area. Core location data are retrieved from the CORLIBRARY data base and appended to the normal DORIS printout.

USING THE PROGRAMS

Data base maintenance

Data are put into a standard format (Appendix 2) before entry. Input is commenced by typing LOGADD and continues until 0 (zero) is typed in response to the reference number prompt. The drill type numbers are entered as either one or two digits on the same line.

Where a prompt terminates with an * the input program, as modified by E. L. Martin, will use the previously entered value if the line is left blank, a blank if \ is entered, and the entered value if neither of the preceding is used.

At the end of input, a proof sheet is output and the data are saved in file LOGTEMP.TMP. Any corrections should be made to this file using the standard editing facilities and a new proof sheet then printed and checked.

The new data in LOGTEMP.TMP must be added to the end of the existing data base by typing LOGMERGE. To ensure that the file remains in reference

number order, it should be sorted periodically using the LOGSORT command. As sorting is a slow process it should not be carried out more often than necessary.

Corrections to the main data base would normally be made by deleting entries using the system editor in hexadecimal mode and then putting the corrected entries in using LOGADD.

Data base searching

The search phase is entered by typing LOGSRCH. An entry will be retrieved only if one value in each search option specified is found.

The program requests the following data:

(1) Locality - one or more localities on a single line, each locality terminated by /. If a search by locality is not required leave the line blank.

   e.g. FINGAL/AVOCA/SMITHTON/

(2) Quadrangle - one or more quadrangle numbers in the format used for location.

(3) Map sheet - one or more 1:50 000 map sheet numbers in the format used for location.

(4) Search by area - leave blank for no search by area. - Y for finding entries inside specified area. Entries on the boundary of the area will not be found. The program prompts for the number of vertices. If 2 is entered a simple rectangle parallel to the grid may be entered by specifying the co-ordinates of any two diagonally opposite corners. Otherwise the program prompts for the vertex co-ordinates. Co-ordinates should be in the same form as used on the input sheets.

(5) Purpose - one or more purpose numbers in the same format used for location.

(6) First report selection - one or more groups of words or numbers on a single line, each group of words terminated by /. If this option is not required leave the line blank.

   e.g. TCR/TAS/MG/027/
        TCR or TAS or MG or 027

(7) Second report selection - as for the first report selection. Both report selections must be satisfied during a search if further items are to be checked and this provides a 'logical and' for the report search. For example it is possible to look for TCR report number 1227 by making the first title selection TCR/ and the second title selection 1227/

(8) Core held - enter Y if only holes for which core is held are to be retrieved. Leave blank otherwise.

(9) Core location - enter Y if the core locations are required. Leave blank otherwise.

(10) E.L. or M.L. - one or more E.L. or M.L. numbers on a single line, each terminated by ;. Leave blank if a search by E.L. or M.L. is not required.

   e.g. 5/63;123P/M;16/83;

(11) Organisation - details as for location.

(12) Drilled by - details as for purpose.

(13) Range of commencement dates - enter the earliest and latest possible commencement dates at the prompt in the form used on the input sheet. Leave blank if this option is not required.

   e.g. 12/1876
         3/1878

(14) Drill type - one or more drill type numbers on a single line, each group terminated by /. Leave blank if not required.

   e.g. 0/2/ diamond or rotary
         02/4/ diamond and rotary or auger.

(15) Geophysical logging - enter Y if only holes that have been geophysically logged are to be retrieved. Leave blank otherwise.

Example of a search:

```
SEARCH OPTIONS ARE:
LOCALITY         MOINA/
CORE LOCATIONS WANTED
```

```
REF NO!BOREHOLE NO !      LOCALITY      !QUAD!SHEET! AMG REF !PURPOSE! PLAN !   REPORT   !LOG LOCN!CORE!EL OR ML!
              !  ORGANISATION    !DRILLER! DATE !DEPTH!DRILL!GEOPHYS!
-------------------------------------------------------------------------------------------------------------

    2278!AN4        !MOINA             ! 37 !81153!425054059!  1  !     !           !   06   ! Y !        !
              !DOM              !  0  !19/1000!  64! 0  !  N  !

    2279!AN1        !MOINA             ! 37 !81153!425054059!  1  !     !           !   06   ! Y !        !
              !DOM              !  0  ! 2/1980!  40! 0  !  N  !

    2280!AN2        !MOINA             ! 37 !81153!425054059!  1  !     !           !   06   ! Y !        !
              !DOM              !  0  ! 3/1980!  45! 0  !  N  !

    2281!AN3        !MOINA             ! 37 !81153!425054059!  1  !     !           !   06   ! Y !        !
              !DOM              !  0  ! 8/1980!  62! 0  !  N  !

    2282!1         !MOINA             ! 37 !81153!422054068!  1  !     !TR 18      !   06   ! Y !        !
              !DOM              !  0  !11/1972! 100! 0  !  N  !

    2283!2         !MOINA             ! 37 !81153!420954062!  1  !     !TR 18      !   06   ! Y !        !
              !DOM              !  0  ! 2/1973!  31! 0  !  N  !

    2284!3         !MOINA             ! 37 !81153!420954061!  1  !     !TR 18      !   06   ! Y !        !
              !DOM              !  0  ! 3/1973!  29! 0  !  N  !

    4376!1A        !MOINA             ! 37 !81153!423054065!  1  !     !TCR 71-790 !   22   ! N !EL8/65 !
              !MT LYELL MINING CO !  3  !19/1000!  81! 0  !  N  !

    4377!2         !MOINA             ! 37 !81153!423254067!  1  !     !TCR 71-790 !   22   ! N !EL8/65 !
              !MT LYELL MINING CO !  3  !19/1000! 335! 0  !  N  !

    4378!3A        !MOINA             ! 37 !81153!423354065!  1  !     !TCR 71-790 !   22   ! N !EL8/65 !
              !MT LYELL MINING CO !  3  !19/1000! 260! 0  !  N  !

    4379!OH2       !MOINA OLIVERS HILL ! 37 !81153!428854054!  1  !     !TCR 71-812 !   22   ! N !EL8/65 !
              !MT LYELL MINING CO !  3  !19/1000! 244! 0  !  N  !

    4380!OH1       !MOINA OLIVERS HILL ! 37 !81153!429054053!  1  !     !TCR 71-812 !   22   ! N !EL8/65 !
              !MT LYELL MINING CO !  3  !19/1000! 165! 0  !  N  !
```

PURPOSE
0 ENGINEERING	1 METALLIC	2 NON-METALLIC
GEOLOGY	MINERALS	MINERALS
3 FUELS	4 STRATIGRAPHIC	

DRILLED BY
0 MINES	1 HYDRO-ELECTRIC	2 COMMONWEALTH
DEPARTMENT	COMMISSION	
3 PRIVATE		
CONTRACTOR		

DRILL TYPE
| 0 DIAMOND | 1 CABLE TOOL | 2 ROTARY |
| 3 PERCUSSION | 4 AUGER | |

REFRNCE NUMBER	STORE LOCATION	RACK NUMBER	DEPTH FROM	TO	UNITS	TYPE
2278	MORNSTOR	G98	0	49	METRES	DIAM.COR
	MORNSTOR	G99	49	209	METRES	DIAM.COR
2279	MORNSTOR	G96	0	131	METRES	DIAM.COR
2280	MORNSTOR	G96	0	43	METRES	DIAM.COR
	MORNSTOR	G97	43	146	METRES	DIAM.COR
2281	MORNSTOR	G97	0	47	METRES	DIAM.COR
	MORNSTOR	G98	47	205	METRES	DIAM.COR

APPENDIX 2

BOREHOLE LOG DATA SHEET

REFERENCE NO: _ _ _ _ _ (5)

BOREHOLE NO: _ _ _ _ _ _ _ _ _ _ _ _ (12)

LOCALITY: _ (20)

QUADRANGLE: _ _ (2)

1:50 000 MAP SHEET _ _ _ _ _ (5)

AMG MAP REFERENCE: _ _ _ _ 5 _ _ _ _ (9)

PURPOSE:

| 0 | Engineering geology | 1 | Metallic minerals | 2 | Non-metallic minerals

| 3 | Fuels | 4 | Stratigraphic   (Tick one)

PLAN NO: _ _ _ _ _ _ (6)

REPORT: _ _ _ _ _ _ _ _ _ _ _ _ (12)

LOG LOCATION: _ _ _ (3)

CORE HELD: Y/N (1)

E.L. OR M.L. etc. _ _ _ _ _ _ _ (7)

ORGANISATION: _ (20)

DRILLED BY:

| 0 | Department of Mines | 1 | Hydro-electric Commission

| 2 | Commonwealth | 3 | Private contractor   (Tick one)

DATE COMMENCED: _ _ / _ _ _ _ (7)

DEPTH: _ _ _ _ (4)

DRILL TYPE :

| 0 | Diamond | 1 | Cable Tool | 2 | Rotary

| 3 | Percussion | 4 | Auger   (tick two maximum)

GEOPHYSICAL LOGGING: Y/N (1)

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NOTES ON THE 'DORIS' DATA SHEET

Reference number: A sequential number allocated to each computer entry.

Borehole number: The original designation which appears on logs, core boxes and reports.

Locality: Geographical location.

Quadrangle: Map number on the geological atlas (1:63 360 up to 1972 then 1:50 000). Each quadrangle constitutes the northern or southern half of a 1:100 000 map sheet (for key map see Figure 1).

1:50 000 map sheet: The first 4 digits indicate the 100 000 map sheet and the fifth digit indicates the quarter sheet (1 = NE, 2 = SE, 3 = SW and 4 = NW).

AMG map reference: eastings followed by northings with the last two digits missing from each. This gives a reference to 100 m. More accurate references, where known, are indicated on the individual logs.

Plan number: Refers to the numbering system in the D.O.M. cartographic map index. At present, plans from other sources are not included in the computer file but this will be done as the information is made available.

Report

UR	Unpublished typed report (1861-1963)
TR.NO.YEAR	Technical Report 1956-1977
UPR.YEAR.NO.	Unpublished Report 1971-
UGWSP	Underground Water Supply Paper
GSB.NO.YEAR	Geological Survey Bulletin
TCR	Tasmanian Company Report
GSER.YEAR	Geological Survey Explanatory Report
RSM.YEAR	Report of the Secretary for Mines
MR.NO	Mineral Resources
IRCR	Interim Report on Geology and Coal Resources of Northeastern Tasmania

Log Location: Book number. At the time of writing there are 33 books in the series.

Core held: All drill core held is stored in the Mornington or Domain core stores. If the core is held the user has the option of obtaining its location through the CORIND program.

E.L. or M.L.: Exploration Licence number of Mineral Lease number, if applicable.

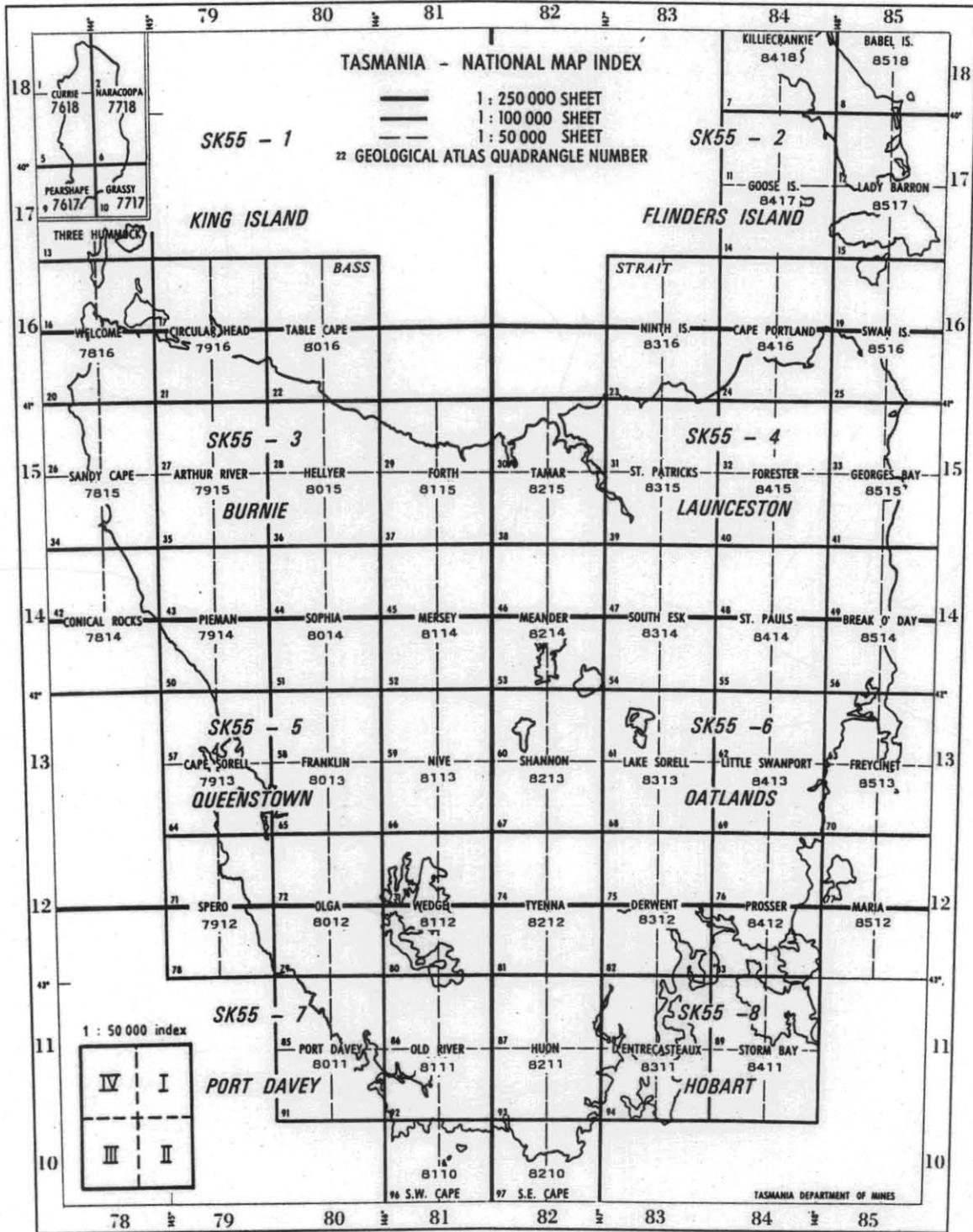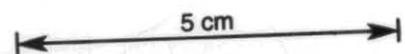The remainder of the entries are self explanatory.

Figure 1. Index map showing 1:50 000 and 1:100 000 sheets.

5 cm

APPENDIX 3

CORLIBRARY - a core data index

A. L. Telfer

The following notes are taken from Unpublished Report 1986/44, which should be consulted for further details and FORTRAN program listings.

THE PROGRAMS

CORADD

This program prompts the user for data and writes it to a temporary file CORTEMP.TMP. This file is corrected using the computers editing facilities.

CORMERGE

The corrected data in CORTEMP.TMP is converted to hexadecimal format. The data base is copied to a temporary work file and the corrected data in CORTEMP.TMP is converted to hexadecimal format and added to the end of the work file. The combined file is then copied back to the original data base file.

CORSORT

The data are sorted into ascending DOM sample number order and written to a temporary file in the new order. The temporary file is then copied back to the original data base file. A reference number index (CORINDEX.IND) is created so that the CORLIBRARY data base may be accessed from LOGSRCH also.

CORSRCH

The program prompts the user with the available search options (see *Data base searching* below), takes the values of the options selected, and searches each record for the occurrence of every selected option.

USING THE PROGRAMS

Data base maintenance

Data are recorded on a standard input form (Appendix 4) before entry. Data input is started by typing CORADD, then the data are entered from the standard input forms in response to the prompts of the program. Provision is made for up to ten different core locations per hole. Input of core locations per hole is terminated by entering a location of 0 (zero). The input session is terminated by entering 0 (zero) as the analysis number.

A proof sheet is printed in the computer room, and the data are saved in file CORTEMP.TMP. This file should be corrected using the editing facilities before continuing.

The corrected temporary file CORTEMP.TMP is added to the end of the existing data base using the CORMERGE command. The data base should be sorted periodically using the CORSORT command to maintain the entries in numerical order and update the number index file (CORINDEX.IND).

Corrections to the main data base (CORIND.DAT) would normally be made by

deleting entries using the system editor in hexadecimal mode and then
putting the corrected entries in using CORADD.

Data base searching

The data base is searched by typing CORSRCH. An entry will be retrieved if
each of the specified search options is found in the entry.

The following search options may be specified or left blank;

   (1) REFERENCE NUMBER - one or more reference numbers on a single line,
        each terminated by a /.   e.g. 3253/3254/3255/

   (2) STORE LOCATION - one or more store locations, each terminated by a /.

   (3) RACK NUMBER - one or more rack numbers, each terminated by a /.

   (4) CORE TYPE - one or more core types, each terminated by a /.

APPENDIX 4

CORLIB

REFERENCE NUMBER: _ _ _ _ _   (5)

Store Location*				Rack No.	Depths From	To	Units*			Type*			
S	P	D	Q				m	ft	?	d	c	a	o
1	2	3	4	_ _ _ _ _ (5)	_ _ _ _ _(4)	_ _ _ _ _(4)	1	2	3	1	2	3	4
				_ _ _ _ _	_ _ _ _	_ _ _ _							
				_ _ _ _ _	_ _ _ _	_ _ _ _							
				_ _ _ _ _	_ _ _ _	_ _ _ _							
				_ _ _ _ _	_ _ _ _	_ _ _ _							
				_ _ _ _ _	_ _ _ _	_ _ _ _							
				_ _ _ _ _	_ _ _ _	_ _ _ _							
				_ _ _ _ _	_ _ _ _	_ _ _ _							
				_ _ _ _ _	_ _ _ _	_ _ _ _							
				_ _ _ _ _	_ _ _ _	_ _ _ _							

* Tick one only   S = Store; P = Plant, D = Domain; Q = Queenstown