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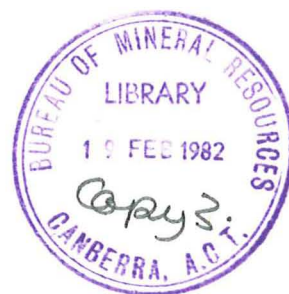
**RESTRICTED**

**RECORD**

Record 1981/72

A Users Guide  
to the  
Data-Base REFIL  
on the

Hewlett Packard 1000 Image System



by

Ian Donald

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## ABSTRACT

The REFIL data-base is one of many data-bases housed by the Hewlett-Packard 1000 Data-Base Image System. In using the REFIL data-base, and understanding of its structure is essential.

REFIL contains a list of BMR registry files pertinent to the Petroleum Exploration Branch. The file numbers and descriptions are contained in one detail set and the file numbers and keywords are contained in another detail set.

Files from one detail set can be interrogated and reported using the Image System program QUERY and both sets can be interrogated and reported using the Image System program IMFN. The REFIL data-base is updated by the Image System programs IMUP and IMAD.

The REFIL data-base receives extensive use throughout the Petroleum Exploration Branch and the REFIL data-base experiences a 1%/month growth rate.

## INTRODUCTION

The REFIL data-base was set up in November 1979 in answer to problems with registry files, initially experienced by the Petroleum Reservoir Engineering sub-section. The solution has been so effective that the on-going process of updating the data-base has extended its service to all sections of the Petroleum Exploration Branch. The data-base is currently used by professional, technical, clerical, and (PEB) secretarial staff. A guide to the REFIL structure is presented in this Record.

The basic problems with the registry files were:

1. A need to know the appropriate file on which to place information.
2. A need to know the name of a file knowing only it's number of vica versa.
3. A need to obtain a list of files pertinent to a subject under study.

In solving these problems the registry files were classed into two (Detail Sets). One set contains the file number and its description and the other set contains the file number and a list of keywords that classify the file into subjects. For example:

Set 1.    File Number:   1980/964        Description:   Thomby Creek New Oil Pricing

Set 2.    File Number:   1980/964        Keywords:   Thomby Creek  
   New Oil  
   QLD  
   Bowen/Surat  
   Confidential

The two Detail Sets are called SFILE amd SKEYS. The SFILE Detail Set contains two items; FILEN and DESC. The SKEYS Detail Set contains two items; FILEN and KEYWD. Each item contains file numbers, descriptions, and keywords called entities. The capacity of the Detail Set is the number of individual entities.

The Detail Sets are linked by Master Sets MFILE and MKEYS which contain one item each, MNUMB and MKEYW respectively. A diagrammatic representation of the schema is shown in Figure 1.

The REFIL data-base is one of many data-bases housed by the Hewlett-Packard 1000 Image System. Within the system a Data-Base Management System (DBMS) provides the capability of managing the REFIL data-base. The DBMS reads the root file RESCM which details the structure of the REFIL data-base (the schema). The DBMS manages the data-base, allowing the programs to make selective additions, deletions, and reporting of information.

There are four programs which access the REFIL data-base; IMUP, IMAD, QUERY, and IMFN. IMUP and IMAD allows for addition and deletion of information to REFIL. QUERY allows for the interrogation of either the SRILE or SKEYS Detail Sets at any one time. IMFN provides information from both Detail Sets and is linked by one of the Master Sets (MFILE or MKEYS).

Before using REFIL it is advisable to read carefully the BMR Hewlett-Packard Computer System IMAGE 1000 Data Base Users Guide (Watt, 1980). Additional information can be obtained from the Hewlett-Packard manual (Hewlett-Packard, 1979).

#### SCHEMA

The structure of REFIL is specified in the root file RESCM. The structure sets out the levels, cartridge, items, and sets in the data-base. The character length for each item and capacity of entities is specified. The structure is as follows:

```
$CONTROL: LIST, ERRORS = 10, ROOT, TABLE, FIELD, NOSET: BEGIN DATA-BASE:
REFIL: 8U5: 062; FILES OF INTEREST TO PETROLEUM EXPLORATION
```

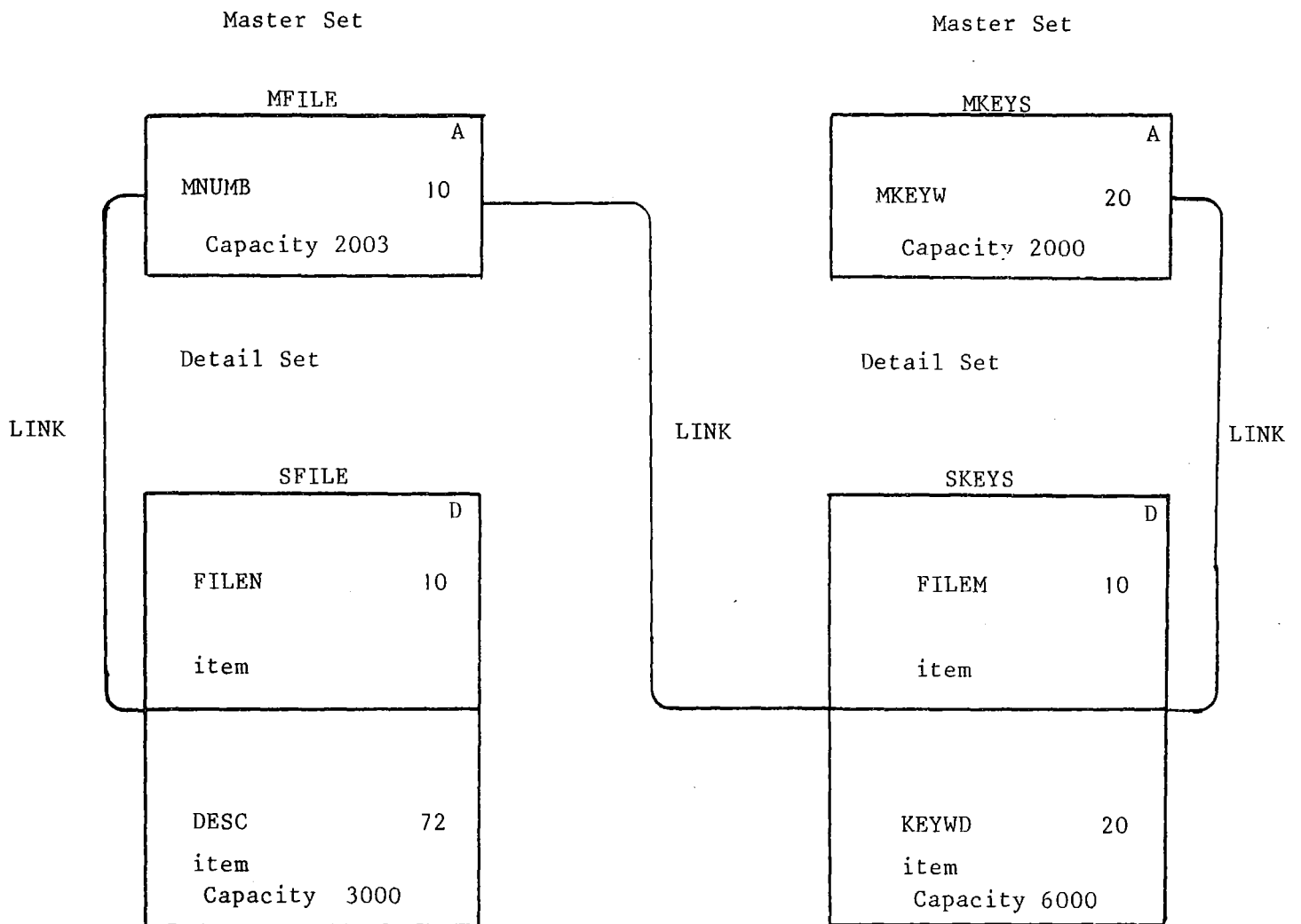


Fig. 1: Flow diagram for the REFIL data-base schema



PROGRAM IMUP

IMUP provides a method for updating, deleting, and adding entities to the REFIL data-base. Before adding information to the data-base, place the information on the coding sheet (see Appendix 1).

IMUP is interactive, i.e. it asks questions and you supply the answers. To run IMUP:

```

type      RUN, IMUP
reply     DATABASE: SECURITY =
type      REFIL: 8115
reply     IMUP OPERATION
           1  UPDATE                      data-entry
           -1 UPDATE                      data-chain
           2  DELETE                      data-entry
           -2 DELETE                      data-chain
           3  ADD                         data-entry
           4  LIST                        data-entry
           5  WXIST                       IMUP
           OPERATION NUMBER (OR/?) =
type      an operation number
reply     SET NAME (OR/?) =

```

If you type /? you will receive a list of Set Names for you to choose from.

```

type      a detail set name
reply     SEARCH VARIABLE (OR/?) =

```

If you type /? you will receive a list of Search Variables for the Detail Set specified.

```

type      the search variable you require
reply     is the search variable you wish
type      the entity

```

to end processing, type /E

## LEVELS:

4 RDACC:

15 WTACC:

## ITEMS:

MKEYS,	X20;	MASTER KEYWORD
MNUMB,	X10;	MASTER REFERENCE NUMBER
FILEN,	X10;	DETAIL REFERENCE NUMBER
DESC,	X72;	DETAIL DESCRIPTION
FILEM,	X10;	DETAIL NUMBER
KEYWD,	X20;	DETAIL KEYWORD

## SETS:

NAME:	MFILE: :062,A;	MASTER REFERENCE NUMBER SET
ENTRY:	MNUMB (2);	
CAPACITY:	2003;	
NAME:	MKEYS: :062, A;	MASTER REFERENCE KEYWORD SET
ENTRY:	MKEYW (1);	
CAPACITY:	2000;	
NAME:	SFILE: :062, D;	DETAIL REFERENCE NUMBER SET
ENTRY:	FILEN (MFILE),	
	DESC:	
CAPACITY:	3000;	
NAME:	SKEYS: :062, D;	DETAIL KEYWORD SET
	FILEM (MFILE),	
	KEYWD (MKEYS):	
CAPACITY:	6000;	
END		

Please do not edit RESCM! When the data-base outgrows its present capacity of 6000 entities contact the ADP section. The process of enlarging a data-base is long and arduous.

reply FURTHER PROCESSING? (OPTION OR /?) =  
 type /?  
 reply
 

OPTION	OPERATION	SET	ITEM
A	NEW	NEW	NEW
B	NEW	OLD	NEW
C	NEW	OLD	OLD
D	OLD	OLD	OLD
E	OLD	NEW	NEW
F	STOP - END OF PROCESSING		

type FURTHER PROCESSING? (OPTION OR /?) =  
 an option

Example 1.

We wish to add a data entry to one Detail Set.

type RUN, IMUP  
 reply DATABASE: SECURITY =  
 type REFIL: 8115  
 reply IMUP OPERATION
 

1	UPDATE	data-entry
-1	UPDATE	data-chain
2	DELETE	data-entry
-2	DELETE	data-chain
3	ADD	data-entry
-3	EXIT	IMUP

OPERATION NUMBER (OR/?) =

type 3  
 reply SET NAME (OR/?) =  
 type SKEYS  
 reply SEARCH VARIABLE (OR/?) =  
 type FILEM  
 reply FILEM =  
 type SS - 533  
 reply KEYWD =

```

type      SPECIAL STUDIES
reply     FILEM =
type      SS - 533
reply     KEYWD -
type      CONFIDENTIAL
reply     FILEMS =
type      /E
reply     FURTHER PROCESSING (OPTION OR /?) =
type      F

```

To exit from the program either type F or 4 where appropriate. The program ends by specifying the transaction file.

When there are many files to be added to the REFIL data-base, the most agreeable procedure is to fill out the coding sheets (Appendix 1) and submit these to the punch card operators in room 216, on the second floor where a professional job is assured.

#### PROGRAM QUERY

QUERY is used to search for specific files or groups of files in the one Detail Set. Items can be found in any one session using relational operator from Table 1. The FIND statement can be linked to other FIND statements using AND, OR or XOR. To run QUERY.

```

type      RUN, QUERY, terminal number, output device number
reply     NEXT?
type      DATA-BASE = REFIL : 8115;
reply     LEVEL
type      WTACC;
reply     MODE;
type      1;
reply     NEXT ?
type      SELECT - FILE = SELTX or SELTY

```

SELTX is a small scratch file; SELTY is a large scratch file.

```

reply      NEXT?
type       FIND item rational operator "entity" END;
reply      NEXT ?
type       REPORT NAME = DESNUM or KEYNUM

```

DESNUM is a report file designed to report the Detail Set SFILE and KEYNUM reports the Detail Set SKEYS. A list of keywords appear in Appendix 2; additions to the list are made as new files are added to the data-base.

```

reply      NEXT ?
type       EXIT;
reply      QUERY LUN 06 ATTACHED TO FILE number
type       LN, -N

```

#### Report file DESNUM

```

REPORT;
H1, "PAGE", 125;
H2, PAGENO, 129, SPACE A2;
H2, "FILES OF INTEREST TO PETROLEUM EXPLORATION", 80, SPACE A1;
H3, "FILE NUMBER", 15;
H3, "DESCRIPTION", 15;
S1, FILEN;
D, FILEN, 15;
D, DESC, 100;
END:

```

#### Report file KEYNUM

```

REPORT;
H1, "PAGE", 125;
H2, PAGENO, 129, SPACE A2;
H2, "FILES OF INTEREST TO PETROLEUM EXPLORATION", 80 SPACE A1;
H3, "KEYWORD", 15;
H3, "FILE NUMBER", 50, SPACE A2;
S1, KEYWD:
S2, FILEM:
G2, DEYWD, 35;
D, FILEM, 50;
END;

```

Example 2.

We wish to list all files up to 1977/1810 file.

```

RUN, QUERY, 20, 6;
NEXT? DATA-BASE = REFIL:8115;
LEVEL = ?
      MODE = ? 1;
NEXT? SELECT-FILE = SELTY;
NEXT? FIND FILEN ILT "1977/1810" END:
SERIAL READ IN PROGRESS
NEXT? REPORT NAME = DESNUM:
NEXT? EXIT;
QUERY LUN 06 ATTACHED TO FILE -0147
*LN, - N
YOUR OUTPUT FILE - TF13

```

Table 1: Relational Operators

RELATIONAL OPERATOR	MEANING
IS	equal
IE	
ISNOT	is not equal to
INE	
ILT	is less than
INLT	is not less than
IGT	is greater than
INGT	is not greater than
CONTAINS	contains the string
CO	

PROGRAM IMFN

Program IMFN has been written to allow retrievals and reports to be made from the two Detail Sets which are linked by a Master Set.

To simplify the running of IMFN a procedure file has been created called REFREP. To run IMFN:

```

type RUN, IMFN, procedure file, output device number,
      terminal number, ECHO

```

The program will echo each step in the procedure file until completed.

type EXIT;  
reply IMFN LUN 06 ATTACHED TO FILE number  
type LN, -N

Procedure file REFREP

```
REFIL : 8115:
LINK = MFILE;
FIND FILEN IGT "O" END;
SORT-SIZE = 6000;
REPORT S2, KEYWD;
S1, FILEM
H1, "SPACE", 110;
H1, PAGENO, 115, SPACE A2;
H2, "FILES OF INTEREST TO PETROLEUM EXPLORATION", 30, SPACE, A1;
H3, "KEYWORD", 15
H3, "FILE NUMBER", 15;
H3, "DESCRIPTION", 60, SPACE A2;
G2, KEYWORD, 15;
D, FILEN, 35;
D, DESC, 60;
END:
```

### CONCLUSION

The data-base REFIL allows members of the Petroleum Exploration Branch to correctly identify their files of interest quickly and efficiently.

The REFIL data-base currently experiences a 1%/month growth rate as a result of the ongoing process of creating and updating PEB files. It is envisaged that the data-base will expand quickly to accommodate all P(SL)A and PSSA files and Special Studies (SS) reports.

### ACKNOWLEDGEMENTS

Computing advice and assistance received from Jill Brown and Chris Watt,. both of BMR. The help of the Registry staff and members of Offshore Subsidy Section was appreciated.

### References

HEWLETT-PACKARD, 1979 - Image 1000 HP 9209A, Data-Base Management System, Reference Manual. Hewlett Packard, USA.

WATT C., - BMR Hewlett-Packard Computer System IMAGE 1000 Data-Base User Guide. Bureau of Mineral Resources, Australia.



11.

Appendix 1

Coding Sheet

## CODING SHEET

## FILES OF INTEREST TO PETROLEUM EXPLORATION

DATA BASE: REFIL

SCHEMA: RESCM

DATE: 11.11.1975

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[illegible]

13.

## Appendix 2

Keywords

## KEYWORDS FOR DATA-BASE = REFIL

ABROLHOS	B.O.C.	C.N.W.
ADAVALE	B.P.	CABAWIN
ADMINISTRATION	BANAMBU	CAMPBELL
AGIP	BARRACOUTA	CANADA
AIP	BARROW ISLAND	CANNING
AIPEX	BASIN ASSESSMENT	CANOTEC
ALBATROSS	BASS	CAREY
ALLIANCE	BASS STRAIT OIL & GAS	CARNARVON
ALVA	BASSET	CASWELL
AMADEUS	BATAVIA	CHALLENGER
AMAX	BEACH PETROLEUM	CHEVRON
AMEC	BEDOUT	CHINA
AMF	BINGILBERRY CREEK	CITCO AUSTRALIA
AMI	BLIGHT WATER	CLARENCE-MORETON
AMSTAC	BMR	CLOSED FILE
ANCHOR CLAY	BOCAL	COAL
ANGEL	BOGGO CREEK	COAL-GAS
ANNUAL	BONAPARTE GULF	COBIA
ANTARCTICA	BONNIE	COD
ANU	BOUGAINVILLE	COLUMBO PLAN
APEA	BOUVARD	COMPANY
APOLLO	BOWEN	COMPUTING
APPLICATION	BOWEN/SURAT	CONEXOIL
AQUITAINE	BREAM	CONFERENCE
ARAFURA	BRECKNOCK	CONFIDENTIAL
ARCO	BREWSTER	CONOCO
ASHMORE REEF	BRIDGE OIL	CONSULTANTS
ASTEC	BRIGADIER	CONTINENTAL OIL
AWRC	BROWSE	COOPER
	BRUCE	CORE LAB
	BRUNSWICK OIL	CORMORANT
	BUFFON	COSSIGNY
	BULLEYE	CULTUS PACIFIC
	BUNDEGI	CURLEW

## KEYWORDS FOR DATA-BASE = REFIL

DAC	EAGLEHAWK	FERROVANADIUM
DAMPIER	EAST MACKEREL	FIJI
DARLING	EAST MERMAID	FINUCANE
DART	EAST SWAN	FIRB
DARTMOUTH	ECHIDNA	FLAG
DATA FILE	ECONOMICS	FLATHEAD
DEFINITIONS	EEDRACHT	FLOUNDER
DEGREY	EGRET	FORTESCUE
DELAMBRE	EMPEROR	FRIGATE
DELHI	ENDERBY	
DEPT. MIN. & ENERGY	ENERGY	
DEPT. NAT. RES.	ENGINEERING	
DEPUCH	ENGLAND	
DEVELOPMENT	ENVIRONMENT	
DIAMOND SHAMROCK	EP-176	
DIBIRI	EROMANGA	
DILLON SHOALS	ERRUGULLA	
DIVING	ESSO	
DOCKRELL	EUCLA	
DONGARA	EXCISE	
DOTTEREL	EXMOUTH PLATEAU	
DOW CHEMICAL	EXOCO INTERNATIONAL	
DPT. MINES VIC	EXPLORATION	
DRILLING	EYRE	
DUARINGA		
DUNTROON		

## KEYWORDS FOR DATA-BASE = REFIL

GALILEE	H.K. VAN POOLEN	I.O.L.
GANDARA	HALIBUT	IAC
GANNET	HAMPTON	IADC
GARLOW	HARTOGEN	INDIA
GAS-STORAGE	HUEY	INDONESIA
GEELVINK	HAY RIVER	INDOON
GEMINI	HAYCOCK	INSTITUTE
GENERAL	HEAT-FLOW	INVESTIGATOR
GEOL. SURVEY QLD	HELIUM	INVESTMENT
GEOMETALS	HEMATITE	ISO
GEOPRESSURE	HERMIT	IXTOC
GEORGINA	HEYWOOD	
GETTY OIL	HIGHTOWER	
GIPPSLAND	HIGHWAY OIL & GAS	
GOLDEN BEACH	HOUTMAN	
GOODWYN	HUDBAY	
GORGON	HUGHES & HUGHES	
GRAVITY	HYDRATE	
GREAT AUST. BIGHT		
GREAT SEAS REEF		
GREBE		
GULF OIL		
GULL		

## KEYWORDS FOR DATA-BASE = REFIL

JARMAN	KANAU	L'ETOILE
JERBOA	KINCORA	LACEPEDE
JERUSULAM	KINGFIGH	LAMBERT
JUPITER	KINMORE	LAURA
	KIUNGA	LAW
	KOOLINDA	LEATHER JACKET
	KURROWERA	LEGENDRE
	KUSA	LENNARD OIL
		LESUER
		LETTERS
		LEVEQUE
		LEWIS
		LEYDEN
		LICENCE
		LIMPET
		LNG
		LOMBARDINA
		LONDONDERRY
		LOWENDAL
		LPG
		LYNEDOCK
		LYNHER

## KEYWORDS FOR DATA-BASE = REFIL

M.J. WILTSHIRE	N.S.W.	O.K.O.O.A.
MACKEREL	N.S.W. DEPT. MIN. RES.	OAC
MADELEINE	N.T.	OBERON
MAGELLAN	N.T. DEPT. OF MINES	OCCIDENTAL
MAGNET	NATA	OCEANIA PETROLEUM
MAGNET METALS	NEAC	ODCAA
MAGNET PETROLEUM	NELSON ROCKS	OFFICER
MAGNETIC	NEPTUNE	OFFSHORE
MAGNET METALS	NERDDC	OFFSHORE OIL
MALUS	NEW OIL	OIL & MINERALS
MANAGEMENT	NGALIA	OIL PRICING
MAPPING	NORTH HIBERNIA	OIL RECOVERY
MARLIN	NORTH RANKIN	OIL SHALE
MEASUREMENTS	NORTH WEST SHELF	OPAH
MERCURY	NT/P 2	OSPREY
MEREENIE	NT/P 5	OTTER
MERMAID	NT/P 7	OTWAY
MESA	NT/P 9	OUTBACK OIL
METRIC	NT/P12	
MILDA	NT/P13	
MINES ADMINISTRATION	NT/P15	
MINES DEPT. S.A.	NT/P17	
MINILYA	NT/P19	
MINING CORP.	NT/P20	
MINISTERIAL	NT/P25	
MONEY SHOAL	NT/P26	
MT ASHMORE	NT/P27	
	NT/P28	



## KEYWORDS FOR DATA-BASE = REFIL

P(SL)A	PROGRAM FILE	Q/P7
P.L2H	PRUDHOE	QLD
P.M.A.	PUBLICATION	QLD MINES DEPT.
PACIFIC	PUEBLO	QUILBERRY
PALM VALLEY	PUFFIN	
PANCONTINENTAL	PURSUIT	
PAPUA		
PARKER		
PARMELIA		
PECTEN		
PEDIRKA		
PEEL		
PELICAN		
PELSART		
PENGUIN		
PENGUIN SOUTH		
PERENTIE		
PERMIT		
PERTH		
PESA		
PET TECH		
PETREL		
PETROCHEMICAL		
PHILLIPS		
PHOENIX		
PICARD		
PIKE		
PIPELINE		
PIPELINE AUTHORITY		
PLATYPUS		
PLOVER		
PNG		
POISSONIER		
POLDA		
POLICY		
POLLUTION		
PONTIFEX		
POTOROO		
PRICING		
PRION		
PRODUCTION		

## KEYWORDS FOR DATA-BASE = REFIL

REBATE	S.A.	SWAN
RECOVERY	S.E. ASIA	SWEEP
REQUESTS	SA- 2-P	SWORDFISH
RESEARCH	SA- 4-P	
RESERVES	SA-15-P	
RESOLUTION	SA/EPP 18	
RESOURCES	SABLE	
REYNOLDS DIVERSIFIED	SAHUL SHOALS	
RMIT	SANTOS	
ROBROY	SAOGC	
ROBERTSON RESEARCH	SATURN	
ROEBUCK BAY	SCARBOROUGH	
ROMANIA	SCOTT REEF	
RONARD	SEAHORSE	
ROSEMARY	SEISMIC	
ROUGHY	SHEARWATER	
ROYAL	SHELL	
ROYALTIES	SHORELINE	
	SIMTRAN	
	SIMULATION	
	SKUA	
	SNAPPER	
	SOLAR	
	SOURCE ROCK	
	SOUTH MACKEREL	
	SOUTH TURTLE DOVE	
	SOUTH WEST FLAG	
	SPAR	
	SPECIAL STUDIES	
	STAFF	
	STATISTICS	
	STIRLING	
	STONEFISH	
	STRATA	
	STRATIGRAPHIC	
	STRESS	
	SUBSIDIES	
	SULTAN	
	SUNFISH	
	SUNRISE	
	SURAT	
	SYDNEY	

## KEYWORDS FOR DATA-BASE = REFIL

T/ 6P	U.S.A.	VOLUTA
T/12P	ULAMING	VAN DIEMAN RES. NL
T/15P	UNION-KERN	VEILFIN
T/17P	UNITED NATIONS	VIC.
T/18P		VIC/L 1
TAMAR		VIC/L 2
TANTABIDDI		VIC/L 3
TAS.		VIC/L 4
TERN		VIC/L 5
THOMBY CREEK		VIC/L 6
THREADFIN		VIC/L 7
TIDEPOL		VIC/L 8
TIMOR SEA		VIC/L 9
TITLES		VIC/L10
TOOKLA		VIC/L11
TOOLEBUC		VIC/L12
TORQUAY		VIC/P 1
TP/P 3		VIC/P 8
TP/P 4		VIC/P 9
TRAINING		VIC/P11
TREMOUILLE		VIC/P12
TRINIDAD		VIC/P14
TROUBADORE		VIC/P16
TRUMPET		VINCK
TRYAL ROCKS		VISITS
TUNA		VLAMING
TURNSTONE		
TURRUM		

## KEYWORDS FOR DATA-BASE = REFIL

W.A.	WA- 87-P	WAINO CO
W.A. MINES DEPT.	WA- 88-P	WALLAROO
W80-48	WA- 89-P	WALTER D. WEBER & CO
W80-49	WA- 90-P	WAPET
W80-50	WA- 91-P	WARNBRO
WA- 1-P	WA- 92-P	WEAVER OIL & GAS
WA- 2-P	WA- 93-P	WEST HALIBUT
WA- 8-P	WA- 94-P	WEST KINGFISH
WA- 13-P	WA- 96-P	WEST TRYAL
WA- 14-P	WA- 97-P	WEST TRYAL ROCKS
WA- 18-P	WA- 99-P	WESTERN ENERGY
WA- 20-P	WA-102-P	WESTERN MINING
WA- 21-P	WA-103-P	WHITELEY
WA- 23-P	WA-104-P	WOODBINE
WA- 24-P	WA-109-P	WOODSIDE
WA- 25-P	WA-115-P	
WA- 28-P	WA-116-P	YAMPI
WA- 29-P	WA-117-P	
WA- 32-P	WA-119-P	
WA- 33-P	WA-120-P	
WA- 34-P	WA-125-P	
WA- 35-P	WA-126-P	
WA- 36-P	WA-123-P	
WA- 37-P		
WA- 39-P		
WA- 47-P		
WA- 58-P		
WA- 59-P		
WA- 62-P		
WA- 64-P		
WA- 70-P		
WA- 74-P		
WA- 77-P		
WA- 79-P		
WA- 80-P		
WA- 81-P		
WA- 84-P		
WA- 85-P		