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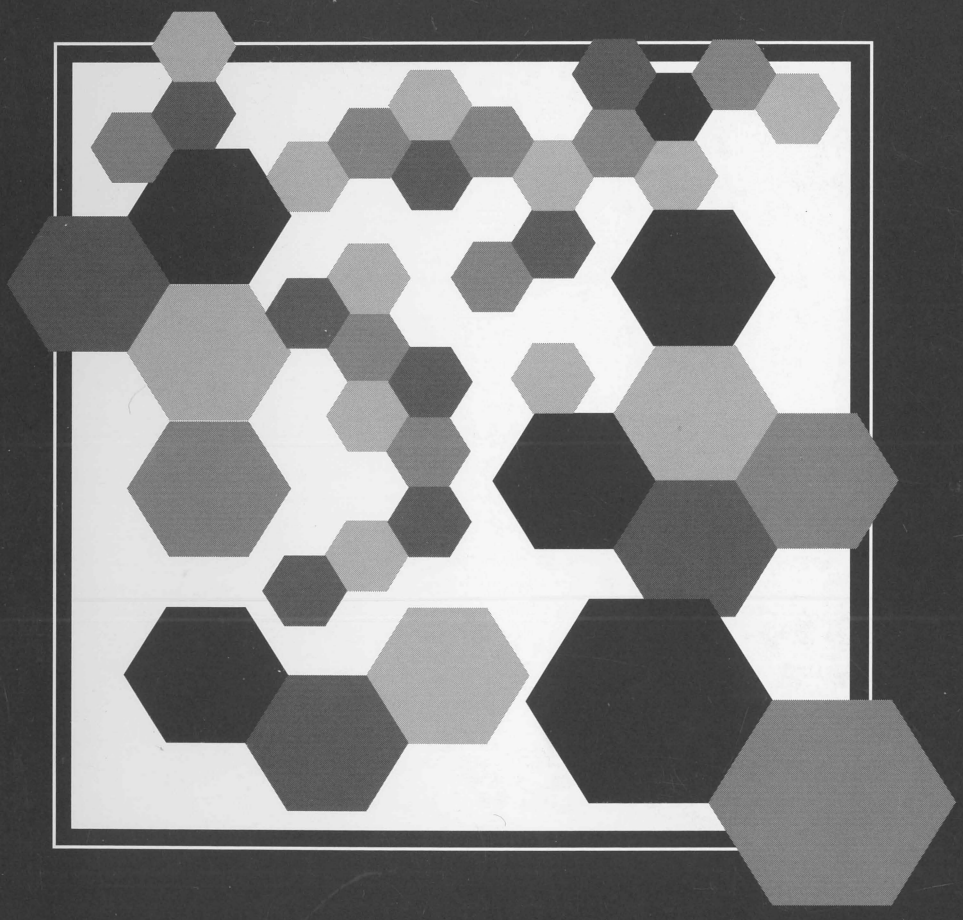

by D.E. Mackenzie, L.A.I. Wyborn and R.J. Ryburn

1991/38
c.4

Mineral Resources, Geology and Geophysics

BMR
GEOLOGY AND
GEOPHYSICS
AUSTRALIA

Northeast Queensland

Rockchem Data Set

Documentation

Record 1991/38

by

D.E. Mackenzie, L.A.I. Wyborn

and R.J. Ryburn

DEPARTMENT OF PRIMARY INDUSTRIES AND ENERGY

Minister: The Hon. Alan Griffiths

Secretary: G.L. Miller

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

Executive Director: R.W.R. Rutland AO

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ABSTRACT

ROCKCHEM is the whole rock geochemical data storage system of the Minerals and Land Use Program of the BMR, Geology and Geophysics and utilises the relational database management system ORACLE. This data set contains 1940 analyses (both major and trace elements) from northeast Queensland. Most samples are located by AMG grid references and/or decimal latitude and longitude. This record describes tables used in ROCKCHEM and defines the fields used within these tables. A short description of the data contained is given and a bibliography of the main references that were generated from the data.

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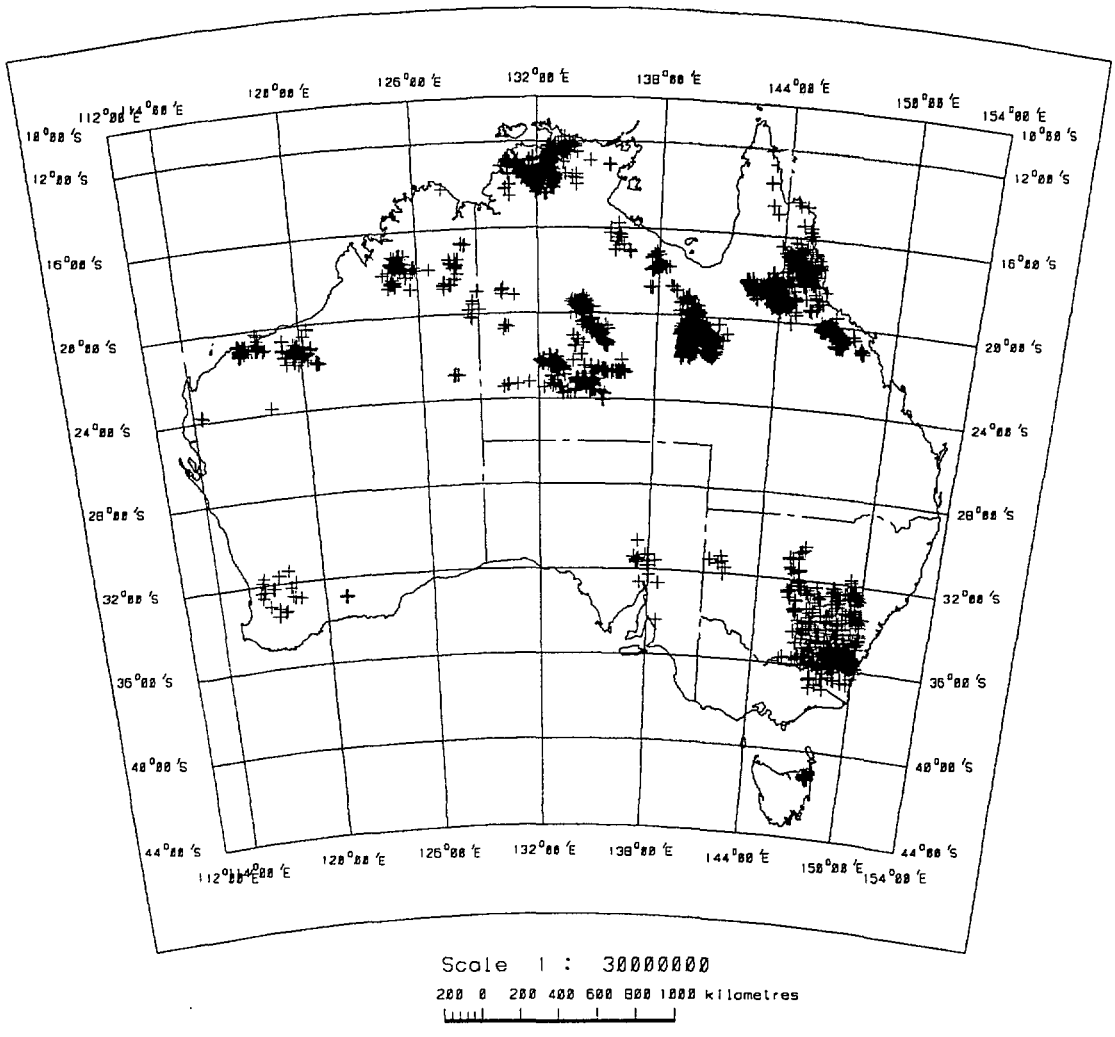

Figure 1. Distribution of Rockchem samples in Australia.

1. INTRODUCTION

ROCKCHEM is the whole-rock geochemical data storage system of the Minerals and Land Use Program of the BMR Geology and Geophysics, Australia. It is based on the commercial relational database management system ORACLE. The complete database contains approximately 17445 analyses from Australia (see Figure 1) and Antarctica, and can be divided into either regional or thematic data sets. The data is currently subdivided into the data sets as listed in Table 1. Most of these data sets will be released by late 1991.

Subset	Areas Covered	No. of Analyses	Coordinator
Regional Databases			
Antarctica	Antarctica	1318	J.W. Sheraton
Arunta	Arunta Block	793	R.G.Warren, L.Wyborn
Lachlan	Lachlan Fold Belt NE Tasmania NW Tasmania	1149 300 40	D. Wyborn
McArthur	McArthur Basin Murphy Tectonic Ridge	533 74	K. Plumb, L. Wyborn
Mount Isa	Mount Isa Inlier	2296	L. Wyborn
NE Queensland	Georgetown Inlier NE Queensland	1940	D.E. Mackenzie
Pilbara	Pilbara Block	1386	A.Y. Glikson
Pine Creek	Pine Creek Inlier	2056	L. Wyborn
South Australian Proterozoic	Stuart Shelf, Adelaide Geosyncline	232	J. Knutson
Tennant Creek	Tennant Creek Inlier Davenport Province	1431 170	L. Wyborn
West Austrlian Proterozoic	Capricorn Province Granites Tanami Block Halls Creek Block	227 56 164	L. Wyborn
Yilgarn	Yilgarn Block	400	P.R. Williams
Thematic Databases			
Alkaline	Kimberlites Alkaline Rocks	880	A.L. Jaques
EAVS	East Australian Volcanics(Cainozoic)	2000	J. Knutson

Table 1. List of Data Sets in Rockchem.

2. THE NORTHEAST QUEENSLAND DATA SET

This ROCKCHEM data set is a release of approximately 1940 analyses from the North east Queensland region. Figure 2 shows the distribution of the analyses within the data set. Appendix 1 contains listings of the individual components of the data set.

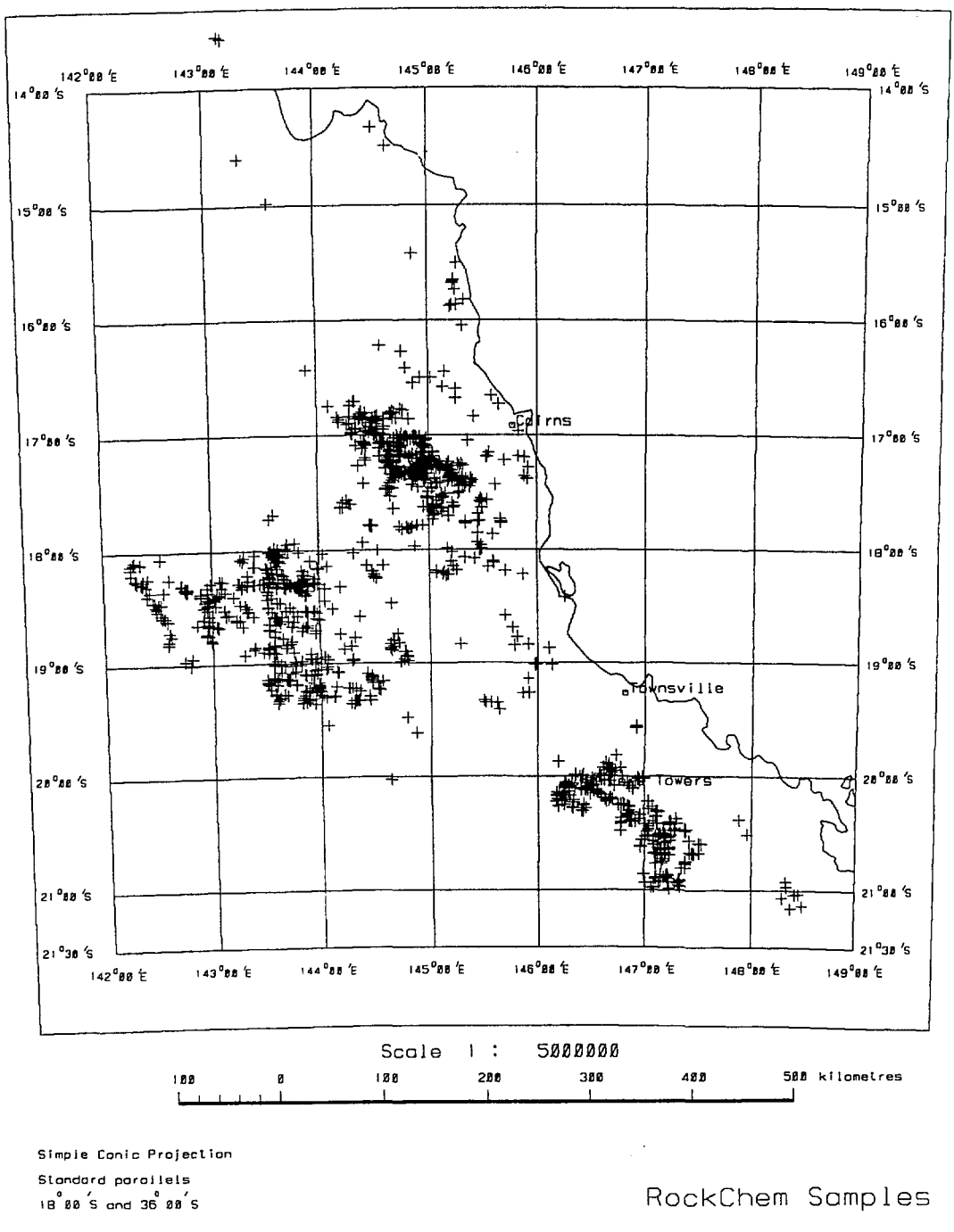

Figure 2. Rockchem Samples in the NE Queensland Region.

Northeast Queensland Database (including Georgetown Inlier and Cape York Province).

Database type: regional

General Selection Criteria:

Field = regiono *Entry* = 25

Data description:

The NE Queensland database contains approximately 1940 analyses of samples ranging in age from lower Proterozoic to upper Palaeozoic. The data are mainly of igneous rocks and were collected during regional mapping programs operated jointly by BMR and the Geological Survey of Queensland. This database contains the following groups:

- 165 Proterozoic granites and volcanics from the Georgetown, Croydon and Dargalong areas, including the Croydon Volcanic Group and Esmeralda granite suite.

  Specific selection criteria:

  Field = geogarea *Entry* = Georgetown-Coen Province: Croydon Region

  Entry = Georgetown-Coen Province: Georgetown region

  Entry = Georgetown-Coen Province: Dargalong region

- 176 Proterozoic sediments and metabasites from the Etheridge Group of the Georgetown Inlier.

  Specific selection criteria:

  Field = geogarea *Entry* = Einasleigh Region

  Entry = Georgetown-Coen Province: Georgetown Region

- Approximately 274 early Palaeozoic granites and volcanics including the Ravenswood Batholith and Siluro-Devonian granites intruding the Georgetown Inlier.

  Specific selection criteria:

  Field = Geogarea *Entry* = Cape York Plutonic Belt: Cape York Peninsula

  Entry = Cape York Plutonic Belt: Einasleigh region

  Entry = Cape York Plutonic Belt: Georgetown region

  Entry = Lolworth Ravenswood Province

- 1214 Permo-Carboniferous igneous rocks from the Coastal Ranges Igneous Province including the Herbert River, "Elizabeth Creek" and Mareeba Granites, and Featherbed and Newcastle Range Volcanic Groups, the Glen Gordon and Nanyeta Volcanics, the Bagstowe Ring Dyke Complex, and the Cumberland Range, Maureen and Agate Creek Volcanics.

  Specific selection criteria:

  Field = Geogarea ***Entry*** = Coastal Ranges Igneous Province: Cape York Peninsula

  Entry = Coastal Ranges Igneous Province: Broken River region

  Entry = Coastal Ranges Igneous Province: Croydon region

  Entry = Coastal Ranges Igneous Province: Einasleigh region

  Entry = Coastal Ranges Igneous Province: Featherbed Region

  Entry = Coastal Ranges Igneous Province: Georgetown Region

  Entry = Coastal Ranges Igneous Province: Georgetown Region - Woolgar

  Entry = Coastal Ranges Igneous Province: Georgetown/ Hodgkinson region (This selects the Elizabeth Creek Granite)

  Entry = Coastal Ranges Igneous Province: Hodgkinson region

- 111 samples of the Mount Carbine tungsten (68) and Red Dome gold (43) deposits

  Specific selection criteria:

  Field = Locality ***Entry*** = Mount Carbine (68) incl. 8 CRIP

  Entry = Red Dome Mine (43)

Future work:

BMR currently has a major program in the Cape York Area, and the database will be expanded in the future.

Bibliography:

Sheraton, J.W., 1974. Chemical analyses of acid igneous rocks from northeast Queensland. *Bureau of Mineral Resources, Geology and Geophysics, Australia, Record,* 1974/162.

Sheraton, J.W., and Labonne, B., 1978. Petrology and geochemistry of acid igneous rocks of northeast Queensland. *Bureau of Mineral Resources, Geology and Geophysics, Australia, Bulletin,* 169.

Withnall, I.W., 1985. Geochemistry and tectonic significance of Proterozoic mafic rocks from the Georgetown Inlier, north Queensland. *BMR Journal of Australian Geology and Geophysics,* 9, 339-351.

3 . STRUCTURE OF ROCKCHEM DATABASE

The ROCKCHEM database contains seven main tables of data and eleven associated 'authority' tables. The names of the tables are as follows and full definitions are listed in Appendix 2.

Table Name	Contents
Main Tables	
SAMPLES	Samples and their locations and provenance
SAMPLESPLITS	Sample splits and their storage
MAJORS	Major element analyses in weight percentages of oxides
TRACES	Trace element analyses in parts per million
PPB	Trace element analyses in parts per billion
ROCKPROPS	Density and magnetic rock properties
REFERENCES	Bibliographic references
Authority Tables	
ORIGINATORS	List of valid contributors
COUNTRIES	List of valid countries
STATES	List of valid Australian States
REGIONS	List of valid regions
HMAPS	List of valid 1:100 000 maps
ROCKTYPES	List of valid rock types
STOREBOXES	List of valid boxes in BMR Museum
SOURCES	List of valid analytical laboratories
METHODS	List of valid analytical methods
MAXNOS	Table for highest index number in the database

The fields in the main tables are described in section 4. The authority tables are described in section 5. They generally consist of a number and a text field. For example, the REGIONS table consists of a region number and a region name (see Appendix 2). The region names in this table are unique. Each region appears once, and only once, in this table, and nowhere else in the database. The SAMPLES table refers ('relates') to the region name via its associated number.

4. DESCRIPTION OF THE MAIN TABLES

4.1 THE SAMPLES TABLE

This table contains information about samples and their provenance. The Samples Block contains the following relational fields - ORIGINATORS, ROCKTYPES, COUNTRIES, STATES, REGIONS, HMAPS, and REFERENCES (up to 5 different references can be entered for each sample). With each authority field, there is an associated table containing the value pointed to by a number or in the case of COUNTRIES, a 3-letter mnemonic. The number (or mnemonic) is the only information stored in the SAMPLES table, the values are stored separately in the relevant authority table.

All fields are either mandatory or optional. All BMR users must enter the mandatory fields before the geochemical data can be entered.

Description of Fields:

Origno - Mandatory relational field of 5 digits. The originator is represented by a number and the full name is recorded in the relational 'ORIGINATORS' table. The originator is generally the person or organization that collects the sample and/or submits it for laboratory work. The main purpose of this field is to ensure a unique combination of originator and sample number.

Sample Number - Mandatory field of 16 characters. Any combination of letters and numbers may be entered, provided that it is unique to the originator. All BMR samples should have registered 8 digit numbers, which should be unique. The first two digits in the BMR sample number refer to the year in which the sample was collected, the next two digits refer to a region in Australia (e.g. Arunta, Pine Creek), and the remaining four numbers are used by individuals belonging to that project at their discretion.

Field Number - Optional field of 16 characters. This field is designed to accommodate any alternative numbering systems that might apply to a sample or group of samples. For example, some samples are given field numbers that differ from the final registered numbers.

Group or Batholith - Optional field of 64 characters, giving the name of the stratigraphic group or igneous batholith from which the sample was collected.

Subgroup or Suite - Optional field of 64 characters, giving the name of the stratigraphic subgroup or igneous suite pertaining to the sample.

Stratigraphic Formation - Optional field of 64 characters, giving the relevant stratigraphic unit at formation level.

Stratigraphic Member - Optional field of 64 characters for the name of a stratigraphic member, if appropriate.

Stratigraphic Height - Optional number field with up to two decimal places. Designed for samples from measured stratigraphic sections.

Map Symbol - Optional field of 10 characters: the letter symbol used on 1:100 000 or 1:250 000 geological maps for the rock unit from which the sample was collected.

Rock Type - Mandatory relational field of 5 digits. See the description of the authority tables for the list of 18 permissible rock types, 1 being 'unknown'.

Lithology - Optional field of 64 characters for a full lithological description.

Grouping - Optional field of 22 characters to allow the user to supply other divisions for samples, for example, the alteration zones of an ore body.

Age - Optional field of 64 characters for the geological age, e.g., late Ordovician. If known, the absolute age is included in brackets, e.g., early Proterozoic (1860 Ma).

References - 5 optional relational numeric fields of 5 digits each. The full reference is listed in the REFERENCES table.

Country - Mandatory relational field of 3 capital letters. The default value is 'AUS'.

State - Relational field of 3 capital letters, mandatory if country is Australia. Only the standard capital letter abbreviations for Australian states can be entered in this field, and it cannot be used for other countries.

Region - Mandatory relational field of 5 digits. Only those regions in the REGIONS table may be entered. A region is a recognised geological province or area such as the Lachlan Fold Belt, Mount Isa Inlier, or Carnarvon Basin. As regions may overlap one another, the region that is entered is dependent on the purpose for which the sample was collected.

Geographic Area - Optional 64 character field for the name of the geographic area (e.g., valley, plain, mountain range) from which the sample comes. Examples are 'Newcastle Range' and 'Tuggeranong Valley'. Another purpose for which this field is used is for subprovinces of major regions (e.g., the Leichhardt River Fault Trough of the Mount Isa Inlier).

Locality - Optional 64 character field for a description of the sample site to aid in its relocation in the field. For example, '5.5km NW of Brown's Bore, on east bank of dry creek'.

1:100 000 Map - Relational field of 4 digits, mandatory if country is Australia. The number supplied must identify one of the standard series 1:100 000 map in the HMAPS table. In insert or update mode, the name may be entered and the number retrieved automatically. Only the map number is stored in the SAMPLES table.

Grid Reference - Field of 6 digits, mandatory if 1:100,000 map name is given. The 6 digit reference required is that described on the face of Australian 1:100 000 maps. The grid reference given must be metric and on the Australian National Spheroid.

Decimal Latitude - Field of 8 digits, mandatory if sample is not from Australia. Up to 6 digits may follow the decimal point. For most samples this field has been entered using a BMR program called 'GetLat', which calculates latitudes and longitudes from the 1:100 000 maps and metric grid references.

North or South - Single character field, 'S' by default. Only 'N' or 'S' may be entered.

Decimal Longitude - Field of 9 digits, 7 of which may follow the decimal point. Otherwise as for latitude.

East or West - Single character field 'E' by default. Only 'E' or 'W' may be entered. Make sure this field is correctly filled in for samples from outside Australia (e.g.

Antarctica). It must be given as 'W' for latitudes measured west of the Greenwich Meridian.

Drill Hole - Optional field of 22 characters. If the sample is from a drill hole, its name, or some other identification, is required.

Depth in Metres - Optional field of 10 characters. The depth of the sample from within the drill hole. A character field is used here to enable depth ranges to be entered, e.g., '112- 115' - as some samples are collected from finite depth intervals.

Other Data - Optional field of 64 characters. May be used for any data not covered by the above fields that the originator feels are relevant.

Entry Date - Invisible date field. This field automatically assumes the date that the sample data is inserted into the SAMPLES table via the form.

4.2 THE SAMPLE SPLITS TABLE

This table indicates the sample type (whole rock geochemistry, geochronology, thin section, hand specimen etc.) and the number of the box that the sample is stored in within the BMR museum.

Description of Fields:

Origno - Mandatory relational field of 5 digits. The originator is represented by a number and the full name is recorded in the relational 'Originator Table'. The originator is generally the person or organization that collects the sample and/or submits it for laboratory work. The main purpose of this field is to ensure a unique combination of originator and sample number.

Sample Number - Mandatory field of 16 characters. Any combination of letters and numbers may be entered, provided that it is unique to the originator. All BMR samples should have registered 8 digit numbers, which should be unique. The first two digits in the BMR sample number refer to the year in which the sample was collected, the next two digits refer to a region in Australia (e.g. Arunta, Pine Creek), and the remaining four numbers are used by individuals belonging to that project at their discretion.

Sample Type - Mandatory relational field of 5 digits. The sample type entered must be one of those in the SAMPLETYPES table, e.g., 'whole-rock analysis' or 'geochronology'.

Storebox - Optional numeric field of up to 5 digits. This number must correspond to a Storebox number already in the STOREBOXES table. Although most existing samples do not yet have a storebox number, it is a requirement for all new samples housed in the BMR museum to have a storebox number.

4.3 THE MAJORS TABLE

The majors table contains all of the major element data with all values expressed as weight percentages of oxides.

Description of Fields:

Sample Number - Mandatory field of 16 characters. Any combination of letters and numbers may be entered, provided that it is unique to the originator. All BMR samples should have registered 8 digit numbers, which should be unique. The first two digits in the BMR sample number refer to the year in which the sample was collected, the next two digits refer to a region in Australia (e.g. Arunta, Pine Creek), and the remaining four numbers are used by individuals belonging to that project at their discretion.

Analysis Number - Mandatory field of up to 5 digits. Primary key field assigned by the system; it cannot be inserted or updated. It may be used to query the tables.

Origno - Mandatory relational field of 5 digits. The originator is represented by a number and the full name is recorded in the relational 'Originator Table'. The originator is generally the person or organization that collects the sample and/or submits it for laboratory work. The main purpose of this field is to ensure a unique combination of originator and sample number.

Source Number - Mandatory relational field of up to 5 digits. The 'source' of an analysis is normally the laboratory that performed the analysis or the person or organization that provided the data (e.g., BMR, BMR restricted, BHP, B.W. Chappell). The SOURCES table contains the authority list of all sources.

Method Number - Mandatory relational field of up to 5 digits describing the method by which the laboratory analysis was performed. The details of the analytical techniques used are in the METHODS table.

Major Elements - Optional numeric fields of up to 4 digits, two after the decimal point. Automatically right justified. Detection limit values are entered as negative numbers and it is impossible to enter '<' or 'n.d.'.

*Fe_2O_3 - This field is reserved for total iron as Fe_2O_3. It should be entered only for analyses in which the oxidation state of iron has not been determined. Where this field is entered, the fields for FeO and Fe_2O_3 should be left empty.

Rest - Trace elements are converted to oxide percent, summed and then added to the total.

Total - Optional numeric field of up to 5 digits. This is for an entered total.

Calculated Total - The value in this field is automatically calculated from the data in the major element fields. It cannot be entered and is not a database field. Except where detection limit values are involved, this field provides a check on the entered total;

the two should coincide. Because detection limit values are entered as negative numbers, they are subtracted from the calculated total.

4.4 THE TRACES TABLE

This table includes all trace elements in ppm.

Description of Fields:

Sample Number - Mandatory field of 16 characters. Any combination of letters and numbers may be entered, provided that it is unique to the originator. All BMR samples should have registered 8 digit numbers, which should be unique. The first two digits in the BMR sample number refer to the year in which the sample was collected, the next two digits refer to a region in Australia (e.g. Arunta, Pine Creek), and the remaining four numbers are used by individuals belonging to that project at their discretion.

Analysis Number - Mandatory field of up to 5 digits. Primary key field assigned by the system; it cannot be inserted or updated. It may be used to query the tables.

Origno - Mandatory relational field of 5 digits. The originator is represented by a number and the full name is recorded in the relational 'Originator Table'. The originator is generally the person or organization that collects the sample and/or submits it for laboratory work. The main purpose of this field is to ensure a unique combination of originator and sample number.

Source Number - Mandatory relational field of up to 5 digits. The 'source' of an analysis is normally the laboratory that performed the analysis or the person or organization that provided the data (e.g., BMR, BMR restricted, BHP, B.W. Chappell). The SOURCES table contains the authority list of all sources.

Method Number - Mandatory relational field of up to 5 digits describing the method by which the laboratory analysis was performed. The details of the analytical techniques used are in the METHODS table.

Trace Elements - Optional numeric fields of up to 8 digits, two of which may be after a decimal point. The fields are automatically right justified and as is the case for major elements, a negative entry signifies a detection-limit value.

4.5 THE PPB (parts per billion) TABLE

This table includes all trace elements in ppb.

Description of Fields:

Sample Number - Mandatory field of 16 characters. Any combination of letters and numbers may be entered, provided that it is unique to the originator. All BMR samples should have registered 8 digit numbers, which should be unique. The first

two digits in the BMR sample number refer to the year in which the sample was collected, the next two digits refer to a region in Australia (e.g. Arunta, Pine Creek), and the remaining four numbers are used by individuals belonging to that project at their discretion.

Analysis Number - Mandatory field of up to 5 digits. Primary key field assigned by the system; it cannot be inserted or updated. It may be used to query the tables.

Origno - Mandatory relational field of 5 digits. The originator is represented by a number and the full name is recorded in the relational 'Originator Table'. The originator is generally the person or organization that collects the sample and/or submits it for laboratory work. The main purpose of this field is to ensure a unique combination of originator and sample number.

Source Number - Mandatory relational field of up to 5 digits. The 'source' of an analysis is normally the laboratory that performed the analysis or the person or organization that provided the data (e.g., BMR, BMR restricted, BHP, B.W. Chappell). The SOURCES table contains the authority list of all sources.

Method Number - Mandatory relational field of up to 5 digits describing the method by which the laboratory analysis was performed. The details of the analytical techniques used are in the METHODS table.

Trace Elements - Optional numeric fields of up to 8 digits, 3 of which may be after a decimal point. The fields are automatically right justified and as is the case for major and trace elements, a negative entry signifies a detection-limit value.

4.6 THE REFERENCES TABLE

The bibliographic References Form accesses the REFERENCES table. The authors and year fields are spanned by a concatenated unique index. This means that no two references can have the same values in the author(s) and year fields.

Description of Fields:

Reference Number - Mandatory field of up to 5 digits. A monotonically increasing primary key field assigned by the system. The reference number in the fields in the samples table refer to this field.

Other ID - Optional field of up to 16 characters. Any other identifying sequence that the user may care to apply.

Username - Mandatory field of up to 16 characters.

Authors - Mandatory field of up to 128 characters.

Year - Mandatory field of up to 16 characters.

Title - Optional field of up to 240 characters.

Source - Optional field of up to 240 characters - the journal name, volume and page numbers.

5. DESCRIPTION OF AUTHORITY TABLES

5.1 THE 1:100 000 MAPS FORM

The 1:100 000 maps form table has the underlying HMAPS table as an important table in its own right.

Description of Fields:

100K Map Number - The unique four digit number for any 1:100 000 map sheet from Australia.

1M Map ID - The 1:1 000 000 map sheet in which the 1:100 000 sheet lies. This is identified by two capital letters followed by two numbers, e.g., 'SF54'. The two digits are the UTM zone, which is needed to convert metric references to latitude and longitude.

250K Map Number - Up to 2 digits identifying the 1:250 000 map sheet from 16 covering each 1:1 000 000 map area. The full 1:250 000 map ID is obtained by joining the 1:1 000 000 map ID to this number, e.g., SF54-12, which is the Winton 1:250 000 map sheet, in Queensland. Note that the 1:250 000 map sheets in Tasmania are the theoretical ones, not the shifted ones actually published.

100K Map Name - Up to 22 upper case characters for the name of the 1:100 000 map sheet identified by the 100K Map Number. There are many offshore sheets which are named 'UNNAMED'.

100K Map NW Corner Lat. & Long. - The decimal latitude and longitude of the northwest corner of the 1:100 000 map sheet. It is possible, using a single SQL*Plus command, to make use of this field to select a 1:100 000 map name for any given latitude and longitude.

100K Map AMG Ref. SW Corner Easting and Northing - The metric easting and northing of the southeast corner of the 1:100 000 map sheet. These values are necessary to convert a 6-digit grid reference obtained from a 1:100 000 map to the full Australian Map Grid metres east and metres north.

5.2 COUNTRIES TABLE

This table is for recognised countries. All have an associated ID.

ID	Country
AUS	Australia
PNG	Papua-New Guinea
SI	Solomon Islands
ANT	Antarctica
UK	United Kingdom
SEA	International Waters

5.3 STATES TABLE

This table is for the states of Australia only and all have a set ID.

ID	STATE
???	unknown
ACT	Australian Capital Territory
NSW	New South Wales
NT	Northern Territory
QLD	Queensland
SA	South Australia
TAS	Tasmania
VIC	Victoria
WA	Western Australia

5.4 ORIGINATOR TABLE

This table refers to the collector of the sample in the field. With some BMR authors, it is possible to refer to original sample note books which are stored within BMR so as to obtain more precise location descriptions of any samples that are of interest.

The following list gives the key for the entries in this authority table.

ORIGNO	ORIGINATOR
1	unknown
2	Blake, D.H.
3	Branch, C.D.
4	Bultitude, R.J.
5	Gardner, C.
6	Croxford, W.
7	Cruikshank, B.I.
8	Hoatson, D.M.
10	Dallwitz, W.B.
11	Derrick, G.M.
12	Duff, B.
13	Ellis, D.J.
14	England, R.N.
15	Ewers, G.R.
16	Warren, R.G.

17	Glikson, A.Y.
18	Tanaka, H.
19	Hill, R.M.
20	Holmes, R.D.
21	Hutton, L.J.
22	Lambert, I.
23	Knutson, J.
24	Jaques, A.L.
25	Chapple, K.
27	Lewis, J.D.
28	Etheridge, M.
29	Mackenzie, D.E.
30	McNaughton, N.
31	Mitchell, J.M.
32	Mock, C.M.
33	Higgins, N.C.
34	Oversby, B.S.
35	Cook, P.
36	Stuart-Smith, P.G.
37	Page, R.W.
38	Plumb, K.A.
39	Valenta, R.
40	Needham, R.S.
41	Santul, J.
42	Sheraton, J.W.
43	Smith, S.E.
44	Tunks, A.
45	Wallace, D.A.
46	Willmott, W.F.
47	Wilson, I.H.
48	Withnall, I.W.
49	Wyborn, D.
50	Wyborn, L.A.I.
51	Bain, J.H.C.
52	Johnson, R.W.
53	Williams, P.R.
54	Miller, A.
55	Bettenay, L.
56	Black, L.P.
57	Pederson, C.P.
58	Ferguson, J.
59	Hegge, M.R.
60	Wilkes, P.G.
61	Roberts, W.M.B.
62	Walpole, B.
63	Joplin, G.
64	Crick, I.
65	Hills, J.
66	Rhodes, J.
67	Smart, P.
68	Sweet, I.P
69	Shaw, R.D.
70	Stewart, A.J.
71	Wyche, S.
72	Watchman, A.
73	Stuart, J.E.
74	Stratton, J.
75	Duggan, M.B.
76	Yeates, A.N.

77	ANU RSES
78	Allen, A.R.
79	Bofinger, V.M.
80	Gee, R.D.
81	De Laeter, J.R.
82	Cooper, J.A.
83	Williams, S.J.
84	Windrim, D.P.
85	Gray, C.M.
86	Ludwig, K.R.
87	Currie, K.L.
88	Chin, R.J.
89	Mortimer, G.E.
90	Marjoribanks, R.W.
91	Webb, A.W.
92	Langworthy, A.P.
93	SADME
94	Jagodzinski, E.A.
95	Compston, W.
96	Freeman, M.J.
97	Offe, L.A.
98	Bagas, L.
99	Joklik, G.F.
100	Korsch, R.
101	Dobos, S.K.
102	Foden, J.D.
103	Roarty, M.J.
104	Pidgeon, R.T.
105	W.A. Geological Survey
106	Southgate, P.N.
107	Kralik, M.
108	Richards, J.R.
109	McDougall, I.
110	Turek, A.
111	Collins, W.J.
112	Kinny, P.D.
113	Heinrich, C.A.
114	Hill, R.I.
115	Henderson, G.A.M.
116	Johnston, C.
117	Richards, D.
118	Bailey, J.
119	Blewett, R.S.
120	Chappell, B.W.C.
121	Adams, C.J.
122	Turner, N.J.
123	Perason, P.J.
124	Rao, C.P.
125	McCulloch, M.T.
126	Vanderhor, F.
127	Rattenbury, M.S.
128	Young, D.N.
129	Arriens, P.A.

5.5 REGIONS TABLE

The following list of regions was initially compiled from all the existing databases. However, for the purpose of database management, only a select number of major regions are now used for the Australian section of this data set. Those that have been used with the regional databases are marked * in the list below. Most of those Australian regions listed below now entered in the field "Geogarea"; Antarctic regions used are marked +.

REGIONO	REGION
1	unknown
2	Adelaide Fold Belt
3	Albany-Fraser Province
4	Arunta Block *
5	Bunger Hills +
6	Cape York Peninsula
7	Carnarvon Basin
8	Commonwealth Bay +
9	Cummins Range
10	Davenport Province *
11	Denman Glacier +
12	East Kimberley
13	Enderby Land +
14	Gawler Craton
15	George V Land +
16	Georgetown Inlier
17	Halls Creek Inlier *
18	Kemp Land +
19	Lachlan Fold Belt *
20	Lawn Hill Platform
21	Mawson Coast +
22	McArthur Basin
23	Mount Isa Inlier *
24	Northern Prince Charles Mountains +
25	NE Queensland *
26	NE Tasmania
27	NW Tasmania
29	North Victoria Land +
30	North Kimberley
31	Pilbara Block *
32	Pine Creek Inlier *
33	Prydz Bay Coast +
34	Southern Prince Charles Mountains +
35	Stuart Shelf *
36	Granites-Tanami Block *
37	Tasman Fold Belt
38	Tasmania
39	Tennant Creek *
40	Turee Creek
41	Tuross
42	Vestfold Hills +
43	West Kimberley
44	Wilhelm II Land +
45	Wilkes Land +
46	Willyama Block
47	Yilgarn Block
48	Hammersley Basin
49	SE Tasmania

50	SW Tasmania
51	New Georgia Island
52	Eastern Goldfields
53	Capricorn Orogen *
54	Ashburton Trough
55	Gascoyne Province
56	Glengarry Sub-basin
57	Earaheedy Sub-basin
58	Murphy Tectonic Ridge
59	South Nicholson Basin
60	Westmoreland Region
61	New England Fold Belt
62	Sydney Basin
63	Admiralty Islands
64	Birrindudu Basin
65	Bangemall Basin
66	Musgrave Block
67	Paterson Province
68	Amadeus Basin
69	Ammaroodinna Inlier
70	Peake Denison Inlier
72	Georgina Basin
73	Curnamona Inlier
74	Carpentaria Province
75	Northampton Block
76	Houghton Inlier
77	Bougainville
78	Tabar-Feni
79	New Britain
80	St. Andrews Strait
81	Fly Highlands?
82	Manus Basin
83	Eastern Papua
84	Officer Basin
85	Woodlark Basin

5.6 ROCK TYPES TABLE

This table provides a coarse subdivision of samples based on broad rocktypes. It was initiated primarily for database management and block retrieval, and for future online extraction of data. For example, this table can be used to extract all mafic extrusive rocks from the database or all alkaline rocks. The following gives a list of the 18 permitted rock types:

ROCKNO	ROCKTYPE
1	unknown
2	felsic intrusive
3	intermediate intrusive
4	mafic intrusive
5	felsic extrusive
6	intermediate extrusive
7	mafic extrusive
8	ultramafite
9	alkaline igneous
10	clastic sediment
11	chemical sediment

12	metabasite
13	felsic gneiss
14	metasediment
15	metasomatite
16	ore
17	regolith
18	mixed clastic/chemical sediment

5.7 SAMPLE TYPES TABLE

This table gives an indication of the nature of work that has been carried out on each individual sample.

SAMPLETYPENO	SAMPLETYPE
1	unknown
2	whole-rock geochemistry
3	geochronology
4	hand specimen
5	thin section
6	geochronology K-Ar
7	geochronology Ar-Ar
8	geochronology Rb-Sr
9	geochronology Sm-Nd
10	geochronology U-Pb minerals
11	geochronology U-Pb SHRIMP
12	geochronology Pb-Pb
13	geochronology Pb-Pb ores
14	geochronology Lu-Hf
15	geochronology Re-Os
16	geochronology fission-track
17	geophysical properties
18	geochemical rock chip samples

5.8 SOURCES TABLE

This table gives the laboratory or organisation which analysed the sample.

SOURCENO	SOURCE
1	unknown
2	ANU
3	Adelaide University
4	AMDEL
5	BMR
6	BMR restricted
7	CSIRO/BMR
8	Macquarie University
9	Melbourne University
10	NTGS (AMDEL)
11	WA Govt. Chem. Lab.
12	WA/BMR Restricted
13	University of Queensland
14	James Cook University of North Queensland
15	Tasmanian Department of Mines
16	University of Tasmania

17	Queensland Department of Mines
18	BGR (Bundesanstalt fur Geowissenschaften und Rohstoffe)
19	Labtech Pty. Ltd., WAIT, WA Govt. Chem. Lab., Perth.
20	Institute for Petrology, Copenhagen University, Denmark
21	ANALABS
22	BMR/CRAE - T.Stachel

5.9 METHODS TABLE

This table describes the analytical methods used in deriving the analyses.

METHODNO	METHOD
1	unknown
2	XRF (Norrish & Hutton, 1969); FeO Vol.; LOI Grav.
3	XRF (Norrish & Hutton, 1969); FeO Vol.; H2O+, H2O-, & CO2 Grav.
4	XRF (Norrish & Chappell, 1977); Ag, Be, Co, Li by AAS
5	XRF (Norrish & Chappell, 1977);Ag, Be, Co, Cu, Li, Ni, Zn by AAS
6	XRF (Norrish & Hutton, 1969); FeO, H2O(total), CO2 by AMDEL
7	XRF (Norrish Chappell 1967); Li Be Cr Co Ni Cu Zn Sn AAS F AMDEL
8	Rb, Sr by XRF (Norrish & Chappell, 1967); Ni, Co, V by AAS
9	XRF (Norrish & Chappell, 1977); FeO vol.; LOI grav.
10	XRF (N & C, 1977); REE Hf Ta Cr Sc Sb Cs INA; Th U Gamma spectrm
11	XRF (N & C, 1977); REE Hf Ta Sb Cs INAA; U delayed neutron count
12	XRF (Norrish & Chappell, 1977).
13	XRF (Norrish & Chappell, 1977); Co Cu Ni Pb Zn by emiss.
14	ICP,AES Inductively Coupled Plasma, Atomic Emission
15	XRF (N & C, 1977) at ANU; Na, K by AAS (JCUNQ).
16	XRF(N&C 1977) UQ; REE Th U Pb Hf Ba Cs Sn Mo Nb Y Bi W MS7 RSES.
17	AMDL 'wet' chem. +/- XRF (N & H, 1969)?
18	Tas. Dept. Mines Assay Labs Launceston: "classical methods".
19	J. Klominsky & D.I. Groves: X-ray spectrography.
20	XRF (Norrish & Chappell, 1977); REE,Sc,Hf,Th,U INAA
21	XRF (N & C, 1977); REE ion-exchange/XRF (Robinson & others,1986)
22	AMACHEM Nickel sulfide assay- neutron activation.
23	XRF (Norrish & Hutton, 1969) on 1:1 purified silica mix
24	AAS
25	ANALABS: fire assay, Pb collection, carbon rod finish (30g samp)
26	ANALABS: fire assay fusion, AAS finish (30g sample)
27	ANALABS: combination of methodno = 25 (Pd & Pt) and 26 (Au)
28	RNAA from Melbourne University
29	ANALABS: fire assay, lead collection; ICP-MS finish
30	Direct-reading optical spectrograph (DROS), BMR.

Appendix 1 - Listings of the components of the Northeast Queensland Data Set

A1.1 Samples assigned to Stratigraphic Groups.

STRATGROUP	COUNT(*)
unassigned	888
Agate Creek Volcanic Group	9
Bulgonunna Volcanic Group	27
Butlers Volcanic Group	35
Cape York Peninsula Batholith	22
Copperfield Batholith	8
Croydon Volcanic Group	37
Cumberland Range Volcanic Group	1
Esmeralda Batholith	33
Etheridge Group	150
Featherbed Volcanic Group	341
Forsayth Batholith	62
Glen Gordon Volcanics	19
Glenmore Batholith	10
Lizzie Creek Volcanics	1
Lucky Creek Metamorphic Group	5
Maureen Volcanic Group	4
Mossman Batholith	8
Mount Elliot Batholith	5
Nanyeta Volcanics	12
Newcastle Range Volcanic Group	53
Ravenswood Batholith	153
Robin Hood Batholith	4
Scardons Volcanic Group	1
70 mile Range Group	2
Urannah Batholith	5
White Springs Batholith	6
Yataga Stock	35

A1.2 Samples assigned to Subgroups.

SUBGROUP	COUNT(*)
unassigned	1576
Big Watson Granite Suite	1
Boonmoo Volcanic Subgroup	99
Djankun Volcanic Subgroup	37
Esmeralda Granite Suite	48
Kungaree Volcanic Subgroup	15
Mulligan Subgroup	9
Namarrong Volcanic Subgroup	6
Robertson River Subgroup	100
Wakara Volcanic Subgroup	32
Wirra Volcanic Subgroup	13

A1.3 Samples assigned to Stratigraphic Units.

STRATUNIT	COUNT(*)
unassigned	2234
"Elizabeth Creek granite" (informal)	63
"Falls Creek granite" (informal)	4
"Lucy Granite" (informal)	1
"Spring Creek granite" (informal)	1
Adder Dacite	6
Adder Dacite?	1
Alabama Quartz Diorite	1
Allsorts Rhyolite	4
Almaden Granodiorite	16
Almaden Granodiorite?	1
Altanmoui Granite	3
Anning Granite	6
Aralba Adamellite	2
Arringunna Rhyolite	45
Atlanta Granite	7
Aurora Granite	1
Awring Granodiorite	5
B Creek Rhyolite	6
Bakerville Granodiorite	7
Balcooma Metavolcanics	15
Bamford Granite	11
Barratta Igneous Complex	6
Bartle Frere Granite	1
Beapo Rhyolite	6
Bedlog Rhyolite	2
Bell Creek Granodiorite	2
Bellenden Ker Granite	2
Bernecker Creek Formation	12
Big Surprise Tuff	2
Bimba Granite	2
Black Soil Andesite	2
Black Soil Andesite?	1
Blue Mountains Adamellite	3
Blue Valley Rhyolite	3
Bluewater Rhyolite	18
Bluff Granodiorite	8
Boatswain Granodiorite	5
Bock Granodiorite	2
Boori Igneous Complex	1
Borneo Granodiorite	17
Borneo Granodiorite?	1
Bousey Rhyolite	10
Boxwood Volcanics	1
Brandy Hot Granodiorite	4
Brawl Creek Adamellite	3
Brodies Gap Rhyolite	3
Broughton River Granodiorite	5
Broughton River Granodiorite?	1
Bucklands Hill Diorite	1
Bullseye Rhyolite	3
Bullseye Rhyolite?	1
Bulluburrah Monzogranite	3
Bustlem Granite	1

Candlow Formation	8
Candlow Formation (lower)	3
Candlow Formation (mid)	5
Candlow Formation (upper)	1
Cannibal Creek Granite	1
Carbine Granite	4
Cardigan Granodiorite	1
Carnes Granodiorite	1
Carron Rhyolite	1
Carron Rhyolite?	1
Carse-o-gowrie Granodiorite	2
Caterpillar Microgranite	3
Chillagoe Formation	28
Chippendale Granodiorite	7
Claret Creek granodiorite	1
Cobbold Metadolerite	27
Collins Creek Rhyolite	1
Collins Rhyolite	2
Combella Rhyolite	12
Combella Rhyolite?	1
Connolly Granodiorite	6
Convict Granite	2
Corbett Formation	3
Corbett Formation?	1
Core Shed granite (informal)	1
Corkscrew Rhyolite	5
Culba Granodiorite	4
Cummings Rhyolite	1
Dagworth Andesite	2
Dalnotter Dacite	4
Dam Ignimbrite	1
Daniel Creek Formation	16
Dead Horse Metabasalt	16
Deadman Granite	1
Delaney Granite	6
Dido Tonalite	14
Digger Creek Granite	12
Doolan Creek Rhyolite	2
Dregger Granite	1
Dregger Granite?	1
Dumbano Granite	12
Einasleigh Metamorphics	48
Eland Metavolcanics	1
Election Granite	2
Elizabeth Creek Granite	2
Esmeralda Granite	22
Eureka Rhyolite	11
Eva Creek Microgranite	3
Finlayason Granite	6
Fisherman Rhyolite	29
Fisherman Rhyolite?	1
Flyspeck Granodiorite	7
Forest Home Trondhjemite	11
Formatine Granite	1
Forsayth Granite	20
Gibbs Granite	1
Gilberton Formation	6
Gladstone Creek Gabbro	1
Gladstone Granite	2

Glen Gordon Volcanics	45
Glendon Granite Complex	6
Glenell Granodiorite	5
Glenroy Rhyolite	7
Glenroy Rhyolite?	3
Goat Creek Andesite	2
Goldbeetle Granodiorite	3
Goldsmiths Granite	12
Gongora Granodiorite	11
Gurrumba Gabbro	1
Gurrumba Ring Complex	6
Hales Siding Granite	11
Halpin Granite	7
Halpin Granite?	1
Hammonds Creek Granodiorite	6
Heliman Formation	4
Herbert River Granite	39
Hiker Granodiorite	4
Hodgkinson Formation	57
Hogsflesh Creek Granodiorite	4
Hopscotch Rhyolite	9
Idalia Rhyolite	20
Idalia Rhyolite?	1
Illewanna Granite	3
Ironhurst Formation	4
Isabella Creek Gabbro	2
Ixe Microgranodiorite	3
Jacks Granite	9
James Creek Granite	17
James Creek Granite?	2
Jamtin Rhyolite	18
Jinker Creek Rhyolite	3
Joe-de-Little Granodiorite	7
Judea Formation	1
Jumna Granite	1
Kalunga Granodiorite	10
Kelly-St George Granite	4
Kintore Adamellite	6
Kirklea Granite	3
Lags Granite	7
Lane Creek Formation	3
Langdon River Mudstone	1
Lankelly Adamellite	1
Lappa Rhyolite	3
Lighthouse Granite	4
Linley Rhyolite	3
Little Pocket Dacite	1
Lizzie Creek Volcanics	1
Loafers Granodiorite	1
Lochaber granite	2
Locharwood Rhyolite	4
Lubrina Granite	1
Lugano Metamorphics	5
Lulu Pocket Granodiorite	1
Lumma Rhyolite	7
MacCallor Microgranodiorite	1
Macartneys Granite	2
Malbon-Thompson Granite	1
Malmsbury Granite	5

Maneater Granodiorite	2
Maneater Granodiorite?	3
Mareeba Granite	3
Marlborough Pocket Adamellite	4
McFarlanes Andesite	3
Milchester Creek Tonalite	6
Millaroo Granite	2
Mistletoe Granite	6
Mistletoe Granite?	2
Mitchell River Volcanics	1
Mopata Microgranite	3
Morris Adamellite	1
Mosaic Gully Rhyolite	1
Mount Barker Granodiorite	1
Mount Darcy Microgranodiorite	4
Mount Darcy Microgranodiorite?	2
Mount Departure Microgranite	1
Mount Elliot granite	5
Mount Sircom Microgranodiorite	5
Mount Winsor Volcanics	2
Muirson Rhyodacite	1
Muirson Rhyolite	13
Myall Springs Rhyolite	5
Myall Springs Rhyolite?	1
Nanyeta Volcanics	13
Nightflower Dacite	5
Nonda Granite	7
Nundah Granodiorite	2
Nychum Volcanics	21
Nymbool Granite	7
Oak River Granodiorite	5
Olsens Granite	10
Orient Rhyolite	14
Oweenee Volcanics	4
Paddock Creek Formation	3
Parrot Camp Rhyolite	2
Peak John Granite	4
Percy Douglas Granodiorite	3
Peter Botte Granite	1
Petford Granite	14
Petford Granite?	1
Pinchgut Granite	1
Pinnacle Creek Granodiorite	2
Prestwood Microgranodiorite	4
Puckley Granite	1
Pyramid Rhyolite	3
Rangeview adamellite	3
Rangeview granodiorite?	1
Rangeview intrusive complex (informal)	3
Rangeview volcanics	2
Rangeview volcanics (informal)	2
Ravenswood Gabbroic Complex	4
Ravenswood Granite?	3
Red Hill granite	2
Redcap Dacite	5
Retchford Granite	3
Retchford Granite?	1
Retire Monzodiorite	9
Rishton Granodiorite	6

Robin Hood Granodiorite	4
Rock Hole Rhyolite	6
Ropewalk Granite	2
Roscow Granitic Complex	10
Routh Dacite	10
Ruddygore Granodiorite	9
Running River Metamorphics	5
Sandlewood Creek Dyke Swarm	1
Sawpit Tonalite	4
Scardons Volcanics	1
Scartwater Formation?	1
Scrubby Creek Rhyolite?	1
Silver Hills Volcanics	1
Slaughter Yard Creek Volcanics	8
Solanum Granodiorite	1
St Anns Formation	1
St Helena Monzogranite	8
Stannett Creek Gabbro	3
Star of Hope Formation	1
Stones Creek Formation	11
Sunburst Quartz Diorite	1
St Helena Monzogranite	8
Talbot Creek Trondhjemite	6
Talveras Rhyolite	1
Tenavute Microgranite	3
Tennyson Rhyolite	4
Theodolite Rhyolite	5
Thunderbolt Granite	1
Tinaroo Granite	4
Top Camp Granite	1
Towers Hill Granodiorite	3
Townley Formation	2
Trevethan Granite	3
Tuckers Igneous Complex	10
Tully Granite	6
Twin Dams Andesite	1
Two Creeks Creek Granodiorite	2
Verdure Andesite	12
Wallaroo rhyolite (informal)	1
Wallys Dolerite	1
Wallys Dolerite?	1
Walsh Bluff Volcanics	5
Wangetti Granite	2
Watsonville Granite	12
Welfern Granite	2
White Springs Granodiorite	29
Wigan Adamellite	2
James Creek Granite	17
James Creek Granite?	2
Wonnemarra Rhyolite	3
Worcester Granodiorite	5
Wotan Granodiorite	1
Yataga Granodiorite	35
Yokas Granodiorite	2
unnamed	13
unnamed dyke	7
unnamed granite	14
unnamed microgranite	1
unnamed rhyolite	24

A1.4 Samples assigned to Stratigraphic Members.

STRATMEMBER	COUNT(*)
unassigned	1909
Ant Hill Andesite Member	4
Democrat Rhyolite Member	3
Democrat Rhyolite Member?	1
Mamberra Andesite Member	2
Stockyard Creek Mudstone Member	8
aplitic phase	1
dacitic phase	1
felsic phase	1
gabbro phase	1
leucocratic phase	2
mafic enclave in mafic phase	1
mafic phase	2

A1.5 Samples assigned by Rocktype.

ROCKNO	ROCKTYPE	COUNT(*)
1	unknown	1
2	felsic intrusive	558
3	intermediate intrusive	521
4	mafic intrusive	28
5	felsic extrusive	455
6	intermediate extrusive	116
7	mafic extrusive	4
9	alkaline igneous	1
10	clastic sediment	55
11	chemical sediment	2
12	metabasite	54
13	felsic gneiss	11
14	metasediment	110
15	metasomatite	20

A1.6 Samples assigned by Chronological Age.

AGE	COUNT(*)
unassigned	12
(late Cambrian-)middle Ordovician	15
Cainozoic Tertiary	1
Cambrian	1
Cambrian-Ordovician?	5
Cambrian?	14
Carboniferous	484
Carboniferous (early)?	23
Carboniferous (late)	23
Carboniferous (late)?	4
Carboniferous-Permian	40
Carboniferous?	16
Cretaceous	1
Devonian	4
Devonian-Carboniferous	3
Devonian?	4

Middle Carboniferous	1
Middle Tertiary?	1
Ordovician	33
Ordovician?	2
Paleozoic - Cambrian - Ordovician	2
Paleozoic - Carboniferous-Permian	1
Paleozoic - Devonian	1
Paleozoic - Late Carboniferous	24
Paleozoic - Late Carboniferous (ca. 300 Ma)	5
Paleozoic - Late Carboniferous (ca. 303 Ma)	4
Paleozoic - Late Carboniferous to Early Permian	1
Paleozoic - Late Carboniferous to early Permian	1
Paleozoic - Late Carboniferous-Early Permian(293)	1
Paleozoic - Late Carboniferous?	9
Paleozoic - Late Ordovician-Devonian	1
Paleozoic - Lower Carboniferous	1
Paleozoic - Lower Carboniferous (ca. 356 Ma)	7
Paleozoic - Upper Ordovician - Lower Devonian	9
Paleozoic - Late Carboniferous?	2
Permian	345
Permian (280Ma)	1
Permian - 270 Ma	1
Permian(-Triassic?)	1
Permian-Carboniferous	20
Permian-Triassic	2
Permian?	16
Pre Permian	1
Precambrian?	5
Proterozoic	3
Proterozoic?	1
Silurian	43
Silurian-Devonian	85
Silurian-Devonian?	1
Silurian?	16
early Carboniferous	1
early Carboniferous?	4
early Ordovician	1
early Permian	18
early Permian (280 Ma)	10
early Permian (289 Ma)	12
early Silurian (431 Ma)	14
early-middle Proterozoic	146
early-middle(?) Proterozoic	6
late Carboniferous	93
late Carboniferous (293 Ma)	6
late Carboniferous (295 Ma) - early Perm ian (280 Ma)	10
late Carboniferous (301 +/-5 Ma)	7
late Carboniferous (323 Ma)	7
late Carboniferous (or early Permian?)	27
late Carboniferous-early Permian	12
late Carboniferous?	10
late Devonian	1
late Devonian-early Carboniferous	3
late Ordovician-Devonian	1
late Palaeozoic	2
late Silurian-early Devonian	73
middle Proterozoic	185
middle Proterozoic-early Devonian	3

unknown	2

A1.7 Samples assigned by Geographic Area.

GEOGAREA	COUNT(*)
unassigned	143
Broken River Province	1
Cape York Plutonic Belt: Cape York Peninsula	22
Cape York Plutonic Belt: Einasleigh region	22
Cape York Plutonic Belt: Georgetown region	47
Coastal Ranges Igneous Province: Broken River region	20
Coastal Ranges Igneous Province: Cape York Peninsula	4
Coastal Ranges Igneous Province: Croydon region	18
Coastal Ranges Igneous Province: Drummond Basin	26
Coastal Ranges Igneous Province: Einasleigh region	3
Coastal Ranges Igneous Province: Featherbed Range region	587
Coastal Ranges Igneous Province: Georgetown region	158
Coastal Ranges Igneous Province: Georgetown region - Woolgar	1
Coastal Ranges Igneous Province: Georgetown Hodgkinson region	63
Coastal Ranges Igneous Province: Hodgkinson region	139
Coastal Ranges Igneous Province: Hodgkinson region (F)	26
Coastal Ranges Igneous Province: Hodgkinson region?	2
Coastal Ranges Igneous Province: Lolworth-Ravenswood Block	10
Connors Arch	11
Connors Arch ?	1
Drummond Basin	7
Einasleigh Region	48
Georgetown-Coen Province: Croydon region	84
Georgetown-Coen Province: Dargalong region	2
Georgetown-Coen Province: Georgetown region	209
Greenvale Province	21
Hodgkinson Province	85
Lolworth-Ravenswood Block	1
Lolworth-Ravenswood Province	151
Mingela Province?	1
Ravenswood Block	4

A1.8 Samples assigned to 1:100 000 Map Sheet Areas.

MAPNAME	MAPNO	COUNT(*)
ATHERTON	7963	159
BARTLE FRERE	8063	8
BATTLE CAMP	7867	1
BELLEVUE	7764	45
BOGIE	8457	1
BULLOCK CREEK	7862	24
BURGES	7859	5
CAIRNS	8064	4
CAPE MELVILLE	7869	2
CASHMERE	7961	16
CHARTERS TOWERS	8157	52
CHILLAGOE	7863	331
CLARKE RIVER	7959	1
COEN	7570	2
COLLINSVILLE	8456	3
CONJUBOY	7860	21
COOKTOWN	7967	1
CROYDON	7361	26
DOTSWOOD	8158	6
EBAGOOLA	7569	2
EINASLEIGH	7760	12
ESMERALDA	7460	31
EWAN	8059	12
FOREST HOME	7561	44
FORSAYTH	7660	83
GALLOWAY	7662	6
GEORGETOWN	7661	172
GILBERT RIVER	7461	40
GILBERTON	7659	108
GLENDON	8356	92
HARVEST HOME	8256	5
HELENVALE	7966	8
HILLALONG	8555	5
INGHAM	8160	1
JEANNIE RIVER	7868	1
LYNDBROOK	7762	14
LYNDHURST	7759	40
MINGELA	8258	28
MOSSMAN	7965	7
MOUNT MULGRAVE	7665	1
MOUNT MULLIGAN	7864	76
MOUNT SURPRISE	7761	12
MUNGANA	7763	54
NORTH HEAD	7560	34
PELHAM	7459	1
PROSPECT	7360	4
RAVENSHOE	7962	69
RAVENSWOOD	8257	75
ROLLINGSTONE	8159	1
RUMULA	7964	68
SOUTH PALMER RIVER	7865	4
ST RONANS	7861	5
STRATHALBYN	8357	41
URANNAH	8556	2

VALLEY OF LAGOONS	7960	1
WANDO VALE	7858	2

A1.9 Samples assigned to Drillholes.

DRILLHOLE	COUNT(*)
unassigned	1874
CB9	1
GSQ Georgetown 3	1
GSQ Georgetown 4	4
GSQ Georgetown 5	4
GSQ Georgetown 6	1
GSQ Georgetown 7	6
MQ-78-1	1
MQ-81-15	6
MQ-83-60B	1
MQ-83-62C	1
MQ-83-67	34
Qld Metals	2

Appendix 2 - Rockchem Database Definitions

A2.1 Samples Table Description:

```
CREATE SPACE DEFINITION SPACE_GCSAMPLES
      DATAPAGES     ( INITIAL        2000,
                      INCREMENT      500,
                      MAXEXTENTS     9999,
                      PCTFREE        25     )
      INDEXPAGES    ( INITIAL        200,
                      INCREMENT      100,
                      MAXEXTENTS     9999   )
      PARTITION C;

CREATE TABLE SAMPLES (
      ORIGNO                NUMBER      (5,0)       NOT NULL,
       SAMPNO               CHAR        (16)        NOT NULL,
      FIELDNO               CHAR        (16),
      STRATGROUP            CHAR        (64),
      SUBGROUP              CHAR        (64),
      STRATUNIT             CHAR        (64),
      STRATMEMBER           CHAR        (64),
      STRATHEIGHT           NUMBER      (8,2),
      MAPSYMBOL             CHAR        (10),
      ROCKNO                NUMBER      (5,0),
      LITHOLOGY             CHAR        (64),
      GROUPING              CHAR        (22),
      AGE                   CHAR        (64),
      REFNO1                NUMBER      (5,0),
      REFNO2                NUMBER      (5,0),
      REFNO3                NUMBER      (5,0),
      REFNO4                NUMBER      (5,0),
      REFNO5                NUMBER      (5,0),
      COUNTRYID             CHAR        (22),
      STATE                 CHAR        (10),
      REGIONO               NUMBER      (5,0),
      GEOGAREA              CHAR        (64),
      LOCALITY              CHAR        (64),
      MAPNO                 NUMBER      (5,0),
      AIRPHOTO              CHAR        (22),
      GRIDREF               CHAR        (10),
      DLAT                  NUMBER      (8,6),
      NS                    CHAR        (1),
      DLONG                 NUMBER      (9,6),
      EW                    CHAR        (1),
      DRILLHOLE             CHAR        (22),
      DEPTH                 CHAR        (10),
      OTHERDATA             CHAR        (64),
      ENTRYDATE             DATE                                  )
SPACE SPACE_GCSAMPLES;
CREATE UNIQUE INDEX ORIGSAMP ON SAMPLES ( ORIGNO, SAMPNO );
CREATE        INDEX SAMPLENO ON SAMPLES ( SAMPNO );
CREATE        INDEX REGIONS ON SAMPLES ( REGIONO );
```

```
CREATE          INDEX HMAPS ON SAMPLES ( MAPNAME );
```

A2.2 Samplesplits Table Description:

```
CREATE SPACE DEFINITION SPACE_GCSPLITS
      DATAPAGES    ( INITIAL        500,
                     INCREMENT      250,
                     MAXEXTENTS     9999,
                     PCTFREE        25     )
      INDEXPAGES   ( INITIAL        150,
                     INCREMENT      100,
                     MAXEXTENTS     9999   )
      PARTITION C;

CREATE TABLE SAMPLES (
      ORIGNO                    NUMBER          (5,0)          NOT NULL,
       SAMPNO                   CHAR            (16)           NOT NULL,
      SAMPTYPENO                NUMBER          (5,0)          NOT NULL,
      STOREBOXNO                NUMBER          (5,0)          )
SPACE SPACE_GCSPLITS;

CREATE INDEX SAMPORIG ON SAMPLESPLITS  ( ORIGNO, SAMPLENO  ) ;
CREATE INDEX SPLITYPE ON SAMPLESPLITS  ( SAMPTYPENO  ) ;
```

A2.3 Majors Table Description:

```
CREATE SPACE DEFINITION SPACE_GCMAJORS
      DATAPAGES    ( INITIAL        1000,
                     INCREMENT      400,
                     MAXEXTENTS     9999,
                     PCTFREE        10     )
      INDEXPAGES   ( INITIAL        200,
                     INCREMENT      100,
                     MAXEXTENTS     9999   )
      PARTITION C;

CREATE TABLE MAJORS (
      ORIGNO                    NUMBER          (5,0)          NOT NULL,
      SAMPNO                    CHAR            (16)           NOT NULL,
      ANALNO                    NUMBER          (5,0)          NOT NULL,
      SOURCENO                  NUMBER          (5,0),
      METHODNO                  NUMBER          (5,0),
      SIO2                      NUMBER          (4,2),
      TIO2                      NUMBER          (4,2),
      AL2O3                     NUMBER          (4,2),
      FE2O3TOT                  NUMBER          (4,2),
      FE2O3                     NUMBER          (4,2),
      FEO                       NUMBER          (4,2),
      MNO                       NUMBER          (4,2),
      MGO                       NUMBER          (4,2),
      CAO                       NUMBER          (4,2),
      NA2O                      NUMBER          (4,2),
      K2O                       NUMBER          (4,2),
      P2O5                      NUMBER          (4,2),
      H2OPLUS                   NUMBER          (4,2),
```

```
    H2OMIN                  NUMBER      (4,2),
    CO2                     NUMBER      (4,2),
    LOI                     NUMBER      (4,2),
    REST                    NUMBER      (4,2),
    TOTAL                   NUMBER      (5,2),
    ENTRYDATE               DATE                    )
SPACE SPACE_GCMAJORS;

CREATE UNIQUE INDEX MANALNO ON MAJORS ( ANALNO );
CREATE INDEX MORIGSAMP ON MAJORS ( ORIGNO, SAMPNO);
CREATE INDEX MSAMPLENO ON MAJORS ( SAMPNO );
```

A2.4 Traces Table Description:

```
CREATE SPACE DEFINITION SPACE_GCTRACES
    DATAPAGES   ( INITIAL       1200,
                  INCREMENT     400,
                  MAXEXTENTS    9999,
                  PCTFREE       30    )
    INDEXPAGES  ( INITIAL       200,
                  INCREMENT     100,
                  MAXEXTENTS    9999  )
    PARTITION C;


CREATE TABLE TRACES     (
    ORIGNO                  NUMBER      (5,0)       NOT NULL,
    SAMPNO                  CHAR        (16)        NOT NULL,
    ANALNO                  NUMBER      (5,0)       NOT NULL,
    SOURCENO                NUMBER      (5,0),
    METHODNO                NUMBER      (5,0),
    AG                      NUMBER      (8,2),
    AL                      NUMBER      (8,2),
    ARS                     NUMBER      (8,2),
    AU                      NUMBER      (8,2),
    B                       NUMBER      (8,2),
    BA                      NUMBER      (8,2),
    BE                      NUMBER      (8,2),
    BI                      NUMBER      (8,2),
    BR                      NUMBER      (8,2),
    C                       NUMBER      (8,2),
    CA                      NUMBER      (8,2),
    CD                      NUMBER      (8,2),
    CE                      NUMBER      (8,2),
    CL                      NUMBER      (8,2),
    CO                      NUMBER      (8,2),
    CR                      NUMBER      (8,2),
    CS                      NUMBER      (8,2),
    CU                      NUMBER      (8,2),
    DY                      NUMBER      (8,2),
    ER                      NUMBER      (8,2),
    EU                      NUMBER      (8,2),
    F                       NUMBER      (8,2),
    FE                      NUMBER      (8,2),
    GA                      NUMBER      (8,2),
```

```
    GE                      NUMBER      (8,2),
    GD                      NUMBER      (8,2),
    HF                      NUMBER      (8,2),
    HG                      NUMBER      (8,2),
    HO                      NUMBER      (8,2),
    IR                      NUMBER      (8,2),
    K                       NUMBER      (8,2),
    LA                      NUMBER      (8,2),
    LI                      NUMBER      (8,2),
    LU                      NUMBER      (8,2),
    MG                      NUMBER      (8,2),
    MN                      NUMBER      (8,2),
    MO                      NUMBER      (8,2),
    NA                      NUMBER      (8,2),
    NB                      NUMBER      (8,2),
    ND                      NUMBER      (8,2),
    NI                      NUMBER      (8,2),
    OS                      NUMBER      (8,2),
    P                       NUMBER      (8,2),
    PB                      NUMBER      (8,2),
    PD                      NUMBER      (8,2),
    PR                      NUMBER      (8,2),
    PT                      NUMBER      (8,2),
    RB                      NUMBER      (8,2),
    S                       NUMBER      (8,2),
    SB                      NUMBER      (8,2),
    SE                      NUMBER      (8,2),
    SC                      NUMBER      (8,2),
    SI                      NUMBER      (8,2),
    SM                      NUMBER      (8,2),
    SN                      NUMBER      (8,2),
    SR                      NUMBER      (8,2),
    TA                      NUMBER      (8,2),
    TB                      NUMBER      (8,2),
    TE                      NUMBER      (8,2),
    TI                      NUMBER      (8,2),
    TH                      NUMBER      (8,2),
    TL                      NUMBER      (8,2),
    TM                      NUMBER      (8,2),
    U                       NUMBER      (8,2),
    V                       NUMBER      (8,2),
    W                       NUMBER      (8,2),
    Y                       NUMBER      (8,2),
    YB                      NUMBER      (8,2),
    ZN                      NUMBER      (8,2),
     ZR                     NUMBER      (8,2),
    ENTRYDATE               DATE        )
SPACE SPACE_GCTRACES;

CREATE UNIQUE INDEX  TANALNO   ON  TRACES ( ANALNO );
CREATE         INDEX  TORIGSAMP  ON TRACES ( ORIGNO, SAMPNO );
CREATE         INDEX  TSAMPLENO  ON  TRACES ( SAMPNO );
```

A2.5 ppb Table Description (elements in parts per billion):

```
CREATE SPACE DEFINITION SPACE_GSMALL
      DATAPAGES    ( INITIAL      50,
                     INCREMENT    50,
                     MAXEXTENTS   9999,
                     PCTFREE      25    )
      INDEXPAGES   ( INITIAL      20,
                     INCREMENT    12,
                     MAXEXTENTS   9999  )
      PARTITION C;

CREATE TABLE PPB     (
      ORIGNO                     NUMBER          (5,0)          NOT NULL,
      SAMPNO                     CHAR            (16)           NOT NULL,
      ANALNO                     NUMBER          (5,0)          NOT NULL,
      SOURCENO                   NUMBER          (5,0),
      METHODNO                   NUMBER          (5,0),
      SE                         NUMBER          (8,3),
      RB                         NUMBER          (8,3),
      RU                         NUMBER          (8,3),
      RH                         NUMBER          (8,3),
      PD                         NUMBER          (8,3),
      AG                         NUMBER          (8,3),
      CS                         NUMBER          (8,3),
      LA                         NUMBER          (8,3),
      CE                         NUMBER          (8,3),
      PR                         NUMBER          (8,3),
      ND                         NUMBER          (8,3),
      PM                         NUMBER          (8,3),
      SM                         NUMBER          (8,3),
      EU                         NUMBER          (8,3),
      GD                         NUMBER          (8,3),
      TB                         NUMBER          (8,3),
      DY                         NUMBER          (8,3),
      HO                         NUMBER          (8,3),
      ER                         NUMBER          (8,3),
      TH                         NUMBER          (8,3),
      YB                         NUMBER          (8,3),
      LU                         NUMBER          (8,3),
      RE                         NUMBER          (8,3),
      OS                         NUMBER          (8,3),
      IR                         NUMBER          (8,3),
      PT                         NUMBER          (8,3),
      AU                         NUMBER          (8,3),
      ENTRYDATE                  DATE                           )

CREATE UNIQUE INDEX  PPBANALNO     ON PPB   ( ANALNO );
CREATE        INDEX  PPBORIGSAMP   ON PPB   ( ORIGNO, SAMPNO );
CREATE        INDEX  PPBSAMPLENO   ON PPB   ( SAMPNO );
```

A2.6 Rocktypes Table Description:

```
CREATE SPACE DEFINITION SPACE_GSMALL
      DATAPAGES    ( INITIAL      50,
                     INCREMENT    50,
```

```
                    MAXEXTENTS  9999,
                    PCTFREE     25    )
    INDEXPAGES  (   INITIAL     20,
                    INCREMENT   12,
                    MAXEXTENTS  9999  )
    PARTITION C;

CREATE TABLE ROCKTYPES (
    ROCKNO                  NUMBER      (5,0)       NOT NULL,
    ROCKTYPE                CHAR        (64)        NOT NULL  )
SPACE SPACE_GCSMALL;
```

A2.7 References Table Description:

```
CREATE SPACE DEFINITION SPACE_GSMALL
    DATAPAGES   (   INITIAL     50,
                    INCREMENT   50,
                    MAXEXTENTS  9999,
                    PCTFREE     25    )
    INDEXPAGES  (   INITIAL     20,
                    INCREMENT   12,
                    MAXEXTENTS  9999  )
    PARTITION C;

CREATE TABLE REFERENCES(
    REFNO                   NUMBER      (5,0)       NOT NULL,
    OTHERID                 CHAR        (16)
    USERNAME                CHAR        (16)
    AUTHORS                 CHAR        (128)
    YEAR                    CHAR        (16)
    TITLE                   CHAR        (240)
    SOURCE                  CHAR        (240)       )
SPACE SPACE_GCSMALL;

CREATE UNIQUE INDEX REFNUMBER  ON REFERENCES  ( REFNO );
CREATE UNIQUE INDEX REFUNIQUE  ON REFERENCES  ( AUTHORS, YEAR );
```

A2.8 Originators Table Description:

```
CREATE SPACE DEFINITION SPACE_GSMALL
    DATAPAGES   (   INITIAL     50,
                    INCREMENT   50,
                    MAXEXTENTS  9999,
                    PCTFREE     25    )
    INDEXPAGES  (   INITIAL     20,
                    INCREMENT   12,
                    MAXEXTENTS  9999  )
    PARTITION C;

CREATE TABLE ORIGINATORS (
    ORIGNO                  NUMBER      (5,0)       NOT NULL,
    ORIGINATOR              CHAR        (22)        NOT NULL  )
SPACE SPACE_GCSMALL;

CREATE UNIQUE INDEX ORIGNOS ON ORIGINATORS ( ORIGNO );
```

```
CREATE UNIQUE INDEX ORIGINS ON ORIGINATORS ( ORIGNATOR );
```

A2.9 Regions Table Description:

```
CREATE SPACE DEFINITION SPACE_GSMALL
      DATAPAGES     ( INITIAL        50,
                      INCREMENT      50,
                      MAXEXTENTS     9999,
                      PCTFREE        25    )
      INDEXPAGES    ( INITIAL        20,
                      INCREMENT      12,
                      MAXEXTENTS     9999  )
      PARTITION C;

CREATE TABLE REGIONS (
      REGIONO                  NUMBER        (5,0)        NOT NULL,
      REGION                   CHAR          (64)         NOT NULL )
SPACE SPACE_GCSMALL;

CREATE UNIQUE INDEX REGIONO     ON REGIONS ( REGIONO );
CREATE UNIQUE INDEX REGIONAME ON REGIONS ( REGION );
```

A2.10 HMAPS Table Description:

```
CREATE SPACE DEFINTION HMAPS
      DATAPAGES     ( INITIAL        50
                      INCREMENT      10
                      MAXEXTENTS     9999,
                      PCTFREE        10    )
      INDEXPAGES    ( INITIAL        20
                      INCREMENT      10
                      MAXEXTENTS     9999  )
      PARTITION C;

CREATE TABLE HMAPS (
      HMAPNO                   NUMBER        (4,0)
      HMAPID                   CHAR          (4)
      QMAPNO                   NUMBER        (2,0)
      N_LAT                    NUMBER        (3,1)
      W_LONG                   NUMBER        (4,1)
      MEAST                    NUMBER        (6)
      MNORTH                   NUMBER        (7)
SPACE SP_LOCAL

CREATE UNIQUE INDEX HMAPNO      ON HMAPS   ( HMAPNO );
CREATE        INDEX HMAPNAME    ON HMAPS   ( HMAPNAME );
CREATE        INDEX NLAT        ON HMAPS   ( N_LAT );
CREATE        INDEX WLONG       ON HMAPS   ( W_LONG );
```

A2.11 Sampletypes Table Description:

```
CREATE SPACE DEFINITION SPACE_GSMALL
      DATAPAGES     ( INITIAL        50,
                      INCREMENT      50,
                      MAXEXTENTS     9999,
                      PCTFREE        25    )
      INDEXPAGES    ( INITIAL        20,
```

```
                    INCREMENT     12,
                    MAXEXTENTS    9999   )
    PARTITION C;

CREATE TABLE SAMPLETYPES (
    SAMPLETYPENO            NUMBER          (5,0)          NOT NULL,
    SAMPLETYPE              CHAR            (64)           NOT NULL )
SPACE SPACE_GCSMALL;
```

A2.12 Sources Table Description:

```
CREATE SPACE DEFINITION SPACE_GSMALL
    DATAPAGES     ( INITIAL       50,
                    INCREMENT     50,
                    MAXEXTENTS    9999,
                    PCTFREE       25     )
    INDEXPAGES    ( INITIAL       20,
                    INCREMENT     12,
                    MAXEXTENTS    9999   )
    PARTITION C;

CREATE TABLE SOURCES (
    SOURCENO                NUMBER          (5,0)          NOT NULL,
    SOURCE                  CHAR            (64)           NOT NULL )
SPACE SPACE_GCSMALL;

CREATE UNIQUE INDEX SOURCENOS ON SOURCES ( SOURCENO );
CREATE UNIQUE INDEX SOURCES  ON SOURCE ( SOURCE );
```

A2.13 Methods Table Description:

```
CREATE SPACE DEFINITION SPACE_GSMALL
    DATAPAGES     ( INITIAL       50,
                    INCREMENT     50,
                    MAXEXTENTS    9999,
                    PCTFREE       25     )
    INDEXPAGES    ( INITIAL       20,
                    INCREMENT     12,
                    MAXEXTENTS    9999   )
    PARTITION C;

CREATE TABLE SOURCES (
    SOURCENO                NUMBER          (5,0)          NOT NULL,
    SOURCE                  CHAR            (64)           NOT NULL )
SPACE SPACE_GCSMALL;

CREATE UNIQUE INDEX METHODNO ON METHODS ( METHODNO );
CREATE UNIQUE INDEX METHOD  ON METHODS ( METHOD);
```

A2.14 Storeboxes Table Description:

```
CREATE SPACE DEFINITION SPACE_GSMALL
    DATAPAGES     ( INITIAL       50,
                    INCREMENT     50,
                    MAXEXTENTS    9999,
                    PCTREE        25     )
    INDEXPAGES    ( INITIAL       20,
```

```
                    INCREMENT     12,
                    MAXEXTENTS    9999    )
    PARTITION C;

CREATE TABLE SOURCES (
    SOURCENO                NUMBER          (5,0)           NOT NULL,
    SOURCE                  CHAR            (64)            NOT NULL )
SPACE SPACE_GCSMALL;

CREATE UNIQUE INDEX STOREBOXNOS ON STOREBOXES ( BOXNO );
```

A2.15 Maxnos Table Description:

```
CREATE SPACE DEFINITION SPACE_GSMALL
    DATAPAGES     ( INITIAL       50,
                    INCREMENT     50,
                    MAXEXTENTS    9999,
                    PCTFREE       25      )
    INDEXPAGES    ( INITIAL       20,
                    INCREMENT     12,
                    MAXEXTENTS    9999    )
    PARTITION C;

CREATE TABLE SOURCES (
    SOURCENO                NUMBER          (5,0)           NOT NULL,
    SOURCE                  CHAR            (64)            NOT NULL )
SPACE SPACE_GCSMALL;
```