Bureau of Mineral Resources, Geology & Geophysics

R E C O R D

RECORD 1991/31

REGIONAL MAPPING FIELD DATABASE (REGMAP) STATUS FOR THE COEN INLIER, CAPE YORK 1990-91

compiled by Richard Blewett

A contribution to the National Geoscience Mapping Accord

North Queensland Project.

1991/31
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Regional Mapping Field Database (REGMAP) Status for the Coen Inlier, Cape York 1990-91.

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DEPARTMENT OF PRIMARY INDUSTRIES AND ENERGY

Minister for Resources: The Hon. Allan Griffiths MP

Secretary: Geoff Miller

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

Director: Professor R.W.R Rutland AO

ABSTRACT

The joint Bureau of Mineral Resources - Queensland Department of Resource Industries North Queensland National Geoscience Mapping Accord Project have made their field database (REGMAP) data available for purchase. REGMAP is a flexible PC-hosted (FOXBASE) and mainframe-hosted (ORACLE) system that has been applied to a range of specialist and regional field uses, and it allows users to search, retrieve and share data more efficiently. The data discussed in this record was acquired in 1990 and forms only a small part of a larger database for North Queensland.

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INTRODUCTION

This record documents the quantity, types and distribution (age, formation, geographical) of field data from the Coen Inlier (Fig. 1) held in the Regional Mapping Database Management System (REGMAP) developed by the Geological Survey of Queensland (GSQ) (cf. Grimes et al., 1988a; 1988b; 1990; Lang et al., 1986; 1987a; 1987b; 1988; 1989; 1990). The Coen Inlier is the focus over the next few years for the joint BMR - GSQ National Geoscience Mapping Accord North Queensland Project. Field data were gathered between June and October 1990 in the first year of the project, and the database will be appended annually. In addition, GSQ have been acquiring digital field data for a number of years and maintain a large database for much of North Queensland. Interested readers should contact GSQ for details (phone numbers on page 13).

With traditional geological field data acquisition estimated by Lang et al., (1990) to cost approximately $50 a site (excluding geologists salaries), it seems logical to optimize the use of any data collected. The BMR and GSQ have begun transforming traditional field observation data into a more readily usable and standard digital database which is available for purchase in varying formats and for varying requirements. The advent of Geographical Information Systems (GIS) has created a new demand for standardized field data and has given a new life to computerised recording of field notes and sample information. REGMAP provides a system that balances the demands of practical field data recording with a database that forms valuable GIS layers.

Elphinstone (1990) documented the status of databases for North Queensland but did not include the evolving REGMAP database. This report describes REGMAP data and the reader is referred to Elphinstone (1990) for information on other databases mentioned here.

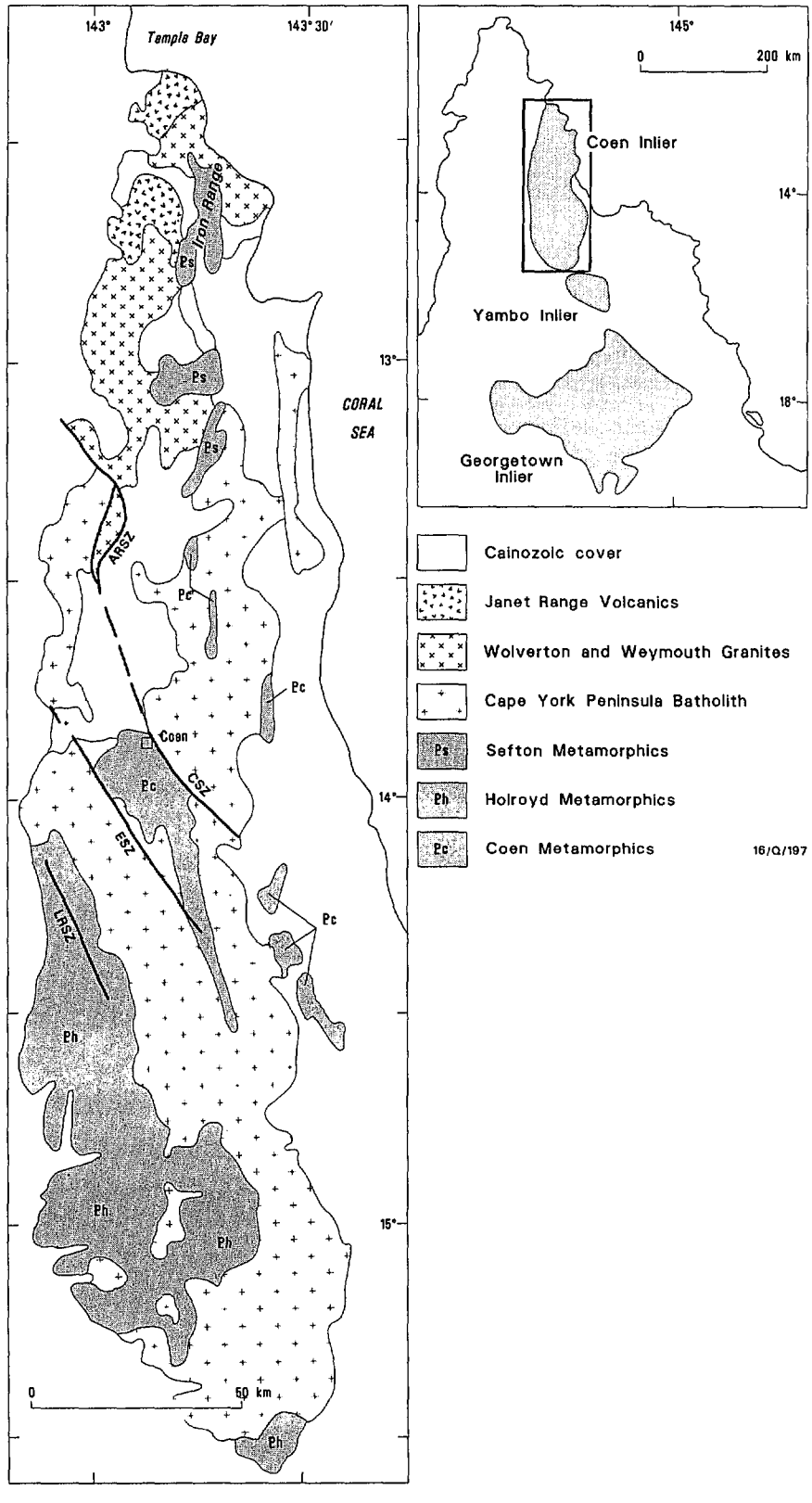
REGMAP has a hierarchical (many to one) structure linked by a unique field (site) number. It is a PC-hosted FoxBASE+ system (dBase III clone). Data are entered in the field via an entry program which produces an ASCII data file. A checking program verifies the consistency and completeness of the data file against look-up tables. The data file can be edited by any ASCII text editor. Like most databases, a limited number of codes are used to preserve the structure and enable accurate searching. It is however a flexible system and has been adapted to suit specialist structural, sedimentological, mineral occurrence and regolith studies.

The data are loaded into the database from the ASCII file, where they are stored in site, structure and lithology sub-files which are linked by the site number. The sub-files may be viewed and edited in FoxBASE or any dBase format software. Details of the use and structure of REGMAP as well as the lithology and other data-type codes are outlined in Lang et al., (1990). Definitions of the data-types, sheet numbers, provinces, formation names and geological age in this database are provided in this report.

The contents, some uses and subsets of the database will be shown later with summary lists. "Specialist" data have been collected by members of the project who have separate field numbers and can be filtered accordingly. The field numbers for BMR geologists are coded by the "Z" prefix while the GSQ staff are prefixed by "Q", both organizational prefixes are followed by the respective geologist's initials.

Figure 1

Regional map showing the location of the northeast Queensland Proterozoic Inliers. The Coen Inlier is a narrow linear belt that is dissected by major shear zones; the Coen, and Ebagoola Shear Zones (CSZ, ESZ) and the Archer River and Lukin River Shear Zones (ARSZ, LRSZ).



Data are available in both hard copy and digital formats (as ASCII or Foxbase), and can be complete datasets or subsets with "filters" set on 1:250,000 or 1:100,000 sheet numbers, individual geologists, formations, ages, provinces, subprovinces, any box defined by the Australian Map Grig (AMG), or combinations of these by using standard search logic. Data can also be selected for individual "datatypes" or multiples of these, examples of which are shown below. Selected datatypes can also be combined with spatial filters described above, so that a range of combinations and formats can be created from a "master" database.

DATABASE STATISTICS

Tables of the distribution and types of data held in REGMAP are presented below. They are arranged in age, 1:250:000 and 1:100,000 sheet numbers, formation, province and subprovince. The frequency of various datatypes (which are defined) and structural read ings are shown.

GEOLOGICAL AGE

CODE	FREQ	DEFINITION
	31	AGE_FROM ?
CZ	7	CAINOZOIC*
CZT	15	CAINOZOIC*TERTIARY
MZ	2	MESOZOIC*
MZ?	3	MESOZOIC*
PCP	517	PRECAMBRIAN*PROTEROZOIC
PCP?	2	PRECAMBRIAN*PROTEROZOIC
PZC	6	PALAEOZOIC*CARBONIFEROUS
PZC?	1	PALAEOZOIC*CARBONIFEROUS
PZCL	3	PALAEOZOIC*CARBONIFEROUS*LATE
PZP	40	PALAEOZOIC*PERMIAN
PZP?	2	PALAEOZOIC*PERMIAN
PZPE	34	PALAEOZOIC*PERMIAN*EARLY
PZS	558	PALAEOZOIC*SILURIAN
PZS?	3	PALAEOZOIC*SILURIAN
PZSL	26	PALAEOZOIC*SILURIAN*LATE

1:250,000 SHEETS

D54/04	190	CAPE WEYMOUTH
D54/08	563	COEN
D54/12	498	EBAGOOLA

1:100,000 SHEETS

7468	7	STRATHMAY
7469	3	STRATHBURN
7470	3	ROKEBY
7471	30	WENLOCK
7475	11	ORFORD BAY
7568	43	KALKAH
7569	451	EBAGOOLA
7570	372	COEN
7571	141	LOCKHART RIVER
7572	186	CAPE WEYMOUTH
7574	1	CAPE GRENVILLE

FREQUENCY OF PROVINCES

CODE	FREQ	DEFINITION
	21	PROVINCE UNKNOWN
CARPE	9	CARPENTARIA BASIN
COEN	1141	COEN INLIER
CZCOV	5	CAINOZOIC COVER
NQVP	74	NORTH QLD VOLCANIC & PLUTONIC PROVINCE

FREQUENCY OF SUBPROVINCES

	645	NONE OR UNKNOWN
ARSZ	49	ARCHER RIVER SHEAR ZONE STRUCT BLOCK
COEN	362	COEN SUBPROVINCE
CSZ	1	COEN SHEAR ZONE STRUCT BLOCK
CVALE	6	CRYSTAL VALE STRUCT BLOCK
IRONR	63	IRON RANGE SUBPROVINCE
MTC	39	MOUNT CARTER STRUCT BLOCK
POLLAP	9	POLLAPPA STRUC BLOCK
STEWA	31	STEWART RIVER STRUCT BLOCK

FREQUENCY OF FORMATIONS

	99	FORMATION UNKNOWN
BLUE	22	BLUE MOUNTAINS ADAMELLITE
COEN	357	COEN METAMORPHICS
FALLO	6	FALLOCH BEDS
FLYSP	73	FLYSPECK GRANODIORITE
GILBE	3	GILBERT RIVER FORMATION
HOLRO	38	HOLROYD METAMORPHICS
JANET	5	JANET RANGES VOLCANICS
KANGR	4	KANGAROO RIVER VOLCANICS
KINTO	221	KINTORE ADAMELLITE
LANKE	170	LANKELLY ADAMELLITE
MORRI	28	MORRIS ADAMELLITE
PASCO	1	PASCOE RIVER BEDS
SEFTO	123	SEFTON METAMORPHICS
TWIN	26	TWIN HUMPS ADAMELLITE
VEIN	6	
WEYMO	53	WEYMOUTH GRANITE
WIGAN	3	WIGAN ADAMELLITE
WOLVE	13	WOLVERTON ADAMELLITE
YAM	4	YAM CREEK BEDS

FREQUENCY OF STRUCTURAL DATATYPES

Structural terminology modified after Bell & Duncan (1978). The character(s) refer to datatype (AP= axial plane, F= fold hinge, L= lineation, S= planar surface). The first number refers to generation of structure while the second refers to generation of structure being deformed or over printed. For example F^3_2 reads as F32. Other codes include FALT (fault), IGFL (igneous foliation), DYKE (dyke) JNTG (jointing), VEIN and VN (Vein). Other characters used in association with L, F, S, AP are G (gneissic layering); M (mylonite i.e. C-planes); C (C-planes); S (S-planes), K (kink planes - axial surfaces)

CODE	FREQ
AP1	5
AP2	22
AP3	7
AP4	1
APG	1
DYKE	1
F0	1
F1	21
F10	9
F1G	1
F2	14
F20	15
F21	38
F2G	24
F3	1
F30	4
F31	5
F32	11
F3?	2
F3G	6
F40	3
FALT	1
FK	1
IGFL	1
JNTG	10
L1	1
L10	18
L11	9
L2	3
L20	19
L21	77
L22	5

CODE	FREQ
L23	6
L2G	6
L31	1
L32	3
L?	7
LG	2
LM	15
S0	145
S1	277
S2	318
S3	26
S?	13
SC	3
SG	114
SK	7
SM	71
SS	3
VEIN	1
VN1	1
VN2	1
VN3	1

FREQUENCY OF LITHOLOGICAL DATATYPES

CODE	FREQ	DEFINITION
ABST	1084	ABSTRACT
ALTN	88	ALTERATION
AMYG	2	AMYGDALE
BEDG	99	BEDDING
BMRR	170	BMR SAMPLE NUMBER
CLEV	9	CLEAVAGE
CLST	6	CLAST
COLR	1325	COLOUR
COMM	47	COMMODITY
COMP	1199	COMPOSITION
DPDI	3	DEPOSIT DIRECTION
DPOR	30	DEPOSIT ORIENTATION
DYKE	11	DYKE
FACE	2	FACING (STRUCTURAL)
FALT	19	FAULT
FOLD	190	FOLD
GANG	43	GANGUE
GMAS	15	GROUNDMASS
GNSZ	1240	GRAINSIZE
GREF	52	GRID REFERENCE
GSQR	435	QUEENSLAND DEPARTMENT RES. IND. SAMPLE NUMBER
HORX	54	HOST ROCKS
IBED	26	INTERNAL BEDDING
IGFL	1	IGNEOUS FOLIATION
IGST	2	IGNEOUS STRUCTURES
JNTG	43	JOINTING
LAYR	151	LAYER
LITH	1555	LITHOLOGY
MAGN	395	MAGNETIC SUSCEPTIBILITY
MAP	302	MAP CODE
MCOM	151	MINOR COMPONENTS
MIN	150	MINERALIZATION
MINE	2	MINE
MINP	1	PRIMARY ORE MINERALS
MTX	4	MATRIX
NAME	53	NAME
ORE	46	DEPOSIT FORM (STRATIFORM etc.)
OSTR	112	OTHER STRUCTURAL OBSERVATIONS
PEGM	105	PEGMATITE
PHNX	157	PHENOCRYST
PHOT	496	PHOTOGRAPH (35 mm)
PORP	266	PORPHYROBLAST
RAD	404	RADIOACTIVE COUNTS PER SECOND
REGO	4	REGOLITH
REM	1500	REMARK
RNAM	476	ROCK NAME
ROND	6	ROUNDNESS
SECT	11	SECTION
SEDS	7	SEDIMENTARY STRUCTURE
SIG	37	SIGNIFICANT SITE
SMPL	882	SAMPLE
SOIL	2	SOIL
SORT	9	SORTING
SPHY	2	SPHERICITY
STAT	50	STATUS (Abnd etc.)
STRU	10	STRUCTURE
TCFL	779	TECTONIC FOLIATION
TCLN	160	TECTONIC LINEATION
TEXT	972	TEXTURE
TKNS	357	THICKNESS
TOPO	116	TOPOGRAPHIC FEATURE
VEIN	166	VEIN
VERG	1	VERGENCE
WETH	209	WEATHERING
WKMD	54	WORK METHODS (MINE)
WKXT	6	WORKING EXTENT (MINE)
XENL	150	XENOLITH
YUNG	18	YOUNG (ALSO SEE FACE)

The following table is an extract of the samples collected from the Coen Metamorphics in the Coen sheet area 7570. This was produced with filter logic of formation=COEN .AND. HunTho='7570'

LISTING OF SAMPLES - COEN/7570

FieldNo	1:100	GdRef	FtN	Lith	Description
QFG0036	7570	414514	COEN	QTZT	QFG0036 - QUARTZITE
QFG0039	7570	321554	COEN	MIGM	QFG0039A - MIGMATITE ALMOST HORIZONTAL ORIENTATED WITH EARROW! WITH FOLDS
QFG0045	7570	407526	COEN		AMPH QFG0045B - AMPH.
				GNSS	QFG0045A - GNSS/MIGMATITE,ORIENTATED 30->240
QFG0047	7570	405524	COEN	GNSS	QFG0047 - ANDAL. GNSS. ORIENTATED 60-130: JNTG SURFACE
QFG0049	7570	404520	COEN	GRNT	QFG0049 - FLYSPECK GRNT
QFG0050	7570	405518	COEN	SCHT	QFG0050A - SCHIST
QFG0051	7570	406516	COEN	SCHT	QFG0051 - SCHIST WITH WETHD OUT GT, ORIENTATED 80-220
QFG0064	7570	386544	COEN	GRNT	QFG0064 - PORP BI-GRNT (FLYSPECK OR LANKELLY?)
QFG0071	7570	385555	COEN	SCHT	QFG0071 - GT-SCHIST
QFG0195	7570	257526	COEN	SCHT	QFG0195 - GT-SIL-SCHIST
QFG0325	7570	273618	COEN	GRNT	QFG0325 - LEUCOGRNT
QFG0344B	7570	359629	COEN	BREC	QFG0344C - BRECCIA CZS
QFG0348	7570	317674	COEN	GRNT	QFG0348 - GRNT
QFG0368	7570	371592	COEN	QTZT	QFG0368 - QTZT
ZGE0044	7570	366594	COEN	REM	9083 7154,MICAIQTZ SCHIST WITH NARROW Q FROM SHALLOW PIT
					9083 7155, DARK GY SILICIFIED SCHIST WITH APY FROM HEAP NEAR COLLAPSED MAIN SHFT
					9083 7156, Q VN IN ALTERED SCHIST
					9083 7157, Q VN WITH PY, APY FROM DUMP NEAR MAIN SHFT
					9083 7172, SILICEOUS ROCK WITH MINOR SULPHIDES
ZRB0047	7570	327570	COEN	GNSS	ZRB0047A - GNSS
				DIOR	ZRB0047 - DIORITE DYKE (?)
ZRB0048	7570	345576	COEN	GNSS	ZRB0048A - FOLDED GNSS WITH JOINT SURFACE ORIENTATION 38 ->244 / S2?: 82 -> 244, PITCH 117
				GNSS	ZRB0048B - GNSS
				AMPH	ZRB0048C - AMPHIBOLITE
ZRB0052	7570	378542	COEN	SCHT	ZRB0052 -- Q MU SCHIST C GRAINED.
ZRB0053	7570	381537	COEN	QTZT	ZRB0053 - QTZT.
ZRB0054	7570	385562	COEN	SCHT	ZRB0054A - CHL SCHIST 40->168. COEN SHEAR ZONE.
				SCHT	ZRB0054B - PROBABLE PSUEDOTACHYLITE - COEN SHEAR ZONE.
ZRB0102	7570	476561	COEN	SCHT	ZRB0102 (2X) - L11 SIL-SCHIST - LOOSE BLOCK - COEN - STEWA
ZRB0103A	7570	475558	COEN	GNSS	ZRB0103 - L2G SIL GNSS, ORIENTATED 68-310. TS FOR SIL RELATIONSHIP WITH SG AND/OR F2 COEN METAM - STEWA
ZRB0118	7570	390542	COEN	SCHT	ZRB0118 - F2 OR F3 ANDALUSITE FOLDED SCHIST. 80->184 AC JNT PLANE
				SCHT	ZRB0118B - FINE AND-SIL SCHIST. TS TO SHOW ANDAL. IS PRE-S2. ORIENTATED 72->266
ZRB0210	7570	245620	COEN	GNSS	ZRB0210 - SIL GT GNSS W/ SG NOT // TO S1/S2. NOTE ORTHOG S3 (?) - LOOSE BLOCK - COEN.
ZRB0212A	7570	242598	COEN	RHLT	ZRB0212 - RHYOLITE FLOW BANDED? INTRUDED BY Q VN OR SILICFD - COEN.
ZRB0220	7570	218530	COEN	SCHT	ZRB0220 - S1/S2 AS TRANSPD. 80->260. COEN.

TECTONIC FOLIATION (TCFL) CAPE YORK

The following table is produced with the spatial filters FORMATION='COEN' .AND. HunTho='7570' for data on tectonic foliation (TCFL).

FIELDNO	TCFL
QFG0025	F2,3 FOLDS, SOME WITH KINKBANDING (ASSYM).
QFG0039	MAIN FOLIATION NOT //LAYR - PROB. S1?- SEVERAL GENERATIONS OF FOLDS.
QFG0047	GNSSIC LAYRING FOLDED BY S1-S2, S1 BEING SLIGHTLY OBLIQUE TO GNSSIC LAYR.
QFG0050	STRONG S1/S2 WITH STRONG FOLDING AND CRENULATION CLEAVAGES.
QFG0059	STRONG (S1), Q LENGTHENED, MICA ORIENTATED IN TECT LAYRS. STR. FOLIATED AND CRENULATED (S2?)
QFG0065	GNSSIC LAYRG W/ S1. SLIGHT CREN CLEV, KB & F2. GNSS LAYR TREND 340.
QFG0071	SCHISTOSITY STR (S1), WEAK CREN CLEAV (S2)
QFG0164	GNSSIC LAYRING, STR FOLN, F2 MELANOSOME BANDS FOLDED. LEUCOSOME BOUDIN
QFG0195	STR SCHISTOSITY, STR CREN CLEAN WITH FOLDS (ASYM) WTHD OUT VERY STRONG.
QFG0214	SCHISTOSE, CREN CLEAV WEAK.
QFG0318	MOD-STR SCHISTOSITY WITH FOLDING.
ZJK0008	S2 CREN CLEAV OVERPRINTED BY S3 WITH 3 CM WAVELENGTHS SYMMETICAL.
ZRB0039	ALIGNMENT OF MICA // TO GNSSIC FOLN. HAVE F3 LAYRG E-W PL
ZRB0040	STR ANLIGNMENT OF MIN LAYRS (BI-Q,FS) MAY HAVE S2 = SG?.
ZRB0041	STRN PREFERRED ALIGNED OF LAYRS (BI-Q FS LAYR). S2=SG ?.
ZRB0042	PREFERRED ALIGNMENT // TO GNSSIC LAYR.
ZRB0043	AS1 ?? // TO GNSSIC LAYR.
ZRB0045	STRN SCHISTOSITY (S1?) NOT ALWAYS // TO SG
ZRB0047	NONE.
ZRB0048	LAYR // S2(?) WITH LARGE TRANSP OF Q/FS BANDS. F3 + S3
ZRB0049	STR SCHTY W/ ACICULAR SIL // E-W TRENDING RARE S3 CRENS. S1 DOMINANT
ZRB0050	SOME COMPETENT BLKS SHOW S2- MOD DEVELOPED.
ZRB0052	A WEAKISH S2 FOLN. STRN FLATTENED Q.
ZRB0097	STR S1? SCHISTOSITY NOT ORIENTATED WITH CRENULATION. STR S2?.
ZRB0102	STR S1 WITH SIL. THE NEEDLES // AN F21? CREN AXIS..
ZRB0103	ASTR FOLIATION = GNSSIC LAYRING.
ZRB0105	STR FOLIATION, CREN CLEAV (SEE SAMPLE).
ZRB0111	STR S1? FOLN WITH MU AND SIL ALIGNED //.
ZRB0115	S2 FOLN DEVELOPED AS SEEN BY LESS QZITIC LAYRS.
ZRB0118	WEAK FOLN BUT SILL. SEEMS TO BREAK IT UP. AND REDUCE F INTENSITY.
ZRB0166	STR FOLN AND OVERPRINTED BY STR CREN CLEV.
ZRB0169	STR SCHTY W/ CREN CLEV OVERPRINT. CREN S2 OR S3?
ZRB0201	STR CRENS OF S1 AND SIL - POST S1.
ZRB0205	GOOD STR S2 CREN CLEV - ASYM.
ZRB0210	STR S2 SCHTY NOT ALWAYS // TO GNSSC LAYRG. ALSO ORTHOG S3? CREN FOLNS..
ZRB0212A	STR S1 AND S2 CREN OF S1 AP TO F2 FOLD..
ZRB0213	STR FOLN AND STR LINEAR SIL NEEDLES..
ZRB0220	STR S1 SCHTY W/ S2 CREN CLEV. SHAL F21 FOLD PL..
ZRB0221B	GOOD STR S2 SCHTY NNW-TRENDING. NOT STR LINES ON S2 PLANE
ZRB0223	STR LS TECTONITE.
ZRB0224	STR SCHTY MOD ANGLE DIP. S2 STR TRANSPG S1 INTO LARGE AMP CREN FOLDS (cm)

The following tables show full and summary printouts of a representative site (ZRB0178B) seven km south of the Coen River/Old Pollappa Road crossing. This shows the data format and range of data gathered. The table below shows a summary printout of the same site above, and these can be modified. In this case the abstract (ABST - a summary of the outcrop entered by the geologist) is shown, although this could be changed for any data-type.

```
Field no.:ZRB0178B                    Date:13-08-90
1:250 000 map:SD54/12  1:100 000 map:7569  GR:7295 84488
Descriptive location:OLD TRACK W OF RANGE. 7 km S COEN-OLD POLLAPPA XG
Geol. age:PCP
Province:COEN  Subprov.:COEN Group:     Subgroup:
Formation:COEN  Member:
Informal unit:
Exposure type:HILLSIDE OUTCROP.
Photo Name:COEN  Run:9   No.:143  Scale:85  Year:69  Store:B
                                                    Sketch:Y
Rel.     Data    Dip/Azi.      Y.    Hade
         Type    Pl/Azi.             Vector
         S2      48/ 82
         F21     27/  8
         S1      73/294
Rock     Data    Description
Class Type
 *       OSTR    THESE MAYBE S3 READINGS. BUT A BIT NLY FOR S2.
         ABST    FOLDED AND CREN SIL-SCHT NEARBY KINTO GRNT.
         SIG     S1 CUT BY GRNT WHILE S3 IS THRO GRNT. OR IS IT S2???
         MAP     SC
F        LITH    SCHT
         COLR    PINKISH BN
         COMP    Q  MU  HEM  SIL  GT
         GNSZ    F
         REM     LOOSE BLOCKS ~ 100m W OF KINTO GRNT. WALKING UP SM HILLS.
         TCFL    STR SCHTY W/ 20cm WLGTH FOLDS. NOT SURE OF GENERAT.
         MAGN    60-250  V VARIABLE.
         FOLD    20cm WLGTH ROUNDED CRESTS. FOLDING SCHTY.
         RAD     90
         REM     SO TN SCREEN OF KINTO BETWEEN META.
         TOPO    KINTO=LOW GROUND  META =RIDGES.
         PHOT    SRB90/8/8 - F21 FOLDED KINTO/SIL-SCHT CONTACT. VIEW 330
                 NOTE S1 CUT OFF AT BOTTOM OF FRAME - COEN -COEN.
         FOLD    LOW ANGLE S2 CREN CLEV W/ TIGHT FOLDED QFS LAYRS REFLECTED
                 IN FOLDING OF CONTACT. NOT SURE OF GEN TO OPENLY FOLD S2??
```

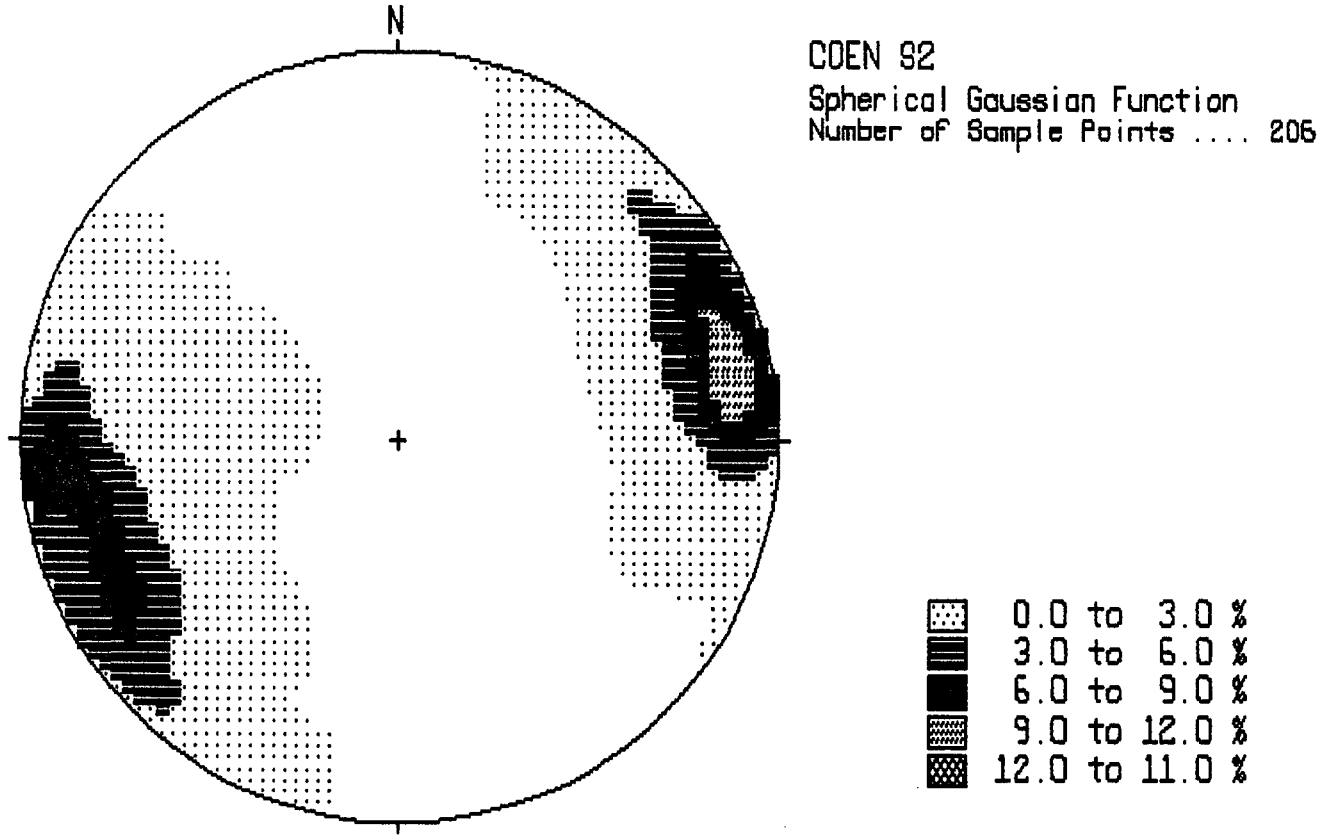
```
ZRB0178B     EBAGOOLA 295488            UNITS: COEN                    SKETCH
  LOCATION:  OLD TRACK W OF RANGE. 7 km S COEN-OLD POLLAPPA XG
  LITH:      SCHT;
  REMARKS    ABST: FOLDED AND CREN SIL-SCHT NEARBY KINTO GRNT.
  STRUCT:    THESE MAYBE S3 READINGS. BUT A BIT NLY FOR S2.
               S2    48 -  82           Hade -   0
               F21   27 -   8           Hade -   0
               S1    73 - 294           Hade -   0
```

This table shows the datatypes (in the same format as above) collected by the mineral occurrence geologist for the Golden King Mine. More of these data are available.

```
Field no.:ZGE0013                          Date:29-08-90
1:250 000 map:SD54/12   1:100 000 map:7569  GR:7473 84009
Descriptive location:GOLDEN KING MINE
Geol. age:PZSL   to PZDE
Province:COEN    Subprov.:        Group:        Subgroup:
Formation:FLYSP   Member:
Informal unit:SDF
Exposure type:MINE
Photo Name:EBAGO  Run:4    No.:41   Scale:85   Year:70  Store:B
                                                      Sketch:

Rock  Data     Description
Class Type
 M     NAME    GOLDEN KING MINE
       GREF    473009
       COMM    AU
       STAT    ABD
       WKMD    SERIES OF PITS AND MULLOCK HEAPS
       HORX    GRANITE, MEDIUM-COARSE
       REM     HORX WITH SERICITIC AND DISSEMINATED PYRITE
               ALTERATION
       ORE     VN
       GANG    Q
       DPOR    WORKINGS TREND 135
       SMPL    9083 7041, FRESH GRANITE
               9083 7042, ALTERED GRANITE
               9083 7043, Q VN, BLUISH AND COARSE
               9083 7044, Q VN, COARSE
               9083 7045, Q VN IN RHYOLITE
       PHOT    GE90-1-17, MULLOCK HEAPS AND PITS
               GE90-1-18, Q VN IN PIT
               GE90-1-19, Q VN IN RHYOLITE? IN COSTEAN
       REM     9083 7045 FROM SITE OF GE90-1-19
       SMPL    9083 7046, COARSE Q VN FROM COSTEAN IN GE90-1-18 AT N END OF
               WORKINGS
               9083 7055, Q VN FROM S END OF WORKINGS
               9083 7056, COARSE Q VN FROM S END OF WORKINGS
       PHOT    GE90-1-24, TRENCH AND MULLOCK HEAP AT S END OF WORKINGS
```

A simple stereonet of contoured (Spherical Gaussian) poles to S_2 crenulation cleavage. These stereonets are generated from an ASCII output with a spatial filter set on the COEN Subprovince and the data-type filter as S_2.



DATA USEAGE AND AVAILABLE SUBSETS

Data are available in complete sets or subsets. The database statistics (outlined above) enable one to select data as required. For example, if one is interested in weathering and alteration in the Coen Inlier, or in a particular lithology, and/or in a particular 1:100,000 sheet area, the data can be selected in isolation and provided in the range of formats already described.

The following are some of the subsets and data that may be of interest:

- **site data** subset (location) could be used for orthophotographic mapping as all field geologists (in 1991) will be using GPS positioning enabling accurate location of sites in a range of positions on photographs
- **magnetic susceptibility and scintillometer** data are collected at many sites and are used for ground checking of remotely sensed geophysics (eg. aeromagnetics and radiometrics)
- **samples** held at BMR or QDRI can be tabulated and include oriented "structural", igneous, sedimentary, and metamorphic petrological samples, as well as regolith and quartz vein (for fluid inclusion studies) samples
- **summary datasets** are available with a range of emphasis, the "standard" set, as full sets, or as specialist sets (see tables above)
- **structural data** are exported directly via REGMAP filters into an ASCII format that is read by "Rockware's STEREO" software. This enables rapid stereographic generation and various filter options can be used to generate the "best" plots
- the BMR Cartographic Services Unit can use the site and structural information subset held in the database for the automatic plotting of **structural symbols** via INTERGRAPH. The database therefore aids the generation of geological and structural maps by negating the tedious task of "hand placing" symbols in their correct position and orientation
- site and sample data is loaded into ROCKCHEM, an ORACLE-based system, so that REGMAP data is **supplementary** to ROCKCHEM. MAPDAT is a **plotting** routine linked to ORACLE, which is able to plot any datatype at any scale to the Australian Map Grid (see Elphinstone, 1990 for a description of these databases and routines). REGMAP is also linked to other GSQ databases. REGMAP has been converted to ORACLE enabling MAPDAT plotting of the description field (i.e. values) of any datatype on maps at any scale. For example, maps can be created for values of magnetic readings (RAD), or as text strings of lithology, composition, site abstracts, mineral occurrences, alteration and so on. The ORACLE database is a replica of the FOXBASE version, and is under development. The Queensland Department of Resource Industries uses GENERIC-CADD for plotting sample locations, structural symbols, palaeocurrent vectors and rose diagrams
- the **mineral occurrence specialist** (ZGE) visited 48 existing mines or mineral occurrences in the Coen Inlier and the REGMAP data are supplementary to the MIN.OCC database (Elphinstone 1990, von Gnielinski et al., 1991)

- Many of the data collected in the 1960's first pass mapping by the BMR and the GSQ are being entered into the database. A wealth of samples and thin sections (600) as well as Rb/Sr dates are available
- Information concerning hard-rock geochemistry, U/Pb zircon microprobe dates and Nd/Sm and other isotopic data is cross referenced to the respective databases where these data are held (OZCHRON and ROCKCHEM, see Elphinstone, 1990) allowing users to quickly ascertain the distribution and density of these data, and also as a supplement to these data

THE FUTURE OF REGMAP DATA AND CONCLUSIONS

Valuable field data have been traditionally "locked up" in notebooks to the benefit of no one. The benefits of the REGMAP system are:

- standardized data
- not affected by the "I can't read the hand writing" problem
- easy data sharing, search and retrieval
- many more GIS layers
- more "correct" than regular notebooks, as they are "checked"
- flexibility allows a range of users (eg. specialists) to be accommodated and yet maintain a compatible data-base format with others
- avoids duplication in plotting
- catalogues any data-type, eg. samples, fossils, photographs
- crib sheets act as check lists for data completeness
- subsets of data are easily generated

The ORACLE conversion enables data to be output in a number of formats. This will open up the traditional field notebook to many more users, and create more readily accessible GIS layers with all the benefits and powerful analytical tools of integrated GIS systems (eg. ARC-INFO or ARC-ORACLE). REGMAP will be maintained as the data capture tool, as an alternative for dBase clients and for field and general PC-based work (it is far cheaper than PC-ORACLE).

The North Queensland Project is committed to creating a multidisciplinary, multilayer digital database that is readily accessible for GIS use. The data described above are only part of a larger set for other areas of Queensland, held at the Department of Resource Industries in Brisbane. For more information contact John Bain (Project Manager), Richard Blewett (BMR) on 06-2499111 or Gerhard Hofmann (GSQ). For enquiries on REGMAP and the complete Queensland REGMAP database status contact Mark Thorton on (07) 237 1517.

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