

Technical Summary 1999 Field Season

Project Area - King River Region EL 734, EL 5890, EL 5891

Co-ordinate System - Australian Mapping Grid AGD66 AMG Zone 53

Chemical Analysis Contractor - CHEMNORTH PTY LTD (Darwin)

Sampling/Analyses :

Sample Type	Auger				1999	
Sample Method Description	1m auger flight hole – sieved sample fraction >1.6mm and < 4.6mm					
Number of samples					58	

Sample Type	BLEG				1999	
Sample Method Description	2-4Kg bulk active stream sediment <1.6mm					
Number of samples					0	

Sample Type	Steam Sediment				1999	
Sample Method Description	>50g sample of active sediment fines <#80					
Number of samples					8	

Sample Type	Soil				1999	
Sample Method Description	1m auger flight hole – sieved sample <1.6mm					
Number of samples					0	

Sample Type	Rock Chip				1999	
Sample Method Description	rock chip grab samples					
Number of samples					42	

Sample Type	Whole Rock				1999	
Sample Method Description	whole rock chemical analysis					
Number of samples					0	

Sample Type	RAB Chip				1999	
Sample Method Description	Rotary Air Blast drilling chips					
Number of samples					113	

Sample Type	DDH Core Chip				1999	
Sample Method Description	diamond bit drill core samples					
Number of samples					268	

Analytical Methods, Elements & Limits :

Analytical Method	FALL	FALL	G400I	G400M	G140I	G400I	G400I	G400M	G400I	G400I	G400M
Technique	AAS	AAS	ICP-OES	ICP-MS	ICP-OES	ICP-EOS	ICP-OES	ICP-MS	ICP-OES	ICP-OES	ICP-MS
Detection Limit	1	1	50	0.5	20	2	10	0.01	2	2	0.2
Units	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Element	Au	Au(R)	Al	As	B †	Ba	Ca	Ce	Co	Cr	Cu

Analytical Method	G400M	G400I	G400M	G400I	G400I	G400M	G400I	G400M	G400I	G400M	G400M
Technique	ICP-OES	ICP-OES	ICP-OES	ICP-MS	ICP-OES	ICP-OES	ICP-MS	ICP-OES	ICP-MS	ICP-OES	ICP-MS
Detection Limit	20	50	0.1	10	1	0.05	50	0.2	10	0.2	0.05
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Element	Fe	K	Li	Mg	Mn	Mo	Na	Ni	P	Pb	Rb

Analytical Method	G400I	G400I	G400M	G400I	G400M	G400I	G400M	G400M	G400M	G400I	G250M
Technique	ICP-OES	ICP-OES	ICP-MS	ICP-OES	ICP-MS	ICP-OES	ICP-MS	ICP-MS	ICP-MS	ICP-OES	ICP-MS
Detection Limit	20	1	0.01	10	0.01	2	0.05	0.01	0.5	10	0.01
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Element	S	Sr	Th	Ti	U	V	W	Y	Zn	Zr	U (labile) †

[† sandstone samples only]

Drilling Contractor - Gadens Drilling / Century Drilling

Drilling Summary

Rotary Air Blast Drilling (RAB)

Year	No. of holes	Total metres drilled
1999	101	2146

Diamond Bit Core Drilling (DDH)

Year	No. of holes	Total depth metres	Total pre-collar metres	Total core metres
1999	7	1870.9	288.4	1582.5

Petrophysics Analysis Contractor - Systems Exploration : 0

Petrology Determination Contractor - Pontifex and Associates

Samples

Year	Total samples	rock chip	RAB chip	DDH core chip
1999	26	4	2	20

(Report: 7942)

Geological Logging Codes

:

<u>TexCode</u>	<u>Texture</u>	<u>DescCode</u>	<u>Descriptor</u>	<u>LithCode</u>	<u>LITHNAME</u>
	<u>IGNEOUS</u>				
AB	autobrecciated	ABD	abundant	AFG	alkali feldspar granite
AM	amorphous	ADC	adcumulate	AGA	amphibole garnet
AMY	amygdaloidal	AGA	amphibole garnet	ALC	alcrete
APH	aphanitic	ALK	alkali	ALVM	alluvium
APHY	aphyric	AMG	amygdaloidal	AMP	amphibolite
CON	conchoidal	AMPH	amphibole	ANT	andesite
CX	cryptocrystalline	ARE	arenaceous	APL	aplite
DV	devitrified	ARG	argillic	ARKS	arkose
EQ	equigranular	AUG	augen	ASH	ash
EU	eutaxitic	BAS	basic	BAD	basaltic andesite
FB	flow banded	BD	bouldery	BAU	bauxite
FR	fragmental	BDD	banded	BKSL	black soil
GL	glassy	BIOT	biotitic	BLD	boulder
GM	groundmass	BXD	brecciated	BLT	basalt
GR	granophyric	CAL	calcareous	BX	breccia
MEG	megacryst	CAR	carbonaceous	CB	carbonate
MX	microcrystalline	CGC	conglomeratic	CBL	cobble
PI	pillows	CHY	cherty	CBR	carbonaceous rock
POR	porphyritic	CLC	calcic	CHLR	chlorite rock
RL	rythmically layered	CLTC	chloritic	CHRT	chert
SER	seriate	CS	calc-silicate	CLC	calcrete
SPH	spherulitic	CUM	cumulate	CLRK	clastic rock
SPX	spinifex	DMT	dolomitic	CLST	claystone
VE	vesicular	EUT	eutaxitic	CLVM	colluvim
VI	vitric	EXV	extrusive	CLY	clay
VU	vuggy	FEL	feldspathic	CNGL	conglomerate
XC	xenocrystic	FERU	ferruginous	CS	calc-silicate
XL	xenolithic	FEW	few	DAC	dacite
		FLS	felsic	DLMT	dolomite
<u>TexCode</u>	<u>Texture</u>	<u>DescCode</u>	<u>Descriptor</u>	<u>LithCode</u>	<u>LITHNAME</u>
	<u>METAMORPHIC</u>				
BDD	banded	FOI	feldspathoidal	DOL	dolerite
BK	broken	FOL	foliated	FER	ferricrete
BX	brecciated	GPH	graphic	GAB	gabbro
GNC	gneissic	GPT	graphitic	GN	gneiss
GR	granoblastic	GTY	gritty	GOS	gossan
IDB	idioblastic	HEM	hematitic	GRD	granodiorite
MIG	migmatitic	HK	high-K	GRN	granulite
PKB	poikiloblastic	ITM	intermediate	GRS	greisen
		ITV	intrusive	GRT	granite

POB porphyroblastic
 PS pseudomorph
 RX recrystallised
 SA saccharoidal
 SCH schistose

SEDIMENTARY

BR breccia
 CEM cemented
 GP geopetal
 MIC micritic
 ON oncolitic
 OO oolitic
 PE peloidal
 PIS pisolitic

ColCode Colour

BK black
 BL blue
 BR brown
 BU buff
 CH chocolate
 CR cream
 CRBR cream brown
 DKGR dark green
 DKPI dark pink
 FA fawn
 GR green
 GRBR green brown
 GY grey
 GYBR grey brown
 GYGR grey green

ColCode Colour

GYPU grey purple
 IR iridescent
 KH khaki
 LTGR light green
 LTPI light pink
 LTYE light yellow
 LTPU light purple
 LTYE light yellow
 MA maroon

LAY layered
 LCC leucocratic
 LK low-K
 LMN laminated
 LCC leucocratic
 LTH lithic
 MAF mafic
 MAG magnetite
 MCL mesocumulate
 MDY muddy
 MET meta
 MGS magnesian
 MIC micaceous
 MK medium-K
 MLC melanocratic
 MOD moderate
 MYLC mylonitic
 OCL orthocumulate
 ORT ortho
 PAR para
 PBY pebbly
 PEL pelitic
 PHC phosphatic
 PLC peltic
 PLY polymict
 POB porphyroblastic
 POIK poikilitic
 POR porous
 PORP porphyritic
 POT potassic
 PRS poorly sorted
 PSC psammitic

DescCode Descriptor

PYR pyritic
 QF quartzo-feldspathic
 QFM quartz feldspar mica
 SDC sodic
 SDY sandy
 SIL siliceous
 SER sericitic
 SIL siliceous
 SLF silicified

GRU grus
 GVL gravel
 HP hard pan
 IGM ignimbrite
 IRST ironstone
 LAG lag
 LAT laterite
 LMST limestone
 LPT lapilli tuff
 LTF lithic tuff
 MDST mudstone
 MIG migmatite
 MTS metasomatite
 MUD mud
 MYL mylonite
 NOD nodule
 PBL pebble
 PEG pegmatite
 PELT pelite
 PHL phyllite
 PHY porphyry
 PNT phonolite
 QAS quartz alkali feldspar syenite
 QZM quartz monzonite
 RCL residual clay
 QZT quartzite
 RHD rhyodacite
 RHY rhyolite
 SCH schist
 SDST sandstone
 SHL shale
 SILC silcrete

LithCode LITHNAME

SLA slate
 SLST siltstone
 SLT silt
 SND sand
 SRP serpentinite
 TDJ trondhjemite
 TMS tuffaceous mudstone
 TNL tonalite
 TSS tuffaceous sandstone

MO mottled
 MV mauve
 OL olive
 OR orange
 ORBR orange brown
 PI pink
 PU purple
 REBR red brown
 RE red
 TA tan
 VC varicoloured
 VG variegated
 VI violet
 WH white
 YE yellow
 YEBR yellow brown

SLY silty
 ST staurolitic
 SUL sulphidic
 UMC ultramafic
 XTL crystal

<u>MinCode</u>	<u>Mineral</u>
AMP	amphibole
B	biotite
CHL	chlorite
F	feldspar
G	garnet
HEM	hematite
M	muscovite
MAG	magnetite
MI	mica
Q	quartz
SER	sericite

TST tuffaceous siltstone
 TUF tuff
 UM ultramafite
 SAP (undifferentiated) saprolite
 XLT crystal tuff

<u>GSCode</u>	<u>Grain Size</u>
BM	bomb (>32 mm)
BO	boulder (>256 mm)
C	coarse
CB	cobble (64-256 mm)
CS	coarse sand (0.5-1 mm)
F	fine
FS	fine sand (0.125-0.5mm)
GL	granule (2-4 mm)
GT	grit
GV	gravel
LA	lapilli (4-32 mm)
M	medium
MS	medium sand (0.25-0.5 mm)
MUD	clay/mud (<0.002 mm)
MX	microcrystalline
PB	pebble (4-64 mm)
PEG	pegmatitic
SA	sand (0.062-2 mm)
SLT	silt (0.002-0.062 mm)
ST	stone
VC	very coarse
VCS	very coarse sand (1-2 mm)
VF	very fine
VFS	very fine sand (0.062-0.125 mm)