CYPRUS GOLD AUSTRALIAN CORPORATION

EL 5094 MOLINE

[RANFORD HILL 5370 1:100,000 SCALE SHEET]

REPORT FOR TWELVE MONTHS ENDING 28.1.89

G.C. MILLER

2.3.89

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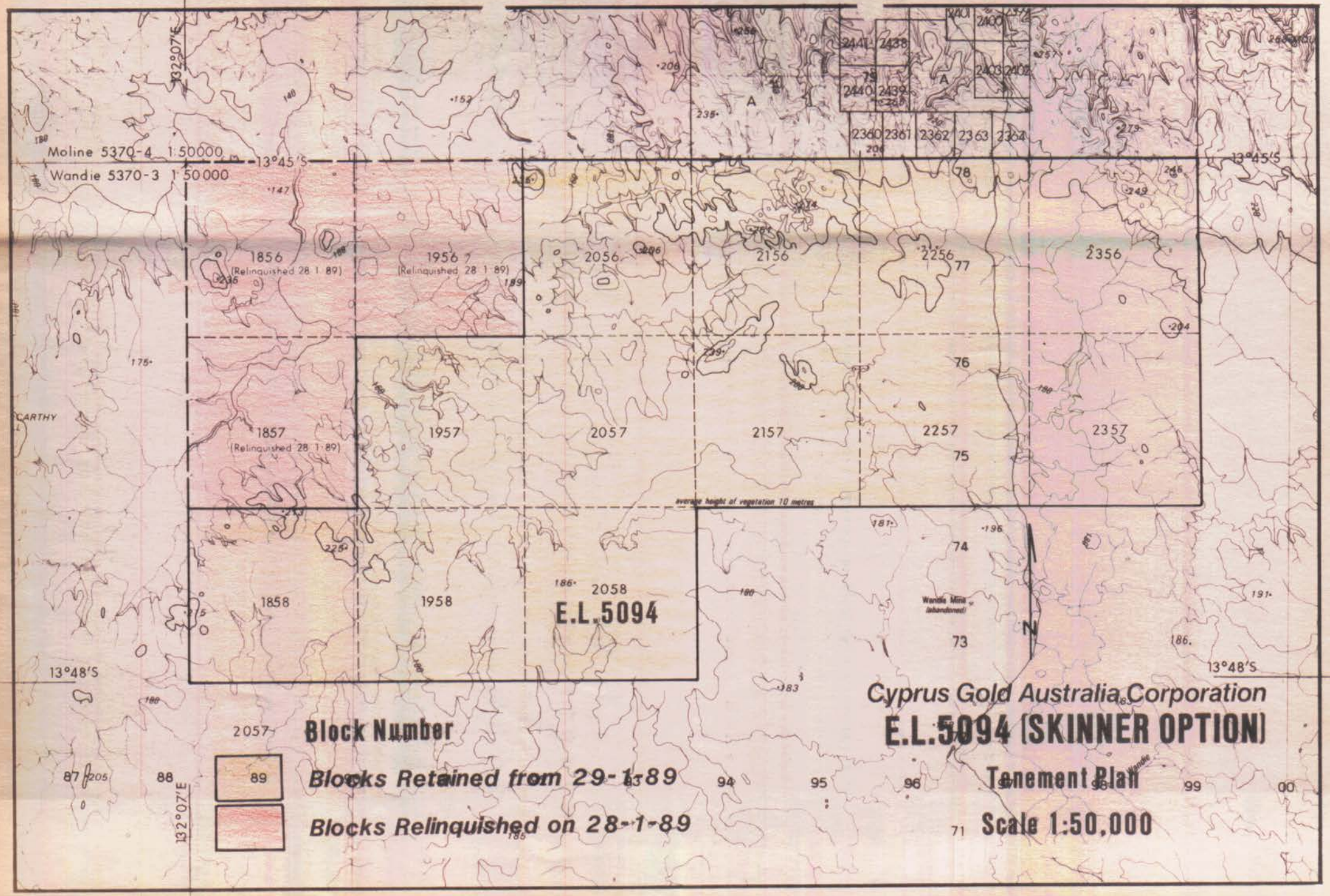

Moline 5370-4 1:50000
Wandie 5370-3 1:50000
132°07'E
13°45'S
13°48'S
1856
(Relinquished 28 1 89)
1956
(Relinquished 28 1 89)
1857
(Relinquished 28 1 89)
1957
1858
1958
2056
2156
2256
2356
2057
2157
2257
2357
2058
E.L.5094
average height of vegetation 10 metres
Wandie Mine (abandoned)
N
Block Number
Blocks Retained from 29-1-89
Blocks Relinquished on 28-1-89
Cyprus Gold Australia Corporation
E.L.5094 (SKINNER OPTION)
Tenement Plan
Scale 1:50,000

INTRODUCTION

Cyprus - on behalf of the Moline Gold Mine partners - commenced exploration of EL 5094 in May 1988 after signing a joint venture agreement with the tenement holders.

Cyprus work to 28 January 1989 is reported on here. The EL holders had previously reported on work for the twelve months ending 28 January 1988.

TENEMENT OWNERSHIP

EL 5094 was granted to G. Young, P. Young, L Ruig and B. Skinner on 29.1.87 for a period of six years. The EL comprised 15 graticular blocks for years one and two. Three blocks were relinquished as of 28.1.89 (see Figure I).

Under the terms of the May 1988 agreement, Cyprus can earn an 80% interest by the expenditure of $500,000 over 4 years.

LOCATION AND ACCESS

The EL is located 10 km south of Moline and is approximately 210 km SSE of Darwin. The Moline to Wandie road passes through the eastern part of the tenement. In the dry season 4 wheel drive access to most parts of the Licence is reasonable.

GEOLOGY AND MINERALIZATION

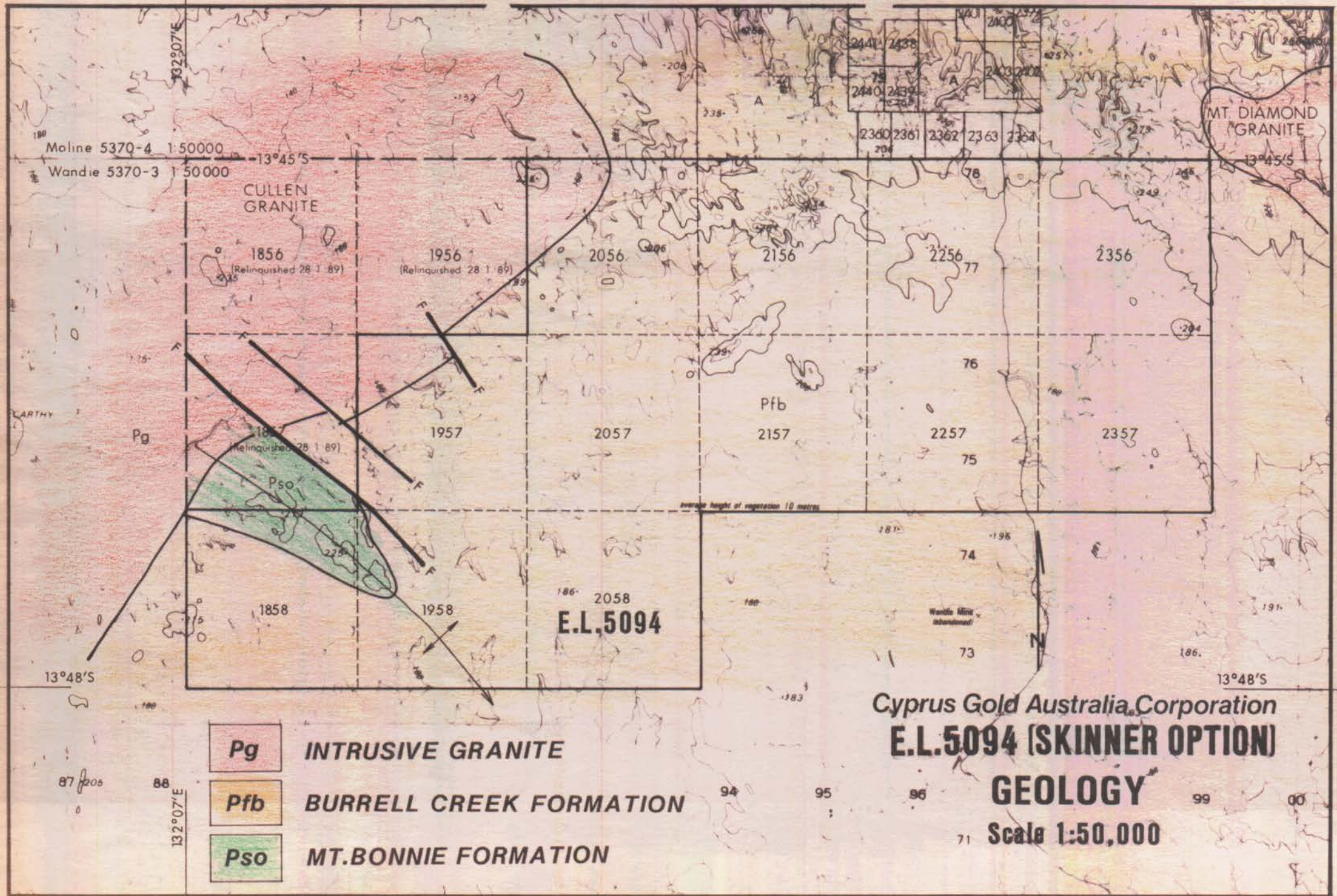
EL 5094 covers lower Proterozoic sedimentary terrain in the central-southern part of the Pine Creek Geosyncline, the relevant stratigraphy of which - as described by Needham, Crick and Stuart Smith (1980) and Nicholson and Eupene (1984), among others - is as follows:

Unit	Lithologies	Thickness (metres)	Relationships to other units
Finnis River Group			
Burrell Creek Formation	greywacke, siltstone, shale	> 3000	Gradational into Mt. Bonnie Formation
South Alligator Group			
Mt. Bonnie Formation	greywacke, siltstone shale (commonly carbonaceous) + chert bands and nodules, banded iron formation (BIF)	150-400	Mainly conformable and in places interbedded with Gerowie Tuff; sometimes conformable onto Koolpin Formation
Gerowie Tuff	cherty tuff, shale. tuffaceous greywacke, minor ferruginous chert siltstone, shale with chert nodules and BIF	200-400	conformable onto and in places interbedded with Koolpin Formation
Koolpin Formation	siltstone and shale commonly carbonaceous and pyritic and with chert bands and nodules, silicified, dolomite, BIF	100-500	Angular unconformity to disconformity at base

The BIFs are typically silicate-sulphide rather than oxide facies.

There are large late-post tectonic granitic intrusives in the NW corner of the EL (Cullen Granite) and off the NE corner (Mt Diamond Granite). There is an approximate 500 metre wide zone of thermal contact metamorphism (hornfelsing) around these granites.

Based on NTGS-BMR geological mapping of the Ranford Hill 5374 100,000 sheet and Cyprus work around Moline it seems the EL covers mainly siltstone-sandstone-greywacke sequences of the Burrell Creek Formation with Mt Bonnie Formation shale - BIF sequences exposed in an anticlinal axial position in the SW corner of the EL and possibly elsewhere.


Moline 5370-4 1:50000
Wandie 5370-3 1:50000
132°07'E
13°45'S
13°48'S
CULLEN GRANITE
MT. DIAMOND GRANITE
1856
(Relinquished 28 1 89)
1956
(Relinquished 28 1 89)
2056
2156
2256
2356
1857
(Relinquished 28 1 89)
1957
2057
2157
2257
2357
1858
1958
2058
E.L.5094
Pg
Pfb
Pso
average height of vegetation 10 metres
Wandie Mine abandoned
Pg INTRUSIVE GRANITE
Pfb BURRELL CREEK FORMATION
Pso MT.BONNIE FORMATION
Cyprus Gold Australia Corporation
E.L.5094 (SKINNER OPTION)
GEOLOGY
Scale 1:50,000

The Pine Creek Geosyncline is polymetallically mineralized with historical gold, tin, uranium, tungsten, copper and silver-lead-zinc production. Gold mineralization seems to be largely confined to continuous regional anticlines and includes stratifrom, often tectonically modified, types within and adjacent to sulphide-facies BIFs, quartz-vein related concentrations as conformable saddle reefs, with or without associated stockworking, and strike parallel to cross-cutting shear fillings.

Close to EL 5094 there is known copper and gold mineralization in quartz filled shears cutting Burrell Creek Formation siltstone-sandstone-greywacke sequences at Mt Diamond (to NE) and Northern Hercules (NW) respectively, in sulphidic Mt Bonnie Formation shales and iron formations immediately south of Northern Hercules, and in elluvials and alluvials shedding from quartz veined Burrell Creek Formation sediments at Wandie (SSE).

Within EL 5094, the only mineralization known to date is some free gold and geochemically indicated gold associated with quartz and quartz-limonite veining at "Skinners", in the NE corner of the Licence. There are also a number of arsenic$\pm$lead$\pm$zinc rock chip anomalies of uncertain significance in other parts of the Licence (as detailed under "Cyprus Exploration").

EXPLORATION HISTORY

The holders of the EL carried out minor exploratory work over part of the (auriferous) quartz-vein system at Skinners. The work comprised rock chip sampling, panning and very limited costeaning; a small pocket of visible gold was reported.

There is no evidence of significant, systematic exploration prior to the granting of EL 5094.

CYPRUS EXPLORATION

Cyprus' 1988 programme was designed to further evaluate the area of reported free gold at Skinners and as the first phase of a systematic evaluation of the whole Licence area.

AEROMAGNETIC SURVEY

A detailed (200 metre flight line spacing) aeromagnetic survey covered the Licence in August 1988. Survey specifications and instrumentation are listed on enclosure 2 (contour plan).

Though no detailed evaluation of the data has been undertaken, there are a number of obvious areas of interest, on one of which (Footrot) follow up work has already commenced.

ROCK CHIP SAMPLING

A total of 151 rock chip samples were collected and analysed by Australian Assay Laboratories, Pine Creek for gold (by fire assay with 0.01 ppm level of detection) and arsenic - silver - copper - lead - zinc (AAS, with respective levels of detection 1 - 2 or 100 - 5 - 2 - 2). Sample locations are shown on enclosure 1. and complete geochemistry details are listed as appendix 1.

Anomalous gold has so far been found to be confined to the Skinners area though there are a number of other areas of arsenic±silver-lead-zinc anomalism - particularly Footrot south of Skinners and an area of Mt. Bonnie Formation shales and BIFs in the SW corner of the EL.

STREAM SEDIMENT SAMPLING

A total of 40 bulk (5kg) stream sediment samples were collected and analysed for cyanide extractable gold by Analytical Services (W.A.) Pty Ltd. Sample locations are shown on enclosure 1. while results are presented as appendix 2.

No highly significant anomalies were found. The best results were 4 ppb in two samples shedding from the Skinners grid.

GRIDDING

A total of 18.4 line kilometres of gridding were constructed over the Skinners and Footrot areas. At Skinners (14 line km) the grid pattern varies from 500 x 50m to 50 x 25m while the Footrot grid (4.4 line km) was essentially skeletal and designed as an initial assessment of an aeromagnetic anomaly and adjacent anomalous arsenic - lead - zinc rock chip geochemistry.

SOIL SAMPLING

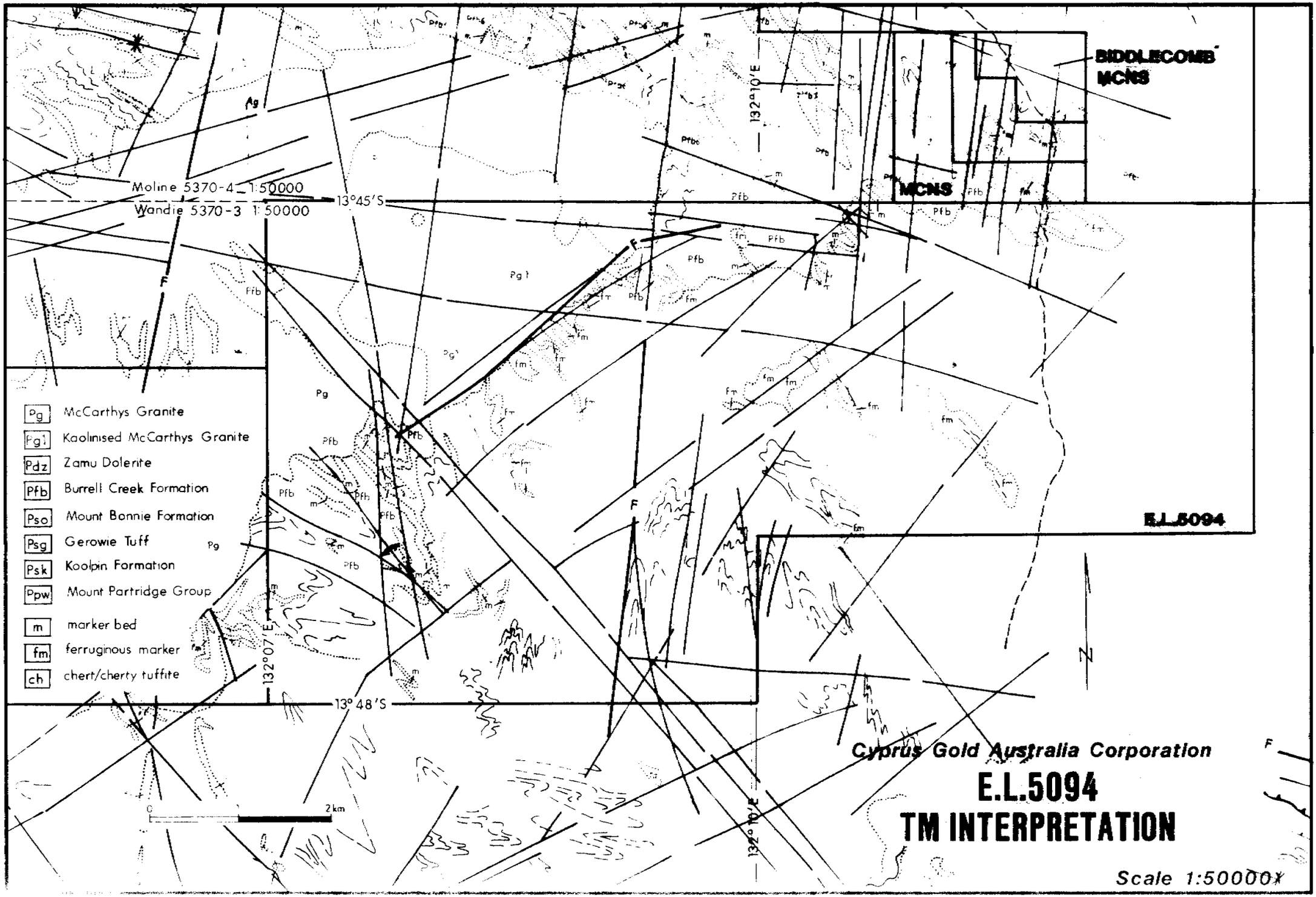
Following gridding, 311 soil samples were collected from the Skinners grid and 97 from Footrot and analysed by Analabs, Darwin for gold (AAS method 334, 1ppb detection level) arsenic (AAS 114, 1 ppb or AAS 101, 100 ppm), silver (AAS 101, 0.5 ppm) ± copper, lead and zinc (AAS 101, 5 ppm).

Contoured gold assay data for Skinners are shown on enclosure 4 and for Footrot on enclosure 5. Laboratory result sheets are listed as appendix 3.

The results indicate the need for further sampling at Footrot and part of Skinners and detailed mapping, costeaning and possibly reverse circulation (RC) percussion drilling of an anomaly peaking a 540 PPb close to 4400N, 10300E at Skinners.

THEMATIC MAPPING

H. Davies of Remote Sensing and Geological Services carried out a Thematic Mapper (TM) survey over part of the EL in the course of


Moline 5370-4 1:50000
Wandie 5370-3 1:50000
13°45'S
13°48'S
132°07'E
132°10'E
BIDDLECOMB MCNS
MCNS
E.L.5094
Pg McCarthys Granite
Pg1 Kaolinised McCarthys Granite
Pdz Zamu Dolerite
Pfb Burrell Creek Formation
Pso Mount Bonnie Formation
Psg Gerowie Tuff
Psk Koolpin Formation
Ppw Mount Partridge Group
m marker bed
fm ferruginous marker
ch chert/cherty tuffite
0
2km
N
Cyprus Gold Australia Corporation
E.L.5094
TM INTERPRETATION
Scale 1:50000

a study of the Moline area in late 1988. Non availability of imagery prevented a full coverage of EL 5094 at the time.

TM uses high resolution satellite imagery to map major rock units in a region and to delineate subordinate members (eg ferruginous lithologies) within these. As a consequence structural features not mappable at ground level can be recorded and ferruginous units targetted for sampling. Notes on TM imagery specifications/instrumentation are attached as appendix 4.

The results of the TM work are shown on figure 3. Some very limited rock chip sampling of ferruginous markers (FMs) has been carried out to date and substantially more is planned. It's recognised, however, that FMs adjacent to the Cullen granite are probably of magnetite-skarn rather than sulphide derivation.

Rock units outlining a SE plunging anticline in the SW corner of the EL are shown on figure 3 as to be Burrell Creek Formation. As they include BIFs and shales they are probably representative of Mt Bonnie Formation, however.

CYPRUS EXPENDITURE

To the 31st December 1988 Cyprus spent $58234.68 on exploration of EL 5094. An expenditure statement is attached. [The minor expenditure from 31 December 1988 to 28 January 1989 - currently not available - will be listed in the next report.]

PLANNED 1989 EXPLORATION

Currently planned 1989 exploration comprises image processing the aeromagnetic data and completion of the TM study, rock chip sampling of areas targetted by this work, follow-up soil sampling at Skinners and Footrot and geological mapping, costeaning and possible RC drilling of the main geochemical anomaly at Skinners. Follow-up work will be dependent on results obtained.

CYPRUS GOLD AUSTRALIA CORPORATION

EXPENDITURE FOR THE YEAR ENDED 31ST DECEMBER 1988

EXPLORATION LICENCE MOLINE EL. 5094

SALARIES & WAGES	9,585.00
BENEFITS	762.07
DRAFTING	2,047.19
COOKERY	1,231.24
FIELD OFFICE RENT	544.03
FIELD SUPPLIES - GENERAL	1,230.52
FREIGHT	1,214.36
TRAVEL	2,174.00
COMMUNICATION	1,263.55
OTHER CONTRACTORS	14,601.33
CONTRACT GEOLOGICAL	7,100.00
ASSAYS	7,475.22
EQUIPMENT RENTAL	2,353.50
EQUIPMENT OPERATION & MAINT	1,238.61
PROPERTY PAYMENTS	120.00
	52,940.62
	5,394.06
	58,234.68

C. WILLIAMS

MANAGER - ACCOUNTING

REFERENCES

Needham, R.S. Crick, I.H. and Stuart-Smith P.G., 1979,Regional Geology of the Pine Creek Geosyncline in Proc. International Uranium Synposium on the Pine Creek Geosyncline, 1980.

Nicholson, PM and Eupene G.S., 1984, Controls on Gold Mineralization in the Pine Creek Geosyncline in Proc. Aust. Annual Conference, Darwin 1984 AUS IMM.

GRAHAM MILLER
Supervising Geologist

APPENDIX 1

ROCK CHIP GEOCHEMISTRY

EL 5094

ROCK CHIP GEOCHEMISTRY

Sample Number	Au	Cu	Pb	Zn	As	Ag	Lithology
13001	0.02	46	109	60	170	1	qtz-vnd sil bx mg
13002	0.02	59	86	38	110	1	qtz-vnd sil bx mg
13003	X	25	78	31	40	1	mg gw min qtz lim
13004	X	13	69	11	10	X	qtz py±lim vn
13005	X	8	54	23	50	1	sil gw
13006	X	5	61	29	20	1	qtz vnd gw
13008	0.04	17	28	23	70	X	qtz vn
13009	0.03	13	214	71	40	X	qtz vnd flgy gw
13010	0.01	12	402	30	20	X	qtz vnd flgy gw
13011	X	60	1630	256	40	X	qtz vn±lim/pb
13012	X	11	39	9	30	X	qtz vn
13014	X	74	79	22	50	X	qtz vn±lim
13015	0.03	126	1270	209	260	X	fe qtz vn
13016	0.02	46	128	37	100	X	qtz vn
13017	X	43	95	24	30	X	qtz±lim/gy vn
13018	X	37	91	18	30	X	qtz vn
13019	X	23	53	52	10	X	lam sh
13020	0.02	14	56	17	20	X	qtz vn
13021	0.01	1	21	9	20	X	p. fe sist/gw min
13022	0.02	1	29	28	30	X	qtz vnd p.bx sh/gw
13023	0.02	7	269	8	X	X	qtz vn
13024	X	28	29	38	10	X	flgy sh
13025	0.01	3	30	8	50	X	qtz vnd gw
13026	0.01	18	27	15	30	X	qtz vn
13027	X	13	19	6	10	X	qtz vn
13028	X	12	22	7	10	X	qtz vn
13029	X	11	25	15	30	X	qtz vn
13030	X	10	21	11	X	X	qtz vn
13031	X	32	53	122	20	X	shr qtz vn+ fe sh
13032	0.01	15	19	7	20	X	qtz vn
13033	X	10	28	44	30	X	flgy gw
13034	X	42	63	80	50	X	qtz vn+ sh±gw
13035	0.01	107	255	208	150	X	qtz±lim vn
13036	X	178	69	219	110	X	fe chty sh
13037	X	96	610	810	40	X	m-f fe sh/cht
13038	0.01	56	500	208	150	X	qtz vnd lam sh
13039	X	68	2810	420	130	1	
13040	X	182	850	3410	210	X	BIF?
13041	0.01	86	490	1130	310	1	qtz vn
13042	X	121	1020	6800	190	1	BIF
13043	0.05	16	153	35	300	1	bx qtz vnd gw
13044	0.03	33	869	105	240	X	bx qtz/sh±gw
13045	0.03	38	356	69	50	1	qtz vn
13046	0.02	30	138	9	20	1	qtz vn
13047	0.07	32	166	44	20	1	qtz vn
13048	0.02	26	268	16	20	X	qtz vn
13049	0.03	30	158	10	60	X	qtz vn
13050	0.03	526	271	58	70	2	qtz±lim vn
13052	0.05	97	133	47	30	X	
13053	0.02	28	115	33	40	X	
13054	0.05	220	106	20	1130	1	
13055	0.01	30	56	21	190	1	
13056	X	29	65	20	30	1	
13057	X	26	65	15	70	1	qtz vn + bx gw
13058	0.01	45	86	27	430	X	

Sample Number	Au	Cu	Pb	Zn	As	Ag	Lithology
13059	0.05	73	690	285	370	1	sil fg gw
13060	0.02	74	351	47	190	1	qtz vn
13061	0.03	53	124	28	1180	X	qtz vn±tr aspy
13062	0.02	143	191	357	410	1	qtz vnd
13063	0.01	44	357	134	450	1	qtz vnd
13064	0.01	59	354	362	4000	1	qtz vnd
13066	0.02	54	84	54	2.7	1	qtz vn
13067	X	46	92	84	200	1	qtz vn
13068	0.02	47	81	153	190	1	m-cg sst min lam f
13069	0.02	288	163	92	2370	3	p bx lam sh min gw
13070	0.03	161	1050	307	500	2	p bx lam sh min gw
13071	0.02	49	137	30	410	1	p bx sh±gw
13072	0.03	102	560	53	470	1	qtz vn
13073	0.02	40	48	X	110	1	qtz vnd sh
13074	3.54	61	157	91	450	1	
13075	0.2	59	151	58	660	1	qtz vn
13076	0.03	61	38	X	90	1	qtz vn
13077	0.02	35	37	16	100	1	p sil mic sh±gw
13078	0.02	40	610	86	130	1	qtz vnd sil sh
13079	0.01	86	59	54	X	1	sil cb gw/sh
13080	0.02	74	337	2	100	1	qtz vn
13081	0.01	111	112	67	X	1	qtz vn
13082	0.02	36	560	184	X	2	lam fe sh
13083	0.07	123	1240	312	130	6	lam fw sh (BIF?)
13084	0.02	20	76	6	X	2	figy sh/fg gw
13085	0.06	332	180	168	960	2	qtz lim vn
13086	1.89	92	82	48	960	1	qtz lim vn
13087	0.15	72	165	146	450	X	qtz vn
13088	0.38	38	70	100	740	1	lam fe sh
13089	0.46	117	116	121	600	1	qtz vn
13090	0.09	74	109	22	460	1	qtz vn
13091	0.05	82	332	70	770	2	qtz vn/bs gw
13092	0.03	24	70	229	180	1	
13093	0.02	66	850	88	240	4	qtz vn
13094	0.02	85	114	8	290	1	qtz/sh±gw bx
13095	0.02	49	60	X	80	1	qtz/sh±gw bx
13096	0.07	46	118	43	100	0	qtz ±py vn
13097	0.04	144	510	309	630	1	fw sh
13098	0.03	51	121	28	160	X	qtz lim/py vn
13099	0.03	52	174	43	470	1	fw sh/sist
13100	X	59	116	92	550	X	qtz vn
13101	X	16	91	31	210	X	qtz vnd sh
13102	X	33	490	122	2210	X	qtz vnd shr? sh
13103	X	23	226	46	1210	X	sil sh?
13104	X	19	430	53	670	X	sil sh?
13105	X	57	420	62	430	1	qtz ±py/aspy vn
13106	X	110	310	223	3400	1	gw/sst
13107	X	33	222	151	2300	X	qtz vnd f-mg gw
13108	X	44	381	134	1840	1	qtz vnd shr fe sh
13109	X	25	154	261	680	X	qtz vnd shr sh

Sample Number	Au	Cu	Pb	Zn	As	Ag	Lithology
13110	X	14	101	35	220	X	
13111	X	76	1059	592	300	X	qtz sk bx sh/slst
13112	0.03	32	559	195	200	X	qtz sk bx b/y f-mg
13113	0.01	161	2690	995	710	X	bx lam sh/cht
13114	X	65	167	1456	420	i	b/y sil sh p.chty
13115	0.02	221	348	1617	1080	i	qtz lim vn
13116	X	76	565	1003	340	X	lam fe sh
13117	0.04	68	442	1351	280	X	lam sh nod cht?
13118	0.01	33	114	67	150	X	shr qtz vn±aspy
13119	X	29	123	74	140	X	sil gw
13120	X	22	48	13	X	X	qtz vn
13121	X	17	37	7	X	X	qtz vng gw
13122	0.03	121	3770	742	170	X	bx/shr sh min vng
13123	0.02	83	1068	137	200	X	bly bx chty sh
13124	0.01	83	218	563	110	X	lam bx sil chty sh
13125	0.01	41	140	48	230	X	qtz lim vnd gw
13126	0.01	29	143	63	1840	X	qtz lim vnd gw
13127	0.02	54	3170	150	1870	X	qtz lim vnd gw
13128	0.02	45	318	106	950	X	bx qtz lim vnd gw
13129	0.01	41	126	70	500	X	shr sil sh
13130	0.02	56	926	190	1040	X	
13131	0.01	62	115	47	140	X	
13134	0.07	43	199	121	X	X	lim qtz
13135	0.07	66	358	168	X	X	lim qtz
13136	0.05	82	890	277	100	X	lim qtz
13137	0.06	105	271	256	110	X	lim tr py
13138	0.1	36	160	72	330	X	lim tr py
13139	0.07	56	346	117	520	X	lim tr py
13140	0.1	39	244	98	1010	X	qtz vnd gw
13141	0.14	103	90	111	1940	X	lim qtz diss ex py
13142	0.06	48	222	460	680	X	lim qtz diss ex py
13143	0.44	87	141	170	400	X	lim qtz diss ex py
13144	0.2	32	145	172	910	X	qtz lim vnd gw
13145	0.42	136	7500	1010	3950	X	bx fw qtz
13146	0.2	37	680	123	440	X	bx fw qtz
13147	0.05	34	990	96	140	X	qtz vnd BIF mf
13148	X	122	570	1020	1080	X	bx fe qtz
13149	X	119	620	650	840	X	sil fw goss
13150	X	115	308	560	660	X	sil fw goss
13151	X	37	126	104	290	X	sil goss sh
13152	X	39	107	342	230	X	sil goss gw
13153	0.01	51	138	82	190	X	fe qtz
13154	0.02	18	187	36	120	X	sil goss gw
13155	0.01	15	450	89	160	X	sil goss gw
13156	X	19	223	65		X	sil goss gw
13157	0.01	29	137	73	1520	X	sil goss bx
13158	X	24	166	48	1380	X	sil goss
13159	X	16	211	19	600	X	sil goss
13160	X	45	679	87	1740	X	sil goss
13161	X	31	450	40	750	X	sil goss
13162	X	48	200	28	410	X	sil goss bx

Sample Number	Au	Cu	Pb	Zn	As	Ag	Lithology
89964	0.08	112	193	224	290	X	Fe qtz
89965	0.05	62	31	24	280	X	Fe slst (horn)
89966	X	111	530	870	370	X	sil slst/BIF
89967	X	40	34	97	200	X	sil slst/BIF
89968	X	99	72	450	1030	X	sil slst/BIF
89969	X	1	6210	640	280	1	sil slst/BIF
89970	0.01	9	3150	1.07%	570	9	sil slst/BIF

X = below level of detection

LITHOLOGICAL LEGEND

ls	Limestone.
cht	Chert.
BIF	Banded ferruginous (micaceous, amphibolitic) chert.
tf	Tuff.
rhy	Rhyolite.
ms	Mudstone.
sh	Shale/slate.
ph	Phyllite.
slst	Siltstone.
sst	Sandstone.
gw	Greywacke.
cong	Conglomerate.
dol	Dolerite.
chty	Cherty.
goss	Gossanous.
fe	Ferruginous.
sil	Siliceous.
mn	Manganiferous.
cb	Carbonaceous.
ca	Calcareous.
talc	Talcy.
kaol	Kaolinitic.
mic	Micaceous.
ser	Sericitic.
fel	Felspathic.
tour	Tourmalinitic.
am	Amphibolitic.
nod	Nodular (silica nodules).
vol	Volcanolithic.
peb	Pebbly.
bx	Brecciated.
m-f	Micro-meso folded.
spot	Spotted.
bd	Banded.
lam	Laminated.
stk	Streaky.
mot	Mottled.
shr	Sheared.
fo	Foliated.
bly	Blocky.
fs	Fissile.
sl	Slightly.
mod	Moderately.
hi	Highly.
bk	Black.
bl	Blue.
bw	Brown.
gy	Grey
gn	Green.
red	Red.
pk	Pink.
pur	Purple.
wh	White.
fg	Fine grained.
mg	Medium grained.
cg	Coarse grained.
sulf	Sulphides.
py	Pyrite.
po	Pyrrhotite.
aspy	Arsenopyrite.
scor.	Scorodite.
sp	Sphalerite.
pb	Galena.
cpy	Chalcopyrite.
cu	Oxidised copper minerals.
min	Minor.
max	Abundant.
diss	Disseminated.
eu	Euhedral.
lim	Limonite.
qtz	Quartz.
vn	Vein.
vnd	Veined.
vng	Veining.
sk	Stockwork.
	Gossanous zone.
sc	Scree/float.
sub	Subcrop.
oc	Outcrop.
q	Alluvium.

APPENDIX 2

STREAM SEDIMENT GEOCHEMISTRY

GM

A85-116(F)

Reference Number 39843

21 JUNE, 1988

Order Number E 20704

Cyprus Gold Australia Corporation
****

5th Floor, 5 Mill Street

PERTH WA 6000

Analysis of Mineral Samples
****

Analysed By :
ANALYTICAL SERVICES (WA) PTY LTD
19 Augusta St
WILLETTON WA 6155
Telephone 354 1888
Telex AA 94767
Facsimile 457 2569

T.K. Chan

Authorised By : T.K.Chan

EFERENCE NUMBER 39843 Order No E 20704 Page 1

AMPLE UMBER	Au CN ppb
12001	< 1
2002	4
12003	3
12004	4
2005	< 1
2006	< 1
12007	< 1
2008	< 1
2009	< 1
12010	< 1
2011	< 1
2012	< 1
12013	< 1
2014	< 1
2015	< 1
12016	< 1
12017	2
2018	2
12019	< 1
12020	< 1
2021	< 1
12022	< 1
2023	< 1
2024	< 1
12025	< 1
12026	< 1
2027	< 1
2028	< 1
12029	1
2030	< 1
12031	1
12032	< 1
2033	1

FERENCE NUMBER 39843 Order No E 20704 PAGE 2

****

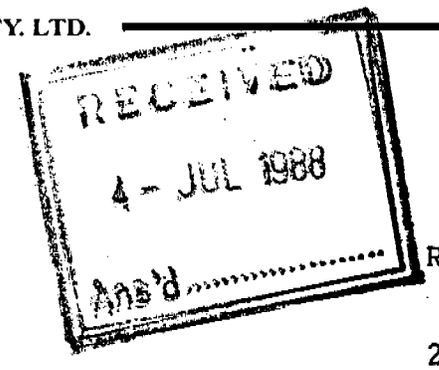
Sample Preparation
****
sample preparation was required on these samples.

Sample Analysis
****

CN
has been determined by ICP-Mass Spectrometry after 500gm of the sample has been extracted with a solution of 1000 ppm Sodium Cyanide maintained at a pH of 10 for a period of 3 days.

Sample Storage
****
Sample pulps and residues will be stored free of charge for
NE MONTH after reporting.
Samples are then Palletised, and a fee of $1.00 per day per Pallet required is levied.

A85-116F



Reference Number 39966

28 JUNE, 1988

Order Number E 20707

Cyprus Gold Australia Corporation
****

5th Floor, 5 Mill Street

PERTH WA 6000

Analysis of Mineral Samples
****

Analysed By :
ANALYTICAL SERVICES (WA) PTY LTD
19 Augusta St
WILLETTON WA 6155
Telephone 354 1888
Telex AA 94767
Facsimile 457 2569

T.K.Chan

Authorised By : T.K.Chan

REFERENCE NUMBER 39966 Order No E 20707 Page 1

SAMPLE NUMBER	Au CN ppb
12034	< 1
12035	< 1
12036	< 1
12037	< 1
12038	< 1
12039	< 1
12040	1

REFERENCE NUMBER 39966 Order No E 20707 PAGE 2

****

Sample Preparation

****

No sample preparation was required on these samples.

Sample Analysis

****

Au CN

has been determined by ICP-Mass Spectrometry after 500gm of the sample has been extracted with a solution of 1000 ppm Sodium Cyanide maintained at a pH of 10 for a period of 3 days.

Sample Storage

****

Sample pulps and residues will be stored free of charge for ONE MONTH after reporting.

Samples are then Palletised, and a fee of $1.00 per day per Pallet required is levied.

APPENDIX 3

SOIL GEOCHEMISTRY

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd. (Inc NSW)

compiled 85-116(F)

(089) 84 3849 | Cnr Coonawarra & Mataram Rds, Winnellie | Fax: (089) 84 3984

ANALYTICAL REPORT No. 7.0.14.02681

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACCOMPANYING ANALYTICAL DATA

INVOICE TO:

CYPRUS MINERALS CORP.
5 MILL STREET

PERTH WA 6000

RECEIVED
8 - AUG 1988
Ans'd.....

ORDER No.	PROJECT
E 20722	A85 116F

DATE RECEIVED	RESULTS REQUIRED
12/07/88	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
3	05/09/88	1	67

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
14006/72	PU	Au/334
14006/72	PU	Ag,Ag,Cu,Pb,Zn/181
14006/72	PU	Au:1/334

REMARKS

RESULTS TO

CYPRUS MINERALS CORP.
5 MILL STREET

PERTH WA 6000

RESULTS TO

RESULTS TO

AUTHORISED OFFICER

ANALABS

A Division of Macdonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER NO.	PAGE
	7.0.14.02681	05/08/88	E 20722	1 OF 3

TUBE No.	SAMPLE No.	Cu	Zn	As	Ag	Au	Pb	Au:1	(N)	(E)
1	14006	10	40	<100	<0.5	0.003	20	–	3900	8800
2	14007	15	50	<100	<0.5	0.014 0.015	25	0.016	3875	"
3	14008	10	40	<100	0.5	0.002	20	–	50	"
4	14009	10	50	<100	0.5	0.001	25	–	25	"
5	14010	10	50	<100	1.0	0.001	20	–	3800	"
6	14011	10	35	<100	0.5	<0.001	20	–	75	"
7	14012	10	30	<100	<0.5	0.001	20	–	50	"
8	14013	10	25	<100	1.0	<0.001	20	–	25	"
9	14014	10	20	<100	<0.5	0.002	25	–	3700	"
10	14015	10	35	<100	<0.5	0.002	35	–	75	"
11	14016	10	25	<100	1.0	<0.001	15	–	50	"
12	14017	10	25	<100	1.0	0.001	15	–	25	"
13	14018	15	25	<100	<0.5	0.001	10	–	3600	"
14	14019	20	30	<100	<0.5	0.001	25	–	75	"
15	14020	15	20	<100	0.5	0.003	35	–	50	"
16	14021	15	25	<100	<0.5	<0.001	85	–	25	"
17	14022	15	35	100	<0.5	0.001	45	–	3500	"
18	14023	10	25	<100	0.5	0.001	25	–	75	"
19	14024	10	15	<100	<0.5	<0.001	30	–	50	"
20	14025	10	15	<100	<0.5	0.001 0.001	30	0.001	25	"
21	14026	5	15	<100	<0.5	0.001	25	–	3400	"
22	14027	10	25	<100	<0.5	0.001	30	–	75	"
23	14028	10	35	<100	1.5	<0.001	25	–	50	"
24	14029	10	25	<100	<0.5	0.001	35	–	25	"
25	14030	10	20	<100	<0.5	0.001	20	–	3300	"

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
– = element not determined

AUTHORISED OFFICER

ANALABS

A Division of Macdonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.0.14.02681	05/08/88	E 20722	2 OF 3

TUBE No.	SAMPLE No.	Cu	Zn	As	Ag	Au	Pb	Au:1	(N)	(E)
1	14031	10	25	<100	1.0	0.003	10	–	3275	8800
2	14032	15	100	<100	0.5	0.002	15	–	50	"
3	14033	15	35	<100	1.0	0.001	20	–	25	"
4	14034	15	35	<100	<0.5	0.001	15	–	3200	"
5	14035	10	20	<100	<0.5	<0.001	35	–	3500	8500
6	14036	10	25	<100	1.0	0.002	60	–	"	25
7	14037	15	25	100	0.5	0.005	85	–	"	50
8	14038	10	20	<100	1.0	<0.001	45	–	"	75
9	14039	10	45	<100	0.5	0.006	40	–	"	8600
10	14040	10	50	<100	<0.5	<0.001	30	–	"	25
11	14041	20	100	<100	<0.5	<0.001	185	–	"	50
12	14042	30	125	<100	1.0	0.001	70	–	"	75
13	14043	10	45	<100	1.0	<0.001	45	–	"	8700
14	14044	15	25	<100	<0.5	0.001	95	–	"	25
15	14045	10	20	<100	1.5	<0.001	20	–	"	50
16	14046	15	25	<100	0.5	<0.001	30	–	"	75
17	14047	10	25	<100	<0.5	<0.001	20	–	"	8825
18	14048	10	20	<100	<0.5	<0.001	15	–	"	50
19	14049	10	20	<100	<0.5	<0.001	10	–	"	75
20	14050	15	30	<100	<0.5	0.001	50	–	"	8900
21	14051	15	65	<100	<0.5	<0.001	60	–	"	25
22	14052	25	115	<100	<0.5	0.007	20	–	"	50
23	14053	15	50	<100	1.5	0.006	15	–	"	75
24	14054	15	30	<100	<0.5	0.001	10	–	"	9000
25	14055	15	25	<100	1.0	0.001	5	–	"	25

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.0.14.02681	05/08/88	E 20722	3 OF 3

TUBE No.	SAMPLE No.	Cu	Zn	As	Ag	Au	Pb	Au:1	(N)	(E)
1	14056 Mootral Soil + SKIMMERS	20	35	<100	0.5	0.001	15	–	3500	9050
2	14057	10	15	<100	<0.5	0.009	20	– x	3500	9800
3	14058	15	15	<100	<0.5	<0.001	25	– x	"	50
4	14059	15	25	<100	1.0	0.012	35	– x	"	9900
5	14060	25	50	<100	1.5	0.001	30	– x	"	50
6	14061	20	35	<100	1.0	0.001	30	– x	"	10000
7	14062	10	45	<100	1.0	0.001	40	– x	"	50
8	14063	20	75	<100	1.0	0.006	150	– x	"	10100
9	14064	15	30	<100	2.0	0.003	175	– x	"	50
10	14065	20	60	<100	2.0	0.013	50	– x	"	10200
11	14066	10	25	<100	2.0	0.008	25	– x	"	50
12	14067	10	35	<100	<0.5	0.021 0.022	40	0.022 x	"	10300
13	14068	10	15	<100	0.5	0.023	25	– x	3550	"
14	14069	15	15	<100	0.5	0.001	<5	– x	3600	"
15	14070	15	20	<100	1.0	0.004	15	– x	50	"
16	14071	20	25	<100	1.0	0.009	15	– x	3700	"
17	14072	20	25	<100	1.0	0.053 0.057	10	0.060 x	50	"
18										
19										
20										
21										
22										
23	DETECTION	5	5	100	0.5	0.001	5	0.001		
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM		
25	METHOD	101	101	101	101	334	101	334		

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

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ANALABS

A division of MacDonald Hamilton & Co. Pty Ltd (Inc NSW)

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RECEIVED
15 AUG 1988
Ans'd

ANALYTICAL REPORT No. 02707

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACC

INVOICE TO:

CYPRUS MINERALS CORP.
5 MILL STREET

PERTH WA 6000

ORDER No.	PROJECT
E 20724	A85 116F

DATE RECEIVED	RESULTS REQUIRED
18/07/88	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES
3	10/08/88	1

TOTAL No. OF SAMPLES: 71

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
14073/143	PU	Au/334
14073/143	PU	Au:1/334
14073/143	PU	Au/329

REMARKS

RESULTS TO:

CYPRUS MINERALS CORP.
5 MILL STREET

PERTH WA 6000

RESULTS TO:

RESULTS TO:

AUTHORISED OFFICER

COMPLETE

ANALABS

A Division of Macdonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.0.14.02707	10/08/88	E 20724	1 OF 3

TUBE No.	SAMPLE No.	As SKINNERS	Ag	Au	Au	Au:1			(N)	(E)
1	14073	<100	0.5	–	IS	–		x	3800	10300
2	14074	100	0.5	–	0.007	–		x	50	"
3	14075	100	0.5	–	0.015	–		x	3900	"
4	14076	100	0.5	–	0.016	–		x	50	"
5	14077	100	0.5	–	0.007	–		x	4000	"
6	14078	100	0.5	–	0.007	–		x	50	"
	14079	100	0.5	–	0.010	–		x	4100	"
8	14080	200	0.5	–	0.007	–		x	50	"
9	14081	100	0.5	–	0.011	–		x	4200	"
10	14082	100	0.5	–	0.022	–		x	50	"
11	14083	200	0.5	–	0.024 0.025	0.025		x	4300	"
12	14084	200	0.5	–	0.032	–		x	50	"
13	14085	100	0.5	0.14	>0.100	X –		x	4400	"
14	14086	300	0.5	–	0.087	–		x	50	"
15	14087	100	0.5	–	0.013	T		x	4500	"
	14088	100	0.5	–	0.027	–		x	50	"
17	14089	100	0.5	–	0.008	–		x	4600	"
18	14090	100	0.5	–	0.010	–		x	50	"
19	14091	200	0.5	–	0.007	–		x	4700	"
20	14092	100	0.5	–	0.005	–		x	50	"
21	14093	100	0.5	–	0.002	–		x	4800	"
22	14094	200	0.5	–	0.007	–		x	50	"
23	14095	100	0.5	–	0.007	–		x	4900	"
24	14096	100	0.5	–	0.002	–		x	50	"
25	14097	200	0.6	–	0.008	–		>	5000	"

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

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A Division of Macdonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.0.14.02707	10/08/88	E 20724	2 OF 3

TUBE No.	SAMPLE No.	As	Ag	Au	Au	Au:1			(N)	(E)
		SKINNERS								
1	14098	100	0.5	–	0.030	–		x	5050	10300
2	14099	100	0.5	–	0.070	–		x	5100	"
3	14100	100	0.5	–	0.034	–		x	50	"
4	14101	<100	0.5	–	0.031	–		x	5200	"
5	14102	200	0.5	–	0.019 0.020	0.020		x	50	"
6	14103	100	0.5	–	0.016	–		x	5300	"
◯	14104	<100	0.5	–	0.002	–		x	4000	9800
8	14105	100	0.5	–	0.002	–		x	"	50
9	14106	<100	0.5	–	0.002	–		x	"	9900
10	14107	<100	0.5	–	0.002	–		x	"	50
11	14108	<100	0.5	–	0.008	–		x	"	10000
12	14109	100	0.5	–	0.003	–		x	"	50
13	14110	<100	0.5	–	0.004	X –		x	"	10100
14	14111	100	0.5	–	0.003	–		x	"	50
15	14112	200	0.5	–	0.011	–		x	"	10200
16	14113	500	1.0	–	0.017	–		x	"	50
17	14114	<100	0.5	–	0.012	–		x	"	10350
18	14115	100	0.5	–	0.015	–		x	"	10400
19	14116	<100	0.5	–	0.015	–		x	"	50
20	14117	<100	0.5	–	0.012	–		x	"	10500
21	14118	<100	0.5	–	0.002	–		x	"	50
22	14119	<100	<0.5	–	0.003	–		x	"	10600
23	14120	<100	<0.5	–	0.003 0.004	0.004		x	"	50
24	14121	<100	<0.5	–	0.002	–		x	"	10700
25	14122	<100	<0.5	–	0.002	–		x	"	50

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
– = element not determined

AUTHORISED OFFICER

ANALABS

A Division of Macdonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.0.14.02707	10/08/88	E 20724	3 OF 3

TUBE No.	SAMPLE No.	As	Ag	Au	Au	Au:1			(N)	(E)
		SKINNERS								
1	14123	<100	<0.5	–	0.002	–		x	4000	10800
2	14124	<100	<0.5	–	0.004	–			4500	9800
3	14125	<100	<0.5	–	0.007	–			"	50
4	14126	100	0.5	–	0.008	–			"	9900
5	14127	<100	<0.5	–	0.023	–			"	50
6	14128	<100	0.5	–	0.005	–			"	10000
	14129	100	<0.5	–	0.014	–			"	50
8	14130	100	0.5	–	0.020	–			"	10100
9	14131	<100	0.5	–	0.009	–			"	50
10	14132	100	0.5	–	0.011	–			"	10200
11	14133	100	0.5	–	0.042 0.043	0.044			"	50
12	14134	<100	<0.5	–	0.016	–			"	10350
13	14135	100	<0.5	–	0.007	X –			"	10400
14	14136	100	<0.5	–	0.006	–			"	50
15	14137	100	<0.5	–	0.003	–			"	10500
	14138	100	<0.5	–	0.004	–			"	50
17	14139	<100	<0.5	–	0.004	–			"	10600
18	14140	<100	<0.5	–	0.001	–			"	50
19	14141	<100	<0.5	–	0.003	–			"	10700
20	14142	100	<0.5	–	0.003	–			"	50
21	14143	100	<0.5	–	0.001	–			"	10800
22										
23	DETECTION	100	0.5	0.02	0.001	0.001				
24	UNITS	PPM	PPM	PPM	PPM	PPM				
25	METHOD	101	101	329	334	334				

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
– = element not determined

AUTHORISED OFFICER

ANALABS

compiled

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ANALYTICAL REPORT No. 7.0.14.02728

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACCOMPANYING ANALYTICAL DATA

RECEIVED
15 AUG 1988
Ans'd

INVOICE TO:

CYPRUS MINERALS CORP.
5 MILL STREET

PERTH WA 6000

ORDER No.	PROJECT
20725	A85 116F

DATE RECEIVED	RESULTS REQUIRED
25/07/88	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES
2	10/08/88	1

TOTAL No. OF SAMPLES: 28

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
14144/71	PU	Au/334
14144/71	PU	As,Ag/101

REMARKS

RESULTS TO: CYPRUS MINERALS CORP.
5 MILL STREET
PERTH WA 6000

RESULTS TO:

RESULTS TO:

AUTHORISED OFFICER

compiled

ANALABS

A Division of Macdonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.0.14.02728	10/08/88	E 20725	1 OF 2

TUBE No.	SAMPLE No.	As	Ag	Au	Au:1				(N)	(E)
		SKINNERS								
1	14144	<100	<0.5	0.005	–				5000	9800
2	14145	<100	<0.5	0.006	–				"	50
3	14146	<100	0.5	0.005	0.004				"	9900
4	14147	<100	<0.5	0.006	–				"	50
5	14148	<100	<0.5	0.007	–				"	10000
6	14149	<100	<0.5	0.006	–				"	50
7	14150	<100	<0.5	0.003	–				"	10100
8	14151	100	<0.5	0.007	–				"	50
9	14152	<100	<0.5	0.002	–				"	10200
10	14153	<100	0.5	0.005	–				"	50
11	14154	<100	<0.5	0.008	–				"	10350
12	14155	<100	0.5	0.008	–				"	400
13	14156	<100	0.5	0.007	–				"	50
14	14157	100	0.5	0.009	0.006				"	10500
15	14158	100	0.5	0.029	–				"	50
16	14159	<100	<0.5	0.014	–				"	10600
17	14160	100	<0.5	0.019	–				"	50
18	14161	<100	<0.5	0.005	–				"	10700
19	14162	100	<0.5	0.005	–				"	50
20	14163	<100	<0.5	0.005	–				"	10800
21	14164	<100	<0.5	0.001	–				5500	9800
22	14165	<100	<0.5	0.002	–				"	50
23	14166	<100	<0.5	0.007	–				"	9900
24	14167	<100	<0.5	0.005	0.005				"	50
25	14168	100	<0.5	0.013	–				"	10000

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

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compiled

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.0.14.02728	10/08/86	E 20725	2 OF 2

TUBE No.	SAMPLE No. SKINNERS	As	Ag	Au	Au:1				(W)	(E)
1	14169	<100	<0.5	0.003	–				5500	10050
2	14170	<100	<0.5	0.002	–				"	10100
3	14171	<100	<0.5	0.005	–				"	10150
4										
5										
6										
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14										
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16										
17										
18										
19										
20										
21										
22										
23	DETECTION	100	0.5	0.001	0.001					
24	UNITS	PPM	PPM	PPM	PPM					
25	METHOD	101	101	334	334					

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

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RECEIVED
22 AUG 1988
Ans'd.....

(089) 84 3849

Cnr Coonawarra & Mataram Rds, Winnellie

Fax: (089) 84 3984

ANALYTICAL REPORT No. 7.0.14

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACCOMPANYING ANALYTICAL DATA

INVOICE TO:

CYPRUS MINERALS CORP.
5 MILL STREET

PERTH WA 6000

ORDER No.	PROJECT
E 20728	A85 116F

DATE RECEIVED	RESULTS REQUIRED
02/08/88	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
4	18/08/88	1	80

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
14172/251	SO	Au/334 4 9cm
14172/251	SO	As,Ag/101
14172/251	SO	Au(1)/334
14172/251	SO	Au:1/334 52cm

REMARKS

RESULTS TO

CYPRUS MINERALS CORP.
5 MILL STREET

PERTH WA 6000

RESULTS TO

RESULTS TO

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
compiled	7.0.14.02755	18/08/88	E 20728	1 OF 4

TUBE No.	SAMPLE No.	As (SKINNERS)	Ag	Au	Au:1				(N)	(E)
1	14172	<100	<0.5	0.004	–				5050	10100
2	14173	<100	<0.5	0.007	–				"	50
3	14174	<100	<0.5	0.007	–				"	10200
4	14175	100	<0.5	0.010	–				"	50
5	14176	<100	<0.5	0.003	–				"	10350
6	14177	<100	<0.5	0.015 0.013	0.017				"	10400
	14178	100	<0.5	0.007	–				"	450
8	14179	100	<0.5	0.007	–				"	10500
9	14180	<100	<0.5	0.002	–				5100	10100
10	14181	<100	<0.5	0.002 0.002	0.001				"	50
11	14182	<100	<0.5	0.003	–				"	10200
12	14183	<100	<0.5	0.004	–				"	50
13	14184	100	<0.5	0.007	–				3750	10100
14	14185	100	<0.5	0.004	–				"	50
15	14186	100	<0.5	0.004	–				"	10200
	14187	<100	<0.5	0.004	–				"	50
17	14188	<100	<0.5	0.007	–				"	10350
18	14189	<100	<0.5	0.002	–				"	10400
19	14190	<100	<0.5	0.003	–				"	50
20	14191	<100	<0.5	0.010	–				"	10500
21	14192	100	<0.5	0.002	–				4250	10100
22	14193	<100	<0.5	0.012	–				"	50
23	14194	<100	<0.5	0.020 0.022	0.017				"	10200
24	14195	<100	<0.5	0.028	–				"	50
25	14196	<100	<0.5	0.016	–				"	10350

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
– = element not determined

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.0.14.02755	18/08/88	E 20728	2 OF 4

TUBE No.	SAMPLE No.	As SKINNER	Ag	Au	Au:1				N	E
1	14197	100	<0.5	0.007	–				4250	10400
2	14198	<100	<0.5	0.002	–				"	50
3	14199	100	<0.5	0.001	–				"	10500
4	14200	<100	<0.5	0.004 0.004	0.003				4750	10125
5	14201	<100	<0.5	0.003	–				"	10175
6	14202	100	<0.5	0.002	–				"	10200
	14203	100	<0.5	0.020 0.018	0.021				"	50
8	14204	100	<0.5	0.004	–				"	10350
9	14205	200	<0.5	0.020 0.021	0.018				"	10400
10	14206	100	<0.5	0.031 0.032	0.029				"	50
11	14207	<100	<0.5	0.011	–				"	10500
12	14208	<100	<0.5	0.001	–				4900	10100
13	14209	<100	<0.5	0.001	–				"	50
14	14210	<100	<0.5	0.001	–				"	10200
15	14211	100	<0.5	0.005	–				"	50
	14212	<100	<0.5	0.011	–				"	10350
17	14213	200	<0.5	0.061 0.056	0.066				"	10400
18	14214	<100	<0.5	0.016	–				"	10450
19	14215	<100	<0.5	0.002	–				"	10500
20	14216	<100	<0.5	0.004	–				4950	10100
21	14217	<100	<0.5	0.003	–				"	50
22	14218	<100	<0.5	0.004	–				"	10200
23	14219	200	<0.5	0.042	–				"	50
24	14220	100	<0.5	0.006	–				"	10350
25	14221	100	<0.5	0.019 0.018	0.019				"	10400

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.0.14.02755	18/08/88	E 20728	3 OF 4

TUBE No.	SAMPLE No.	As	Ag	Au	Au:1				(N)	(E)
		SKINNERS								
1	14222	100	<0.5	0.007	–				4950	10450
2	14223	200	0.5	0.003	–				"	10500
3	14224	<100	<0.5	0.008	–				5100	10350
4	14225	100	<0.5	0.032	–				"	10400
5	14226	100	<0.5	0.007	–				"	50
6	14227	100	0.5	0.007	–				"	10500
	14228	<100	<0.5	0.001	–				5150	10100
8	14229	<100	<0.5	0.002	–				"	50
9	14230	100	<0.5	0.002	–				"	10200
10	14231	100	<0.5	0.003	–				"	50
11	14232	<100	0.5	0.006	–				"	10350
12	14233	100	<0.5	<0.001	–				"	10400
13	14234	200	<0.5	0.011	–				"	50
14	14235	100	<0.5	0.008	–				"	10500
15	14236	<100	<0.5	0.002	–				5200	10100
	14237	100	<0.5	0.002	–				"	50
17	14238	<100	<0.5	0.002	–				"	10200
18	14239	<100	<0.5	0.001 0.002	<0.001				"	50
19	14240	<100	<0.5	0.003	–				"	10350
20	14241	100	<0.5	0.004	–				"	10400
21	14242	100	<0.5	0.009	–				"	50
22	14243	100	<0.5	0.003	–				"	10500
23	14244	100	<0.5	0.002	–				5250	10100
24	14245	<100	<0.5	<0.001	–				"	50
25	14246	<100	<0.5	0.001	–				"	10200

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.0.14.02755	18/08/88	E 20728	4 OF 4

TUBE No.	SAMPLE No.	As	Ag	Au	Au:1				N	E
		SKINNERS								
1	14247	100	<0.5	0.002	–				5250	10250
2	14248	<100	<0.5	0.002	–				"	10350
3	14249	<100	<0.5	0.002	–				"	10400
4	14250	<100	<0.5	0.008	–				"	50
5	14251	<100	<0.5	0.008	–				"	10500
6										
8										
9										
10										
11										
12										
13										
14										
15										
17										
18										
19										
20										
21										
22										
23	DETECTION	100	0.5	0.001	0.001					
24	UNITS	PPM	PPM	PPM	PPM					
25	METHOD	101	101	334	334					

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— element not determined

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Soil NT Gem Area

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SKINNERS

A division of MacDonald Hamilton & Co. Pty. Ltd. (Inc NSW)

(089) 84 3849 | Cnr Coonawarra & Mataram Rds, Winnellie | Fax: (089) 84 3984

ANALYTICAL REPORT No. 7.0.14.02767

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACCOMPANYING ANALYTICAL DATA

INVOICE TO:

CYPRUS MINERALS CORP.
5 MILL STREET

PERTH WA 6000

ORDER No.	PROJECT
E 20732	A85-116F

DATE RECEIVED	RESULTS REQUIRED
09/08/86	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
1	31/08/86	1	11

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
14252/52	SO	Au/33[illegible]
14252/62	SO	Cu,Pb,Zn,As,Ag/201

REMARKS

RESULTS TO

Mr G. MILLER
CYPRUS MINERAL CORP.
5 MILL STREET

PERTH WA 6000

RESULTS TO

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Soil
N7500N AREA

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SKINNERS

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.0.14.02767	31/08/88	E 20732	1 OF 1

TUBE No.	SAMPLE No.	Cu	Zn	As	Ag	Au	Pb			
1	14252	20	60	<100	<0.5	0.001	140			
2	14253	15	60	<100	<0.5	0.003	180			
3	14254	25	85	<100	<0.5	<0.001	90			
4	14255	15	75	<100	<0.5	0.001	50			
5	14256	15	70	<100	<0.5	<0.001	50			
6	14257	20	115	<100	<0.5	0.001	115			
7	14258	30	100	<100	<0.5	<0.001	80			
8	14259	30	70	<100	<0.5	0.002	80			
9	14260	45	85	<100	<0.5	0.003	75			
10	14261	35	195	<100	<0.5	0.002	445			
11	14262	25	190	<100	<0.5	0.001	190			
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION	5	5	100	0.5	0.001	5			
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM			
25	METHOD	101	101	101	101	334	101			

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

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(089) 84 3849 | Cnr Coonawarra & Mataram Rds, Winnellie | Fax: (089) 84 3984

ANALYTICAL REPORT No. 7.0.14.02947

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACCOMPANYING ANALYTICAL DATA

INVOICE TO:

CYPRUS MINERALS CORP.
5 MILL STREET

PERTH WA 6000

ORDER No.	PROJECT
E20743	A85 116-F

DATE RECEIVED	RESULTS REQUIRED
07/10/88	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES
4	25/10/88	1

TOTAL No. OF SAMPLES: 80

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
Various	PU	Au/334
Various	PU	As/114,Ag,Cu,Pb,Zn/101
2250 N 8200/600/050 E	PU	Au/334
2250 N 8200/600/050 E	PU	As/114,Ag,Cu,Pb,Zn/101
Various	PU	As/101

RESULTS TO

Mr G. MILLER
CYPRUS MINERAL CORP.
5 MILL STREET

PERTH WA 6000

REMARKS

RESULTS TO

RESULTS TO

AUTHORISED OFFICER

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA "SKINNERS" – "Footrot"

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.0.14.02947	25/10/88	E20743	1 OF 4

TUBE No.	SAMPLE No. SKINNERS	Cu	Zn	As	As	Ag	Au	Au	Pb
1	4450 N 10100	15	25	–	54	0.5	–	0.026	60
2	4450 N 10150	30	50	170	>100	0.5	–	0.037	65
3	4450 N 10200	25	55	–	80	1.0	–	0.055	75
4	4450 N 10250	25	85	–	38	0.5	0.16	>0.100	45
5	4450 N 10300	45	25	280	>100	0.5	–	0.077	60
6	4450 N 10350	30	85	–	42	1.0	–	0.095	40
7	4450 N 10400	15	40	–	38	0.5	–	0.005	30
8	4400 N 10100	15	40	–	31	<0.5	–	0.015	30
9	4400 N 10150	20	35	–	56	<0.5	–	0.022	35
10	4400 N 10200	30	55	110	>100	0.5	0.10	>0.100	60
11	4400 N 10250	30	60	100	>100	0.5	–	0.048	55
12	4400 N 10300	35	25	130	>100	<0.5	–	0.047	50
13	4400 N 10350	25	85	110	>100	0.5	–	0.017	55
14	4400 N 10400	45	50	100	>100	<0.5	–	0.010	25
15	4350 N 10100	25	75	–	63	0.5	–	0.024	50
16	4350 N 10150	25	55	–	80	<0.5	–	0.014	50
17	4350 N 10200	35	110	–	73	<0.5	–	0.042	70
18	4350 N 10250	45	65	220	>100	<0.5	–	0.090	80
19	4350 N 10300	25	20	–	70	<0.5	–	0.028	65
20	4350 N 10350	35	80	–	70	<0.5	–	0.017	60
21	4350 N 10400	20	55	–	40	<0.5	–	0.006	40
22	4300 N 10100	10	25	–	36	<0.5	–	0.003	30
23	4300 N 10150	20	55	–	48	<0.5	–	0.011	60
24	4300 N 10200	30	60	180	>100	<0.5	–	0.038	90
25	4300 N 10250	40	100	110	>100	<0.5	–	0.033	40

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
– = element not determined

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A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.0.14.02947	25/10/88	E20743	2 OF 4

TUBE No.	SAMPLE No. SKINNERS	Cu	Zn	As	As	Ag	Au	Au	Pb
1	4300 N 10300	30	30	110	>100	0.5	–	0.027	35
2	4300 N 10350	25	85	–	60	<0.5	–	0.010	45
3	4300 N 10400	20	50	–	55	<0.5	–	0.006	65
	4200 N 10100	20	150	–	34	<0.5	–	0.007	40
5	4200 N 10150	20	110	–	66	<0.5	–	0.009	35
6	4200 N 10200	35	210	110	>100	<0.5	–	0.037	65
7	4200 N 10250	25	150	–	70	<0.5	–	0.009	50
8	4200 N 10300	30	270	–	34	<0.5	–	0.012	65
9	4200 N 10350	25	95	–	35	<0.5	–	0.007	55
10	4200 N 10400	15	45	–	21	<0.5	–	0.004	25
11	3250 N 8200 Footrot	15	85	–	16	<0.5	–	0.005	75
12	3250 N 8250	5	25	–	9	0.5	–	0.001	45
13	3250 N 8300	5	20	–	14	<0.5	–	<0.001	50
14	3250 N 8350	20	55	–	34	0.5	–	0.001	55
15	3250 N 8400	5	20	–	17	<0.5	–	<0.001	30
16	3250 N 8450	<5	20	–	11	0.5	–	<0.001	45
17	3250 N 8500	<5	25	–	8	0.5	–	<0.001	45
18	3250 N 8550	15	55	–	26	0.5	–	0.001	75
19	3250 N 8600	5	25	–	12	1.0	–	<0.001	40
20	3000 N 8200	10	25	–	24	0.5	–	<0.001	35
21	3000 N 8250	20	40	–	46	1.0	–	0.001	75
22	3000 N 8300	20	30	–	46	<0.5	–	0.001	75
23	3000 N 8350	15	25	–	57	<0.5	–	0.003	100
24	3000 N 8400	5	10	–	28	<0.5	–	0.001	25
25	3000 N 8450	5	15	–	22	<0.5	–	<0.001	20

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

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A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.0.14.02947	25/10/88	E20743	3 OF 4

TUBE No.	SAMPLE No. Footcut	Cu	Zn	As	As	Ag	Au	Au	Pb
1	3000 N 8500	10	35	–	32	<0.5	–	<0.001	25
2	3000 N 8550	5	15	–	34	0.5	–	<0.001	15
3	3000 N 8600	10	40	–	51	<0.5	–	<0.001	30
4	2750 N 8200	15	110	–	35	0.5	–	<0.001	50
5	2750 N 8250	20	35	180	>100	<0.5	–	0.002	110
6	2750 N 8300	20	35	130	>100	0.5	–	0.001	110
7	2750 N 8350	10	55	–	24	0.5	–	0.001	30
8	2750 N 8400	5	45	–	15	<0.5	–	0.001	40
9	2750 N 8450	10	45	100	>100	<0.5	–	<0.001	170
10	2750 N 8500	25	200	–	50	<0.5	–	0.002	140
11	2750 N 8550	35	230	–	58	<0.5	–	0.002	215
12	2750 N 8600	25	155	–	58	<0.5	–	0.001	95
13	2500 N 8200	5	25	–	46	<0.5	–	<0.001	35
14	2500 N 8250	10	35	120	>100	<0.5	–	0.001	60
15	2500 N 8300	10	20	130	>100	<0.5	–	0.002	195
16	2500 N 8350	5	20	–	36	<0.5	–	0.001	30
17	2500 N 8400	15	45	–	48	<0.5	–	0.001	55
18	2500 N 8450	15	55	–	72	<0.5	–	0.002	75
19	2500 N 8500	15	85	–	49	<0.5	–	0.001	75
20	2500 N 8550	15	50	–	35	<0.5	–	0.001	45
21	2500 N 8600	15	40	–	17	<0.5	–	0.001	40
22	2250 N 8200	10	50	–	45	<0.5	–	0.001	30
23	2250 N 8250	15	35	–	71	<0.5	–	0.001	30
24	2250 N 8300	15	35	–	58	<0.5	–	0.002	25
25	2250 N 8350	10	50	–	32	<0.5	–	0.003	25

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
– = element not determined

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A Division of Inchcape Inspection and Testing Services Australia Pty Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.0.14.02947	25/10/88	E20743	4 OF 4

TUBE No.	SAMPLE No.		Cu	Zn	As	As	Ag	Au	Au	Pb
1	2250 N 8400		30	140	–	42	<0.5	–	0.005	55
2	2250 N 8450		20	50	–	11	<0.5	–	0.001	50
3	2250 N 8500		20	40	–	8	<0.5	–	0.002	35
4	2250 N 8550		10	20	–	3	<0.5	–	0.001	10
5	2250 N 8600		20	25	–	4	<0.5	–	0.001	15
6										
7										
8										
9										
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11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION		5	5	100	1	0.5	0.02	0.001	5
24	UNITS		PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
25	METHOD		101	101	101	114	101	329	334	101

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

ANALABS

A Division of Inchcape Inspection and Testing Services, Australia, Pty. Ltd.

A division of MacDonald Hamilton & Co. Pty. Ltd. (Inc NSW)

(089) 84 3849 | Cnr Coonawarra & Mataraa Rds, Winnellie | Fax: (089) 84 3984

ANALYTICAL REPORT No. 7.0.14.03211

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACCOMPANYING ANALYTICAL DATA

INVOICE TO:

CYPRUS MINERALS CORP.
5 MILL STREET

PERTH WA 6000

ORDER No.	PROJECT
E 20748	A 85-116F

DATE RECEIVED	RESULTS REQUIRED
20/12/88	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
5	03/01/89	1	114

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
Various	PU	Au/334
<4850 ,10300/500/025	PU	Au/334
Various	RO Prep: 006,012,014,017	Ag,Cu,Pb,Zn/101
<4850 ,10300/500/025	RO Prep: 006,012,014,017	Ag,Cu,Pb,Zn/101
Various	PU	Au/329

RESULTS TO

Mr G. MILLER
CYPRUS MINERAL CORP.
5 MILL STREET

PERTH WA 6000

REMARKS

RESULTS TO

RESULTS TO

AUTHORISED OFFICER

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.0.14.03211	03/01/89	E 20748	1 OF 5

TUBE No.	SAMPLE No. SKINNERS	Ni	Zn	As	As	Ag	Au	Au	Pb
1	4100 10100	25	90	560	>100	<1.0	-	0.005	110
2	4100 10125	25	125	360	>100	<1.0	-	<0.001	115
3	4100 10150	25	120	720	>100	<1.0	-	0.005	325
4	4100 10175	20	125	610	>100	<1.0	-	0.002	200
5	4100 10200	45	135	620	>100	<1.0	-	0.017	135
6	4100 10225	30	100	900	>100	<1.0	-	0.044	90
7	4100 10250	30	130	440	>100	<1.0	-	0.004	230
8	4100 10275	30	105	320	>100	<1.0	-	<0.001	210
9	4100 10300	30	130	400	>100	<1.0	-	0.008	260
10	4100 10325	25	160	460	>100	<1.0	-	-0.012	230
11	4100 10350	15	135	380	>100	<1.0	-	0.020	230
12	4150 10100	15	75	390	>100	<1.0	-	0.009	95
13	4150 10125	25	70	620	>100	<1.0	-	0.005	95
14	4150 10150	20	145	120	>100	<1.0	-	0.008	30
15	4150 10175	45	130	590	>100	<1.0	-	0.017	70
16	4150 10200	35	155	710	>100	<1.0	-	0.086	155
17	4150 10225	25	170	480	>100	<1.0	-	0.018	165
18	4150 10250	40	210	300	>100	<1.0	-	0.006	90
19	4150 10275	30	110	190	>100	<1.0	-	0.005	105
20	4150 10300	45	320	450	>100	<1.0	-	0.011	400
21	4150 10325	35	170	350	>100	<1.0	-	0.011	325
22	4150 10350	30	225	340	>100	<1.0	-	0.008	195
23	4400 10100	30	60	590	>100	<1.0	-	0.060	140
24	4400 10125	35	40	540	>100	<1.0	-	0.025	80
25	4400 10150	35	65	700	>100	<1.0	-	0.044	120

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.0.14.03211	03/01/89	E 20748	2 OF 5

TUBE No.	SAMPLE No. SKINNERS	Eu	Zn	As	As	Ag	Au	Au	Pb
1	4400 10175	40	100	630	>100	<1.0	–	0.040	130
2	4400 10200	40	110	790	>100	<1.0	–	0.045	125
3	4400 10225	45	145	800	>100	<1.0	–	0.074	125
4	4400 10250	45	80	1200	>100	<1.0	–	0.079	85
5	4400 10275	85	145	1900	>100	<1.0	0.11	>0.100	140
6	4400 10300	55	70	450	>100	<1.0	0.12	>0.100	60
7	4400 10325	45	60	420	>100	<1.0	–	0.093	60
8	4400 10350	35	85	310	>100	<1.0	–	0.009	90
9	4400 10375	50	105	660	>100	<1.0	–	0.032	85
10	4400 10400	50	80	260	>100	<1.0	–	0.018	30
11	4450 10100	35	75	640	>100	<1.0	–	0.100	130
12	4450 10125	20	90	660	>100	<1.0	–	0.081	125
13	4450 10150	65	95	600	>100	<1.0	–	0.094	130
14	4450 10175	30	100	640	>100	<1.0	–	0.054	130
15	4450 10200	40	125	750	>100	<1.0	0.24	>0.100	175
16	4450 10225	35	105	600	>100	<1.0	–	0.036	125
17	4450 10250	40	120	610	>100	<1.0	0.54	>0.100	100
18	4450 10275	45	145	390	>100	<1.0	–	0.031	105
19	4450 10300	55	55	590	>100	<1.0	0.14	>0.100	50
20	4450 10325	55	95	350	>100	<1.0	–	0.058	45
21	4450 10350	40	95	300	>100	<1.0	–	0.026	40
22	4450 10375	30	110	330	>100	<1.0	–	0.011	90
23	4450 10400	30	75	320	>100	<1.0	–	0.012	70
24	4550 10150	30	60	350	>100	<1.0	–	0.010	150
25	4550 10175	50	100	330	>100	<1.0	–	0.014	165

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
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A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.0.14.03211	03/01/89	E 20748	3 OF 5

TUBE No.	SAMPLE No. SKINNERS	Cu	Zn	As	As	Ag	Au	Au	Pb
1	4550 10200	45	95	320	>100	<1.0	–	0.023	190
2	4550 10225	50	150	350	>100	<1.0	–	0.010	270
3	4550 10250	45	125	390	>100	<1.0	–	0.019	705
4	4550 10275	50	130	400	>100	<1.0	–	0.023	80
5	4550 10300	55	90	370	>100	<1.0	–	0.031	80
6	4550 10325	40	45	330	>100	<1.0	–	0.011	140
7	4550 10350	45	85	440	>100	<1.0	–	0.021	85
8	4550 10375	25	70	–	80	<1.0	–	0.016	35
9	4550 10400	40	160	140	>100	<1.0	–	0.006	215
10	4600 10150	40	70	330	>100	<1.0	–	0.027	285
11	4600 10175	55	65	200	>100	<1.0	–	0.037	105
12	4600 10200	45	95	230	>100	<1.0	–	0.025	180
13	4600 10225	60	125	410	>100	<1.0	–	0.020	240
14	4600 10250	40	80	210	>100	<1.0	–	0.018	340
15	4600 10275	45	85	340	>100	<1.0	–	0.023	190
16	4600 10300	40	95	220	>100	<1.0	–	0.008	175
17	4600 10325	45	80	220	>100	<1.0	–	0.012	110
18	4600 10350	40	215	–	100	<1.0	–	0.012	55
19	4600 10375	40	75	150	>100	<1.0	–	0.009	40
20	4600 10400	35	110	–	80	<1.0	–	0.009	80
21	4600 10425	25	50	–	40	<1.0	–	0.009	30
22	4600 10450	25	100	–	53	<1.0	–	0.006	50
23	4650 10200	40	95	210	>100	<1.0	–	0.008	190
24	4650 10225	60	95	150	>100	<1.0	–	0.015	210
25	4650 10250	45	70	300	>100	<1.0	–	0.009	195

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
– = element not determined

AUTHORISED OFFICER

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.0.14.03211	03/01/89	E 20748	5 OF 5

TUBE No.	SAMPLE No. SKINNERS	Zn	As	As	Ag	Au	Au	Pb
1	4800 10400	45	145	400	>100	<1.0	–	0.011	55
2	4800 10425	35	60	380	>100	<1.0	–	0.019	30
3	4800 10450	50	65	610	>100	<1.0	–	0.057	60
4	4800 10475	35	65	370	>100	<1.0	–	0.042	90
5	4800 10500	30	80	300	>100	<1.0	–	0.033	75
6	4850 10300	80	80	190	>100	<1.0	–	0.007	150
7	4850 10325	60	75	170	>100	<1.0	–	0.008	145
8	4850 10350	30	110	–	90	<1.0	–	0.003	55
9	4850 10375	55	65	410	>100	<1.0	–	0.013	120
10	4850 10400	40	80	200	>100	<1.0	–	0.008	60
11	4850 10425	40	80	140	>100	<1.0	–	0.013	45
12	4850 10450	45	75	360	>100	<1.0	–	0.028	50
13	4850 10475	50	40	390	>100	<1.0	–	0.074	30
14	4850 10500	35	35	300	>100	<1.0	–	0.047	35
15									
16									
17									
18									
ETECTION		5	5	100	1	1.0	0.02	0.001	5
UNITS		PPM	PPM	ppm	ppm	PPM	ppm	ppm	PPM
METHOD		101	101	101	114	101	329	334	101

lts in ppm unless otherwise specified
lement present; but concentration too low to measure
lement concentration is below detection limit
ement not determined

AUTHORISED OFFICER

APPENDIX 4

TM IMAGERY SPECIFICATIONS/INSTRUMENTATION

THEMATIC MAPPER IMAGERY

The Thematic Mapper scanner is mounted aboard the Landsat 4 satellite system, along with the MSS (multi-spectral scanner) sensor. The MSS system has been operating without major modification since 1973 and has provided spectral data in four bands ranging in wavelength from visible green to 1.1 micrometre infrared. It has a spatial resolution of 79 metres.

The TM system, on the other hand, records data in 7 bands, ranging from visible (0.45-0.52 micrometre) blue to the 10.5 micrometre thermal channel. Scanner resolution is 30 metres except in the thermal channel where the pixel size is 120 metres. The thermal channel

has poor contrast characteristics and yields low quality geological information, due mainly to the diurnal reception of the image data.

The following are the specifications for the Thematic Mapper.

Resolution: 30 metres, pixels are geometrically true, ie. there is no aspect ratio error as with the MSS 79x57 metre coverage.

Scan width: 185 kilometres (identical to the Landsat MSS imaging system).

Spectral resolution: 7 bands as follows:

Band 1: 0.45-0.52mm (aprox.vis.blue)
Band 2: 0.52-0.6mm (aprox.vis.green)
Band 3: 0.63-0.69mm (aprox.vis.red)
Band 4: 0.76-0.9mm (Near Infrared)
Band 5: 1.55-1.75mm (NIR)
Band 6: 10.4-12.5mm (thermal infrared)
Band 7: 2.08-2.35mm (NIR)

Data Processing

Thematic Mapper imagery has been made available in Australia through the Signals Processing Experiment, a low-cost, mainly private-sector funded AMIRA project. AMIRA now provide high density (6250bpi) CCT data on a commercial basis for image processing.

Processing of the Moline project data was carried out on the Lands Administration's Remote Sensing Centre's International Imaging System processor. This work produced two colour composite images of bands 7 5 1 and bands 3 5 7 combinations. Both image negatives were enlarged to 1:100,000 scale and in addition a section covering the Moline Dam area was enlarged to 1:50,000

scale. This is near the maximum to which the TM imagery can be effectively enlarged because of pixel size and photographic processing limitations.

Systematic processing was undertaken on a subscene-by-subscene basis, to allow spectral analysis of lithological components within the Moline Dam tenements. A subscene is equivalent to a geographical area of 15.36 kilometres square, this being determined by the 512x512 pixel VDU screen and the 30 metre pixel resolution of the TM data. Because of the true dimensional representation of the pixels, any photographic material acquired from these enhancements is geometrically accurate.

A major component of TM data cost is in the production of hard-copy images. The processing of subscenes and the recording of these images on film allow the acquisition of a large number of modified images at low cost. The hard-copy images are used in conjunction with, and as a physical base for, interpretation of these enhancements.

Image Analysis

Either bands 7 4 2 or 7 4 1 combinations are generally utilised for the portrayal of geological data. These usually yield an interpretable image on which major rock groups can be discriminated and terrain and structural features can be mapped.

However 7 4 2 or 1 (RGB) images suffer from several deficiencies, the chief of which is that iron-rich and silica-rich rock often appear similar because they both reflect most strongly in the shorter wavelength bands. Also infrared band 4 is strongly influenced by vegetational reflectance which peaks in this wavelength, while band 2 is a secondary vegetational high. In the Pine Creek region these are important considerations and have been overcome by generating 7 5 1 and 3 5 7 (RGB) colour composite image. In this band 3 can be subjected

to a histogram modification such that the red-band reflectance of the ferruginous units is amplified. Rock types with high silica have high band 5 (yellow) reflectance. Quartz reef has a similar spectral signature to chert. Clays tend to give a high band 7 response and appeâr blue. A ferruginous siliceous sediment or felsic volcanic, for example, appear orange to red, dependent on its iron content.

Spectral properties can be amplified by utilising histogram modification and band ratio techniques. Thus subscenes consisting of 3 5 7 and 7 5 1 composites were generated and scaled band-by-band. Additional data was provided by combining bands 3 4 and 7 and by ratioing bands 3 and 2 and band 7 and 5 to amplify respectively iron oxide and clay content. Band 5 was sometimes used in conjunction with band ratios to controls colour intensity.

Band 5/3, 5/1 and 7/4 combinations and band 5, ratioed with band 3, 1 and 7 respectively as additional rock discriminants.

average height of vegetation 10 metres

E.L. 5094

Wandie Mine (abandoned)

SKINNERS

FOOTROT

7/0091 ⊕ Photo Centre

12014 ● Stream Sediment Sample Number

13018 ○ Rock Chip Sample Number

Grid Line 8800E

2157 GRATICULAR BLOCK BOUNDARY AND NUMBER

0 400m 800m

Cyprus Gold Australia Corporation

Project N°

Project Partner GREENBUSHES

E.L.5094 SKINNER OPTION

Stream Sediment and Rock Chip Sample Locations

Surveyed Date Scale 1:10000

Drawn Date Plan No. WS116

Enclosure

CR89/150

CYPRUS GOLD AUSTRALIA CORPORATION

MOLINE JOINT VENTURE

E.L.5094 (SKINNER OPTION)

MT GARDINER
AIRBORNE GEOPHYSICAL SURVEY
TOTAL MAGNETIC INTENSITY

CYPRUS GOLD AUSTRALIA CORPORATION

Surveyed and compiled by AERODATA HOLDINGS LIMITED
AUGUST - DECEMBER 1988
Job No. 1146

AERODATA

AIRCRAFT
VH-ADH CESSNA STATIONAIR 206G

MAGNETOMETER
SPLIT BEAM CESIUM SCINTREX V201

RESOLUTION	0.01 nanoTesla
CYCLE RATE	0.3 seconds
SAMPLE INTERVAL	15 metres

SPECTROMETER
256 CHANNEL EXPLORANIUM GR800B

VOLUME	16.78 litres
CYCLE RATE	1.2 seconds
SAMPLE INTERVAL	60 metres

DATA ACQUISITION
8 CHANNEL WATANABE MC 6700 CHART RECORDER
HEWLETT PACKARD 9825 COMPUTER
AERODATA DIGITAL ACQUISITION SYSTEM

FLIGHT LINE SPACING

TRAVERSE LINES	200 metres
TIE LINES	2000 metres

FLIGHT LINE DIRECTION

TRAVERSE LINES	045 - 225 degrees
TIE LINES	135 - 315 degrees

SURVEY HEIGHT
60 metres - MEAN TERRAIN CLEARANCE

NAVIGATION
VISUAL FROM PLANNED FLIGHT STRIPS

FLIGHT PATH RECOVERY
ONTO A.M.G. CONTROLLED PHOTOGRAPHS

DATA PROCESSING

REGIONAL FIELD	IGRF model 1985 removed
BASE VALUE ADDED	47450 nanoTeslas
GRID CELL SIZE	70 metres
CONTOUR INTERVAL	2 nanoTeslas
PARALLAX CORRECTION	-2.5 fiducials

Scale 1:10 000
AUSTRALIAN MAP GRID

W5119

AIRCRAFT
VH-ADH CESSNA STATIONAIR 206G
MAGNETOMETER
SPLIT BEAM CESIUM SCINTREX V201
RESOLUTION 0.01 nanoTesla
CYCLE RATE 0.3 seconds
SAMPLE INTERVAL 15 metres
SPECTROMETER
256 CHANNEL EXPLORANIUM GR800B
VOLUME 16.78 litres
CYCLE RATE 1.2 seconds
SAMPLE INTERVAL 60 metres
DATA ACQUISITION
8 CHANNEL WATANABE MC 6700 CHART RECORDER
HEWLETT PACKARD 9825 COMPUTER
AERODATA DIGITAL ACQUISITION SYSTEM
FLIGHT LINE SPACING
TRAVERSE LINES 200 metres
TIE LINES 2000 metres
FLIGHT LINE DIRECTION
TRAVERSE LINES 045 - 225 degrees
TIE LINES 135 - 315 degrees
SURVEY HEIGHT
60 metres - MEAN TERRAIN CLEARANCE
NAVIGATION
VISUAL FROM PLANNED FLIGHT STRIPS
FLIGHT PATH RECOVERY
ONTO A.M.G. CONTROLLED PHOTOGRAPHS

LEGEND
100 fiducial interval
10 fiducial interval
Recovery point
Control point

CYPRUS GOLD AUSTRALIA CORPORATION

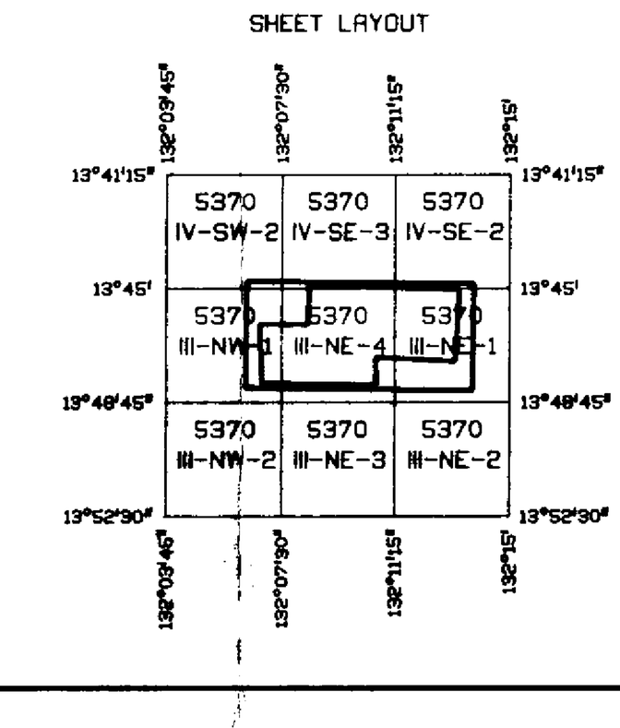
MOLINE JOINT VENTURE

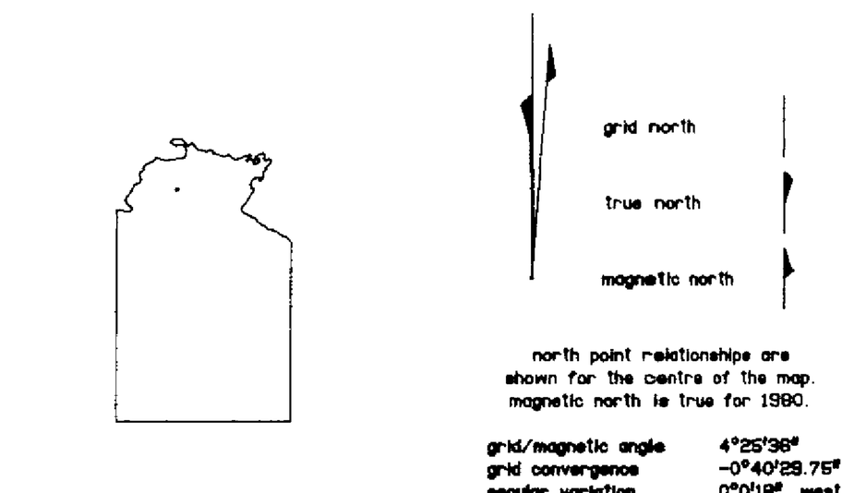
E.L.5094 (SKINNER OPTION)

MT GARDINER
AIRBORNE GEOPHYSICAL SURVEY
FLIGHT PATH

CYPRUS GOLD AUSTRALIA CORPORATION
Surveyed and compiled by AERODATA HOLDINGS LIMITED
AUGUST – DECEMBER 1988
Job No. 1148
AERODATA

SHEET LAYOUT



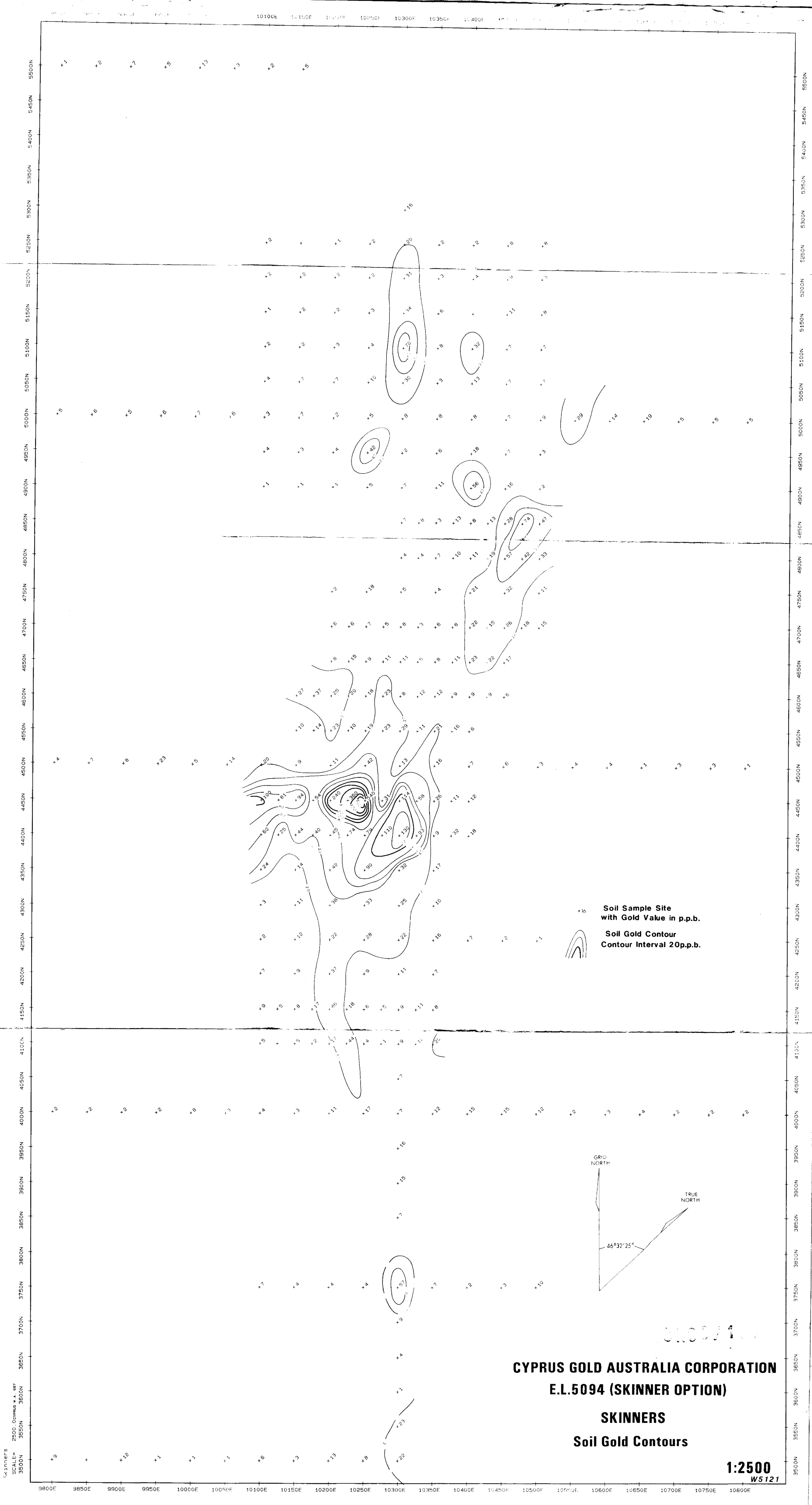


north point relationships are shown for the centre of the map. magnetic north is true for 1980.

grid/magnetic angle 4°25'38"
grid convergence -0°40'29.75"
secular variation 0°0'18" west per year

Scale 1:10 000
200 0 200 400 600 800 1000 metres
AUSTRALIAN MAP GRID

W5120



CYPRUS GOLD AUSTRALIA CORPORATION

E.L.5094 (SKINNER OPTION)

SKINNERS

Soil Gold Contours

1:2500

W5121

Skinners
2500 Cyprus K.A. 687
SCALE= 1:2500

Insufficient data to contour this area

Soil Sample Site with gold value in p.p.b.

Soil Gold Contour, Contour Interval 1p.p.b.

GRID NORTH

TRUE NORTH

46°32'25"

CR89/150

CYPRUS GOLD AUSTRALIA CORPORATION

E.L.5094 (SKINNER OPTION)

FOOTROT

Soil Gold Contours

1:2500

W5122

kinners
SCALE= 2500. Cyprus W.A. 687
C.I.=1.0