EL 7880

ANNUAL EXPLORATION REPORT

To 20 October 1994

Pine Creek Sheet SD 52.08 Burnside 14/2-II, 5171.2

Compiled for Northern Gold NL
by John Canaris
November 1994

SUMMARY

Detailed mapping of the J 25 Prospect within EL 7880 was carried out, in conjunction with rock chip sampling. The results from Western Mining Corporation's 1989 report for the J 25 Prospect were also reviewed.

Rock chips were collected and assayed for Au to test for bedrock mineralisation, and a fluid inclusion survey was carried out. The geological mapping and rock chip assay results were used to pinpoint bedrock mineralisation at the WMC J 25 Prospect, and so outline potential drill targets for 1995. The results from the fluid inclusion survey have not yet been received, and will be forwarded when available. The review of WMC data suggests that the drilling carried out by WMC may have been located too far to the west to intersect the quartz vein system identified as anomalous by the current mapping, rock chip and soil sampling.

A total of $10,557 was spent on the licence during the anniversary year.

CONTENTS

TABLES

FIGURES

1 INTRODUCTION

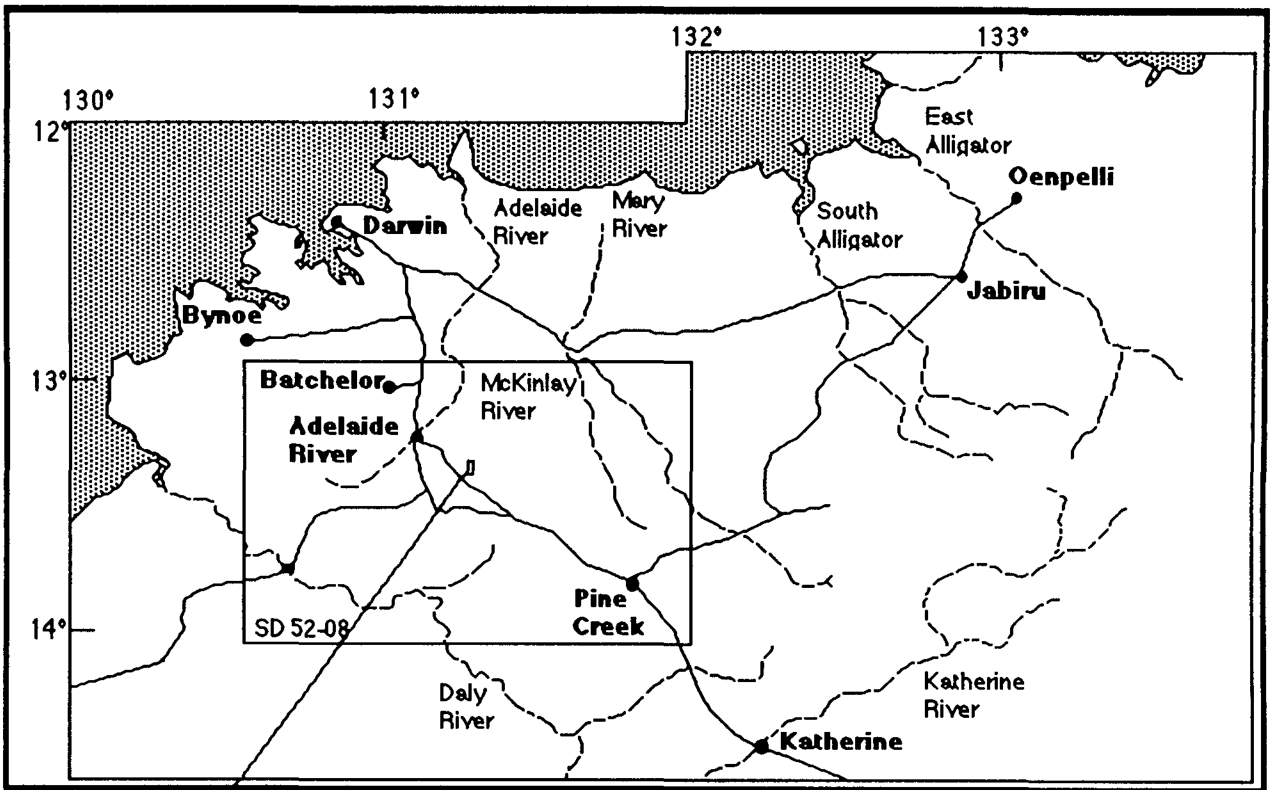
1.1 Title and Location

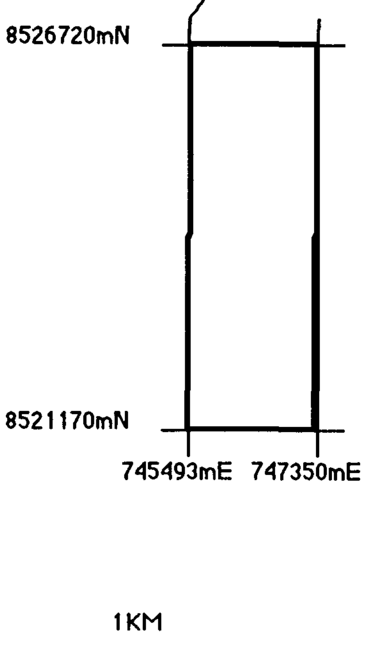
EL 7880 was granted on 21 of October 1992 to Northern Gold for a period of 4 years. The licence, covering three blocks, had an expenditure covenant of $9,600 for the second year of tenure.

The area covered by EL 7880 was previously held by Grace Australia under EL 5322. WMC acted as operators and managers of the licence, as part of the Mount Ringwood Joint Venture. The area was then held by Western Mining Corporation under EL's 2477 and 4777, and Lachlan Zinc under EL 6646.

EL 7880 is located within the Cullen Mineral Field, approximately 25 kilometres east south east of Adelaide River and immediately west of the Mt. Paqualin trig (Figure 1). Access to the tenement is via a 7 kilometre dirt track north from the Bridge Creek alluvial mine or via a temporary track through the "Western Arm" from the Stuart Highway. Access is restricted to four wheel drive vehicles, especially during the wet season when much of the ground in the area becomes inundated.

Black soil plains cover much of the western boundary of the tenement, and are subject to inundation throughout much of the wet season. A series of hills form a north-south trending ridge along the eastern margin of the tenement. This ridge carries scrubby to open tropical eucalypt woodland and grass, while the flood plains support open savannah grassland and patches of scrub. The area has a tropical to monsoonal climate with the wet season commonly from November to April. The bulk of the annual 1200 millimetres of rainfall arrives from heavy thunderstorms of short duration. Temperature ranges from 18 to 30 degrees Celsius in July to 26 to 36 degrees in November.





EL 7880

Date granted: 21/10/1992

Expiry date: 20/10/1996

Report date: 20/11/1994

Reduction date: 20/10/1994

Size: 3 blocks

Figure 1

1.2 Previous Work

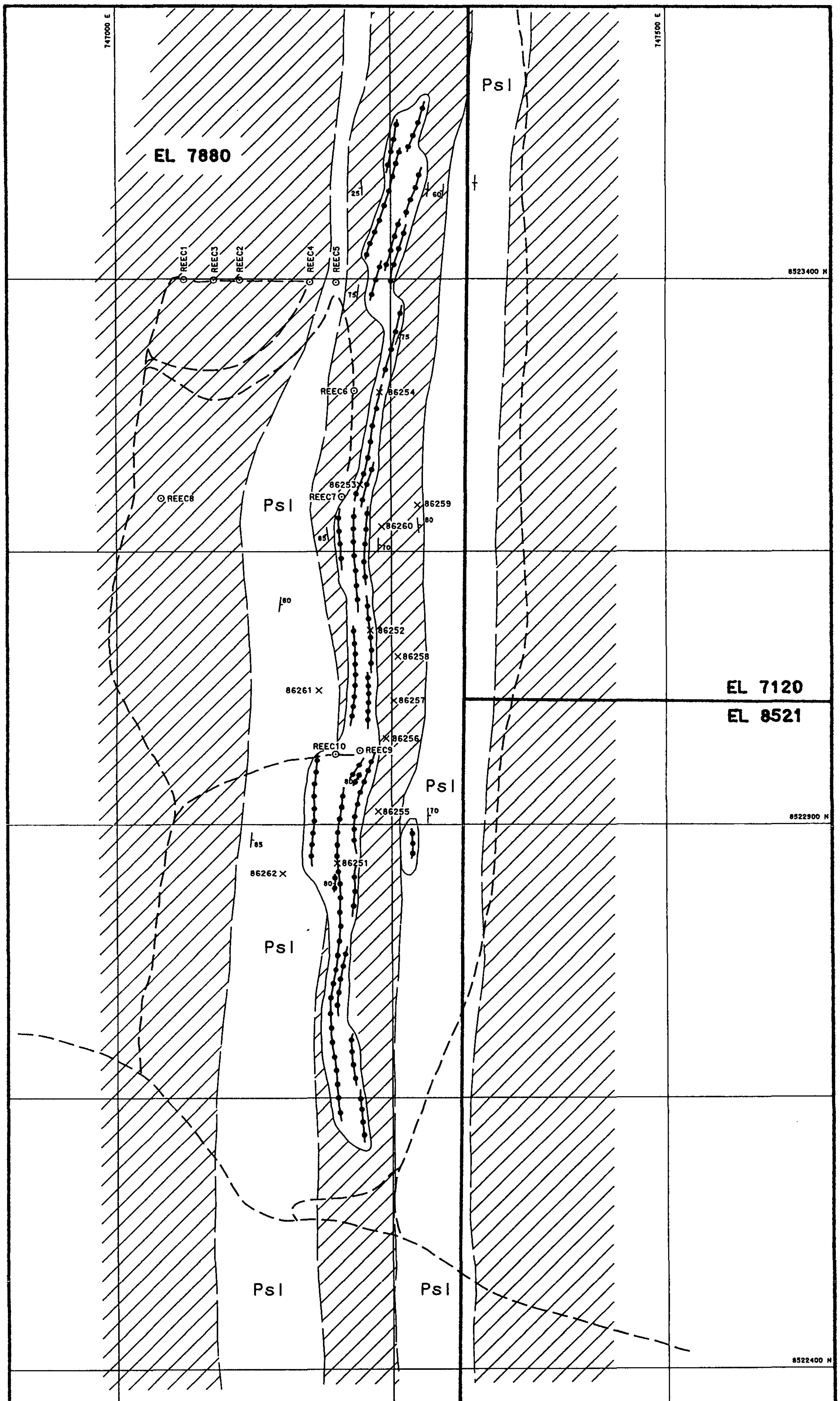
Grace Australia identified the J 25 Prospect by helicopter rock chip sampling, which was followed up by scree sampling. Western Mining carried out mapping of the anomalous area, which follows a north-south trending quartz stockwork ridge located in the centre and along the eastern boundary of EL 7880, near the Mount Shoobridge Fault.

Selective rock chip sampling yielded anomalous Au results which were also found to have elevated Pb, Ag and As values. This mineral association, and the quartz ridge's low angle and proximity to the Mount Schoobridge Fault led Western Mining workers to believe that the J 25 Prospect is a mineralised splay off the main fault system.

A detailed soil sampling program was carried out over the J 25 prospect which identified soil values up to 600 ppb Au. 160 soil samples were collected along eight lines. Soil Au and As results are shown in Figures 2 & 3, which are given in local grid. Grid conversion to AMG is given in Table 1. Results are given in WMC Mount Ringwood Joint Venture Annual Report on EL 5322 by Ward & Rohrlach, 1989.

AMG NORTH	AMG EAST	NORTHING	EASTING
8522797	746987	9800	9710
8522797	747007	9800	9730
8522997	747013	10000	9710
8522996	747053	10000	9770

Table 1. WMC Local Grid Conversion



LEGEND

	Feldspathic Greywacke		Lithological contact
	Siltstone Greywacke		Lithological contact inferred
	Massive quartz vein/outcrop		Track
	Bedding		
	Vertical Strata		
	Quartz vein		
	WMC Drill Hole		
	Rock-chip		

FIGURE 2

Northern Gold N.L.

GEOLOGICAL PLAN
EL 7880
J 25 PROSPECT

COMPILED BY:	DATE:	SCALE:
J. Canaris	November 1994	1 : 4000

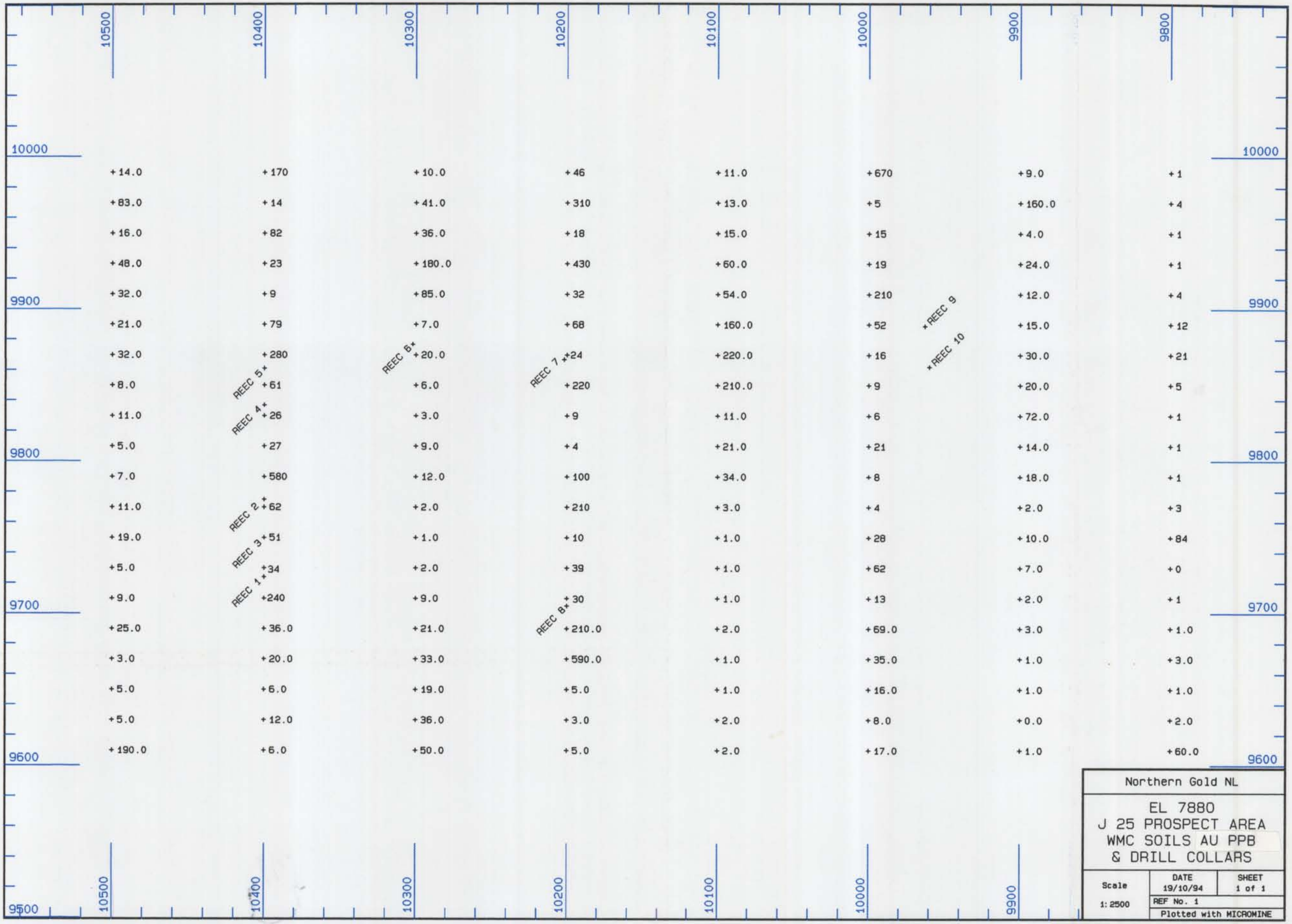

10500 10400 10300 10200 10100 10000 9900 9800
10000
+14.0 +170 +10.0 +46 +11.0 +670 +9.0 +1
+83.0 +14 +41.0 +310 +13.0 +5 +160.0 +4
+16.0 +82 +36.0 +18 +15.0 +15 +4.0 +1
+48.0 +23 +180.0 +430 +60.0 +19 +24.0 +1
9900
+32.0 +9 +85.0 +32 +54.0 +210 +12.0 +4
+21.0 +79 +7.0 +68 +160.0 +52 +15.0 +12
+32.0 +280 +20.0 +24 +220.0 +16 +30.0 +21
+8.0 +61 +6.0 +220 +210.0 +9 +20.0 +5
+11.0 +26 +3.0 +9 +11.0 +6 +72.0 +1
9800
+5.0 +27 +9.0 +4 +21.0 +21 +14.0 +1
+7.0 +580 +12.0 +100 +34.0 +8 +18.0 +1
+11.0 +62 +2.0 +210 +3.0 +4 +2.0 +3
+19.0 +51 +1.0 +10 +1.0 +28 +10.0 +84
+5.0 +34 +2.0 +39 +1.0 +62 +7.0 +0
9700
+9.0 +240 +9.0 +30 +1.0 +13 +2.0 +1
+25.0 +36.0 +21.0 +210.0 +2.0 +69.0 +3.0 +1.0
+3.0 +20.0 +33.0 +590.0 +1.0 +35.0 +1.0 +3.0
+5.0 +6.0 +19.0 +5.0 +1.0 +16.0 +1.0 +1.0
+5.0 +12.0 +36.0 +3.0 +2.0 +8.0 +0.0 +2.0
+190.0 +6.0 +50.0 +5.0 +2.0 +17.0 +1.0 +60.0
9600
9500
REEC 1
REEC 2
REEC 3
REEC 4
REEC 5
REEC 6
REEC 7
REEC 8
REEC 9
REEC 10
Northern Gold NL
EL 7880
J 25 PROSPECT AREA
WMC SOILS AU PPB
& DRILL COLLARS
Scale 1:2500
DATE 19/10/94
SHEET 1 of 1
REF No. 1
Plotted with MICROMINE

Figure 3

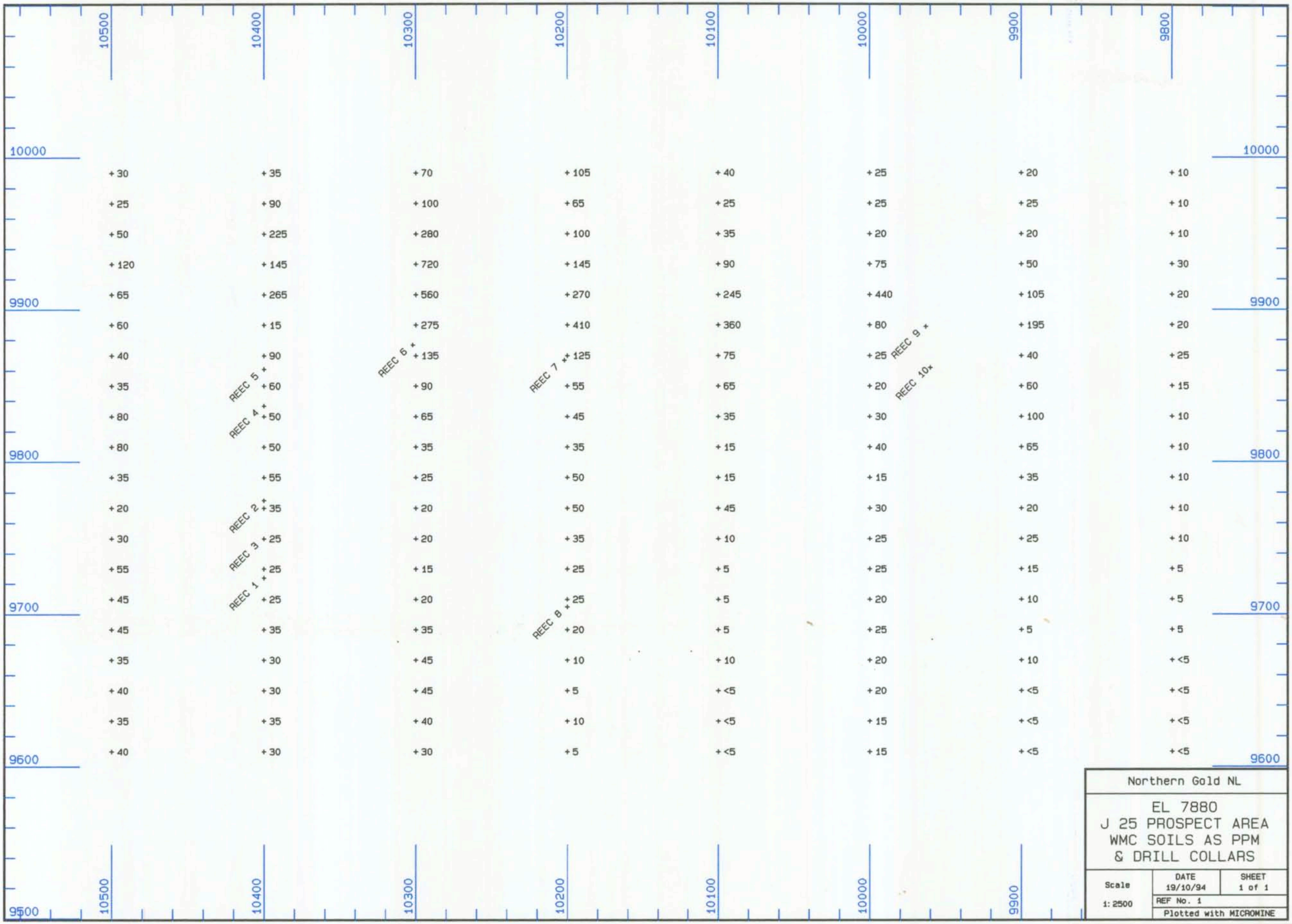
The soil and rock-chip anomaly was then tested with ten scout R/C drill holes (REEC 1 to 10). Results were inconclusive with narrow and patchy zones of mineralisation encountered in REEC 7, 9 & 10. A summary of best results is given in Table 2 below. All R/C collar locations are shown on Figures 3 & 4. and on Figure 2.

Hole No	From	To	Int. Assay
REEC 7	33	34	1m @ 1.8 g/t
REEC 7	56	57	1m @ 1,6 g/t
REEC 9	0	1	1m @ 3.7 g/t
REEC 9	30	31	1m @ 4.6 g/t
REEC 10	8	9	1m @ 5 g/t

Table 2. WMC Best Drill Results

All WMC results are documented in the Mount Ringwood Joint Venture Annual Report on EL 5322 by Ward & Rohrlach, 1989. No follow-up work was carried out by either Western Mining or Lachlan Zinc.

Work carried out by Northern Gold NL from 1992 is documented in the EL 7880 Annual Exploration Report for 1993.


10500
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+25 +90 +100 +65 +25 +25 +25 +10
+50 +225 +280 +100 +35 +20 +20 +10
+120 +145 +720 +145 +90 +75 +50 +30
+65 +265 +560 +270 +245 +440 +105 +20
+60 +15 +275 +410 +360 +80 +195 +20
+40 +90 +135 +125 +75 +25 +40 +25
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+80 +50 +65 +45 +35 +30 +100 +10
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REEC 1
REEC 2
REEC 3
REEC 4
REEC 5
REEC 6
REEC 7
REEC 8
REEC 9
REEC 10
Northern Gold NL
EL 7880
J 25 PROSPECT AREA
WMC SOILS AS PPM
& DRILL COLLARS
Scale
1:2500
DATE
19/10/94
SHEET
1 of 1
REF No. 1
Plotted with MICROMINE

Figure 4

2 GEOLOGY

2.1 Regional Geology

EL 7880 is situated within the Pine Creek Geosyncline, a tightly to isoclinally folded sequence of mainly pelitic and psammitic Lower Proterozoic sediments with interlayered tuff units. All the lithologies in the area have been metamorphosed to low, and in places medium grade, metamorphic assemblages. For the purposes of this report the prefix meta is implied, but omitted, from rock names and descriptions. The sequence has been intruded by pre-orogenic dolerite sills of the Zamu Dolerite and a number of late syn-orogenic to post-orogenic Proterozoic granitoids. Largely undeformed Middle and Late Proterozoic, Palaeozoic and Mesozoic strata as well as Cainozoic sediments and laterite overlie the Pine Creek Geosyncline lithologies.

2.2 Local Geology

Northern Gold NL carried out regional geological mapping of EL 7880 in 1993. Outcrop within the tenement is good, up to 70%. Mapping indicates that the tenement exclusively contains sequences of greywacke, siltstone/shale, which belong to the Burrell Creek Formation. Regional mapping and aeromagnetic interpretation also suggests that the tenement covers the trace of the Shoobridge Fault.

3 EXPLORATION COMPLETED

3.1 Literature Review

A literature review from the Department of Mines, as well as a review of NGNL's data from the 1993 Annual Report for EL 7880 was carried out. All work carried out by NGNL for EL 7880 is reported in the NGNL 1993 Annual Report for EL 7880. Western Mining's activities are reported in the Mount Ringwood Joint Venture Annual Report on EL 5322 by Ward & Rohrlach, 1989.

3.2 Geological Mapping

Detailed ground mapping of the J 25 Prospect quartz strike ridge was carried out with the aid of a recently flown aerial survey. Several traverses were made across the ridge, and WMC R/C collars were re-located and mapped (Figure 2.).

3.3 Rock Chip Sampling

3.3.1 Assays

Northern Gold conducted rock-chip sampling of quartz veining at the J 25 Prospect. A total of 12 rock-chips were collected from along the strike ridge peak and flanks. Sample No. 86251 to 86254 were collected from the main massive quartz system identified by WMC. Samples 86266 to 86262 were collected from minor quartz veinlets near to the main system (Figure 1.). All samples were submitted to Assaycorp Pty Ltd laboratories at Pine Creek for low level Au and As analysis. Extraction of the Au is carried out by nominal 2 kilogram dynamic cyanide leach for 24 hours, from which a 200 millilitre aliquot is further extracted and Au / As determined by AAS against standards.

3.3.2 Fluid Inclusions

A preliminary fluid inclusion survey was carried out on duplicates of each sample by Orebusters Pty. Ltd. of Leeming WA. Quartz samples are first classified in terms of cloudiness and colour. Thin slivers of quartz sample were selected (<0.2mm thick) and immersed in oil. A transmitted-light microscope was used to examine the type and populations of fluid inclusions in each sample.

4 EXPLORATION RESULTS

4.1 Literature review

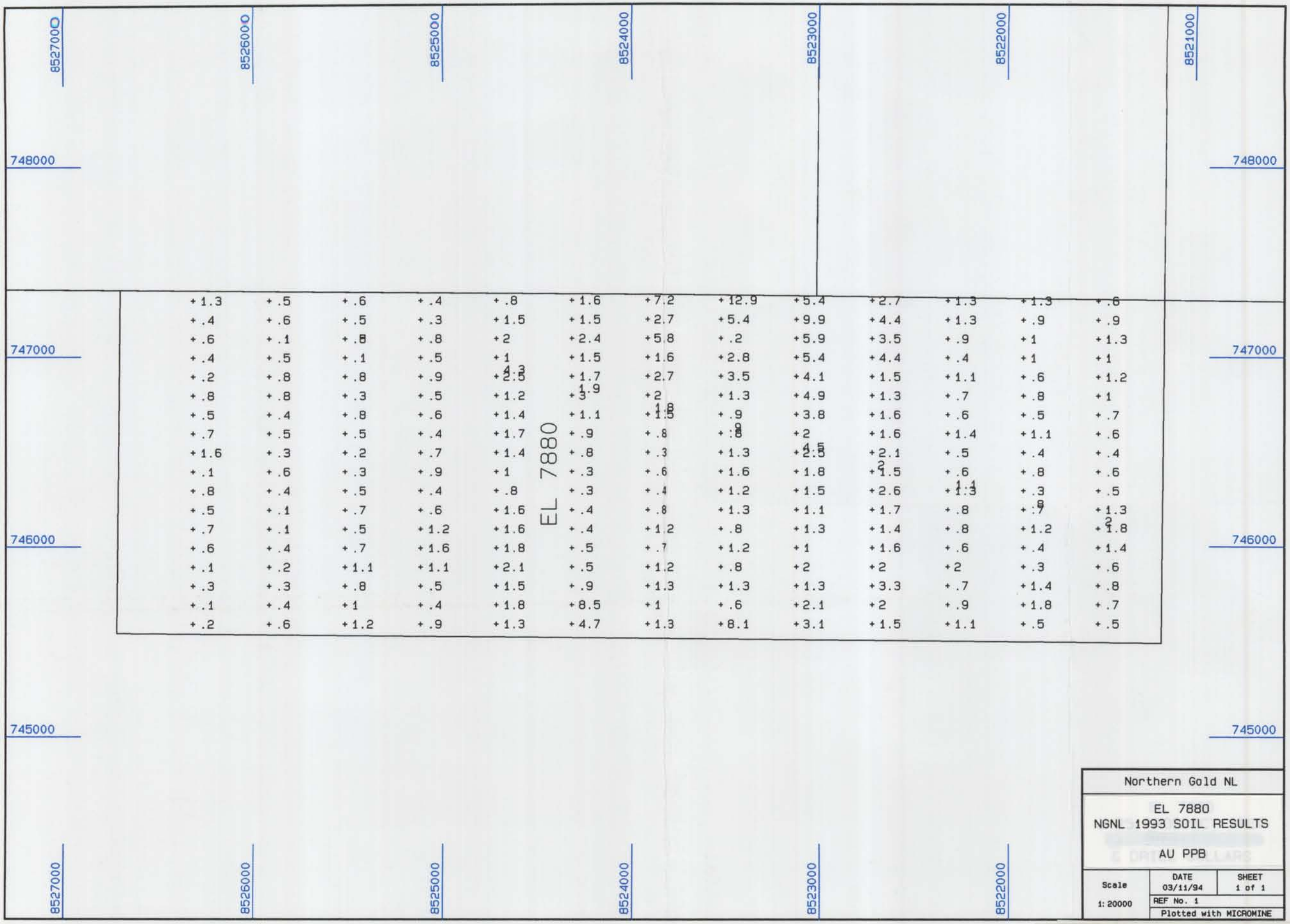
WMC soil Au and As results at the J 25 Prospect are given on Figures 3 & 4 with R/C drill collar locations from 1989 (see WMC Annual Report). Careful ground mapping of these collar locations in relation to geology and geochemical responses for Au & As suggest that the patchy drill results reported by WMC (Table 2) may have resulted from R/C holes missing the main target zone.

4.2 Geological Mapping

The tenement is comprised of a sequences of tightly folded and strongly jointed greywacke, siltstone and shale, which belong to the Burrell Creek Formation. Mineralisation appears to be associated with a north-south trending quartz stockwork/vein system, which strikes along a splay off the Mount Shoobridge Fault. Minor quartz vein swarms are also scattered throughout the folded Burrell Creek sequence, adjacent to the main quartz ridge. These veinlets are both discordant and concordant. Mapping revealed WMC drill holes which did intersect Au mineralisation were drilled down dip, and so at best only partly intersected target areas.

4.3 Rock Chip Sampling

Results from rock chip sampling of both the massive quartz and smaller veinlets indicates that the massive quartz vein system is sporadically anomalous in gold (Table 3), suggesting that the fault acted as a channel-way for mineralising fluid. However, the single highest result came from a small veinlet east of the main quartz ridge.This suggests that the soil Au may also be shedding from the smaller veinlets on the flanks of the main strike ridge, rather than the massive quartz vein system.



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8523000
8522000
8521000
748000
748000
747000
747000
746000
746000
745000
745000
EL 7880
+1.3 +.5 +.6 +.4 +.8 +1.6 +7.2 +12.9 +5.4 +2.7 +1.3 +1.3 +.6
+.4 +.6 +.5 +.3 +1.5 +1.5 +2.7 +5.4 +9.9 +4.4 +1.3 +.9 +.9
+.6 +.1 +.8 +.8 +2 +2.4 +5.8 +.2 +5.9 +3.5 +.9 +1 +1.3
+.4 +.5 +.1 +.5 +1 +1.5 +1.6 +2.8 +5.4 +4.4 +.4 +1 +1
4.3
+.2 +.8 +.8 +.9 +2.5 +1.7 +2.7 +3.5 +4.1 +1.5 +1.1 +.6 +1.2
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+.5 +.1 +.7 +.6 +1.6 +.4 +.8 +1.3 +1.1 +1.7 +.8 +.7 +1.3
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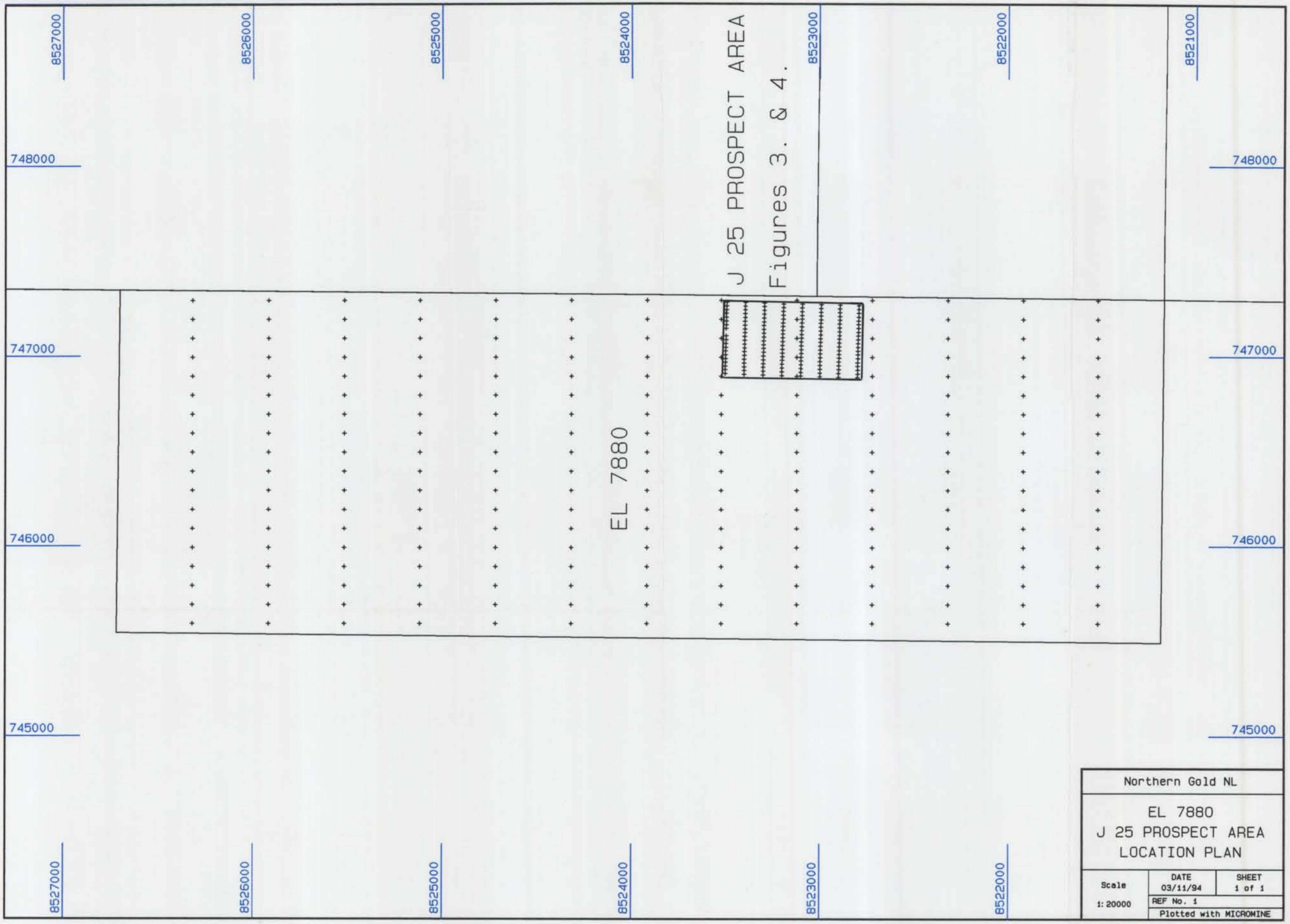
+.3 +.3 +.8 +.5 +1.5 +.9 +1.3 +1.3 +1.3 +3.3 +.7 +1.4 +.8
+.1 +.4 +1 +.4 +1.8 +8.5 +1 +.6 +2.1 +2 +.9 +1.8 +.7
+.2 +.6 +1.2 +.9 +1.3 +4.7 +1.3 +8.1 +3.1 +1.5 +1.1 +.5 +.5
8527000
8526000
8525000
8524000
8523000
8522000
Northern Gold NL
EL 7880
NGNL 1993 SOIL RESULTS
AU PPB
Scale
1: 20000
DATE
03/11/94
SHEET
1 of 1
REF No. 1
Plotted with MICROMINE

FIGURE 5


8527000
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747000
746000
745000
J 25 PROSPECT AREA
Figures 3. & 4.
EL 7880
Northern Gold NL
EL 7880
J 25 PROSPECT AREA
LOCATION PLAN
Scale
1: 20000
DATE
03/11/94
SHEET
1 of 1
REF No. 1
Plotted with MICROMINE

Figure 6.

Samp No	Au1 ppb	Au2 ppb
86251	84	76
86252	3	3
86253	140	150
86254	320	-
86255	45	57
86256	71	63
86257	32	26
86258	9	9
86259	1080	910
86260	240	-
86261	6	5
86262	2	3

Table 3. Rock Chip Results

A final report is being compiled by Orebusters of the gold mineralisation potential of the samples. This report will be forwarded to the Department of Mines.

5 CONCLUSION

Detailed mapping confirmed the mineralised system to be east dipping, and helped to pinpoint the source of the Au soil anomaly. Most of WMC drill holes were drilled to the east, and hence down the dip of mineralisation, and so at best only partly intersected the main zone of mineralisation.

Further to this, geochemical evidence from rock chip sampling and careful analysis of previous soil data suggests that mineralisation may be centred in the smaller veinlet swarms on the eastern flank of the main quartz strike ridge, and that the massive ridge quartz may have proved a misleadingly obvious target for previous exploration efforts.

A final report is being compiled by Orebusters of the gold mineralisation potential of the rock chip samples, which when matched to the assay results will indicate the main target zone for the 1995 drill season. This report will be forwarded to the Department of Mines when it becomes available.

6 EXPENDITURE

Expenditure on EL 7880 during the anniversary year totalled **$10,557.** Details of this expenditure are listed below as Table 4.

Field Expenses	$150
Assays	$194
Mapping & Aerial Photography	$1,712
Petrology and Topographical Data	$2,093
Salaries and Wages	$3,110
Report Preparation	$345
Vehicle Use	$550
Consumables	$1,026
Sub Total	**$9,180**
Admin Costs @ 15%	$1,377
Total	**$10,557**

Table 4.

7 PROPOSED PROGRAM

Follow-up work will include detailed rock chip sampling and mapping, and probable R/C drilling to locate bedrock mineralisation. Details are listed in Table 5. below.

Follow-up Rock Chip Sampling and Assay	$1,000
Initial RC Drilling and sampling	$10,000
Drafting and Computing	$500
Report Preparation	$500
Wages and Salaries	$3,000
TOTAL	**$15,000**

Table 5.

OREBUSTERS PTY. LTD.

4 HANDLEY CLOSE,
LEEMING, W.A., 6149,
AUSTRALIA

TELEPHONE: Australia (09) 332 7350, overseas 61 9 332 7350
FACSIMILE: 310 6694

ACN 009 247 394

PROSPECTIVITY OF SAMPLES FROM TENEMENT EL 7880, ASSESSED USING FLUID INCLUSIONS IN QUARTZ

REPORT 8

Dr Susan Ho
November 1994

INTRODUCTION

This report presents the results of a fluid inclusion survey of 12 vein quartz samples collected from Tenement EL 7880 by Northern Gold NL. The aim was to assess the proximity of the samples to granitic bodies and assign prospectivity ratings based on the fluid inclusion populations. Details of the procedure are provided in earlier reports (see Ho, 1993, 1994a, 1994b; Ho & Shepherd, 1993). No detailed geological information are available for the samples. The methodology and reporting procedure follow those outlined in Report 5 (Ho, 1994b).

ASSESSMENT RESULTS

Categorization

Descriptions of the quartz are provided in Table 1. Appendix 1 contains brief descriptions of the fluid inclusion populations recognized in the quartz samples. These have been categorized in terms of proximity and gold prospectivity, and the results are presented in Table 2. Appendix 2 updates the database constructed using Statview SE + Graphics, details of which are provided in Report 5 (Ho, 1994b).

Summary

The samples were collected from a large, gossanous, bucky quartz ridge (Samples 86251-86254) and the quartz stringer systems on its eastern (Samples 86255-86260) and western (Samples 86261-86262) flanks. The results for the ridge and flanks have been grouped to give "area" rankings for those three sites.

Quartz ridge (86251-86254)

The samples from the quartz ridge vary in proximity rating between "Distal" and "Proximal". Given that the samples were taken about 400 m apart, it may be possible to relate this information to the location of a granite, with 86251 being the furthest away and 86254 (which also contains tourmaline inclusions) being the closest. However, a location or geological map was not available and this cannot be confirmed. The prospectivity rating of the samples is also variable, generally being low but with the presence of sufficient halite-saturated fluid inclusions to raise the ridge from the lowest rating.

Eastern flank (86255-86260)

Most of the samples from the eastern flank of the quartz ridge were difficult to work with. However, although the proximity ratings are variable and may be uncertain, overall the samples are likely to be distal to granites and have a very low prospectivity rating.

Western flank (86261-68262)

The samples from the western flank are probably distal to granites. They have a low prospectivity rating, but with some interest generated by the presence of halite-saturated fluid inclusions.

Conclusion

In general, quartz from the ridge and flanks surveyed in Tenement EL 7880 is considered to reflect a low prospectivity for gold mineralization. Evidence of the passage of the likely "mineralising fluid" is provided by the presence of halite-saturated fluid inclusions, but their distribution and number are limited, suggesting that conditions were unsuitable for major mineralisation.

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HO S.E., 1994b. Assessment of mineralization potential using fluid inclusions in quartz, sample numbers 84501-84518. Report 5. Company report to Northern Gold NL. Orebusters Pty Ltd, Perth, 7 pp. (unpublished).

HO S.E., 1994c. Prospectivity of sample numbers GN 84519-84525, assessed using fluid inclusions in quartz. Report 6. Company report to Northern Gold NL. Orebusters Pty Ltd, Perth, 2 pp. (unpublished).

HO S.E., 1994d. Prospectivity of samples from Tenement EL 8129, assessed using fluid inclusions in quartz. Report 7. Company report to Northern Gold NL. Orebusters Pty Ltd, Perth, 3 pp. (unpublished).

TABLE 1. List of samples assessed and descriptions of quartz from Tenement EL 7880. Samples 86251-86254 are from a large bucky quartz ridge (sampling interval about 400 m). Samples 86255-86260 are from quartz-stringer systems on the eastern flank of the quartz ridge, and Samples 86261-86262 are from quartz-stringer systems on the western flank. No other geological information is available.
Mod. = moderately
* = difficult to sample for quartz slivers

Area	**Sample No.**	**Sample description**	**Quartz (clarity, colour)**
Tenement EL 7880	86251	Massive quartz vein with small vugs. Some clearer patches	Mod. cloudy, white
	86252	Massive quartz vein	Cloudy, white
	86253	Massive quartz vein with small vugs	Cloudy, white
	86254	Massive quartz vein, some clearer patches around wallrock fragments,	Cloudy, white
	86255*	Massive quartz vein	Cloudy, white
	86256*	Massive quartz vein	Cloudy, white-grey
	86257	Massive quartz vein, crystal-lined vugs on vein margins and centre	Cloudy, white
	86258	Massive quartz vein	Cloudy, white
	86259	Massive quartz vein	Cloudy, white
	86260*	Massive quartz vein	Cloudy, white
	86261	Quartz vein with fibrous growth enhanced by weathering	Cloudy, white
	86262	Quartz vein with distinctly fibrous growth enhanced by weathering	Cloudy, white

TABLE 2. List of samples assessed and the proximity/prospectivity rating determined for each sample using fluid inclusion populations.
Please note that the abbreviations used below follow those used in Report 5 (Ho, 1994a).
Proximity rating (in order of increasing distance): P = proximal to inferred granite, I = intermediate or marginal to inferred granite (shows features typical of both proximal and distal carbonic inclusion populations), D = distal to inferred granite, U = uncertain (carbonic inclusions absent or small inclusion size makes phase identification and volume estimation difficult)
Gold prospectivity rating (in order of increasing prospectivity): 5 = low, 4 = low-moderate, 3 = moderate, 2 = moderate-high, 1 = high
Gold potential of area (number of samples in square brackets): L = low, M= moderate, H = high
Comments about samples: † = slivers difficult to work with because of cloudiness, small inclusion size, or granularity

Area	**Sample No.**		**Sample rating**		**Area rating**
			proximity	**prospectivity**	
Ridge	86251		U (D?)	4	Proximity - variable, mainly I
	86252		I (P?)	2	
	86253		I (P?)	4	Prospectivity - L-M [4]
	86254		I	3	
Eastern flank	86255	†	D	5	
	86256	†	U (D?)	5	
	86257	†	D (I?)	5	
	86258	†	D (I?)	5	
	86259		U (D ?)	5	Proximity - probably D
	86260	†	D (I?)	3	Prospectivity - L [6]
Western flank	86261		D (I?)	4	Proximity- probably D
	86262		D (I?)	4	Prospectivity - L-M [2]

APPENDIX 1

Descriptions of fluid inclusion populations in quartz slivers. Inclusion Types 1 to 6 are those described by Ho (1993). An estimate of the proportion of each population is indicate by the use of "X"s, where abundance increases from x to XXXX. The typical maximum dimensions are indicated as maxima or ranges. The distribution of the inclusions is indicated by A (3D array), P (planar array), I (isolated) and HF (very late healed fracture where inclusions have irregular or dendritic shapes). The typical volumes of the carbonic phase in Type 1 inclusions are also given.

Sample No. 86251

Test no.	Description	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
1	Abundance						
	Size						
	Occurrence						
	Spatial relationships						
	Other						
2	Abundance						
	Size						
	Occurrence						
	Spatial relationships						
	Other						
3	Abundance						
	Size						
	Occurrence						
	Spatial relationships						
	Other						

① Inclusions very small <2 µm max. dimension. Dominantly aqueous. 5-40 vol %.
Some inclusions are apparently monophase and clustered in clearer areas.

② Sliver kept moving. ~~Couldn't work on it.~~ As for ③. Some bubbles move.

③ As for ①. Some inclusions up to 5 µm. Typically <3 µm. Dominantly aqueous. Two-phase carbonic inclusions >90 vol %. Several aqueous inclusions may contain cubic Dm but difficult to be certain, given small inclusion size.

Sample description ... Cloudy white, small vugs ...
some clearer patches. D L-M.

Sample No. 86252

Test no.	Description	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
1	Abundance	xxx	xxx	xxx	x~~x~~		
	Size	2.5 µm	up to 4 µm.	up to 4 µm.	2-5 µm.		
	Occurrence	A, P	A, P.	A, P.	clear (late) quartz P, A.		
	Spatial relationships	with Type 1.	mixed	mixed	later than Type 1.		
	Other	2 or 3 phase.	10-20 vol %	up to 5 vol %.	<5 vol % vapour		
		40-80 vol %.		some bubbles move	<2 vol % D m cubic		
2	Abundance	As for 1.					
	Size						
	Occurrence						
	Spatial relationships						
	Other						
3	Abundance						
	Size						
	Occurrence						
	Spatial relationships						
	Other						

(1) 2-3 phase CO_2-rich (near $Th CO_2$ l-v). planes, 3D arrays. 40-80 vol %.

P. I. M. H.

Sample description Milky white.

Sample No. 86253

Test no.	Description	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
1	Abundance	xx	XX	xxx	x	several.	xxXx
	Size	up to 5µm.	up to 5µm	up to 5µm.	irregular, up to 5µm.	irregular. 2µm.	2-4 µm neg. Xl.
	Occurrence	P, A.	P, A.	P, A.	P	P	P.
	Spatial relationships				With Type 2, 3.	with Type 4.	
	Other	2 phase 50-90 vol %	10-20 vol %	<10 vol %	2 vol % vapor	2 vol % vapor	~~Show~~ Silver
					2 vol % Dn cubic	~~2~~ <2 vol % Dn	very fractured.
					some bubbles vibrate.	rim + hi relief.	
2	Abundance			XX	several.		XXXX
	Size			up to 4 µm.	< 4 µm.		<2 µm irregular 2-4 µm neg Xl
	Occurrence			A, I, P.	P, I.		P.
	Spatial relationships				with Type 3.		
	Other			<10 vol %.	<2 vol % vapor		
					2 vol % cubic Dn.		
3	Abundance	as for 1. but no Types ~~4~~ 5. ~~...~~					
	Size						
	Occurrence						
	Spatial relationships						
	Other	2 + 3 phase					
		near ThCO_2 hw					

<2µm irreg

P.

P - I.

~~[illegible]~~, L - m.

Sample description Milky white, ~~small~~ Vugs.

Sample No. 86254

Test no.	Description	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
1	Abundance	XXX	XX	XX			xxx
	Size	<5 µm, ave. 2µm.	<5µm, ave 2µm	Typically <2µm			up to 5µm
silver –	Occurrence	P, A.	P, A.	P.			P.
cloudy	Spatial relationships	with Type 2	With Type 1.				
fractured	Other	30-95 vol%	10-30 vol%	<5 vol %			
		2 phase.					
2	Abundance	Apparently as for	site ①.				
silver	Size						
very thick	Occurrence						
	Spatial relationships						
	Other						
3	Abundance	as for ① but	Type 4 present		x		
	Size				Up to 10µm. Very irregular.		
	Occurrence				P		
	Spatial relationships				P.		
	Other				10 vol% Dm, <5 vol%		
	Contains tourmaline (blue	green) crystals	broken □□□□	vapour.			

I. M.

Sample description Milky white, clearer ~~[illegible]~~ patches around wallrock fragments.

Sample No. 86255

Test no.	Description	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
1	Abundance	x	x	xxxx			
	Size	<2 μm.	< 2 μm	<2μm, most <1 μm.			
	Occurrence	I.	I	P			
	Spatial relationships						
	Other	60-80 vol %	20-40 vol %	5 vol % vapour			
	inclusions very	2 phase?	some bubbles vibrate	bubble vibrates			
	small - difficult						
	to work with.						
2	Abundance	As for 1					
	Size						
	Occurrence						
	Spatial relationships						
	Other						
3	Abundance	As for 1					
	Size						
	Occurrence						
	Spatial relationships						
	Other						

D? L.

Sample description milky white difficult to obtain sliver

Sample No. 86256

Test no.	Description	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
1	Abundance	Appears similar to 86255 ①.					
	Size						
	Occurrence						
	Spatial relationships						
	Other						
2	Abundance						
	Size						
	Occurrence						
	Spatial relationships						
	Other						
3	Abundance						
	Size						
	Occurrence						
	Spatial relationships						
	Other						

Difficult to work with very small slivers

Sample description Milky grey-white, difficult to obtain sliver

Sample No. 86257

Test no.	Description	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
1	Abundance	~~x~~xx	xx	x			xx
Cloudy +	Size	Typically 2µm, <5µm	Typically 2µm	Typically <2µm			Typically 2µm
Oracherd.	Occurrence	P, ~~S~~	P, ~~S~~	P.			regular P.
	Spatial relationships	~~PP~~. with Type 2	With Type 1				
	Other	40 vol %. - "full"	20-40 vol %.	10 vol %.			
		2 phase.					
2	Abundance	Appears similar to 1.					
Thick +	Size						
cloudy.	Occurrence						
	Spatial relationships						
	Other						
3	Abundance						
	Size						
	Occurrence						
	Spatial relationships						
	Other						

I-D? L.

Sample description milky white, crystal-lined vugs on margins & centre.

Sample No. 86258

Test no.	Description	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
1	Abundance	x X	x	xx xx			x
	Size	<2µm.	<2µm	Up to 5µm (irregular) Typically 2µm			irregular
	Occurrence	P., A, I	A.	P.			P, v
	Spatial relationships		with Type 1.				
	Other	40 vol% - "full"	20 vol%.	<5 vol% vapour.			
2	Abundance	As for (1)					
Thick, cloudy	Size						
	Occurrence						
	Spatial relationships						
	Other						
3	Abundance						
	Size						
	Occurrence						
	Spatial relationships						
	Other						

I-D? L.

Sample description Milky white

Sample No. 86259

Test no.	Description	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
1	Abundance	Inclusions small and sample cloudy.					
	Size	Appears to be dominated by carbonic inclusions (mostly "full").					
	Occurrence						
	Spatial relationships						
	Other						
2	Abundance						
	Size						
	Occurrence						
	Spatial relationships						
	Other						
3	Abundance						
	Size						
	Occurrence						
	Spatial relationships						
	Other						

D? L.

Sample description Milky white

Sample No. 86260

Test no.	Description	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
1	Abundance	XXXX	X	XXX	X		
	Size	up to 5 µm.	< 4 µm	< 4 µm.	up to 10 µm. typically some < 4 µm., irreg.		
	Occurrence	A, P.	A, P.	P, A.	P.		
	Spatial relationships	with types 2-4.			mono type + with type 3.		
	Other	vol % 60-"full". typically	10-20 vol %,	2-5 vol % vapour	<5 vol % vapour		
		appear "full")		some vibrate.	<5 vol % cubic D.		
					(several up to 10 vol %)		
2	Abundance	XX	x	XXX	several.		
	Size	Up to 5 µm.	Up to 5 µm some irreg	Up to 5 µm. some irreg.			
	Occurrence	P.	P	P			
	Spatial relationships						
	Other	60 vol % = "full"	20-40 vol %.	5 vol %. Many			
		typically appear		bubbles vibrate			
		"full"					
3	Abundance						
	Size						
	Occurrence						
	Spatial relationships						
	Other						

D? L-M.

Sample description milky white, difficult to obtain sliver

Sample No. 86261

Test no.	Description	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
1	Abundance	xxxx	x	x	x		
	Size	<4µm, ave 2µm.	<2µm.	up to. 3µm.	irregular. 2-5µm.		
	Occurrence	P, A.					
	Spatial relationships		with Type 1	with Type 4	With type 3.		
	Other	60 vol% to "full"	20 vol%.	5 vol%	<5 vol% , apm		
		Many > 80 vol%			5-10 vol% Dn.		
2	Abundance	As for ① but no type 4 observed					
Thick +	Size						
cloudy.	Occurrence						
	Spatial relationships						
	Other						
3	Abundance	As for ②.					
	Size						
	Occurrence						
	Spatial relationships						
	Other						

I-D L-m

Sample description [redacted] milky white, fibrous appearance.

Sample No. 86262

Test no.	Description	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
1	Abundance	As for 86261	2 but clearer	quartz, crystal	shapes. in 3.		
	Size						
	Occurrence						
	Spatial relationships						
	Other						
2	Abundance	As above.					
	Size						
	Occurrence						
	Spatial relationships						
	Other						
3	Abundance						
	Size						
	Occurrence						
	Spatial relationships						
	Other						

J-D. L.

Sample description Milky white, distinctly fibrous appearance.

APPENDIX 2

This database has been constructed using Statview SE + Graphics v1.04 for Macintosh. The headings and entries are described below. Categorized entries are asterisked. The data presented in this report are added to data presented in Report 7 (Ho, 1994d).

Deposit/prospect	Name		
Sample	Sample number		
Clarity*	Quartz clarity	VCy	very cloudy
		Cy	cloudy
		MCy	moderately cloudy
		MCl	moderately clear
		Cl	clear
Colour*	Quartz colour	G	grey
		G&W	grey and white
		W	white
		GlG	Glassy grey
		GlW	glassy white
Type*	Type of quartz vein (after Dowling & Morrison, 1988)	B	buck (or massive)
		F	fibre
		C	comb (or crystals in vugs)
		Cf	crustiform
		S	saccharoidal
		L	laminated
		R	ribbon
		St	stylotites
		Sp	spider veinlets
		Br	breccia
		Rp	replacement
Proximity*	Proximity rating of sample	P	proximal
		I	intermediate
		D	distal
		DU	distal - uncertain
Prospectivity	Prospectivity ranking of sample	Increasing from 5 (low) to 1 (high)	
Gold g/t	Gold assay for sample		
Area ID	Abbreviation of deposit/prospect name to allow data manipulation		
Metal*	Deposit type where known	G	gold
		T	tin
		O	other
Comments	Observations of interest		
No.	No. of samples analyzed for area assessment		
Area proximity*	Proximity rating of area		
Area prospectivity*	Prospectivity rating of area		

Reference

DOWLING K. & MORRISON G., 1988. Application of quartz textures to the classification of North Queensland gold deposits. *In* Goode A.D.T. & Bosma L.I. (compilers), Bicentennial Gold 88, Extended Abstracts, Oral Programme. *Geological Society of Australia, Abstracts No.* **22**, 272-276.

	Deposit/prospect	Sample	Clarity	Colour	Type	Proximity	Prospectivity	Gold g/t	Area ID	Metal	Comments	No.	Area proximity	Area prospectivity
1	Snaddens	S1	MCy	W	B	P	3	.05		•		•	•	•
2	Snaddens	S4	Cy	G	B	P	1	5.00E-3		•		•	•	•
3	Snaddens	S5	MCl	G	B	P	5	.05		•		•	•	•
4	Snaddens	S6	Cy	G	B	P	5	.05		•		•	•	•
5	Snaddens	S12	VCy	G	B	P	4	5.00E-3		•		•	•	•
6	Snaddens	S13	MCy	G	B	P	4	5.00E-3		•		•	•	•
7	Snaddens	S15	VCy	W	B	I	5	5.00E-3		•	Cassiterite	•	•	•
8	Snaddens	S16	MCl	G	B	I	4	.04		•		•	•	•
9	Snaddens		•	•	•	•	•	•	Sn	T		8	P	L-M
10	Bridges Creek	BC1	Cy	G	B	D	2	5.00E-3		•		•	•	•
11	Bridges Creek	BC2	Cy	G	B	D	3	•		•		•	•	•
12	Bridges Creek		•	•	•	•	•	•	BC	G		2	D	M
13	Western Arm	WARM1	Cy	W	B	D	4	.03		•		•	•	•
14	Western Arm	WARM2	Cy	G&W	B	D	1	2.21		•		•	•	•
15	Western Arm	WARM3	Cy	W	B	D	2	.64		•		•	•	•
16	Western Arm	WARM4	Cy	W	B	D	3	21.20		•		•	•	•
17	Western Arm	WARM5	MCy	W	B	D	2	1.87		•		•	•	•
18	Western Arm	WARM6	VCy	G	B	D	5	.44		•		•	D	M-H
19	Western Arm		•	•	•	•	•	•	WARM	G		6	•	•
20	Goodall	G1	VCy	W	B	DU	1	.03		•		•	•	•
21	Goodall	G2	VCy	W	B	D	5	.79		•		•	•	•
22	Goodall		•	•	•	•	•	•	Gd	G		2	D	M-H
23	Margaret Diggings	84501	MCl	GIG	B	P	4	•		•		•	•	•
24	Margaret Diggings	84502	Cl	GIG	S	P	4	•		•		•	•	•
25	Margaret Diggings	84503	Cl	GIG	S	P	4	•		•		•	•	•
26	Margaret Diggings	84504	Cy	G&W	B	P	4	•		•		•	•	•
27	Margaret Diggings	84505	Cl	GIG	S	P	3	•		•		•	•	•
28	Margaret Diggings	84506	Cl	GIG	S	P	4	•		•		•	•	•
29	Margaret Diggings	84507	MCl	G&W	B	P	5	•		•		•	•	•
30	Margaret Diggings		•	•	•	•	•	•	MD	G		7	P	L-M
31	Woolwonga	84508	VCy	W	B	DU	5	7.60		•		•	•	•
32	Woolwonga	84509	VCy	W	B	I	2	.59		•		•	•	•
33	Woolwonga	84510	MCy	G&W	B	DU	5	.38		•		•	•	•
34	Woolwonga	84511	MCy	W	B	D	5	.25		•		•	•	•
35	Woolwonga	84512	VCy	GIW	B	D	2	.17		•		•	•	•
36	Woolwonga	84513A	MCy	W	B	D	2	.12		•		•	•	•
37	Woolwonga	84513B	MCy	W	C	I	5	.12		•	Tourmaline inclusions	•	•	•
38	Woolwonga	84514	Cy	W	B	D	5	.09		•		•	•	•
39	Woolwonga	84515	Cy	W	B	D	4	.02		•		•	•	•
40	Woolwonga		•	•	•	•	•	•	Wl	G		8	I-D	M
41	Mount Todd	84516	VCy	W	B	D	1	•		•		•	•	•
42	Mount Todd	84517	MCy	GIG	B	DU	2	•		•		•	•	•
43	Mount Todd	84518	MCy	GIG	B	DU	1	•		•		•	•	•
44	Mount Todd		•	•	•	•	•	•	MT	G	V small fincs, spider veinlets	3	D	H
45	? Prospect	GN 84519	VCy	W	B	P	3	•		•		•	•	•
46	? Prospect	GN 84520	VCy	W	B	I	5	•		•		•	•	•
47	? Prospect	GN 84521	VCy	W	B	I	2	•		•		•	•	•

	Deposit/prospect	Sample	Clarity	Colour	Type	Proximity	Prospectivity	Gold g/t	Area ID	Metal	Comments	No.	Area proximity	Area prospectivity
48	? Prospect	GN 84522	VCy	W	B	I	3	•		•		•	•	•
49	? Prospect	GN 84523	VCy	W	B	I	3	•		•		•	•	•
50	? Prospect	GN 84524	VCy	W	B	I	2	•		•		•	•	•
51	? Prospect	GN 84525	VCy	W	B	I	2	•		•		•	•	•
52	? Prospect		•	•	•	•	•	•	? P	G		7	P-I	M
53	Tenement EL 8129	80624	Cy	W	B	D	5	.13		•		•	•	•
54	Tenement EL 8129	80625A	MCy	W	B	D	4	.01		•		•	•	•
55	Tenement EL 8129	80625B	Cy	W	B	I	5	.01		•		•	•	•
56	Tenement EL 8129	80625C	Cl	W	C	D	5	.01		•		•	•	•
57	Tenement EL 8129	80626	VCy	W	Br	•	•	.06		•		•	•	•
58	Tenement EL 8129	80627	Cy	W	B	D	5	.01		•		•	•	•
59	Tenement EL 8129	80629	MCl	W	Br	D	5	.01		•		•	•	•
60	Tenement EL 8129	80630	MCl	W	B	I	1	1.00E-3		•		•	•	•
61	Tenement EL 8129	80631	MCl	W	B	D	1	.02		•		•	•	•
62	Tenement EL 8129	80632	Cl	G&W	B	D	5	1.00E-3		•		•	•	•
63	Tenement EL 8129	80633	Cl	G&W	B	D	5	.01		•		•	•	•
64	Tenement EL 8129	80634	MCy	G&W	B	D	5	.01		•		•	•	•
65	Tenement EL 8129	80635	MCl	G&W	S	D	3	.06		•		•	•	•
66	Tenement EL 8129	80636	MCl	G&W	S	D	1	2.00E-3		•		•	•	•
67	Tenement EL 8129	80637	MCl	G&W	S	D	1	.09		•		•	•	•
68	Tenement EL 8129	80639	Cy	G	S	•	•	.06		•	Recrystallized - chert?	•	•	•
69	Tenement EL 8129	80640	Cy	G	S	•	•	3.00E-3		•	Recrystallized - chert?	•	•	•
70	Tenement EL 7780	86251	MCy	W	B	DU	4	•		•	Ridge	•	•	•
71	Tenement EL 7780	86252	Cy	W	B	I	2	•		•	Ridge	•	•	•
72	Tenement EL 7780	86253	Cy	W	B	I	4	•		•	Ridge	•	•	•
73	Tenement EL 7780	86254	Cy	W	B	I	3	•		•	Ridge, tourmaline inclusions	•	•	•
74	Tenement EL 7780		•	•	•	•	•	•	7780 - R	•		4	I	L-M
75	Tenement EL 7780	86255	Cy	W	B	D	5	•		•	Eastern flank of ridge	•	•	•
76	Tenement EL 7780	86256	Cy	G&W	B	DU	5	•		•	Eastern flank of ridge	•	•	•
77	Tenement EL 7780	86257	Cy	W	B	D	5	•		•	Eastern flank of ridge	•	•	•
78	Tenement EL 7780	86258	Cy	W	B	D	5	•		•	Eastern flank of ridge	•	•	•
79	Tenement EL 7780	86259	Cy	W	B	DU	5	•		•	Eastern flank of ridge	•	•	•
80	Tenement EL 7780	86260	Cy	W	B	D	3	•		•	Eastern flank of ridge	•	•	•
81	Tenement EL 7780		•	•	•	•	•	•	7780 - E	•		6	D	L
82	Tenement EL 7780	86261	Cy	W	F	D	4	•		•	Western flank of ridge	•	•	•
83	Tenement EL 7780	86262	Cy	W	F	D	4	•		•	Western flank of ridge	•	•	•
84	Tenement EL 7780		•	•	•	•	•	•	7780 - W	•		2	D	L M