

LOG NO: JUN 17 1991 RD.
ACTION:
FILE NO:

A GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL REPORT  
ON THE OS PROPERTY  
GERMANSEN LANDING AREA  
CENTRAL BRITISH COLUMBIA, B.C.  
NTS 94C/4

OMINECA MINING DIVISION

LATITUDE 56°11'N  
LONGITUDE 125°47'W

CYPRUS GOLD (CANADA) LTD.  
1810-1055 West Hastings Street,  
Vancouver, B.C. V6E 2E9

by  
David B. Stevenson  
Cyprus Gold (Canada) Ltd.

June 10, 1991

*Part 1 of 2*  
**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**21,425**

## SUMMARY AND CONCLUSIONS

The OS property, which is located in the vicinity of the Duckling Creek Syenite - Hogem Batholith area, was investigated for alkalic porphyry type Au-Cu mineralization between August 8 and August 9, 1990. The property was surveyed by reconnaissance-style geological mapping, soil-rock sampling and proton mag surveying.

No significant gold values in soil or rock were encountered on the OS property. However the property does host several broad moderate copper anomalies which may warrant follow-up. Some of these anomalies can be traced for 400 meters in length and 200 meters in width. Copper values reach up to 1000 ppm but most values are between 200 and 400 ppm.

The copper anomalies were found to be reflecting localized weak chalcopyrite and malachite mineralization hosted within coarse grained diorite.

## **RECOMMENDATIONS**

No further work is recommended for gold exploration on the OS property. However the property does host several interesting copper soil anomalies which may warrant further investigation for their porphyry copper potential.

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**7.1 OS PROPERTY**

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## 1. INTRODUCTION

The OS property, which is located in the vicinity of the Duckling Creek Syenite, Germansen Landing area, B.C. was investigated for alkalic porphyry type Au-Cu mineralization during the period August 8 and August 9, 1990. The property was investigated by reconnaissance-style geological mapping, soil-rock sampling and proton mag surveying.

No significant Au values were encountered on the OS property, however several moderate widespread Cu soil anomalies were found to be associated with weak chalcopyrite, malachite mineralization hosted within coarse grained diorite.

## 2. LOCATION AND ACCESS

The OS property is located 80 kilometers northwest of Germansen Landing and 800 kilometers north of Vancouver, British Columbia (Figures 1 and 2). The property can be found on NTS map sheet 94C/4.

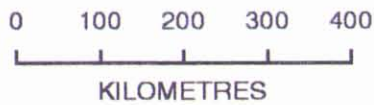
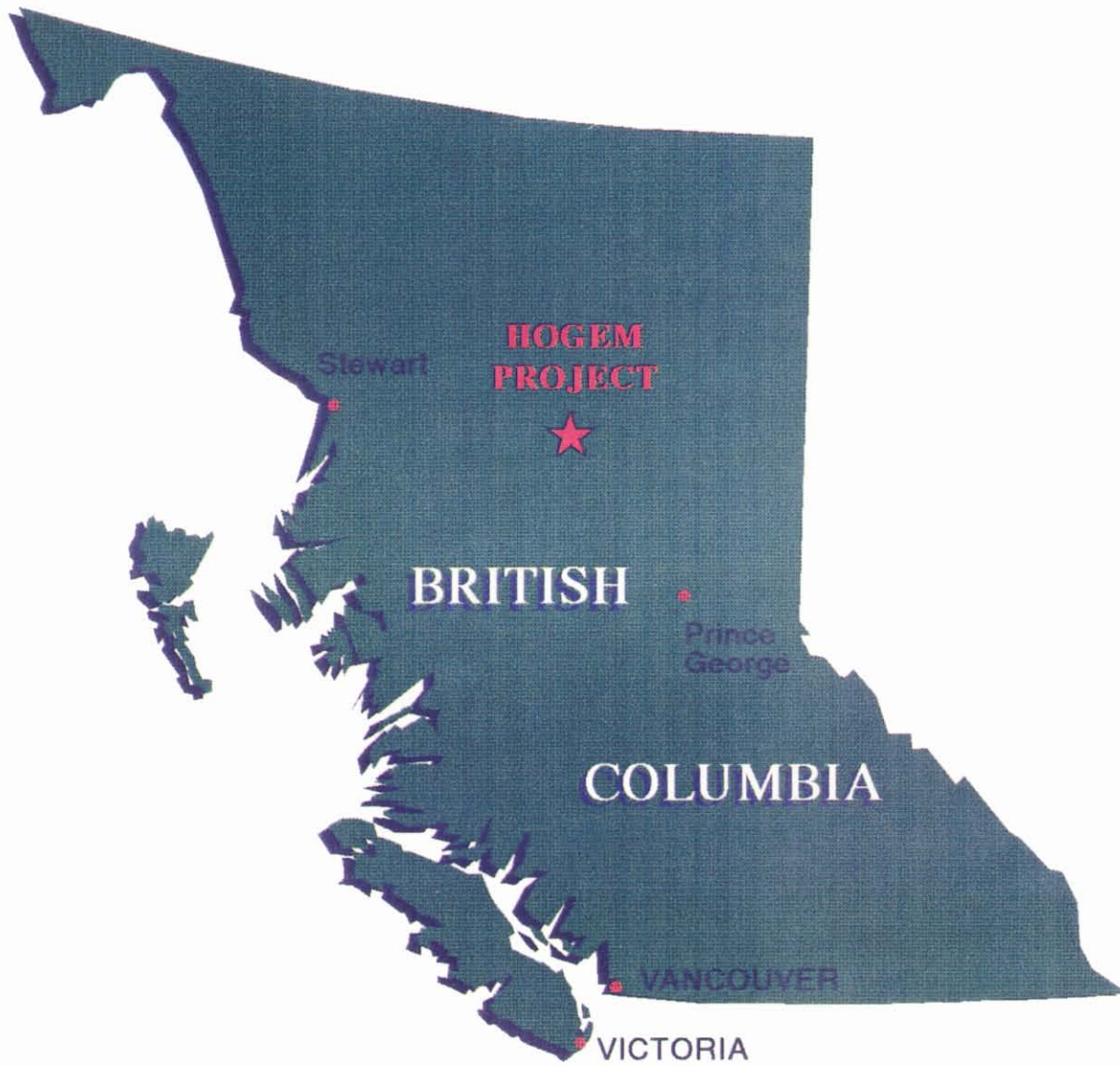
Access is by logging road from either Windy Point or Fort St. James to the Osilinka logging camp a distance of 250 kilometers and 270 kilometers, respectively. From a point near the logging camp a helicopter is then required to access the property.

## 3. PHYSIOGRAPHIC SETTING

The OS property is underlain by steep mountainous terrain. Relief varies from 1400 m to up to 2160 m above sea level. Treeline is generally along the 1600 to 1700 m contour.

Regional drainage direction is eastward towards Williston Lake. Vegetation consists of mature engleman spruce and sub alpine fir some of which is of commercial value. There is active logging being conducted some 30 kilometers to the southeast of the property.

Figure 1 - Project Location Map



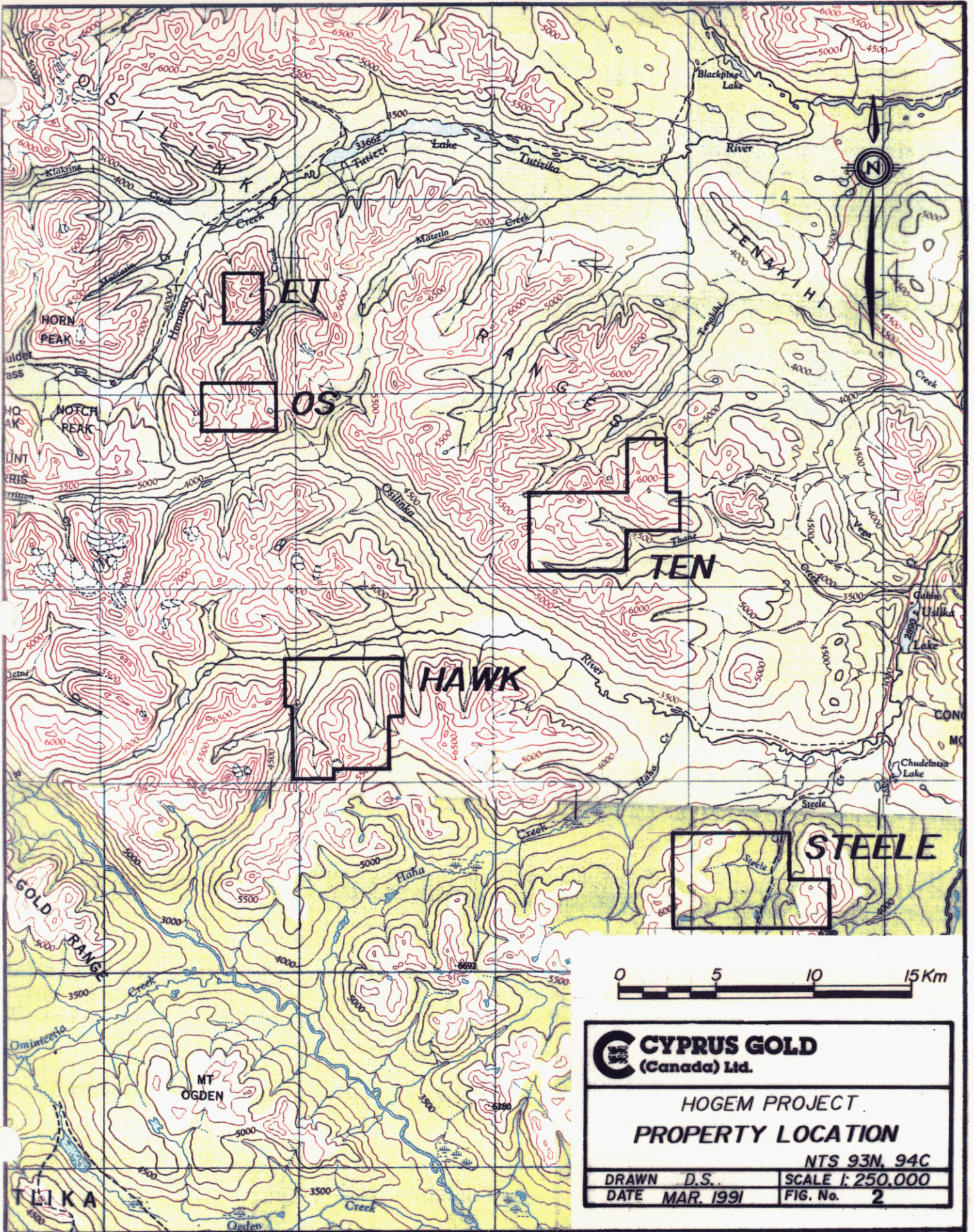
# HOGEM PROJECT REGIONAL LOCATION MAP






Figure 2 - Property Location Map





 <b>CYPBUS GOLD</b> (Canada) Ltd.	
<b>HOGEM PROJECT</b> <b>PROPERTY LOCATION</b>	
NTS 93N, 94C	
DRAWN D.S. DATE MAR. 1991	SCALE 1: 250,000 FIG. No. 2



#### 4. PROPERTY STATUS AND OWNERSHIP

The OS property is comprised of two 20 unit claims known as the OS 1 and OS 2. Their record numbers are 12270 and 12271, respectively. Both claims are due to expire on July 13, 1994. Cyprus Gold (Canada) Ltd. has a 100% undivided interest in both claims. (Figure 3).

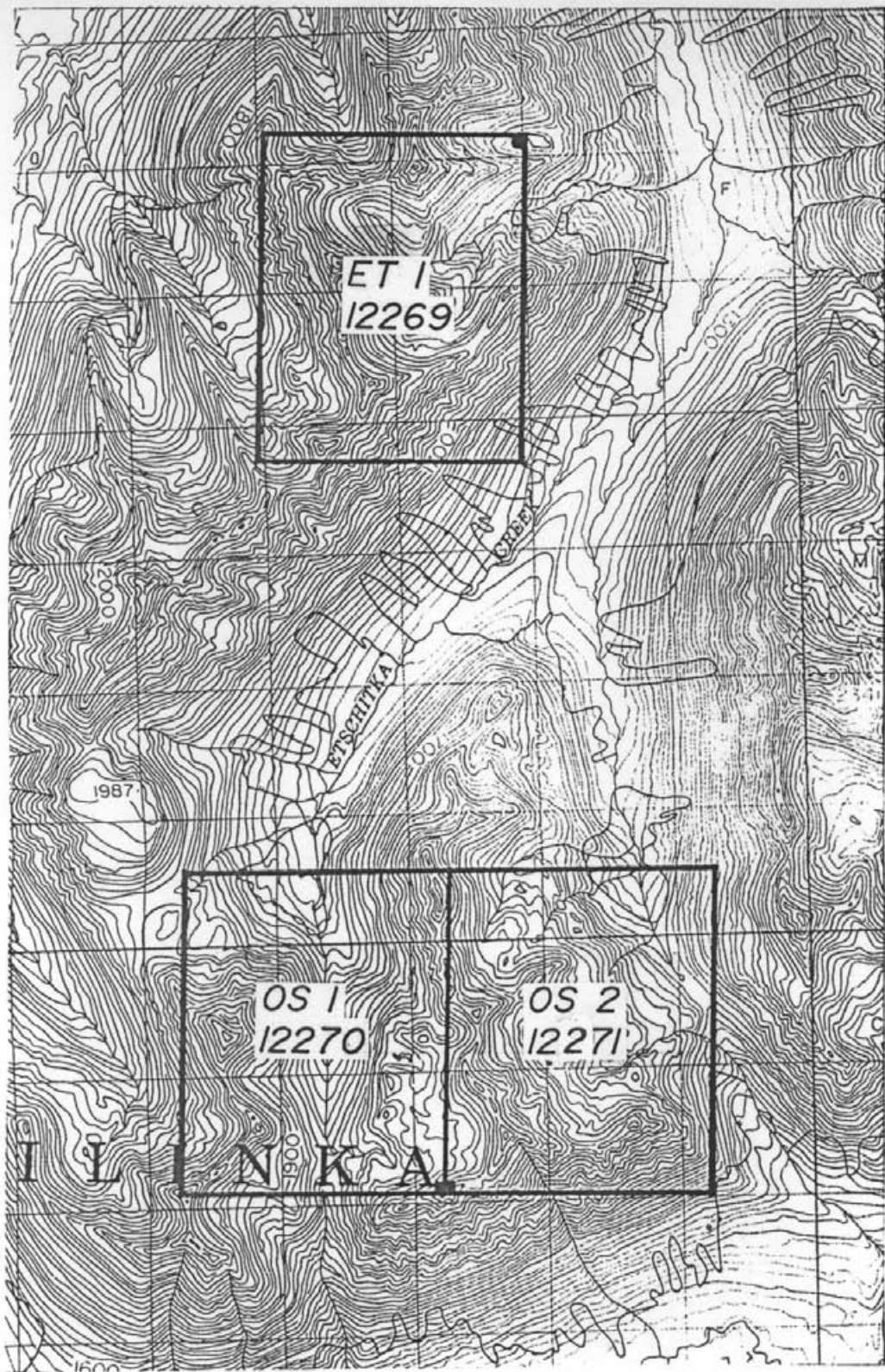
#### 5. HISTORY AND PREVIOUS WORK

During the summer of 1971 Amoco Canada conducted a reconnaissance stream sediment sampling-mapping program over the Hogem Batholith in search of porphyry Cu-Mo deposits. A total 7376 silts, water, rock, and soil samples were collected from an area of approximately 2400 square kilometers and analyzed for copper and molybdenum. Amoco did not assay for gold in any of these samples. Numerous areas with anomalous Cu and/or Mo in stream sediments were detected. Four areas were staked and worked by Amoco during 1972 to 1974. These areas were known as the Tyger, Needle, Oy and Hawk properties. Property work consisted of reconnaissance and detailed soil sampling and geological mapping.

The latter three properties have recently been in part or entirely restaked by Cyprus and named the Steele, Ten and Hawk properties, respectively.

Several other major and junior mining companies were evaluating the Hogem Batholith for porphyry Cu-Mo during the same period of Amoco's evaluation. Numerous occurrences were located and worked during the 1970's. The majority of the Cu occurrences within the Hogem Batholith were noted to be localized with a particular intrusive phase known as Duckling Creek Syenite. The main bulk of the Duckling Creek Syenite is found in the north end of the Hogem Batholith where it trends northwest and has dimensions of approximately 32 kilometers by 6 kilometers. The main Cu occurrences are known as the Hawk (Amoco), Tam (UMEX), Misty (El Paso), Lorraine (Kennco), Dorothy (Kennco), Rondah (Tye Lake Resources) and Duckling (Donna Mines). There are numerous smaller intrusions of syenite throughout the Hogem Batholith and adjacent volcanics which may also warrant follow-up for their porphyry Au-Cu potential.

Figure 3 - ET and OS Claim Map



**HOGEM PROJECT - ET and OS PROPERTIES  
CLAIM MAP**

NTS 94C/4

Scale: 1: 50,000



## 6. REGIONAL GEOLOGICAL SETTING

The OS property is located in the vicinity of the Duckling Creek Syenite (Figure 4). The Duckling Creek Syenite is part of several calc-alkalic and alkalic intrusions comprising the Hogem Batholith. These intrusions are dominated by granites and granodiorites but most importantly by a younger suite of intrusive syenitic bodies. The Hogem Batholith is the largest of the Omineca Intrusions which forms the spine of the island arc related allochthonous Intermontane super terrane in British Columbia. This NW trending elongate batholithic body extends for 120 km from Chuchi Lake in the south to the Misilinka River in the north. It is bordered to the west by the Pinchi Fault and to the east by the Upper Triassic to Lower Jurassic Takla volcanics.

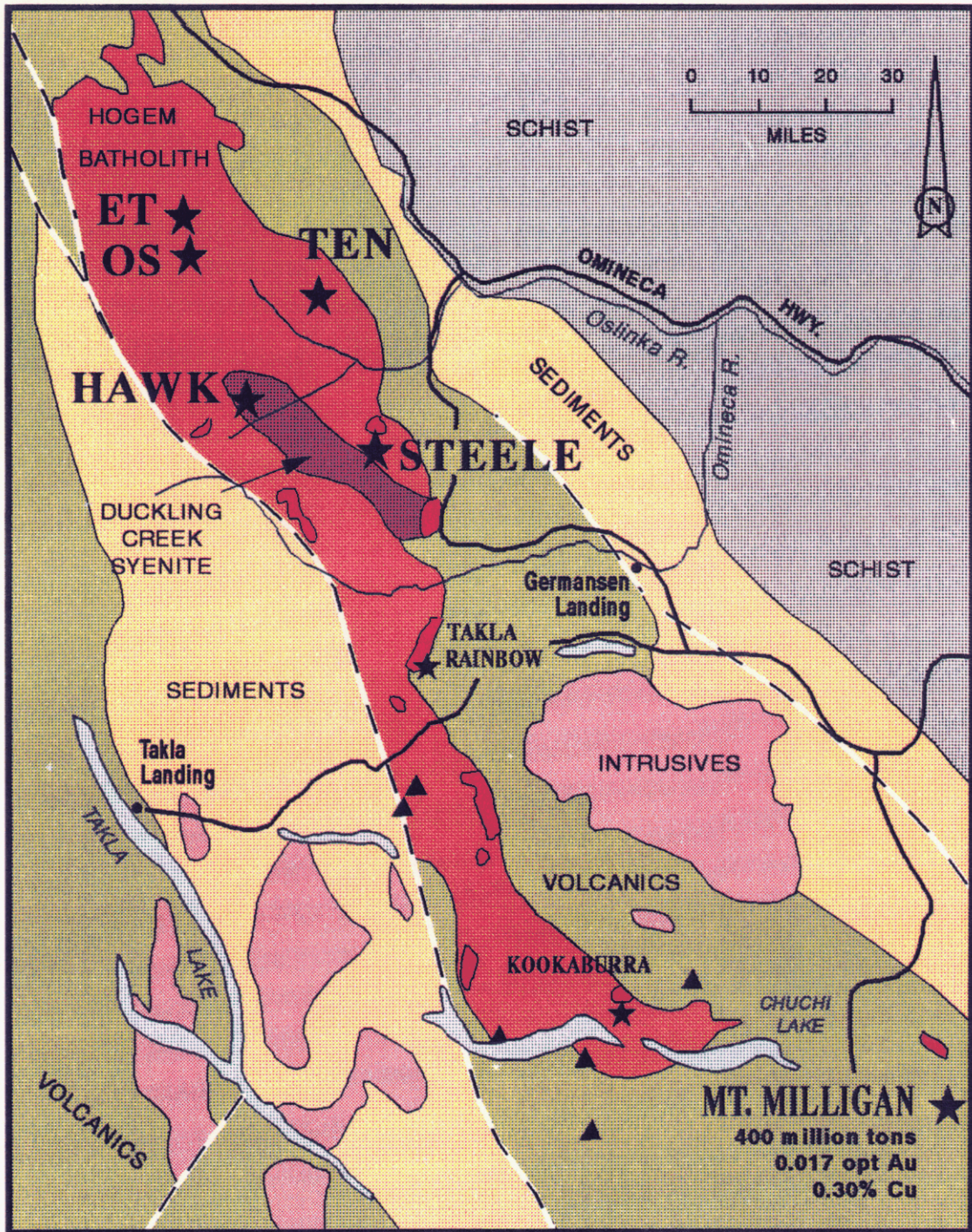
## 7. 1990 EXPLORATION PROGRAM





A total of 163 soils and 26 rock samples were collected on the OS property during 1990. In addition a total of 12.2 kilometers of ground magnetic surveying was also conducted in conjunction with the soil survey.

Where possible the "B" horizon of the soil profile was collected utilizing a grubhoe or pick. Average hole depth would be 25 centimeters. A composite sample was then collected and placed in a 10 cm by 25 cm kraft paper envelope. Sample stations were marked on the envelope and their locations were later plotted on a 1:10,000 scale map. In talus material, which was encountered usually above treeline, a composite of the surrounding soil was sieved through a conical metal screen before placed in the kraft envelope. If the terrain permitted, soil sampling was conducted on a 250 m x 75 m grid pattern. However if the terrain was too steep contour sampling was conducted. Spacing between contour lines varied, due to topography, but in most cases did not exceed a 250 m horizontal distance. Sample spacing remained at 75 meters. Grid lines were established by hip chain and compass while contour lines were established using hip chain, compass and an altimeter. All sample stations were appropriately marked and flagged.

Figure 4 - Regional Geology Map





-  Fault
-  Cu Occurrences
-  Mo Occurrences
-  Alkalic Suite Intrusives (Syenite, Syenodiorite, Monzonite)

## HOGEM PROJECT REGIONAL GEOLOGY MAP





All soil and rock samples were analyzed for Au and Cu by wet geochemistry. All analyses were performed at Min-En Labs located in North Vancouver, B.C. Canada. Gold and copper values have been plotted and contoured. Property geological, geochemical and geophysical maps can be found at the back of the report. Reports on analytical procedures are also found at the back of the report.

All grid and contour soil lines were also surveyed with a proton magnetometer. Readings were taken at the same stations as the soil samples. All mag data was corrected for diurnal drift. Two Scintrex MP-2 proton precession magnetometers, one for each crew of three people, were used for the surveys.

## **7.1 OS Property**

### **7.1.1 OS - Reconnaissance Exploration**

#### **7.1.1.1 OS - Recon Geology**

The majority of the OS property is underlain by diorite. This intrusive is in contact with a granite body on the west end of the property. Several small granite and lamprophyre dykes intrude the diorite along the periphery of its contact with the granite. A wider NE trending leucocratic syenite dyke is present in the SE end of the property.

The leucocratic syenite is coarse grained, massive and white in color. This rock type does not contain any magnetite.

The granite intrusives are medium grained, massive and light green to white in color. These rocks contain locally minor quartz veining and stockworking which may have minor disseminated pyrite, chalcopyrite and bornite. No magnetite was observed in these rocks.

The diorite is coarse grained massive and dark green-black in color. These rocks can host local minor quartz veining and stockworking. Minor malachite was

locally observed. Alteration consists of non to locally minor epidote and limonite. These rocks contain minor to locally abundant magnetite.

#### **7.1.1.2 OS - Recon Rock Geochemical Results**

Twenty-two rock samples were taken on the OS property. The highest gold and copper value encountered is 10 ppb and 1130 ppm, respectively. The copper value is from a weakly limonitic diorite with minor malachite stain.

#### **7.1.1.3 OS - Recon Soil Geochemical Results**

A high of 25 ppb Au in soils was detected in a single sample located in the OSNE area.

Weak to moderate copper values were encountered in most areas surveyed on the OS property. The highest copper value in soil occurs in the OSE area and reaches 1000 ppm. Most copper values are less than 300 ppm.

#### **7.1.1.4 OS - Recon Ground Geophysical Results**

Magnetic relief on the OS property is generally subtle. Most values range between 57000 to 59000 gammas. There is no obvious correlation between rock types, soil anomalies and magnetic highs or lows.

**Appendix 1 - OS - Analytical Results for Rocks**



**MINERAL ENVIRONMENTS LABORATORIES**

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VANCOUVER OFFICE:  
705 WEST 15TH STREET  
NORTH VANCOUVER, B.C. CANADA V7M 1T2  
TELEPHONE (604) 980-5814 OR (604) 988-4524  
TELEX: VIA U.S.A. 7801087 • FAX (604) 980-9621

TIMMINS OFFICE:  
33 EAST IROQUOIS ROAD  
P.O. BOX 867  
TIMMINS, ONTARIO CANADA P4N 7G7  
TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate 0V-0997-RG2

Company: **CYPRUS GOLD CANADA** Date: **AUG-03-90**  
Project: **HGGAM** Copy to: **CYPRUS GOLD CANADA, VANCOUVER, B.C.**  
Attn: **DAVID STEVENSON**

We hereby certify the following Geochemical Analysis of 30 ROCK samples submitted JUL-27-90 by DAVID STEVENSON.

Sample Number	ANALYSE PPB	CU PPM	
2254	2	95	
2255	1	66	
2256	15	17	
2257	5	76	
2258	1	108	
2259	5	17	
2260	2	18	
2261	1	660	
2262	3	1290	
2263	2	283	
2264	1	21	<i>Stale</i>
2265	2	83	
2266	4	190	
2267	1	31	
2268	2	38	
2269	1	538	
2270	1	48	
2271	3	172	
2272	2	63	
2273	1	81	
2274	1	52	
2275	3	554	
2276	1	153	
2277	2	101	<i>05</i>
2278	1	111	
2279	2	48	
2280	1	70	
2281	4	250	<i>Stale</i>
2282	2	28	
2283	2	171	

Certified by *Benjamin*  
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TELEPHONE (807) 622-8958  
FAX (807) 623-6931

**SMITHERS LAB.:**  
TELEPHONE/FAX (604) 847-3004

**Geochemical Analysis Certificate**

0V-1226-RG1

Company: **CYPRUS GOLD**  
Project: **HOGAN**  
Attn: **DAVID B. STEVENSON**

Date: **AUG-26-90**  
Copy 1: **CYPRUS GOLD, VANCOUVER, B.C.**

We hereby certify the following Geochemical Analysis of 30 ROCK samples submitted AUG-21-90 by DAVID B. STEVENSON.

Sample Number	AU-WET PPB	CU PPM	
2534	315	7550	
2535	5	2750	
2536	150	10500	
2537	5	220	
2538	155	14250	(-)
2539	40	4350	
2540	40	770	
2541	140	6850	
2542	10	3550	
2543	10	370	
2544	5	1370	
2545	5	28	
2546	5	1030	SSW
2547	5	360	
2548	5	195	
2549	10	98	OSE
2550	5	124	
2551	5	1130	STN
2552	5	330	
2553	5	680	
2554	5	380	
2555	5	1220	
2556	5	82	
2557	10	150	Ten
2558	20	370	
2559	5	218	
2560	25	670	
2561	5	4450	
2562	5	1410	
2563	5	230	
STD	400		

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SMITHERS LAB.:  
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Geochemical Analysis Certificate

OV-1226-RG2

Company: CYPRUS GOLD CANADA  
Project: HQGEM  
Attn: DAVID B. STEVENSON

Date: AUG-29-90  
Copy 1. CYPRUS GOLD, VANCOUVER, B.C.

We hereby certify the following Geochemical Analysis of 30 ROCK samples submitted AUG-21-90 by DAVID B. STEVENSON.

Sample Number	AL-WET PPB	CU PPM
2564	110	5300
2565	20	580
2566	15	1720
2567	5	1300
2568	5	210
2569	5	4200
2570	5	90
2571	10	165
2572	5	345
2573	5	180
2574	5	140
2575	5	380
2576	5	135
2577	5	280
2668	5	105
2669	5	70
2670	10	105
2671	15	85
2672	5	15
2673	5	485
2674	10	115
2675	15	1990
2676	5	40
2677	95	19350
2678	5	150
2679	5	165
2680	10	125
2681	5	120
2682	5	60
2683	5	50

*Ton Main*

*ET*

*OSNE*

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**SMITHERS LAB.:**  
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**Geochemical Analysis Certificate**

0V-1226-RG3

Company: **CYPRUS GOLD**  
Project: **HOGEM**  
Attn: **DAVID B. STEVENSON**

Date: **AUG-29-90**

Copy 1. CYPRUS GOLD, VANCOUVER, B.C.

*We hereby certify* the following Geochemical Analysis of 30 ROCK samples submitted AUG-21-90 by DAVID B. STEVENSON.

Sample Number	AU-WET PPB	CU PPM
---------------	---------------	-----------

2684	5	141
2685	5	148
2686	5	92
2687	5	144
2688	10	9

*ONNE*

2689	5	136
2690	5	90
2691	5	94
2692	5	5
2693	5	7

*OSSE*

2694	90	7700
2695	5	29
2696	5	68
2697	10	102
2698	5	13

*ET*

2699	5	105
2700	5	510
2701	5	210
2702	5	598
2703	5	113

*STS*

2704	10	77
2705	5	90
2706	5	109
2707	5	385
2708	5	271

*STN*

2709	5	89
2710	5	296
2711	5	325
2712	10	252
2713	5	310

*Steel Main*

*Ten*

STD 410

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**Appendix 2 - OS - Analytical Results for Soils**





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Geochemical Analysis Certificate

0V-1227-SG4

Company: CYPRUS GOLD CANADA  
Project: HALEN  
Attn: D. B. STEVENSON

Date: AUG-31-90  
Copy 1. CYPRUS GOLD CANADA, VANCOUVER, B.C.

*We hereby certify* the following Geochemical Analysis of 30 SOILS samples submitted AUG-21-90 by D.B.STEVENSON.

Sample Number	AU-WET PPB	CU PPM
ET 2000 6+75N	5	285
ET 2000 7+50N	10	320
ET 2000 8+25N	5	217
ET 2000 9+00N	5	450
ET 2000 9+75N	5	253
-----		
OSNE 1860 0+00N	25	665
OSNE 1860 1+50N	10	452
OSNE 1860 2+25N	10	247
OSNE 1860 3+00N	5	163
OSNE 1860 3+75N	5	162
-----		
OSNE 1860 4+50N	5	104
OSNE 1860 5+25N	5	202
OSNE 1860 6+00N	5	190
OSNE 1860 6+75N	5	310
OSNE 1860 7+50N	5	47
-----		
OSNE 1860 8+25N	10	146
OSNE 1860 9+00N	5	81
OSNE 1860 9+75N	5	310
OSNE 1860 10+50N	5	138
OSNE 1920 0+00N	5	407
-----		
OSNE 1920 0+75N	5	424
OSNE 1920 1+50N	5	342
OSNE 1920 2+25N	10	237
OSNE 1920 3+00N	5	220
OSNE 1920 3+75N	5	140
-----		
OSNE 1920 4+50N	5	242
OSNE 1920 5+25N	5	189
OSNE 1920 6+00N	5	271
OSNE 1920 6+75N	5	180
OSNE 1920 7+50N	5	340
-----		
STD	400	

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SMITHERS LAB.:  
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Geochemical Analysis Certificate

OV-1227-SG5

Company: CYPRUS GOLD CANADA  
Project: HUGEN  
Attn: D.B. STEVENSON

Date: AUG-31-90

Copy 1. CYPRUS GOLD CANADA, VANCOUVER, B.C.

*We hereby certify the following Geochemical Analysis of 30 SOILS samples submitted AUG-21-90 by D.B. STEVENSON.*

Sample Number	AU-WET PPB	CU PPM
OSNE 1920 8+25N	5	134
OSNE 1920 9+00N	5	151
OSNE 1920 9+75N	5	58
OSNE 1920 10+50N	5	264
OSNE 1920 11+25N	10	279
OSNE 1920 12+00N	5	360
OSNE 1920 12+75N	5	280
OSNE 1920 13+50N	5	257
OSNE 1920 14+25N	5	290
OSSE 1920 0+00S	5	169
OSSE 1920 0+75S	5	187
OSSE 1920 1+50S	10	167
OSSE 1920 2+25S	5	124
OSSE 1920 3+00S	5	173
OSSE 1920 3+75S	5	257
OSSE 1920 4+50S	5	202
OSSE 1920 5+25S	5	260
OSSE 1860 0+00S	5	171
OSSE 1860 0+75S	5	151
OSSE 1860 1+50S	5	167
OSSE 1860 2+25S	5	193
OSSE 1860 3+00S	10	207
OSSE 1860 3+75S	5	127
OSSE 1860 4+50S	5	138
OSSE 1860 5+25S	5	280
OSSE 1860 6+00S	5	225
STS 250E 0+00N	5	39
STS 250E 0+75N	5	74
STS 250E 1+50N	5	302
STS 250E 2+25N	5	163

STD 440

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**SMITHERS LAB.:**  
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***Geochemical Analysis Certificate***

0V-1227-SG7

Company: CYPRUS GOLD CANADA  
Project: HQGEM  
Attn: D. B. STEVENSON

Date: SEP-02-90

Copy 1. CYPRUS GOLD CANADA, VANCOUVER, B.C.

*We hereby certify* the following Geochemical Analysis of 30 SOILS samples submitted AUG-21-90 by D. B. STEVENSON.

Sample Number	AU-WET PPB	CU PPM
STS 0+00E 6+00N	5	79
STS 0+00E 6+75N	5	88
STS 0+00E 7+50N	5	89
STS 0+00E 8+25N	5	54
STS 0+00E 9+00N	5	152
-----		
OSN 1620 0+00N	5	11
OSN 1620 0+75N	5	114
OSN 1620 1+50N	10	213
OSN 1620 2+25N	5	181
OSN 1620 3+00N	5	147
-----		
OSN 1620 3+75N	5	206
OSN 1620 4+50N	5	310
OSN 1800 0+00N	5	143
OSN 1800 0+75N	5	218
OSN 1800 1+50N	10	39
-----		
OSN 1800 2+25N	5	35
OSN 1800 3+00N	5	317
OSN 1800 3+75N	5	164
OSN 1800 4+50N	5	105
OSN 1800 5+25N	10	193
-----		
OSN 1800 6+00N	5	102
OSN 1800 6+75N	5	320
OSN 1800 7+50N	5	211
OSE 1820 0+00N	5	259
OSE 1820 0+75N	5	218
-----		
OSE 1820 1+50N	5	180
OSE 1820 2+25N	5	107
OSE 1820 3+00N	5	113
OSE 1820 3+75N	10	71
OSE 1820 4+50N	5	77
-----		
STD	440	

Certified by \_\_\_\_\_

MIN-EN LABORATORIES



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705 WEST 15TH STREET  
NORTH VANCOUVER, B.C. CANADA V7M 1T2  
TELEPHONE (604) 980-5814 OR (604) 988-4524  
FAX (604) 980-9821

**THUNDER BAY LAB.:**  
TELEPHONE (807) 822-8958  
FAX (807) 823-5931

**SMITHERS LAB.:**  
TELEPHONE/FAX (604) 847-3004

***Geochemical Analysis Certificate***

0V-1227-SG8

Company: CYPRUS GOLD CANADA  
Project: HOGEM  
Attn: D. B. STEVENSON

Date: SEP-02-90  
Copy 1. CYPRUS GOLD CANADA, VANCOUVER, B.C.

***We hereby certify*** the following Geochemical Analysis of 30 SOILS samples submitted AUG-21-90 by D. B. STEVENSON.

Sample Number	AU-WET PPB	CU PPM
OSE 1820 5+25N	5	132
OSE 1820 6+00N	5	171
OSE 1820 6+75N	5	200
OSNW 1800 0+00E	10	21
OSNW 1800 0+75E	5	28
OSNW 1800 1+50E	5	40
OSNW 1800 2+25E	5	311
OSNW 1800 3+00E	5	272
OSNW 1900 0+00E	10	21
OSNW 1900 0+75E	5	103
OSNW 1900 1+50E	5	20
OSNW 1900 2+25E	5	162
OSNW 1900 3+00E	5	141
OSNW 1900 3+75E	5	560
OSNW 1900 4+50E	10	344
OSNW 1900 5+25E	5	348
OSE 1900 0+00N	5	191
OSE 1900 0+75N	5	62
OSE 1900 1+50N	5	122
OSE 1900 2+25N	10	161
OSE 1900 3+00N	5	430
OSE 1900 3+75N	5	122
OSE 1900 4+50N	5	131
OSE 1900 5+25N	5	195
OSE 1900 6+00N	5	220
OSE 1900 6+75N	10	136
OSE 1900 7+50N	5	195
OSE 1900 8+25N	5	82
OSE 1900 9+00N	5	142
OSE 1900 9+75N	5	166
STD	410	

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FAX (807) 623-5931

SMITHERS LAB.:  
TELEPHONE/FAX (604) 847-3004

*Geochemical Analysis Certificate*

OV-1227-SG9

Company: CYPRUS GOLD CANADA  
Project: HOGEM  
Attn: D.B. STEVENSON

Date: AUG-31-90  
Copy 1. CYPRUS GOLD CANADA, VANCOUVER, B.C.

*We hereby certify* the following Geochemical Analysis of 30 SOILS samples submitted AUG-21-90 by D.B. STEVENSON.

Sample Number	AU-WET PPB	CU PPM
OSE 1900 10+50N	5	240
OSE 2000 0+00N	5	190
OSE 2000 0+75N	5	250
OSE 2000 1+50N	5	302
OSE 2000 2+25N	5	440
OSE 2000 3+00N	5	303
OSE 2000 3+75N	5	350
OSE 2000 4+50N	5	422
OSE 2000 5+25N	5	610
OSE 2000 6+75N	5	182
OSE 2000 7+50N	5	164
OSE 2000 8+25N	5	99
OSE 2000 9+00N	5	227
OSE 2000 9+75N	5	210
OSE 2000 10+50N	5	184
OSE 2000 11+25N	15	1000
OSE 2000 12+00N	5	136
OSE 2000 12+75N	5	206
OSN 1700 0+75N	5	147
OSN 1700 1+50N	5	285
OSN 1700 2+25N	10	302
OSN 1700 3+00N	5	192
OSN 1700 3+75N	5	250
OSN 1700 4+50N	5	119
OSN 1700 5+25N	5	207
OSN 1700 6+00N	5	210
OSN 1700 6+75N	5	182
OSN 1700 7+50N	5	159
OSN 1700 8+25N	5	200
STS 500W 0+75N	5	47
STD	395	

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FAX (604) 980-9621

THUNDER BAY LAB.:  
TELEPHONE (807) 622-8958  
FAX (807) 623-5931

SMITHERS LAB.:  
TELEPHONE/FAX (604) 847-3004

Geochemical Analysis Certificate

0V-1227-SG12

Company: CYPRUS GOLD CANADA  
Project: HUBB  
Anal: D.B. STEVENSON

Date: SEP-02-90  
Copy 1, CYPRUS GOLD CANADA, VANCOUVER, B.C.

We hereby certify the following Geochemical Analysis of 30 SOILS samples submitted AUG-21-90 by D.B. STEVENSON.

Sample Number	AD-WET PPB	CU PPM
STN 250W 8+25S	5	63
L15W 4+50N(A)	5	1290
L15W 4+50N(B)	10	1380
L15W 4+50N(C)	5	990
L15W 5+25N(A)	5	2400
L15W 5+25N(B)	5	2450
L15W 5+25N(C)	5	1900
L15W 6+00N(A)	10	1200
L15W 6+00N(B)	5	1690
L15W 6+00N(C)	5	930
L15W 6+75(A)	5	1040
L15W 6+75(B)	5	1160
L15W 6+75(C)	5	1100
OSW 1800 0+00N	5	31
OSW 1800 0+75N	10	90
OSW 1800 1+50N	5	275
OSW 1800 2+25N	5	272
OSW 1800 3+00N	5	105
OSW 1800 3+75N	5	142
OSW 1800 4+50N	5	111
OSW 1800 5+25N	5	64
OSW 1800 6+00N	10	66
OSW 1800 6+75N	5	82
OSW 1800 7+50N	5	90
ET 1900 0+00N	5	96
ET 1900 0+75N	5	285
ET 1900 1+50N	10	122
ET 1900 2+25N	5	635
ET 1900 3+00N	10	430
ET 1900 3+75N	5	570
STD	420	

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TELEPHONE (807) 622-8958  
FAX (807) 623-5931

**SMITHERS LAB.:**  
TELEPHONE/FAX (604) 847-3004

Geochemical Analysis Certificate

OV-1227-SG14

Company: **CYPRUS GOLD CANADA**  
Project: **HOBEM**  
Attn: **D.B. STEVENSON**

Date: **SEP-02-90**

Copy 1. CYPRUS GOLD CANADA, VANCOUVER, B.C.

*He hereby certify* the following Geochemical Analysis of 30 SOIL samples submitted AUG-21-90 by D.B. STEVENSON.

Sample Number	AU-WET PPB	CU PPM
ET 1800 2+25N	5	202
ET 1800 3+00N	5	241
ET 1800 3+75N	10	380
ET 1800 4+50N	5	320
ET 1800 6+00N	5	106
ET 1800 6+75N	5	149
ET 1800 7+50N	10	145
ET 1800 8+25N	5	66
ET 1800 9+00N	5	73
ET 1800 9+75N	5	196
ET 1800 10+50N	5	217
ET 1800 0+00W	5	339
ET 1800 0+75W	10	495
ET 1800 1+50W	5	274
ET 1800 3+00W	5	93
ET 1800 4+50W	5	382
ET 1800 5+25W	5	580
ET 1800 6+00W	5	539
ET 1800 6+75W	5	63
ET 1800 7+50W	5	22
ET 1800 8+25W	10	143
ET 1800 9+00W	5	111
ET 1800 9+75W	5	72
OSW 2000 0+00N	5	85
OSW 2000 0+75N	5	381
OSW 2000 1+50N	5	77
OSW 2000 2+25N	10	300
OSW 2000 3+00N	5	299
OSW 2000 3+75N	5	57
OSW 1900 0+00N	5	357
STD	470	

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FAX (604) 980-9821

THUNDER BAY LAB.:  
TELEPHONE (807) 622-8958  
FAX (807) 623-5931

SMITHERS LAB.:  
TELEPHONE/FAX (604) 847-3004

Geochemical Analysis Certificate

0V-1227-SG15

Company: CYPRUS GOLD CANADA  
Project: HOGEM  
Attn: D.B. STEVENSON

Date: SEP-02-90

Copy 1. CYPRUS GOLD CANADA, VANCOUVER, B.C.

*We hereby certify* the following Geochemical Analysis of 29 SOILS samples submitted AUG-21-90 by D.B. STEVENSON.

Sample Number	AU-WET PPB	CU PPM
OSW 1900 0+75N	5	125
OSW 1900 1+50N	5	180
OSW 1900 2+25N	5	262
OSW 1900 3+00N	5	43
OSW 1900 3+75N	10	119
OSW 1900 4+50N	5	421
OSW 1900 5+25N	5	106
OSW 1900 6+00N	10	71
OSW 1900 6+75N	5	50
OSW 1900 7+50N	5	89
STN 750W 0+00N	5	20
STN 750W 0+75N	5	17
STN 750W 1+50N	5	9
STN 750W 2+25N	5	29
STN 750W 3+00N	5	140
STN 750W 3+75N	5	155
STN 750W 4+50N	10	277
STN 750W 5+25N	5	55
STN 750W 6+00N	5	149
STN 750W 6+75N	5	78
STN 750W 7+50N	5	179
STN 750W 8+25N	5	79
STN 750W 9+00N	5	159
STN 750W 9+75N	5	35
STN 750W 10+50N	10	40
STN 750W 11+25N	5	57
STN 750W 0+75S	5	54
STN 750W 1+25S	NQ	SAMPLE
STN 250W 0+00N	5	170
STN 250W 0+75N	5	151

STD 450

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### **Appendix 3 - Geochemical Preparation and Analytical Procedures**



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Division of Assayers Corp. Ltd.

ANALYTICAL PRECEDURE REPORT FOR ASSESSMENT WORK:

-----  
PROCEDURE FOR WET GOLD GEOCHEMICAL ANALYSIS  
-----

Samples are processed by Min-En Laboratories, at 705 West 15th Street, North Vancouver, employing the following procedures.

After drying the samples at 95 C, soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by a jaw crusher and pulverized on a ring mill pulverizer.

5.00 grams of sample is weighed into porcelain crucibles and cindered @ 800 C for 3 hours. Samples are then transferred to beakers and digested using aqua regia, diluted to volume and mixed.

Further oxidation and treatment of 75% of the above solution is then extracted for gold by Methyl Iso-butyl Ketone.

The MIBK solutions are analyzed on an atomic absorption spectrometer using a suitable standard set.



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ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK:

-----  
PROCEDURE FOR AG, CU, PB, ZN, NI, CO OR CD GEOCHEM  
-----

Samples are processed by Min-En Laboratories at 705 West 15th Street, North Vancouver, employing the following procedures.

After drying the samples at 95 C, soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by jaw crusher and pulverized on a ring mill pulverizer.

0.50 gram of the sample is digested for 2 hours with an aqua regia mixture. After cooling samples are diluted to standard volume.

The solutions are analysed on atomic absorption spectrometers using the appropriate standard sets. A background correction can be applied to Ag, Pb, and Cd if requested.



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Division of Assayers Corp. Ltd.

ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK

-----  
PROCEDURE FOR AU, PT OR PD FIRE GEOCHEM  
-----

Geochemical samples for Au Pt Pd are processed by Min-En Laboratories, at 705 West 15th St., North Vancouver, B. C., laboratory employing the following procedures:

After drying the samples at 95 C, soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed and pulverized on a ring mill pulverizer.

A suitable sample weight; 15.00 or 30.00 grams is fire assay preconcentrated. The precious metal beads are taken into solution with aqua regia and made to volume.

For Au only, samples are aspirated on an atomic absorption spectrometer with a suitable set of standard solutions. If samples are for Au plus Pt or Pd, the sample solution is analyzed in an inductively coupled plasma spectrometer with reference to a suitable standard set.

OFFICE AND LABORATORIES:  
705 WEST FIFTEENTH STREET, NORTH VANCOUVER, B.C.  
NADA V7M 1T2

PHONE: (604) 980-5814 (604) 988-4524  
TELEX: VIA USA 7601067  
FAX: (604) 980-9621



**MINERAL  
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ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK:

-----  
PROCEDURE FOR TRACE ELEMENT ICP  
-----

Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cu,  
Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb,  
Sr, Th, U, V, Zn, Ga, Sn, W, Cr

Samples are processed by Min-En Laboratories, at 705 West 15th Street, North Vancouver, employing the following procedures.

After drying the samples at 95 C, soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by a jaw crusher and pulverized on a ring mill pulverizer.

0.50 gram of the sample is digested for 2 hours with an aqua regia mixture. After cooling samples are diluted to standard volume.

The solutions are analyzed by computer operated Jarrall Ash 9000 ICAP or Jobin Yvon 70 Type II Inductively Coupled Plasma Spectrometers.

**Appendix 4 - Project Cost Breakdown**

**PROJECT COST BREAKDOWN**  
**CYPRUS GOLD (CANADA) LTD.**  
**OS PROPERTY**  
**(August 8 to August 9, 1990)**

Salaries.....	\$3000.00
Report Compilation.....	\$2500.00
Helicopter (\$8842.50 x 20%).....	\$1768.50
Assays.....	\$1671.50
Field Supplies - Cookery.....	\$734.84
Freight.....	\$190.72
Drafting.....	\$184.94
Mag Rental.....	\$135.41
Truck Rental.....	\$122.69
Travel Expenses.....	<u>\$70.92</u>

**Total Project Cost - \$10379.52**

**Appendix 5 - Statement of Qualification**



STATEMENT OF QUALIFICATION

I, David B. Stevenson, of the Municipality of North Vancouver in the Province of British Columbia, certify as follows regarding the report on the OS property, Omineca Mining Division, British Columbia.

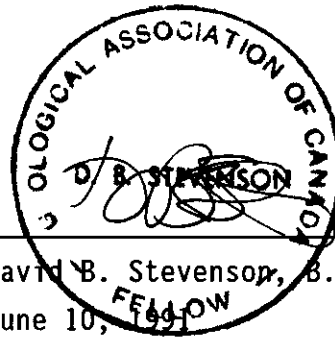
I am a graduate of the University of New Brunswick, Fredericton, New Brunswick with a Bachelor of Science, Honours in Geology, 1981.

I have practised geology in Canada and Norway since 1981.

I am employed by Cyprus Gold (Canada) Ltd., 1810-1055 West Hastings Street, Vancouver, B.C. V6E 2E9.

I supervised and coordinated exploration activities on or adjacent to the OS property.

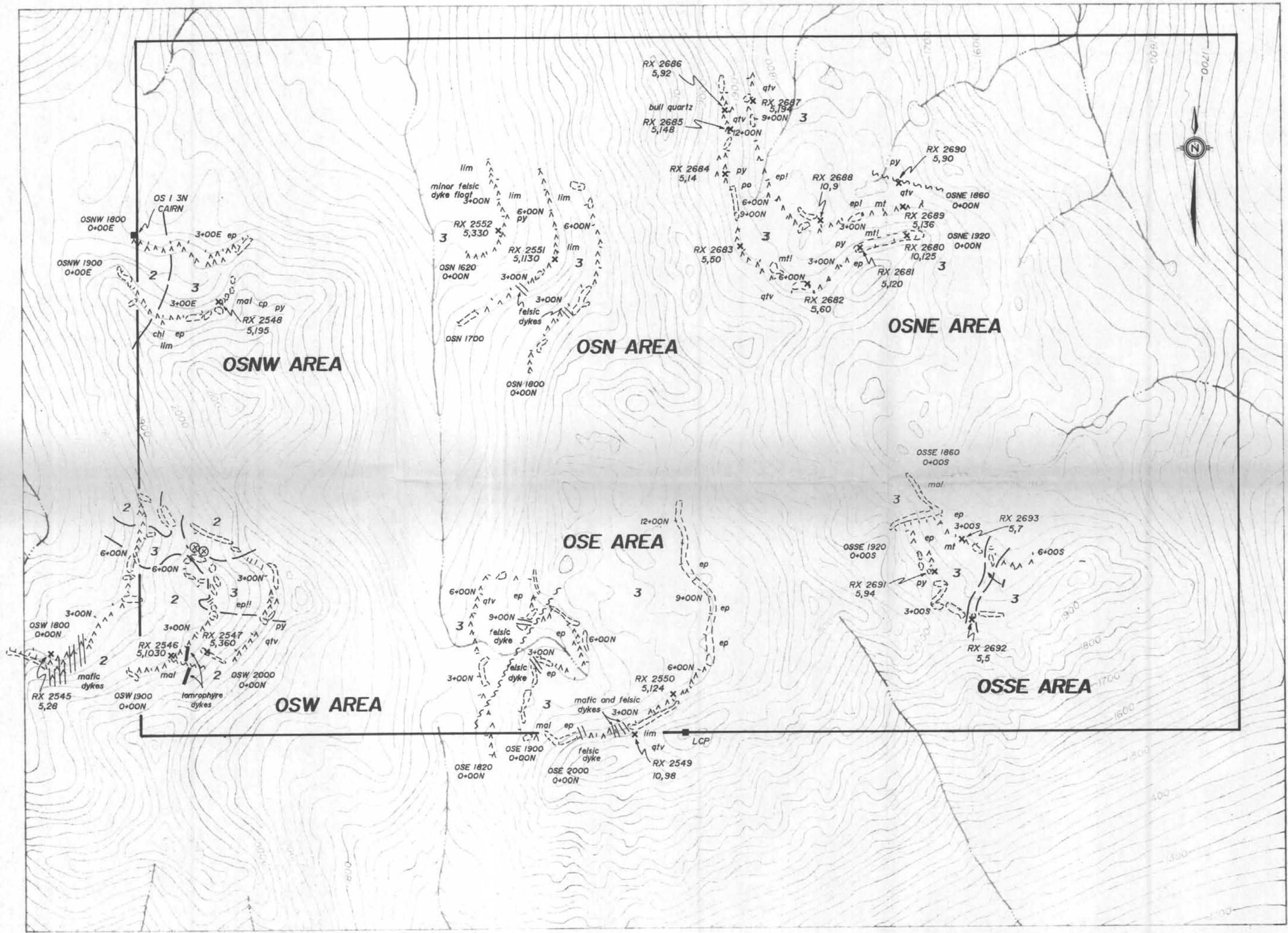
I am a Fellow of the Geological Association of Canada.



David B. Stevenson, B.Sc. FGAC  
June 10, 1991



21,425  
~~21,425~~ 2092



LEGEND

- 1 LEUCOCRATIC SYENITE  
Coarse grained massive white leucocratic syenite, not magnetic.
- 2 GRANITE  
Medium grained massive light green to white granite, locally minor quartz veining and stockworking with minor disseminated py, cp, bo, not magnetic.
- 3 DIORITE  
Coarse grained massive dark green-black diorite, locally minor quartz veining and stockworking with minor associated malachite, non to local minor epidote alteration, non to locally strongly magnetic.

SYMBOLS

- ⊗ ⊙ Δ Outcrop, possible outcrop, float
- Shear-fault zone
- Geological contact, known, approximate
- RX 2693 5,240 Rock sample, Au (ppb), Cu (ppm)
- py/py/py!! Mineralization, weak, moderate, strong, pyrite (py), chalcopyrite (cp), bornite (bo), malachite (mal), magnetic (mt)
- lim/lim/lim!! Alteration, weak, moderate, strong, limonite (lim), chlorite (chl), epidote (ep).
- qtv Quartz veining - stockworking



**CYPRUS GOLD**  
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HOGEM PROJECT - OS PROPERTY  
GEOLOGY

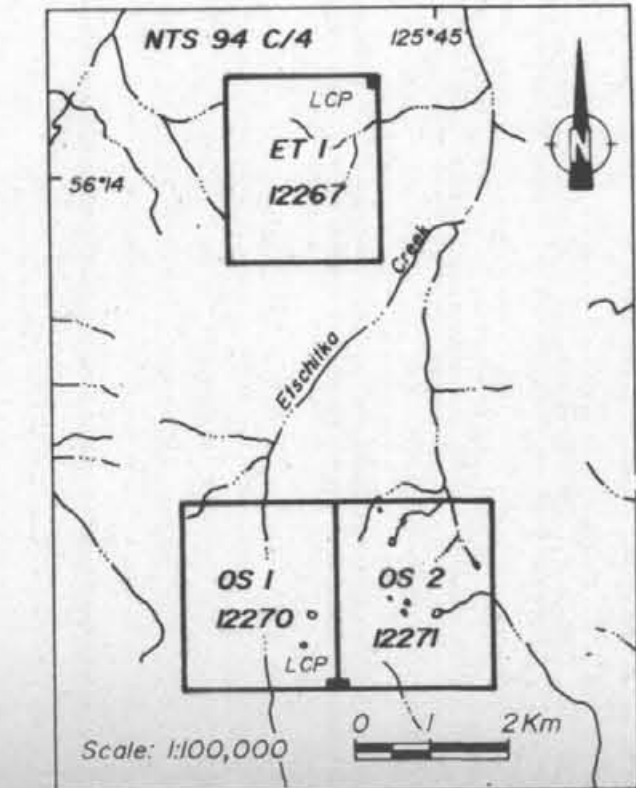
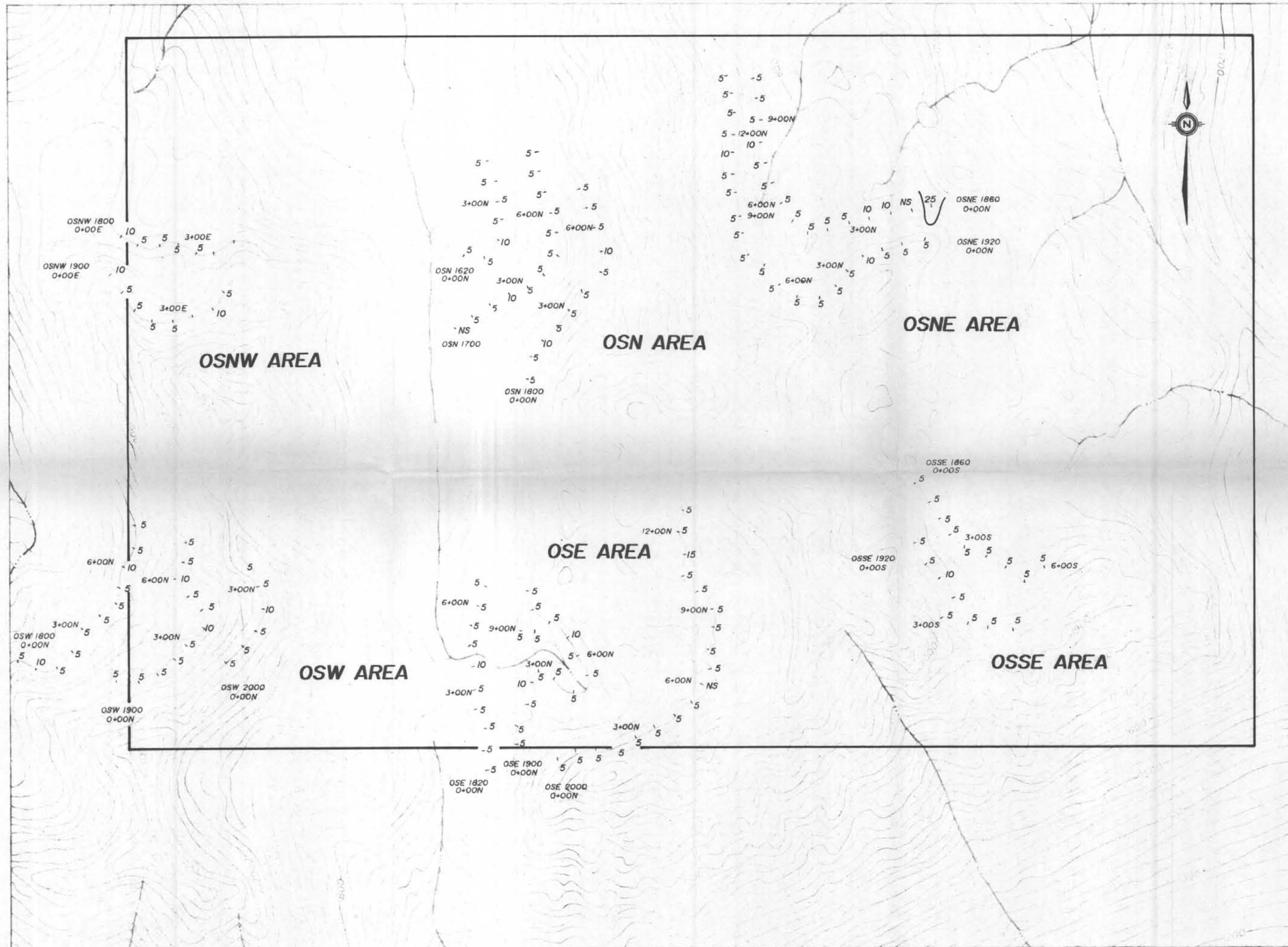
NTS 94C/4

DRAWN BY D. STEVENSON	SCALE 1 : 10000
DATE JAN 1991	MAP No. 1



21,425

Jan 2 1992



LEGEND

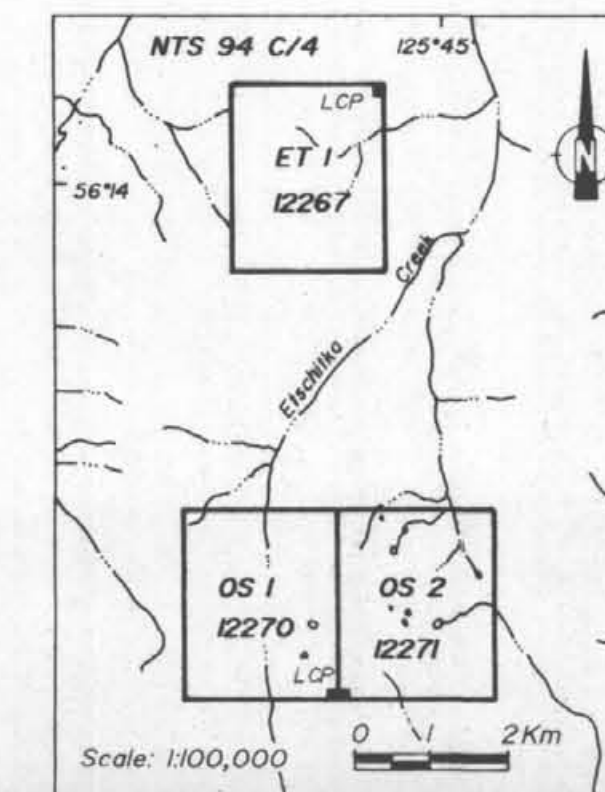
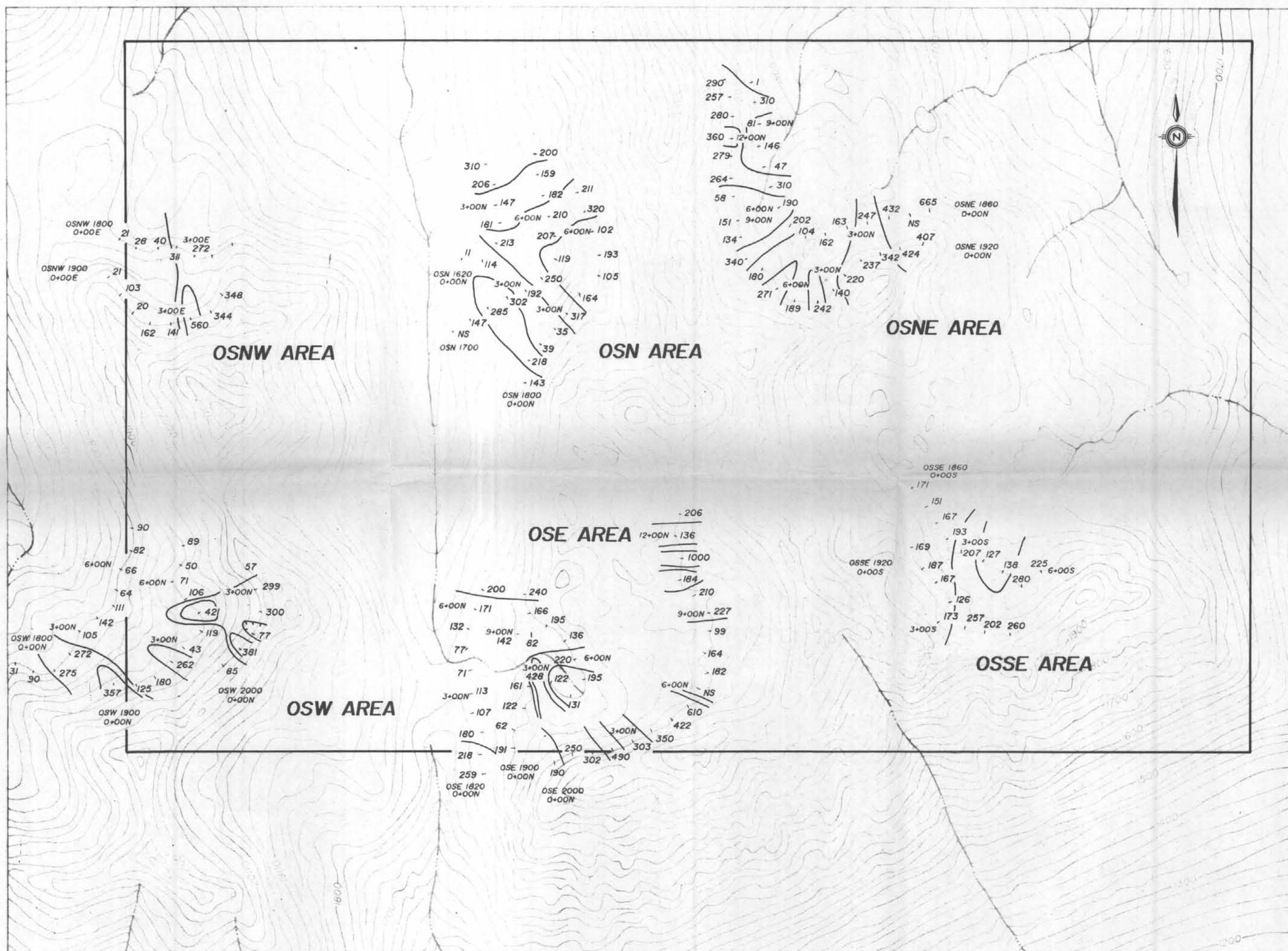
□ ≥ 25 ppb Au in Soils



<b>CYPRUS GOLD</b> (Canada) Ltd.	
HOHEM PROJECT - OS PROPERTY	
Au (ppb) in Soils	
NTS 94C/4	
DRAWN BY D. STEVENSON	SCALE 1:10000
DATE JAN 1991	MAP No. 2

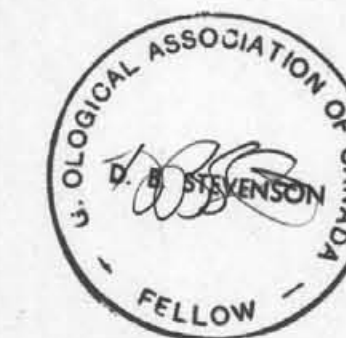


21,425  
REV 292



LEGEND

- ≥ 350 ppm Cu in Soils
- ≥ 200 - 349 ppm Cu in Soils
- ≤ 199 ppm Cu in Soils



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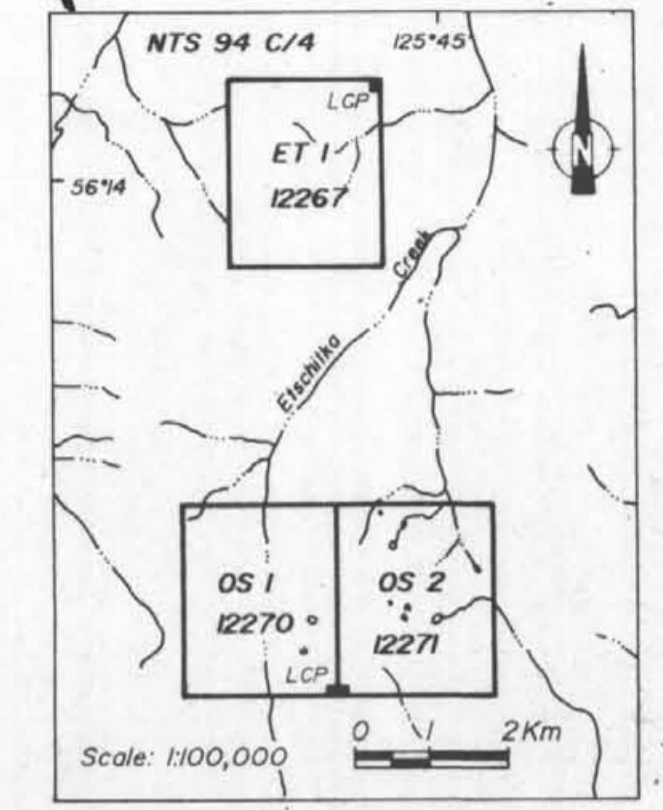
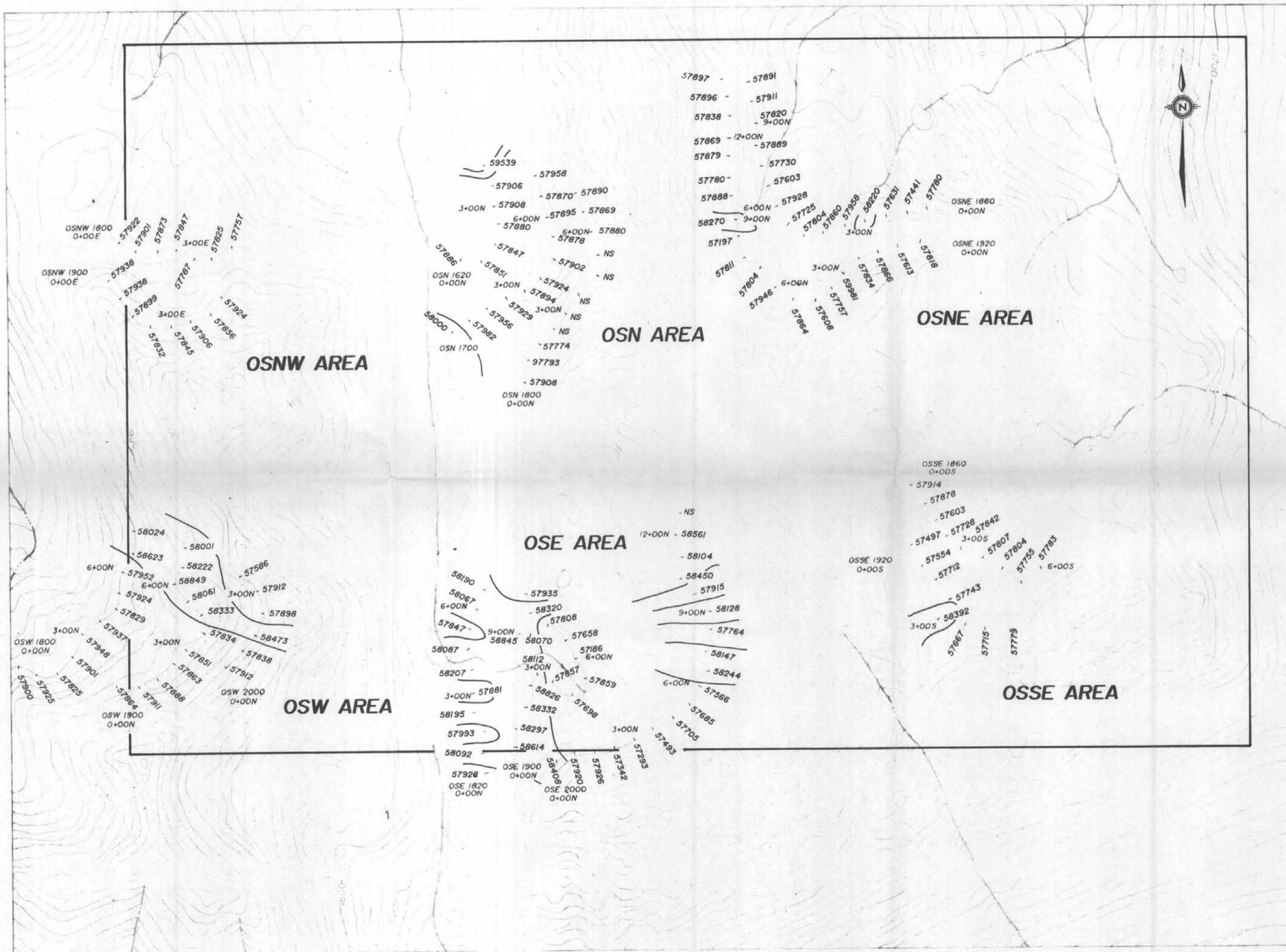
Cu (ppm) in Soils

NTS 94C/4

DRAWN BY D. STEVENSON	SCALE 1:10000
DATE JAN 1991	MAP No 3



21,425  
Part 2 of 2



LEGEND

- $\geq 59000 \gamma$
- $\geq 58000 - 58999 \gamma$
- $\geq 57000 - 57999 \gamma$



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HOGEM PROJECT - OS PROPERTY

**PROTON MAG SURVEY**

NTS 94C/4

DRAWN BY D. STEVENSON	SCALE 1:10000
DATE JAN 1991	MAP No 4