GEOCHEMICAL, GEOPHYSICAL & DIAMOND DRILLING REPORT

on the

SNO MINERAL CLAIMS
CLINTON MINING DIVISION
NTS 92P/2W

LAT: 51005'N LONG: 120053'W

CLAIM OWNER: Mr. M. Dickens, Savona, B.C. OPERATOR: Newhawk Gold Mines Ltd. (N.P.L.)

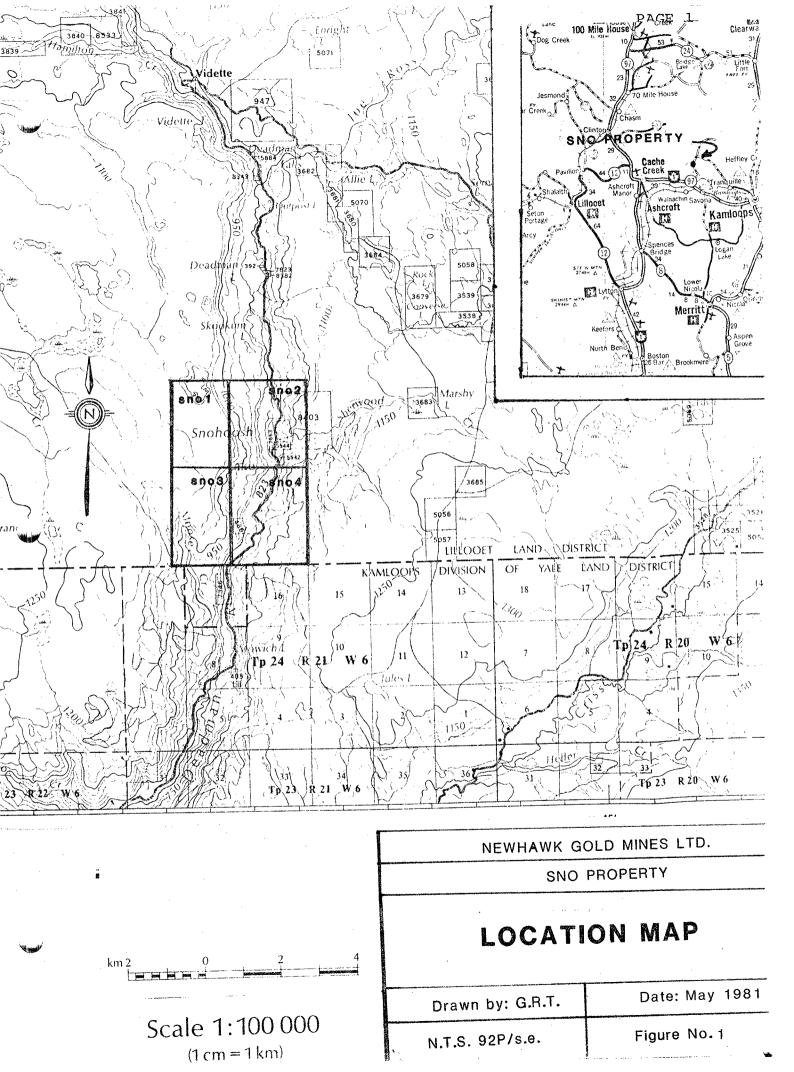
AUTHOR: Mr. G.R. Thomson, B.Sc., Geologist

DATE OF WORK: OCTOBER 27, 1980 to May 25, 1981
DATE SUBMITTED: June 1981



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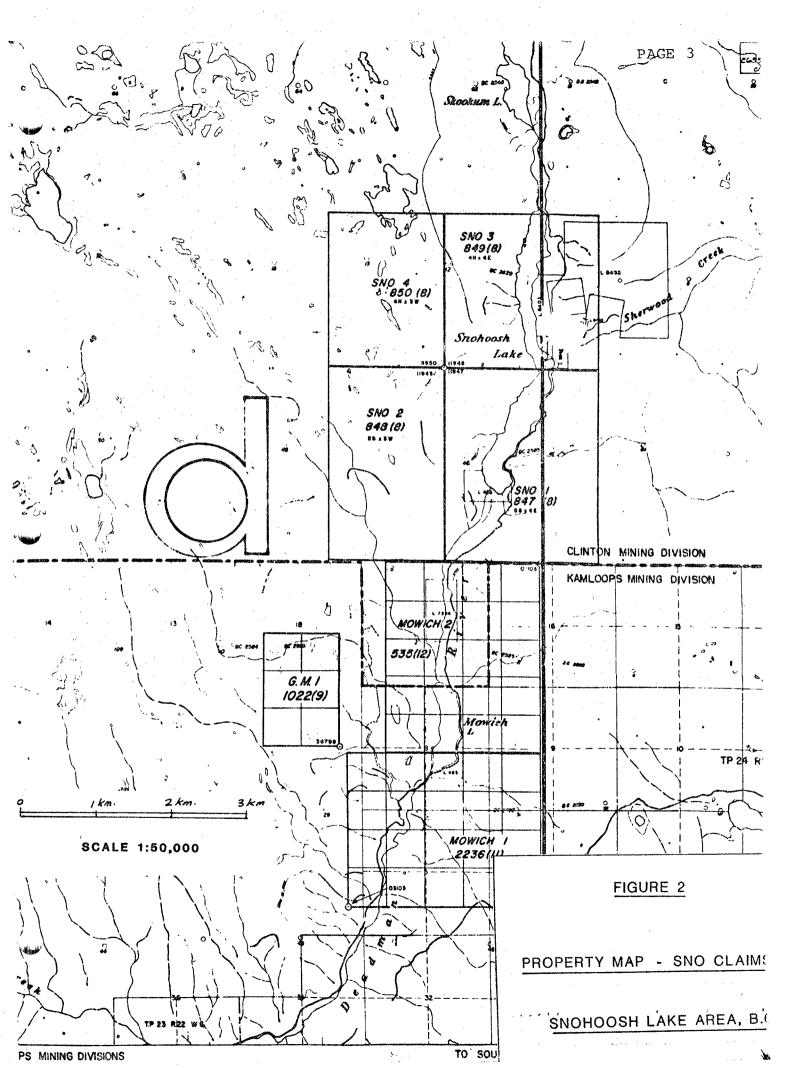
LOCATION & ACCESS

The Sno claim group is located along the west and east banks of Snohoosh Lake. Snohoosh Lake is one of a chain of north-south trending lakes which form part of the Deadman River Valley. The Deadman Valley cuts through a region of Miocene and/or Pliocene Age plateau basalts. In the area of Snohoosh Lake, the plateau basalts are underlain by greenstones belonging to the Nicola Group of Triassic Age.

The claim area is generally timbered with small pine and fir. Valley sides are fairly steep with slope angles of between 200 to 400 rising to the fairly flat lying basalt at an elevation of approximately 1066 m. Lake elevation is 823 metres.

The Sno claim area is accessible by gravel road which runs 40 km. North from Highway 97, along the valley of Deadman River. The Deadman River road leaves Highway 97, 6 km. west of the town of Savona, B.C. Savona is a small town at the west end of Kamloops Lake and is located 54 km. west of the city of Kamloops, B.C.

The mineral showings and diamond drill workings are best reached by driving to the east side of Snohoosh Lake and then by boat to the west side of the lake. This area may also be reached with greater difficulty by following an old logging road which leaves the Deadman Road, .5 km. South of Mowich Lake.



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MINFILE L pc MASTER REPORT GEOLOGICAL SURVEY BRANCH ENERGY AND MINERALS DIVISION

PAGE: REPORT: RGEN0100

CAPSULE GEOLOGY

K20, 4.44 per cent Na20, 1.3 per cent Fe203, 1.96 per cent Ca0 and 0.38 per cent Mg0. The Al203 and K20 levels are within the range of commercial glass grade or ceramic material; the iron content however, is excessive for such material. Initial testing by Ore Sorters (North America) was unsuccessful in reducing the iron content to less

(North America) was unsuccessful in reducing the iron content to less than 0.1 per cent Fe203 by magnetic separation.

Michael Resources Ltd. carried out trenching, bulk sampling and 582 metres of diamond drilling in 1989 in order to assess the feldspar potential of the deposit. Drilling indicates a potential for 3.6 million tonnes of feldspar-bearing material at the proposed guarry site (Industrial Mineral File - Press Release, Michael Resources Ltd., October 5, 1989; Open File 1992-1).

BIBLIOGRAPHY

EMPR ASS RPT 21897 EMPR MAP 65 (1989)

EMPR OF *1991-10; 1992-1; 1992-9 EMPR PF (Claim map, 1989; Micheal Resources Ltd., Press Release, June

22, 1989; Kamloop News – July 2, 1989) EMPR P 2001–1

GSC MAP 3-1966; 1293A; 1278A GSC MEM 363

GSC OF 11; 637 GCNL #104, 1989

*Press Release, Michael Resources Ltd., Oct.5, 1989

DATE CODED: 1990/10/29 DATE REVISED: 2001/01/19

CODED BY: GO REVISED BY: RHM L MVITE

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FIELD CHECK: N FIELD CHECK: N

DESCRIPTION OF CLAIMS

The Sno property consists of the following claims:

NAME	UNITS	RECORD NO.	RECORDED
Sno 1	20	847	August 5, 1980
Sno 2	15	848	August 5, 1980
Sno 3	16	849	August 5, 1980
Sno 4	12	850	August 5, 1980

These claims form a block of 63 units, 9 units north-south and 7 units east-west. They were staked by Mr. M. Dickens, Box 116, Savona, B.C.

HISTORY OF THE PROPERTY

Until the time of staking by M. Dickens in 1980, there has been no known mineral exploration work done in the vicinity of Snohoosh Lake.

There has been some interest in a deposit of pozzolan volcanic ash located on the east side of Snohoosh Lake in the vicinity of Sherwood Creek. The deposit has been estimated at 15 million tons and has been suggested as a possible source of abrasive material. There has been no economic development of this deposit and little or no activity since 1959.

Approximately 11 km. north of the Snohoosh showing is the Vidette Lake gold mine which produced gold, silver and copper from 1932 to 1940. Mineralization occurred in quartz veins in

Nicola Formation greenstones.

WORK CONDUCTED (1980, 1981)

Following the discovery of visible chalcopyrite and moly-bdenite mineralization in skarn - metavolcanic rocks belonging to the Nicola Group, an examination of the property was made by Consultant J. W. MacLeod, P. Eng.

On the recommendations of Mr. MacLeod, a program of geochemical and geophysical surveys was contracted to Glen E. White, Geophysical Consulting and Services Ltd. Over the periods October 27 to November 12, 1980 and February 25 to March 4, 1981 a program of soil sampling, magnetometer and electromagnetometic surveys were carried out over a 12 km. survey grid.

Over the period April 27 to May 25, 1981 a program of BQ diameter diamond drilling was carried out to evaluate the anomalous area indicated by the geochemical - geophysical surveys. Drilling was also carried out to evaluate bedrock in the vicinity of the lakeshore mineral showings, where scarcity of rock outcrop necessitated such a drilling program.

WORK SUMMARY

- a) Geochemical survey 236 soil samples analysed for copper, molybdenum, silver and zinc.
- b) Geophysical survey
 - i) 12 km. of Magnetometer survey
 - ii) 12 km. of Electromegnetometic survey
 - iii) 12 km. of Induced Polarization survey

- iv) 3.325 km. of Vector Pulse Electromagnetic survey
- v) <u>Drilling</u> 5 holes of BQ diamond drilling totalling 666 metres.

SUMMARY & RECOMMENDATIONS

Minor and sporadic occurrences of chalcopyrite and molybdenite mineralization have been found along the west shore of Snohoosh Lake in weathered, altered volcanic greenstone of the Nicola Group.

As a result of this mineralization and lack of exposed rock outcrop, a followup program of geochemical soil sampling, geophysical surveys and diamond drilling was carried out in 1980 and 1981.

These surveys indicated a strong chargeability anomaly trending northwest under Snohoosh Lake. In addition, two weaker conductive trends and possibly associated with fault zones were observed to coincide with copper and zinc soil geochemistry anomalies and induced polarization defined chargeability highs.

On the basis of known mineralization as well as indicated geochemical - geophysical anomalies a program of diamond drilling was carried out in April/May, 1981 by F. Boisvenu Drilling Ltd.

Of the total diamond drill core examined, the general geology consisted primarily of carbonate-silicate altered fine grained augite greenstones belonging to the Nicola Group. The rocks are generally highly fractured with chloritized fracture planes and moderate to

abundent calcite veinlets. These volcanics are pervasively mineralized with pyrite and lesser pyrrhotite (.5-10%). One drill hole showed isolated occurrences of molybdenite in garnetiferous calc-greenstone with very minor disseminated chalcopyrite. No mineralization of economic significance was seen throughout any of the other drill hole sections. Gold and silver values were also considered to be of sub-economic value.

It is apparent that conductive lineaments as outlined by the geophysical surveys are caused by graphitic bearing shear zones and/or shear zones of higher concentration pyrite-pyrrhotite mineralization.

On the basis of lack of economic mineralization in any of the drill holes, no further work is recommended on the Sno mineral claims at this time.

APPENDIX I

DIAMOND DRILL HOLE ASSAY RESULTS



KAMLOOPS RESEARCH & ASSAY LABORATORY LTD.

B.C. LICENSED ASSAYERS GEOCHEMICAL ANALYSTS METALLURGISTS

2095 WEST TRANS CANADA HIGHWAY — KAMLOOPS B.C. V1S 1A7

PHONE: (604) 372-2784 — TELEX: 048-8320

CERTIFICATE OF ASSAY

ΤΟ	Newhawk Gold Mines						Certifi	cate No	K-3976	
	1450 - 625 Howe Street						Date .	May 13	, 1981	
<u> </u>	Vancouver, B.C. V6C 2 Inerely certify that the follow			.F. HEWE		described		Sá	mples	
Kral No.	Marked	GOLD	SILVER	Cu						
		Ounces Per Ton	Ounces Per Ton	Percent	Percent	Pércent -	Percent	Percent	Percent	Percent
1 2 3 4 5 6 7 8 9	1751 1752 1753 1754 1755 1756 1757 1758 1759 1760	.001 .001 .001 .001 TR TR TR TR TR TR	TR .01 .04 .04 .02 .06 .04 .02 .01	.01 .01 TR .01 .01 .01 TR .01 TR						
11 12 13 14 15 16 17 18	1761 1762 1763 1764 1765 1766 1767	TR	.02 .01 .03 .04 .01 .02 .04	.01 TR TR TR TR .01 TR .01						

NOTE: Rejects retained three weeks. Pulps retained three months unless otherwise arranged.



KANLOOPS RESEARCH & SSAY LABORATORY LTD.

B.C. LICENSE \SSAYERS
GEOCHEMICAL ANALYSTS
METALLURGISTS

2095 WEST TRANS CANADA HIGHWAY — KAMLOOPS B.C. V1S 1A7

PHONE: (604) 372-2784 — TELEX: 048-8320

CERTIFICATE OF ASSAY

<i>TO</i> _	Newhawk Gold Mines	5		-,			·	Certificate No.	<u>K-3993</u>	
	1450 - 625 Howe St	treet		 .				Date May 20		
	Vandouver, B.C.	V6C 2T6	ATTENTION:	MR.	F. HEWETT					
	7 Increlin cortifu		4.			in the state of th			,	

Name	, 2	INTEROP CETTLY that the follow	ing are the result	's of assays made	by us upon	the herein	described		Sa	imples	
1	Kral No.	Marked	GOLD	SILVER	Cu	Мо					
5 1828 .001 .21 .01 .002 6 1829 .001 .21 .01 .002 7 1830 TR .25 .01 .003 8 1831 .001 .23 .01 .004 9 1832 .001 .24 .02 .002 10 1833 .001 .19 .01 .001 11 1834 .001 .26 .01 .002 12 1835 .001 .26 .01 .004 13 1836 .001 .29 .02 .002 14 1837 TR .27 .03 .008 15 1838 .001 .27 .01 .001 16 1839 TR .26 .01 .001 17 1840 TR .25 .01 .001 18 1841 TR .24 .01 .002 19 1842 TR .52 .01 .004			Ounces Per Ton		Percent	Percent	Percent	Percent	Percent	Percent	Percent
	10 11 12 13 14 15 16 17 18 19	1825 1826 1827 1828 1829 1830 1831 1832 1833 1834 1835 1836 1837 1836 1837 1838 1839 1840 1841	.001 .001 .001 .001 .001 .001 .001 .001	.21 .25 .23 .24 .19 .26 .26 .29 .27 .27 .27 .26 .25 .24	.01 .01 .01 .01 .01 .01 .02 .01 .01 .01 .01 .01	.003 .001 .002 .002 .003 .004 .002 .001 .002 .008 .001 .001 .001 .002 .004					

NOTE: Rejects retained three weeks. Pulps retained three months unless otherwise arranged.



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B.C. LICENT O ASSAYERS
GEOCHEMICAL ANALYSTS **METALLURGISTS**

2095 WEST TRANS CANADA HIGHWAY - KAMLOOPS B.C. V1S 1A7 PHONE: (604) 372-2784 — TELEX: 048-8320

CERTIFICATE OF ASSAY

TO_	Newhawk Gold Mines									
				*			Certifi	cate No	K-3993	2
_	· · · · · · · · · · · · · · · · · · ·						Date	May 20,	1981	
•••	71.1									
	I hereby certify that the following	ng are the result	s of assays made	e by us upor	the herein	described		Sá	amples	
Kral No.	Marked	GOLD	SILVER	Cu	Мо					
Name of the state		Ounces Per Ton	Ounces Per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent
21 22 23 24 25 26 27 28 29 30	1844 1845 1846 1847 1848 1849 1850 1851 1852 1853	TR .001 .001 .001 .001 TR .002 .001 .003	28 24 33 32 26 27 27 29 32	.01 .01 .01 .01 .01 .01 .03 .01 .04	.004 .004 .008 .015 .006 .008 .005 .006					
31 32	1854 1855	.001 .001	. 3 6 .23	.03	.007 .006					
						· ,				

NOTE:

Rejects retained three weeks: Pulps retained three months unless otherwise arranged.



Newhawk Gold Mines Ltd.

1450 - 625 Howe Street

Vancouver, B.C.

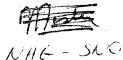
KAMLOOPS RESEARCH & ASSAY LABORATORY LTD.

2095 WEST TRANS CANADA HIGHWAY - KAMLOOPS B.C. V1S 1A7

PHONE: (604) 372-2784 -- TELEX: 048-8320

CERTIFICATE OF ASSAY





Certific	ate No	K-4004	
Date _	May 25	<u>, 1981</u>	

I hereby certify that the following are the results of assays made by us upon the herein described _______ samples

V6C 2T6

Kral No.	Marked	GOLD	SILVER	Cu	Мо					
		Ounces Per Ton	Ounces Per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent
1 2 3 4 5 6 7 8 9	1769 1770 1771 1772 1773 1774 1775 1776 1777	.001 .001 TR .001 TR .001 .001 .001 TR	.26 .19 .19 .20 .21 .22 .28 .27 .28	.01 .01 .02 .01 .01 .01 .02 .01 .02	.008 .001 .005 .006 TR TR .001 .001					
11 12 13 14 15 16 17 18 19 20	1779 1780 1781 1782 1783 1784 1785 1786 1856	.001 TR .001 TR	.21 .24 .21 .21 .22 .20 .23 .23 .02	.01 .01 .01 .01 .01 TR .01 .01	.001 TR TR .006 .005 .002 .004 .003					

NOTE: Rejects retained three weeks. Pulps retained three months unless otherwise arranged.





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B.C. LICENSED ASSAYERS GEOCHEMICAL ANALYSTS METALLURGISTS

2095 WEST TRANS CANADA HIGHWAY — KAMLOOPS B.C. V1S 1A7

PHONE: (604) 372-2784 — TELEX: 048-8320

CERTIFICATE OF ASSAY

TO _	Newhawk	Gold Mine	es Ltd.						_		1/ 4004	2
										cate No		2
· gas annotes									Date_	May 2	5 , 1981	
		· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·								
	I hereby	certify th	at the followi	ng are the results	s of assays made	by us upon	the herein	described		Sa	mples	
Kral No.		Marked		GOLD	SILVER	Cu	Мо					
				Ounces Per Ton	Ounces Per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent
21 22		1858 1859		.021	.10 .03	<u>-</u>	-					
23 24 25		1860 1861 1862		.002 TR TR	.07 .07 .09		- -					
26 27 28		1863 1864 1865		TR .078 .001	.03 .08 .10						The state of the s	
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NOTE:
Rejects retained three weeks:
Pulps retained three months
unless otherwise arranged.

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KAMLOOPS RESEARCH & 4SSAY LABORATORY LTD.

GEOCHEMI _ ANALYSTS **METALLURGISTS**

2095 WEST TRANS CANADA HIGHWAY - KAMLOOPS B.C. V1S 1A7

PHONE: (604) 372-2784 — TELEX: 048-8320

CERTIFICATE OF ASSAY

NHG - SNO

TC	Newhawk Gold Mines Ltd.	Certific	cate No. K-3989
	1450 - 625 Howe Street	Date _	May 25, 1981
	Vancouver, B.C. V6C 2T6 ATTENTION: MR. F. HEWETT		
	I littly tertify that the following are the results of assays made by us upon the herein described		samples
		1	

Kral No.	Marked	GOLD	SILVER	Cu	Мо					
		Ounces Per Ton	Ounces Per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent
1 2 3 4 5 6 7	1787 1788 1789 1790 1791 1792 1793	.001 TR .001 .002 .001 .001	.20 .23 .17 .20 .17 .23	.03 .02 .02 .04 .02 .02	.023 .005 .008 .003 .004 .004					
8 9 10	1794 1795 1796	.001 .001 .001	.21 .22 .20	.02 .02 .02	.005 .005 .006					
11 12 13 14 15 16 17 18 19 20	1797 1798 1799 1800 1801 1802 1803 1804 1805	.001 .001 .001 .001 .001 TR TR TR TR	.20 .21 .29 .26 .25 .30 .28 .31 .24	.02 .01 .01 .01 .02 .02 .04 .01	.001 .002 .004 .007 .005 .002 .003 .002 .002					

NOTE: Rejects retained three weeks. Pulps retained three months unless otherwise arranged.



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B.C. LICENCED ASSAYERS GEOCHEMICAL ANALYSTS METALLURGISTS

2095 WEST TRANS CANADA HIGHWAY — KAMLOOPS B.C. V1S 1A7

PHONE: (604) 372-2784 -- TELEX: 048-8320

CERTIFICATE OF ASSAY

TO .	Newhawk Gold Mines Ltd.	,				•		cate No		2
-							Date_	May 25	, 1981	
•	I hereby certify that the follow	ing are the result	s of assays made	by us upon	the herein	described		Sa	amples	
Kral No.	Marked	GOLD	SILVER	Cu	Ио					
		Ounces Per Ton	Ounces Per ^T on	Percent	Percent	Percent	Percent	Percent	Percent	Percent
21 22 23 24 25 26 27 28 29 30	1807 1808 1809 1810 1811 1812 1813 1814 1815	TR .001 .001 .001 TR .001 .001 TR .001	.28 .26 .27 .19 .26 .24 .20 .29 .23	.04 .02 .01 .02 .03 .01 .02 .01	.003 .004 .003 .061 .015 .174 .005 .019 .052 .005					
31 32 33 34 35 36 37	1817 1818 1819 1820 1821 1822 1823	.001 .001 TR TR .001 TR TR	.20 .22 .21 .27 .25 .23 .27	.02 .01 .02 .02 .03 .01	.003 .007 .019 .002 .031 .005					

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2095 WEST TRANS CANADA HIGHWAY - KAMLOOPS B.C.

V1S 1A7

PHONE: (604) 372-2784 — TELEX: 048-8320

CERTIFICATE OF ASSAY

NHG-SNO Certificate No. <u>K-4047</u>

Date ____May 29, 1981

Vancouver, B.C. V6C 2T6

Il harrely contife.

Newhawk Gold Mines Ltd.

1450 - 625 Howe Street

ATTENTION:

MR. F. HEWETT

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	Marked		GOLD	SILVER	Мо					

Kral No.	Marked	GOLD	SILVER	Mo						
		Ounces Per Fon	Ounces Per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percènt
1 2 3 4 5 6 7 8 9	1866 1867 1868 1869 1870 1871 1872 1873 1874	TR .002 TR	.28 .16 .14 .13 .14 .09 .11 .08 .09	.004 .004 .005 .042				•		
11	1876	.001	.05			•				

NOTE: Rejects retained three weeks. Pulps retained three months unless otherwise arranged.

APPENDIX II

DIAMOND DRILL CORE LOGS

DIAMOND DELL RECORD

	PROPERTY SNO	нс	DLE NO	81-2		•		
SHEET NUMBER _	/ SECTION FROM _OTO_	38-6.	STA	RTED M	9y 3/81			
LATITUDE	DATUM		_ coi	MPLETED_	MAY 7/	8/	·* .* ·	_
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LLEVATION			_ PRC	POSED DI	EPTH			
DEPTH-FEET/)	FORMATION	SAMPLE No.	WIDTH OF BAMPLE	GOLD \$	SLUDGE GOLD \$			
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	basalt						$\left \cdot \cdot \right $	
E.M.								<u>.</u>
	Green ciliceous garnetiferous, calennas							
Vols	brecesa - moderately fractured.	1751	18-19					
	912-13 + Proxense 60-70%	1752					4	
de de	= 20-50%	17					\vdash	200
	aboundant Cally verilets (mm - 10m)							
***	minor quartz veintits.							^. <u></u> -
	-more blebs & disserinations of							
	arsappine pyrite, pyrite (.5.1%)							
			¥					-
	Suffer portions of rock usually Show	V						<u> </u>
	a strong garnet - calcite - chlorite alteration	1765	32 - 33					· ·
								
364-38.6	Grey green mod fractured green tone	17.69	33-34					ļ
	- mod. Colos Veining	1170	30-31					
	- very more garnet alteretion	1711	35-36			1		L
	- diss prichetie pyrite (1-2%)							_

DIAMOND DELL RECORD

	PROPERTYSN	0		—— HOLE NO. 8/- 2							
SHEET NUMBER	2	SECTION FROM 38.6	TO_	54.2	STA	RTED					
LATITUDE		DATUM	· · · · · ·		_ CON	MPLETED_		:			
DEPARTURE		BEARING			ULT	IMATE D	EPTH	<u></u>	<u> </u>		
ELEVATION		DIP			_ PRO	POSED DI	PTH				
DEPTH_SECT /	Fo	RMATION		SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SUDGE				
326-445	Gray gien silices	us of g. girens force		1772	39-40						
1.	-alternation with			1075	40-40						
		chlaite 1.5/-1 mi	n Width)	724	41-21						
·				1772	47-43						
	dissembled pyrcho	1/2 pyrite (22-15	3)	1775	43 44						
-	- man on the			1777	44.4						
_	61-6 MoS, (,5mm) S	seen @ 386m in Gorn	el-								
	Calcile - Chilonite	rock - blob in CaCOz	Veinle	£							
	1 ·	Calc-garnet ruck (-/%								
	435m										
44.5m -	A.g. grey green SI	iceous greenstone	,	1778	45-41						
54.2	with some gar	net - cale de chlorit	<u></u>	1779	4, 47						
	efferation.			1780	19-44						
	- Section shows a	bundant freeduring &		1781	42-50						
<u> </u>	Slickenside Surface	٠٠ ـــــــــــــــــــــــــــــــــــ		1782	47-50			٠.			
	- moderate cate	terrentits		1783	53-51		· · · · · · · · · · · · · · · · · · ·				
	· ·	pyrohotile (1-2%)	1784	3742						
				735	57.75						

DIAMOND DRELL RECORD

	PROPERTY_SNO			но	OLE NO	81-2				
SHEET NUMBER	3	SECTION FROM_	54.2 TO_				,			-
LATITUDE		DATUM					MAY 181			
DEPARTURE		BEARING 10	0			IMATE D				
ELEVATION		DIP -So					ертн	m	,	:
DEPTH FEET M		FORMATION		SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$			_
54.2 - 56.7	Strongly garnetize	d (massive late	11-1	1787	54-55				П	-
	granstine -	r Calcite beinte	15 Cathing	1788	5-56.					
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	andgownshine									
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56.7-57-65	Altered Greenston	e Showing Seeds	os of the	1790	57-58					_
	Altered Greenston Strong Garnet	cale te alteral	y in							ì
***************************************	-diss pyrite - p	syrchotile in la	·55							_
	altered rock.									
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*										
										-
										:
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										<u>.</u>
										- '

WESTERN MINER PRESS LTD. STANDARD FORM NO. 501

DIAMOND DEILL RECORD

	PROPERTY	нс	DLE NO	8/-2			North Control			
SHEET NUMBER	SECTION FROM <u>57.65</u> TO	71.93	STA	RTED			<u> </u>			
LATITUDE	DATUM		CO	MPLETED_						
DEPARTURE	BEARING		_ טני	IMATE D	EPTH	<u> </u>		_		
ELEVATION	DIP		PROPOSED DEPTH							
DEPTH FEET	FORMATION	SAMPLE NO.	WIDTH OF SAMPLE	GOLD 8	SLUDGE GOLD \$			٠.		
57.65 M	Grey acen Silicens government	1791	38-59					· 		
-60-94	diss prive private dis-1	1734	51-23							
		7375 °	.00.667					_		
	-6094-61-44-Siliens Calina	1794	62							
	garnet one (no sulparis)	1755	32.763				\square			
	-62.79 - dark Silicens profice gove	1793	53-64					_		
	- calcité veinlet	1797	14-65							
		1794	65-66		The second of					
	-62.79 - 62.99 - garnet, tale pore @ 60° to C.A.	1799	66-67					_		
	62.99-13.69 grey green bien sted greenstone	100	67-58					_		
	Lectaring trends and	1801	63-69					<u> </u>		
		1802	59-70							
	63 69 - 64.49 garnet , cale to good	1323	フローフル					·		
	64.49 - 66.89 - Siliceons, gray sien fg.	1304	7/74							
	garnet aftered greenstone - called newling.			-				<u> </u>		
	desse mite (.2%)							<u> </u>		
								L		
	6689 - Strongly chiow al bieces you			, ex				L		
	71.93 dock green, Baroline Calete							<u> </u>		
	more proble of Core poled							_		
	- Company to the California I design I design I									

DIAMOND DELL RECORD

	PROPERTYSNO	Н	DLE NO	81-2	<u> </u>		
SHEET NUMBER	SECTION FROM 71.93 TO	8872	STA	RTED			
LATITUDE	DATUM		_ cor	MPLETED_			
DEPARTURE	BEARING		ULI	TIMATE D	EPTH		
ELEVATION	DIP		_ PRC	POSED DI	EPTH		
DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$		
71.93-	Mattled Siliceous, gainetilerous calcarrous	1805	72-73				
72.43	affect arrengtine						
	-no sulpholes						
72-43 -	Altered greenstone; cale to reining						
72.93 M							
72.93m-	Highly aftered garnet from chlories	1806	73.74				
88:12 m.	greenstone - in places highly chloritized	1807	7475				
	also calcite veining - some wider veine	1808	75-76				
	are veggy (e, sen @ 793m.)	1809	71 77				
		1.3.10	77.72				
	* Mos bless noted at 73,60 m	1311:	17 10				<u> </u>
	74.98 m.	1812	70 68			77 1 2 2 2 2	
	77.0 m.	1313	100000				
	77.7 m	1814	8.3.				
	* at 78.95m large bless NOS 12-15%	1315	82 583		13/11		
	with associated printe over 20 cm.	1316	83 34		(
	in his garnetiteises Consetent rock	7317	84.85				\perp
		1318	85.36				
20		1319	36 27				

DIAMOND DEILL RECORD

	PROPERTY Sivo	НС)LE NO	01 1	 -			
SHEET NUMBER	6 SECTION FROM <u>88.72</u> TO 2	90.0	STA	RTED				
LATITUDE	DATUM		_ coi	MPLETED_			<u> </u>	
DEPARTURE	BEARING		ַ טעז	TIMATE D	EPTH			
ELEVATION	DIP		_ PRC	POSED DI	EPTH			
DEPTH FEET	FORMATION	SAMPLE NO.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$			
	72.35 a Mos bless associated with						2.0	
	I man Calley seinlifes in it min							
	gained Jerous Groundmass wire 13 fin.							
								<u>. </u>
•	20.10 m = 80.50 Sitterior greenstone							
	cross prode, pricholice (2-4 %)							
:								
	8123m. 5-10% Nos over of m.							_
	in altered grandsfering approximate							Ĺ
								_
	85.9.96.5 - massive Mos in given fig.							
	Siliceous, governot you							L
	Mos is massive over 3cm.			*				_
								Ĺ
	87.17m- Serpratine venlet 2 cmm paralle to CA.							
								L
88.72-	Highly aftered 3 one of Calcorers garnet	1822	\$9-90-	•		1		Ŀ
89.92 m	Greenstone - enterte showing breedated friend							L
	in places					1		Ŀ
89.92-90.0								L
m	- Mosa in garnet, colore, obsorbe "ale				1			

DIAMOND DEILL RECORD

	PROPERTY SMO	— н	DLE NO	81-2	_	-				
SHEET NUMBER _	SECTION FROM 90 TO	108.66	_ STA	RTED				-		
LATITUDE	DATUM		COMPLETED							
DEPARTURE BEARING ULTIMATE DEPTH_										
ELEVATION	DIP		_ PRO	POSED D	EPTH					
DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$			Γ		
90m-10241	Garnet from fig greenstone	1823	90-91							
	diss puch pyrohotile (1-20%)									
	(minor dissicpy)									
		· vice of the control								
		- La Clasidico								
								Γ		
		Apple Constitution of the								
102-41-10866	dark-purplish GASALT (19)		7.							
	provide - prichative (2-5%)	Ŵ	Y							
		1841	108-109							
•										
							1 1			
								4		
								-		
								Γ		
								Γ		

DIAMOND DRILL RECORD

	PROPERTY_SMO		Но	DLE NO	7-7						
SHEET NUMBER	8	SECTION FROM 108.66 TO	145.0	STA	RTED	3 -			<u> </u>		
LATITUDE		DATUM		_ COI	MPLETED_				· .		
DEPARTURE		BEARING		_ UL'	TIMATE D	EPTH		·. · ·			
ELEVATION		DIP	PROPOSED DEPTH								
DEPTH FEET	FC	RMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$					
108-66-122-m.	Siliceous-fig.	purplish - green	1842	<i>たり</i> チー つ							
	Greenstone with	The state of the s	1343	110-							
		te chlore alteration	1844								
	1 - 5/	to set in calcite - disposide	1445	12-					· .		
·	matrix)		1846	1.32.					:		
			1847	1.4711							
	1192 /cm blad of p	yorkotite - chalcopyrite	1849	115-1/2					L		
	in gorock rich roc		1849	1/00/12							
			1250	1.7-18							
	120.37 - small bled of	Moss in sity cours affered	1851	112-19							
	Alexander		1252	1.94120							
			1853	120171							
122 - 122.75	Sugary textured co	12-5. Treate rock	1854	121003					Ŀ		
	partially bander	1 - gneissie Lexture Q	1855	122:123					Ŀ		
	50° 40 CA										
									_		
122.75-1450	to purplish-gree	n Silienous volcanie	1856	127-128					<u> </u>		
		- printed (1%)	1857	130-13%				<u> </u>	<u> </u>		
	- feele versing	in fractures @ 122.75m	1358	142-143					L		
		brecein with callite							_		
	in Frontiere fil	lines	1871	14177							

WESTERN MINER PRESS LTD. STANDARD FORM NO. 501

DIAMOND DELL RECORD

	PROPERTY	SNO		HOLE	NO. 87-2
SHEET NUMBER	9		SECTION FROM 145		
LATITUDE			DATUM		COMPLETED
DEPARTURE			BEARING		ULTIMATE DEPTH
FIEVATION			DIP		PROPOSED DEPTH

DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$	
	pyche community found along namen					
	South vier					
	- chlorite typically bundleding					
_	Streetinged of fracture planes					4
	- garnet is absent in this section					1
139.48-142	0					
145.0-166.0m	Fault zone -very broken , blocky	1359	151-152			1
-	fault gouge	1860	1505-	155.5		\perp
	- softer gouge is moderately pyritized	1861	163-164	the second second second		\perp
	(~2-5%)	1873	150-151			\bot
. 2						
1660- 175.5	Highly fractured dark green - purplish	1862	169-170			
	tig. basalt					\perp
	-mino- dissi pyrite					\perp
	- minor Calo, Ventets					
175:5-1969	f.g. dark purplish basolt	1363	184-195			
	- und cacos beinlits	1864	194-195			
	- minor dissiprate.	1865	189-190			
end of hale		1875	193-194			
		1876	1-75 - 194			

DIAMOND DELL RECORD

PROPERTY SNO. HOLE NO. 81-3 SECTION FROM O TO 90.22 STARTED MAY 8 SHEET NUMBER COMPLETED MAY. 11 DATUM_ LATITUDE _ ULTIMATE DEPTH 135.94 BEARING 280 DEPARTURE DIP -60° ELEVATION 903 m PROPOSED DEPTH____ WIDTH SLUDGE GOLD S GOLD \$ DEPTH FEET FORMATION Durk brown , dark-lot green tog salt -with interculations of pole green f.g. Sixicous tuff institute fractives with calcite volcance host (wider fractures ~ 2cm)

- diss prik and minor pyrhitic (1-5%) mostly within dark brown basalt

pyrk dissipation for siliceans greenstone with

41.5-20.22 - Light - med green f.g. siliceans greenstone with

speradic garnefigation (44.2m - 8565m)

-diss pyrite - pyrhitite (1-5%)

-diss comin pad occupies (1-28) 77.5-77.5 m.

- moderate frontany scalete vering - rock has overall nottled - banded' - River as a rock interculation

garnet, gation

WESTERN MINER PRESS LTD. STANDARD FORM NO. 501

DIAMOND DCILL RECORD

	PROPERTY 500	нс	LE NO.	81-3	-		•	
SHEET NUMBER _	2 SECTION FROM <u>90-22</u> TO	135.94.	STA	ARTED				
LATITUDE	TITUDE DATUM		CO	COMPLETED				
DEPARTURE	BEARING		_	PTH				
ELEVATION	DIP	1		OPOSED DE			1	
DEPTH-FEET	FORMATION preciated	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	GOLD S		4	
90-22-135.94	Dark houn - grey green fig. 911111						\perp	
geren	Dark brown - grey green f g. 911111						4	
	- moderate fractures with callie veining						_	
	-discounte (1-5%)						\bot	
	11.56-11704 10 to be de de de filling)				<u> </u>		_	
	purchased when the places (breeze a some)						_	
	(breccia sove)							
						26.		
04-117-96	Great growth in how the Vistonia	,				3-4		
96 - 135 aum	Darkbissa-purpling best with							
	fright interior light given tall					200		
	- Latter to the soil secondy 5-12cm							
	wide a occasion contain briskie							
	closes up to - 2 cm/2 . Os sua in							
	20-15 cm gine at 124.85 - 130 m.	•						
		`				100 mg		
			1					
						*2		

DIAMOND DEILL RECORD

	PROPERTY	Но	DLE NO	81-9		1.		1		
SHEET NUMBER _	SECTION FROM _O	N FROM 0 TO 52.12 STARTED MAY 12/81								
LATITUDE	DATUM					·/				
		BEARING 110		COMPLETED MAY 15/8/ ULTIMATE DEPTH /32.89						
DEPARTURE										
elevation $\underline{-}^{\mathcal{B}}$	63 m. DIP -60°		PRC	POSED D	EPTH					
DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$			- 1		
0-61	Overbuiden						П			
								-		
21-16.15	Grey, med green fractured & g green	13 tone								
	breecia							_		
	- fractures filled by Cacos							Γ		
	- pyrite (1-21/0) Occassionally See	105						7		
	fracture filling					* .				
	- Little Ina visible quarty		~							
			1.							
16.18-27.47	Dark very f g Siliceous Granstone									
	- die pyrite - printite (1-5%)									
in the state of th	- mor fracturing & cale, & Verning.					A				
-							:			
27.43-52.12	time grain grey-med. green, highly Sill	corus								
	greenstone (Cala-Silicate)									
	- altered Sections are typically gre	en-								
	purplish with Some garnetigation									
	aggregates in greenstone									
WESTERN MINER PRESS	LTD" STANDARD FORM NO. 501									

DIAMOND DELL RECORD

PROPERTY SALO HOLE NO. 81-4 SECTION FROM 47.55 TO 76.8. SHEET NUMBER STARTED COMPLETED ____ DATUM LATITUDE ULTIMATE DEPTH DEPARTURE BEARING DIP PROPOSED DEPTH____ ELEVATION WIDTH SLUDGE FORMATION GOLD S DEPTH FEET 37.32 - 39 32 (Green altered zone with maint - cate to alteration 44.2 47.24 guinet alterest, on your ensisted highly fractured vol breen 4755 - abjust pyr te along fracture planes -5272 1-8% - Visible graphite als along 5272-6231 Proy green Speckled Volkanic prophery - well developed phenoery - of hence to Lettespan, go visible Sulphides graphite along fractures and as disseminations 6431-763. Fractisced, breceided Volcanic porphyry 24/2 (1-8 1/2) - increased Cacon Ventets

WESTERN MINER PRESS LTD. STANDARD FORM NO. 501

DIAMOND DEILL RECORD

	PROPERTY SND	— нс	OLE NO	31-4		
SHEET NUMBER	3 SECTION FROM 76.8 TO	1204	STA	RTED		
LATITUDE	DATUM	<u> </u>	COI	MPLETED_		
DEPARTURE	BEARING		_ UL1	TIMATE D	EPTH	
ELEVATION	DIP		_ PRC	POSED DI	EPTH	
DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$	
73.8-77.12	Grey-geren altered parphyry					
	- strongly fractured with abundant					
	Calcite fracture filling with					
	Castoriated printe					
	- Graphile occurry on tracture planes					
	parollel to CA					
7712-9229	Mod - Strongly altered yot po-phyry					
	Parker planes 5-15 11.					
	Rombing planes (5 - pt /2)					
	- grapita securs an tracture planes					
	- typical hercalated with dack					
	- 10 clasms of greenstone		1 - 1			
	-86.37-90.83 highly broken rock.					
109.73						
93.29-	Brown-rod how tile - pale green					
· ·	Ag. givens for ac, tull - breece well					
	- Greensions is Typically speckled or					
·	Generally commenterted with hereitite			· · · · · · · ·		
	Inclusions - mydorate Calcite Veining					

DIAMOND DEILL RECORD

	PROPERTY 51/0	5ND HOLE NO. 81-4								
SHEET NUMBER		то	_ STA	RTED			· · · · · · · · · · · · · · · · · · ·			
			COMPLETED ULTIMATE DEPTH PROPOSED DEPTH							
ELEVATION										
DEPTH FEET	FORMATION	SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$					
	104.55 - 108.21 Broken Shear rock									
	108.81- 109.73 Rock is strongly graphitic									
	along fracture planes of buff Colored									
	breceived perphyry									
109.73-102.89	Mid - dack Freen for Siliceous									
	arrens fone						1			
	- Some localization of reddick									
	hendfield inclusions									
	122.23 - 12466 - highly brocken 100k									
	- graphitic & pyrit and									
							1			
				· · · · · · · · · · · · · · · · · · ·			\bot			

DIAMOND DRILL RECORD

	PROPERTY SNO			нс	OLE NO	21-5				
SHEET NUMBER SECTION FROM TO		129.54	29.54 STARTED MAY 16/81							
		DATUM	COMPLETED May 20/8/							
DEPARTURE		BEARING 776						4.		
ELEVATION 84	3 m.	DIP				POSED D			-	
DEPTH FEET		FORMATION		SAMPLE NO.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$			
(1,1)										L
										Ĺ
	The many of the	biece and miles or			296-27					
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4.8		1866						L
										L
										L
11.45	Store I was there	d Alexander and a		1867	30.18 -31.18	•				L
		Alexander	77.17.17.19	1868	36-367					
		tocalization or con			374-38,25					L
		2010 to 2 1/2 1/2 / 2/2								L
	and a property to		•							
										L
1000000000	Highly brisking	palenty of prome		1870	42.98 -					
	diss prite C	2-10 %								
5262-120 64	14/1101 . 11 31de	Hard Dy marin	4000							
23-23-7		And the state of t								
	20 10 10 10 10 10	- 1/4/2 4/1								
				 			1		T	Γ

DIAMOND DEILL RECORD PROPERTY SND

SHEET NUMBER	SECTION FROM /				RTED			
DEPARTURE	BEARING			ULI	rimate d	EPTH		
ELEVATION	DIP			_ PRC	POSED D	ЕРТН	 ·	
DEPTH FEET	FORMATION		SAMPLE No.	WIDTH OF SAMPLE	GOLD \$	SLUDGE GOLD \$		
							T-	
129.54-131.0	Sofland pelveral shear ?ne - graphitic or freedown plans							
	- graphitic or freedore plans							
	17 110 1131 Sull Calletina							÷
121-154.80	Mid altered granther			·				_
	Mod altered granthers							Γ
								Γ
54 10 -	In they An orandon							Γ
	disapore f. 5-20							
								Γ
		-						
					.>			
								_
								_
								_
				* 4				

APPENDIX III

CONSULTING REPORTS

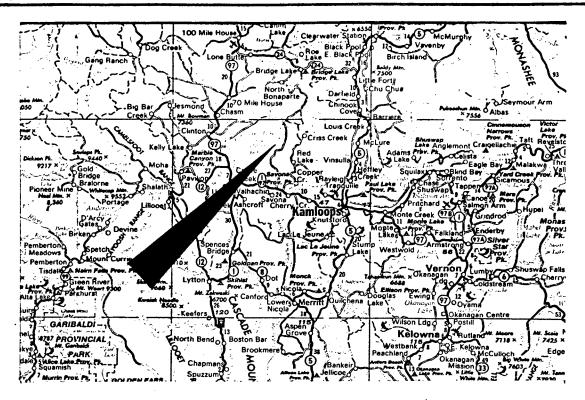
- i) Geochemical-Geophysical Report Glen E. White - December 22, 1980
- ii) Geochemical Report VPEM Glen E. White - March 12, 1981

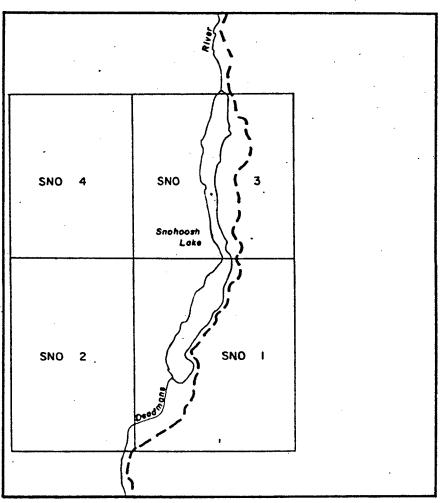
GEOCHEMICAL - GEOPHYSICAL REPORT ON

NEWHAWK GOLD MINES LTD.

Sno mineral claims, Snohoosh Lake. Clinton M.D. Lat. 51⁰05'N Long. 120⁰53'W NTS 92 P/2

AUTHOR: Glen E. White, B.Sc., P.Eng.
DATE OF WORK: October 27 - November 12/80
DATE OF REPORT: December 22/80





NEWHAWK GOLD MINES LTD. SNO CLAIMS LOCATION AND CLAIMS MAP

Glow & White graphy sized arms alting property led.

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Plate 1 Detail Induced Polarization Profile	

INTRODUCTION

The Sno claim group is described in a preliminary report by J.W. Macleod P.Eng., dated September 17, 1980. In it he describes lenses of a garnet skarn which are erratically mineralized with pyrite, chalocypyrite and molybdenite. This report describes a program of linecutting, geochemical soil sampling and geophysical surveying undertaken to examine these showings. The program was completed during the period October 27 - November 12, 1980 by Glen E. White Geophysical Consulting & Services Ltd. on behalf of Newhawk Gold Mines Ltd.

PROPERTY

The property consists of the SNO, 1-4 claims record numbers 847-50 recorded August 05, 1980 as illustrated on Figure 1.

LOCATION AND ACCESS

Snohoosh Lake is located some 50 Km north-west of Kamloops B.C. in the Clinton Mining Division. Access is by good gravel road for some 30 Km up the Deadman River valley north from highway 97. The turnoff is some 6 Km west of Savana a small community at the west end of Kamloops Lake. Lat. 5105'N, Long. 123055'W NTS 92 P/2.

GENERAL GEOLOGY

The general claims are illustrated on Map 1278A in Memoir 363 by Campbell and Tipper, 1971. The majority of the claim group is underlain by

plateau basalt of Miocene age. A window in these recent flows is created by the valley of the Deadman River. The basalts lie on top of the Deadman River formation which is comprised of diatemaceous earth and pozzlamic ash. This formation occurs on the east side of Snohoosh Lake. Below this formation Triassic Nicola volcanics are exposed in places along the valley. Mr. Macleod has mapped thin bedded light weathering argillites and limey argillite on the west side of the lake around the showings. He considers these sediments to more likely be part of the Nicola series than the Deadman formation. At the north end of the lake granitic rocks are The mineralization consists of argentiexposed. ferous and auriferous pyrite and chalcopyrite with minor values of molybdenum and tungsten in lenses of garnet skarn in the limey sediments.

SURVEY GRID

The survey lines are orientated in an east west direction parallel to the slope and parallel to the shore of Snohoosh Lake. To the west are the steep bluffs of the basalt flows. The lines are spaced 50 m apart and numbered at 50 m intervals. Some 12 Km of survey grid was established.

GEOCHEMICAL SURVEY

Soil samples of the upper "B" horizon were taken along the traverse lines at 200 foot intervals. The soil samples were then placed in soil envelopes provided by Chemex Labs Ltd. of North

Vancouver, B.C. The samples were delivered to the above lab where -80 mesh sieving, digestion by hot perchloricnitric acid and analysis by atomic absorption were carried out under the supervision of professional geochemists. 236 samples were obtained and analysed for ppm copper, molybdenum, silver and zinc.

MAGNETOMETER SURVEY

The magnetometer survey was conducted using a Scintrix MF-1 Fluxgate magnetometer. This instrument measures the vertical component of the earth's magnetic field to an accuracy of 10 gammas. Corrections for diurnal variation were made by tying into previously established base stations at intervals not exceeding one and one half hours. ings were taken at 25 m intervals along the traverse lines.

ELECTROMAGNETOMETER SURVEY

Hunopolis transmitter This survey was conducted using a Ronka EM-16 VLF Electromagnetometer. This instrument acts as a receiver only. It utilizes the primary electromagnetic fields generated by VLF marine communica-These stations operate at a fretion stations. quency between 15-25 KHZ, and have a vertical antenna-current resulting in a horzontal primary field. Thus, this VLF-EM measures the dip-angle of the secondary field induced in a conductor.

For maximum coupling, a transmitter station located in the same direction as the geological strike should be selected, since the direction of the horizontal electromagnetic field is perpendicular to the direction of the transmitting station.

Readings were taken at 25 m intervals and the data filtered in the field by the operator as described by D.C. Fraser, Geophysics Vol. 34, No. 6 (December 1969). The advantage of this method is that it removes the dc and attenuates long spatial wave lengths to increase resolution of local anomalies, and phase shifts the dip-angle data by 90 degrees so that crossovers and inflections will be transformed into peaks to yield contourable quantities.

INDUCED POLARIZATION SURVEY

The equipment used on this survey was the Huntec pulsetype unit, and Mark III receiver. Power was obtained from a Briggs and Stratton motor coupled to a 2.5 KW 400 cycle three phase generator, providing a maximum of 2.5 KW D.C. to the ground. The cycling rate is 1.5 seconds "current on" and 0.5 seconds "current off", the pulse reversing continuously in polarity. Power was transmitted to the ground through two potential electrodes, P_1 and P_2 which were deployed in the three electrode array with an "a" spacing of 50 m and separations of N=2 and 3.

The data recorded in the field consists of careful measurements of the current (I) in amperes flowing through electrodes C_1 and C_2 , the primary

voltage (V_p) appearing between electrodes P_1 and P_2 during the "current on" part of the cycle, and the secondary voltage (V_s) appearing between electrodes P_1 and P_2 during the "current off" part of the cycle. A cycle time of 4 seconds was used with a duty ratio of 2.2 - 1, $T_p.20$ ms and T_d 60 ms.

The apparent chargeability (M') in milliseconds, is calculated by T_p ($M_1 + 2M_2 + 4M_3 + 8M_4$) = M', where T_p is the basic integrating time in tenths of seconds. M_1 , M_2 M_3 and M_4 are the chargeability effects at various times on the voltage decay curve following switch off of the transmitter, measured as a percentage of the primary voltage, V_p recorded during the "current on" time. By the use of these factors, one can gain an estimate of the decay curve in terms of chargeability for the given time T_p . This gives a quantitative value to the data measured.

The apparent resistivity, in ohm-meters, is propertional to the ratio of the primary voltage to the measured current, the propertionality factor depending on the geometry of the electrode array used. The chargeability and resistivity abtained are called "apparent" as they are values which that portion of the earth sampled by the array would have if it were homogeneous. As the earth sampled is usually inhomogeneous, the calculated apparent chargeability and apparent resistivity are functions of the actual chargeabilities and resistivities of the rocks sampled and of the geometry of the rocks.

DISCUSSION OF RESULTS

The geochemical results are illustrated on The copper map Figure 2 shows an ano-Figures 2-5. malous threshold value of some 40 ppm. The area of the showing just north of the baseline on the shore of the lake gives values of 120-142 ppm. This anomaly follows the shore of the lake north-To the south the copper values form a broad high with the highest value being 250 ppm. molybdenum map shows three pronounced highs of 10 and 11 ppm. These occur around the showings and with a value of 235 ppm copper. The silver map shows no anomalous values. The zinc map on the other hand shows the same northward trending anomalous values along the shore of the lake as does the copper one. The zinc anomalies give highs of 220-290 ppm. Background is some 70 ppm zinc. Three of the strongest zinc values are directly coincident with the molybdenum and copper ones which are in the area of the showings. The zinc values also show a weak trend to the southwest coincident with the copper trend.

The vertical magnetic intensity data, Figure 6, shows values which range from a high of 1820 gammas to a low of 760 gammas around a background of some 1100 gammas. No descriptive high or low trends were detected. This would tend to indicate that the skarn mineralization is devoid of any high magnetic susceptability minerals.

The VLF-EM survey was undertaken to see if any near surface highly conductive sulphide or graphite zones could be detected. Two strong anomalies were delineated. However they follow some steep topographic relief and give no induced polarization responses which would suggest they are caused by major gouge filled fault zones.

The induced polarization chargeability data shows a definately anomalous zone in the southern portion of the survey grid. This zone appears to be trending northeast-southwest and gives highs of 20 to 26 milliseconds above a very low background of 1-3 milliseconds. The apparent resistivity data, shows the anomalous chargeability zone to be a highly resistive area whereas very low values are indicated in areas to the north. The detail induced polarization work shown on plate 1 suggests that the low resistively areas are a covering of conductive overburden which will also inhibit geochemical ion migration and may partially be the cause of the high VLF-EM anomalies.

Correlation of the geochemical-geophysical data shows excellent coincident trends. The copperzinc data closely follow the northeast-southwest chargeability trend. The high molybdenum, copper and zinc values are situate directly on a 10 millisecond chargeability anomaly which indicates it is chemically similar to the samples obtained by J.W. Macleod P.Eng. and that it has sufficent chargeability materials to give a three times background anomaly on two lines. The southward extension of this induced polarization anomaly where it shows direct correlation with the copper and zinc values

would appear to be very interesting since the detail induced polarization work with N = 2 and 3 shows an increase of chargeable materials with depth.

CONCLUSION

During the month of November 1980 a program of geochemical soil sampling and geophysical surveying was conducted over a portion of the Sno claim group on behalf of Newhawk Gold Mines Ltd.

The survey detected a strong chargeability anomaly which trends northeast under Snohoosh Lake and is open to the southwest. This trend is directly coincident with geochemical values of copper, zinc and molybdenum. The mineral showing on the shore of Snohoosh Lake would appear to be part of this trend. Thus since the lake showings are an area of lower chargeabilty values the extension of the zone to the southwest would appear to be of definite interest.

RECOMMENDATIONS

It is recommended that the survey grid be extended to the southwest and that the soil sampling and induced polarization surveying be continued. Diamond drilling should also be undertaken in the area of the high chargeability values. The zone would also appear to trend under the lake. A test for massive sulphide mineralization by the vector pulse electromagnetometer technique is warrented as this system could then be used in the winter time to survey under the lake.

Respectively submitted, GLEN E GEOPHYSICAL CONSTITUTE LTD.

Glen A B.Sc., P.Eng., Goophysiche

APPENDIX

Instrument Specifications

MAGNETOMETER

A. Instrument

- (a) Type Fluxgate
- (b) Make Scintrex MF-1

B. Specifications

- (a) Measurement Vertical Magnetic Field
- (b) Range ≠ 100 K gammas in 5 ranges
- (c) Sensitivity Maximum 20 gammas per scale division
- (d) Accuracy 10 gammas

C. Survey Procedures

- (a) Method One and one half hour loops
- (b) Corrections (i) Base

(ii) Diurnal

(c) Station relationship - each station read for intensity of vertical magnetic field.

APPENDIX

Instrument Specifications

ELECTROMAGNETOMETER

A. <u>Instrument</u>

- (a) Type Geonics VLF EM
- (b) Make Ronka EM 16

B. Specifications

- Measurement (i) Utilizes primary fields generated by VLF marine communication stations measures the vertical field components in terms of horizontal field present.
 - (ii) Frequency range 15-25 KHZ
 - (iii) Range of measurement in phase 150% or 2900 quadrature 2 40%
 - (iv) Method of reading null detection by earphone, real and quadrature from mechanical dials.
 - (v) Accuracy 1% resolution

C. Survey Procedures

- Method (a) Select closest VLF station perpendicular to traverse lines.
 - (b) In-phase dial measures degree of tilt from vertical position.
 - (c) Quadrature dial calibrated in percent null.
 - (d) Station plot plot values read at station surveyed.
 - (e) Manually filter dip-angle data.

INSTRUMENT SPECIFICATIONS

INDUCED POLARIZATION SYSTEM

A. Instruments

- (a) Type pulse
- (b) Make Huntec
- (c) Serial No. transmitter #107 receiver #3016

B. Specifications

- (a) Size and Power 2.5 KW
- (b) Sensitivity 300 x 10.5 volts
- (c) Power Sources 2.5 KW 400 cycle three-phase generator
- (d) Power 8 H.P. Briggs and Stratton @ 3000 R.P.M.
- (e) Timing electronic, remote and direct.
- (f) Readings (i) ampls (ii) volts primary and secondary
- (g) Calculate (i) Resistivity ohm-meters (ohm-feet)(ii) Chargeability milliseconds

C. Survey Procedures

- (a) Method power supplied to mobile probe along TW 18 stranded wire from stationary set-up
- (b) Configuration Pole-dipole (three electrode array)
 Plot point midway between C₁ and P₁

D. <u>Presentation</u>

- Contour Maps (i) Chargeability milliseconds
 - (ii) Resistivity ohm-meters (ohm-feet)

STATEMENT OF QUALIFICATIONS

NAME:

WHITE, Glen E., P.Eng.

PROFESSION:

Geophysicist

EDUCATION:

B.Sc. Geophysics - Geology

University of British Columbia

PROFESSIONAL

ASSOCIATIONS:

Registered Professional Engineer,

Province of British Columbia

Associate member of Society of Exploration

Geophysicists.

Past President of B.C. Society of Mining

Geophysicists

EXPERIENCE:

Pre-Graduate experience in Geology -

Geochemistry - Geophysics with Anaconda

American Brass

Two years Mining Geophysicist with Sulmac Exploration Ltd. and Airborne Geophysics

with Spartan Air Services Ltd.

One year Mining Geophysicist and Technical

Sales Manager in the Pacific north-west

for W. P. McGill and Associates

Two years Mining Geophysicist and super-

visor Airborne and Ground Geophysical

Divisions with Geo-X Surveys Ltd.

Two years Chief Geophysicist Tri-Con

Exploration Surveys Ltd.

Ten years Consulting Geophysicist

Active experience in all Geologic provinces

of Canada

COST BREAKDOWN

PERSONNEL	DATE	WAGES	TOTAL
J. Miller T. Allman M. Gray G. Greig	Oct 27-Nov 12/80 Oct 27-Nov 12/80 Oct 27-Nov 12/80 Oct 27-Nov 12/80	145.00 125.00 115.00 125.00	2320.00 2000.00 1840.00 2000.00
Meals an Vehicle Instrume	2240.00 1040.00 1360.00 320.00 320.00		
Materia:	magnetome ical analysis ls and boat rental		980.00 150.00
Interpre	etation and reports Total		950.00 \$15520.00

APPENDIX IV

STATEMENT OF COSTS

COST STATEMENT

1981 WORK - Sno Property

A. Salaries (Geological Staff)

- G. Thomson April 8-10 (3 days) April 15-17 (3 days) April 27-May 24 (20 days) 26 days @ \$100/day = \$2,600.00
- L. Cooper May 2-24 (15 days) $15 \text{ days @ $75/day} = \frac{1,125.00}{$3,725.00}$
- B. Food & Accommodation (Kamloops Slumber Lodge, Savona Restaurant)
 - G. Thomson (April 27-May 24) 28 days @ \$40.81/day \$1,142.68
 - L. Cooper (May 2-May 24) 23 days @ \$40.81/day 938.63
 - F. Boisvenu (April 27-May 4, May 8, May 11-15, May 22-25) 18 days @ \$40.81/day 734.58
 - G. Perron (April 27-May 24) 28 days @ \$40.81/day 1,142.68
 - B. Benoit (April 27-May 15) 19 days @ \$40.81/day 775.39
 - S. LaFreniere (April 27-May 24) 28 days @ \$40.81/day 1,142.68
 - A. Burwash (April 28-May 11) 14 days @ \$40.81/day 571.34

\$6,447.98

C. <u>Transportation</u>

Truck rental $(4 \times 4, 3/4 \text{ ton Pickup})$

1 month @ \$800/month (April 24-Ma	ay 24) \$800.00
Distance charge - 3100 km @ .10/k	
Gas & Oil	532.49
	\$1,642.49

Rental of one 4.3m aluminum boat with outboard motor
April 30 - May 23, 1981 @ \$35/day \$840.00

Air fare between Kamloops and Vancouver

G. Thomson - 7 one way fares	@ \$57.25 400.75
L. Cooper - 1 one way fare @	
	\$458.00

- D. Analyses (Drill core assays Kamloops Research & Assay Lab Ltd.)
 - 18 samples analysed for gold, silver, copper
 - 87 samples analysed for gold, silver, copper, molybdenum
 - 16 samples analysed for gold, silver
 - 5 samples analysed for gold, silver, molybdenum
 - 126 samples 126 Gold @ \$5.50 each = \$693.00 126 silver @ \$5.50 each 693.00 105 copper @ \$6.00 each 630.00 92 molybdenum @ \$6.50 598.00 \$2,614.00

E. Contracted Surveys

Geophysical-geochemical survey contracted by Glen E. White Geophysical Consulting & Services Ltd. (See cost breakdown in appendix for Glen E. White Geophysical Consulting & Services Ltd.)

Survey 1 Oct 27 to Nov 12, 1980 \$15,520.00 Survey 2 Feb 25 to March 2, 1981 5,190.00 \$20,710.00

F. Report & Map Preparation

G. Thomson - 9 days @ \$100/day =

\$900.00

G. Drilling Costs

Man Hours Charged:

- F. Boisvenu -April 27-30, May 1,3,4,8,11-15,22-25 92 hours @ \$19.50/hr \$1,793.33
- G. Perron April 27-May 25 150 hours @ \$19.50/hr 2,919.37
- B. Benoit April 27-May 15 80 hours @ \$19.50/hr 1,557.00
- S. LaFreniere April 27-May 25 118 hours @ \$19.50/hr 2,293.80

	A. Burwash - April 27-May 11 80 hours @ \$19.50/hr	\$1,557.00	\$ <u>10,120.50</u>
			en e
	Drilling		
	548.94 m of BQ drilling @ \$63.98/m 72.24 m of BQ drilling @ \$71.50/m	\$35,391.21 5,435.19	\$40,826.40
	Placing Casing		
,	Holes in excess of 15.24 m.:		
	May 2 0-15.85 m BW casing 13 dr May 4 0-17.37 m Triconing 3 dr	ill hours	~~~~
		ours @ \$18.00/h	
	Casing wear		$\frac{41.60}{$329.60}$
	Holes less than 15.24 m.:		
	27.43 m B.W. casing @ \$63.98/m Casing wear		\$1,782.00 72.00
			\$1,854.00
•		TOTAL:	\$2,183.60
	Acid Tests - 4		\$249.60
	Standby		
	Drill hours - 26 @ \$18.00/hr		\$468.00
	Moving - 18 drill hours @ \$18.00/hr		\$324.00
	Other	Drill Hours	
	May 1 Ream through sand and cave May 2 Trying to penetrate overburd May 8 Mixing mud May 16 Mixing mud	den 8 2 <u>1</u> 15 hrs	
	15 hrs @ \$18.00/hr Drill site preparation (April 27-Ma	ay 25)	$\begin{array}{r} \$270.00\\ \$1,726.80\\ \$1,996.80 \end{array}$
	Malaniala & Reminment		
	Materials & Equipment	\$909.50	
	5 BW triconing @ \$181.90 each 1 BQ core bit	329.00	
-	l BW casing shoe	117.00	
	·		

			4.44
	55 bags mud @ \$6.84 each 400 gals. diesel fuel @ \$1.30/gal. Room charge, Slumber Lodge	376.20 520.00 27.56	
	Add 17% overhead charge	387.47	\$2,666.73
	83 BQ core boxes @ \$6.00 each		500.00
	Truck rental		1,000.00
			\$4,166.73
	Equipment Rental & Transport		
	Rental of D-6 Cat -April 28-May 25, @ \$5,500.00/month	,1981 \$5,500.00)
	Shipping of D-6 Cat	4170 00	
	Kamloops to Snohoosh Lake (April 28 Snohoosh Lake to Kamloops (May 25)	3) \$179.00 289.00	
	Shipping of Drill Rig		.*
	Northair Mines to Snohoosh Lake April 26-28	\$1,370.3	
	Snohoosh Lake or Kamloops	296.00	<u>\$7,634.37</u>
O * * *	ANA DI OCENC		
50	MMARY OF COSTS		
Α.	Salaries (G. Thomson & L. Cooper)	\$3,725.00)
В.	Food & Accommodation	2,081.3	1
c.	Transportation	458.0	-
D.	Assay Costs	2,939.4	2
Ε.	Contracted Surveys	20,710.0	0
F.	Report & Map preparation	900.0	0
G.	Drilling Costs	67,970.00	<u>) </u>
	TOTAL:	\$ <u>98,783.7</u>	<u>3</u>

APPENDIX V

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

NAME: Gregory R. Thomson

PROFESSION: Geologist

EDUCATION: University of British Columbia

B.Sc. - Major in Geology (1970)

B.C. Teaching Certificate (1974/75)

PROFESSIONAL ASSOCIATIONS: Member of Canadian Institute of Mining

and Metallurgy

EXPERIENCE: 1969 - 1972

Exploration Geologist with Denison Mines Ltd., Tri-Con Exploration Surveys Ltd., Nor-West Kim Resources

Ltd., Versatile Mining Ltd. (4 field seasons)

April 1973 - Sept 1974

Geological Consultant with Department of Indian and

Northern Affairs, Calgary, Alberta

Sept 1976 - March 1981

Teacher of junior secondary science and mathematics

Delta School District, B.C.

March 1981 - Present

Exploration Geologist with Northair Mines Ltd.,

Vancouver, B.C.

STATEMENT OF QUALIFICATIONS

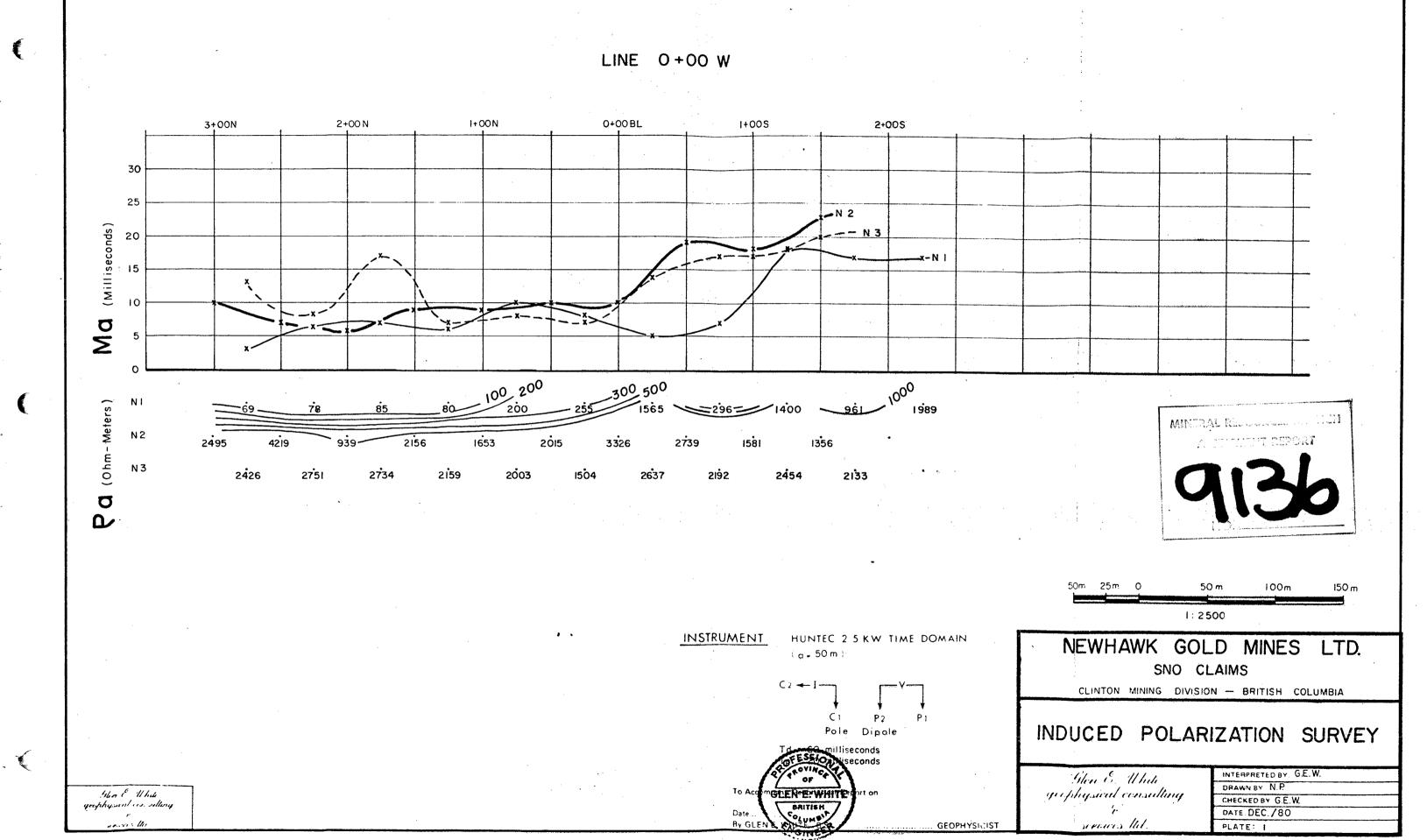
I, Fred G. Hewett, with a business address in the City of Vancouver, and residential address in the District of Coquitlam, in the Province of British Columbia,

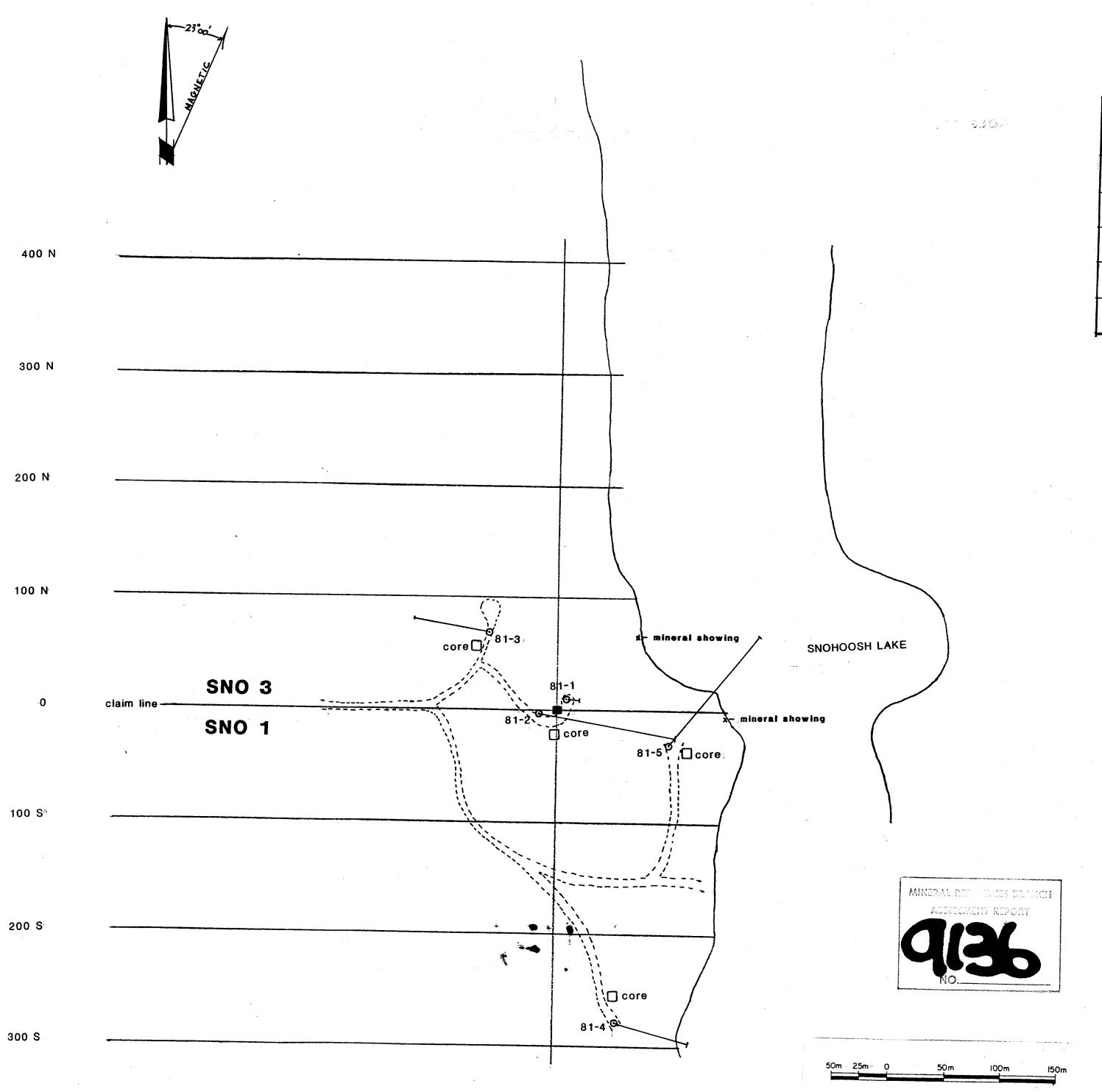
DO HEREBY CERTIFY THAT:

- 1. I am a graduate of the University of British Columbia with a Bachelor of Science Degree in Geology.
- 2. I am a registered member of the Association of Professional Engineers of the Province of British Columbia.
- 3. I am a member of the Canadian Institute of Mining and Metallurgy and a fellow of the Geological Association of Canada.
- 4. I have practiced various levels of my profession in Canada for approximately fifteen years.
- 5. I am presently employed by Northair Mines Ltd. and did personally supervise work described in this report.

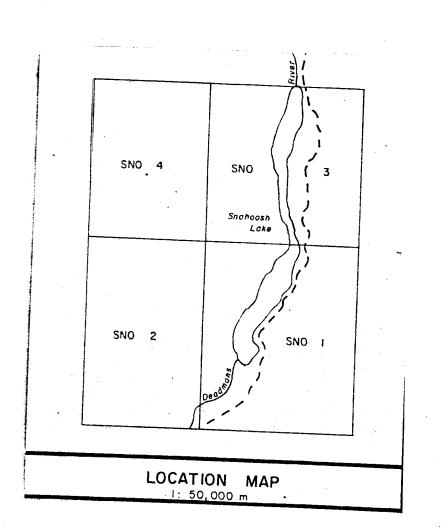
Fred G. Hewett, B.Sc., P. Eng.

Dated at the City of Vancouver, In the Province of British Columbia, This 19th day of June, 1981.





		The state of the s		
DRILL HOLE DATA (B.Q)				
HOLE No.	DIP	AZIMUTH	COLLAR ELEV.	DEPTH
81-1	-60°	100°	873 m	20.1 m
81-2	-60°	100	873 m	196.9 m
81-3	-50°	280	903 m	135.94 m
81-4	-50°	115	863 m	132.9 m
81-5	-45°	40°	843 m	180.1 m



the state of the s	LD MINES LTD.		
DIAMOND DRILL HOLE PLAN			
Drawn by: G.R.T.	Date: May 1981		
N.T.S. 92 P/s.e.	Figure No. 3		

