

ARIS SUMMARY SHEET

District Geologist, Smithers

Off Confidential: 89.02.04

ASSESSMENT REPORT 17055

MINING DIVISION: Skeena

PROPERTY: Bliss  
LOCATION: LAT 56 19 07 LONG 130 21 37  
UTM 09 6242158 415861  
NTS 104B08W

CLAIM(S): Bliss 1-4  
OPERATOR(S): Magna Ventures  
AUTHOR(S): Sandberg, T.  
REPORT YEAR: 1988, 31 Pages

COMMODITIES

SEARCHED FOR: Gold, Silver

GEOLOGICAL

SUMMARY: The property is underlain by Lower Jurassic Unuk River Formation andesitic flows, tuffs, associated sediments and metamorphosed equivalents. The only known mineral occurrence on the property is the recently discovered TK vein, a galena-rich quartz vein carrying significant gold and silver values.

WORK

DONE: Geochemical  
ROCK 4 sample(s) ;AU,AG,PB,ZN,CU,AS,SB  
SOIL 294 sample(s) ;AU,AG,PB,ZN,CU,AS,SB  
Map(s) - 3; Scale(s) - 1:10 000

FILE: 104B 087

LOG NO: 0210	RD.
ACTION:	
FILE NO:	

REPORT ON THE BLISS GROUP  
NEAR STEWART, BRITISH COLUMBIA  
FOR MAGNA VENTURES LTD.

SUB-RECORDER  
RECEIVED  
FEB 4 1988  
M.R. # ..... \$ .....  
VANCOUVER, B.C.

SKEENA MINING DIVISION

N.T.S. 104-B-18-W

LAT. 56°19'N

LONG. 130°21'E  
GEOLOGICAL BRANCH  
ASSESSMENT REPORT

17,055

TIM SANDBERG

COOKE GEOLOGICAL CONSULTANTS LTD.

FEBRUARY 01, 1988

FILED

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## INTRODUCTION

This report describes work done on the Bliss 1, 2, 3 and 4 claims between September 4th and 12th of 1987 as part of a reconnaissance project on the whole DOC Property for Magna Ventures Ltd. by Cooke Geological Consultants Ltd.

Accommodation for the crew was at the Magna tent camp, approximately 6 km. away on the other side of the S. Unuk River, with access to the property by Vancouver Island Helicopters Bell 206B. Traverses totalling 9.3 km of line were run on the property, with control by altimeter, hip chain and topographic map, 294 soil samples and 4 rock samples were collected during the 10 man days spent on the property.

## LOCATION AND ACCESS

The Bliss Claims are located approximately 50km northwest of Stewart, B.C. on the east side of the S. Unuk River, near the junction of Divilbliss Creek (N.T.S. 104-B/8, Frank Mackie Glacier). Access to the property is by helicopter from Stewart.

## TOPOGRAPHY AND CLIMATE

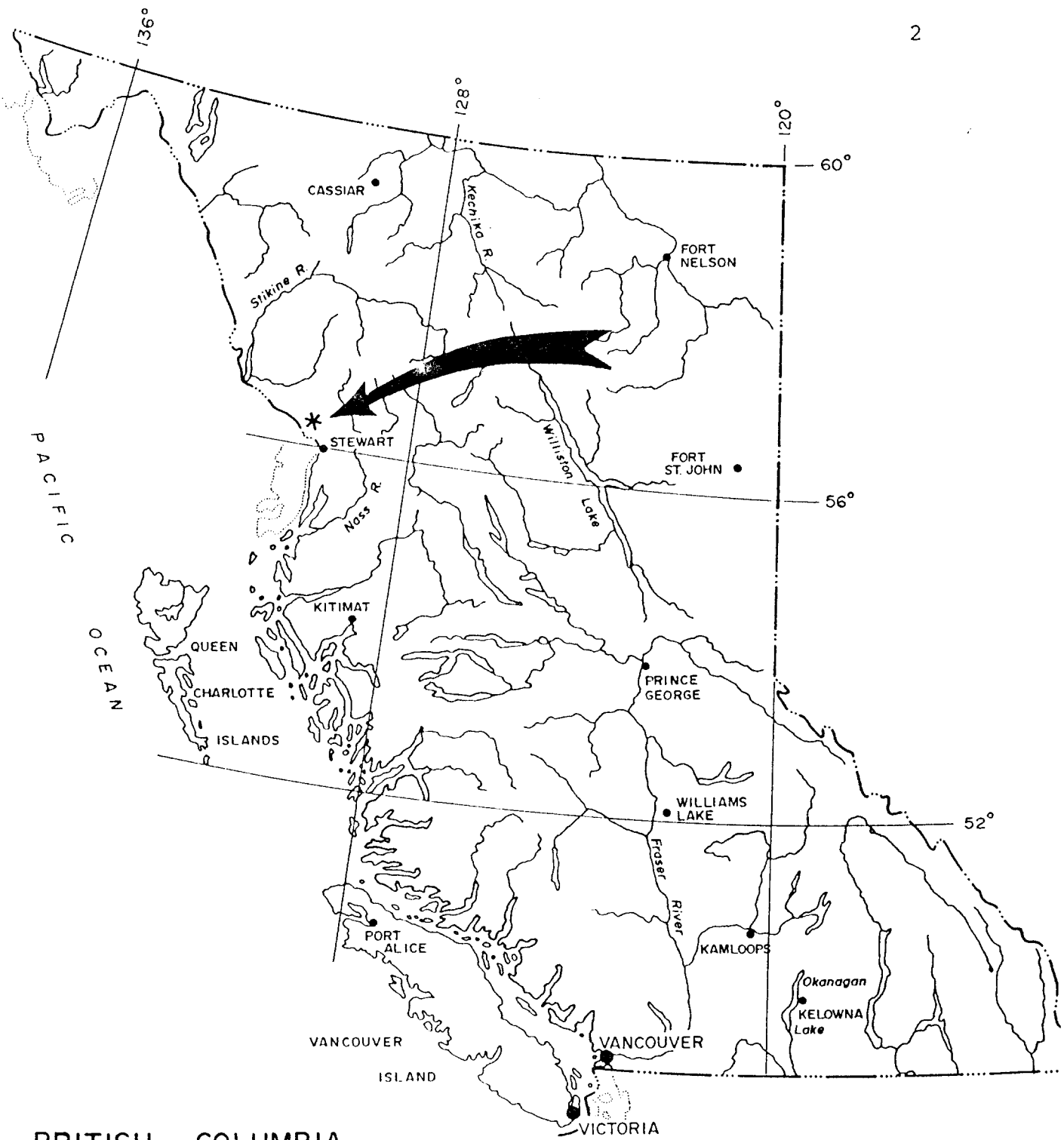
The property is located in an area of extremely rugged terrain. Elevations vary from 500m in the valley of the S. Unuk to 2460m at the peak of Mt. Frank Mackie. Alpine glaciers cover approximately one third of the property. Treeline is at approximately 1300m, while the lower slopes are heavily forested with spruce, balsam fir and patches of slide alder and devil's club. Climatically, the region is characterized by short, wet summers and heavy winter snowfall.

## PROPERTY DESCRIPTION (FIGURE 2)

The Bliss Claims comprise four 4x5 unit MGS claims, the Bliss 1, 2, 3 and 4, totalling 80 units. The claims are part of Magna Ventures' DOC property and owned by Manga Ventures Ltd. and Silver Princess Resources Inc.

TABLE I

<u>Claim Name</u>	<u>Record No.</u>	<u>Units</u>	<u>Expiry Date</u>
Bliss 1	5801	20	Feb. 04, 1988
Bliss 2	5802	20	Feb. 04, 1988
Bliss 3	5803	20	Feb. 04, 1988
Bliss 4	5804	20	Feb. 04, 1988



# BRITISH COLUMBIA

Scale 1:7,500,000 approx.

<b>MAGNA VENTURES LTD.</b>		
DOC PROPERTY		
<b>GENERAL LOCATION MAP</b>		
SKEENA M.D., B.C.		SOUTH UNUK RIVER
COOKE GEOLOGICAL CONSULTANTS LTD.		
Scale see above	Drawn by	Figure
N.T.S. 104 B/8W	Date Jan 1988	1

## HISTORY

Although the general area has a mining history dating back to 1899, there is no record of any previous work on the Bliss Claims.

## REGIONAL GEOLOGY

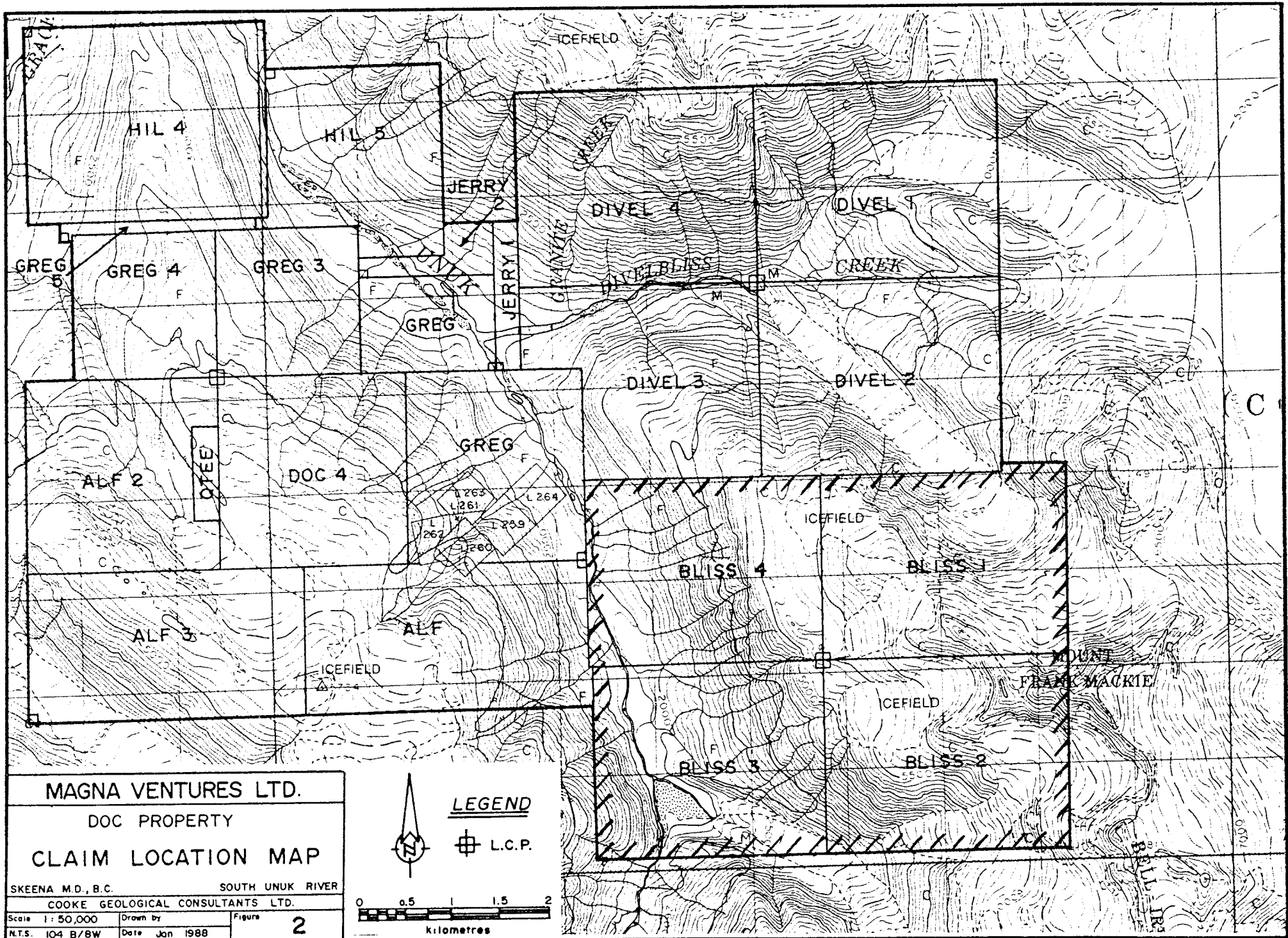
The Stewart gold-silver mining district lies at the western margin of the Intermontaine Belt of volcanic and sedimentary rocks where it meets the Coast Plutonic Complex of plutonic and metamorphic rocks (Figure 3). Local geological elements include Triassic to Jurassic, volcanic-sedimentary rocks of the Stewart Complex, the primary host rocks to gold-silver mineralization in the region; Triassic to Tertiary, plutonic rocks of the Coast Intrusions, possible source rocks to gold-silver mineralization; and Jurassic sedimentary rocks of the Bowser Basin.

Upper Triassic clastic sediments of the Takla Group have been metamorphosed to layered schists-cataclastites and intruded by felsic plutons; overlain by Lower Jurassic, mafic volcanics and clastic sediments of the Unuk River Formation that are metamorphosed to hornfels-schists and intruded by dioritic plugs; followed by deposition of Middle Jurassic mafic to felsic volcanics and clastic sediments of the Betty Creek and Salmon River formations, which were intruded by felsic sills and dikes; overlapped by Upper Jurassic clastic sediments of the Nass Formation; metamorphosed to hornfels and intruded by Lower Tertiary felsic plutons of the Coast Intrusions; and capped by Quaternary flood basalts and unconsolidated deposits (Table 2).

Stewart mining camp has been a major producer of gold (> 2 million oz.), silver (> 45 million oz.) and copper (> 385 million lbs.) for British Columbia. Premier-Silbak, the largest gold-silver mine in the district, operated from 1918 to 1968.

Several recent discoveries of gold-silver vein deposits northwest of Stewart have fueled a boom in exploration activity. Skyline Explorations (1 million tons ore grading 0.75 oz/ton gold), Newhawk Gold Mines (1.6 million tons ore grading 0.33 oz/ton gold and 23 oz/ton silver) and Westmin Resources (10 million tons grading 0.08 oz/ton gold and 2 oz. silver) all have new mines now under development.

Gold-silver (copper, molybdenum) quartz veins follow narrow fractures and broad shears in Stewart Complex volcanics and sediments near felsic porphyry sills and dikes. They form part of a regional zoning from copper-rich mineralization in the west to molybdenum-bearing zones moving eastwards, and from gold-rich veins in the north to silver-dominant mineralization moving southwards.



MAGNA VENTURES LTD.

DOC PROPERTY

CLAIM LOCATION MAP

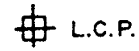
SKEENA M.D., B.C. SOUTH UNUK RIVER

COOKE GEOLOGICAL CONSULTANTS LTD.

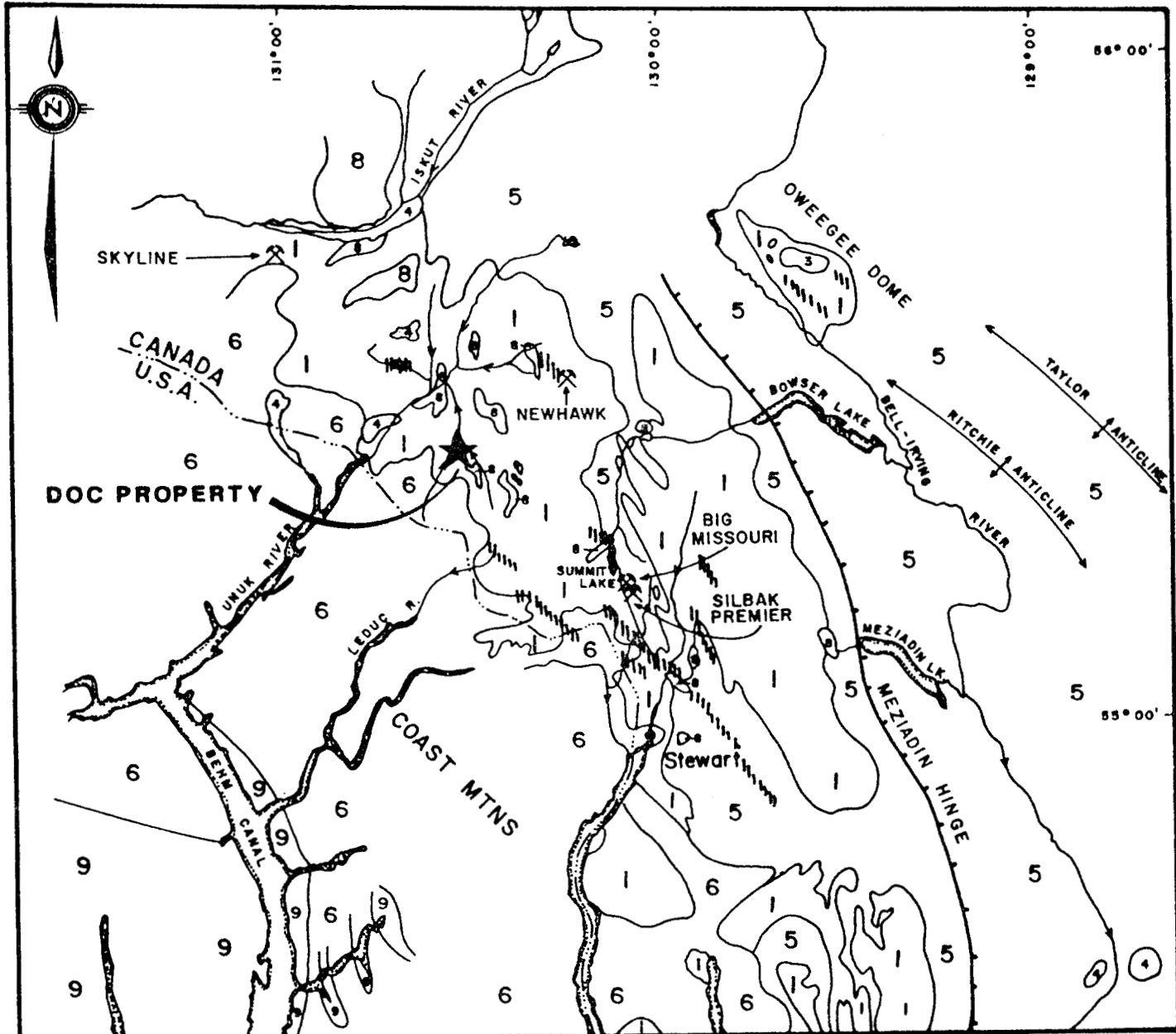
Scale 1:50,000 Drawn by Figure 2  
 N.T.S. 104 B/BW Date Jan 1988



LEGEND








**SEDIMENTS - VOLCANICS**

- 1 STEWART COMPLEX - TRIASSIC & JURASSIC
- 2 SUSTUT ASSEMBLAGE - CRETACEOUS & TERTIARY
- 3 PALEOZOIC
- 4 TERTIARY & RECENT VOLCANICS
- 5 BOWSER ASSEMBLAGE - MIDDLE JURASSIC TO UPPER JURASSIC

**INTRUSIVES**

- 6 COAST
- 7 OMINECA - TOPLEY
- 8 SKEENA
-  DYKE SWARMS
- 9 WRANGELL - REVILLAGIGEDO METAMORPHICS

AFTER GROVE, 1970

<b>MAGNA VENTURES LTD.</b>		
<b>DOC PROPERTY</b>		
<b>REGIONAL GEOLOGY</b>		
<b>SKEENA M.D. - SOUTH UNUK RIVER AREA</b>		
<b>COOKE GEOLOGICAL CONSULTANTS LTD.</b>		
N.T.S. 104B/8W	SCALE: 1:1,000,000	FIG.
DATE: JAN. 1988	DRAWN: J.R./dw	3

## PROPERTY GEOLOGY (FIGURE 4)

The Bliss property is underlain by Lower Jurassic Unuk River Formation andesitic flows, tuffs, associated sediments and metamorphosed equivalents. There was no known occurrence of mineralization until the discovery of the TK Vein in September of 1987.

## OBJECT AND PROCEDURES

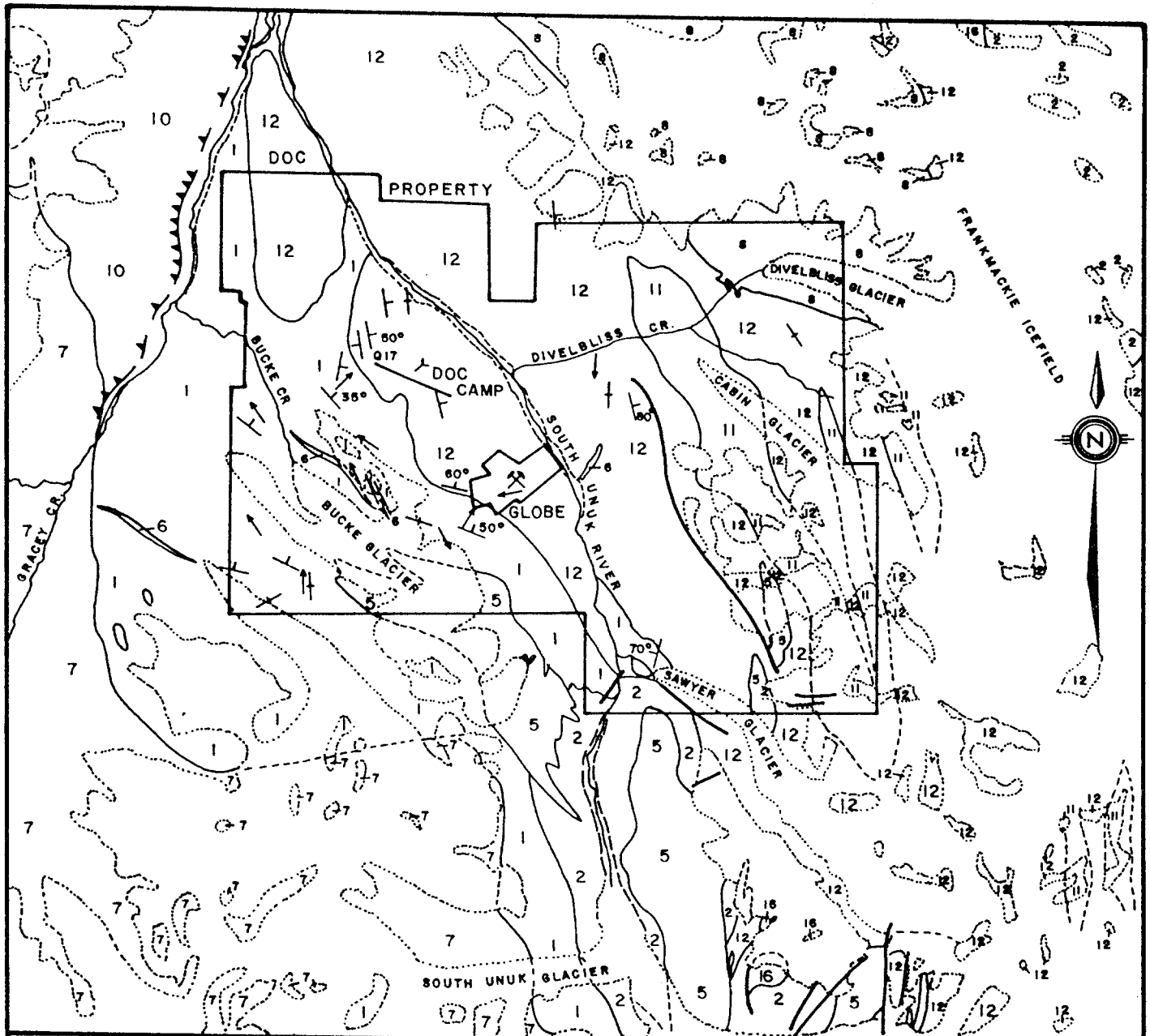
The work was strictly of a reconnaissance nature to evaluate a property with no known mineralization. A series of loosely controlled traverses were run along topographic contours and down ridges. Sample locations were at 25m intervals, with B horizon soils collected where possible. Samples were analyzed by Min-En Labs Ltd. of N. Vancouver for Au, Ag, Pb, Zn, Cu, As and Sb. Analytical methods are described in Appendix II.

## RESULTS (FIGURES 5, 6, 7)

The main discovery on the Bliss Claims was a galena bearing quartz vein, dubbed the TK Vein, at approximately 2060m elevation in the northwest corner of Bliss 2. The vein is represented by a scattering of float down the mountainside, and has not been found in place. The four rock samples collected assayed up to .195 oz/ton gold and 10.45 oz/ton silver.

Due to poor soil development in the area of the TK Vein, soil samples were not obtained at every station, but a number of anomalous Au, Ag, Pb and Zn soil geochemical values were obtained, indicating a downslope dispersion from the vein.

Anomalous soil values up to 150 ppb Au were obtained along the bench at approximately 1500m elevation in the southeast corner of Bliss 4, and a value of 400 ppb Au along the east side of the S. Unuk on Bliss 3.



**LEGEND**

- Y ADIT
- ┆ BEDDING
- - - FAULT (defined, approx.)
- ▲ FAULT (thrust)
- / FOLD AXES
- - - GEOLOGICAL CONTACT (defined, approx.)
- ⋈ MINERAL SHOWING
- ~ GLACIER

GEOLOGY LEGEND SEE TABLE 2.

AFTER: GROVE 1986

<b>MAGNA VENTURES LTD.</b>		
<b>DOC PROPERTY</b>		
<b>GEOLOGY</b>		
<b>SKEENA M.D. - SOUTH UNUK RIVER AREA</b>		
<b>COOKE GEOLOGICAL CONSULTANTS LTD.</b>		
N.T.S. 104 B/8 W	SCALE: 1:100,000	FIG.
DATE: JAN. 1988	DRAWN: J.R./dw	4

## CONCLUSIONS AND RECOMMENDATIONS

Sufficient encouragement was received from reconnaissance sampling to carry out follow-up work, consisting of prospecting and additional contour soil lines in the 1988 field season.

## COST STATEMENT

SOIL SAMPLING			
Tom Kennedy	(2 days x \$125/day)	\$	250.00
Ted Gustavson	(3 days x \$100/day)		300.00
Randy Castellarin	(2 days x \$100/day)		200.00
Craig Blanchet	(3 days x \$100/day)		<u>300.00</u>
			\$1,050
SUPERVISION			
Tim Sandberg	(1 day x \$150/day)		150
TRANSPORTATION AND FUEL			
	(3.4 hrs. x \$425/hour + fuel)		1,800
FOOD AND ACCOMMODATION			
	(11 man days x \$25/man days)		275
ASSAYS AND ANALYTICAL			
	(294 soil samples x \$15/sample)		4,410
	( 4 rock samples x \$15/sample)		60
DRAFTING AND REPRODUCTION			20
OFFICE AND MISCELLANEOUS			<u>300</u>
TOTAL			\$8,060
			<u>\$8,060</u>

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TIM SANDBERG  
CONSULTING GEOLOGIST  
COOKE GEOLOGICAL CONSULTANTS LTD.

STATEMENT OF QUALIFICATIONS

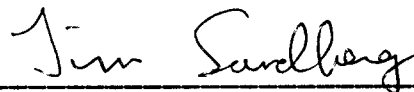
I, Tim Sandberg, of 201 - 1286 West 14th Avenue, Vancouver, British Columbia, V6H 1P9 do hereby certify:

I graduated from the University of British Columbia in May of 1982 with the degree of B.Sc. (Maj) in Geology.

I have worked in the mineral exploration industry, both seasonally and full-time since 1978.

I am an Associate Member of the Geological Association of Canada.

The information in this report is based on fieldwork supervised by the author during the fall of 1987, and upon a review of the available literature.



---

Tim Sandberg, B.Sc.

Geologist

Cooke Geological Consultants Ltd.

February 01, 1988

REFERENCES

- Aelicks, et al 1987 Report of Exploration work on the Doc Property for Magna Ventures Ltd. and Silver Princess Resources Inc.
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- Wright, F.E., 1905, the Unuk River Mining Region of B.C. GSC Summary Report 1905, p.46-53



TABLE 2: FORMATION LIST

PERIOD	UNIT	LITHOLOGY	LEGEND
Quaternary	Unconsolidated deposits	Fluvial, glacial sediments	20
	Volcanic Flows	Basalt	18, 19
Lower Tertiary	Coast Intrusions	Quartz diorite, granodiorite, quartz monzonite, granite	7, 8, 9
	Metamorphic Rocks	Hornfels, schist, gneiss	3
Upper Jurassic	Nass Formation	Mudstone, siltstone, sandstone, conglomerate	17
Middle Jurassic	Plutonic Rocks	Granodiorite, syenodiorite, monzonite, alaskite	6
	Salmon River Formation	Siltstone, sandstone, rhyolite, tuff	15, 16
	Betty Creek Formation	Andesite, basalt, conglomerate, sandstone	13, 14

TABLE 2: FORMATION LIST CONT'D.

PERIOD	UNIT	LITHOLOGY	LEGEND
Lower Jurassic	Plutonic Rocks	Diorite, syenite	5
	Unuk River Formation	Andesite, tuff, sandstone, siltstone	11, 12
	Metamorphic Rocks	Hornfels, schist, gneiss, cataclasite	2
Upper Triassic	Plutonic Rocks	Diorite, quartz diorite, grano- diorite	4
	Takla Group	Siltstone, sand- stone, conglomerate, tuff	10
	Metamorphic Rocks	Schist, gneiss, cataclasite	1

APPENDIX I  
ASSAY CERTIFICATES

MIN-EN LABORATORIES LTD.

Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE: (604)980-5814 OR (604)988-4524

TELEX: VIA USA 7601067 U

Certificate of ASSAY

Company: COOKE GEOLOGICAL  
Project: MV 87 DP  
Attention: B. AELICKS

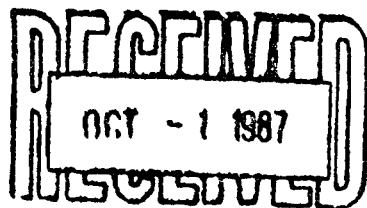
*office*

File: 7-1447/P1  
Date: SEPT 28/87  
Type: ROCK ASSAY

We hereby certify the following results for samples submitted.

Sample Number	AU G/TONNE	AU OZ/TON
TK-87-12	3.37	0.098
TK-87-13	6.70	0.195

TK-87-10	6.60	0.193
TK-87-11	2.05	0.060



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

*[Handwritten Signature]*  
MIN-EN LABORATORIES LTD.

COMPANY: COOKE GEOLOGICAL CONSULTANTS

MIN-EN LABS ICP REPORT

(ACT:F31) PAGE 1 OF 1

PROJECT NO: NV 87 DP

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: 7-1449

ATTENTION: BRAD AELICKS

(604)980-5814 OR (604)988-4524

\* TYPE ROCK GEOCHEM \*

DATE: SEPT 28, 1987

(VALUES IN PPM)	AS	AS	CU	PB	SB	ZN
TK-87-12	272.1	121	1123	84631	376	34548
TK-87-13	358.4	107	3562	74940	1515	3977
TK-87-10	103.4	22	234	38587	111	959
TK-87-11	112.6	18	113	23786	103	433

(VALUES IN PPM)	AG	AS	CU	PB	SB	ZN	AU-PPB
T687 206	1.0	5	130	101	3	193	5
T687 207	1.5	9	125	113	4	190	30
T687 208	1.6	9	122	113	4	190	5
T687 209	1.4	1	159	109	3	197	5
T687 210	1.3	3	122	89	3	189	40
T687 211	1.3	22	109	92	4	154	15
T687 212	2.5	1	249	83	3	249	5
T687 213	1.7	11	122	68	4	176	5
T687 214 40M	1.3	1	133	77	4	179	5
T687 215	1.5	1	150	139	5	260	5
T687 216	1.7	1	145	118	5	228	125
T687 217	1.2	4	128	82	6	192	5
T687 218	1.5	2	136	101	4	211	5
T687 219	1.5	1	137	88	4	201	15
T687 220	1.8	1	144	90	5	202	30
T687 221	1.8	6	144	97	6	193	25
T687 222	1.7	9	113	65	7	144	5
T687 223	1.6	13	116	75	7	160	5
T687 224	1.4	14	104	60	3	132	5
T687 225	1.1	11	106	49	3	120	10
T687 226 40M	1.4	14	102	66	2	133	5
T687 227	1.4	9	105	68	6	147	15
T687 228	1.1	8	114	70	1	140	40
T687 229	1.0	1	117	67	1	124	5
T687 230	1.2	2	119	78	1	129	5
T687 231	1.0	1	190	60	7	148	25
T687 232	1.0	21	139	82	1	152	10
T687 233	.9	1	104	68	1	121	10
T687 234 40M	1.1	15	113	73	1	109	20
T687 235	.9	1	100	70	1	108	5
T687 236	.9	23	104	85	2	155	15
T687 237	.6	30	158	54	1	158	5
T687 238	.5	21	95	71	6	166	150
T687 239	.8	15	82	87	1	110	5
T687 240	.6	20	72	76	1	127	5
T687 241	.8	24	105	75	1	143	75
T687 242	1.2	25	156	82	2	170	5
T687 243	.9	26	118	78	1	142	5
T687 244	1.1	29	116	61	2	133	20
T687 245	1.1	20	113	57	2	131	10
T687 246	.8	21	125	70	3	152	5
T687 247	.9	25	113	89	2	173	5
T687 248	1.1	29	139	95	5	169	15
T687 249	1.2	28	169	97	3	198	5
T687 250	.9	25	175	79	5	155	5
T687 251	.8	20	125	66	3	143	5
T687 252	.7	22	132	62	4	130	10
T687 253	1.3	18	132	53	5	139	5
T687 254	.9	22	131	55	4	122	20
T687 255	2.1	1	211	168	4	201	25
T687 256	1.3	27	110	83	4	136	80
T687 257	1.2	24	164	81	5	148	15
T687 258	1.3	24	186	74	3	165	5
T687 259	1.2	23	166	75	4	164	5
T687 260	14.7	336	160	12058	30	7571	35
T687 261	1.4	1	199	174	5	221	5
T687 262	.9	1	108	102	5	203	50
T687 263	.6	3	135	79	3	176	5
T687 264	.3	9	71	46	2	56	60
T687 265	.8	17	107	57	3	117	5

**RECEIVED**  
DEC. 18 1987

PROJECT NO: MV 87 BC

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: 7-15435/P7\*8

ATTENTION: BRAD COOKE

(604)960-5814 OR (604)968-4524

\* TYPE SOIL GEOCHEM \* DATE: OCT 28, 1987

(VALUES IN PPM)	AG	AS	CU	PB	SB	ZN	AU-PPB
T687 266	.7	21	114	57	1	125	10
T687 267	.9	26	171	72	1	161	5
T687 268	.7	28	150	59	1	138	5
T687 269	.6	24	163	49	1	125	5
T687 270	.3	2	54	46	1	80	10
T687 271	.6	5	41	62	2	93	5
T687 272	.1	17	70	38	1	64	5
T687 273	.8	1	140	54	2	118	5
T687 274	1.4	1	191	73	3	146	5
T687 275	1.3	27	185	59	2	136	5
T687 276	1.1	1	122	45	2	122	10
T687 277	1.5	25	171	45	3	128	5
T687 278	1.0	19	106	35	3	91	5
T687 279	1.0	27	176	38	2	126	5
T687 280	.8	23	125	39	1	106	5
T687 281	.6	24	93	39	2	104	5
T687 282	.3	137	34	1	174	10	
T687 283	.9	25	48	71	4	109	5
T687 284	.5	10	94	51	1	152	5
T687 285	.7	1	69	51	3	107	5
T687 286	1.2	9	31	77	5	77	5
T687 287	1.6	7	43	118	1	68	10
T687 288	.9	4	119	57	3	157	5
T687 289	.8	15	109	50	3	156	5
T687 290	1.5	8	86	3	3	5	5
T687 291	1.0	6	41	28	2	90	5
T687 292	.3	28	98	51	7	134	10
T687 293	.5	26	67	33	1	126	5
T687 294	2.0	10	129	180	1	217	5
T687 295	2.8	10	129	180	1	217	5
T687 296	1.1	1	43	36	2	97	5
T687 297	.4	1	56	64	1	88	10
T687 298	.4	1	59	52	6	94	10
T687 299	.3	4	56	40	8	119	5
T687 300	.6	19	106	68	1	158	40
T687 301	1.2	24	126	118	1	168	60
T687 302	.4	48	103	41	7	117	5
T687 303	.5	13	118	40	8	132	5
T687 304	.4	16	99	31	1	107	5
T687 401	.7	29	114	24	1	95	10
T687 402	.9	32	149	36	2	148	5
T687 403	1.3	1	131	28	3	290	10
T687 404	1.1	30	155	31	3	290	5
T687 405	.9	1	167	26	1	159	5
T687 406	1.2	16	23	2	2	108	10
T687 407	1.0	1	154	48	2	170	5
T687 408	1.1	23	122	70	8	177	10
T687 409	1.5	32	121	179	3	254	20
T687 410	1.3	35	164	44	2	147	90
T687 411	1.2	30	136	43	9	268	10
T687 412	1.6	48	82	2	2	334	10
T687 413	.8	31	27	2	2	161	5
T687 414	.8	35	103	49	1	162	5
T687 419	1.1	25	125	7	7	255	10
T687 420	1.7	75	174	3	3	328	30
T687 421	1.5	1	157	158	3	213	5
T687 423	1.1	9	132	129	4	184	70
T687 424	1.2	27	138	183	1	199	5
T687 425	1.1	2	146	98	5	249	10
T687 427	1.0	1	131	66	4	170	5

COMPANY: COOKE GEOLOGICAL CONSULTANTS  
 PROJECT NO: MV 87 BC  
 ATTENTION: BRAD COOKE

MIN-EN LABS ICP REPORT  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 (604)980-5314 OR (604)988-4524

(ACT:F31) PAGE 1 OF 1  
 FILE NO: 7-15435/P9+10  
 \* TYPE SOIL GEOCHEM \* DATE: OCT 28, 1987

(VALUES IN PPM)	AG	AS	CU	PB	SB	ZN	AU-PPB
TG87 428	1.2	32	140	60	1	230	5
TG87 429	1.5	13	131	100	4	260	10
TG87 430	1.5	6	144	82	4	221	20
TG87 431	1.4	2	145	81	4	233	5
TG87 432	1.8	15	143	67	6	218	5
TG87 433	1.5	1	128	70	5	195	10
TG87 435	1.8	23	79	37	5	159	5
TG87 436	1.0	37	166	58	4	190	5
TG87 437	1.2	28	137	81	5	199	10
TG87 438	1.5	2	162	80	8	309	5
TG87 439	1.1	1	130	158	4	244	5
TG87 440	1.2	5	118	100	1	159	20
TG87 441	1.0	20	114	86	1	145	5
TG87 442	1.1	1	123	91	2	139	40
TG87 443	1.2	5	121	112	3	156	5
TG87 444	1.8	1	135	105	1	158	70
TG87 445	1.7	5	126	101	1	153	10
TG87 446	1.3	1	120	117	1	156	10
TK87 291	1.4	27	196	35	2	129	5
TK87 292 20M	1.1	31	124	23	9	109	5
TK87 293 40M	1.2	28	192	39	2	130	5
TK87 294	2.1	1	107	55	2	116	5
TK87 295	2.0	41	172	37	2	116	5
TK87 296	1.6	33	160	33	1	108	10
TK87 297	2.5	5	94	133	8	148	70
TK87 298	2.0	1	188	77	4	158	20
TK87 299	3.0	1	131	67	3	182	5
TK87 300	3.1	9	138	85	5	353	5
TK87 301	2.3	2	107	101	5	151	20
TK87 302 40M	2.0	1	164	111	4	326	30
TK87 303	2.7	1	103	107	5	273	20
TK87 304	3.5	1	101	101	7	336	50
TK87 305	2.8	28	194	124	4	187	30
TK87 306	2.9	15	109	83	3	207	5
TK87 307	3.1	43	135	53	3	147	5
TK87 308	3.4	1	136	54	1	154	20
TK87 309	2.3	39	101	91	3	157	10
TK87 310	2.5	1	102	105	3	196	10
TK87 311	2.6	5	111	87	4	395	20
TK87 312	3.0	2	194	72	3	199	25
TK87 313	3.1	1	103	103	6	118	5
TK87 314	2.8	4	197	118	4	254	5
TK87 315	1.8	63	190	138	3	318	30
TK87 316	2.9	26	109	101	7	241	50
TK87 317	2.6	21	101	138	6	265	20
TK87 318	2.8	10	101	101	4	315	50
TK87 319	2.8	8	101	138	6	251	40
TK87 320	1.8	6	155	53	1	163	5
TK87 321	2.0	1	101	83	4	202	5
TK87 322	2.8	3	171	67	4	165	90
TK87 323	2.6	4	159	58	4	155	70
TK87 324	2.6	44	101	75	3	197	5
TK87 325	1.9	36	101	116	5	159	20
TK87 326	1.6	41	101	67	5	140	5



PROJECT NO: MV 87 DC

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: 7-1543S/P25+26

ATTENTION: BRAD COOKE

(604)980-5814 OR (604)988-4524

\* TYPE SOIL GEOCHEM \* DATE: OCT 28, 1987

(VALUES IN PPM)	AG	AS	CU	PB	SB	ZN	AU-PPB
TK87 100	2.5	42		74	4	146	5
TK87 101	.9	33		69	4	129	15
TK87 102	1.6	27		32	4	126	5
TK87 103	1.4	33	198	61	4	152	20
TK87 104	1.9	34	198	55	5	116	5
TK87 105	1.9	35		64	7	142	
TK87 106	2.6	1	194	123	1	234	20
TK87 107	2.5	37		68	8	175	15
TK87 108	N/S						
TK87 109	2.5	6	174	73	8	170	30
TK87 110	2.2	8	163	83	7	196	20
TK87 111	2.4	17	168	102	8	220	15
TK87 112 40M	1.7	18	163	100	1	220	25
TK87 113	2.5	35		149	2	334	5
TK87 114	2.1	23	163	158	1	252	10
TK87 115	2.1	26	174	195	3	281	15
TK87 116	2.1	20	142		2	292	45
TK87 117	1.9	11	119	90	6	181	20
TK87 118	2.0	11	133	123	7	216	20
TK87 119	2.2	8	143	128	6	210	35
TK87 120	N/S						
TK87 121	N/S						
TK87 122	1.6	1	132	90	5	210	30
TK87 123	2.1	9	117	90	7	194	25
TK87 124	2.0	3	125	123	7	199	15
TK87 125	N/S						
TK87 126	N/S						
TK87 127	1.7	6	177	100	8	247	20
TK87 128	1.7	12	139	127	1	262	10
TK87 129	2.0	7	144	81	6	223	70
TK87 130	1.5	1	129	104	6	215	10
TK87 131	2.3	1	155	79	7	181	5
TK87 132	1.8	15	122	77	2	188	5
TK87 133	1.5	8	136	80	7	180	10
TK87 134	1.8	12	150	80	1	155	10
TK87 135	1.4	1		71	2	159	20
TK87 136	1.5	6	168	110	6	169	5
TK87 137	1.2	9	125	74	4	146	5
TK87 138	1.4	1	135	114	1	183	5
TK87 139	1.6	32	143	125	1	206	10
TK87 140	1.0	1	121	107	3	165	5
TK87 141	1.2	1	120	109	3	163	5
TK87 142	N/S						
TK87 143	3.0	1			9		5
TK87 144	2.5	38		91	9	202	20
TK87 145	1.7	23		63	4	125	5
TK87 146	1.7	1		54	7	121	5
TK87 147	1.7	1	146	88	7	149	
TK87 148	1.5	1	145	82	7	179	5
TK87 149	1.8	20	140	69	6	169	10
TK87 150	1.5	28	129	77	5	187	5
TK87 151	1.4	1	157	80	7	235	5
TK87 152	1.4	26	148	77	7	166	5
TK87 153	1.6	1	144	65	6	144	10
TK87 154	1.9	30	139	69	7	141	5
TK87 155	1.9	36	160	77	7	152	5
TK87 156	1.9	1	161	83	7	136	5
TK87 157	1.9	1	181	61	6	136	5
TK87 158	1.8	18	140	67	6	137	10
TK87 159	1.9	27	185	60	6	117	5

(VALUES IN PPM)	AG	AS	CU	FB	SR	ZN	AU-PPB
TK87 160	1.9	24	153	56	4	172	5
TK87 161	1.6	22	<del>95</del>	51	6	133	5
TK87 162	1.9	1	<del>78</del>	70	7	190	10
TK87 163	2.4	38	<del>26</del>	74	6	240	5
TK87 164	2.0	29	<del>27</del>	59	6	237	5
TK87 165	N/S						
TK87 166	N/S						
TK87 167	1.7	25	193	44	4	121	5
TK87 168	1.8	24	<del>94</del>	53	6	168	10
TK87 169	1.5	1	<del>28</del>	59	6	112	10
TK87 170	1.8	30	<del>95</del>	53	7	120	5
TK87 171	1.9	1	<del>63</del>	61	2	135	5
TK87 172	2.0	30	<del>54</del>	63	1	135	5
TK87 173	1.9	2	<del>74</del>	58	1	128	5
TK87 174	1.7	27	<del>150</del>	48	1	126	10
TK87 175	1.5	21	<del>27</del>	57	1	109	50
TK87 176	2.0	28	<del>27</del>	53	7	121	5
TK87 177	1.3	21	163	37	6	107	5
TK87 178	1.1	20	147	37	5	104	5
TK87 179	.9	22	108	35	5	85	5
TK87 180	1.1	19	81	23	6	131	5
TK87 181	1.5	20	<del>23</del>	46	7	138	5
TK87 182	1.5	24	168	43	5	129	5
TK87 183	1.5	27	<del>20</del>	44	5	142	5
TK87 184	2.2	28	<del>27</del>	94	6	187	10
TK87 185	N/S						
TK87 186	2.4	29	121	52	8	177	5
TK87 187	N/S						
TK87 188	2.7	1	121	68	8	147	5
TK87 189	3.1	31	113	104	6	280	5
TK87 190	1.8	1	157	80	3	144	5
TK87 191	2.5	23	100	49	1	182	5
TK87 192	2.5	32	77	52	6	144	5
TK87 193	2.4	21	79	24	4	157	10
TK87 194	2.0	16	82	29	3	134	5
TK87 195	1.8	29	89	30	3	124	5

PROJECT NO:

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: 7-1543S/P46

ATTENTION: BRAD COOKE

(604)980-5814 OR (604)988-4524

\* TYPE SOIL GEOCHEM \* DATE: OCT 28, 1987

(VALUES IN PPM)	AG	AS	CU	PB	SB	ZN	AU-PPB
T687 534	1.0	8	114	51	1	98	40
T687 535	.6	16	86	52	5	94	15
T687 538	1.9	14	129	75	6	154	10
T687 541	1.3	14	106	51	6	111	20
T687 543	1.7	20	97	76	2	113	10
T687 546	.5	16	76	19	7	86	5
T687 547	1.1	1	29	30	2	58	5
T687 548	1.6	19	46	24	6	62	5
T687 549	.6	12	57	11	4	63	10
T687 550	1.4	23	76	23	6	73	5
T687 551	.6	6	89	25	1	75	15
T687 553	.6	8	82	17	6	61	5
T687 554	1.2	18	83	15	8	74	5
T687 555	1.6	34	98	33	6	106	5
T687 556	.8	27	105	34	6	105	5
T687 557	1.9	1	119	42	8	107	5
T687 558	4.7	15	154	15	6	69	
T687 559	1.5	20	107	55	2	132	10
T687 563	1.4	18	131	62	1	143	20
T687 564	1.3	16	112	69	1	127	80
T687 566	1.1	18	97	62	1	130	30
T687 569	.5	15	53	50	1	114	20
T687 570	.3	12	33	34	1	85	5
T687 571	.7	13	58	55	1	105	30
T687 572	.8	17	69	64	1	123	10
T687 575	1.1	19	99	69	2	142	5
T687 576	.8	19	75	64	1	132	10

COMPANY: COOKE GEOLOGICAL

MIN-EN LABS ICP REPORT

(ACT:F31) PAGE 1 OF

PROJECT NO:

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7N 1T2

FILE NO: 7-1941/P

ATTENTION: BRAD COOKE

(604)980-5814 DR (604)988-4524

\* TYPE SOIL GEOCHEM \* DATE: DEC 2, 19

(VALUES IN PPM)	AG	AS	CU	PB	SB	ZN	AU-PPB
RC 87 641	1.3	4	115	109	1	124	5
RC 87 642	5.3	8	85	60	2	119	15
RC 87 643	2.9	4	52	28	2	65	5
RC 87 644	.9	4	112	84	4	130	10
RC 87 645	1.4	7	51	28	1	74	5
RC 87 646	1.1	6	63	34	2	66	5
RC 87 647	1.3	4	92	165	4	163	5
RC 87 648	1.5	7	55	70	2	76	5
RC 87 649	1.3	6	55	52	4	74	5
RC 87 650	2.6	3	65	81	3	85	10
RC 87 651	1.8	6	52	116	3	82	5
RC 87 652	1.3	3	45	38	2	48	5
RC 87 653	1.2	4	56	46	1	79	5
RC 87 654	1.3	5	51	34	2	74	5
RC 87 655	.4	5	70	46	3	97	5
RC 87 656	.8	3	21	24	1	56	10
RC 87 657	1.3	10	46	28	3	65	5
RC 87 658	.8	6	38	15	2	52	5
RC 87 659	1.6	7	65	33	1	87	5
RC 87 660	.8	6	68	19	1	50	5
RC 87 661	.6	8	28	36	1	42	5
RC 87 663	1.4	9	84	144	2	133	5
RC 87 664	.6	2	28	100	2	92	5
RC 87 665	.8	8	51	93	2	70	10
RC 87 666	1.3	8	36	431	5	263	5
RC 87 668	.4	10	116	73	1	84	50

TG87 305	2.9	37	171	24	1	190	5
TG87 306	1.9	27	100	31	7	148	10
TG87 307	1.0	2	47	13	3	88	5
TG87 308	2.1	31	112	42	1	141	5
TG87 309	2.2	26	119	34	7	139	5
TG87 310	2.6	32	55	29	8	136	5
TG87 311	2.5	30	99	25	1	138	10
TG87 312	2.1	1	90	36	2	133	5

APPENDIX II  
ANALYTICAL METHODS

## *MIN-EN Laboratories Ltd.*

*Specialists in Mineral Environments*

Corner 15th Street and Bewicke  
705 WEST 15TH STREET  
NORTH VANCOUVER, B.C.  
CANADA V7M 1T2

### FIRE GOLD GEOCHEMICAL ANALYSIS BY MIN-EN LABORATORIES LTD.

Geochemical samples for Fire Gold processed by Min-En Laboratories Ltd., at 705 W. 15th St., North Vancouver 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 by ceramic plated pulverizer.

A suitable sample weight 15.00 or 30.00 grams are fire assay preconcentrated.

After pretreatments the samples are digested with Aqua Regia solution, and after digestion the samples are taken up with 25% HCl to suitable volume.

Further oxidation and treatment of at least 75% of the original sample solutions are made suitable for extraction of gold with Methyl Iso-Butyl Ketone.

With a set of suitable standard solution gold is analysed by Atomic Absorption instruments. The obtained detection limit is 1 ppb.

Routine Gold-Assay Procedures  
Used by Min-En Labs. Ltd.

1. Samples are received, cataloged and dried at 105° C if necessary.
2. Whole sample is passed through a primary crusher which reduces sample to  $-\frac{1}{2}$  inch.
3. Whole sample is further passed through a secondary crusher which further reduces the sample to -10 mesh.
4. The whole sample is riffled through a  $\frac{1}{2}$  inch riffle to obtain a subsample of approx 300-400 grams. The remaining reject is bagged and stored.
5. The above 300-400 gram split is then pulverized to obtain -100 mesh using an iron plate rotary mill pulverizer.
6. Sample pulp is now rolled and analysed.
7. The sample pulp is assayed for gold using a 1 assay ton fire assay preconcentration and atomic absorption finishing techniques.
8. The remaining sample pulp is retained and stored.

# MIN-EN Laboratories Ltd.

*Specialists in Mineral Environments*

Corner 15th Street and Bewicke  
705 WEST 15TH STREET  
NORTH VANCOUVER, B.C.  
CANADA V7M 1T2

## GOLD GEOCHEMICAL ANALYSIS BY MIN-EN LABORATORIES LTD.

Geochemical samples for Gold processed by Min-En Laboratories Ltd., at 705 W. 15th St., North Vancouver 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 by ceramic plated pulverizer.

A suitable sample weight 5.0 or 10.0 grams are pretreated with  $\text{HNO}_3$  and  $\text{HClO}_4$  mixture.

After pretreatments the samples are digested with Aqua Regia solution, and after digestion the samples are taken up with 25% HCl to suitable volume.

Further oxidation and treatment of at least 75% of the original sample solutions are made suitable for extraction of gold with Methyl Iso-Butyl ~~Ketone~~ ~~.....~~ ~~OO~~

With a set of suitable standard solution gold is analysed by Atomic Absorption instruments. The obtained detection limit is 0.005 ppm (5ppb).



# MIN-EN Laboratories Ltd.

*Specialists in Mineral Environments*

Corner 15th Street and Bewicke  
705 WEST 15TH STREET  
NORTH VANCOUVER, B.C.  
CANADA V7M 1T2

## ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK - 26 ELEMENT ICP

Ag, Al, As, B, Bi, Ca, Cd, Co, Cu, Fe, K, Mg, Mn, Mo,  
Na, Ni, P, Pb, Sb, Sr, Th, U, V, Zn

Samples are processed by Min-En Laboratories Ltd., at 705 W. 15th St., North Vancouver 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 by jaw crusher and pulverized by ceramic plated pulverizer.

1.0 gram of the samples are digested for 6 hours with HNO<sub>3</sub> and HClO<sub>4</sub> mixture.

After cooling samples are diluted to standard volume. The solutions are analysed by Computer operated Jarrell Ash 9000 ICP. Inductively coupled Plasma Analyser. Reports are formatted by routing computer dotline print out.





NE181000  
 NE182000  
 NE183000  
 NE184000  
 NE185000  
 NE186000  
 NE187000  
 NE188000  
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 NE191000  
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 NE193000  
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 NE195000  
 NE196000  
 NE197000  
 NE198000  
 NE199000  
 NE200000



**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**17,055**

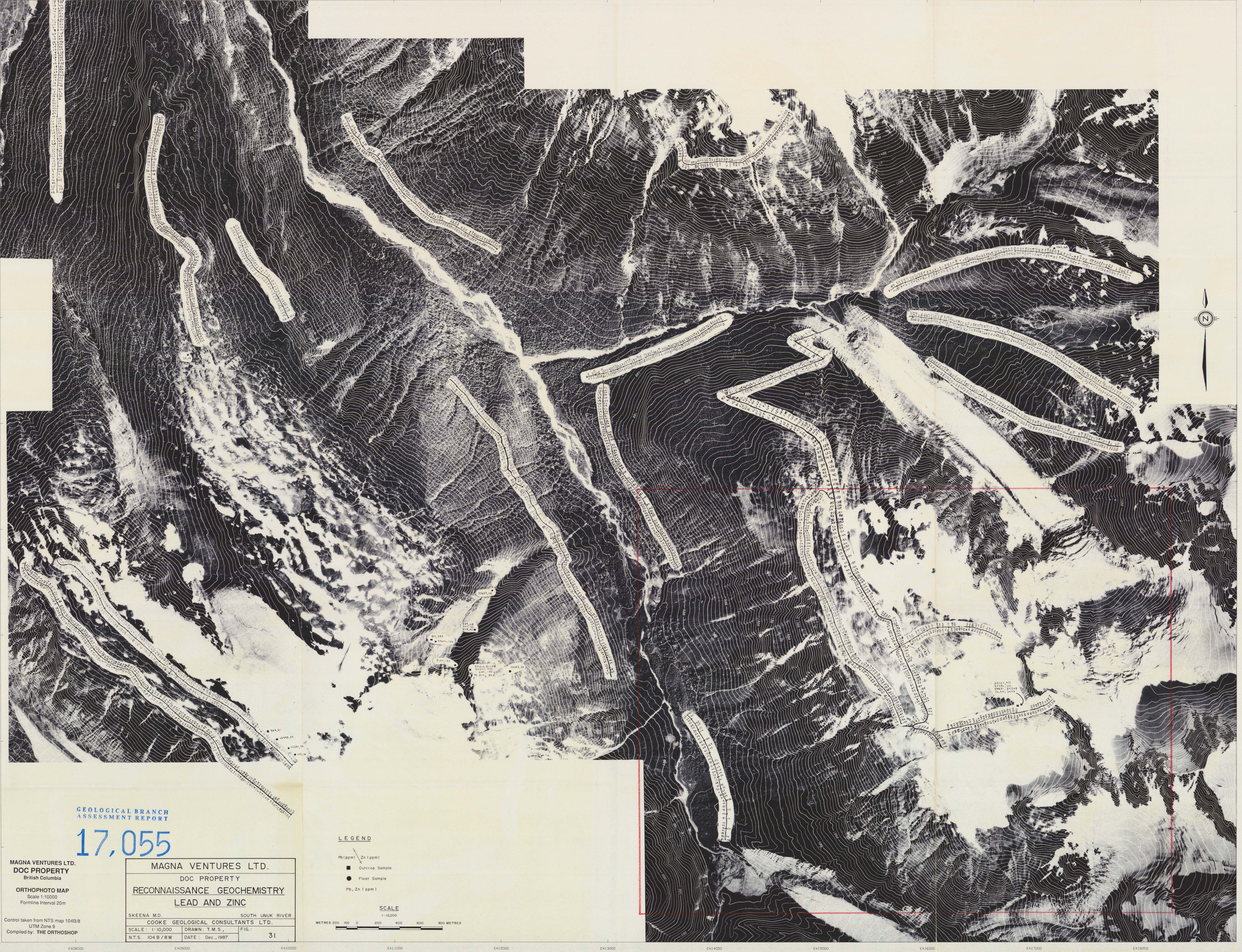
MAGNA VENTURES LTD.  
 DOC PROPERTY  
 RECONNAISSANCE GEOCHEMISTRY  
 COPPER and ARSENIC  
 SHEENA M.D. S. LEWIS ROYER AGCA  
 COCKE GEOLOGICAL CONSULTANTS LTD.  
 SCALE: 1:10,000 DRAWN: T.M.S. FIG. 30  
 N.T.S. 104 R/F/W DATE: DEC. 87

**LEGEND**

x As (ppm)  
 x Cu (ppm)

■ Outcrop sample  
 • Float sample

E408000 E409000 E410000 E411000 E412000 E413000 E414000 E415000 E416000 E417000 E418000



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

**17,055**

MAGNA VENTURES LTD.  
DOC PROPERTY  
British Columbia

ORTHOPHOTO MAP  
Scale 1:10000  
Formline Interval 20m

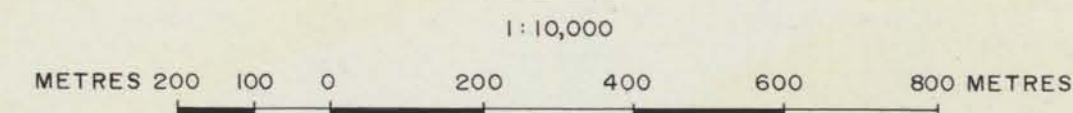
Control taken from NTS map 104B/8  
UTM Zone 9  
Compiled by: THE ORTHOSHOP

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RECONNAISSANCE GEOCHEMISTRY	
LEAD AND ZINC	
SKEENA, M.D.	SOUTH UNUK RIVER
COOKE GEOLOGICAL CONSULTANTS LTD.	
SCALE: 1:10,000	DRAWN: T.M.S.,
N.T.S. 104 B / 8 W	DATE: Dec., 1987
FIG. 31	

LEGEND

- Pb (ppm)    Zn (ppm)
- Outcrop Sample
- Float Sample
- Pb, Zn (ppm)

SCALE



E408000    E409000    E410000    E411000    E412000    E413000    E414000    E415000    E416000    E417000    E418000