Reconnaissance Heavy Mineral Sampling in the Vicinity of the PIL 1-3 Claims

Omineca Mining Division
NTS 94E/7W

Latitude 57°19'N Longitude 126°55'W

for
Electrum Resource Corporation

by
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Consulting Geologist
912-510 West Hastings St.
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November, 1992

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Summary and Conclusions

As part of an initial reconnaissance geochemical survey, twenty heavy mineral silt samples were taken on or near the PIL 1-3 claims in the vicinity of a large quartz monzonitic intrusive stock cutting Toodoggone Volcanics. A number of these samples returned anomalous values in gold and/or zinc and/or copper. Most of the samples anomalous in zinc and gold are located near zones of propylitic and argillic alteration together with gossans marking the contact between the intrusive and the adjacent volcanics. Previous soil and standard silt sampling in part of this area by Serem had returned anomalous values in gold and zinc. Serem noted that the anomalous values seemed to be related to areas of relatively thin overburden, suggesting that the source of metal may be larger than the soil anomalies indicate.

Recommendations

Anomalous heavy mineral samples should be followed up with prospecting, rock and soil sampling together with reconnaissance geological mapping to determine their source and its possible extent. A number of other showings and altered zones on the PIL 2 claim described qualitatively by Serem should be examined in more detail to determine the extent and grade of mineralization/alteration at each.

Introduction

The PIL 1-3 claims were staked to cover a number of known mineral occurrences and gossans in the Toodoggone area about 10 kilometres to the east of the Baker Mine. Electrum Resources Corporation retained the author to conduct a reconnaissance level program of heavy mineral silt sampling on the new claims. The author and P.A. Ronning of New Caledonian Geological spent one day (Sept. 13, 1992) on the claims using a helicopter to gain access to previously selected sample sites. One more day was spent in processing the samples.

Location and Access

The claims are situated approximately 280 km due north of Smithers, B.C., centred at Latitude 57°19'N and Longitude 126°55'W on NTS sheet 94E/7W (Fig. 1). The Cheni Mine Road is located 7km to the southwest where it passes the old Black Lake airstrip. A good dirt road leads northeast along Jock Creek and passes within one kilometre of the southern boundary of the PIL 1 and 2 claims. Access by helicopter is possible from Smithers or from temporary bases commonly situated in the Toodoggone area. The Sturdee River airstrip is located 13 kilometres to the southwest.

Topography on the property is steep, with elevations ranging from 1300 to 2000 metres ASL. Grasses and buckbrush are typical of valley bottoms with patchy conifer forest on slopes. Elevations above 1500 to 1700 metres are typified by alpine grasses and dwarf conifers.

Tenure

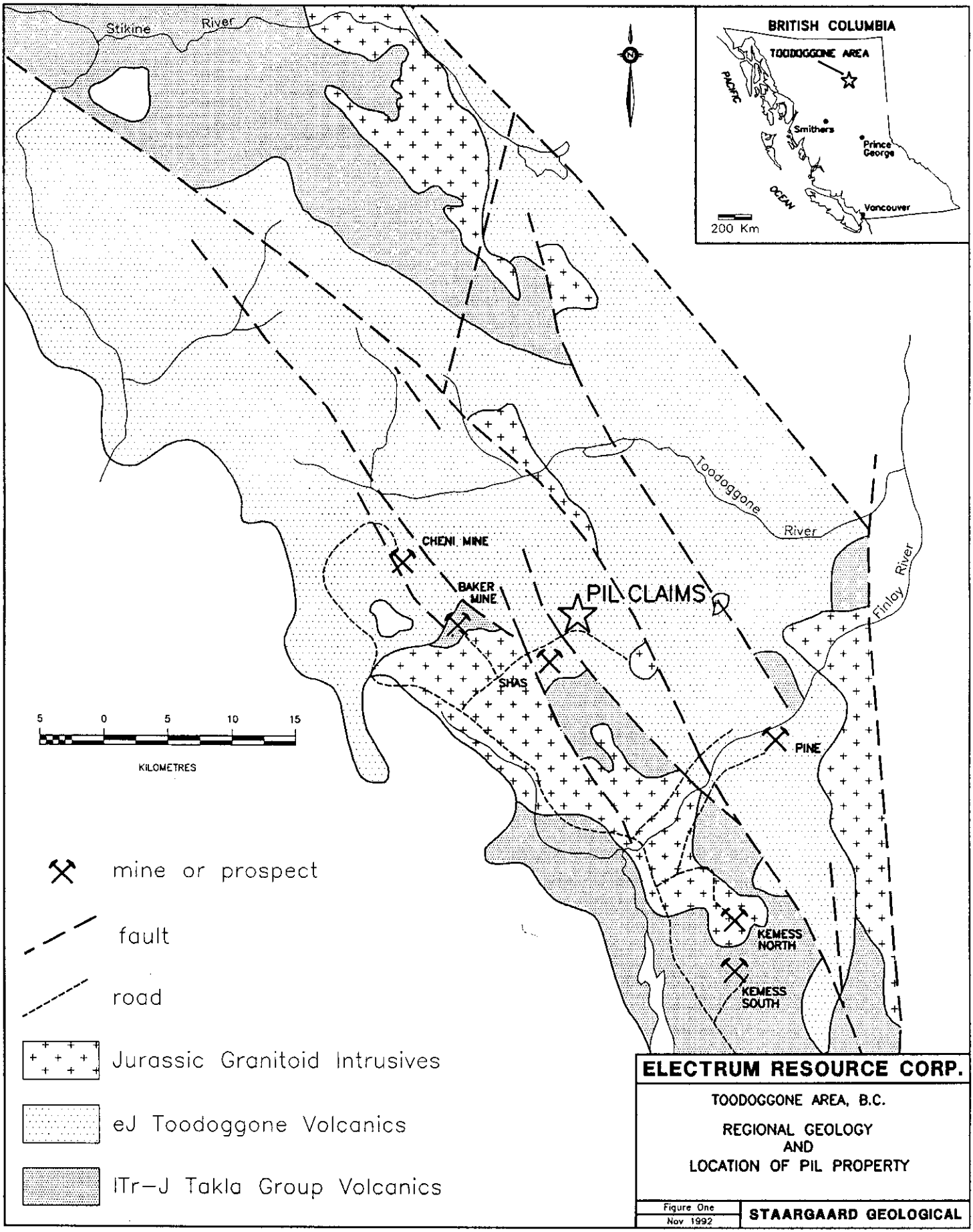
The claims comprising the PIL property are wholly owned by Electrum Resources Corporation and their particulars are listed in Table One:

Table One

Name	Units	Old Record Number	New Tenure No.	Expiry
PIL 1	8		308127	March 14, 1993
PIL 2	20		308128	March 14, 1993
PIL 3	20		308129	March 14, 1993

History of Work

1980-81	Serem Ltd.	stream silt and contour soil sampling, rock sampling and preliminary geological mapping
1986	Toodoggone Gold	airborne magnetics
1987	Toodoggone Gold	reconnaissance soil and rock sampling
1987	Beachview Resources	reconnaissance soil and rock sampling


Stikine River
BRITISH COLUMBIA
TOODOGGONE AREA
PACIFIC OCEAN
Smithers
Prince George
Vancouver
200 Km
Toodoggone River
Finlay River
CHENI MINE
BAKER MINE
PIL CLAIMS
SHAS
PINE
KEMESS NORTH
KEMESS SOUTH
5 0 5 10 15
KILOMETRES
mine or prospect
fault
road
Jurassic Granitoid Intrusives
eJ Toodoggone Volcanics
lTr–J Takla Group Volcanics
ELECTRUM RESOURCE CORP.
TOODOGGONE AREA, B.C.
REGIONAL GEOLOGY
AND
LOCATION OF PIL PROPERTY
Figure One
Nov 1992
STAARGAARD GEOLOGICAL

Regional Geology

The Toodoggone area is situated in the Intermontane Belt, near its eastern margin (Fig. 1). The oldest rocks in the region are limestones and rhyolitic tuffs of the Permian Asitka Group. These are overlain by mafic to intermediate flows and related fragmental and sedimentary rocks of the Upper Triassic Takla Group. Overlying these in turn are intermediate volcanics of the informally named Lower to Middle Jurassic Toodoggone Volcanics, a complexly intercalated pile of largely subaerial andesitic volcanic flows, fragmental rocks and related sediments.

Extensive and repeated block faulting in Jurassic time, possibly related to caldera development, has served to localize epithermal vein-type gold-silver mineralization. The most well-known of these occurrences is the Lawyers deposit, where Cheni Gold Mines Ltd. is currently mining from a reserve of 1.75 million tonnes grading 6.8 gt Au and 242.7 gt Ag.

A number of granodioritic to quartz monzonitic intrusives of Late Jurassic to Early Cretaceous age (Omineca Intrusions) cut the Takla and Toodoggone Volcanics.

Property Geology

The claims are underlain by various Toodoggone Volcanics that have been intruded by a large, multiphase granitoid stock of probable Jurassic age (Fig. 3). The volcanics are comprised of both flows and fragmentals, largely of andesitic composition. According to Carne (1981), they may be subdivided into two groups on the basis of phenocryst content, one group being characterized by feldspar (largely plagioclase) and hornblende and the other by feldspar and quartz. Fragmental textures include lapilli, crystal and ash flow tuffs. Minor basalt flows are present.

The main intrusive consists of coarse to medium grained, equigranular quartz monzonite intruded by plagioclase phyric monzonite. A number of feldspar porphyry dykes similar in composition to the latter cut the volcanics in various places on all the claims.

Numerous faults, many of which trend northwesterly, are present and the main intrusive is largely fault bounded.

Occurrences of chalcopyrite in the quartz monzonite are generally associated with fracture-controlled K feldspar and quartz-sericite alteration developed mainly in proximity to contacts with the younger monzonitic phases. Locally, chalcopyrite also occurs with pyrite and galena in quartz-chlorite veins within the older quartz monzonitic intrusive. Propylitically altered zones are present in places.

Geochemistry

Five to ten kilograms of stream sediment were taken at each of a total of twenty sites on streams draining the claims and the immediate area. These were panned for the heavy mineral fraction using the standard -40 mesh screen and pan set used for years in British Columbia (Appendix C). All samples were analyzed at Min-En Laboratories in North Vancouver for a suite of 30 elements using ICP analysis. Gold was determined by AAS following a fire assay sample preparation. Sample locations and numbers are shown on Figure 3 while values for Au, Cu and Zn are shown on Figure 4.

A number of anomalies in Au and/or Cu and/or Zn are present, with values of up to 3740 ppb, 1105 ppm and 625 ppm respectively. Many of the higher values, particularly for gold, are in the lower reaches of the stream draining into Jock Creek from the central part of the property. Anomalous levels of Au and Zn were found by Serem in both standard stream silt samples and grid-based soil

samples in this vicinity. Mapping by Serem personnel revealed several younger monzonitic dykes in the area, which is marked by a number of gossans together with zones of argillic and/or propylitic alteration. Their report concluded that soil anomalies were present where overburden was relatively thin.

References

Crawford, S.A. (1982): Geological and Geochemical Report on the Atlas and Hercules Claims, BCMEMPR Assessment Report 10326, 9p.

Crawford, S.A. and Carne, J.F. (1981): Geochemical and Geological Report on the OJ-ARG Claim Group, BCMEMPR Assessment Report 9501, 10p.

Pezzot, E. (1986): Geophysical Report on an Airborne Magnetic Survey: Brooke, Lee, Erin, Daniel and Eloise Claims, BCMEMPR Assessment Report 15264.

Schroeter, T., Carter, N. and Birkeland, A. (1987): "A Jurassic Epithermal Area", The Northern Miner Magazine, March 1987, pp. 74-81.

Seyward, J. and Bekdache, M. (1987): Geological Report on the Eloise, Jeremy and Daniel Claims, BCMEMPR Assessment Report 16798.

Seyward, J. and Bekdache, M. (1987): Geological Report on the Lee, Erin and Brooke Claims, BCMEMPR Assessment Report 16804.

Statement of Qualifications

I, C.F. Staargaard, of 1470 Doran Road, North Vancouver, B.C., hereby certify that:

a) I am a consulting geologist with offices at 912-510 West Hastings St., Vancouver, B.C.

b) I have the following degrees:

1977	B.Sc. Geology	The Pennsylvania State University
1981	M.Sc. Geochemistry	Queen's University, Kingston, Ontario

c) I am a Fellow of the Geological Association of Canada (#5012)

d) I have been continuously employed in mineral exploration in Canada, the USA and South America since 1979 and seasonally since 1975.

e) This report is based on available information together with my personal observations on the PIL claims

f) I do not have any interests in the PIL claims, either directly or indirectly, nor do I expect to receive any.

C. F. Staargaard.

Vancouver, B.C.

Appendix A
Analytical Results

COMP: J.J. BARAKSO
PROJ:
ATTN: J.J. BARAKSO

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 2V-1040-RJ
DATE: 92/10,
* H.N. SEPARATION * (ACT:F

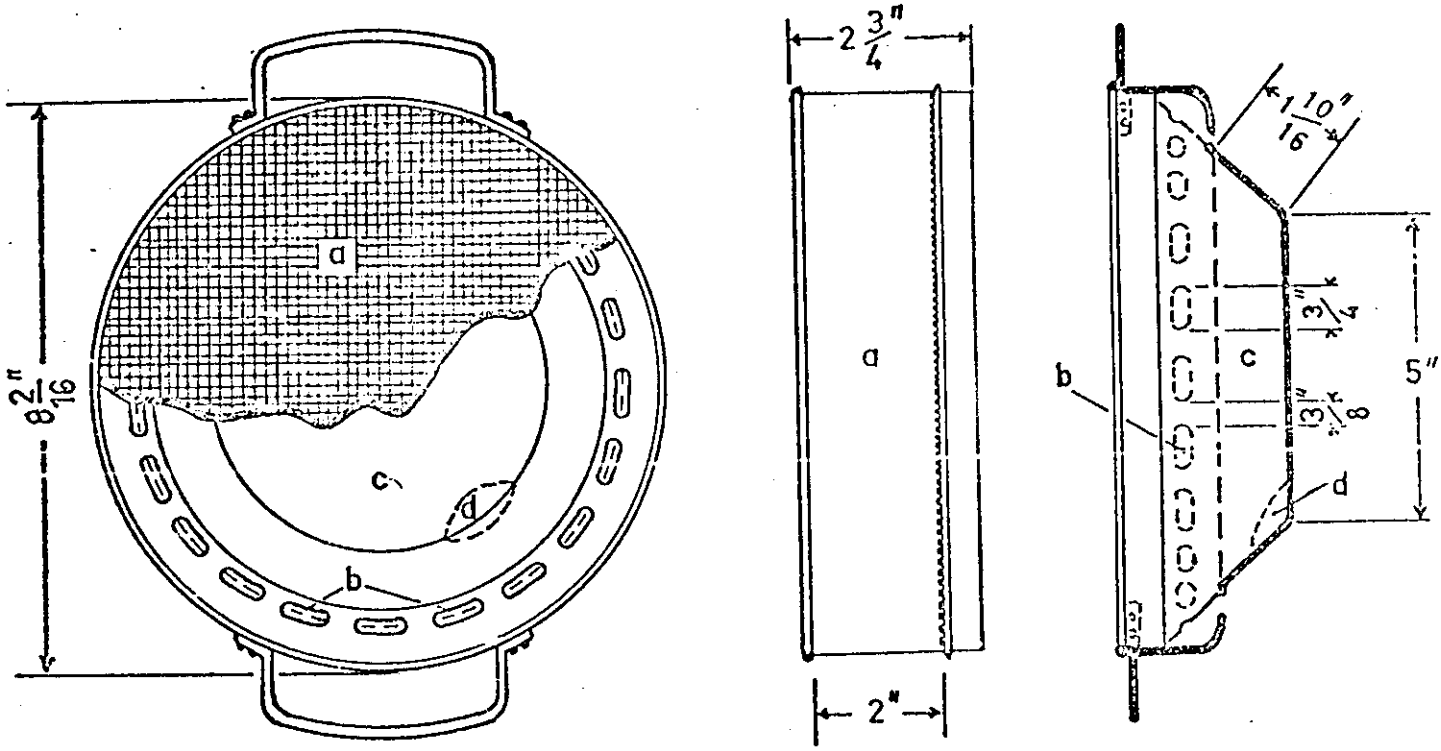
SAMPLE NUMBER	AG PPM	AL %	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA %	CD PPM	CO PPM	CU PPM	FE %	K %	LI PPM	MG %	MN PPM	MO PPM	NA %	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	TI PPM	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	AU-FIRI PPB
PHM 01	.1	.81	1	5	427	1.0	4	1.21	.1	19	106	10.12	.04	6	.48	1020	4	.01	1	4310	87	1	70	1	1175	287.1	308	1	1	4	1	54
PHM 02	.1	.94	1	4	434	.9	5	1.01	.1	16	34	6.16	.04	6	.66	1087	6	.01	1	2990	107	3	73	2	666	148.3	178	1	1	3	2	361
PHM 03	.1	.81	1	6	278	.9	4	1.64	.1	19	52	13.02	.03	8	.45	781	4	.01	1	6120	39	1	89	1	1674	408.0	172	1	1	5	1	618
PHM 04	.1	1.12	1	7	322	2.1	8	1.11	.1	24	1105	14.05	.03	9	.37	789	1	.01	1	2620	17	1	69	1	2406	475.1	328	1	1	6	1	2
PHM 05	.1	.80	1	10	446	1.2	18	1.09	.1	27	27	>15.00	.06	15	.65	1149	1	.01	1	1630	20	1	24	1	4977	566.9	156	1	1	8	5	9
PHM 06	.1	1.46	1	4	132	1.0	9	1.18	1.0	14	187	5.92	.04	7	.94	1599	7	.01	1	1750	63	3	148	3	1310	141.3	408	1	1	3	3	27
PHM 07	.1	.96	1	4	209	1.1	6	.95	1.4	13	120	6.02	.03	6	.70	1002	4	.01	1	2140	66	3	89	4	947	163.7	484	1	2	3	4	26
PHM 08	.1	.63	1	10	64	1.1	19	1.10	.1	27	23	>15.00	.02	9	.36	1302	1	.01	1	1360	4	1	14	1	6040	636.3	180	1	1	8	1	5
PHM 09	.1	.67	1	11	176	.7	22	1.12	.1	29	25	>15.00	.03	9	.41	1324	1	.01	1	1370	15	1	18	1	6392	661.5	204	1	1	9	6	3
PHM 10	.1	.57	1	7	670	.8	10	1.02	.1	20	23	12.59	.03	7	.37	934	1	.01	1	2450	14	1	37	1	3035	437.1	122	1	1	6	4	373
PHM 11	.1	1.40	1	6	1451	1.0	10	1.74	1.1	21	154	10.67	.05	7	.65	1288	1	.01	1	4390	80	2	186	1	2346	306.5	625	1	1	5	.5	90
PHM 12	.1	.65	1	9	772	.5	6	1.03	.1	26	41	>15.00	.03	5	.32	1089	1	.01	1	2200	6	1	54	1	3270	594.2	208	1	1	6	1	4
PHM 13	.1	1.00	1	9	1134	.6	13	1.46	.1	29	121	>15.00	.04	7	.49	1429	1	.01	1	3620	27	1	110	1	4122	603.0	607	1	1	7	1	537
PHM 14	.1	.71	1	10	860	.7	7	1.08	.1	32	36	>15.00	.06	13	.32	1560	1	.01	1	3220	4	1	28	1	3925	751.4	248	1	1	8	1	14
PHM 15	.1	.86	1	6	600	1.0	9	1.32	.1	19	44	11.24	.03	7	.49	1175	1	.01	1	3670	89	1	94	1	2324	365.9	402	1	1	5	4	3740
PHM 16	.1	.76	1	6	36	.9	2	1.92	.1	18	13	13.51	.02	6	.40	625	1	.01	1	7420	14	1	103	1	1547	454.9	53	1	1	5	1	4
PHM 17	.1	.68	1	9	18	.6	1	1.66	.1	26	11	>15.00	.02	6	.31	675	1	.01	1	5990	1	1	73	1	2474	735.8	71	1	1	7	1	10
PHM 18	.1	1.10	1	9	21	.2	6	2.14	.1	25	14	>15.00	.03	8	.39	756	1	.01	1	7370	3	1	130	1	3066	650.9	75	1	1	7	1	73
PHM 19	.1	1.04	1	9	12	.6	8	2.12	.1	27	28	>15.00	.03	6	.40	880	1	.01	1	6450	1	1	132	1	3760	688.8	86	1	1	7	1	172
PHM 20	.1	.65	1	9	72	.7	3	2.03	.1	24	13	>15.00	.04	6	.26	719	1	.01	1	8760	1	1	86	1	2354	636.8	76	1	1	6	1	10

Appendix B
Statement of Costs

Maps, Publications and Airphotos			192.21
Expediting			75.00
Field Equipment, Rentals	radio rentals, misc. supplies		65.16
Phone			6.06
Travel Expenses	motel, groceries, truck mileage and fuel		476.44
Analytical Costs	20 heavy mineral samples @ $49.50 each		990.00
Geological Field Work	4 man-days @ $375/day		1,500.00
Travel Time	3 man-days @ $375/day		1,125.00
Report and Drafting	3 man-days @ $375/day		1,125.00
Helicopter	2.5 hours @ $804.50/hr		2,011.25
		Subtotal	6,441.12
		GST	450.88
		Total	$6,892.00

Appendix C
Description of Heavy Mineral Sampling Pan

Heavy Media collector for Geochemical Analysis.



Legend:

a = 40 Mesh stainless sive

b = Draining slots

c Gold pan

d 1oz.mark

Scale:

1" = 3"

Fig. 2

MIN-EN LABORATORIES LTD.
705 W. 15th St.
North Vancouver, B.C.
Phone: 980-5814

PHONE 980-5814

MIN-EN Laboratories Ltd.

Specialists in Mineral Environments

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

PROCEDURE FOR HEAVY MINERAL SAMPLE COLLECTOR FOR Au, W, Sn

1.) Place a screen on top of pan and fill up the given screen with gravel from the stream bed to level the top of screen.

2.) Sieve underwater until the fine material gets into the pan.

3.) Than discard the material from the screen moving away the screen from the pan.

4.) Pan down the screened material to the amount marked on the bottom of the screen.

5.) Collect heavy panned geochem sample into a suitable vile and send with shipment notice to the laboratory for analysis.

P.S. Sieves are available from the laboratory of 10,20,40 mesh sizes.

0.5 0 0.5 1.0 1.5

KM

N

PHM–4

PHM–5

PHM–2

PHM–1

PHM–3

PHM–6

PHM–7

PHM–8

PHM–9

PIL 3

PIL 1

PIL 2

cc

cc

qtz v

Cu

PHM–12

PHM–10

py,gal

PHM–11

qtz veins

chalcedonic qtz
Au,Ag

PHM–20

py,mal

PHM–19

cpy

PHM–18

PHM–13

PHM–14

cpy, barite

sph

qtz veins, barite

PHM–17

qtz–mt veins

PHM–15

PHM–16

JOCK

TO CHENI ROAD

CREEK

AR 22750

Jurassic granodiorite

Toodoggone Volcanics

gossan

potassic alteration

propylitic± argillic alteration

aeromagnetic high

heavy mineral silt sample
(ppb Au, ppm Cu, ppm Zn)

mineral occurrence

fault

geological contact

limit of outcrop

ELECTRUM RESOURCE CORPORATION

PIL PROPERTY

Toodoggone Area, B.C.
Omineca Mining Division

GEOLOGY AND SAMPLING

Date: Nov 92

Figure 2

STAARGAARD GEOLOGICAL

0.5 0 0.5 1.0 1.5

KM

N

PIL 3

PIL 1

PIL 2

2,1105,328

9,27,156

361,34,178

54,106,308

618,52,172

28,187,408

26,120,484

5,23,180

3,25,204

cc

cc

qtz v

Cu

4,41,200

90,154,625

373,23,122

py,gal

qtz veins

chalcedonic qtz
Au,Ag

10,13,76

cpy

py,mal

172,28,86

cpy, barite

sph

qtz veins, barite

537,121,607

14,36,248

73,14,75

10,11,71

qtz–mt veins

3740,44,402

4,13,53

JOCK

CREEK

TO CHENI ROAD

AR 22750

Jurassic granodiorite

Toodoggone Volcanics

gossan

potassic alteration

propylitic± argillic alteration

aeromagnetic high

heavy mineral silt sample
(ppb Au, ppm Cu, ppm Zn)

mineral occurrence

fault

geological contact

limit of outcrop

ELECTRUM RESOURCE CORPORATION

PIL PROPERTY

Toodoggone Area, B.C.
Omineca Mining Division

GOLD, COPPER AND ZINC
IN HEAVY MINERAL CONCENTRATES
FROM STREAM SEDIMENTS

Date: Nov 92

Figure 3

STAARGAARD GEOLOGICAL