

ASSESSMENT

REPORT

ON THE

STAR, PUL, SUN and SKARN CLAIMS

ACAPULCO GROUP

TOODOGGONE RIVER AREA

OMINECA MINING DIVISION

BRITISH COLUMBIA

N.T.S. 94 E / 2W

57, 12 North Latitude; 127, 57 West Longitude

FOR

TANUTA VENTURES CORP.

**BY GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT**

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25,220

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1.0 SUMMARY

The Star, Pul, Sun and Skarn claims of Tanuta Ventures Corp. are located in the Toodoggone River area of North Central British Columbia at approximately twelve kilometres southeasterly of the Baker Mine, and eight kilometres east of the Sturdee airstrip.

The property is underlain by Permian Asitka Group limestone, and Lower Jurassic Omineca intrusive rocks. Extensive zones of skarn type mineralization containing gold, silver, copper, lead and zinc, have been developed at the limestone/intrusive contact, which have been the focus of exploration by S.E.R.E.M. during the period 1980-87. Since 1987 the Star, Pul and Sun claims have been maintained by S.E.R.E.M. Inc. Work completed by the company consisted of silt and soil geochemical sampling, rock sampling, geology, magnetics, a V.L.F.-E.M. survey, prospecting and diamond drilling.

In 1987, five B-Q size drill holes were completed for a total of 864.67 metres. The best results obtained in the drilling were 1.0 metre at 0.379 Au oz/T, 7.175 Ag oz/T in 87-A-5, and 0.078 Au oz/T, 0.50 Ag oz/T for 12.21 metres, 0.047 Au oz/T, 0.33 Ag oz/T for 16.20 metres in 87-A-3.

Surveys undertaken by Tanuta Ventures Corp. during the summer of 1997 consisted of prospecting and rock sampling, survey grid establishment, soil geochemical sampling with analysis for gold, silver, copper, lead, zinc, arsenic, cobalt, nickel and molybdenum, a magnetometer survey and a V.L.F.-E.M. survey.

Results of the 1997 work are extremely encouraging. Soil geochemical anomalies for gold, silver, lead, zinc, copper and molybdenum form an oval halo around the height of land defined by the Asitka limestone unit. This anomalous trend is directly related to the skarn zones formed at the interface between the limestone and underlying intrusions.

Potential exploration targets for the property are considered to be the limestone/intrusive interface area where skarn development containing precious metals and sulphides of copper, lead and zinc, has occurred.

On the strength of the results of previous exploration work by S.E.R.E.M. including diamond drilling, and the current surveys completed by Tanuta Ventures Corp. in 1997, additional exploration is warranted as described at an estimated cost of \$ 246,000.00 in Phase I.

2.0 INTRODUCTION

The Tanuta Ventures Corp. optioned Acapulco Group consisting of the Star, Pul, Sun and Skarn claims (47 units), is situated approximately eight kilometres due east of the Sturdee airstrip and seven kilometres north of the junction of the Firesteel and Finlay Rivers in the Toodogone River area of north-central British Columbia.

The property consisting of the Sun (8 units), Star (15 units), Pul (12 units) and the Skarn (12 units) is located at 57 degrees, 12 minutes North Latitude; 127 degrees, 57 minutes West Longitude, immediately south and west of Drybrough Peak. The author examined the legal corner post for the Pul claim and it appears to be located in accordance with all applicable laws.

Previous work in the area consisted of copper and molybdenum exploration by Cordilleran Engineering in 1968 and by Minas de Cerro Dorado in 1973. Work performed by S.E.R.E.M. in 1980 resulted in the location of the Sun, Star, and Pul claims with the property being maintained to the present. The Skarn claim was located in 1997 as part of the exploration program.

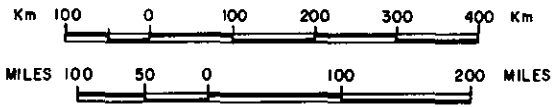
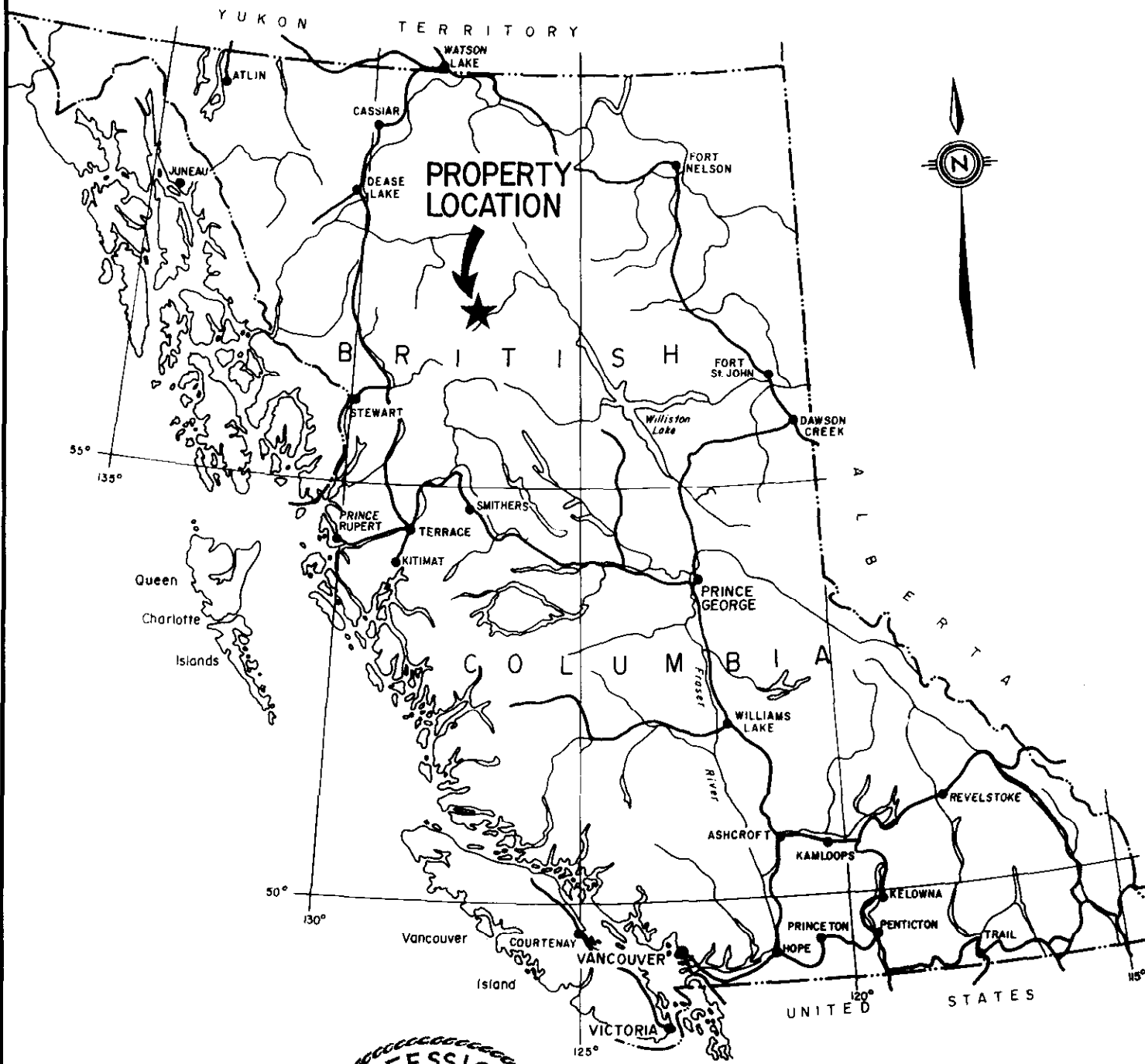
Work undertaken by S.E.R.E.M. included silt sampling of drainage, grid soil sampling, rock sampling, geology, magnetics, V.L.F.-E.M., and diamond drilling.

Recent exploration by Tanuta Ventures Corp. during 1997 consisted of prospecting and rock sampling, grid establishment and soil sampling, a magnetometer survey, a V.L.F.-E.M. survey, and geology.

The author was requested by Tanuta Ventures Corp. to supervise and conduct the work programs undertaken in 1997.

PROPERTY LOCATION MAP

PLAN NO. 1



TANUTA VENTURES CORP.		
PROPERTY LOCATION MAP		
STAR, PUL, SUN, SKARN CLAIMS		
OMINECA MINING DIVISION, B.C.		
JOHN R. POLONI & ASSOCIATES LTD.		
Drawn: J.R.P.	Checked: J.R.P.	PLAN No.
Scale: As shown	Date: Oct. 15, 1997	1

3.0 LOCATION AND ACCESSIBILITY

The Tanuta Ventures Corp.. Acapulco Group is located at 57 degrees, 12 minutes North Latitude, 127 degrees, 57 minutes West Longitude in the Toodoggone River Area, Omineca Mining Division of British Columbia, N.T.S. 94E / 2W.

The claims are centered at approximately eight kilometres due east of the Sturdee airstrip, and seven kilometres north of the junction of the Firesteel and Finlay Rivers. The Baker Mine and Mill complex is situated at twelve kilometres northwesterly.

Access to the property is via fixed wing aircraft to the Sturdee airstrip from Prince George or Smithers, and then by helicopter, and additional distance of about eight kilometres.

Smithers is located approximately 280 kilometres south of the Sturdee airstrip. The nearest road access is the Baker Mine access road or the main Cheni Mine road south of the Sturdee airstrip.

The main Omineca Mine access road from Windy Point on the Provincial Highway #97, north of Prince George is being upgraded by logging companies to the Osilinka camp and then by Royal Oak (Kemess Mine) and the Provincial Government to the area of the Sturdee airstrip. A hydro electric power line is being installed along the access road to supply power to the Kemess Mine.

4.0 CLAIM INFORMATION

The property consists of the Star (15 units), Pul (12 units), Sun (8 units) and the Skarn (12 units) for a total of forty-seven units. Claim data is as follows:

<u>NAME</u>	<u>UNITS</u>	<u>REC.NO.</u>	<u>RECORD DATE</u>	<u>EXPIRY DATE</u>
Star	15	238410	Mar.26/81	Mar.26/98
Pul	12	238309	Aug.15/80	Aug.15/98
Sun	8	238411	Mar.26/81	Mar.26/98
Skarn	12	358286	Aug.13/97	Aug.13/98 <i>July 30/98</i>

Sufficient exploratory work has been completed in 1997 to extend the expiry dates beyond 1998.

Tanuta Ventures Corp. has entered into an Earning Option agreement with Mr. John M. Mirko, as described in the agreement subject to a 3% Net Smelter Return Royalty to Cheni Resources Inc.

The claims have been maintained by S.E.R.E.M. and Cheni Resources Inc. since the location dates to the present with exploration being completed actively until 1987 with the completion of five diamond drill holes.

5.0 PHYSICAL FEATURES

The Tanuta Ventures Corp. property covers the height of land formed by Permian Asitka Group limestone which overlies Lower Jurassic Omineca intrusion, with elevations ranging from 1400 metres to 2065 metres above sea level. Tree line generally lies at about 1650 metres above sea level.

Variable outcrop patterns exist with the best rock exposures being along the height of land and steep mountain ridges, and in creeks and gullies.

Ample water is present for camp requirements and potential diamond drilling needs. Diamond drilling can be accessed via Drybrough Creek from the Cheni Mine access road or by using helicopter support.



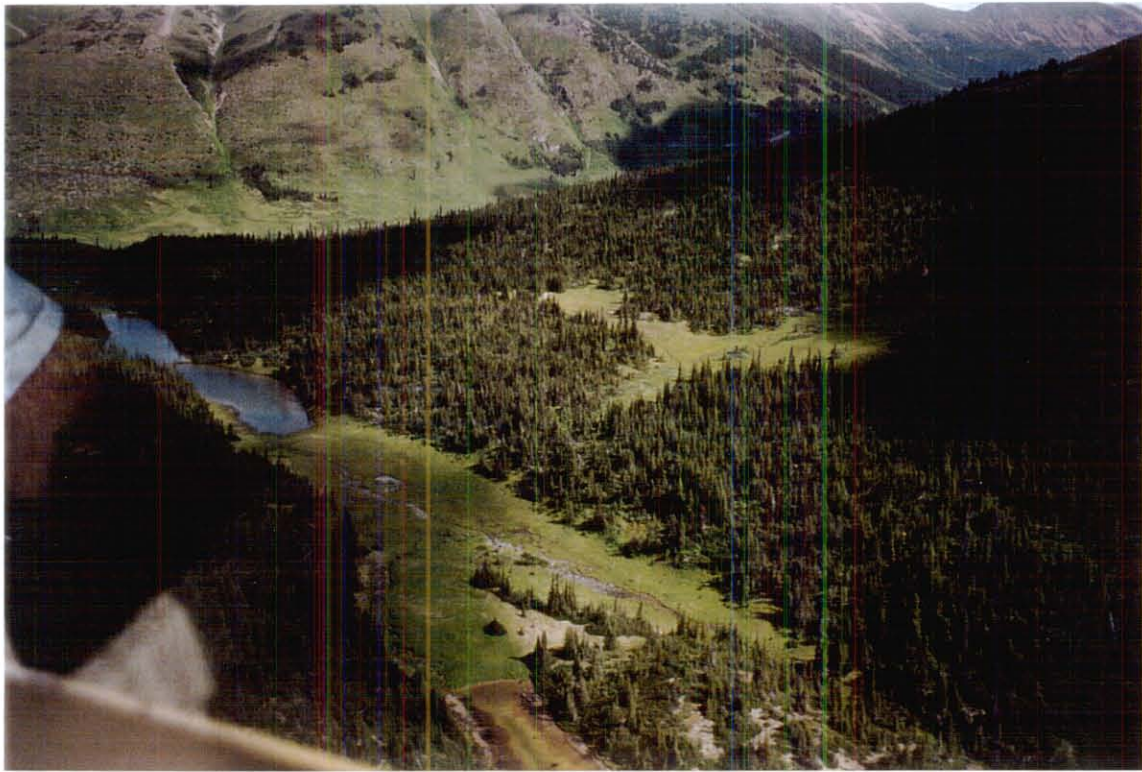
**PHOTO #1 - LOOKING WEST FROM L.C.P. PUL CLAIM.
BASE LINE 100+00E, 100+00N IS AT PEAK CENTRE OF PHOTO**



PHOTO #2 - LEGAL CORNER POST, PUL CLAIM LOOKING WEST. ASITKA GROUP LIMESTONE AT HEIGHT OF LAND IN BACKGROUND



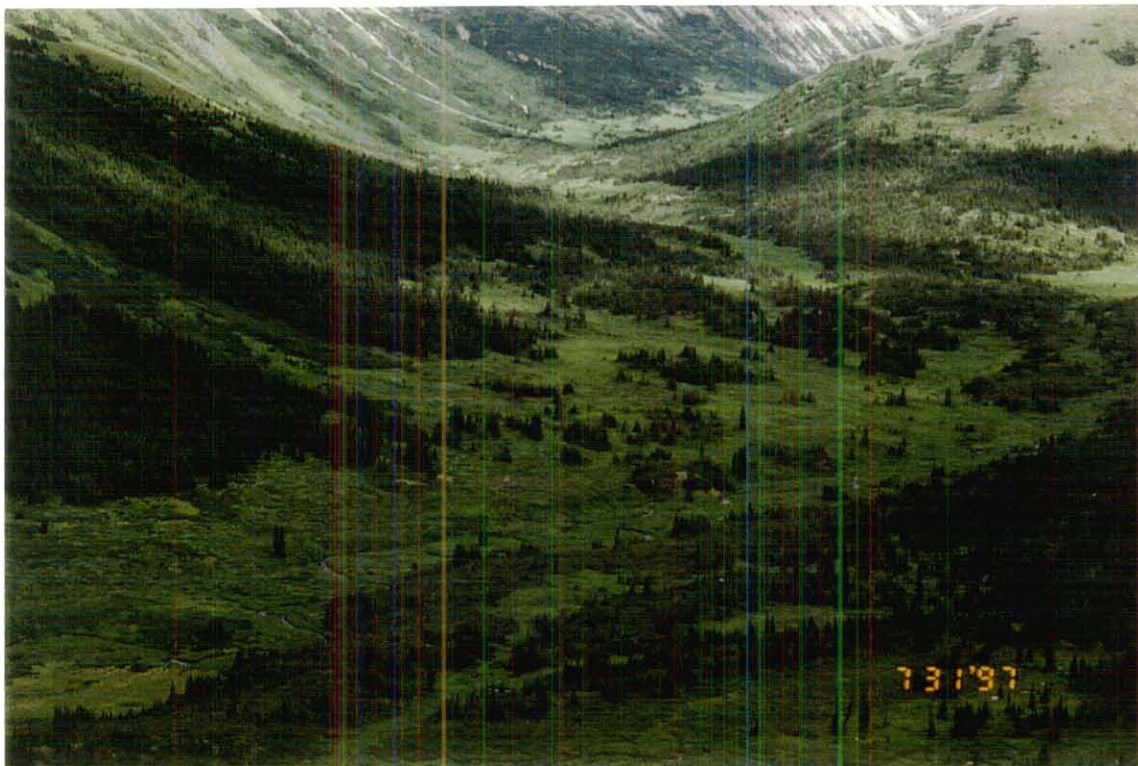
PHOTO #3 - LOOKING SOUTH TOWARDS LIMESTONE RIDGE



**PHOTO #4 - LOOKING NORTH, 90+00 T/L TO LEFT OF LAKE.
SKARN CLAIM IN BACKGROUND**



**PHOTO #5 - LOOKING N.W. DRYBROUGH CREEK DRAINAGE
AND ROAD ACCESS IN UPPER RIGHT OF PHOTO WITH THE
STURDEE AIRSTRIP IN THE VALLEY IN DISTANCE**



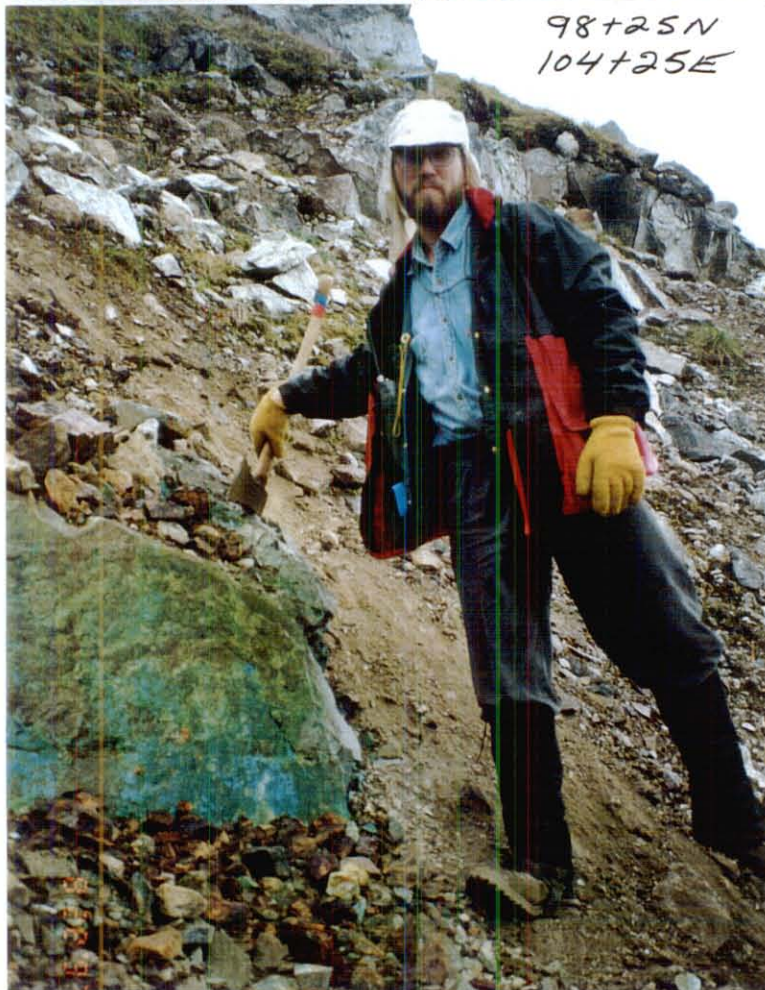
**PHOTO #6 - LOOKING N.E. UP MAIN VALLEY OF DRYBROUGH
CREEK FROM LIMESTONE RIDGE**



**PHOTO #7 - HEIGHT OF LAND ALONG B/L AT ABOUT 102+00N.
ASITKA LIMESTONE OUTCROP.**



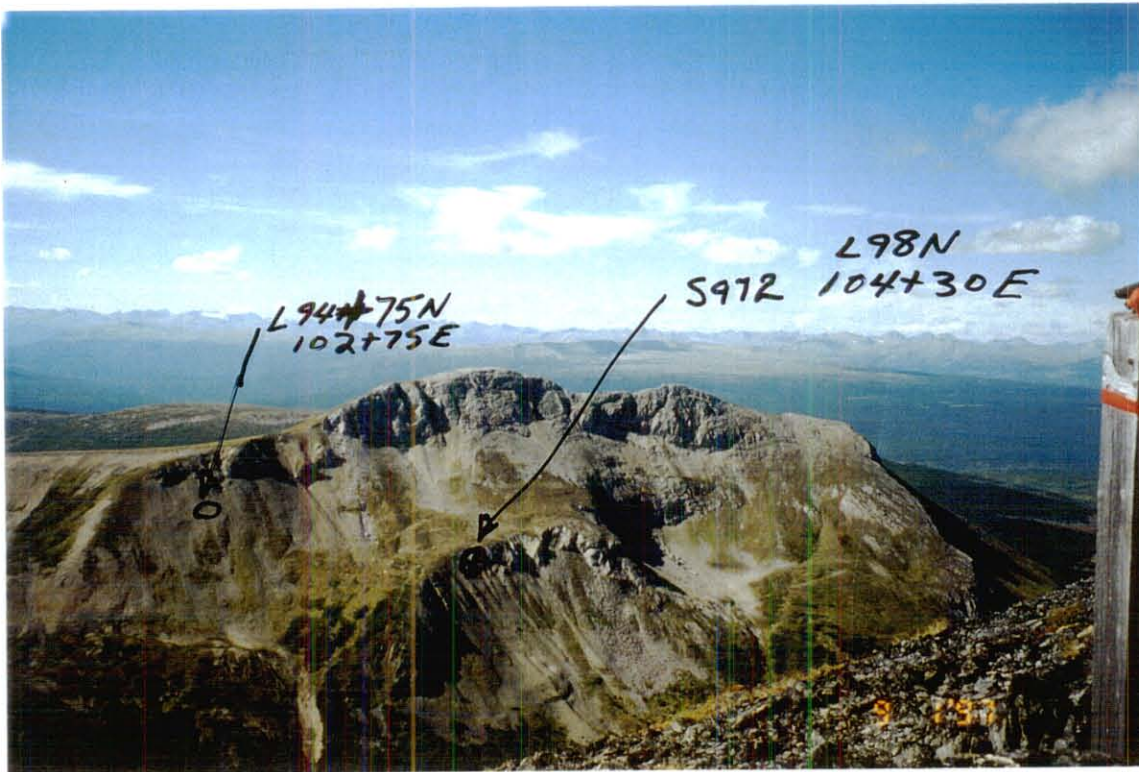
PHOTO #8 - LOOKING NORTH FROM AREA OF SUN CLAIM



**PHOTOS #8 & #9
COPPER STAINED
BOULDERS IN
TALUS BELOW
L.S. OUTCROP,
EAST OF
BASELINE.**



**PHOTO #10 - IRON STAINED, COPPER STAINED FLOAT FROM
SAME AREA AS PHOTOS #8 & #9**



**PHOTO #11 - LOOKING WEST FROM L.C.P PUL CLAIM.
SAMPLE LOCATIONS SHOWN**

<u>NO</u>	<u>AU g/T</u>	<u>AG g/T</u>	<u>CU %</u>
5972	6.09	192.0	25.60
L98,104+30E	3.33	41.8	1.76
L94,102E	0.05	43.5	

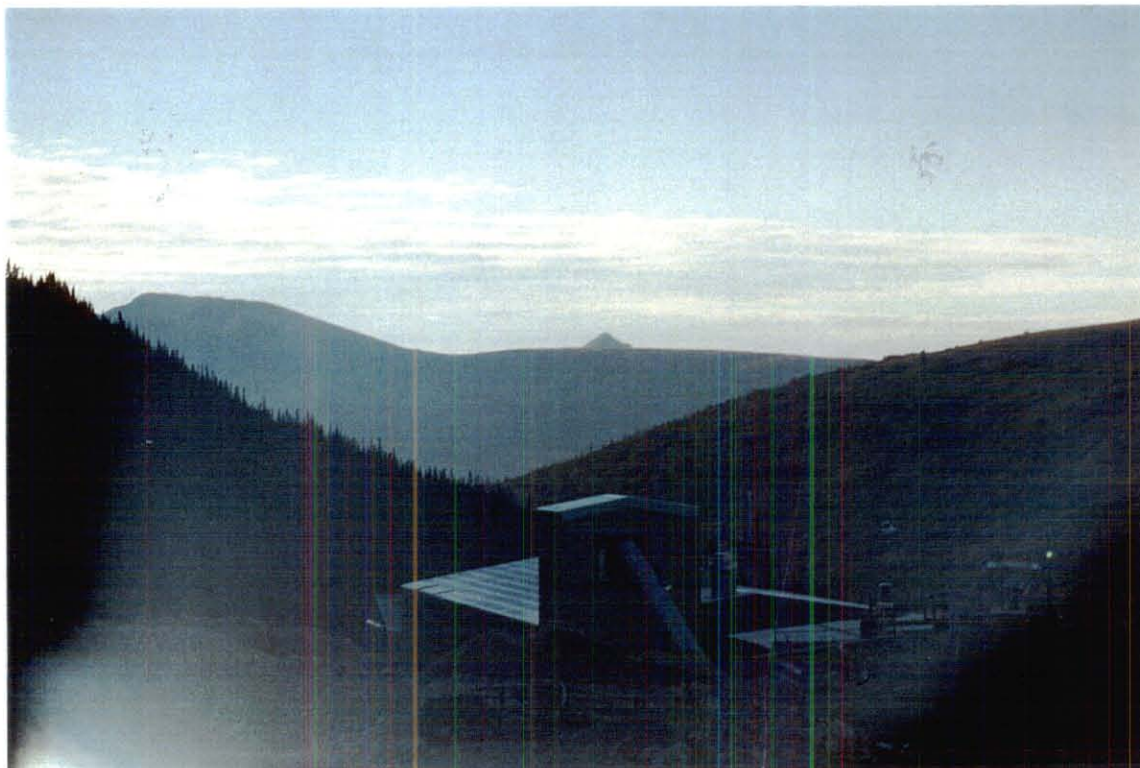


**PHOTO #12 - OLD COMINCO SHOWING LINE 95N-94E LOOKING
NORTHERLY**

<u>NO</u>	<u>AU g/T</u>	<u>AG g/T</u>	<u>CU%</u>	<u>PB%</u>	<u>ZN%</u>
L95N,94E	0.06	43.5		8.50	12.10
L95N,94+55E	0.15	278.0	1.040		



**PHOTO #13 - AREA OF DIAMOND DRILLING 1987.
DOZER ACCESS ROAD, LOOKING NORTH TOWARDS
SKARN CLAIM**



**PHOTO #14 - LOOKING SOUTH FROM BAKER MILL TOWARDS
LIMESTONE PEAK IN MIDDLE BACKGROUND PHOTO CENTRE**



**PHOTO #15 - LOCATION OF L.C.P. FOR SKARN CLAIM
LOOKING N.W.**

**PHOTO #16 - GEOLOGICAL INTERPRETATION
LOOKING WEST FROM L.C.P. PUL CLAIM**



Looking west from Pul L.C.P.

6.0 HISTORY

Initial work on parts of the property dates back to 1972 when Amax located the Dumac Group of claims. In 1977 Cominco located four units covering parts of the present Star and Sun claims. Minas de Cerro Dorado owned the Riga Group located 2 kilometres to the northeast of the present property. The Riga claims were restaked for Quebec-Cartier Mining in 1968 by Cordilleran Engineering.

Assessment report #6762 by J.C. Caelles for Cominco Ltd. dated June 1, 1978 describes a reconnaissance soil geochemical survey on the 4-unit Amigo Group. Mineralization exposed consisted of skarn type Zn/Cu/Pb/Ag showings occurring at a quartz-monzonite-limestone contact. Reconnaissance soil geochemical sampling was undertaken over the inferred intrusive-limestone contact area in a grid approximately 600x600 metres, with sample sites at 50 metres intervals. B-horizon material was sampled and analysis completed at Cominco's laboratory in Vancouver. As reported by Caelles, at least three anomalous zones were outlined with the largest being 150x100 metres enclosed by the 1500 ppm Zn contour.

S.E.R.E.M. Inc. undertook silt, soil and rock sampling, geological mapping, magnetics, a V.L.F.-E.M. survey in 1980, 1982 and 1985, culminating with the completion of 864.67 metres of diamond drilling in 1987. Work performed by S.E.R.E.M. in 1980 included drainage silt sampling, soil sampling along treeline and one grid, preliminary mapping and minor prospecting of about 2.1 square kilometres. Samples collected were, silt 35, soil contour 82, soil grid 105 and rock prospecting 25.

Silt samples were collected along streams at 150 to 250 metre intervals depending on suitable sample locations. Geochemical soil sampling along treeline at approximately constant elevation, using topofil or pacing as control was completed at approximately 100-150 metre intervals. Soil sampling along an established grid was undertaken in an area of poor rock exposure. Samples were collected at 100 metre intervals along lines at

100 metre spacing. Generally samples were collected from the B-horizon if developed, the top of the C-horizon if the B-horizon was poor, and the A-horizon in swampy areas. Rock samples were collected from outcrops or talus of favourable geology.

Analytical work was completed by Min-En Laboratories with analysis being done for gold, silver, lead, zinc and copper.

The 1980 work covered parts of the Aca and Acapulco claims contiguous on the north to the Pul claim. Further prospecting and trenching were recommended accompanied by a detailed study of fracture patterns to determine trends of mineralization. A copy of the report by Crawford, S.A. and Vulimiri, M.R. dated December 1980 describing Geochemical and Prospecting is appended in Appendix D.

In 1985 S.E.R.E.M. Inc. completed geological and geophysical surveys over the Pul, Sun, and Star claims situated immediately south and west of Drybrough Peak. The work consisted of detailed geological mapping and a V.L.F. - E.M. survey, over a re-established survey grid which followed the original grid as closely as possible. A total of 1.3 kilometres of baseline and 12.4 kilometres of crosslines were established.

Geological mapping at a scale of 1:5000, and 12.5 kilometres of V.L.F.-E.M. survey was carried out. For the geophysical survey a Geonics E.M.-16 unit was used as a receiver, with NLK, Seattle 24.8 Khz the transmitter. The V.L.F.-E.M. unit can define conductors caused by electrolyte-filled fault or shear zones and porous horizons, graphite, carbonaceous sediments, lithological boundaries as well as sulphide bodies. The Fraser filter method was applied to the In-phase data. The results of the S.E.R.E.M. geophysical survey data are included in Appendix D of the report.

As described by Vulimiri, M.R. and Crooker, G.F. October 1985,

"GEOPHYSICS

The Fraser filter method was applied to all In-phase readings to allow contouring of the data. The results were contoured at 10 percent intervals.

Two conductors were delineated by the VLF electro-magnetic survey.

Conductor A consists of two sub-conductors extending from L-3N;1+20E to L-10S;0+80E, a distance of 1200 metres. This is a very strong conductor, delineating a contact zone (skarn?) between the intrusion and the overlying limestone unit. Skarn outcrops are observed at some locations, where exposed, along the conductor.

Conductor B consists of a weak to moderate conductor extending from L-3N;5+80E to L-2S;6+00E. This corresponds to a feldspar porphyry intrusive dyke and related skarn zones"

It is further stated,

"POTENTIAL

Assays of samples with skarn mineralogy with even small amounts of chalcopyrite and other copper-bearing minerals show significant amounts of gold (up to 0.78 oz/ton.)"

As described in the 1985 report, magnetite bearing skarns with only magnetite carry little gold values but samples with copper-bearing sulphides and magnetite often carry significant gold values. Skarns are the most important in terms of precious metals.

As described by Vulimiri and Crooker, " The west contact zone of the limestone and intrusion was traced along approximately north-south by geophysics V.L.F.-E.M. and to a minor extent by geology and geochemistry (1980 report) for a distance of 1200 metres, and along east-west direction under the ridge by geological methods and interpretation for a distance of about 900 metres."

Further work was recommended by Vulimiri and Crooker including dozer and backhoe trenching along the western limestone-intrusion contact because of the gentle terrain and accessibility from the Sturdee airstrip/Cheni Mine road.

Drilling was also recommended. This was undertaken in 1987 with excellent success.

Five B Q size diamond drill holes were completed on the Star claim for a total of 864.67 metres. Location is shown on Plan No. 6 included in Appendix D.

Drill hole data is as follows:

DDH #87-A-1

Length **170.69 metres**

Azimuth **281 degrees**

Inclination **-70 degrees**

<u>INTERVAL</u>	<u>LENGTH</u>	<u>ASSAY DATA</u>		
		<u>Au oz/T</u>	<u>Ag oz/T</u>	<u>Cu %</u>
122-134	M. 1.0	0.005	0.12	0.034
134-135	1.0	0.001	0.08	0.036
135-136	1.0	0.009	0.29	0.212
136-137	1.0	0.053	2.73	2.670
137-138	1.0	0.002	0.36	0.480
138-139	1.0	0.002	0.11	0.032
139-140	1.0	0.001	0.05	0.016
140-141	1.0	0.001	0.06	0.009

DDH #87-A-2

Length **144.78 metres**

Azimuth **281 degrees**

Inclination **-55 degrees**

<u>INTERVAL</u>	<u>LENGTH</u>	<u>ASSAY DATA</u>		
		<u>Au.oz./T.</u>	<u>Ag.oz./T</u>	<u>Cu %</u>
74.95-75.95	M. 1.0	0.014	0.59	
75.95-76.95	1.0	0.028	0.53	
76.96-77.95	1.0	0.036	0.60	
77.95-78.95	1.0	0.010	0.18	

DDH 87-A-3**Length** 158.44metres**Azimuth** 234 degrees**Inclination** -60 degrees

<u>INTERVAL</u>	<u>LENGTH</u> <u>M.</u>	<u>ASSAY DATA</u>		<u>Cu %</u>
		<u>Au oz/T</u>	<u>Ag oz./T</u>	
93.36-94.36	1.0	0.116	0.61	
94.36-95.36	1.0	0.047	0.36	
95.36-96.36	1.0	0.032	0.24	
96.36-97.36	1.0	0.034	0.29	
97.36-98.36	1.0	0.134	0.57	
98.36-99.36	1.0	0.099	0.58	
99.36-100.36	1.0	0.093	0.71	
100.36-101.36	1.0	0.125	0.81	
101.36-102.36	1.0	0.093	0.63	
102.36-103.36	1.0	0.063	0.47	
103.36-104.36	1.0	0.069	0.36	
104.36-105.57	<u>1.21</u>	<u>0.046</u>	<u>0.36</u>	
<u>AVG.</u>				
93.36-105.57	<u>12.21</u>	<u>0.078</u>	<u>0.50</u>	
119.80-120.50	0.7	0.099	0.49	
120.50-121.50	1.0	0.037	0.19	
121.50-122.50	1.0	0.007	0.12	
122.50-123.50	1.0	0.011	0.14	
123.50-124.50	1.0	0.041	0.37	
124.50-125.50	1.0	0.065	0.36	
125.50-126.50	1.0	0.168	0.54	
126.50-127.50	1.0	0.071	0.36	
127.50-128.60	1.1	0.018	0.19	
128.60-129.60	1.0	0.052	0.27	
129.60-130.60	1.0	0.031	0.21	
130.60-131.60	1.0	0.020	0.12	
131.60-132.69	1.09	0.036	0.31	
132.69-134.00	1.31	0.047	0.66	
134.0 -135.00	1.0	0.031	0.48	
135.0 -136.00	<u>1.0</u>	<u>0.032</u>	<u>0.46</u>	
<u>AVG.</u>				
119.80-136.00	<u>16.20</u>	<u>0.047</u>	<u>0.33</u>	

DDH #87-A-4

Length 229.52 metres

Azimuth 234 degrees

Inclination -70 degrees

<u>INTERVAL</u>	<u>LENGTH</u> M.	<u>ASSAY DATA</u>		
		<u>Au. oz./T.</u>	<u>Ag. oz./T.</u>	<u>Cu%</u>
128.10-129.10	1.0	0.013	0.22	
129.10-130.10	1.0	0.006	0.36	
130.10-131.10	1.0	0.035	0.35	
131.10-132.10	1.0	0.018	0.25	
132.10-133.10	1.0	0.059	0.30	
133.10-134.10	1.0	0.003	0.24	

DDH #87-A-5

Length 161.24 metres

Azimuth 281 degrees

Inclination -60 degrees

<u>INTERVAL</u>	<u>LENGTH</u> M.	<u>ASSAY DATA</u>		
		<u>Au.oz./T.</u>	<u>Ag. oz./T.</u>	<u>Cu%</u>
96.0-97.0	1.0	0.004	0.07	
97.0-98.0	1.0	0.023	0.22	
98.0-99.0	1.0	0.070	0.53	

also

130.0-131.0	1.0	0.002	0.66	
131.0-132.0	1.0	0.001	0.32	
132.0-133.0	1.0	0.379	7.175	
133.0-134.0	1.0	0.001	0.04	

The 1987 diamond drill program tested only a very small section of the anomalous limestone intrusive contact area, approximately 100 metres in length. Very positive results were obtained in this program. Drill hole 87-A-3 contained a 12.21 metre section which averaged 0.078 Au. oz./T. and 0.50 Ag. oz./T., and 16.20 metres averaging 0.047 Au. oz./T. and 0.33 Ag. oz./T. The highest grade section was obtained in drill hole 87-A-5 where a 1.0 metre interval assayed 0.379 Au. oz./T. - 7.175 Ag. oz./T.

Further drilling is required to properly explore this area and other anomalous zones as outlined in the report.

7.0 GEOLOGY

7.1 REGIONAL GEOLOGY

The regional geology of the area of the Tanuta Ventures Corp. property is shown on Plan No. 3 included in Appendix D. as referenced from "Geology of the Toadoggone River Area N.T.S. 94 E., L.J. Daikow, A. Panteleyev, and T.G. Schroeter, 1986."

The property is referenced in Paper 1989-3 Mineral Resources Division, Province of British Columbia, "Precious Metal Enriched Skarns in British Columbia" by A.D. Ettlinger and G.E. Ray, as number 52 within the Intermontane Belt as Acapulco (Aca, Pul, Co, Amigo, Star, Sun). As described the host rocks consist of Permian Asitka Group or Triassic Takla Group-Limestone with Early Jurassic Omineca intrusion - quartz monzonite-hornblend, pyroxene gabbro. Mineralization consists of gold, silver, copper, lead and zinc occurring in skarn at the contact of limestone with quartz monzonite, with subvertical fractures being the possible fluid mineralization path.

7.2 LOCAL GEOLOGY

The claims are underlain by Permian Asitka Group limestone, marble and skarn, and Lower Jurassic Omineca Intrusive rocks.

The Asitka Group outcropping along the ridge in the middle of the claim group consists of recrystallized limestone and marble with minor interbeds of feldspar porphyritic andesite. Limestone beds are mapped on the Skarn Claim immediately upslope of Drybrough Creek near the easterly end of line 120N. Along the ridge in the middle of the claim block limestone units strike NW-SE with moderate dips of about 30 degrees to the east.

Omineca intrusive rocks consisting of coarse textured quartz diorite to quartz monzonite underlie the Asitka limestone.

Mineralized skarn zones formed by contact metasomatism are present at the contact of the intrusive rocks and the limestone.

As described by Vulimiri, M.R. and Crooker, G.F., Oct. 1985, "Skarns are exposed at the contact of the limestone with the intrusions all around the ridge at lower elevations on the claim group (Figure 3). Minor skarns along with some quartz dioritic and quartz monzonitic intrusions and lamprophyre dykes are also observed on top of the ridge suggesting the intrusion has an undulating contact with apophyses and embayments (Figure 4).

The skarns appear to be related to predominantly 160/170/E fractures. The chalcedony fracture fillings (possibly excess silica left over during the skarn-forming reactions) also are related to the same fractures. Tracing of these fractures will possibly lead to skarns hidden within the embayments of the intrusion. Minor skarn also occur along the bedding planes of the limestone unit.

The skarns primarily consist of magnetite, diopside, grossular garnet and epidote near the intrusion and away from the intrusion they consist of diopside, epidote, wollastonite with minor garnet.

The intrusion exhibits extensive hydrothermal alteration in the vicinity of the skarns. It is completely bleached of mafic minerals with intense K-Feldspar alteration and quartz veining. Where exposed, tracing of the alteration zones within the intrusion towards the carbonates lead to skarns.

MINERALIZATION

Three types of mineralization are present on the claim group. They are the following:

1. Mineralization consisting of chalcopyrite, bornite, malachite, pyrite, pyrrhotite, magnetite, minor galena and sphalerite with gold values is associated with skarn zones. Grab samples from this type of mineralization are assayed for gold and silver. Assays are shown in the table below.

<u>Sample</u>	<u>Ag. oz./ton</u>	<u>Au. oz./ton</u>	<u>Location</u>	<u>Mineralogy</u>
25446	32.0	0.50	7+00E;1+30S	Skarn (Cpy. & Mal.)
25447	0.1	0.01	Hand Trench-2	Skarn (Magnetite)
25448	1.8	0.78	Hand Trench-2	Skarn (Mag., Cpy. & Mal.)
25449	0.5	0.75	Hand Trench-2	Skarn (Mag., Cpy. & Mal.)
25450	0.8	0.21	Hand Trench-2	Skarn (Malachite.)

2. The second type of mineralization consists primarily of galena with minor sphalerite in narrow veinlets in limestone. This does not appear to have much potential. Several samples were assayed for silver and gold in 1982.

3. Chalcopyrite and molybdenum mineralization with associated K-feldspar alteration occurs in the quartz monzonitic phase of the intrusion."

Photo #16 is an interpretation of the geology of the property for the eastern half, as viewed from the area of the L.C.P. of the Pul claim looking westerly.

LEGEND

PLIOCENE AND RECENT

UNCONSOLIDATED GLACIAL, FLUVIOGLACIAL, ALLUVIAL, AND COLLUVIAL DEPOSITS

CRETACEOUS

UPPER CRETACEOUS

SUBTUT GROUP (TANGO CREEK FORMATION)

POLYMICTIC CONGLOMERATE, SANDSTONE, SHALE, CARBONACEOUS MUDSTONES

JURASSIC

LOWER AND (?) MIDDLE JURASSIC

"TODDOGGONE VOLCANICS" - (?) HAZLETON GROUP

UNDIVIDED, PREDOMINANTLY GREY, GREEN, PURPLE AND ORANGE-BROWN HORNBLende PLAGIOCLASE AND PLAGIOCLASE PHYRIC ANDESITE PORPHYRY FLOWS, TUFFS, BRECCIA, SOME LAHAR, CONGLOMERATE, GREYWACKE, SILTSTONE, RARE RHYOLITE-PERLITE. INCLUDES SOME DYKES AND SILLS

LOWER TO MIDDLE JURASSIC

"TODDOGGONE VOLCANICS" (CARTER, 1972)

"GREY DACITE"

DARK TO PALE GREY OR GREEN QUARTZOSE BIOTITE HORNBLende PLAGIOCLASE ASH FLOWS OF ANDESITIC AND RARELY DACITIC COMPOSITION. VARIABLY WELDED WITH LOCALLY WELL-DEVELOPED COMPACTION LAYERING. CONTAINS ABUNDANT GREY DACITE AND RARE GRANITIC CLASTS. OUTCROPPS ARE COMMONLY BLOCKY AND STRONGLY JOINTED

182 ± 8, 183 ± 8 Ma (GSC) HORNBLende

POLYMICTIC CONGLOMERATE WITH ABUNDANT TAKLA AND GREY DACITE CLASTS IN A QUARTZOSE SANDSTONE MATRIX

GREYWACKE, CONGLOMERATE DERIVED ENTIRELY FROM GREY DACITE

TODDOGGONE CRYSTAL ASH TUFFS AND FLOWS

RECESSIVE, GREY, MAUVE, PURPLE QUARTZOSE PLAGIOCLASE CRYSTAL TUFF, LAPILLI TUFF AND BRECCIA, WITH LESSER AGGLOMERATE, LAHAR, AND EPICLASTIC BEDS. INCLUDES SOME WELDED TUFFS AND PYROXENE HORNBLende FELDSPAR PORPHYRY FLOWS WHICH ARE LOCALLY DOMINANT. SOME MEMBERS CONTAIN NO QUARTZ. PINK WEATHERING WHERE LAUMONTITE IS ABUNDANT

180 ± 8 Ma HORNBLende

EPICLASTIC RED BEDS - ARKOSIC SANDSTONE, SILTSTONE, CONGLOMERATE, AND SLIDE DEBRIS. CONTAINS SOME CRYSTAL TUFF

TUFF PEAK FORMATION

PALE PURPLE, GREY AND GREEN BIOTITE AUGITE HORNBLende PLAGIOCLASE PORPHYRY FLOWS; SOME AUTOBRECCIATED FLOWS, MINOR SILLS AND PLUGS, SOME CRYSTAL AND LAPILLI TUFF

197 ± 7 Ma BIOTITE
200 ± 7 Ma HORNBLende

CONGLOMERATE OR LAHAR DERIVED FROM UNITS 6 AND 8B, WITH GRADED AND CROSSLAMINATED MUDSTONE AND SANDSTONE INTERBEDS, DEBRIS FLOWS, LAPILLI AND CRYSTAL TUFFS

FLOWS SIMILAR TO UNIT 6 BUT CONTAINING SPARSE ORTHOCLASE MEGACRYSTS

MCLAIR CREEK FORMATION

PURPLE TO PALE GREY, BROWN, GREY-GREEN, CRIMSON, PINK, ORANGE-BROWN, MEDIUM-GRAINED PORPHYRY FLOWS, INCLUDES SOME LAPILLI TUFF, BRECCIA, AND MINOR EPICLASTIC BEDS

INTRUSIVE DOME WITH AUTOBRECCIATED CARAPACE AND FLANKING BRECCIA

MARC FLOW AND TUFF UNIT

BASALT FLOWS - THIN BEDDED, PURPLE TO DARK GREEN, COMMONLY EPIDOTIZED, FINE-GRAINED PYROXENE BASALT FLOWS AND TUFFS; INCLUDES SOME SILLS AND DYKES

PURPLE TO MAUVE, MEDIUM-GRAINED PORPHYRY BASALT, LOCALLY MAUVE TO PINK, ZEOLITIZED WITH LAUMONTITE, POSSIBLE INTRUSIVE (LACCOLITH)

LAPILLI, CRYSTAL, AND ASH TUFF, WELL BEDDED, INCLUDES MINOR THINLY BEDDED SANDSTONE AND RARE CALCAREOUS SILTSTONE (MARL), TOTALLY OR IN PART EQUIVALENT TO UNIT 7

PYROXENE BIOTITE HORNBLende PORPHYRY FLOWS WITH TRACES OF QUARTZ AND K-FELDSPAR, INTERBEDDED MINOR BRECCIA AND LAPILLI TUFF, TOTALLY OR IN PART EQUIVALENT TO UNIT 6

LOWER TO MIDDLE JURASSIC (CONTINUED)

"TODDOGGONE VOLCANICS" (CARTER, 1972) (CONTINUED)

LAYERS - METANTIAN QUARTZOSE ANDESITE

GREEN TO GREY QUARTZOSE PYROXENE (?) BIOTITE HORNBLende PLAGIOCLASE PORPHYRY FLOWS AND TUFFS. QUARTZ CONTENT RANGES FROM NEGLIGIBLE TO ABOUT 1 PER CENT. IN THE NORTH FLOWS PREDOMINATE WITH LOCAL FLOW BRECCIA, LAPILLI TUFF, AND RARE WELDED TUFF UNITS. TOWARD THE SOUTH ASH FLOWS ARE COMMON, INCLUDING RARE SURGE DEPOSIT. THE UNIT CONTAINS EXTENSIVE ZONES OF EPIDOTIZED, PYRITIC ROCK WITH CHARACTERISTIC SA-MON, PINK, AND ORANGE PLAGIOCLASE CRYSTALS

168 ± 8 Ma HYDROTHERMAL ADULARIA

MOYE CREEK VOLCANICLASTICS

CONGLOMERATE WITH SOME GRANITIC CLASTS, GRADED, CROSS-BEDDED GREYWACKE, WELL-BEDDED CRYSTAL TUFF, EPICLASTIC SEDIMENTS, LOCAL LAMINATED CALCAREOUS SILT (MARL), RARE THIN LIMESTONE AND CHERT, LOCAL COMB LAMPSHIDE DEBRIS AND LAHAR, IN PART OR TOTALLY EQUIVALENT TO UNIT 8A

CRYSTAL TUFFS IN THIN, WELL-LAYERED UNITS; SOME EPICLASTIC SANDSTONE AND SILTSTONE; RARE PLANT FRAGMENTS IN SOME BEDS; MINOR LAPILLI TUFF

ADDOGARCHO CREEK FORMATION

PALE REDDISH GREY TO DARK RED-BROWN QUARTZOSE BIOTITE HORNBLende PHYRIC ASH FLOWS; THE ROCKS CONTAIN MINOR SANIDINE AND RARE AUGITE. WELDING IS WIDESPREAD AND RANGES FROM INCIPIENT TO EUTAXITIC. LOCALLY ORANGE TO BROWN VITROPHYRIC CLASTS ARE COMMON. INCLUDES LAPILLI TUFF AND BRECCIA UNITS AS WELL AS MINOR LAYERED GROUND SURGE DEPOSITS

199 ± 7, 202 ± 7 Ma BIOTITE
200 ± 7 Ma HORNBLende
190 ± 7 Ma HYDROTHERMAL ALLUNITE (WHOLE ROCK)
204 ± 7 Ma BIOTITE

CRYSTAL ASH TUFF, LAPILLI TUFF, AND RARE AGGLOMERATE WITH INTERSPERSED EPICLASTIC BEDS, TUFFACEOUS SEDIMENTS AND MINOR CONGLOMERATE THAT LOCALLY CONTAINS GRANITIC CLASTS, MINOR HORNBLende PLAGIOCLASE PHYRIC FLOWS FORMING SINGLE OR THIN COMPOSITE FLOW UNITS

QUARTZOSE PLAGIOCLASE PORPHYRY - JOINTED, DOMAL INTRUSION (?) OF HOMOGENEOUS APPEARING GREY TO GREEN, CHLORITIZED AND EPIDOTE-ALTERED ROCK CONTAINING ABUNDANT INCLUSIONS OF TAKLA VOLCANICS AND RARE METAMORPHIC ROCK CLASTS

TRIASSIC

UPPER TRIASSIC

TAKLA GROUP

DARK GREEN AUGITE PORPHYRY BASALT FLOWS AND BRECCIAS WITH LESSER FINE-GRAINED ANDESITE TO BASALT FLOWS AND MINOR INTERBEDDED SILTSTONE, TUFFACEOUS SEDIMENTS, AND CHERT. CONTAINS LIMESTONE LENSES THAT MAY BE PART OF THE "ARITKA GROUP"

PALEOZOIC

PERMIAN

ARITKA GROUP?

PREDOMINANTLY LIMESTONE (INCLUDING MARBLE AND MINOR SKARN) WITH SOME ARGILLITE, BLACK SHALE, AND CHERT. UNITS COMPOSED OF LIMESTONE, CHERT, ARGILLITE, AND BASALT (IF V.C.) MAY BE, IN PART OR TOTALLY TAKLA GROUP

INTRUSIVE ROCKS

JURASSIC

LOWER JURASSIC (DYKES, SILLS, AND SMALL PLUGS)

BASALT

AUGITE HORNBLende PORPHYRY - BASALTIC STOCK, DOMAL INTRUSION (O TAKLA INJER)

210 ± 8 Ma HORNBLende

BIOTITE HORNBLende DIORITE/GABBRO

PYROXENE PLAGIOCLASE PORPHYRY

LOWER TO MIDDLE JURASSIC (DYKES AND STOCKS)

QUARTZ MONZONITE, GRANODIORITE - MEGACRYSTIC IN PART; MINOR SYENITE OR QUARTZOSE SYENITE ALONG CONTACTS

GRANODIORITE, QUARTZ DIORITE - MEDIUM GRAINED, PORPHYRY, FOLIATED IN PART

FELDSPAR PORPHYRY, HORNBLende FELDSPAR PORPHYRY - DYKES AND PLUGS, RARE QUARTZ FELDSPAR PORPHYRY

SYMBOLS

- MINERAL OCCURRENCE (MINERAL INVENTORY FILE NUMBER) x 43
- MINERAL PROSPECT (MINERAL INVENTORY FILE NUMBER) x 34
- EXPLORATION CAMP ⊕
- PLACER WORKINGS ^
- PARK BOUNDARY ———
- ROAD ———
- MAIN OUTCROP AREAS ○
- FAULT (OBSERVED, INFERRED) ———
- THRUST OR REVERSE FAULT (OBSERVED, INFERRED) ———
- GEOLOGIC CONTACT (DEFINED, ASSUMED) ———

- BEDDING, LAYERING, FOLIATION (HORIZONTAL, INCLINED, VERTICAL) + 10/1
- FOLD AXES ———
- FOSSIL LOCALITY (PLANT DEBRIS) ⊕
- RADIOMETRIC DATE SAMPLE SITE, AGE IN Ma (A) 104
- VOLCANIC VENI ⊕
- HYDROTHERMAL ALTERATION
 - FERRICRETE, QUATERNARY FERRUGINOUS BRECCIA ⊕
 - SILICA, CLAY MINERALS ± ALLUNITE, BARITE ⊕
 - CLAY MINERALS ± ALLUNITE, SILICA, HEMATITE ⊕
 - GOSSAN, LIMONIC ZONE ⊕

GENERAL
INVENTORY
NUMBER
NTS 94E

PROPERTY

MINERALS

1	McCLAIR CREEK	Placer Au
2	FIRESTEEL (CALCINE, BREN)	sp, gn, tet
3	RIGA	cp, mo, bo
6	GARNET	cp, bo, gn
7	SPARTAN	cp
8	PILLAR	cp
12	CAIRN 1-4	cp, sp, ro, gn
16	PINE (FIN)	cp, py, mag, mo
19	CHUCK, CHETA	bo, cp, cc
20	HARMON	cp
21	KEMESS	py, cp, mo, q, sc
22	ATTYCELLEY (KEM)	gn, sp, cp, ba
23	ED	cp
24	PILL	cp
25	RAT	cp
26	CHAPPELLE (BAKER MINE)	Ag, ac, el, cp, py, gn, sp
27	CASTLE MOUNTAIN	sp, gn, cp, mag
28	XENOS	cp
29	THEBAN	cp
31	WAS	cp, sp, gn, ba
32	PIT	cp, ca, Au, Ag, gn, sp, py
36	EHL	bo
37	SAUNDERS	cp, sp, mo
39	XMAS	cp, bo
40	SOM	cp
42	BLACK	cp, sp
43	FRED	cp, gn, py
46	CLAW	cp, ar, py, gn, sp, ba
48	VIP	cp, mo, sp, py
50	SHAS	ar, Ag, py, sp, gn, cp, el, tet
51	GORD	gn, sp, cp
53	HAR	sp, gn, cp, ba
54	JIMO	cc
57	MEX	mo, cp
58	AMIGO	gn, cp, bo, sp, hem, ro
59	STONE	cp, gn
62	GOAT	cp
64	METSANTAN	py, ba, sc, gn, sp, cp, Am
65	JD VEIN (McCLAIR)	gn, sp, ac, py, cp, Am, hem, ba, ca
66	LAWYERS	Am, Ag, el, Au, ac, cp, py, gn, cs
67	CLIFF CREEK	Am, ac, py, cp
68	KODAH	q, py, cp
69	SILVER POND	py, q, at, ba, hem
70	MESS	py, ba
71	NORTH QUARTZ	py, gn, sp, cp
72	PAU	py, gn
73	MARMOT LAKE	py, cp, gn, sp
74	DUKE'S RIDGE	py, ar
75	CLOUD CREEK	py, Am, sc
76	GOLDEN STRANGER	py, Am
77	GOLDEN LION	py, gn, sp, cp, ba, hem, ca, sc, ac, Ag, cs, cov
78	RIDGE	q, at, sc, gn, py, hem, ba
79	BONANZA — VERRENASS	at, py, gn, tet, cc, sp, cp, hem, Au, ba
80	GOLDEN FURLONG	q, at, hem, Au, py, cp
81	AWESOME	Am, py
82	WRICH	py, hem, ba
83	ARG	Cu, bo, cc, py
84	PORPHYRY PEARL	mag, ah, gn, sp, cp, py, mo
85	ALBERTS HUMP	at, py
86	MOOSEHORN	Am, py
87	MOUNT GRAVES	py, gn, sp, cp, ba
88	NUB	py, cp, gn, sp
89	SUN	py, cp, gn, sp, q
90	DAR	cp, gn, sp
91	BV — THESIS II AND III	Au, ba, q, Qtz, hem

8.0 EXPLORATION 1997

8.1 SURVEY GRID

A survey grid was established over the Tanuta Ventures Corp. property with a central base line bearing N 45 degrees W. for 3000 metres, two tie lines at 90+00E. and 110+00E., respectively, and 58,300 metres of grid lines. Survey stations were established at 50 metre intervals along the lines. Some lines along the eastern side of the grid were not completed because of scarps and talus terrain. A total of 67.3 kilometres of grid, base line and tie lines was established.

8.2 GEOCHEMICAL SOIL SURVEY

Soil samples were collected over accessible areas of the established survey grid. A total of 864 samples were collected at 50 metre spacing along the survey lines. Generally B-horizon material was collected, placed in Kraft paper bags and delivered to Min-En Laboratories in Smithers for sample preparation. Where B-horizon material was not available or poorly developed the top of the C-horizon was taken or the A-horizon in swampy areas.

Analysis was undertaken in Vancouver using ICP-9 element method for soil samples with gold being done Au wet. Analysis were completed for Ag,As,Co,Cu,Ni,Pb,Sb,Zn and Mo. Assay data has been calculated to determine anomalous parameters with results being contoured on Plans No.7-No.10 inclusive, at a scale of 1:5000.

Anomalous parameters are as follows:

<u>ELEMENT</u>	<u>MEAN</u>	<u>BACKGROUND</u>	<u>ANOMALOUS</u>
Gold	17 PPb	35 PPb	70 PPb
Copper	44 PPm	88 PPm	175 PPm
Molybdenum	2.9 PPm	5.8 PPm	11.6 PPm
Lead	75 PPm	150 PPm	300 PPm
Zinc	300 PPm	600 PPm	1200 PPm
Arsenic	18 PPm	36 PPm	72 PPm
Silver			Greater 2.0 PPm

Soil geochemical plans and assay data are included in Appendix D. of the report.

The results of the soil geochemical survey for gold indicates that the limestone-intrusive contact zone is strongly anomalous with highly positive response forming an oval halo around the height of land defined by the Asitka limestone unit.

An anomalous silver zone greater than two ppm corresponds roughly with the indicated gold soil anomalies. Arsenic response in part does correspond to silver anomalies.

Copper anomalies are not as pronounced as the gold anomalies but also indicate that the contact zone of the limestone/intrusion is an important area for further work. Molybdenum values contoured at greater than 5ppm correspond to copper anomalies in the north central part of the grid. Significant areas of anomalous molybdenum response are shown in the southwest and southeast parts of the survey grid.

Coincident lead/zinc anomalies are found corresponding to the oval halo as indicated for gold response. The most significant values obtained are in the area of the old "Cominco Showings" between lines 94N to 98N with a high of 6192 ppm Pb and 6397 ppm Zn.

8.3 ROCK SAMPLING

Thirty-two grab type rock samples were collected of mineralized outcrops over the property. Analysis was undertaken using I.C.P. methods for eight elements, Ag,As,Co,Cu,Ni,Pb,Sb,Zn and gold fire assay gravimetric finish. Sample and assay data is as follows with assay sheets included in Appendix D.

SAMPLE NO.	DESCRIPTION	ASSAY DATA				
		Au.g/T	Ag.g/T	Cu%	Pb%	Zn%
S971A	Magnetite, Hematite Skarn, Cu, Py	0.05	14.7			
S971B	Skarn, Epidote, Rich Cu	0.50	21.4	3.37		
S972	Massive Cu	6.09	192.0	25.6		
S973	40 metres N. of S971 A & B	0.20	7.6			
S974A	L94+75N-102+75E Magnetite, Cu, Pb, Zn Sub outcrop in Talus	0.08	63.1			
S974B	Malachite, Pb, Zn skarn	0.02	23.6			2.14
S975	Qtz., Magnetite, Cu	9.80	181.0	18.2		
S976	Skarn, Cu	1.29	10.3			
S977	Syenite, K. Feldspar Cu on fracture faces Malacite/Azurite	0.33	2.9			
S978	Cu massive qtz.	29.08	166.0	16.75		
S979	Sediment silicified	0.38	7.2			
S9712	Skarn, Cu	0.95	10.1			
S9714	L94+75N, 102+75E Sub outcrop, Skarn Pb/Zn, Cu	0.06	53.8	2.78		4.75
S9715	Skarn Zn	0.04	18.9			10.80
S9716	Skarn, Py, Cu L94+75N, 102+75E	0.43	129.0	3.95		
S9717	L94+75N, 102+75E Same as 14, 15, 16, 18	0.06	122.0	4.410		6.70
S9718	as above	0.13	192.0	1.92		
S9719	L95+75N, 102+65E Skarn, Epidote	15.62	45.1	1.21		
S9720	L94+75N, 102+60E Cu, Magnetite float	0.36	169.0	1.46	1.49	1.83
S9721	Dike, Minor py	0.12	4.5			
S9722	L93N, 107+70E Talus float	0.16	12.5		2.08	2.27
S9723	Talus Float slabs large @97+00N, 102+50E	0.22	44.3			7.30

T/L	120N, 110E	0.01	2.1		
	Grab				
Location	93+40N,106+50E	0.07	38.6	1.210	
	L94N-95N,102E	0.05	42.6		
	L95N,94+00E	0.06	43.5		8.50 12.10
	L95N,94+55E	0.15	278.0	1.040	
	L98+10N,104+20E	3.33	41.8	1.760	
	L98+50N,105+50E	0.02	4.4		
	L100+50N,101+00E	0.05	35.2	1.400	
	L100+75N,100+50E	0.18	42.9	1.690	
	L100+80N,100+25E	7.86	275.0	4.570	

Rock sample locations are plotted on Plan No. 6, and shown on Photo pages for Photos #11 and #12.

8.4 MAGNETOMETER SURVEY

A magnetometer survey was completed over the established grid during August-September. Approximately 30.0 line kilometres were covered with readings being taken at 50 metre intervals along the lines, which were established at 100 metre spacing. A Scintrex MP-2 proton precision Magnetometer Serial No. 8208840 rented from T. Hasek Associates was used in the survey. The unit has an accuracy of +/- one gamma. The loop method was used to correct and monitor for diurnal variation during the survey. The results of the survey are presented in contour form on Plan #11 included in Appendix D.

The main magnetic trends appear to be related to the contact zones between the Asitka Group limestone and the Omineca intrusion where skarn type mineralization has developed. The strongest response is centred near the previous diamond drill hole locations and also south of the westerly flowing creek near the "Cominco Showings" along lines 93N-95N inclusive. The survey grid is to be extended.

8.5 V.L.F.-E.M. Survey

A V.L.F.-E.M. survey was undertaken over parts of the survey grid to confirm data obtained in work reported by S.E.R.E.M. in 1985. Approximately 13.0 line kilometres of survey was completed, utilizing a Phoenix V.L.F.-2 unit and the Seattle transmitter station. The V.L.F.-E.M. unit was rented from Pacific Geophysics Ltd.

Results of the survey are plotted on Plan #12 included on Appendix D. Conductive trends appear to correspond with results obtained in the 1985 work undertaken by S.E.R.E.M.

9.0 CONCLUSIONS AND RECOMMENDATIONS

The Acapulco Group of Tanuta Ventures Corp. consisting of forty-seven units covers a contact zone between Permian Asitka Group limestone, marble and skarn and Lower Jurassic Omineca intrusions. Extensive skarn mineralization containing copper, silver, lead, zinc and gold is found along the intrusive/limestone interface. The property is referenced in Paper 1989-3, "Precious Metal Enriched Skarns in British Columbia": as No. 52.

Exploration undertaken on the property by S.E.R.E.M. between 1980-1987 including silt and soil geochemistry, rock sampling, geology, magnetics, and a V.L.F.-E.M. survey, culminated with the completion of five B-Q size diamond drill holes for a total of 864.67 metres. Positive results of prime interest were obtained as follows: 0.053 Au oz/T., 2.73 Ag. oz/T., 2.67 % Cu for 1.0 metre in 87-A-1; 0.028 Au oz/T., 0.53 Ag. oz/T for 1.0 metre and 0.036 Au. oz/T. , 0.60 Ag oz/T for 1.0 metre in 87-A-2; 0.078 Au. oz./T., 0.50 Ag. oz./T. for 12.21 metres and 0.047 Au.oz/T/, 0.33 Ag. Oz./T. for 16.20 metres in 87-A-3; 0.035 Au. oz./T., 0.35 Ag. oz./T. for 1.0 metre and 0.059 Au.oz./T, 0.30 Ag.Oz/T for 1.0 metre in 87-A-4; and 0.023 Au.oz./T., 0.22 Ag. oz./T. for 1.0 metre, 0.070 Au. oz./T., 0.53 Ag. oz./T. for 1.0 metre and 0.379 Au. oz./T. , 7.175 Ag. oz./T. for 1.0 metre in 87-A-5.

The results of the 1997 surveys undertaken by Tanuta Ventures Corp. are extremely encouraging indicating that the total area of the limestone/intrusive contact where skarn mineralization has developed requires follow-up exploration. Chalcedony fracture fillings within the limestone, minor skarns with quartz diorite and monzonite, and lamprophyre dikes observed at the height of land within the limestone could indicate an undulating contact zone.

Follow-up surveys will include detailed magnetics and V.L.F.-E.M. surveys where not previously completed, dozer and backhoe trenching along the limestone/intrusive/skarn contact to explore geochemical anomalies, rock sampling and further diamond drilling.

Drilling will initially be undertaken in the area previously drilled, on the Cominco Showing, and where coincident geochemistry and geophysical surveys are strongest.

A cost estimate of the proposed work is included in Appendix A.

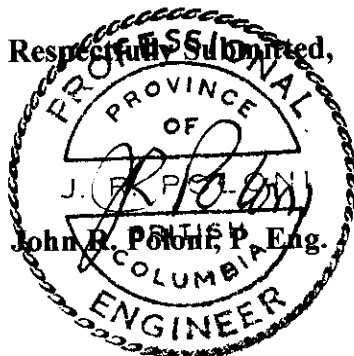
APPENDIX A

SURVEY COST STATEMENT

ACAPULCO GROUP
STAR, PUL, SUN and SKARN CLAIMS
COST STATEMENT

PERIOD: July 15 - Sept. 1, 1997

<u>Helicopter:</u>	
Interior, Canadian,	\$ 34,873.37
 <u>Other:</u>	
Northern Lights	\$ 712.19
Hotel, Motel	\$ 487.33
Food, supplies	\$ 1,098.02
Min En Laboratories	\$ 15,758.60
Bk. Radio	\$ 54.72
Pacific Geophysics , rental	\$ 798.00
T. Hasek (Mag.), rental	\$ 584.00
C.J.L. Enterprises, Field Work	\$ 51,521.12
crews + costs, July, Aug., Sept.	
Maps, J. Winfield	\$ 2,000.00
 <u>Professional Services:</u>	
C.R. Poloni, Mag. Survey, Aug.25-Sept.6/97	\$ 3,900.00
J. Mirko, July 28-30, Aug. 11-13/97	\$ 3,582.03
J.R. Poloni, P. Eng., July 22-Nov.6/97	\$ 20,250.00
Field work, Engineering, Report	_____
 TOTAL COST	 <u>\$135,619.38</u>



APPENDIX B
REFERENCES

REFERENCES

- 1.0 Ettliger, A.D. and Ray, G.E.
Mineral Resources Division B.C. Paper 1989-3.
Precious Metal Enriched Skarns in British Columbia.
- 2.0 Roscoe, W.E., 1983
Report on the Toodoggone Project of S.E.R.E.M. Ltd.
- 3.0 Caelles, J.C., 1978, Cominco Ltd.
Assessment Report, Geological Mapping and Soil Geochemical work on the
Amigo Property, Toodoggone River Area, Omineca, M.D.
- 4.0 Vulimiri, M.R. and Crooker, G.F. , Oct. 1985.
Geological and Geophysical Report on the Pul, Sun, and Star Claim (Acapulco
Group).
- 5.0 Crawford, S.A. and Vulimiri, M.R. Dec. 1980
Toodoggone Project, Geochemical and Prospecting Report on the Acapulco, Aca
and Pul Claims.
- 6.0 S.E.R.E.M. Acapulco Diamond Drill Logs
DDH 87-A-1 to DDH 87-A-5.
- 7.0 Reeve, A.B., 1968, Geological Report on the Riga Claim Group, Toodoggone
River Area for Quebec Cartier Mining Company.

APPENDIX C
CERTIFICATE

CERTIFICATE

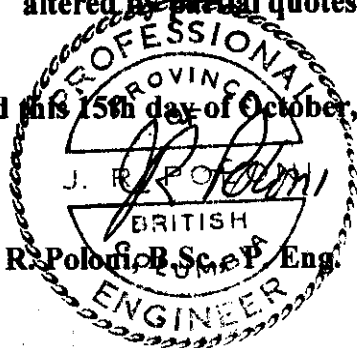
I, John R. Poloni of #13-6380-121st Street, in the Municipality of Surrey, in the Province of British Columbia,

DO HEREBY CERTIFY THAT:

1. I am a Consulting Geologist.
2. I am a graduate of McGill University of Montreal, Quebec, where I obtained a B.Sc. Degree in Geology in 1964.
3. I am a Registered Professional Engineer in the Geological Section of the Association of Professional Engineers of the Province of British Columbia.
4. I have practised my profession since 1964.
5. I am a Member of the Canadian Institute of Mining and Metallurgy.
6. I have personally visited the Star, Pul, Sun and Skarn property.
7. I have no interest in the properties or securities of Tanuta Ventures Corp. nor do I expect to receive or acquire any.
8. I consent to the use of this Report by Tanuta Ventures Corp. in a submission to the Vancouver Stock Exchange, the Toronto Stock Exchange, and any other Regulatory Body, and to distribute all or parts of the Report to the shareholders or other interested parties provided that the meaning is not altered by partial quotes.

Dated this 15th day of October, 1997

John R. Poloni, B.Sc., P. Eng.



JOHN R. POLONI P. Eng.
Consulting Geologist

APPENDIX D

MAPS, ASSAY DATA, REFERENCE REPORTS

MAPS, ASSAY DATA, REPORTS

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Plan.No. 4	Local Geology	1:5,000
Plan.No. 5	Cross Section	1:5,000
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Plan No. 8	Soil Geochemical Plan	1:5,000
	Silver PPM, Arsenic PPM	
Plan No. 9	Soil Geochemical Plan	
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Plan No. 10	Soil Geochemical Plan	
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	87-A-5	1:1,000



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7S-0265-RA2

Company: **JOHN POLONI & ASSOC. LTD.**
Project: **SKARN**
Attn: **John Poloni**

Date: **OCT-10-97**

We hereby certify the following Assay of 8 ROCK samples submitted SEP-08-97 by Lorne Warren.

Sample Number	Au-fire g/tonne	Ag g/tonne	Cu %	Pb %	Zn %
L 94N-95N 102E	.05	42.6			
L 95N 94+00E	.06	43.5		8.50	12.10
L 95N 94+55E	.15	278.0	1.040		
L 98+10N 104+20E	3.33	41.8	1.760		
L 98+50N 105+50E	.02	4.4			
L 100+50N 101+00E	.05	35.2	1.400		
L 100+75N 100+50E	.18	42.9	1.690		
L 100+80N 100+25E	7.86	275.0	4.570		

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7S-0265-RA1

Company: **JOHN POLONI & ASSOC. LTD.**
Project: **SKARN**
Aun: **John Poloni**

Date: **OCT-10-97**

We hereby certify the following Assay of 24 ROCK samples submitted SEP-08-97 by Lorne Warren.

Sample Number	Au-fire g/tonne	Ag g/tonne	Cu %	Pb %	Zn %
S 971	.05	14.7			
S 971 B	.50	21.4	3.370		
S 972	6.09	192.0	25.600		
S 973	.20	7.6			
S 974	.08	63.1			
S 974 B	.02	23.6			2.14
S 975	9.80	181.0	18.200		
S 976	1.29	10.3			
S 977	.33	2.9			
S 978	* 29.08	166.0	16.750		
S 979	.38	7.2			
S 9712	.95	10.1			
S 9714	.06	53.8	2.780		4.75
S 9715	.04	18.9			10.80
S 9716	.43	129.0	3.950		
S 9717	.06	122.0	4.410		6.70
S 9718	.13	192.0	1.920		
S 9719	* 15.62	45.1	1.210		
S 9720	.36	169.0	1.460	1.49	1.83
S 9721	.12	4.5			
S 9722	.16	12.5		2.08	2.27
S 9723	.22	44.3			7.30
TL 120N 110E	.01	2.1			
93+40N 106+50E	.07	38.6	1.210		

*GRAVIMETRIC FINISH

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MIN-EN LABS — ICP REPORT

FILE NO: 7S-0268-SJ5+6+7

PROJ: SKARN

8282 SHERBROOKE ST., VANCOUVER, B.C. V5X 4E8

DATE: 97/09/18

ATTN: John Poloni

TEL:(604)327-3436 FAX:(604)327-3423

* * (ACT:ICP 31)

SAMPLE NUMBER	AG PPM	AS PPM	CO PPM	CU PPM	NI PPM	PB PPM	SB PPM	ZN PPM	Au-wet PPB
L 93N 93+00E	.2	8	7	31	12	22	2	326	5
L 93N 93+50E	.2	28	6	21	11	106	3	309	5
L 93N 94+00E	.1	7	7	26	14	24	3	298	5
L 93N 94+50E	.8	9	8	76	10	35	2	185	5
L 93N 95+00E	.1	7	9	16	14	23	2	142	5
L 93N 95+50E	.1	9	6	29	12	60	2	297	10
L 93N 96+00E	.5	6	7	42	5	32	2	116	10
L 93N 96+50E	.7	5	5	17	3	42	3	134	5
L 93N 97+00E	.6	6	7	14	4	17	2	77	10
L 93N 97+50E	.2	10	9	56	6	38	2	121	15
L 93N 98+00E	.1	8	8	47	6	26	1	87	15
L 93N 98+50E	.1	5	5	14	6	17	1	75	10
L 93N 99+00E	.1	8	8	40	8	31	3	135	5
L 93N 99+50E	.1	4	11	42	9	17	2	104	10
L 93N 100+00E	.5	5	5	52	8	24	2	98	10
L 93N 101+00E	.2	9	10	85	13	107	2	293	30
L 93N 105+50E	.2	8	14	94	16	41	2	156	10
L 93N 106+00E	.1	10	9	32	9	36	2	106	35
L 93N 106+50E	.3	12	7	37	9	38	2	110	15
L 93N 107+00E	.2	6	6	21	7	46	1	106	15
L 93N 107+50E	1.1	6	14	67	9	98	3	310	5
L 93N 108+00E	.1	4	8	13	5	25	2	69	5
L 93N 108+50E	1.4	16	8	136	9	51	2	337	15
L 93N 109+50E	.4	5	8	43	7	24	2	108	20
L 93N 110+00E	.2	2	5	21	5	27	1	162	5
L 94N 90+00E	.1	10	6	15	9	19	1	108	25
L 94N 90+50E	.1	31	7	18	12	41	3	172	20
L 94N 91+00E	.3	3	4	14	7	105	3	445	285
L 94N 91+50E	.1	7	6	21	13	21	1	171	55
L 94N 92+00E	.4	5	5	16	8	35	2	476	200
L 94N 92+50E	.1	6	5	16	5	23	1	139	280
L 94N 93+00E	.3	4	6	114	7	21	1	98	10
L 94N 93+50E	.1	5	6	28	8	18	1	105	10
L 94N 94+00E	.4	5	7	19	10	73	1	328	5
L 94N 94+50E	1.6	8	7	32	11	361	3	2224	720
L 94N 95+00E	.3	15	8	19	11	89	3	572	10
L 94N 95+50E	.1	16	8	14	12	76	2	258	10
L 94N 96+00E	.4	16	7	25	6	45	3	162	10
L 94N 96+50E	.1	16	7	12	12	39	2	192	10
L 94N 97+00E	2.3	83	10	62	7	69	1	71	230
L 94N 97+50E	.3	44	8	26	12	109	4	216	10
L 94N 98+00E	.6	18	7	24	10	126	3	188	5
L 94N 98+50E	.5	18	8	25	10	82	1	232	10
L 94N 99+00E	.2	5	8	71	8	24	2	107	5
L 94N 99+50E	.1	11	9	69	12	31	2	163	5
L 94N 100+00E	.1	7	11	60	12	29	2	146	20
L 94N 100+50E	.5	23	6	40	12	108	2	285	75
L 94N 101+00E	.4	35	7	40	15	140	3	435	30
L 94N 101+50E	.2	7	6	19	6	25	1	82	15
L 94N 105+50E	.3	2	2	6	1	6	1	9	10
L 94N 106+00E	.3	5	5	9	5	14	1	21	10
L 94N 106+50E	.4	16	9	80	19	76	1	415	25
L 94N 107+00E	.1	4	5	11	6	30	1	71	10
L 94N 107+50E	.1	4	4	7	4	27	1	38	5
L 94N 108+00E	.4	3	6	15	6	37	1	125	10
L 94N 108+50E	.2	10	8	135	13	36	2	165	10
L 94N 109+00E	.1	1	8	9	6	25	1	84	5
L 94N 109+50E	.5	5	8	28	5	33	1	104	10
L 94N 110+00E	.1	3	7	12	10	21	1	155	5

S E R E M Limited

TOODOGGONE PROJECT

TOODOGGONE RIVER AREA (B.C., CANADA)

GEOCHEMICAL AND PROSPECTING REPORT
ON THE
ACAPULCO, ACA AND PUL CLAIMS (39 UNITS)

by

SHEILA A. CRAWFORD
AND
MOHAN R. VULIMIRI

80-066

DECEMBER, 1980

AR 9309

ABSTRACT

Geochemical silt and soil sampling, along with minor mapping and prospecting, were carried out on the Acapulco, Aca and Pul claims during the 1980 field season. The claims are located in the Toodoggone River Area (N.T.S. 94E/2W), 280 kilometres north of Smithers, B.C. A total of 35 silt and 190 soils were analysed for gold, silver, copper, lead, zinc with 152 of these also analysed for molybdenum. Several rock grab samples were analysed or assayed.

The area is underlain by marble and mafic to felsic volcanics intruded by a multiple phase pluton. The rocks are extensively altered and a skarn occurs along the intrusive-marble contact.

Several anomalous areas are indicated by soils and silts. Most can be traced to outcrops with visible copper, lead, zinc and/or molybdenum sulphide mineralization. Trends outlined by contouring soil grid values are similar to mineralized fracture trends in outcrop.

Extensive fracture-controlled alteration and sulphide deposition indicate that a mineralizing magmatic hydrothermal system was active. Geochemical and assay results warrant further exploration. Detailed prospecting, trenching, a systematic study of fractures and extension of the soil grid are recommended.

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1. INTRODUCTION

The Acapulco, Aca and Pul claim groups are located between $57^{\circ}11'$ N and $57^{\circ}13'$ N latitude, and $126^{\circ}52'$ W and $126^{\circ}57'$ W longitude in the Toodoggone River map sheet area, N.T.S. 94E/2W, Omineca Mining Division (see Figures 1 and 2). Elevation ranges from about 1400 metres (4600') to 2065 metres (6774') above sea level. Treeline is between 1520 metres (5000') and 1650 metres (5400') above sea level. Glacial till forms undulating topography in the valleys; outcrop is confined to a few small canyons. Bedrock exposure varies from 50 to 100 percent on the mountains.

Access to the property is by fixed wing plane from Smithers to Sturdee Airstrip, a distance of about 280 kilometres; and from Sturdee Airstrip to the property by helicopter, a distance of about 6 kilometres.

The Acapulco group consists of 15 claim units, staked July 6th, 1980; the Aca and Pul groups consist of 12 claim units each, staked July 20th, 1980. These claim groups are owned and operated by Serem Ltd.

Cominco Ltd. holds four claim units overlapping the southwest corner of the Pul claims (Figure 2), called the Amigo claim (Assessment Report No. 6762).

The Acapulco and Aca claims include an area that has been previously explored for copper and molybdenum, originally staked in 1966 as the Watt claims by Mr. T. Doubt and restaked in 1968 as the Riga claims by Cordilleran Engineering for the Quebec-Cartier Mining Company (Assessment Report No. 1802). In 1973, the claims were restaked and renamed the RN claims by Minas De Cerro

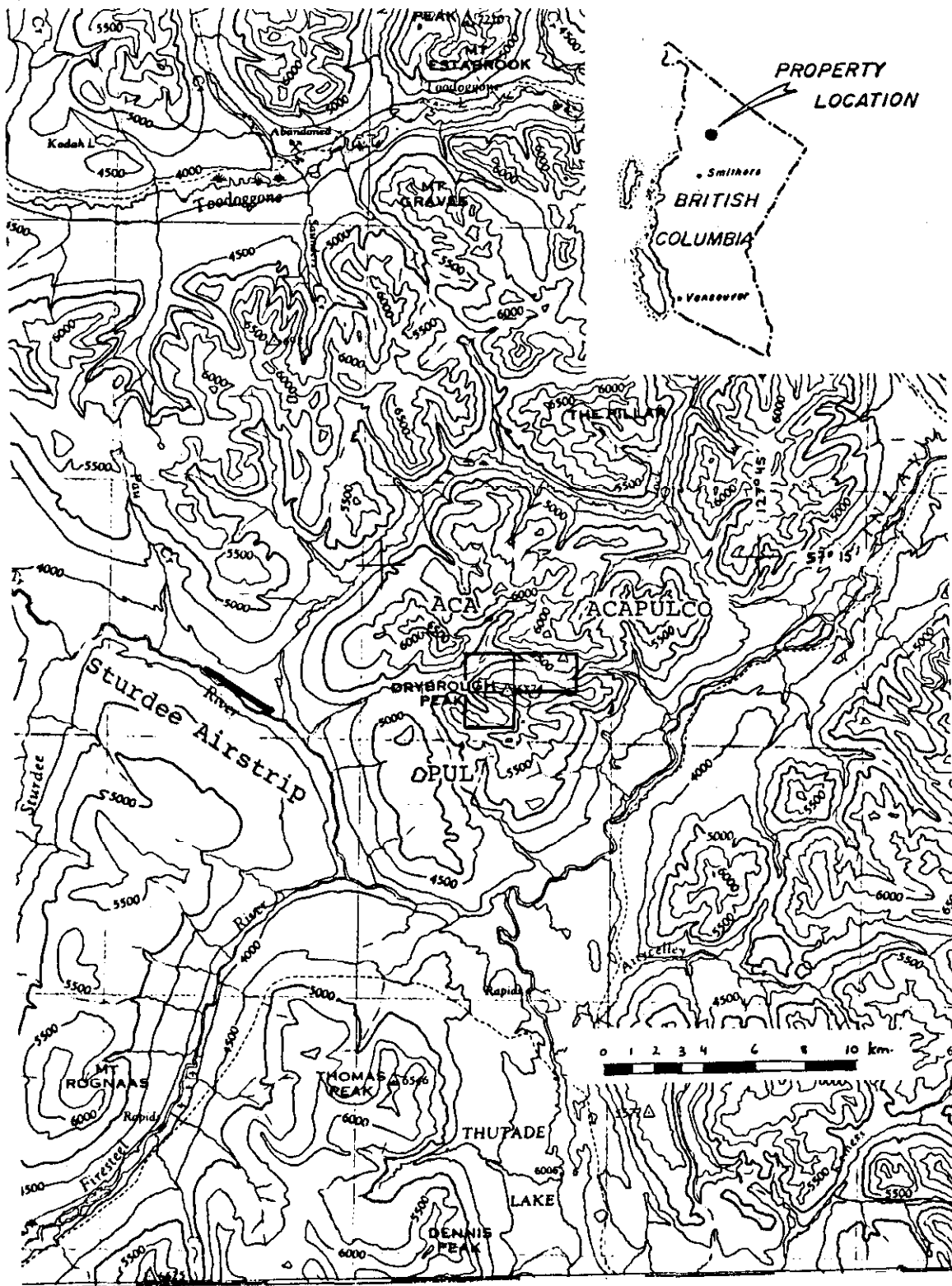


Fig. 1. Location of Acapulco, Aca and Pul Claim Groups.

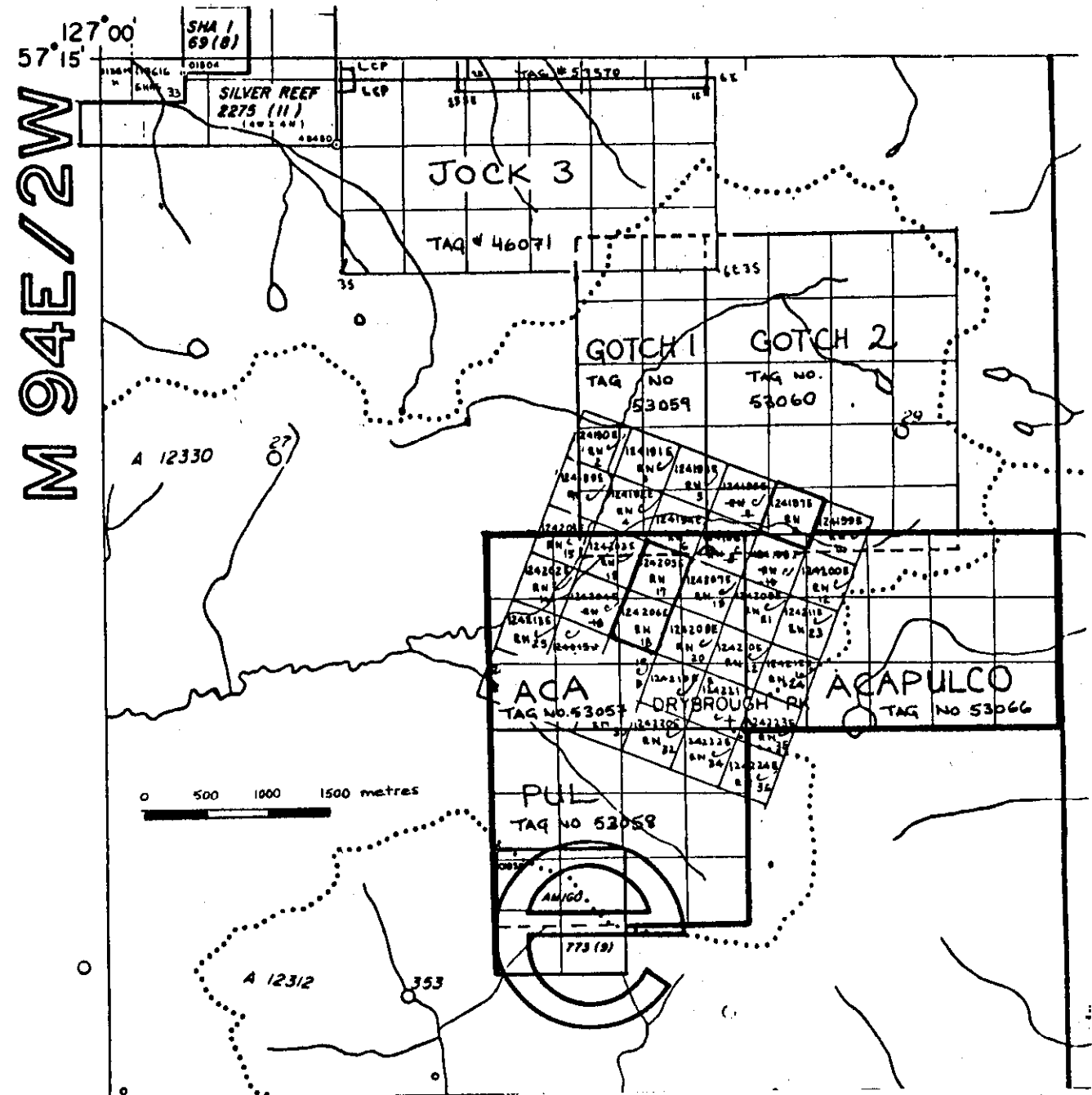


Fig. 2. Claims Map: Acapulco, Aca and Pul Claims.

Dorado Ltd. (Assessment Report No. 5854). They currently retain three 1500' claim units.

Work performed in 1980 by Serem Ltd. includes silt sampling of streams draining the property; soil sampling along treeline and on one grid; preliminary mapping of the property and minor prospecting of approximately 2.1 square kilometres. Table I details the number of geochemical or assay samples taken in each claim group.

The purpose of work in 1980 was to determine the extent and nature of mineralization described by reports on the area.

TABLE I. Detailed list of samples taken in each claim group.

<u>Sample type; area</u>	<u>Claim Group</u>	<u>No. of Samples</u>
Silt; streams	Acapulco	19
	Aca	6
	Pul	<u>10</u>
	Total	35
Soil, contour traverses	Acapulco	23
	Aca	15
	Pul	<u>44</u>
	Total	82
Soil; grid	Acapulco	84
	Aca	<u>21</u>
	Total	105
Rock; prospected area	Acapulco	12
	Aca	6
	Pul	<u>8</u>
	Total	25

2. GEOLOGY

The claims are underlain by mafic to felsic volcanics intruded by a multiple phase pluton (Figure 3). Marble outcrops in the southwest portion of the claims.

Mafic volcanics include pyroclastic breccias, tuffs, flows and derived greywacke and conglomerate. Chlorite is ubiquitous and specularite and magnetite have been developed at the intrusive contact. The sequence strikes approximately 110° , dipping about 25° to the south. Felsic and intermediate pyroclastics overlie the mafic volcanics to the northeast. The volcanics are highly fractured.

Coarse-grained quartz monzonite composes the main mass of the pluton. Syenite, monzonite and granite dikes and stocks, including pegmatites with less than two percent mafic minerals, border the intrusion.

The marble is composed of crystalline calcite and minor dolomite. It is tilted and partially draped over the quartz monzonite. A skarn zone, consisting of massive magnetite bordered by actinolite and Fe-Mg carbonates, is exposed along the eastern intruded contact. Rhodonite and manganese oxide veins occur along the northern contact.

Aphanitic to fine-grained mafic dikes cut all other rock types.

Gabrielse et al (1975) assign marbles in the area to the Permian Asitka Group; mafic volcanics, sills and the cherts to the Upper Triassic Takla Group; similar felsic pyroclastics to the Jurassic Toodoggone Group and intrusions to the Lower to Middle Jurassic.

3. ALTERATION AND MINERALIZATION

Two major types of alteration are recognized in the rocks (Insert, Figure 3). Propylitic alteration, consisting of chlorite, epidote and calcite enveloping fractures, is developed in the volcanics adjacent to the intrusive and within the intrusive. Pyrite is disseminated in pervasively altered zones. Potassic alteration occurs along abundant fractures in the intrusive: small amounts of chalcopyrite are common in zones of intense alteration. Quartz-sericite alteration occurs rarely in fractures within the potassic zone.

Vuggy to massive quartz fracture fillings are common around the intrusive contact. Many of these are coloured green with chlorite or grey with specularite and lesser amounts of galena, sphalerite and manganese oxides. Chalcopyrite, bornite and minor amounts of gold and silver are associated with the quartz. Molybdenite is concentrated along shear zones and is rare elsewhere.

Chalcopyrite, bornite, galena and sphalerite are associated with magnetite in the skarn zone.

4. GEOCHEMICAL SILT SAMPLING

Silt samples were collected along streams at 150 to 250 metre intervals, depending on where suitable silt could be found. Samples were taken from active material, that is, under flowing water, and placed in brown paper envelopes. The sample site and number were plotted on a map with a scale of 1 centimetre to 500 metres. Stream gradient and flow rate were noted.

5. GEOCHEMICAL SOIL SAMPLING

Samples were taken at 100 to 150 metre intervals on traverses at approximately constant elevation - treeline elevation on most of the traverses. Topofil or pacing was used to control distance and the locations were plotted at a scale of 1 centimetre to 500 metres.

A soil grid was set up in an area of poor rock exposure on the Aca and Acapulco claims. The baseline was laid out with a surveyor's chain and compass and marked every 50 metres with flagged pickets. Samples were collected at 100 metre intervals along lines 100 metres apart, using compass, Topofil and the baseline as control.

Samples were collected from the B horizon where developed, the top of the C horizon if a B horizon was not present, and the A horizon in swampy areas. Most of the contour samples were taken from B horizons; those from the grid were almost all from the C horizon. Depth of sampling averaged 20 cm, ranging from 10 to 35 cm. The soil was placed in brown paper envelopes and the locality, depth of sampling, horizon, colour, grain size and amount of organic material were noted. All sample sites were marked with surveyor's flagging.

Soil is poorly developed on the glacial till covered areas in the valleys. Thin soils on the mountain slopes have developed a B horizon in most of the area.

6. GEOCHEMICAL ROCK SAMPLING

Grab samples were selected from outcrops or talus of favourable geology. Half of each sample was sent for geochemical analysis. Sample locality, rock type and presence of sulphides were recorded.

7. GEOCHEMICAL ANALYSIS

Samples were sent to Min-En Laboratories and were analysed for gold, silver, lead, zinc and copper. The analytical procedure for each element is briefly described below:

The samples are dried 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.

For gold, a suitable sample, weight 5 or 10 grams, is pretreated with HNO₃ and HClO₄ mixture.

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

Sample solutions are prepared with Methyl Iso-Butyl Ketone for the extraction of gold.

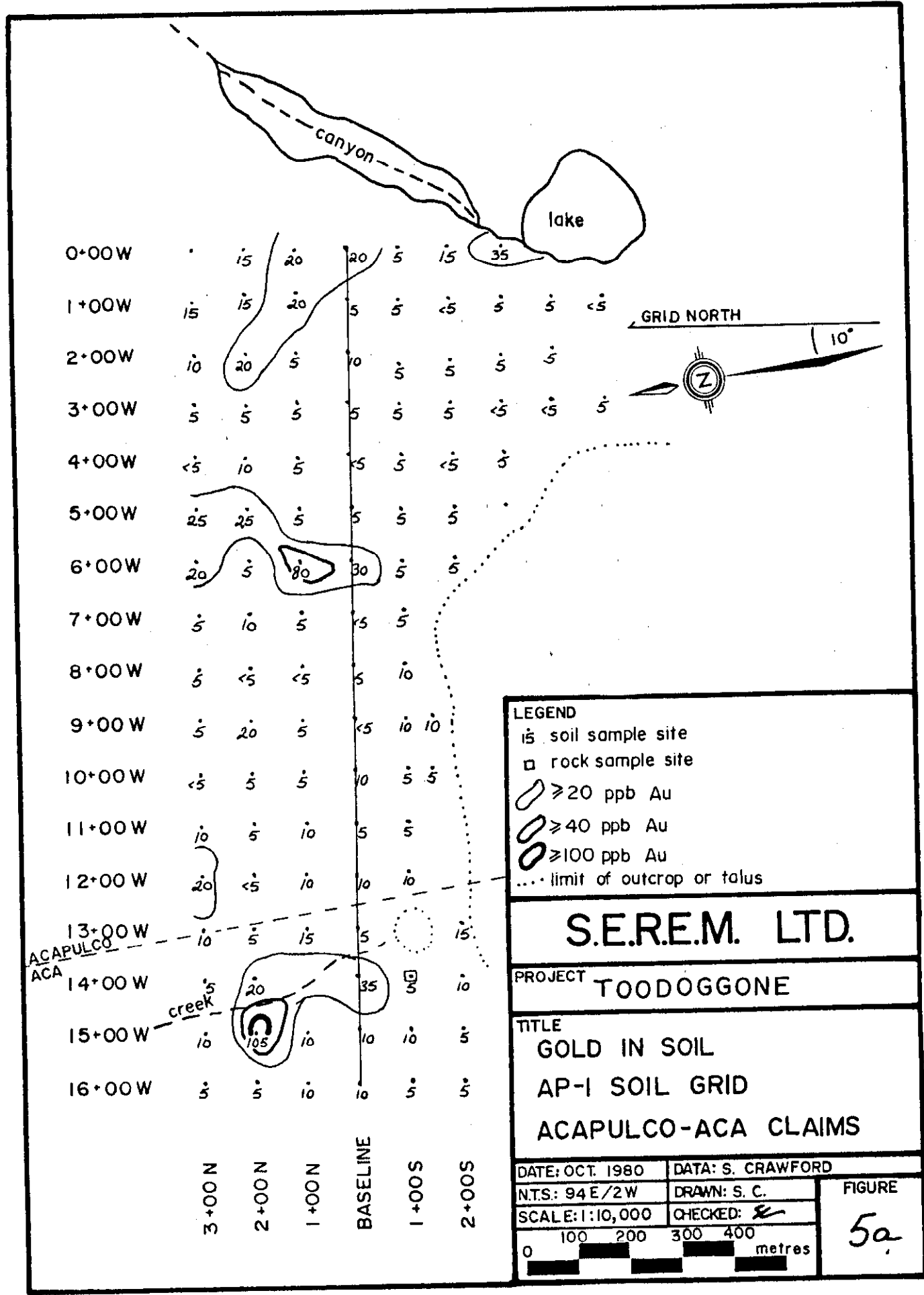
With a set of suitable standard solutions, gold is analysed by Atomic Absorption instruments. The obtained detection limit is 5 ppb.

For silver, lead, zinc, copper and molybdenum, samples weighing 1.0 gram are digested for 6 hours with HNO₃ and HClO₄ mixture.

After cooling, the samples are diluted to standard volume. The solutions are analysed by Atomic Absorption Spectrophotometers using the CH₂H₂-Air Flame combination for silver, copper, lead and zinc. The C₂H₂-NO₂ mixture is used for molybdenum.

8. ASSAYS

Grab samples were selected from outcrop, frost heave or float with visible sulphides (such as chalcopyrite, bornite, galena, sphalerite, molybdenite) and/or numerous quartz fracture fillings. Half of each sample was sent to Min-En Laboratories in North Vancouver for assay. Sample locality, rock type and presence of sulphides were recorded.



0+00W	15	20	20	5	15	35		
1+00W	15	15	20	5	5	25	5	5
2+00W	10	20	5	10	5	5	5	5
3+00W	5	5	5	5	5	5	5	5
4+00W	5	10	5	5	5	5	5	5
5+00W	25	25	5	5	5	5		
6+00W	20	5	30	30	5	5		
7+00W	5	10	5	5	5			
8+00W	5	5	5	5	10			
9+00W	5	20	5	5	10	10		
10+00W	5	5	5	10	5	5		
11+00W	10	5	10	5	5			
12+00W	20	5	10	10	10			
13+00W	10	5	15	5	15			
14+00W	5	20	35	5	10			
15+00W	10	105	10	10	10			
16+00W	5	5	10	10	5			
	3+00N	2+00N	1+00N	BASELINE	1+00S	2+00S		

LEGEND

- is soil sample site
- rock sample site
- ≥ 20 ppb Au
- ≥ 40 ppb Au
- ≥ 100 ppb Au
- ... limit of outcrop or talus

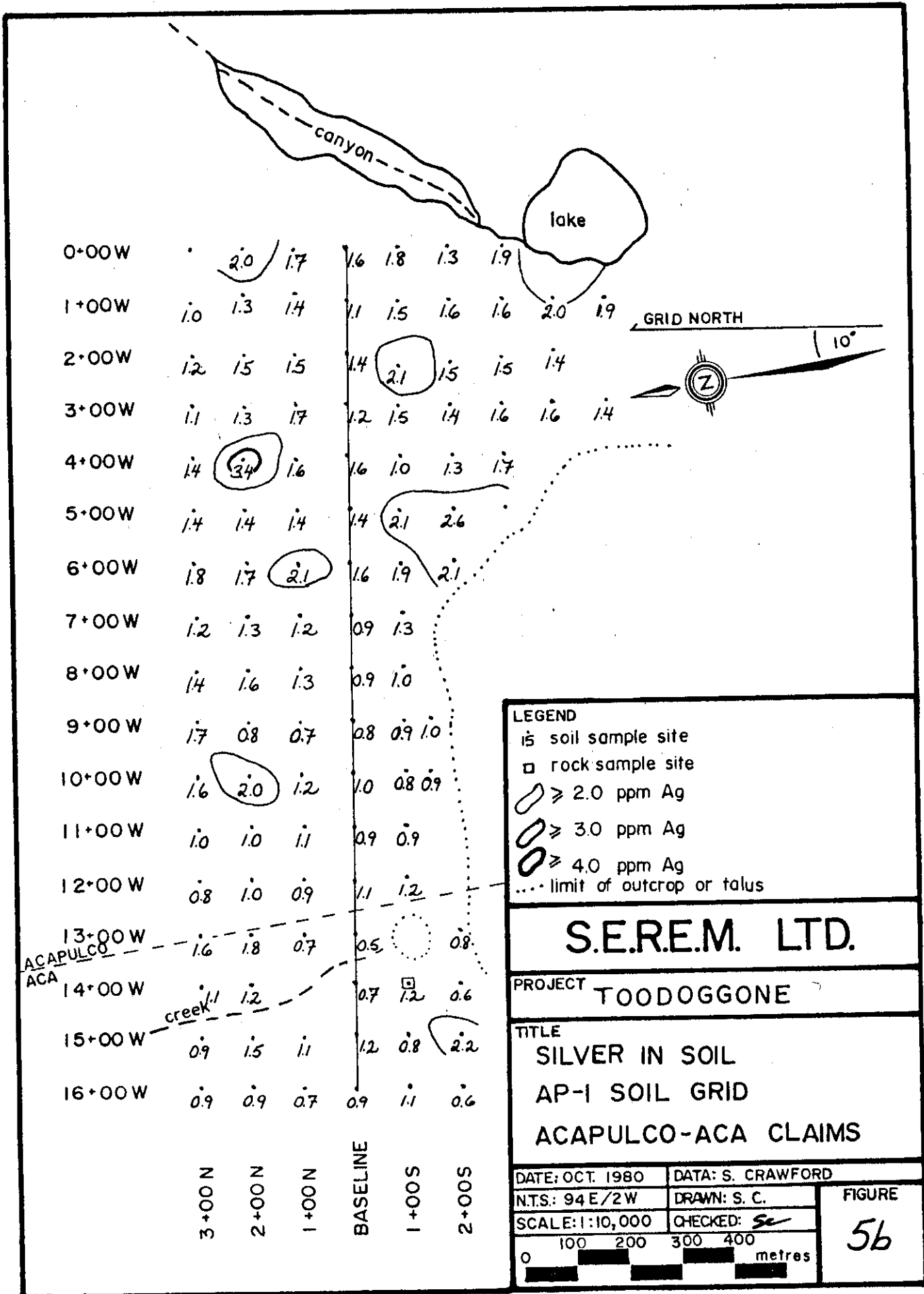
S.E.R.E.M. LTD.

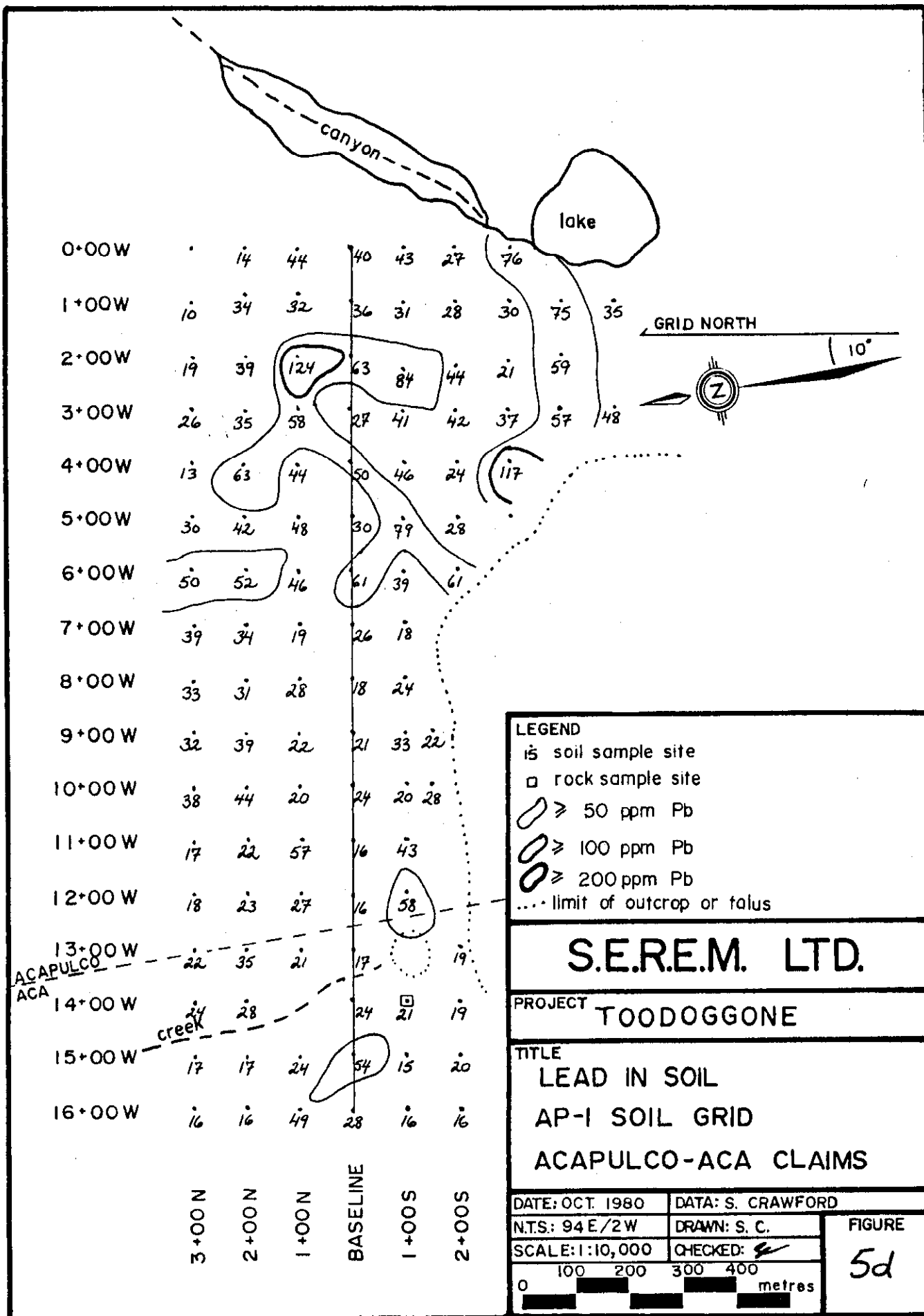
PROJECT **TOODOGGONE**

TITLE
GOLD IN SOIL
AP-1 SOIL GRID
ACAPULCO-ACA CLAIMS

DATE: OCT. 1980	DATA: S. CRAWFORD	FIGURE 5a
N.T.S.: 94 E/2W	DRAWN: S. C.	
SCALE: 1:10,000	CHECKED: <i>[Signature]</i>	

0 100 200 300 400 metres





LEGEND
 is soil sample site
 □ rock sample site
 ○ ≥ 50 ppm Pb
 ○ ≥ 100 ppm Pb
 ○ ≥ 200 ppm Pb
 limit of outcrop or talus

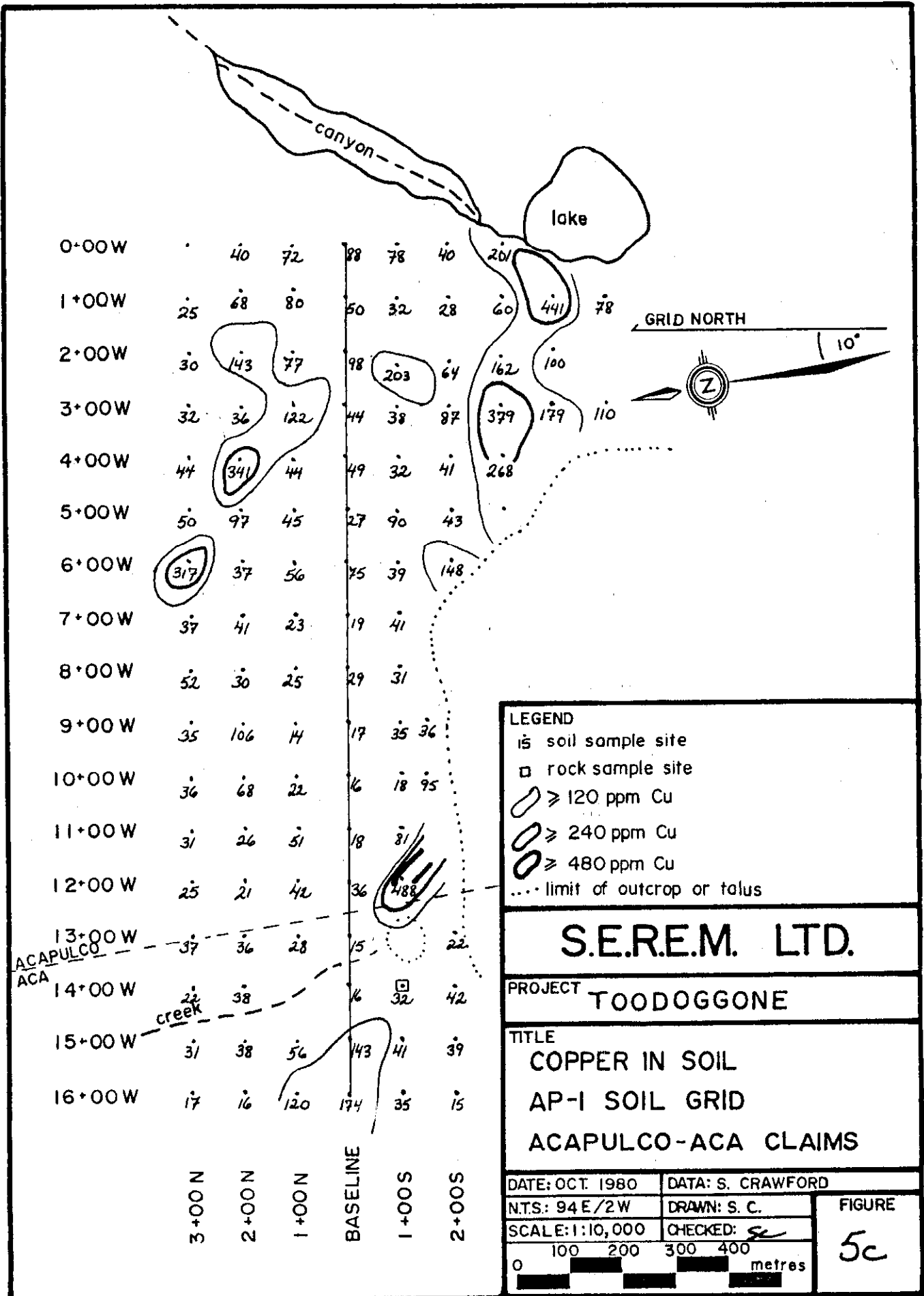
S.E.R.E.M. LTD.

PROJECT **TOODOGGONE**

TITLE
LEAD IN SOIL
AP-1 SOIL GRID
ACAPULCO-ACA CLAIMS

DATE: OCT. 1980	DATA: S. CRAWFORD
N.T.S.: 94 E/2W	DRAWN: S. C.
SCALE: 1:10,000	CHECKED: <i>[Signature]</i>
0 100 200 300 400 metres	

FIGURE
5d



LEGEND

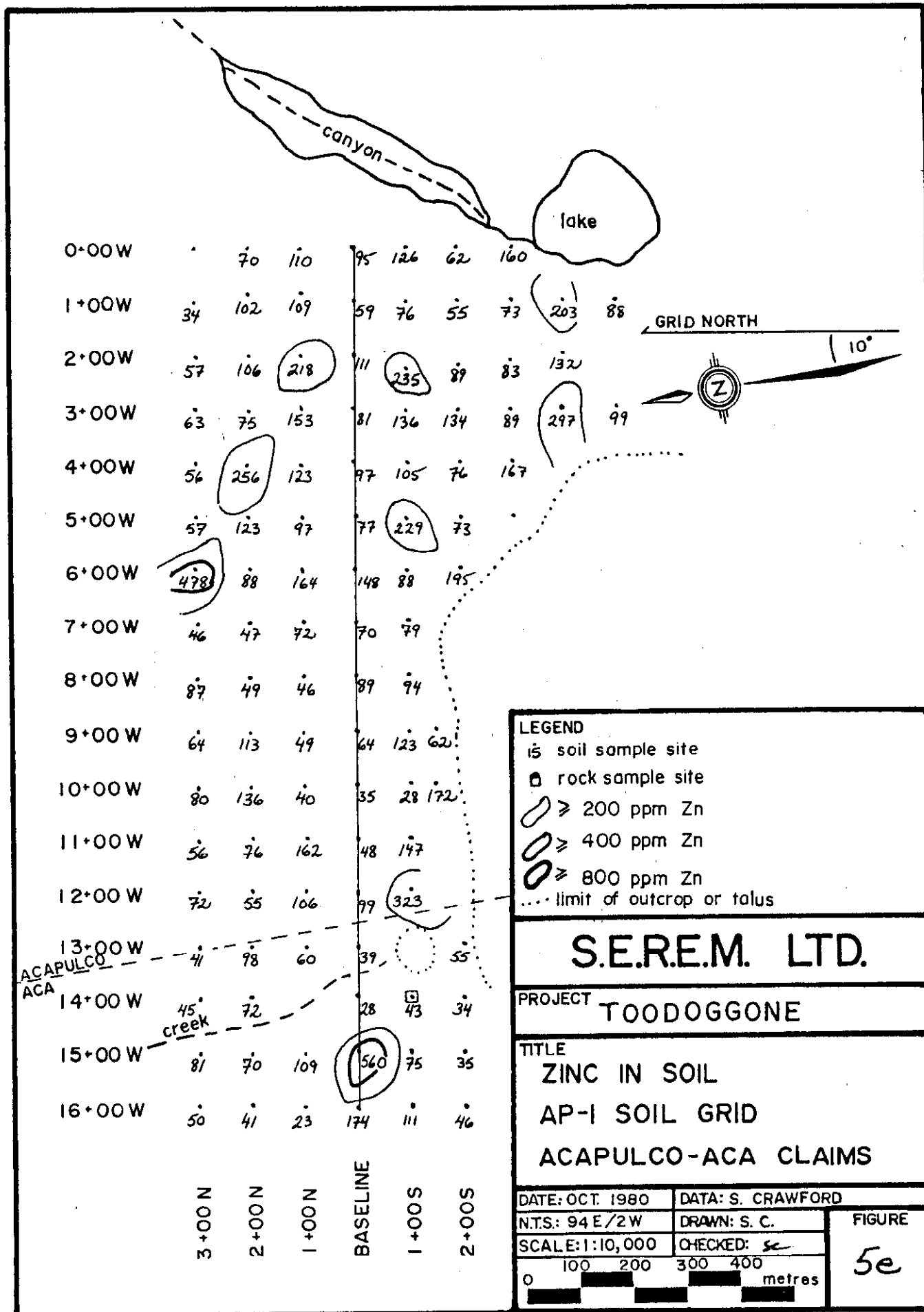
- soil sample site
- rock sample site
- ≥ 120 ppm Cu
- ≥ 240 ppm Cu
- ≥ 480 ppm Cu
- ... limit of outcrop or talus

S.E.R.E.M. LTD.

PROJECT **TOODOGGONE**

TITLE
COPPER IN SOIL
AP-1 SOIL GRID
ACAPULCO-ACA CLAIMS

DATE: OCT. 1980	DATA: S. CRAWFORD	FIGURE 5c
N.T.S.: 94 E/2W	DRAWN: S. C.	
SCALE: 1:10,000	CHECKED: <i>sc</i>	
0 100 200 300 400 metres		



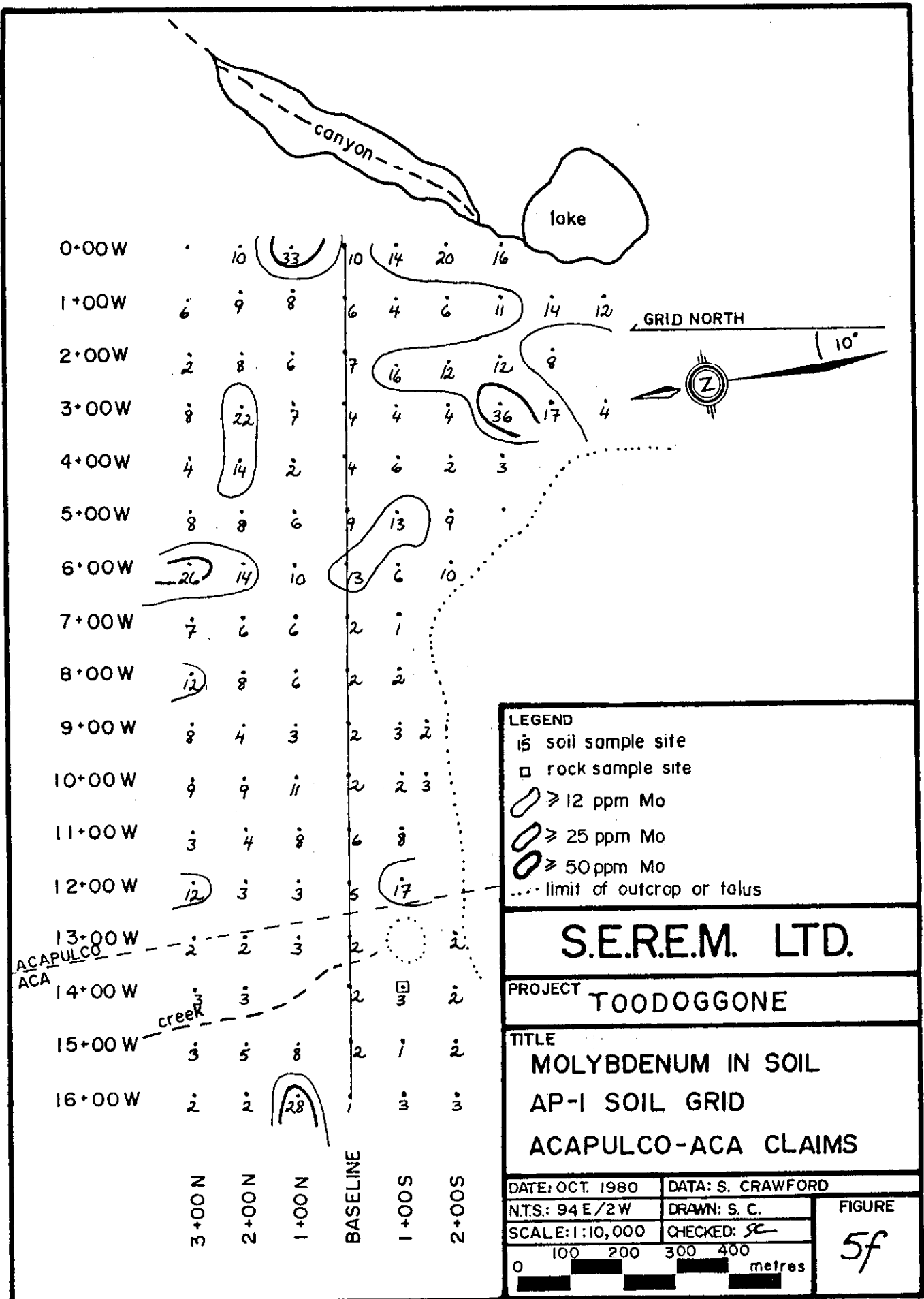


TABLE IIa. ROCK GEOCHEMICAL ANALYSES

Sample No.	Number on Map (Fig. 3)	Rock Type	Gold ppb	Silver	Copper ppm	Lead	Zinc
PUL-4W-1S	1	Quartz chalcopyrite vein in potassic-altered granite	120	50.0	20,500	159	5490
HA-1-80-8	2	Skarn with manganese minerals	5	3.0	13	650	2100
SC-48-80-1	6	Quartz pyrite vein in intrusive	260	6.5	508	1230	345
GP-17-80-4R	12	Potassic, argillic-altered volcanic; disseminated pyrite	5	1.1			
GP-17-80-7R	13	"	5	2.3			
GP-17-80-10R	14	Volcanic with disseminated pyrite	5	1.0	193		
GP-16-80-R	21	Quartz carbonate vein in volcanic	40	5.0	61	11	22
SC-43-80-7	22	Quartz vein in intrusive	10	1.5		92	67
SC-43-80-10	23	"	5	6.8	168	155	1940
SC-22-80-1	32	Intrusive with disseminated pyrite and chalcopyrite	10	1.0	390		
HA-1-80-14	35	Rhodonite vein	5	2.5	10	92	880

TABLE Iib. ASSAYS

Gold		Silver		Copper	Lead	Zinc	Molybdenum
Oz/Ton	Gm/Tonne	Oz/Ton	Gm/Tonne				
.009	.30	8.15	279.4	2.580	.82	.11	
.002	.07	.09	3.1	.068			.003
.003	.10	1.49	51.1	.465			
.002	.07	4.28	146.7	2.480			.010
.001	.03	.09	3.1	.171			.004
.002	.07	.14	4.8	.536			.008
.002	.07	1.07	36.7	1.350			.004
.031	1.06	5.99	205.3	5.410	.76	.41	.002
.003	.10	.40	13.7	1.080			.038
.049	1.68	4.20	144.0	.172	.35	.22	
.010	.34	2.09	71.7	1.482	.36	.76	
.001	.03	.15	5.1	.082	.68	.23	
.017	.58	.88	30.2	.003	.03	.08	
.001	.03	.08	2.7	.002	.01	.01	
.003	.10	.10	3.4	.034	.01	.01	
.002	.07	.26	8.9			.008	
.002	.07	.03	1.0	.022	.01	.068	
2.900	99.41	10.80	370.2	22.900	.06	.99	
.465	15.94	2.12	72.7	2.900	.03	.08	
.036	1.23	53.40	1830.6	4.700	4.69	1.70	
.002	.07	.69	23.7	1.800		.097	
.075	2.57	10.10	346.2	3.060			
.535	18.34	13.40	459.4	.004	.04	.06	

TABLE IIb. ASS.

Sample No.	Number on map (Fig. 3)	Rock Type	Gold	
			Oz/Ton	Gm/Tonne
SC-48-80-4	7	Magnetite chalcopyrite vein	.009	.30
SC-48-80-7	8	Intrusive with chalcopyrite in fractures	.002	.07
SC-48-80-8	9	"	.003	.10
SC-48-80-10	10	"	.002	.07
SC-48-80-11	11	"	.001	.03
GP-17-80-2R	15	Intrusive with disseminated chalcopyrite	.002	.07
GP-17-80-5R	16	"	.002	.07
GP-17-80-19R	19	Chalcopyrite-bornite- sphalerite vein	.031	1.06
GP-17-80-20R	20	Quartz vein, minor chalco- pyrite in volcanic	.003	.10
SC-27-80-7	24	Quartz chalcopyrite vein	.049	1.68
SC-27-80-9	25	"	.010	.34
SC-27-80-16	26	Quartz vein, minor chalco- pyrite	.001	.03
SC-43-80-4	27	Quartz vein, pyrite and specularite	.017	.58
SC-43-80-6	28	"	.001	.03
SC-43-80-9	29	"	.003	.10
SC-43-80-12	31	Grey quartz vein	.002	.07
AP-14W-1S	33	"	.002	.07
HA-1-80-9	3	Skarn with chalcopyrite	2.900	99.41
HA-1-80-11	4	Skarn with bornite	.465	15.94
HA-1-80-13	5	Magnetite with chalcopyrite and galena	.036	1.23
GP-17-80-6R	17	Sheared volcanic with chalco- pyrite and molybdenite	.002	.07
GP-17-80-15R	18	Quartz vein in volcanic with chalcopyrite, chlorite and epidote	.075	2.57
SC-43-80-11	30	Quartz vein in intrusive with pyrite	.535	18.34

TABLE IIb. ASSAYS (Continued)

Sample No.	Number on map (Fig. 3)	Rock Type	Gold		Silver		Copper	Lead	Zinc	Molyb- denum
			Oz/Ton	Gm/Tonne	Oz/Ton	Gm/Tonne				
HA-1-80-5	34	Skarn with galena	.001	.03	.16	5.5	.007	.41	.10	
HA-1-80-12	36	Skarn with malachite	.054	1.85	4.27	146.4	1.770	.01	.24	
HA-1-80-3	37	Skarn with galena	.001	.03	.12	4.1	.006	.07	.12	
HA-1-80-2	38	Intrusive with malachite	.001	.03	.08	2.7	.122	.01	.16	.004
SC-48-80-15	39	Intrusive with chalcopyrite, molybdenite fracture filling	.010	.34	2.40	82.3	2.150			2.010
SC-48-80-16	40	Intrusive with chalcopyrite fracture filling	.001	.03	1.51	51.8	.193			.004
SC-48-80-17	41	Intrusive with chalcopyrite fracture filling	.002	.07	.10	3.4	.142			.003
SC-48-80-18	42	Quartz chalcopyrite in intrusive	.001	.03	.16	5.5	.166			.003
SC-48-80-19	43	Intrusive with chalcopyrite fracture filling	.004	.14	.27	9.3	.047			
SC-48-80-24	44	Intrusive with galena	.027	.93	1.29	44.2		.25		
HA-2-80-13	45	Skarn with chalcopyrite and malachite	.980	27.4	32.50	1114.1	14.050	.11	.09	

9. INTERPRETATION

Gold, silver, copper, lead, zinc and molybdenum analyses for stream silt and contour soil samples are individually plotted on Figures 4a to 4f respectively. Circles are completely blackened for anomalous values and partially for threshold values.

Several silt samples returned anomalous gold values, ranging up to 800 ppb gold. A few were slightly anomalous in silver, copper, lead and zinc.

Anomalous contour traverse soils correspond to areas of visible sulphide mineralization in rocks either on or upslope from the contour traverses.

Results from the soil grid are plotted on Figures 5a to 5f for gold, silver, copper, lead, zinc and molybdenum respectively. The values are contoured.

The highest values obtained from the grid are 105 ppb gold, 3.4 ppm silver, 488 ppm copper, 124 ppm lead, 560 ppm zinc and 36 ppm molybdenum. Contours indicate strong 120-125° and 010° trends. The 120-125° trend is within the 100-140° range of mineralized fractures noted in outcrop (Figure 3). The 010° trend is perpendicular to slope and may in part be an effect of downslope dispersion; it may also indicate another fracture system.

Rock geochemical analyses and assays are listed in Table II with corresponding rock descriptions. Sample localities are plotted on Figure 3. Several chalcopyrite-bearing samples have significant amounts of gold and silver.

10. CONCLUSIONS AND RECOMMENDATIONS

Visible sulphide mineralization and precious metal values warrant a more detailed investigation of the property. Extensive fracture-controlled alteration and sulphide deposition indicate that a mineralizing hydrothermal system was active. The skarn zone may also contain economic quantities of sulphides.

Detailed prospecting and trenching is required to delineate mineralized areas. A systematic study of fractures should be carried out to determine mineralization trends. Close-spaced sampling of anomalous areas on the soil grid and extension of the grid to the north and west is recommended.

11. REFERENCES

Gabrielse, H.; Dodds, C.J.; Mansy, J.L.; and Eisbacher, G.H. 1975: Geology of Toadoggone River (94E) and Ware West-half; G.S.C. Open File 483, Geological Survey of Canada.

Assessment Reports 1802, 5834, 6762; British Columbia Ministry of Energy, Mines and Petroleum Resources.

GEOLOGICAL AND GEOPHYSICAL REPORT

ON THE

PUL, SUN AND STAR CLAIMS
(ACAPULCO GROUP)

TOODOGGONE RIVER AREA

Omineca Mining Division, B.C.

94E-2W

(57° 12' N. Lat., 126° 57' W. Long.)

by

Mohan R. Vulimiri, B.Sc.(Hons.), M.Sc.

and

Grant F. Crooker, B.Sc., F.G.A.C.

for

SEREM INC
(Owners and Operators)

October 1985

AR 11106

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Location and Access.....	1
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Certificates of Analysis	
Detailed Cost Statement	
Operating Manual EM-16	

ILLUSTRATIONS

Figure 1. Location Map. Scale 1:250,000.....	follows p1
Figure 2. Claim Map. Scale 1:50,000.....	follows p1
Figure 3. Claim Geology. Scale 1:5000.....	pocket
Figure 4. Geology. Section A -A'. Scale 1:5000....	pocket
Figure 5. Map of Hand Trenches. Scale 1:100...	follows p5
Figure 6. VLF-EM Survey, In-phase and Quadrature Data. Scale 1:2500.....	pocket
Figure 7. VLF-EM Survey, Fraser Filter Data, Scale 1:2500.....	pocket

INTRODUCTION

General

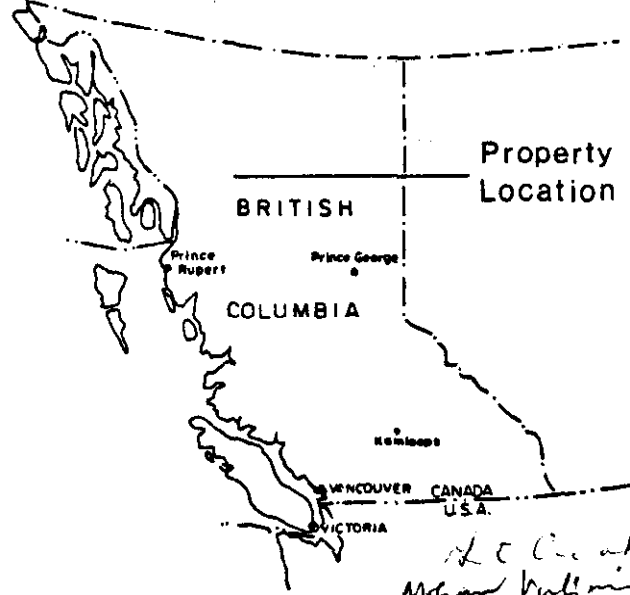
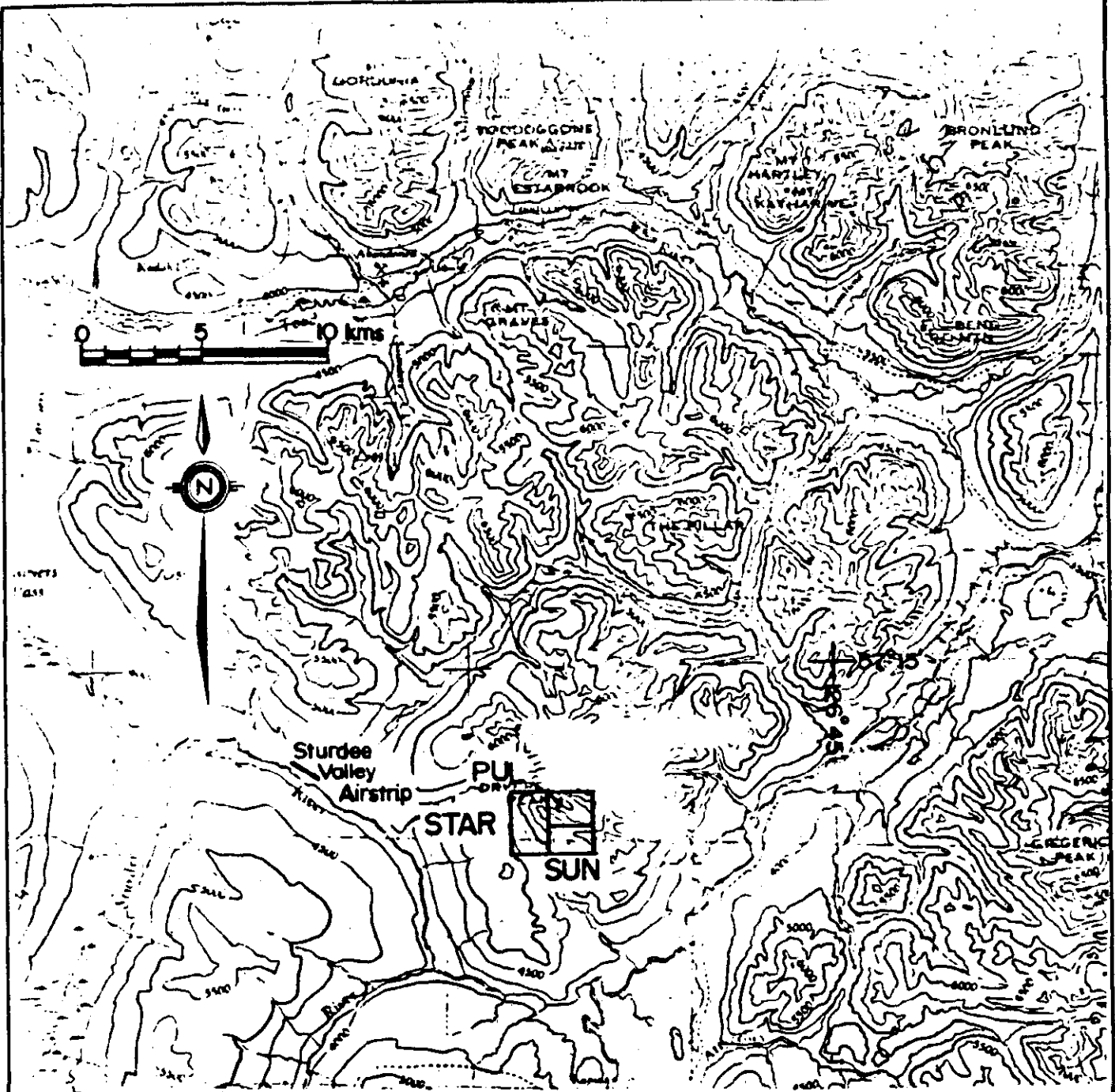
Field work was carried out on the property by Mohan R. Vulimiri, Grant F. Crooker and Sheila A. Keilbach, geologists from July 27th through August 1st, 1985.

Geological mapping, prospecting and VLF-EM survey were carried out on the claims.

Location and Access

The Acapulco Claim Group is located at 57° 12' N. latitude and 126° 57' W. longitude in the Sturdee River - Finlay River area, Toadoggone River Map Sheet, 94E-2W, Omineca Mining Division (Figures 1 and 2)

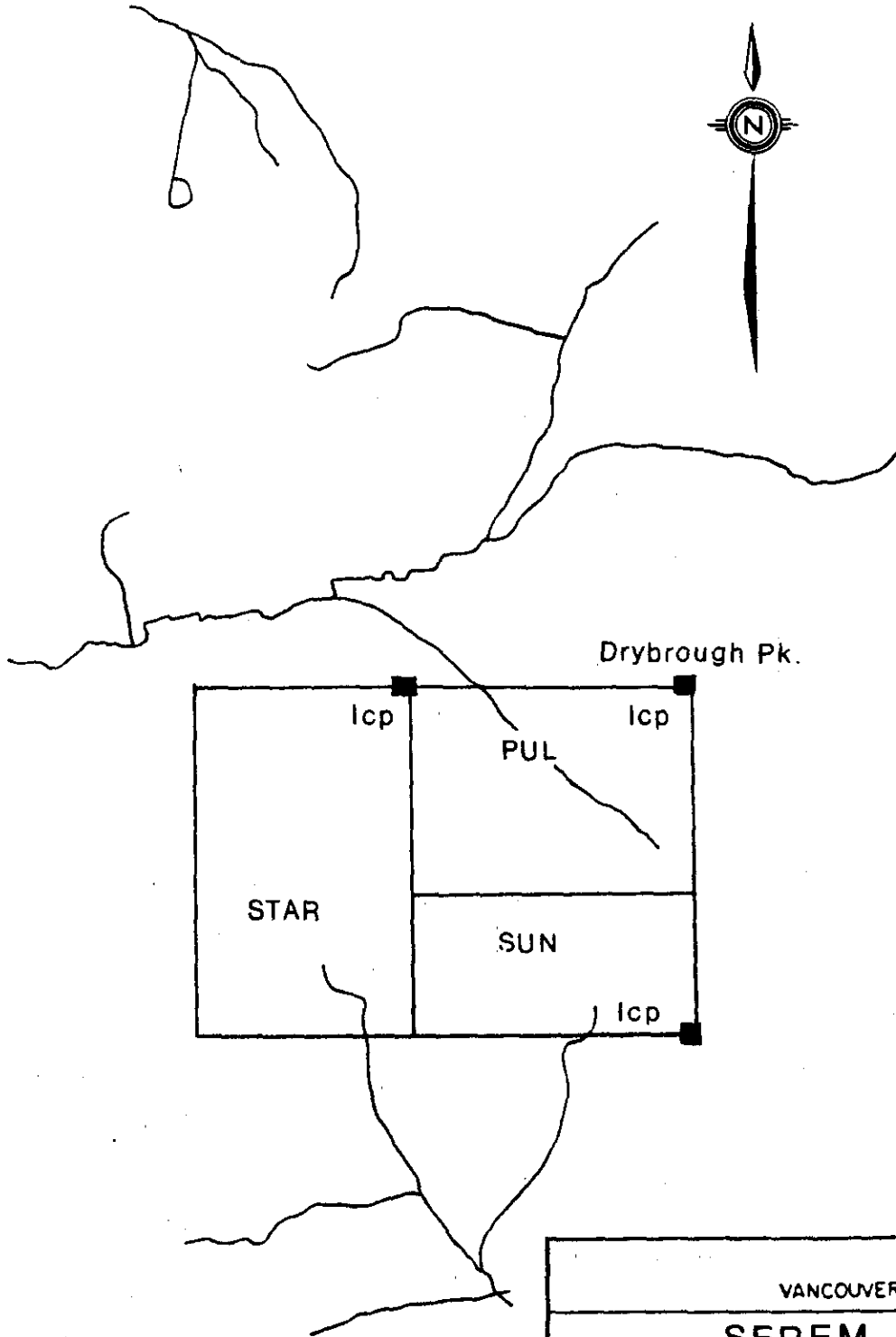
Access to the property is by airplane from Smithers to Sturdee Airstrip, a distance of 280 kilometres, and from Sturdee Airstrip to the property by helicopter, a distance of 6 kilometres.



Property Location

VANCOUVER, B.C.	
SEREM INC.	
Acapulco Group	
Location Map	
DRAWN BY: G. CROOKER	N.T.S. : 94E / 2W
DATE: SEPT 1985	FIGURE NO. 1

*A. C. Crooker
Mohan Valluving*



0 1 2 3 Km.

Robert Vukobratovic
John Crocker

VANCOUVER, B.C.	
SEREM INC.	
Acapulco Group	
Claim Map	
DRAWN BY: G. CROOKER	N.T.S. : 94E / 2W
DATE : SEPT. 1985	FIGURE NO. 2

Physiography

Topography is moderately rugged; elevation ranges from 1400 metres to 2065 metres above sea level. Outcrop patterns are variable with best exposures along steep mountain ridges, along creeks and gullies. Rest of the claim group is mostly drift covered.

Property and Claim Status

The claims (Figure 2) are owned and operated by Serem Inc., Box 11175, Royal Centre, 1055 W. Georgia Street, Vancouver, B.C. They consist of the following:

<u>Claim</u>	<u>Units</u>	<u>Record No.</u>	<u>Record Date</u>
Sun	8	3684	26 March 1981
Star	15	3683	26 March 1981
Pul	12	3114	15 August 1980

Property History

Previous work in the area consists of exploration for copper and molybdenum by Cordilleran Engineering in 1968 and by Minas de Cerro Dorado in 1973

Work performed in 1980 by Serem Ltd. now Serem Inc. included silt sampling of the streams draining the property, grid soil

sampling, preliminary geological mapping and prospecting.

1982 program by Serem Ltd evaluated the mineral occurrences by geological mapping and detailed prospecting. For detailed results of the above two programs 1980 and 1982 assessment reports can be referred to.

The purpose of the 1985 program was to delineate the skarn zones with VLF-EM Surveys and detailed geological mapping, and evaluate the economic potential with respect to their geological setting.

EXPLORATION PROCEDURE

Work in 1985 consisted of VLF electro-magnetic surveying and detailed geological mapping. The old was re-established as closely as possible to the original and additional lines were ran. A total of 1.3 kilometres of baseline and 12.4 kilometres of crosslines were established.

Geological mapping with prospecting was performed at a scale of 1:5000 and resulting data is shown on Figures 3,4 and 5.

Twelve and one-half kilometres of VLF-EM survey were carried out, with reading taken every 20 metres along lines. A Geonics EM-16 was used as a receiver, with NLK, Seattle, Washington,

24.8 Khz the transmitter. This transmitter was used due to its good signal strength and orientation to the geological structures.

The EM-16 measures In-phase and quadrature components of vertical magnetic field as a percentage of horizontal primary field (that is, tangent of the tiltangle and ellipticity). Both values are given in percentages. Field procedure requires to always face the same direction when taking readings. When approaching a conductor the readings will be positive, and when leaving a conductor the readings will be negative. The EM-16 is rotated in the vertical plane until a minimum signal is obtained. This reading in the "In-phase" and gives the tiltangle in degrees and the tangent of the tiltangle expressed as percent. Once this minimum signal is obtained, the "Quadrature" knob is rotated until the signal minimum is obtained. This reading is approximately the ratio of the vertical secondary field to the horizontal primary field.

The VLF-EM can pick up conductors caused by electrolyte-filled fault or shear zones and porous horizons, graphite, carbonaceous sediments, lithological boundaries as well as sulphide bodies.

The In-phase and Quadrature data were plotted as percentages on Figure 6 at a scale of 1:2500. The Fraser filter method was

then applied to the In-phase data, and the results plotted at a scale of 1:2500 on Figure 7.

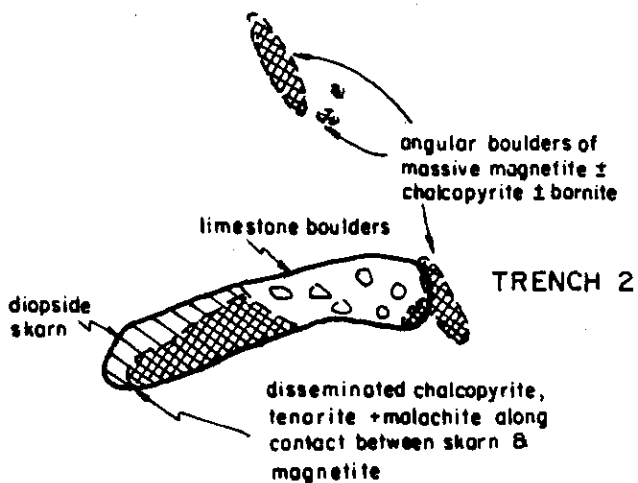
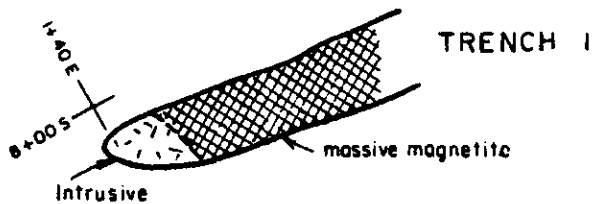
GEOLOGY

The claims are underlain by Permian Asitka Group and Lower Jurassic Omineca intrusions.

The Permian Asitka Group consists of mainly recrystallized limestone and marble with minor interbeds of volcanic rocks (feldspar porphyritic andesite). It outcrops along a ridge in the middle of the claim group (Figure 3). The units strike approximately NW-SE and dips moderately (around 30°) to the east.

Detailed mapping on the claim group shows that the Asitka carbonates are underlain and intruded by the Omineca intrusive rocks consisting of quartz diorite to quartz monzonite with minor feldspar porphyritic phases.

Skarn zones appear to be present at the contact of the intrusive rocks and limestones. The skarn zones are formed by contact metasomatism of intrusive rocks and carbonates. The marbles and recrystallized limestones are caused by contact metamorphism.



Mohan Vulimiri
H. E. Crocker

SEREM INC.	
ACAPULCO GROUP SUN - STAR CLAIMS MAP OF HAND TRENCHES OMINECO M.D., B.C. SCALE 1:100	
0 1 2 3 4 5 Metres	
WORK BY: GRANT CROCKER & MOHAN VULIMIRI	
DRAWN BY: M. VULIMIRI	N.T.S. 94E-2W
DATE: SEPT. 1985	FIGURE N ^o . 5

Skarns are exposed at the contact of the limestone with the intrusions all around the ridge at lower elevations on the claim group (Figure 3). Minor skarns along with some quartz dioritic and quartz monzonitic intrusions and lamprophyre dykes are also observed on top of the ridge suggesting the intrusion has an undulating contact with apophyses and embayments (Figure 4).

The skarns appear to be related to predominantly $160^{\circ}/70^{\circ}E$ fractures. The chalcedony fracture fillings (possibly excess silica left over during the skarn-forming reactions) also are related to the same fractures. Tracing of these fractures will possibly lead to skarns hidden within the embayments of the intrusion. Minor skarns also occur along the bedding planes of the limestone unit.

The skarns primarily consist of magnetite, diopside, grossular garnet and epidote near the intrusion and away from the intrusion they consist of diopside, epidote, wollastonite with minor garnet.

The intrusion exhibits extensive hydrothermal alteration in the vicinity of the skarns. It is completely bleached of mafic minerals with intense k-feldspar alteration and quartz veining. Where exposed, tracing of the alteration zones within the intrusion towards the carbonates lead to skarns.

MINERALIZATION

Three types of mineralization are present on the claim group. They are the following:

1. Mineralization consisting of chalcopyrite, bornite, malachite, pyrite, pyrrhotite, magnetite, minor galena and sphalerite with gold values is associated with skarn zones. Grab samples from this type of mineralization are assayed for gold and silver. Assays are shown in the table below.

<u>Sample</u>	<u>Ag_oz/ton</u>	<u>Au_oz/ton</u>	<u>Location</u>	<u>Mineralogy</u>
25446	32.0	0.50	7+00E;1+30S	Skarn (Cpy. & Mal.)
25447	0.1	<0.01	Hand Trench-2	Skarn (Magnetite)
25448	1.8	0.78	Hand Trench-2	Skarn (Mag., Cpy. & Mal.)
25449	0.5	0.75	Hand Trench-2	Skarn (Mag., Cpy. & Mal.)
25450	0.8	0.21	Hand Trench-2	Skarn (Malachite.)

2. The second type of mineralization consists primarily of galena with minor sphalerite in narrow veinlets in limestone. This does not appear to have much potential. Several samples were assayed for silver and gold in 1982.

3. Chalcopyrite and molybdenum mineralization with associated K-feldspar alteration occurs in the quartz monzonitic phase of the intrusion.

GEOPHYSICS

The Fraser filter method was applied to all In-phase readings to allow contouring of the data. The results were contoured at 10 percent intervals.

Two conductors were delineated by the VLF electro-magnetic survey.

Conductor A consists of two sub-conductors extending from L-3N;1+20E to L-10S;0+80E, a distance of 1200 metres. This is a very strong conductor, delineating a contact zone (skarn?) between the intrusion and the overlying limestone unit. Skarn outcrops are observed at some locations, where exposed, along the conductor.

Conductor B consists of a weak to moderate conductor extending from L-3N;5+80E to L-2S;6+00E. This corresponds to a feldspar porphyry intrusive dyke and related skarn zones (Figure 3, 6 & 7).

POTENTIAL

Assays of samples with skarn mineralogy with even small amounts of chalcopyrite and other copper-bearing minerals show significant amounts of gold (upto 0.78 oz/ton).

Trenching (Figure 5) in an area of magnetite skarn shows that samples with only magnetite do not carry any gold values, but samples with magnetite and copper-bearing minerals carry significant gold values. Samples containing chalcopyrite, bornite, galena and sphalerite collected from skarns in the northern portion of the claim group also carry significant gold values.

The above results show that skarn zones are the most important in terms of gold values. The west contact zone of limestone and intrusion was traced along approximately north-south by geophysics (VLF-EM) and to a minor extent by geology and geochemistry (1980 report) for a distance of 1200 metres, and along east-west direction under the ridge by geological methods and interpretation for a distance of about 900 metres (Figures 3,4,6 & 7).

RECOMMENDATIONS

The western contact of the limestone and intrusion can be systematically trenched from known showings with a bulldozer and a back-hoe, because of gentle topography and accessibility from Sturdee Airstrip.

Drilling can also be initiated at the same time uphill under

the overlying recrystallized limestone and marble, again systematically delineating the known showings.

Respectfully submitted

Mohan R. Vulimiri

Mohan R. Vulimiri B.Sc.(Hons.), M.Sc.

Grant F. Crooker

Grant F. Crooker B.Sc., F.G.A.C.

REFERENCES

Crawford, S.A., & Vulimiri, M.R. (1980) - Geochemical & Prospecting Report on the Acapulco, Aca & Pul claims.

Reeve, A.P. (1968) - Geological Report on the Riga Claim Group.

Stammers, M.A. (1968) - Geological, Geochemical and Trenching Report on the Acapulco Group.

CERTIFICATE OF QUALIFICATIONS

I, Grant F. Crooker, B.Sc., Geology of Upper Bench Road, Keremeos, in the Province of British Columbia, hereby certify as follows:

1. That I graduated from the University of British Columbia in 1972 with a Bachelor of Science degree in Geology.


2. That I have prospected and actively pursued geology prior to my graduation and have practised my profession since 1972.

3. That I am a member of the Canadian Institute of Mining and Metallurgy.

4. That I am a Fellow of the Geological Association of Canada.

5. That I have no direct or indirect interest in the property

Dated at Vancouver, B.C. this 6th day of November, 1985.



Grant Crooker, B.Sc., F.G.A.C.

CERTIFICATE OF QUALIFICATIONS

I, Mohan R. Vulimiri, of 1120 Heywood Street, North Vancouver, B.C., hereby certify that:

1. I am a graduate with a B.Sc. (Hons.) degree from the Indian Institute of Technology, Kharagpur and a M.Sc. (Economic Geology) degree from the University of Washington.

2. I am involved in mineral exploration in British Columbia since 1970 and I have acted in responsible positions since 1974.

3. I have no direct or indirect interest in the property

Dated at Vancouver, B.C., this 6th day of November, 1985.

Mohan R. Vulimiri

Mohan R. Vulimiri

MIN-EN LABORATORIES LTD.

705 WEST 15TH STREET
 NORTH VANCOUVER, B.C.
 Phone: 980-5814

Certificate of Assay

TO: Mohan Vulumiri

PROJECT No. _____

DATE AUGUST 17, 1985

File No. SK-4

SAMPLE No.	Ag	Au		
	oz/ton	oz/ton		
25446	32.0	0.50		
25447	0.1	<0.01		
25448	1.8	0.78		
25449	0.5	0.75		
25450	0.8	0.21		

MIN-EN Laboratories Ltd.
 CERTIFIED BY Randy Blackovich

DETAILED COST STATEMENT

Wages

1 Geologist, G. Crooker
8 days at \$300.00 per day.....\$2400.00
July 27 - 31, August 1, 13, 14, 1985

1 Geologist, M.R. Vulimiri
10 days at \$300.00 per day\$3000.00
July 27 - 31, August 1, 11, 13, 14, 1985

1 Geologist, S.Keilbach
6 days at \$200.00 per day\$1200.00
July 27 - 31, August 1, 1985

Camp Costs (include groceries, camp supplies, camp equipment,
radio, expediting, etc.)

G. Crooker, 6 days at \$50.00 per day.....\$300.00
July 27 - 31, August 1, 1985

M.R. Vulimiri, 6 days at \$50.00 per day...\$300.00
July 27 - 31, August 1, 1985

S. Keilbach, 6 days at \$50.00 per day.....\$300.00
July 27 - 31, August 1, 1985

Transportation

Helicopter (Hughes 500D)
2.1 Hrs charter at \$450.00 per Hr.....\$945.00
2.1 Hrs fuel at \$115.00 per Hr.....\$241.00

Fixed Wing* (Smithers to Sturdee Strip)
6 days at \$72.50 per day.....\$435.00
July 27 - 31, August 1, 1985

Mobilization & Demobilization
6 days at \$78.25 per day
July 27 - 31, August 1, 1985

Supplies (flagging, toposil thread, etc.).....\$50.00

Instrument Rental

Geonics EM-16R.....\$150.00
6 days at \$25.00 per day
July 27 - 31, August 1, 1985

Assays

5 rock samples (Au, Ag) at \$22.00.....\$110.00

Preparation of Report

Secreterial, draughting, reproduction, etc.\$700.00

\$10,600.00

* Mobilization and demobilization costs, and fixed wing costs
are pro-rated over 7 projects in the Toodoggone Area covering 44
days

FIELD PROCEDURE

Orientation & Taking a Reading

The direction of the survey lines should be selected approximately along the lines of the primary magnetic field, at right angles to the direction to the station being used. Before starting the survey, the instrument can be used to orient oneself in that respect. By turning the instrument sideways, the signal is minimum when the instrument is pointing towards the station, thus indicating that the magnetic field is at right angles to the receiving coil inside the handle. (Fig.11).

To take a reading, first orient the reference coil (in the lower end of the handle) along the magnetic lines. (Fig.12) Swing the instrument back and forth for minimum sound intensity in the speaker. Use the volume control to set the sound level for comfortable listening. Then use your left hand to adjust the quadrature component dial on the front left corner of the instrument to further minimize the sound. After finding the minimum signal strength on both adjustments, read the inclinometer by looking into the small lens. Also, mark down the quadrature reading.

While travelling to the next location you can, if you wish, keep the instrument in operating position. If fast changes in the readings occur, you might take extra stations to pinpoint accurately the details of anomaly.

The dials inside the inclinometer are calibrated in positive and negative percentages. If the instrument is facing 180° from the original direction of travel, the polarities of the readings will be reversed. Therefore, in the same area take the readings always facing in the same direction even when travelling in opposite way along the lines.

The lower end of the handle, will as a rule, point towards the conductor. (Figs.13 & 14) The instrument is so calibrated that when approaching the conductor, the angles are positive in the in-phase component. Turn always in the same direction for readings and mark all this on your notes, maps, etc.

THE INCLINOMETER DIALS

The right-hand scale is the in-phase percentage (ie. H_s/H_p as a percentage). This percentage is in fact the tangent of the dip angle. To compute the dip angle simply take the arc-tangent of the percentage reading divided by 100. See the conversion graph on the following page.

The left-hand scale is the secant of the slope of the ground surface. You can use it to "calculate" your distance to the next station along the slope of the terrain.

- (1) Open both eyes.
- (2) Aim the hairline along the slope to the next station to about your eye level height above ground.
- (3) Read on the left scale directly the distance necessary to measure along the slope to advance 100 (ft) horizontally.

We feel that this will make your reconnaissance work easier. The outside scale on the inclinometer is calibrated in degrees just in case you have use for it.

PLOTTING THE RESULTS

For easy interpretation of the results, it is good practice to plot the actual curves directly on the survey line map using suitable scales for the percentage readings. (Fig.15) The horizontal scale should be the same as your other maps on the area for convenience.

A more convenient form of this data is easily achieved by transforming the zero-crossings into peaks by means of a simple numerical filtering technique. This technique is described by D.C. Fraser in his paper "Contouring of VLF-EM Data", Geophysics, Vol. 34, No. 6. (December 1969)pp958-967. A reprint of this paper is included in this manual for the convenience of the user.

This simple data manipulation procedure which can be implemented in the field produces VLF-EM data which can be contoured and as such provides a significant advantage in the evaluation of this data.

AMIGO

COMINCO LTD.

EXPLORATION
NTS 94 E/2W

WESTERN DISTRICT
June 1, 1978

ASSESSMENT REPORT

GEOLOGICAL MAPPING AND SOIL GEOCHEMICAL

WORK ON THE

AMIGO PROPERTY

(AMIGO CLAIM; 4 UNITS)

TOODOGGONE RIVER AREA, OMINCA M.D.

LATITUDE: N57°12'

LONGITUDE: W126°57'

WORK PERFORMED: August 13-14, 1977

REPORT BY:

J.C. CAELLES

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
6762
NO. _____

IN THE MATTER OF THE B.C. MINERAL ACT
AND IN THE MATTER OF A GEOLOGICAL AND GEOCHEMICAL PROGRAMME
CARRIED OUT ON MINERAL CLAIM AMIGO (4 UNITS)
ON THE AMIGO PROPERTY
LOCATED 75 KM NORTHWEST OF JOHANSON LAKE IN THE Omineca Mining Division
OF THE PROVINCE OF BRITISH COLUMBIA MORE PARTICULARLY
N.T.S. 94 E/2W

A F F I D A V I T

I, JUAN C. CAELLES, OF THE CITY OF VANCOUVER IN THE PROVINCE OF BRITISH COLUMBIA, MAKE OATH AND SAY:

1. THAT I AM EMPLOYED AS A GEOLOGIST BY COMINCO LTD. AND, AS SUCH, HAVE A PERSONAL KNOWLEDGE OF THE FACTS TO WHICH I HEREINAFTER DEPOSE;
2. THAT ANNEXED HERETO AND MARKED AS "EXHIBIT A" TO THIS MY AFFIDAVIT IS A TRUE COPY OF EXPENDITURES INCURRED ON GEOLOGICAL MAPPING AND/OR SOIL GEOCHEMICAL SURVEY ON THE MINERAL CLAIM AMIGO (4 UNITS);
3. THAT THE SAID EXPENDITURES WERE INCURRED BETWEEN THE 13TH OF AUGUST AND THE 14TH OF AUGUST, 1977 FOR THE PURPOSE OF MINERAL EXPLORATION ON THE ABOVE NOTED CLAIMS.



JUAN C. CAELLES

AMIGO GROUP
1977 ASSESSMENT REPORT

AMIGO

TABLE OF CONTENTS

	<u>PAGE</u>
SUMMARY AND CONCLUSIONS	1
PROPERTY	1
LOCATION	1
GEOLOGY	
Regional Geology	1
Local Geology	2
MINERALIZATION	2
GEOCHEMISTRY	2

ATTACHMENTS:

- "Exhibit A" Breakdown of expenditures
- Table 1 Soil geochemical analyses

- Plate 1: Location Map (Scale 1:2,000,000)
- Plate 2: Regional Geology, Claim and Soil Geochemical
- Plate 3: Zn Soil Geochemistry (Scale 1:2,000)
- Plate 4: Cu Soil Geochemistry (Scale 1:2,000)
- Plate 5: Pb Soil Geochemistry (Scale 1:2,000)

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT
June 1, 1978

AMIGO GROUP

ASSESSMENT REPORT

1. SUMMARY AND CONCLUSIONS

The 4-unit Amigo group exhibits Zn/Cu(Pb)Ag, skarn-type mineralization occurring at a quartz monzonite-limestone contact.

A reconnaissance soil geochemical survey outlined several Cu/Zn/Pb anomalous zones, some of them still open to the west.

Expenditures incurred to date are \$2,185.01.

2. PROPERTY

The Amigo group consists of 4 units staked by Cominco in August 1977. The property was previously staked by Amax in 1972 as the DIMAC Group - it was not registered. Minas de Cerro Dorado owned the Riga Group, a porphyry copper-moly prospect located 2 km to the northeast; the property was abandoned after mapping, soil geochemistry and magnetometer surveys were carried out.

3. LOCATION

Latitude: 57°12'N Longitude: 126°57'W NTS: 94E/2W

The property is located in northern-central B.C., about 2 km southwest of Drybrough Peak and 12 km north-northwest of the northern end of Thutade Lake, in the Omineca M.D. (Plate 1). Access is by fixed wing aircraft from Smithers to Johanson Lake airstrip (210 km) and by helicopter from Johanson Lake to the property (75 km). Road access from the south is now within 55 km and eventually will be within 5 km.

Topographic relief is moderate over most of the property, with elevations between 4900 and 6200 feet. It lies mostly above tree line and is covered by moss and alpine grass. Water for exploration is available in the summer months.

4. GEOLOGY

Regional Geology

The region is underlain by six major rock units:

Tertiary and Upper Cretaceous

Sustut Group: non-marine conglomerate, shale, siltstone, tuff, minor fetid limestone.

REF

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1

2.

Lower and/or Middle Jurassic

"Toodoggone" volcanic rocks: dacite, latite, rhyolite, tuff breccia, flows.

Lower Jurassic (?)

Hazelton Group: volcanic conglomerate, breccia, lahar; pink feldspar porphyry dykes.

Upper Triassic

Takla Group: plagioclase porphyry, augite porphyry, tuff, agglomerate; limestone.

Upper Paleozoic

Asitka Group: chert, argillite, limestone, greenstone.

Intrusive Rocks

Lower Jurassic (?) quartz monzonite and granodiorite.

Only recrystallized Asitka limestone and quartz monzonite underlie the Amigo claims.

Local Geology

The claims are underlain by quartz monzonite of possibly Lower Jurassic age, that includes a limestone unit of the Upper Paleozoic Asitka Group (Plate 2). The limestone is a unit at least 150 m thick, varying from very thickly-bedded (> 1 m) to medium-bedded (10-30 cm) and unfossiliferous. It has recrystallized to a coarse-grained, light grey, pure limestone. The intrusive body near the contact with the limestone has a quartz monzonite-quartz diorite composition. One porphyritic monzonite dyke, about 1.5-2.0 m wide, was observed in the proximity of sample JCC-415 (Plate 2).

5. MINERALIZATION

Traces of galena, sphalerite, chalcopyrite and malachite stainings occur in the exposed skarn zone. The intrusive-limestone contact is mostly covered by soil and moss and consequently a reconnaissance soil survey was conducted over the inferred contact. The limestone, where exposed, does not exhibit any sign of mineralization. The intrusive body is completely barren a few meters from the contact. However, a similar intrusive rock approximately 2 km to the northeast contains disseminated Cu/Mo mineralization on the former Riga claims, where mapping, soil geochemistry and magnetic surveys were carried out.

6. GEOCHEMISTRY

Reconnaissance soil geochemical sampling was carried out over the inferred intrusive-limestone contact, in a grid approximately 600 x 600 m, at 50 m intervals. All soil samples were collected from D soil horizon (about 25 cm below surface); the samples were screened and the -80 mesh fraction analysed. The samples were processed and analysed at Cominco's laboratory

4160 6P

5 1

4.

3.

(Vancouver) according to the following methods:

1. Copper, lead, zinc and silver were done by nitric acid digestion and atomic absorption determination;
2. Molybdenum analyses were done by pyrosulphate fusion followed by thiocyanate colourimetric determination;
3. Gold analyses were done by aqua regia digestion followed by organic extraction and atomic absorption.
4. Tungsten analyses were done by pyrosulphate fusion followed by colourimetric determinations.

The limits of detection are:

Element	Limit of detection
Cu	1 ppm
Pb	3 ppm
Zn	1 ppm
Ag	0.4 ppm
Mo	2 ppm
W	2 ppm

The survey indicated several anomalous zones in Zn, Cu and Pb, the largest of which is about 250 x 100 m (Plates 3, 4 and 5). These soil geochemical anomalies were the reason for staking.

In Plate 3 the Zn soil values have been plotted. It is estimated that the data can be interpreted as follows, based on the cumulative probability plot:

<u>Anomalous</u>	<u>High Background</u>	<u>Low Background</u>
>450	$450 \leq x \leq 140$	<140

The reconnaissance sampling outlines at least three anomalous zones, the largest about 150 x 100 m enclosed by the 1500 ppm Zn contour line situated in the central part of the grid. The northwestern anomaly is open to the north and west.

The Cu values are plotted in Plate 4. The cumulative probability plot indicates a threshold value of 135 ppm. An anomalous zone, encompassed by the 200 ppm contour line and approximately 200 x 100 m, is delineated with a northerly trend and roughly cointensive with the Zn central anomalous zone. Another anomaly on the northwestern corner, outlined by two samples, is still open to the north and west.

The Pb values are represented in Plate 5. The cumulative probability plot suggests the following values.

<u>Anomalous</u>	<u>High Background</u>	<u>Low Background</u>
>210	$210 \leq x \leq 35$	< 35

MIGU

4.

Small anomalous zones, some still open, are outlined.

M1 60

Report by: J.C. Caelles
J.C. Caelles
Geologist

Endorsed by: D.L. Cooke
D.L. Cooke, P. Eng.
Senior Geologist

Approved for
Release by: G. Harden
G. Harden
Manager, Exploration
Western District

JCC/pcd

EXHIBIT "A"

GEOLOGICAL MAPPING AND SOIL GEOCHEMICAL SURVEY

ON THE

AMIGO CLAIMS

Located 75 km northwest of Johanson Lake

Latitude: N57°12' Longitude: W126°57'

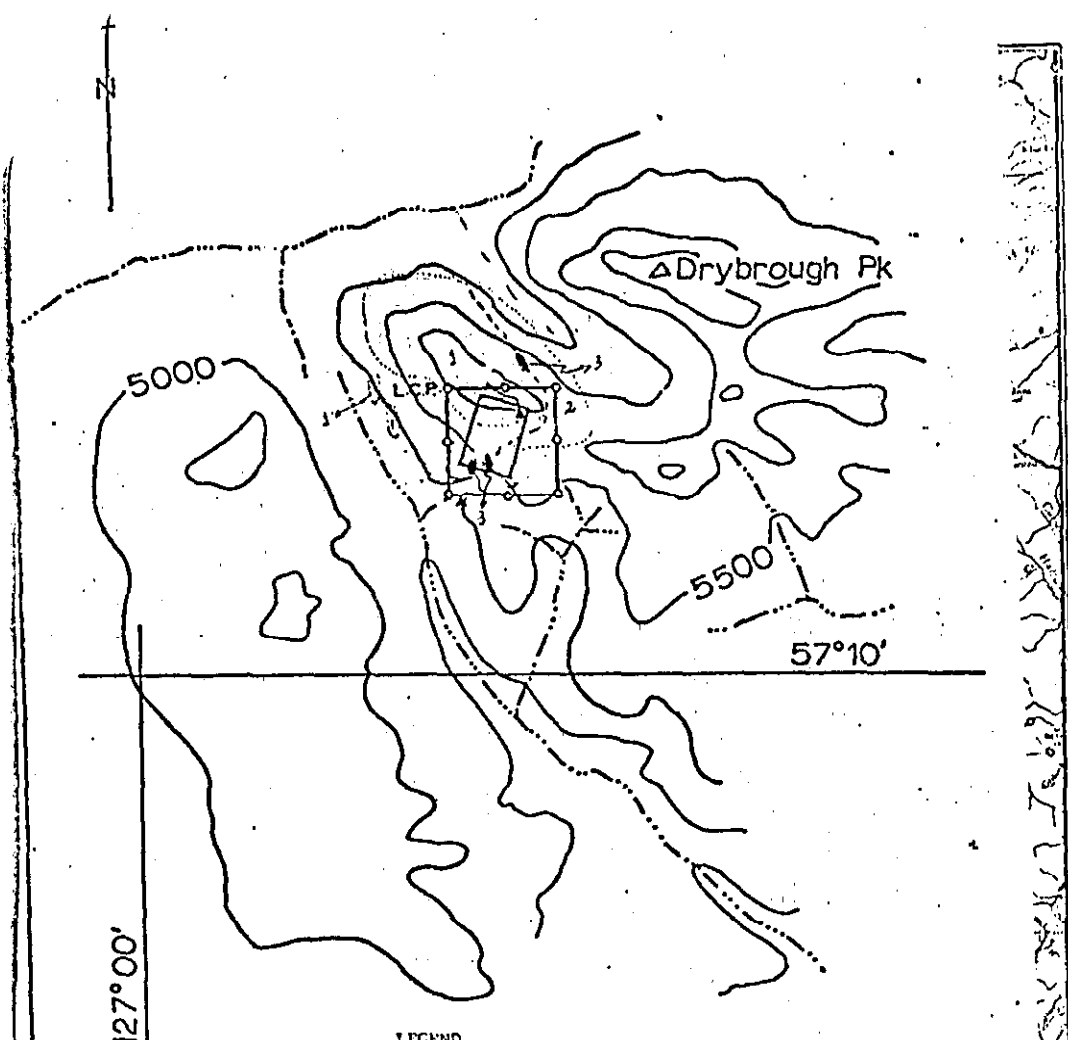
AMIGO

TABLE 1

<u>Salaries (sampling and mapping)</u>	<u>Person</u>	<u>Sub Total</u>	<u>Total</u>
H. Lefebvre (2 days x \$63.40)	\$ 126.80		
R. Brocock (2 days x \$64.94)	129.88		
N. Humphreys (1/2 day x \$78.41)	39.21		
S. Fountain (1/2 day x \$61.70)	30.89		
JCC 1 1/2 field days + 2 days plotting + writing report (3 1/2 x \$130.24)	455.84		
		\$ 782.62	
<u>Cominco Laboratory (Vancouver)</u>			
135 soil samples x \$4.75 (Cu Pb Zn Ag W)	641.25		
		\$ 641.25	
<u>Transportation</u>			
HL & RB (Tood (15 miles x 2) x 1.3h x 175)	228.00		
NH & SF (Tood (15 miles x 1) x 0.7h x 175)	123.00		
JCC (Tood (15 miles x 1) x 0.7h x 175)	123.00		
Gasoline (2.7 hours x 15 gal/h x 1.50/gal)	60.75		
		\$ 534.75	
<u>Board</u>			
6 1/2 man days x \$28.94 per day	188.11		
		\$ 188.11	
<u>Mobilization and demobilization</u>			
HL (\$359.60 77 x 2)	9.34		
RB (\$787.60 77 x 2)	20.45		
NH (\$551.60 77 x 0.5)	3.58		
SF (\$395.60 77 x 0.5)	2.57		
JCC (\$359.60 77 x 0.5)	2.34		
		\$ 38.28	

\$2,185.01

James C. Callis



LEGEND

- Limestone
- Quartz monzonite - quartz diorite
- Skarn
- Rock sample
- Amigo claim boundary
- Approximate area of soil sampling

MINERAL RESOURCES BRANCH
 ASSESSMENT REPORT
 6762
 NO.

Drawn by:		Traced by:	
Drawn by	Date	Traced by	Date
		<i>Jan Call</i>	

AMIGO CLAIM GROUP

OMINICA N.D.

NTS 94C/2W

Scale: 1:50,000

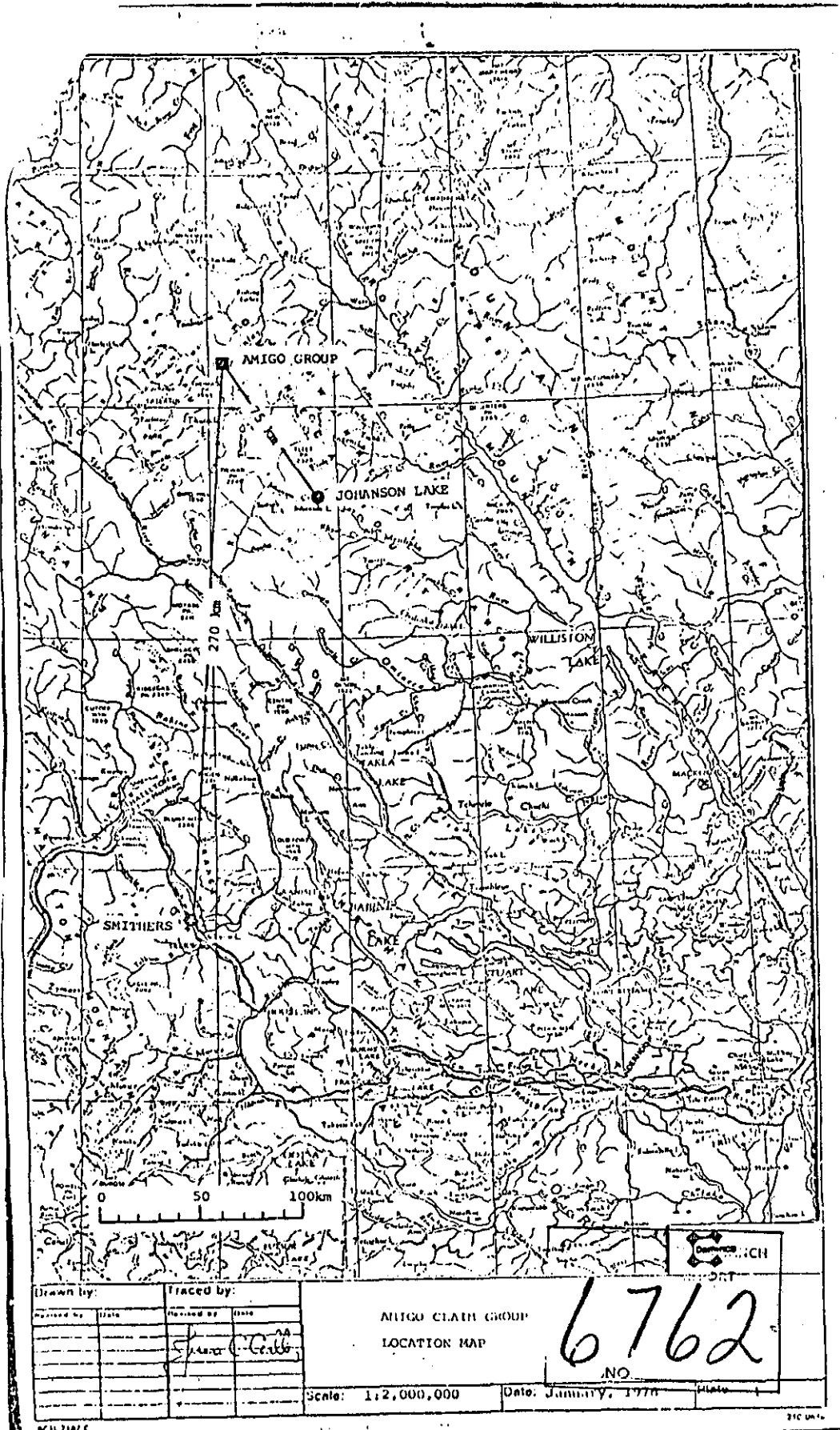
Date: January 12, 1978

Plate: 2

4160

1

57



Drawn by:	Traced by:
Checked by:	Checked by:

AMIGO CLATH GROUP
LOCATION MAP

6762
NO

Scale: 1:2,000,000 Date: January, 1978 Plate:

BC 11 2107 C

210 UN 1

BC 11 2107 C

Scale: 1:50,000 Date: January 12, 1978 Plate: 2

NTS 94E/2W

DIAMOND DRILL LOGS

ACAPULCO

DDH 87-A-1 to DDH 87-A-5

DUPLICATE FILED

SEREM LTD.

DIAMOND DRILL LOG

PROJECT: TOODOGONE

HOLE NO. 87-A-1

ZONE: ACAPULCO

CORE SIZE: START B.9

LOCATION (N.T.S.) 94E/12

CHANGE _____

CLAIM: STAR

DATE STARTED: AUG 9, 1987

DATE COMPLETED: AUG. 12, 1987

MINING DIVISION: OMINECA

LOGGED BY: DCR

DATE: 12/11/87

SURVEY INFORMATION

GRID CO-ORDINATES (LAT., LONG.) _____

TOTAL LENGTH 170.69

GRID ZONE CO-ORDINATES 1320S 33E

ELEVATION AT COLLAR 5200' FT 1585M

DIRECTION: DEPTH AZIMUTH INCLINATION

DEPTH	AZIMUTH	INCLINATION
COLLAR	281°	-70°

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
		0 - 3.05 OVERBURDEN	1					
			2					
3.05		3.05 - 13.71 WHITE TO MEDIUM GREY	3					
5.18		LIMESTONE WITH A MARBLE	4					
		EFFECT SMALL BANDS OF CHLORITIC	5					
		SHIST AND HEMATITE STAINING	6					
		THROUGHOUT.	7					
8.22			8					
			9					
		9.42 - 14.0 CHLORITIC SHIST BANDS	10					
10.67		RUNNING FROM 75° TO 90° FROM	11					
		CORE AXIS	12					
12.19			13					
			14					
14.33			15					
			16					
17.07			17					
			18					
			19					
			20					

87-A-1

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
20.72								
15.6			21					
			22					
23.32			23					
			24					
15.6			25					
			26					
26.52			27					
			28					
29.26	29.0-29.2 BRACKEN RIVER CORE	29.86 - 43.20 INCREASE IN HEMATITE STAINING.	29					
			30					
15.6			31					
32.31			32					
55.6			33					
34.14			34					
			35					
10.6			36					
37.49	37.0-37.4 BRACKEN RIVER STAINED CORE		37					
			38					
10.6			39					
38.71			40					
45.6								

87-A-1

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
40.54			41					
100%			42					
43.59		43.20 - 54.35 LIMESTONE MORE HOMOGENEOUS	43					
100%			44					
46.63			45					
100%			46					
49.38			47					
100%			48					
52.12			49					
100%			50					
53.95			51					
100%			52					
57.06		54.35 - 66.50 LIGHT TO MEDIUM GREY LIMESTONE	53					
100%			54					
59.44			55					
			56					
			57					
			58					
			59					
			60					

87-A-1

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
100%			61					
62.48			62					
			63					
100%			64					
65.53			65					
			66					
100%		66.50 - 82.30 BUILDUP OF HEMATITE STAINING	67					
67.66			68					
			69					
100%			70					
70.71			71					
			72					
73.76			73					
			74					
100%			75					
76.81			76					
			77					
100%			78					
79.86			79					
			80					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
80.76			81					
82.30			82					
		82.30-98.50 More Homogeneous	83					
100%		LIMESTONE WITH AN IMPROVED	84					
		OF CRYSTAL SIZE	85					
85.35			86					
			87					
100%			88					
88.39			89					
			90					
100%			91					
91.44			92					
			93					
100%			94					
94.49			95					
			96					
100%			97					
97.54			98					
			99					
100%		98.50 FRACTURE CONTACT AT 65° TO	100					
		COLE AXIS WITH MUCH HEXATITE						
		STRIKING						

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
100.59		TO 99.47 HEMATITE STAIN BUILDUP	101					
102.72			102					
105.77		105.2 - 107.17 BANDS OF CHORTIC SCHIST RUNNING SPONTANEOUSLY THROUGH THE CORE AT VARIOUS TO LOCAL STRENGTH	103					
105.77		105.77 CRYSTAL STRUCTURE SIZE IS INCREASING	104					
108.81		108.81 - 109.40 AS ABOVE	105					
111.56			106					
114.45			107					
117.50			108					
			109					
			110					
			111					
			112					
			113					
			114					
			115					
			116					
			117					
			118					
			119					
			120					

87-A-1

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS				
					Au Oz/ton	Ag Oz/ton	Au oz/T	Ag oz/T	Cu %
120.40			121						
122.45			122						
123.45			123						
125.27		127.13-128.78 CHLORITIC SCHIST STRINGERS RUNNING FROM 15° TO 35° TO CORE AXIS AND FT. 10CM TO 25CM THICK	124						
128.32			125						
131.37			126						
132.71			127						
134.11	132.71-134.11 HAS 0.2M CORE LOSS	132.71-136.55 MAGNETITE CONTACT @ 82° TO CORE AXIS. BLACK MAGNETITE WITH BLEBS AND STRINGERS OF EPIDOTE AND HEMATITE. HEMATITE UP TO 2MM IN SIZE	128						
136.55	133.45-134.15 CRUSHED CORE		129						
139.30	135.04-136.55 SOME SMALLER CORE LOSS 0.2 M CORE LOSS	132.91-133.01 MEDIUM GREY MARBLED LIMESTONE	130						
		134.15-134.27 GREY LIMESTONE	131						
		134.97-135.04 GREY LIMESTONE	132						
		135.18-136.55 CHLORITIC SCHIST	133	25581	0.01	40.1	0.005	0.12	.034
		136.55-136.99 GREY SKARN WITH EPIDOTE / HEMATITE. CHALCOPYRITE IN BLEBS	134	25582	0.01	40.1	0.001	0.08	.036
		136.99 RECENTLY SKARN WITH LARGE HOLE OF HEMATITE STAIN TO 137.19 (DIOPSIDIC SKARN)	135	25583	0.01	0.2	0.009	0.29	.212
			136	25584	0.06	3.6	0.053	2.73	2.670
			137	25585	40.01	0.3	0.002	0.36	.480
			138	25586	40.01	40.1	0.002	0.11	.032
			139	25587	40.01	40.1	0.001	0.05	.016
			140	25588	40.01	0.1	0.001	0.06	.009

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
90 ⁷		137.19-139.85 <u>DIOPSIDIC SKARN</u> WITH LITTLE CHALCOPYRITE						
		139.80-139.85 BLACK CHLORITIC ALTERATION	141					
147.34		139.80-145.50 <u>INDO SKARN</u> WITH EDIDOTE AND 2MM STRINGERS OF CALCITE	142					
100 ⁶		141.10-141.27 CRUSHED ZONE	143					
145.39		141.27 FAULT @ 45° TO CORE AXIS WITH 10MM GOUGE	144					
98 ⁹		141.27-141.34 BLACK CHLORITIC ALTERATION	145					
147.52			146					
			148					
			149					
			150					
150.52		150.99-170.69 <u>GRANITE</u> INTRUSION. COMPLETE	151					
			152					
153.02		153.02 - 6cm CALCITE INTRUSION	153					
			154					
			155					
156.67		156.23 - BEDDING ? 32 C.A.	156					
			157					
			158					
159.11			159					
			160					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
162.15			161					
163.37		162.55 - 1 CM CALCITE VEIN	162					
			163					
			164					
			165					
166.42			166					
			167					
			168					
167.64			169					
			170					
		167.84 - 170.96 MORE ALTERED WITH REDDISH BROWN HUE	171					
		168.14 - 168.34 - 3 VEINLETS OF CALCITE MM IN SIZE TO 1 CM.	172					
170.69		170.69 - EOH.	173					
			174					
			175					
			176					
			177					
			178					
			179					
			180					

Duplicate Picked

SEREM LTD.

DIAMOND DRILL LOG

PROJECT: TOODOGONE

HOLE NO. 87-A-2

ZONE: ACAPULCO

CORE SIZE: START B. Q

LOCATION (N.T.S.) 94 E / 2

CHANGE _____

CLAIM: STAR

DATE STARTED: AUGUST 12, 1987

MINING DIVISION: OMINECA

DATE COMPLETED: AUGUST 13, 1987

LOGGED BY: D.C.P.

DATE: AUG 16, 1987

SURVEY INFORMATION

GRID CO-ORDINATES (LAT., LONG.) _____

TOTAL LENGTH 144.78 m

GRID ZONE CO-ORDINATES 1370 S 33E

ELEVATION AT COLLAR 5200 FT 1585 m

DIRECTION: DEPTH AZIMUTH INCLINATION

DEPTH	AZIMUTH	INCLINATION
COLLAR	281°	-55°

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
		0 - 3.36 OVERBURDEN	1					
			2					
			3					
3.36		3.36 - 21.85 LIGHT TO MEDIUM GREY LIMESTONE.	4					
5.36		3.36 - 8.62 SMALL MARBLETS - KENTONIC TAINES	5					
		5.20 - 5.40 STAINING & L. REEF FAULT	6					
			7					
			8					
			9					
		8.62 - 9.28 CLEANER LIMESTONE WITH 6 MM VEINLETS & COARSER CRYSTALS	10					
		9.28 - 15.82 DARKER LIMESTONE WITH INTER-M. MARBLETS VEINLETS	11					
			12					
			13					
		13.41 - 17.31 BLACK TO DARK GREEN EPIDOTE TO ZEPHYRUS & MILES 20% TO 40% MARBLETS WITH INTER-M. CRYSTALS & MARBLETS	14					
		13.81 - 21.85 CLEANER LIMESTONE	15					
			16					
			17					
		17.78 - 17.98 BROWN WITH OXIDE STAINING ON FRACTURE	18					
			19					
			20					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
1002 21.03		20.83 - 1cm oxide 6056	21					
976		21.85-27.00	22					
		INDO SKINCH ... STAINING RHODACROSITE	23					
		21.85 4cm Hvt.	24					
		21.44 2cm DARK ... 50°C.A.	25					
618 26.21		23.66-24.41 Limestone 21.85 27cm SKINCH ... 21.85 SKINCH ...	26					
		27.00-28.81	27					
		MEDIUM TO DARK GREY LIME STONE	28					
		27.00-27.85 ZONES 75.25cm WIDE OF FeS 27.00-27.85 Limestone ...	29					
33.53		28.81-29.16 20.46-26.95	30					
		INDO SKINCH MEDIUM TO DARK GREY LIME STONE	31					
			32					
			33					
			34					
			35					
			36					
36.53		35.80-36.15 DARK MUSTARD colour BAND OF EPIDOTE 25°C.A.	37					
			38					
			39					
			40					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
42.06			41					
45.11			42					
46.33			43					
48.1			44					
50.62		50.20 - 50.62 WHITE MARBLE LOOKING LIMESTONE	45					
53.64		50.62 - 53.20 MEDIUM GRAY WITH HEMATITE STAINING ON FRACTURES	46					
56.46		53.64 - 56.46 CONGLO. LIMESTONE WITH LARGE CRUSTAL STRUCTURE	47					
59.71		56.46 - 56.60 - 2 FAULTS WITH BREAKS BEING OPPOSITE DIRECTIONS 50% C.C. & 42 TO C.C. CORE IS ALOT DARKER GREY THAN SURROUNDING ZONE	48					
			49					
			50					
			51					
			52					
			53					
			54					
			55					
			56					
			57					
			58					
			59					
			60					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton	Au	Ag
950		59.8d - 65.58 LIGHTER LIMESTONE with fine Erythrae beds 85% C.I.	61					
62.35			62					
			63					
976			64					
65.68		65.58 - 66.12 DARK ERYTHRAE LIMESTONE with 20% C.I.	65					
			66					
66.1		66.12 - 66.64 DARK MOTTLED LIMESTONE with 66.61	67					
			68					
65.58 - 66.64		ZONES OF FINISH LIMESTONE 85% C.I.	69					
65.53		65.53 - 65.96 DARKER GREY LIMESTONE with Boulders of Chalchicomula to Black taluk.	69					
			70					
			71					
71.93			72					
			73					
			74					
74.98		74.95 - 77.25 MAGNETITE WITH INTERSTICES of LIMONITE and some CHALCOPRITE	75	27051	0.04	0.80	0.014	0.59
		74.95 - 74.98 MIXED MAGNETITE & LIMESTONE	76					
		74.98 - 75.11 LIMESTONE	76	27052	0.06	0.50	0.028	0.53
		75.11 - 75.21 MIXED MAGNETITE & LIMESTONE	77					
		75.21 - 75.91 DIOPHANTIC EPIDOTIC SHAH	78					
		75.91 - 77.14 BLACK MAGNETITE WITH UP TO 10% CHALCOPRITE	78	27053	0.03	0.50	0.036	0.60
		77.14 - 78.53 BLACK MAGNETITE WITH SMALL YELLOW GRAINS	79					
		78.53 - 79.25 MIXED SHAH - SPICULE - MAGNETITE	79	27054	0.02	0.20	0.010	0.18
78.03			80					
78.96	78.53 - 79.25 - AGM COR. L. LOSS							
79.25	79.25 - 80.57 - AGM COR. L. LOSS	79.25 - 144.78 SHAH						

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
61.76	80-87-80.92-15m Cyclic Log	30.87 GRANODIORITE BATHOLITHIC WITH NONCLOS VEINLET, OF CARBONATE LIGHT TO MEDIUM PLANK (KALOCAROLITE) FRAGILE DIPPING 85° to 50° N.E.						
66.00			81					
80.92			82					
			83					
84.12			84					
			85					
			86					
87.17			87					
			88					
			89					
90.77			90					
			91					
			92					
92.62	93.98-105.10 FAULTS	75.68-91.80 LIMESTONE MED GREEN	93					
		93.20 15CM LOOSE FAULT	94					
		93.98 FROSTENY ZONE	95					
95.10		93.98 48 CM YELL GRN TO BROWN SILICATE & EPIDOTE	96					
		94.68-95.10 DARK GREEN TO BROWN DIVERSE MINERAL WITH SILICATE VEINLET IN BATHOLITE	97					
96.31		96.31-107.29 CARBONATE VEINLET INDICATED WITH MORE FINE FRAGILE TO 800 CM IN CONTACT	98					
			99					
99.36			100					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
101.50			101					
			102					
			103					
104.25			104					
			105					
105.76			106					
			107					
107.59			108					
			109					
110.13			110					
			111					
111.55			112					
		111.55-112.55 Pink granite with sprinkles of pink limestone veinlets	113					
113.39			114					
			115					
116.43		115.85-116.53 Dark grey limestone with sprinkles of pink granite up to 1cm in size 65° CA to 80° CA	116					
		116.43-122.22 Pink granite with blue pink veinlets running almost along core axis	117					
			118					
119.48			119					
			120					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
122.25			121					
123.44			122					
			123					
			124					
			125					
			126					
			127					
			128					
129.0			129					
			130					
			131					
			132					
132.59		133.39 133.95 BANDED EPIDOTE (A ₃₈)	133					
		133.95 134.35 DARK GREY LIMESTONE WITH 1mm VEINLETS CARBONATE	134					
134.64			135					
			136					
			137					
138.61		137.87-137.97 FAULT ZONE 20°CA PINK GRANODIORITE & CARB VEINLETS	138					
139.50		138.17-139.00 LIMESTONE & CARB VEINLETS	139					
			140					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
		139.20 - FAULT 50° C.A						
		141.23 - 144.75 PINK GRANODIORITE WITH CARB FILLING 60° C.A	141					
			142					
			143					
		144.75 - E. O. H.	144					
			145					
			146					

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SEREM LTD.

DIAMOND DRILL LOG

PROJECT: TOODOSONE
 ZONE: ACAPULCO
 LOCATION (N.T.S.) 9A E/2
 CLAIM: STAR
 MINING DIVISION: OMINECA

HOLE NO. 87-A-3
 CORE SIZE: START B.Q
 CHANGE _____
 DATE STARTED: JUL 13, 1987
 DATE COMPLETED: JUL 15, 1987
 LOGGED BY: D.C.P
 DATE: AUG 12/87

SURVEY INFORMATION

GRID CO-ORDINATES (LAT., LONG.) _____
 GRID ZONE CO-ORDINATES 1370 S 33 E
 ELEVATION AT COLLAR 5200 FT 1585 M

TOTAL LENGTH 158.44

DIRECTION:

DEPTH	AZIMUTH	INCLINATION
COLLAR	239°	-60°

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
		0 - 3.05 OVERBURDEN	1					
			2					
3.05		3.05-93.36 LIGHT TO MEDIUM GREY LIMESTONE	3					
		3.05-13.66 LIGHT GREY TO DARKER GREY LIMESTONE WITH ZONES OF DARK FRAGILE FOLIOLE TO SMALL 5-10 MM S.C.C. & G.C.	4					
		5.91-6.11 FINE-TO MEDIUM GRAINED STAINING WITH CHERT	5					
6.71			6					
			7					
			8					
			9					
10.05		10.06-13.13 LIGHT REFINISHED-LIZED WITH LITTLE NEGATIVE STAINING OR FRACTURE	10					
		11.27 REFINISHED LIME 85° C.A.	11					
11.05			12					
			13					
		13.19-17.27 DARK GREY FRACTURED ECHLORITIC FOLIOLE LIMESTONE WITH FRACTURES ANYWHERE FROM 45° C.A. TO RUNNING PLANE AXIS.	14					
14.54			15					
			16					
		16.97-17.27 INCREASE EPIDOTE DECOMPOSITION WITH FINE-TO MEDIUM GRAINED	17					
		17.00-17.54 CARBONATE VEIN 80° C.A.	18					
18.36		17.27-24.79 RECRYSTALL MARBLE LOOKING LIMESTONE	19					
		18.07-20.86 MORE NEGATIVE STAINING IN FRACTURES	20					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
20.22		20.66-25.73 LIGHTER GREY LIMESTONE WITH LESS FRACTURING	21					
			22					
22.26			23					
			24					
			25					
24.99		25.73-36.85 DARK GREY LIMESTONE WITH ZONES OF EPIDOTE SLIGHTLY GARNETIZED AT 29.58 TO 31.12	26					
			27					
			28					
28.04			29					
			30					
		29.14-29.28 WHITE CARBONATE WITH CHLORITE BANDING ON EACH END	31					
30.78			32					
			33					
			34					
			35					
33.83		36.85-41.89 LIGHT RECRYSTALIZED LIMESTONE WITH SMALL VEINLETS MM IN SIZE RUNNING 40° CA	36					
			37					
36.85			38					
			39					
39.10			40					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
42.54			41					
42.56			42					
43.93		41.89- 42.76 BRECCIATED LIMESTONE IN A MATRIX OF DARK GREEN TO BLACK CHLORITE	43					
46.91		42.76- 71.73 MEDIUM GREY MARBLE LOOKING RECRYSTALIZED LIMESTONE WITH CRYSTAL STRUCTURE BEING LARGER THAN NORMAL.	44					
			45					
			46					
			47					
			48					
50.29			49					
			50					
			51					
			52					
53.28			53					
			54					
55.02			55					
			56					
			57					
58.06			58					
			59					
			60					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
62.05			61					
			62					
63.03			63					
			64					
			65					
66.4		66.14-66.87 MEDIUM TO DARK GREENISH SAND EPIDOTE WITH SMALL QUANTITIES AND DARK GREEN TO BLACK BROWN CLAY	66					
			67					
			68					
			69					
69.19			70					
			71					
			72					
72.24		71.73-79.53 MEDIUM GREY LIMESTONE WITH NETWORK OF MM SIZE NETWORK OF CHLORITE 78.88-79.18 BAND OF CHLORITE EPIDOTE 60% C.A.	73					
			74					
			75					
75.29			76					
			77					
			78					
78.33			79					
			80					
79.40		79.53-93.36 MEDIUM TO LIGHT GREY MEDIUM GRAINE LIMESTONE WITH						

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton	Au	Ag
81.99			81					
85.5			82					
89.57			83					
89.91			84					
93.76			85					
			86					
			87					
			88					
			89					
			90					
			91					
			92					
			93					
			93.36					
	93.36 - 105.57 SOME GROUND CORE 82% GALT RECOVERY	93.36 - 105.57 MAGNETITE WITH LITTLE CHALCOPYRITE-EPIDOTE CARBONATE BLEBS & VEINLETS	94	27057	0.10	0.6	0.116	0.61
			95	27058	0.06	0.4	0.047	0.36
		94.70 - 98.4 - EPIDOTE & CHALCOPYRITE INTRUSIONS IN CORE IN LARGER AMOUNTS THAN BASIC CORE	96	27059	0.01	0.1	0.032	0.2A
		101.06 - 101.14 AS ABOVE.	97	27060	0.01	0.2	0.03A	0.29
			98	27061	0.28	0.6	0.13A	0.57
			99	27062	0.19	0.5	0.099	0.58
			100	27063	0.10	0.7	0.093	0.71
77.21								

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS				
					Au Oz/ton	Ag Oz/ton	Au	Ag	
			100.36						
			101	27064	0.12	0.7	0.125	0.81	
			101.36						
102.71			102	27065	0.10	0.6	0.093	0.63	
			102.36						
			103	27066	0.07	0.4	0.063	0.47	
			103.36						
			104	27067	0.08	0.3	0.069	0.36	
			104.36						
105.46		105.57-119.80 LIGHT TANKED WATER LIME STONE	105	27068	0.06	0.4	0.046	0.36	
			105.57						
			106						
		105.57-113.54 DEHYDRILIZED LIMESTONE WITH FINER REINFORCING SIZE EOLITIC LINDING	107						
108.51	108.53 LIME NEST SPHERICAL FRAGMENTS	113.54-119.80 MEDIAL TO DARK GREY LIMESTONE WITH A NETWORK OF VEINLETS OF QUARTZ.	108						
			109						
			110						
110.92			111						
			112						
			113						
113.67			114						
			115						
115.52			116						
			117						
117.65			118						
			119						
118.87		119.80-132.69 MARGINAL TO DARK GREY LIMESTONE WITH BLENDED VEINLETS	119						
			119.80						

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton	Au	Ag
	119.80-132.69 SOME GROUND COLL WITH 85% CORE RECOVERY.	119.80-122.50 HEAVY EPIDOTE WITH GRASS FIBRE AND BITES OF WHITE CARBON ATE UP TO 7CM IN SIZE	119.80 120.50 121 121.5 122 122.5 123 123.5 124 124.5 125 125.5 126 126.5 127 127.5 128 128.6 129 129.6 130 130.6 131 131.6 132 132.69 133 134 135 135.6 136 137 137.6 138 138.6 139 140	27069 27070 27071 27072 27073 27074 27075 27076 27077 27078 27079 27080 27081 27082 27083 27084 27085 27086 27087 27088	0.12 0.06 0.03 0.02 0.06 0.09 0.10 0.09 0.04 0.07 0.06 0.03 0.04 0.08 0.06 0.02 0.01 0.01 0.01 0.01	0.3 0.1 0.1 0.1 0.3 0.4 0.5 0.3 0.2 0.2 0.2 0.1 0.3 0.7 0.5 0.5 0.1 0.1 0.1	0.099 0.037 0.007 0.011 0.041 0.065 0.168 0.071 0.018 0.052 0.031 0.020 0.036 0.047 0.031 0.032 0.006	0.19 0.19 0.12 0.14 0.37 0.36 0.54 0.36 0.19 0.27 0.21 0.12 0.31 0.66 0.48 0.46 0.11
121.92								
125.75								
129.84		128.59-132.69 HEAVY EPIDOTE WITH GRASS FIBRE						
132.69		132.69-152.74 EPIDOTIC SKEL WITH TRACE OF PROPYLITE. HEAVY SILICIFIED SMALL CARBONATE NODULES						
135.97		136.50-136.60 FAULT ZONE (N 80°)						
139.01								

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
141.77			141	27089	<0.01	<0.1		
			142	27090	<0.01	<0.1		
143.90			143	27091	<0.01	<0.1		
			144	27092	0.01	0.1		
			145	27093	<0.01	<0.1		
145.92			146	27094	<0.01	<0.1		
			147	27095	<0.01	<0.1		
147.59		147.10 - 147.64 MAFIC DARK GREEN MICRITE WITH SOME FINE MIN VEINETS 1/8" DIA	148	27096	<0.01	<0.1		
			149	27097	<0.01	<0.1		
			150	27098	<0.01	<0.1		
			151	27099	<0.01	<0.1		
152.47		152.24 - 158.53 INDOSK... GRANODIORITE	152	27100	<0.01	0.1		
153.25		152.44 FINE GRANODIORITE CONTAINING TRAIL SCATTERED THROUGHOUT SMALL STOCKWORK OF CARBONATE VEINETS 110M IN TO C/L IN 1976	153	27101	<0.01	<0.1		
			154	27102	<0.01	0.9		
156.16			155					
		157.20 1CM CARBONATE VEIN TO 1/8"	156					
158.54		158.5A - E.O.H.	157					
			158					
			159					
			160					

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SEREM LTD.

DIAMOND DRILL LOG

PROJECT: TEODOSONE

HOLE NO. 87-A-4

ZONE: ACAPULCO

CORE SIZE: START B. Q

LOCATION (N.T.S.) 99E/2

CHANGE _____

CLAIM: STAR

DATE STARTED: AUGUST 15, 1987

DATE COMPLETED: AUGUST 18, 1987

MINING DIVISION: OMINECA

LOGGED BY: PLT & ED

DATE: AUG 19 & 20 1987

SURVEY INFORMATION

GRID CO-ORDINATES (LAT., LONG.) _____

TOTAL LENGTH 229.52 m.

GRID ZONE CO-ORDINATES 1370 S 33 E

ELEVATION AT COLLAR 5200 FT 1585 M.

DIRECTION: DEPTH AZIMUTH INCLINATION

DEPTH	AZIMUTH	INCLINATION
COLLAR	234°	-70°-55'

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
		20.9-20.87 MINOR GARNET - EPIDOTE DEVELOPMENT ALONG BEDDING? OR FRACTURING AT 35°	21					
		20.15-22.05 WEAK GARNET DEVELOPMENT AROUND SEVERAL CARBONATE STRINGERS.	22					
		20.95-22.05 QUANTITATIVE KINETIC FRACTURE FILLINGS IN SLIP AT LOW ANGLE TO R115.	23					
		22.9-24.00 WEAKLY OXIDIZED CARBONATE STRINGER ZONE	24					
			25					
		WEAK GARNETIFEROUS DEVELOPMENT ASSOCIATED WITH CARBONATE STRINGERS AT 28.95, 29.95, 31.1	26					
			27					
			28					
			29					
			30					
			31					
			32					
			33					
			34					
			35					
			36					
			37					
			38					
			39					
			40					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS				
					Au Oz/ton	Ag Oz/ton			
	0-3.04 CASING AND OVERBURDEN NO CORE RECOVERED		1 2 3						
		3.04-46.05 <u>LIMESTONE:</u> WHITE, MASSIVE LOCAL MINOR RECRYSTALLIZATION AROUND LATER CARBONATE STRINGERS. CONTAINS NEGATIVE FERTILITY IN FRACTURES TO 27	4 5 6						
		7.63-7.74 MEDIUM GRADE GARNET-EPIDOTE DEVELOPMENT AROUND TAN REDDISH K-FELDSPAR STRINGER. 7.72 1 CM LATE STAGE CARBONATE STRINGER. 90% R113	7 8 9 10 11 12 13						
		13.85 2CM EPIDOTE BAND 90° 14.22-14.30 SLIMWEDGED ENKORITIC FRACTURE WITH CARBONATE STRINGER	14 15 16 17						
		18.57-18.76 SLUMP BRACIA - PALE TAN OXIDATION TO MATELY. CONTACTS AT 30°	18 19 20						

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
			41					
			42					
			43					
			44					
		44.2 - CHLORITE MINDRE NESTITE FILLING FRACTURES.						
		44.87 - GOODLY CLORITE FRACTURE AT 30°	45					
		45.05 - MEDIUM GRAIN EPIDOTE SKARN WITH GENEROUS NESTITE BARS ALONG EDGE OF CORE.	46					
	46.05 - 46.0 BROKEN WITH GLUSKENSID FRACTURE	46.05 - 46.92 <u>GARNET EPIDOTE DIOPSIDE SKARN</u> MAJORITY BROWN GARNETS WITH 3% POORLY DEVELOPED SIDESIDE? OR POSSIBLY FELDSPAR WITH MINDRE EPIDOTE CHLORITE FRACTURES WITH GENEROUS NESTITE; AND CALCINATE FRACTURE FILLINGS. TRACES PYRITE - NO MAGNETITE OR CHALCOPYRITE.	47					
		46.92 - 51.43 <u>GRANODIORITE - FINE GRAINED</u> EVENLY GRANULAR; 30% MITTLES; 15% QUARTZ HIGHLY FRACTURED WITH PINK AND WHITE CARBONATES, EPIDOTE AND CHLORITE FRACTURE FILLINGS. VALVE FOLIATION AND PROMINENT FRACTURE DIRECTION INCLUDING CONTACTS AT 30° BOTTOM CONTACT 0.15M EPIDOTIZED INTRUSIVE BRECCIA SHARP FRACTURE CONTACT WITH LIMESTONE. FINE FINELY BLENDED HALO'S AROUND MORE INTENSELY EPIDOTIZED FRACTURES.	50					
		51.43 - <u>LIMESTONE</u> MASSIVE WHITE TO LIGHT GREY	51					
			52					
			53					
			54					
			55					
			56					
			57					
			58					
			59					
			60					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
			61					
			62					
	61.78 - 62.4 PECKEN	61.78 - 62.4 RECRYSTALLIZED	63					
			64					
		64.59 - 70.1 RECRYSTALLIZED	65					
			66					
			67					
			68					
			69					
		70.1 - 70.16 MASSIVE MAGNETITE CONTACTS AT 70°	70					
			71					
		70.16 - 74.25 - MODERATE DENSITY CALCITE OPACOUS HEMATITE FRACTURE FILLINGS	72					
			73					
			74					
			75					
		75.76 - 75.5 WEAK GARNET - EPIDOTE DEVELOPMENT ASSOCIATED WITH GREENISH STREAKS AT LOW ANGLE TO AXIS	76					
			77					
		77.49 - 77.89 LOW - MEDIUM GRADE GARNET - EPIDOTE SEAM DEVELOPMENT AROUND GREENISH SPHANTIC BARROVITE AROUND EXPOSED WEAKLY SILICIOUS VEINLET? AT 20° TO AXIS. CONTRIOUS L1% PYRITE WITHIN DARK GREEN CHLORITE.	78					
			79					
			80					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
		77.89-84 Low to medium grade garnet- epidote development associated with carbonate stringers and 90 fracture fillings. Garnet, epidote 1% of section.	81					
			82					
			83					
			84					
			85					
			86					
			87					
		97.2-98.1 low-medium density chlorite, oolitic hematite fracture fillings.	88					
		98.1 emm chloritic breccia	89					
			90					
			91					
			92					
			93					
			94					
		99.65-101.45 recrystallized.	95					
			96					
			97					
	97.7-98.5 BROKEN		98					
			99					
			100					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
			101					
			102					
		97.2 3 CM GRANITE - DIORITE - EPIDOTE CYCLED EARTH.	103					
		103.2-104.14 GRANITE, EPIDOTE DEVELOPED IN NEILSON'S FRACTURE	104					
		104.3-105.99 RECRYSTALLIZED	105					
		105.99-106.16 GRANITIFORMS - GRANITE UP TO 1 CM.	106					
	105.99-106.16 RECRYSTALLIZED	105.99-106.14 RECRYSTALLIZED	106					
			107					
			108					
		108.18-108.45 LOW GRADE GRANITE, DIORITE EPIDOTE DEVELOPMENT	109					
		108.45-109.95 RECRYSTALLIZED	110					
		109.95-109.95 MARGARITE TO HIGH DENSITY CHAROITIC FRACTURE FILLINGS. IN RECRYSTALLIZED LIMESTONE. MARGARITE AND GRANITE	111					
		112.2 THESE CHAROITIC AND CHAROITIC APPEAR 112.7 MASSIVE OF MATERIAL APPEARS TO BE A SAME BREED BT LOW GRADE TO THIS. CONTAINS SEVERAL FRAGMENTS OF POLE MADE SILICIOUS OR MIXED MATERIAL	112					
			113					
			114					
			115					
			116					
			117					
			118					
			119					
			120					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
			121					
			122					
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			338					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton	Au	Ag
140.51		AS IRREGULAR VEINLETS AND OPEN SPACE FILLING. 4.1% CHALCOPRITE	141	27185	0.01	0.3	0.035	0.35
35%		139.08 - 139.97 90% MAGNETITE WITH 7% EPIDOTE BLUES AND SPARK FINE 3% QUARTZ AS IRREGULAR STRINGSER NEAR START OF SECTION	142	27186	0.02	0.1	0.1018	0.25
143.56		139.97 - 140.44 HEAVY IRON CORE FRAGMENTS OF MASSIVE PYRITE - CHALCOPRITE WITH MINOR MAGNETITE	143	27187	0.03	0.2	0.059	0.20
78%		140.44 - 142.15 MEDIUM GRADE EPIDOTE SKARN CUT BY SEVERAL CHALCOPRITE STRINGERS	144	27188	0.01	<0.1	0.002	0.15
145.69		140.44 - 142.15 MEDIUM SOLID MAGNETITE WITH EPIDOTE & MINOR QUARTZ. TRACE CHALCOPRITE NEAR BOTTOM CONTACT	145	27189	<0.01	0.1		
95%		142.15 - 149.9 FINE GRAINE - MASSIVE EPIDOTE SKARN 3% MAGNETITE AS BLUES AND BANES TO 148.5 1% AS BLUES TO 148.5 AND 4.1% TO 148.5 FROM 148.5 ON MODERATE TO HIGHLY FRACTURED WITH DENAROUS NEMATITE FACES	146	27191	0.01	0.1		
148.49		149.9 - 150.91 LIMESTONE - MASSIVE MARBLE WITH ANHEDRITIC BANE SUPERSTINE - 30° TO AXIS	147	27192	0.01	<0.1		
83%		150.91 - 150.97 GARNET-EPIDOTE BAND AT 90°	148	27193	<0.01	<0.1		
150.88		150.97 - 151.03 SOFT BEKEN AMPHIBOLITE EPIDOTE CONTAINING FRAGMENTS OF BERNATIFEROUS MATERIAL	149	27194	0.01	<0.1		
92%		151.03 - 151.22 MASSIVE GARNETIFEROUS MATERIAL FOR 3/4 CORE WITH 1/4 BEING MEDIUM SILICIOUS MATERIAL RUNNING ALONG AXIS.	150	27195	0.01	0.1		
153.92		151.23 - 151.76 ANHEDRITIC SOFT AMPHIBOLITE EPIDOTE SIMILAR TO 150.97-151.03	151	27196	<0.01	0.1		
96%		151.76 - 152.41 <u>GRANODIORITE</u> 152.41 - 152.89 PINKISH MARBLED ENDOSKARN.	152	27197	<0.01	<0.1		
156.97		152.89 - 155.06 <u>BIOTITE ? TORPHYLLITE ANDESITE</u> <u>EYES 3-5% COARSE SUBHEDRAL</u> <u>DARK CLOTS IN A FINE GRAINED</u> <u>DARK GREEN CHALCOPRITE GROUNDMASS</u>	153	27198	<0.01	<0.1		
92%		155.06 - 155.16 <u>ENDOSKARN - GRANODIORITE</u>	154	27199	<0.01	<0.1		
158.8	159.0 - 159.2 FAULT	155.16 - 162.85 <u>LOW-MEDIUM GRADE GARNET-EPIDOTE</u>	155	27200	<0.01	<0.1		
93%			156	27201	<0.01	<0.1		
160.62			157					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
160.62		<u>SECTION:</u>		27202	<0.01	<0.1		
161.15-161.3	HIGHLY BREKEN	156.97-157.2 GRANODIORITE ASSIMILATION	161					
94%		157.74 OPEN VUGGY CALCITE VEIN		27203	<0.01	<0.1		
163.37		159.0-159.2 CARBONATEOUS GOUSSÉ	160					
85%		160.05-163.7 <u>ENIGNESEIN</u> PROTECTIVE MANTLE	163	27204	<0.01	<0.1		
165.2		OF ANOMALOUS EPIDOTE-GARNET AND	164					
103%		SAND WITH LOCAL AREAS OF GRANITIC	165	27205	<0.01	<0.1		
166.22		TEXTURE. NUMEROUS LATH SHAPE	166					
		CARBONATE FRACTURE FILLINGS.	167	27206	<0.01	<0.1		
		168.7-170.51 <u>GRANODIORITE</u>	168					
		FINE GRANITE; 30-35% MAFIC	169					
		5% QUARTZ. MEDIUM DENSITY	170					
		FEATURING WITH WHITE & REDDISH	171					
		CARBONATE FILLINGS. AVERAGE 5-10/	172					
		METER.	173					
		163.7-170.64. HIGHLY BLEACHED	174					
		WITH PARTIAL DESTRUCTION OF MAFICS	175					
		GIVING VAGUE ENIGNESEIN REMNANTS	176					
		WITHIN A GREY FELSIC GROUNDMASS.	177					
		177.2-177.75 SERPENTINE-CARBONATE	178					
		ZONE	179					
			180					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
		180.3 - 184.37 SERPENTINE CARBONATE ZONE						
		MAINTAIN FINE GRINED WHITE GREENISH	181					
		GRAINS (90%) WITH 10 DARK GREEN						
		SERPENTINITIC CEMENTATION	182					
		185.5 - 189.6 CHLORITIC CARBONACEOUS						
		SERPENTINE SHALE AT 30°	183					
		2 CM GREENISH PLANE UPPER						
		CONTACT	184					
		184.5 - 186.45 INTERMIXED GRANULITE						
		AND SERPENTINITIC SECTIONS.	185					
			186					
			187					
			188					
			189					
	190.07 - 190.22 BROKEN		190					
			191					
			192					
			193					
			194					
			195					
			196					
	195.8 - 197.7 HIGHLY BROKEN & FRAGMENTED REMANENTS FINE CARBONATE STRINGER ALONG RYS.		197					
			198					
			199					
			200					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
		199.2 - 201.19. PINK CARBONATE AND CHLORITE SHEAR BRECCIA ALONG CORE AXIS SERPENTINIZED AT CONTACTS	201					
			202					
			203					
			204					
			205					
			206					
		AFTER 207.8 BEDDING MASS WHITE TO PILE GREEN	207					
			208					
			209					
			210					
			211					
	211.9 - 215.6 BROKEN		212					
			213					
	214.08 - 216.38 MODERATE - HIGH EROSION		214					
			215					
			216					
			217					
			218					
			219					
			220					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
			221					
			222					
			223					
			224					
			225					
			226					
			227					
			228					
			229					
		229.51 E.O.H.						

87 A-4

sheet 13 of 12

SEREM LTD.

DIAMOND DRILL LOG

PROJECT: TOOSOGONE
 ZONE: ACAPULCO
 LOCATION (N.T.S.): 94 E 12
 CLAIM: STAR
 MINING DIVISION: OMINECA

HOLE NO. 87-A-5
 CORE SIZE: START B.Q.
 CHANGE _____
 DATE STARTED: August 18, 1987
 DATE COMPLETED: August 21, 1987
 LOGGED BY: M.V.
 DATE: Aug 22, 1987

SURVEY INFORMATION

GRID CO-ORDINATES (LAT., LONG.) _____
 GRID ZONE CO-ORDINATES 1439 S 5W
 ELEVATION AT COLLAR 5178.0 FT. 1578 M

TOTAL LENGTH 161.29

DIRECTION: DEPTH AZIMUTH INCLINATION

DEPTH	AZIMUTH	INCLINATION
COLLAR	281°	-60°

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
		0-5.3 <u>CASING</u> No core.	1					
			2					
			3					
			4					
			5					
		5.3 - 93.40 <u>Recrystallized Limestone</u> white to light gray limestone cross-cut by dark gray fractures. Coarse grained calcite in places. Patchy low grade garnetiferous (?) skarns towards lower contact. Limonitic fractures in places.	6					
			7					
			8					
		9.10 - 10.27 Well recrystallized with graphitic fracture fillings.	9					
			10					
		10.97 - 14.02 Intense recrystallization.	11					
			12					
			13					
			14					
		14.02 - 14.30 Broken core.	15					
			16					
		16.76 - 17.50 Breccia with chlorite + diopside in matrix.	17					
			18					
			19					
			20					

Hole 07-A-S

Scale 1:1000

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
		22.30 - 26.00 Brecciated in places with chloritic (?) + graphitic shears pyrite in matrix.	21					
			22					
			23					
			24					
			25					
			26					
			27					
			28					
			29					
			30					
			31					
		32.5 - 32.8 Cross-cut by limonite fracture filling 0°-5° to core axis.	32					
			33					
			34					
		35.36 - 36.36 Same as 22.30 - 26.00	35					
			36					
			37					
			38					
			39					
			40					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
		40.55, 42.30 Cross-cut by graphitic shears or fracture fillings at 45° to core axis.	41					
			42					
			43					
			44					
			45					
			46					
			47					
		48.30, 51.60 Same as 40.55, 42.30	48					
			49					
			50					
			51					
			52					
			53					
			54					
			55					
			56					
			57					
		58.0 - 58.10 Patches of low-grade chlorite + actinolite - minor pyrite skarn (upto 2% pyrite).	58					
			59					
			60					

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS		
					Au Oz/ton	Ag Oz/ton	
			61				
			62				
		63.30 - 65.84 Same as 40.55, 42.30 with limonite fractures at 63.40, 64.90 and 65.74.	63				
			64				
			65				
			66				
			67				
			68				
			69				
		71.93 - 72.0 Patches of 2mm to 5mm diopside - minor garnet skarn along fractures. minor garnet dispersed in wallrock.	70				
			71				
			72				
			78				
		74.40 - 74.45 Grossular garnet in breccia matrix.	74				
			75				
			76				
		77.61 - 81.08 Chlorite + actinolite + diopside (?) + minor pyrite in matrix.	77				
			78				
			79				
			80				

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS				
					Au Oz/ton	Ag Oz/ton			
		81.08 - 82.20 limonitic fractures.	81						
			82						
			83						
			84						
		84.50 - 86.26 Same as 77.61 - 81.08	85						
			86						
		87.40 - 87.65 Patches of diopside-grossular- minor epidote + minor pyrite skarn	87	27394	<0.01	0.1			
			88	27395	<0.01	0.1			
			89	27396	<0.01	0.1			
		89.35 - 90.70 Cross-cut in places by graphitic and limonitic shears.	90	27397	<0.01	0.1			
			91	27398	<0.01	0.1			
			92	27399	<0.01	0.1			
		93.40 - 99.50 <u>Skarn Zone</u>	93	27400	<0.01	0.1			
		93.40 - 93.55 Actinolite - diopside - pyrite Skarn both fracture and bedding controlled. Cross-cut by hematitic fractures. upto 40% actinolite, 2% pyrite.	94	27401	<0.01	0.1			
			95	27402	<0.01	0.1			
		93.55 - 94.10: same as above but more limestone and lesser skarn mineralogy.	96	27403	<0.01	0.1	0.004	0.07	
		94.40 - 95.60. Same as above but with more pyrite (eg. 95.50).	97	27404	0.01	0.2	0.023	0.22	
			98	27405	0.05	0.4	0.070	0.53	
		95.60 - 97.0 Siliceous epidote - minor actinolite minor pyrite skarn cross-cut by calcite stringers and hematitic fracture fillings.	99						
			100	27406	<0.01	0.1	0.006	0.10	
	99.0 - 99.10 minor shears								
	99.50 limonite fracture.								

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER
		97.20- 97.60 <u>Banded epidote - diopside-</u> <u>magnetite skarn</u> with magnetite at lower end. cross-cut by calcite stringers. some pyrite. upto 5% magnetite.	101	27407
			102	27408
		97.60- 97.75 Same as 93.40-93.55.	103	27409
			103.5	27410
		97.75- 98.00 <u>Diopside- epidote- minor</u> <u>magnetite - minor pyrite skarn</u> patches of calcite and cross-cut by calcite fracture fillings. contact 60° to ca.	104	27411
			105	27412
		98.10- 98.40 <u>Magnetite - Calcite - rich</u> <u>portion.</u> upto 60% magnetite. cross-cutting calcite stringers. disseminated chalcopryite upto 2%. minor pyrite.	106	27413
			107	27414
			107.3	27415
		98.40- 98.60 <u>Diopside- epidote- minor calcite</u> <u>skarn.</u> cross-cutting calcite stringers.	108	27416
108.50 - 108.60	Broken Core.		109	27417
		98.60- 99.30 Same as 98.10-98.40 lesser magnetite. cross-cut by calcite stringers.	110	27418
		99.50 Limonite fracture filling.	111	27419
		99.50 - 118.14 <u>Recrystallized limestone</u> with patches of diopside- minor garnet skarn and low grade chlorite-rich zones and fractured throughout. <u>Siliceous portions</u> in places.	112	27420
			113	27421
			114	27422
		102.3- 103.45 chlorite - magnetite - calcite skarn with 2% magnetite. (wollastonite?)	115	27423
		106.37- 106.50 chlorite - minor epidote (wollastonite?) skarn cross-cut by hematitic ffs.	116	27424
		106.88 - 107.16 epidote. diopside. minor garnet skarn. Contact 60° to ca. minor banding parallel to bedding?	117	27425
		107.6- 107.8 chlorite fracture fillings and minor patches of garnet. (grossular). minor pyrite	118	27426
117.20 - 117.25	Hematitic fractures parallel to core axis	112.2 .5cm wide calcite breccia cross-cutting at 60° to ca.	119	27427
119.70- 119.74	stikensided shears.	114.45- 114.6 pyrite + pyrrhotite fracture fillings at 20° to ca. (3mm wide).	120	27428

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton	Au	Ag
		116.4 - 116.60 Siliceous diopside - minor epidote - minor garnet skarn. upto 15% pyrite	120	27429	40.01	0.2		
			121	27430	40.01	0.2		
	122.38 - 1cm wide shear with gouge	116.95 - 117.25 Breccia with limestone fragments and hematite matrix. cross-cut by hematitic fractures parallel to core axis	122	27431	40.01	0.1		
		117.87 - 117.90 Breccia with limestone fragments in skarned matrix. 80° to core axis.	123	27432	40.01	0.1		
	124.20 - 124.25 Broken core with chloritic gouge	118.14 - 118.5 Banded Magnetite - Hematite - pyrite - Chlorite. Skarn. Banding 60° to core axis. upto 10% magnetite, 5% pyrite, and 5% hematite.	124	27433	40.01	0.1		
	124.90 - 124.95 Broken core with gouge		125	27434	40.01	0.1		
	126.30 - 126.34 chloritic - hematitic shears.	118.5 - 120.09 Banded Hematite - Epidote - minor Chlorite - minor pyrite - Siliceous Skarn. upto 60% hematite patches of calcite and cross-cut by calcite fracture fillings. Brecciated in places with hematitic matrix.	126	27435	40.01	0.1		
	127.20 - 127.40 Broken core with chloritic gouge		127	27436	40.01	0.1		
	128.85 - 129.10 Broken core with clay fractures	120.09 - 125.9 Epidote - minor hematite Skarn. Cross-cut by hematitic fracture fillings and minor calcite veinlets.	128	27437	40.01	0.1		
	132.0 - 132.50 Highly broken core with limonite chlorite & clay fractures parallel to core axis.	124.20 - 124.25 Chloritic gouge.	129	27438	40.01	40.1		
	132.81 - 135 clay fractures - calcite fractured 1-2cm apart.	124.80 - 124.96 Chloritic & clayey gouge.	130	27439	40.01	0.8	0.002	0.66
		125.90 - 125.95 Diopside-rich portion cross-cut by calcite and quartz veinlets at 70° to core axis.	131	27440	40.01	0.8	0.001	0.52
		125.95 - 128.80 Siliceous Epidote - minor chlorite Skarn. Cross-cut by calcite fracture fillings and hematitic fractures.	132	27441	0.02	0.4	0.379	7.175
		127.21 - 127.91 Siliceous brecciated Chlorite - epidote skarn. cross-cut by minor calcite fractures. minor pyrite.	133	27442	0.01	0.1	0.001	0.04
		128.80 - 129.79 Chlorite - Epidote Endoskarn. Relict intrusive texture. cross-cut by dark green chlorite fractures. quartz-rich and coarser-grained portions. minor calcite veinlets.	134	27443	40.01	40.1		
			135	27444	40.01	40.1		
			136	27445	40.01	40.1		
			137	27446	40.01	40.1		
			138	27447	0.01	40.1		
			139	27448	40.01	40.1		
			140	27448	40.01	40.1		

DEPTH Metres	GRAPHIC LOG	GEOLOGIC DESCRIPTION	DEPTH Metres	SAMPLE NUMBER	ASSAYS			
					Au Oz/ton	Ag Oz/ton		
		132.10 - 132.50 Broken Core: Chloritic shears, minor calcite fractures.	141	27449	<0.01	<0.1		
				27450	<0.01	<0.1		
		129.79 - 161.24 <u>Granodiorite</u> medium grained intrusive texture with upto 50% mafic minerals crosscut by calcite and rhodochrosite (?) fracture fillings every 1 to 2 cm. Hematite - magnetite fractures with bleached wall- rock envelopes. Pyrite in matrix.	142					
			143					
			144					
			145					
		129.79 - 140.20 Bleached intrusion with complete destruction of mafics to sericite ± clay. Crosscut by clay fractures	146					
			147					
		141.8 magnetite + hematite + calcite + quartz veinlet 0.4 cm wide 25° to ex.	148					
		146.2 minor shear zone.						
		147.1 0.5 cm wide quartz veinlet cutting across calcite + rhodochrosite veinlet	149					
			150					
			151					
			152					
			153					
			154					
			155					
			156					
			157					
			158					
			159					
		161.24 End of Hole.	160					

44.7
3 cm wide
fault.

David S. Robertson & Associates

REPORT ON THE
TOODOGGONE PROJECT
OF
SEREM LTD.

DAVID S. ROBERTSON & ASSOCIATES
Consulting Geologists & Mining Engineers
Toronto, Canada
M5H 1J8

September 30, 1983

down slope from a saddle between two peaks. A moderate gold soil anomaly is also present further down the slope. Samples of talus and outcrops, however, have not returned any significant values.

Although the geological setting does not appear to conform to the Lawyers - Chappelle area, additional work should be done to locate the source of the Au-(Cu) soil anomaly.

ACAPULCO, ACA, PUL, CO, STAR, SUN CLAIMS (65 Units)

The claims were staked in the summer of 1980 and in early 1981 to cover anomalous Au-Ag geochemistry.

The southern part of the group of claims is underlain by lower Jurassic quartz monzonite. The northwestern part contains a lobe of Takla volcanics and limestone while the northeastern part contains Toodoggone volcanic rocks. The limestone, which may belong to either the Permian Asitka or the Triassic Takla Group, has skarn zones developed adjacent to the intrusive body.

In 1980, stream silt and soil sampling, minor mapping and prospecting were carried out. Samples were analyzed for Au, Ag, Cu, Pb, Zn and Mo. Encouragement was obtained in two areas.

On the Pul claim, chalcopryrite-bornite mineralization was found associated with skarn, and the Sun and Star claims were staked to cover possible extensions. Although most grab samples gave low values, some of the mineralized skarn and sulphide vein material contained high copper, gold and silver values, for example:

<u>Sample Type</u>	<u>Cu (%)</u>	<u>Au (g/t)</u>	<u>Ag (g/t)</u>	<u>Rock Type</u>
Float	2.58	0.30	279.4	Magnetite-chalcopyrite vein
Outcrop	22.9	99.41	370.2	Skarn with chalcopyrite
Outcrop	2.90	15.94	72.7	Skarn with bornite
Outcrop	14.05	27.4	1114.1	Skarn with chalcopyrite and malachite
Outcrop	4.70	1.23	1830.6	Magnetite with chalcopyrite and galena

On the Acapulco, Aca and Pul claims, some Au-Ag mineralization was associated with quartz veins near the contact of a Jurassic intrusive with volcanic rocks. Grab samples assayed as follows:

<u>Sample Type</u>	<u>Cu (%)</u>	<u>Au (g/t)</u>	<u>Ag (g/t)</u>	<u>Rock Type</u>
Outcrop	5.41	1.06	205.3	Chalcopyrite-bornite-sphalerite vein
Outcrop	3.06	2.57	346.2	Quartz vein in volcanic rock
Frost-heave	0.004	18.34	459.4	Quartz vein in intrusive with pyrite

Other samples gave lower values, and SEREM considered the quartz veins to be too widespread and the geochemical response too weak to be of further interest.

In 1981, mapping, prospecting and grid soil sampling were carried out on the skarn area. Small pods, stringers and disseminations of chalcopyrite, bornite, and other sulphides occur throughout the 2.5 x 1.5 kilometer skarn area, which is

located on a ridge. Copper-bearing grab samples carried variable amounts of Au and Ag. One grab sample from a partially exposed, 200-meter long bornite-chalcopyrite zone assayed 0.55 g/t Au, 2,811.4 g/t Ag and 36.55 per cent Cu.

More prospecting and mapping are planned for 1982 to evaluate the potential of the skarn-associated Au-Ag mineralization on the Pul - Star - Sun claims.

DUKE CLAIMS (28 Units)

The Duke 1 and 2 claims were staked in the summer of 1980 to cover a gold stream silt anomaly.

The claims are underlain by Hazelton Group volcanics intruded by a small body of Middle Jurassic granodiorite.

Extensive quartz breccia zones were found and sampled. SEREM reports that the veins are too sparse and the analytical results too low, however, to be of economic interest. A reconnaissance soil sample on the Duke claims, with a value of 1,750 ppb Au, will be followed up by prospecting in 1982.

OJ 2, ARG, ATLAS, HERCULES CLAIMS (57 Units)

The OJ and Arg claims were staked in the summer of 1980 to cover stream silt anomalies. The adjacent Atlas and Hercules claims were staked early in 1981 to cover other silt anomalies.

The property is underlain by Toodoggone and Hazelton volcanic rocks intruded by small Jurassic plutons. Some

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

①

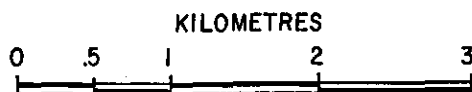
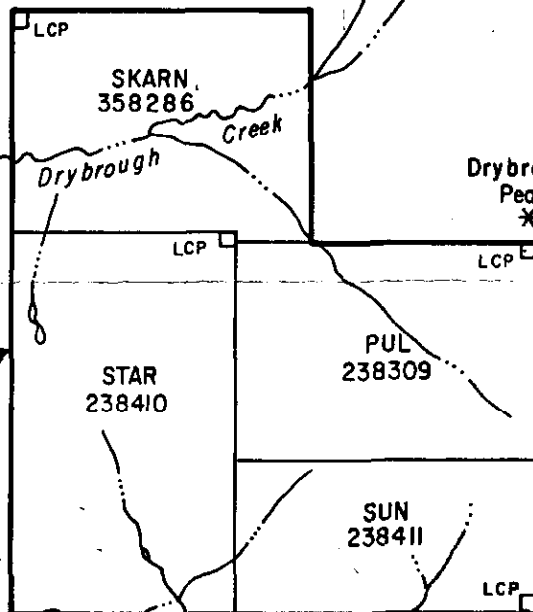
57°15'00"N

127°04'W

25,220

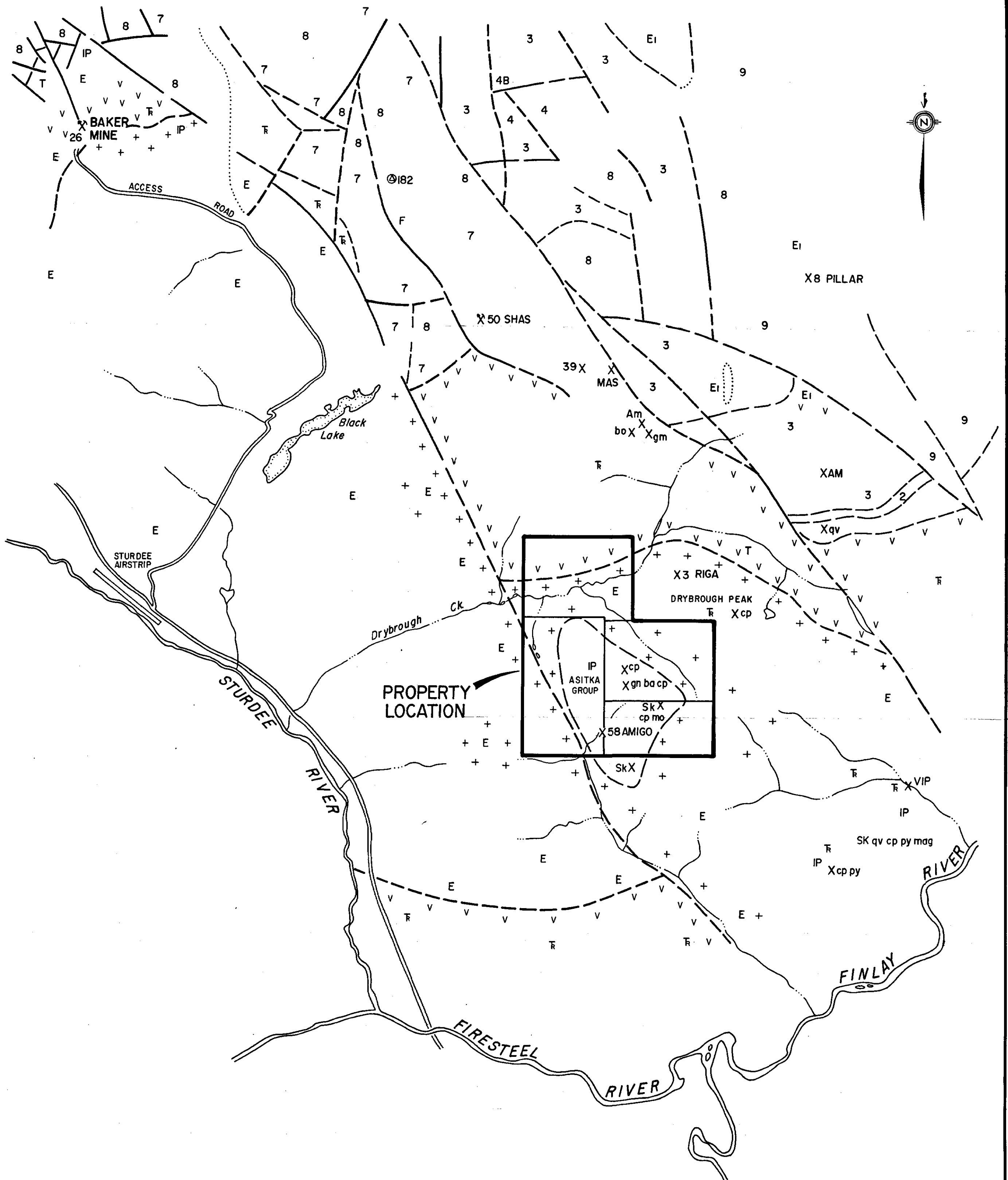


PROPERTY LOCATION →



MAP 1

TANUTA VENTURES CORP.		
CLAIM MAP		
STAR, PUL, SUN, SKARN CLAIMS		
OMINECA MINING DIVISION, B.C.		
JOHN R. POLONI & ASSOCIATES LTD.		
Drawn: J. R. P.	Checked: J. R. P.	Plan No.
Scale: 1:50,000	Date: Oct. 15, 1997	2

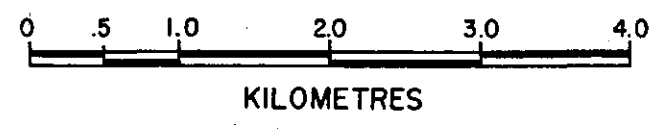


GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

25,220



REF. DATA.
GEOLOGY OF THE TOODOGGONE
RIVER AREA, N.T.S. 94E.
L.J. DAIKOW, A. PANTELEYEV, AND
T.G. SCHROETER, 1985.

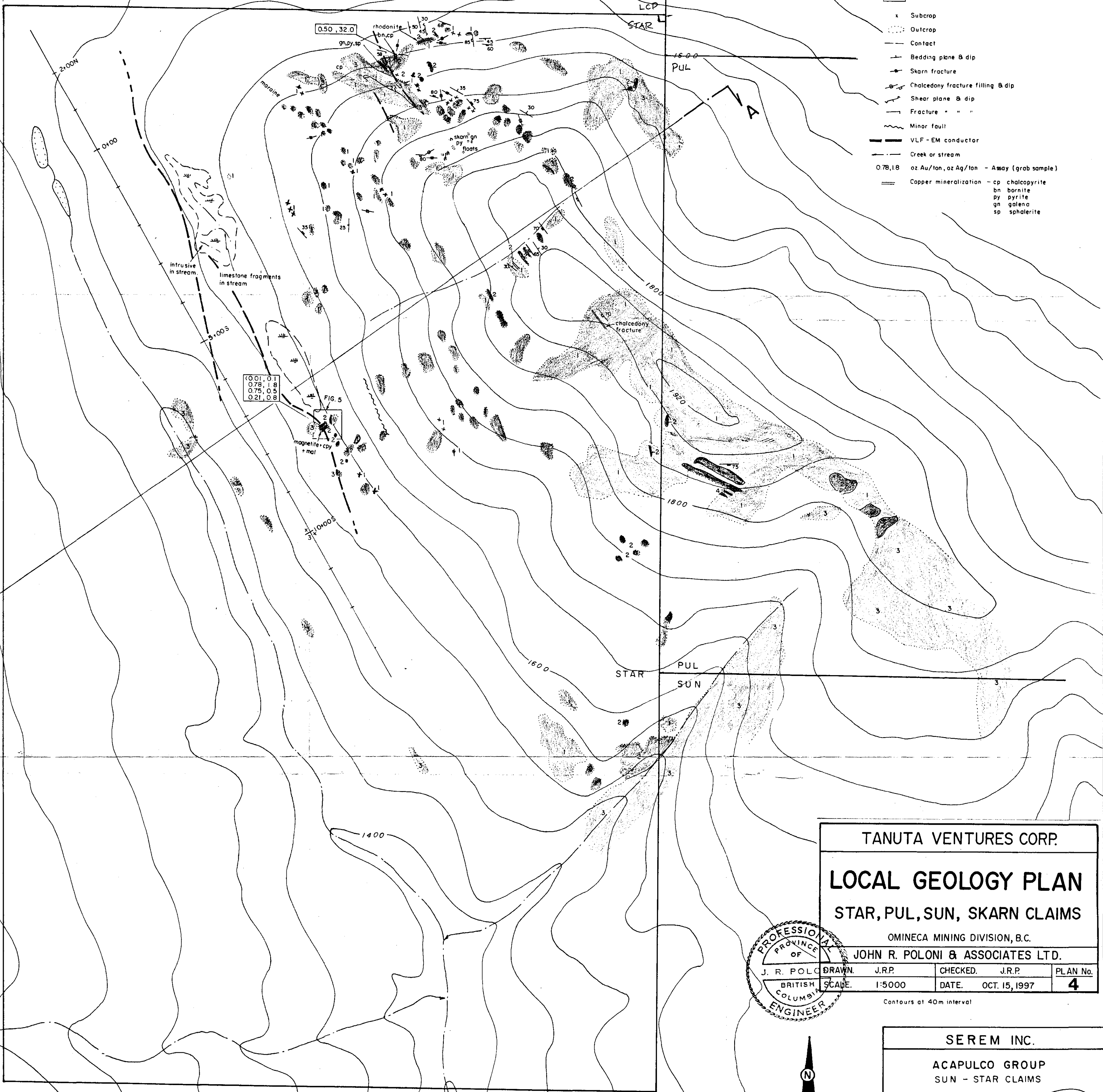


TANUTA VENTURES CORP.			
MAPZ			
REGIONAL GEOLOGY			
STAR, PUL, SUN, SKARN CLAIMS			
OMINECA MINING DIVISION, B.C.			
JOHN R. POLONI & ASSOCIATES LTD.			
DRAWN.	J.R.P.	CHECKED.	J.R.P.
SCALE.	1:50,000	DATE.	OCT. 15, 1997
			PLAN No. 3

25,220

LEGEND

- 4 Mafic or lamprophyre dikes, sills
- 3 Intrusion (feldspar porphyry, quartz monzonite - quartz diorite)
- 2 Skarn (diopside - epidote - grossular garnet ± magnetite skarn)
- 1 Recrystallized limestone & marble
- x Subcrop
- Outcrop
- Contact
- Bedding plane & dip
- Skarn fracture
- Chalcedony fracture filling & dip
- Shear plane & dip
- Fracture
- Minor fault
- VLF - EM conductor
- Creek or stream
- 0.78, 1.8 oz Au/ton, oz Ag/ton - Assay (grab sample)
- Copper mineralization - cp chalcopyrite
bn bornite
py pyrite
gn galena
sp sphalerite



TANUTA VENTURES CORP.

LOCAL GEOLOGY PLAN

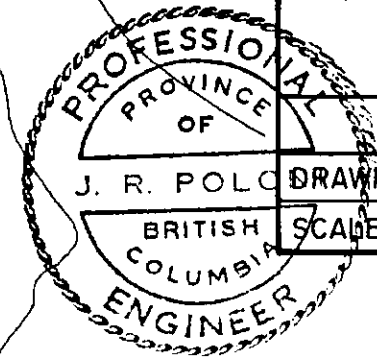
STAR, PUL, SUN, SKARN CLAIMS

OMINECA MINING DIVISION, B.C.

JOHN R. POLONI & ASSOCIATES LTD.

J. R. POLONI DRAWN	J.R.P.	CHECKED	J.R.P.	PLAN No.
BRITISH COLUMBIA ENGINEER	SCALE. 1:5000	DATE. OCT. 15, 1997		4

Contours at 40m interval



North arrow pointing up.

Scale bar: 0, 100, 200, 400 METRES

Handwritten signatures: *Moham Vulumiri*, *St. Paul*

SEREM INC.

ACAPULCO GROUP

SUN - STAR CLAIMS

GEOLOGY MAP 3

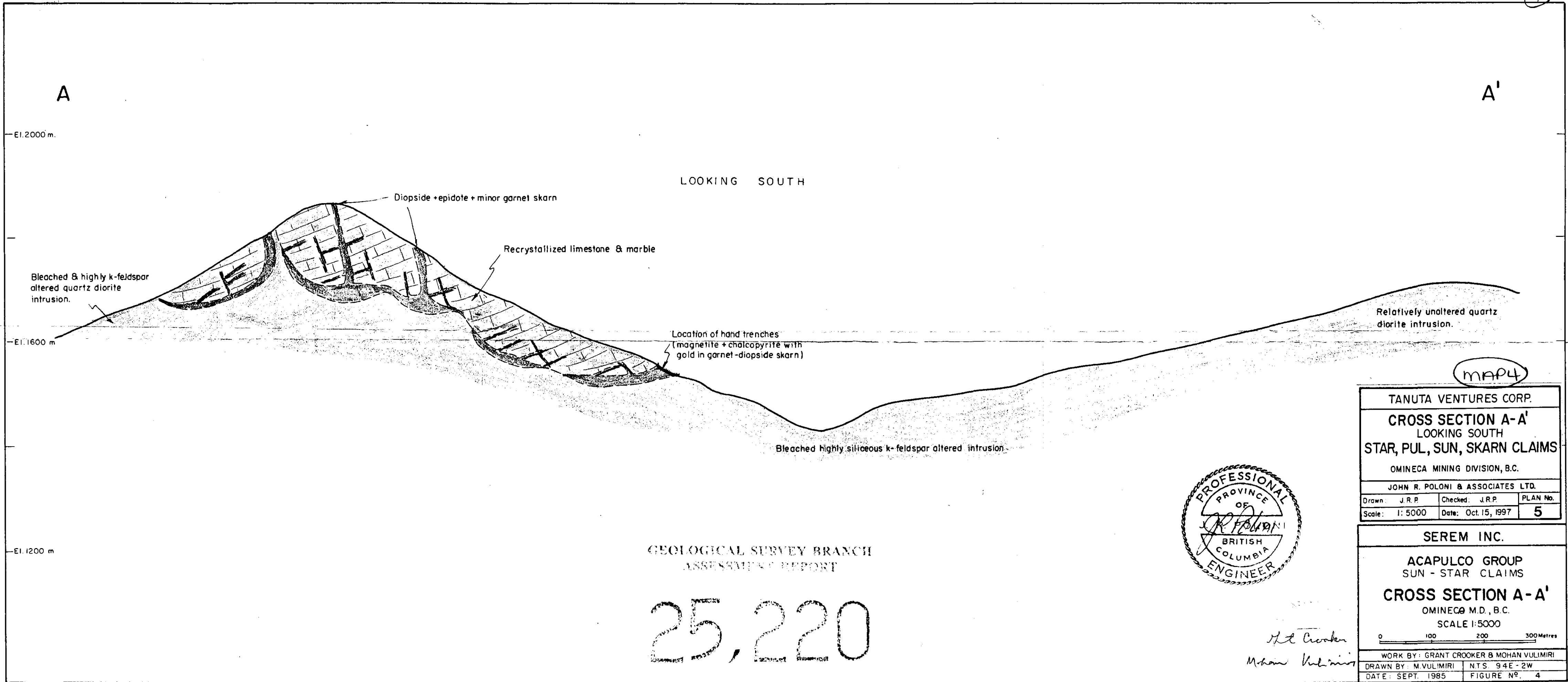
OMINECA M.D., B.C.

SCALE 1:5000

WORK BY: GRANT CROOKER & MOHAM VULUMIRI
DRAWN BY: M. VULUMIRI
DATE: SEPT. 1985

N.T.S. 94E-2W

FIGURE No. 3



GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

25,220

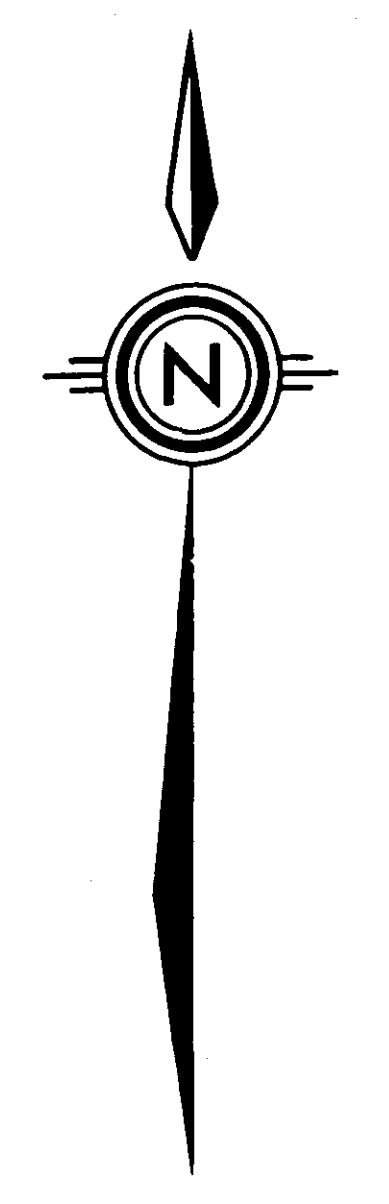
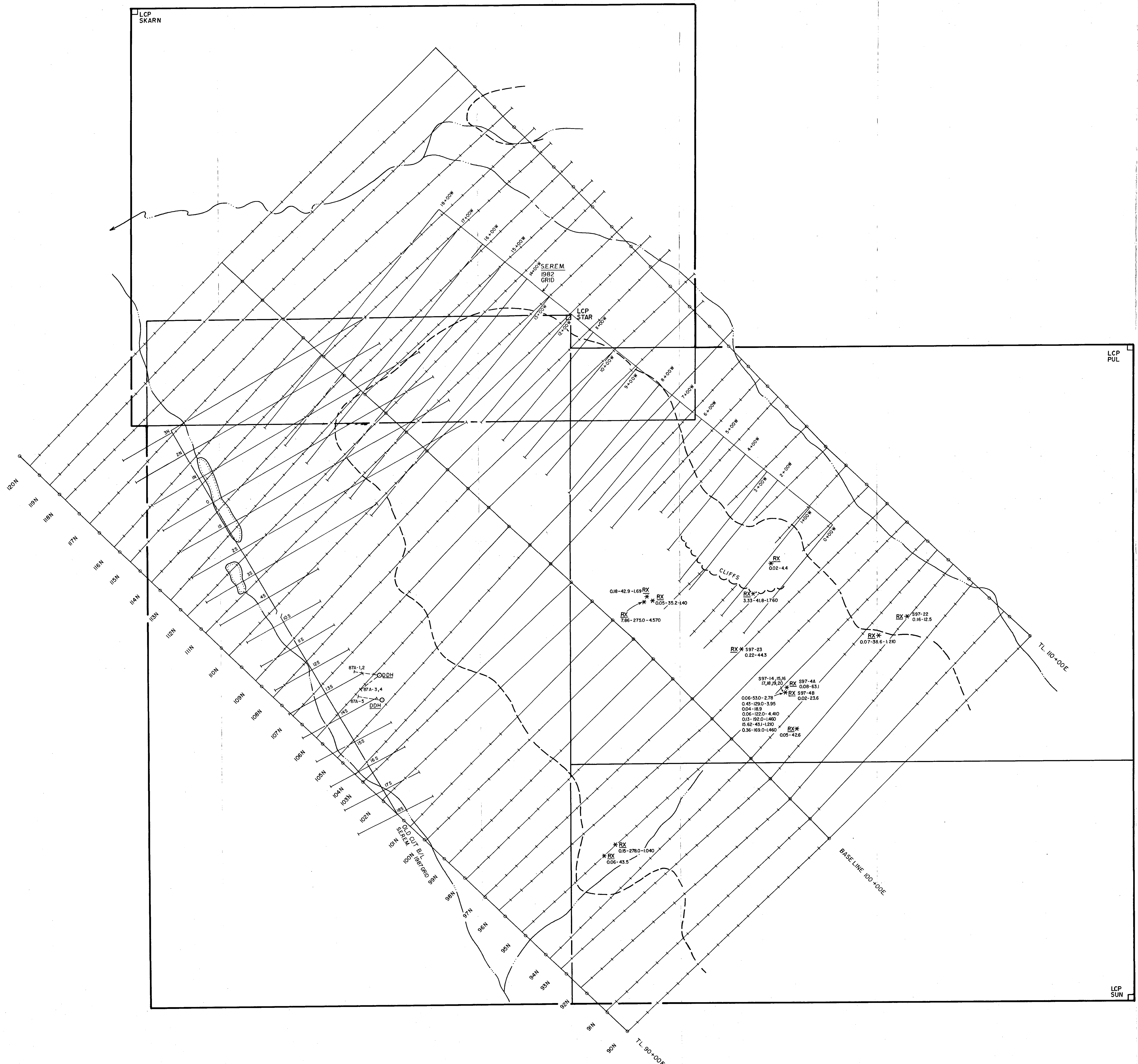


MAP 4

TANUTA VENTURES CORP.		
CROSS SECTION A-A'		
LOOKING SOUTH		
STAR, PUL, SUN, SKARN CLAIMS		
OMINECA MINING DIVISION, B.C.		
JOHN R. POLONI & ASSOCIATES LTD.		
Drawn: J.R.P.	Checked: J.R.P.	PLAN No.
Scale: 1:5000	Date: Oct. 15, 1997	5

SEREM INC.		
ACAPULCO GROUP		
SUN - STAR CLAIMS		
CROSS SECTION A-A'		
OMINECA M.D., B.C.		
SCALE 1:5000		
0 100 200 300 Metres		
WORK BY: GRANT CROOKER & MOHAN VULIMIRI		
DRAWN BY: M.VULIMIRI	NTS. 94E-2W	
DATE: SEPT. 1985	FIGURE NO. 4	

Grant Crooker
Mohan Vulimiri



GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

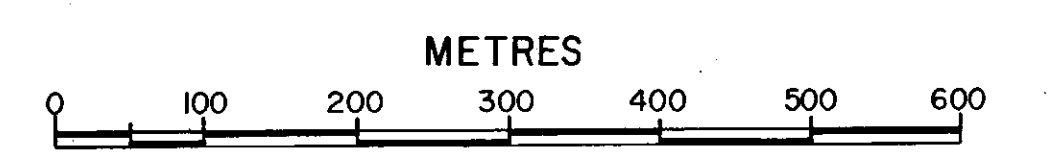
25,220



LEGEND

- O D.D. HOLE
- LINE STATION
- CREEK
- CLAIM POST
- - - TREE LINE

S97-22 * RX LOCATION/NUMBER	Al ₂ O ₃ /T	Ag ₂ O/T	Cu%
	0.36	169.0	1460



TANUTA VENTURES CORP.

**GENERAL GRID COMPILATION
ROCK SAMPLES 1997**

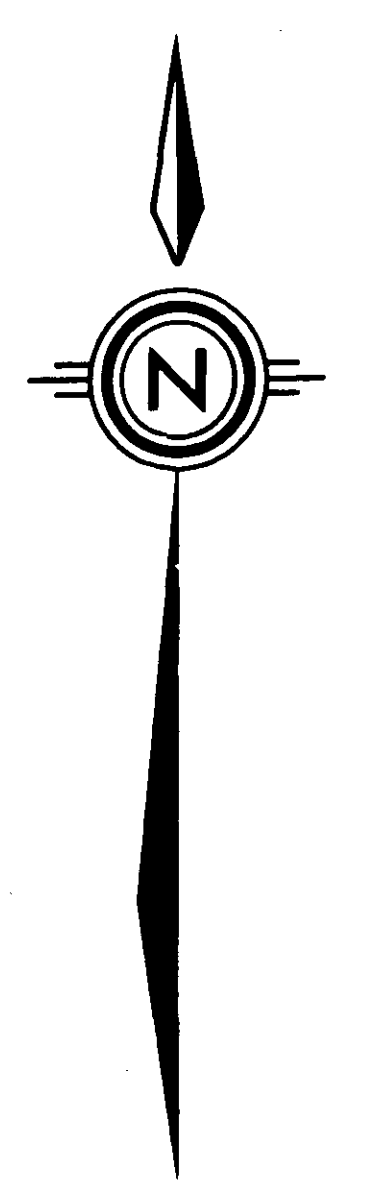
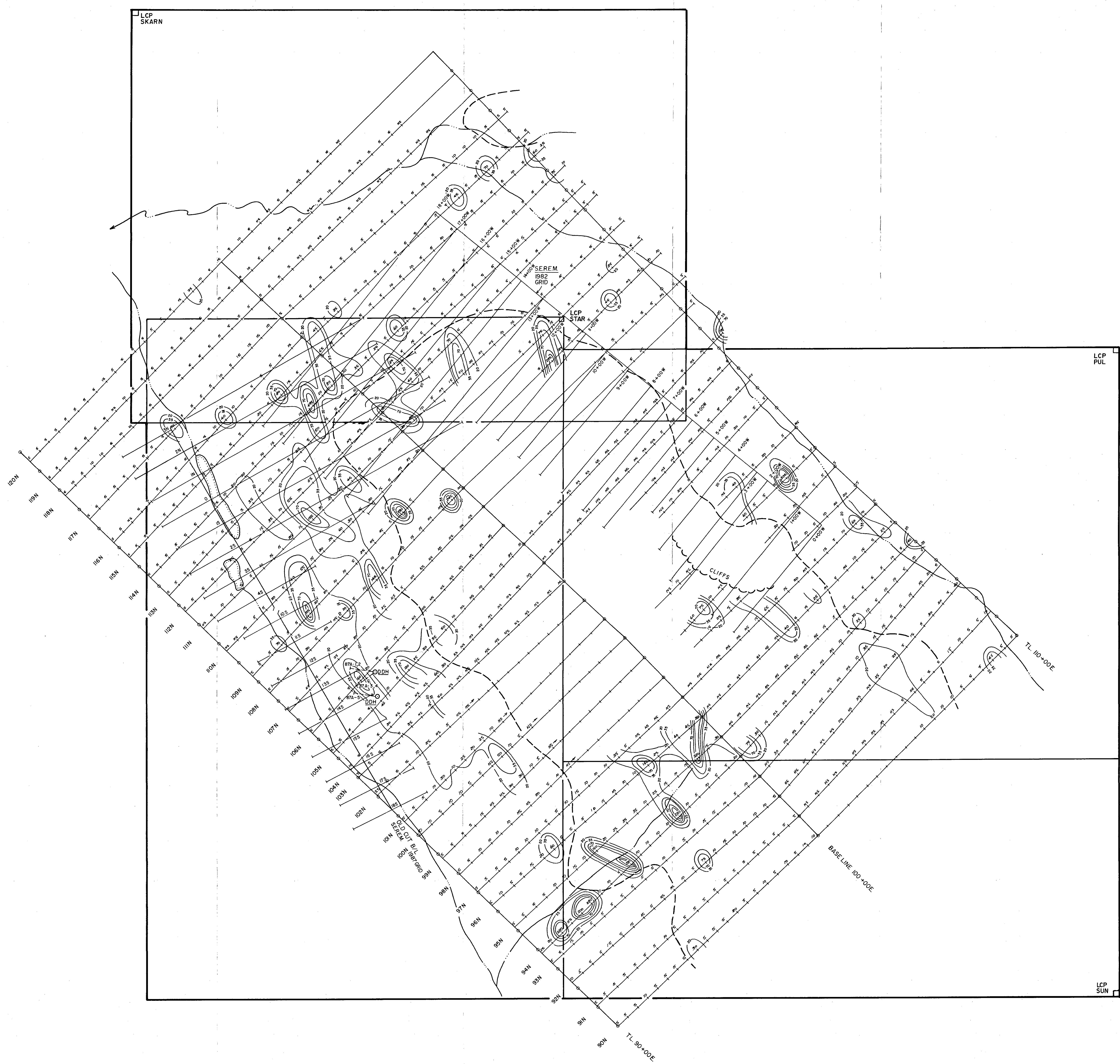
MAPS

STAR, PUL, SUN, SKARN CLAIMS

OMINECA MINING DIVISION, B.C.

JOHN R. POLONI & ASSOCIATES LTD.

DRAWN. J.R.P.	CHECKED J.R.P.	PLAN No.
SCALE. 1:5000	DATE. OCT. 15, 1997	6

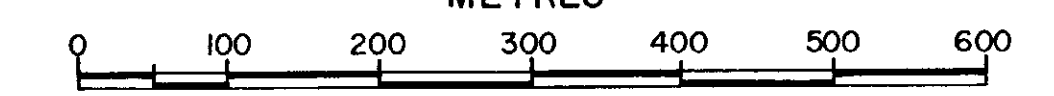
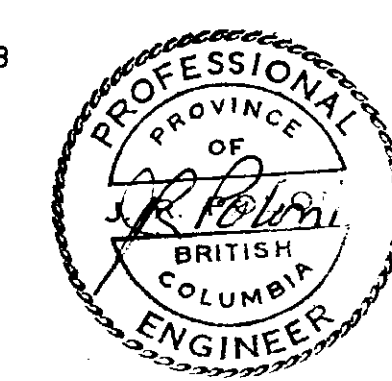


GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

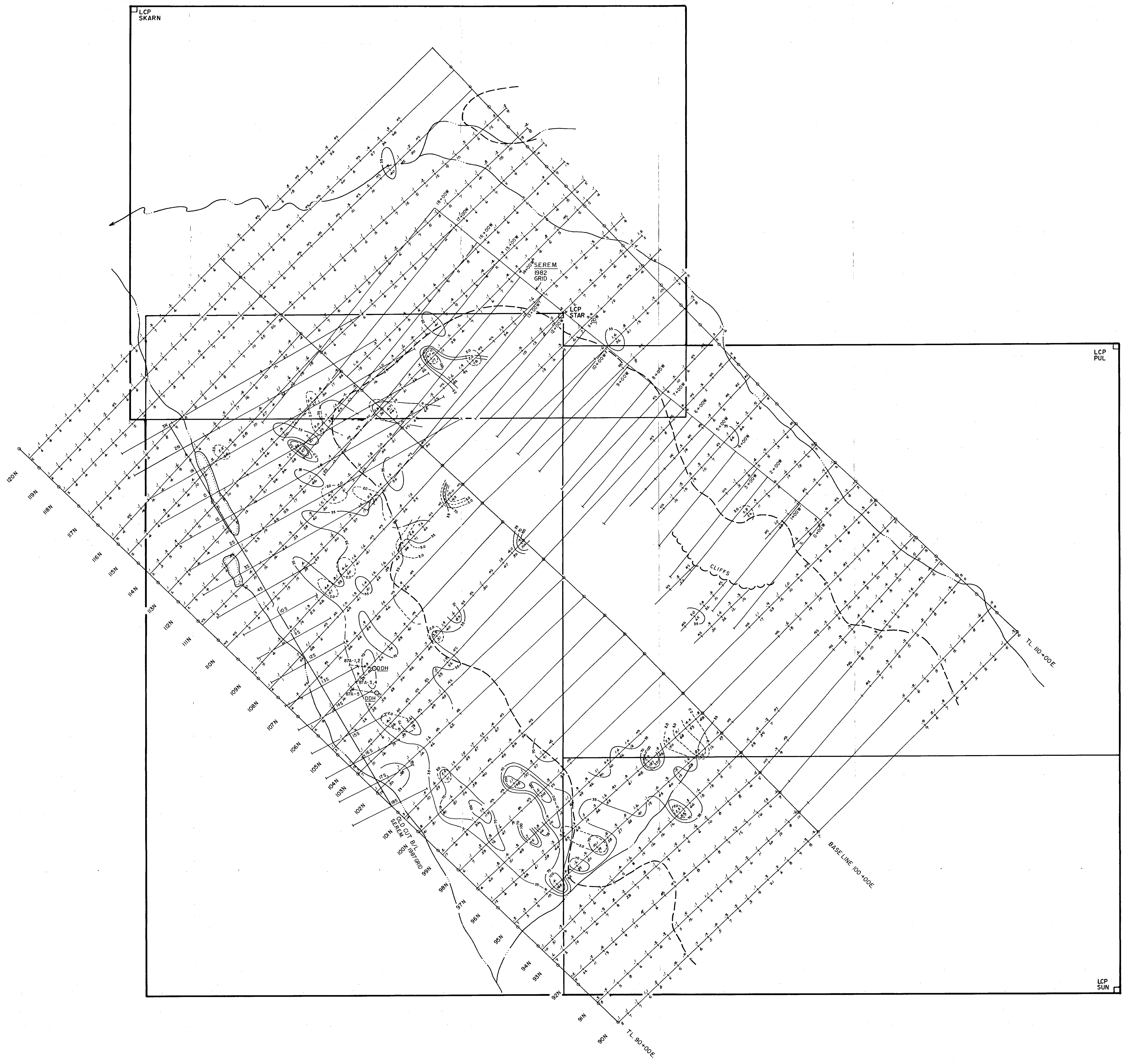
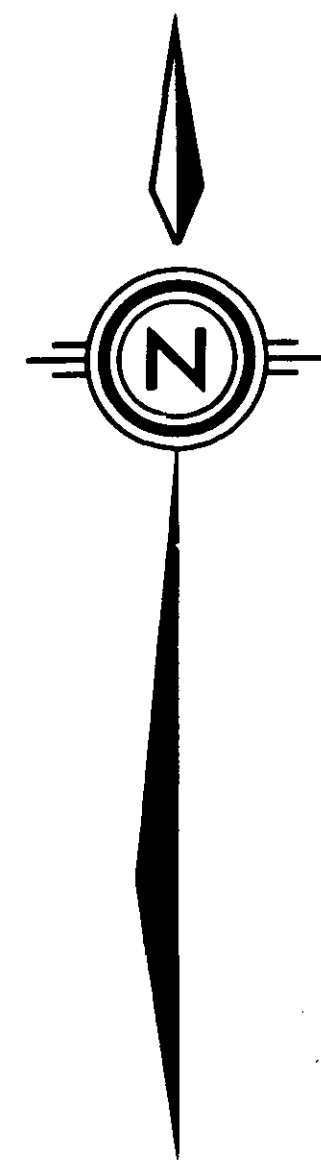
25,220

LEGEND

- D.D. HOLE
- LINE STATION SHOWING Au PPB
- ~ CREEK
- CLAIM POST
- - - TREE LINE
- SOIL GEOCHEMICAL DATA
MEAN 17 PPB
BACKGROUND 35 PPB



TANUTA VENTURES CORP.			
SOIL GEOCHEMICAL PLAN			
Au PPB MAP6			
STAR, PUL, SUN, SKARN CLAIMS			
OMINECA MINING DIVISION, B.C.			
JOHN R. POLONI & ASSOCIATES LTD.			
DRAWN.	J.R.P.	CHECKED	J.R.P.
SCALE	1:5000	DATE	OCT 15, 1997
			PLAN No. 7

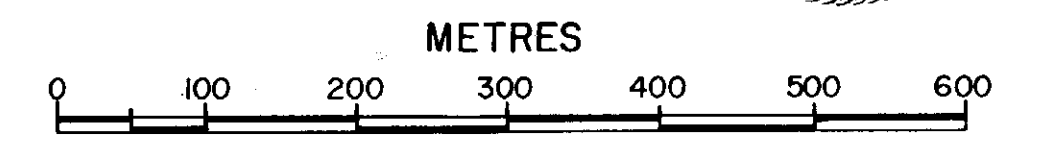


GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

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LEGEND

- D.D. HOLE
- LINE STATION
- CREEK
- CLAIM POST
- - - TREE LINE
- SOIL GEOCHEMICAL DATA
- ANOMALOUS As PPM
- ANOMALOUS Ag PPM



TANUTA VENTURES CORP.

SOIL GEOCHEMICAL PLAN

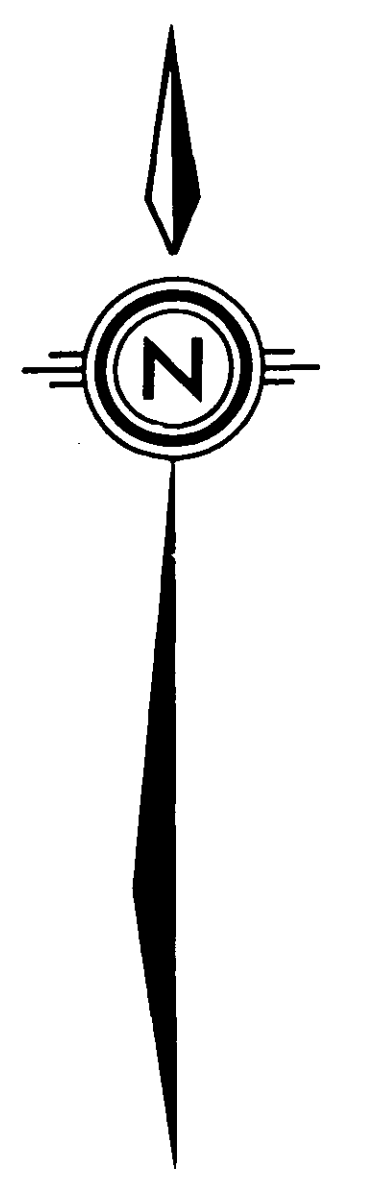
Ag PPM, As PPM

STAR, PUL, SUN, SKARN CLAIMS

OMINECA MINING DIVISION, B.C.

JOHN R. POLONI & ASSOCIATES LTD.

DRAWN: J.R.P.	CHECKED: J.R.P.	PLAN No:
SCALE: 1:5000	DATE: OCT 15, 1997	8

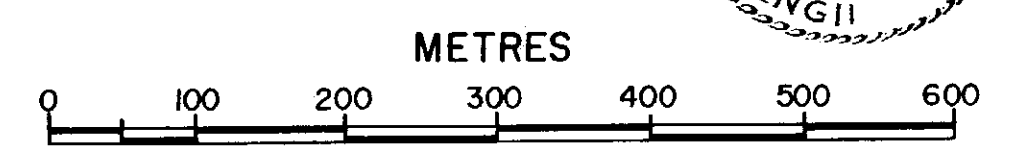


GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

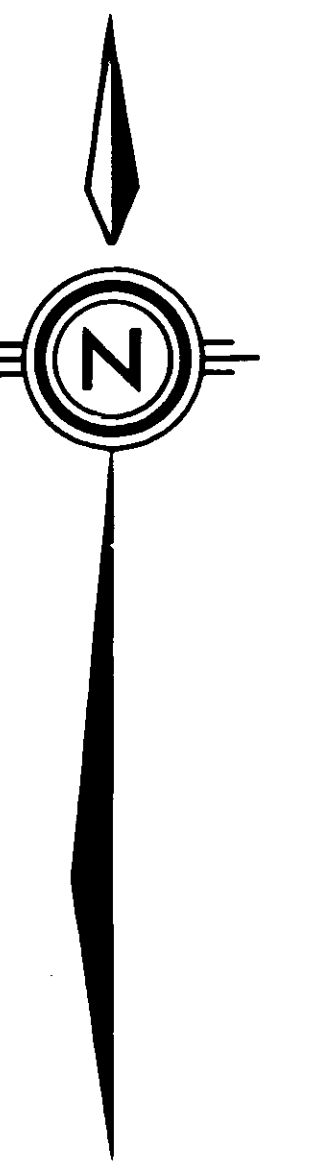
25,220

LEGEND

- D.D. HOLE
- LINE STATION
- CREEK
- CLAIM POST
- TREE LINE
- SOIL GEOCHEMICAL DATA
- ANOMALOUS Cu PPM
- ANOMALOUS Mo PPM



TANUTA VENTURES CORP.			
SOIL GEOCHEMICAL PLAN			
Cu PPM, Mo PPM			
STAR, PUL, SUN, SKARN CLAIMS			
OMINECA MINING DIVISION, B.C.			
JOHN R. POLONI & ASSOCIATES LTD.			
DRAWN:	J.R.P.	CHECKED:	J.R.P.
SCALE:	1:5000	DATE:	OCT. 15, 1997
			PLAN No. 9

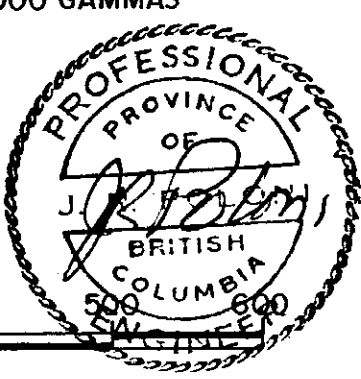
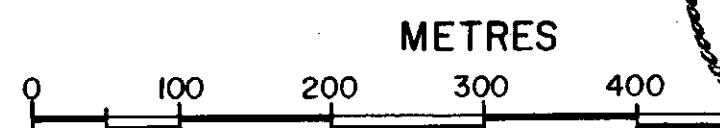


GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

25,220

LEGEND

- D.D. HOLE
- LINE STATION WITH RESULT IN GAMMAS
- CREEK
- CLAIM POST
- - - TREE LINE
- READINGS ARE PLOTTED -57,000 GAMMAS



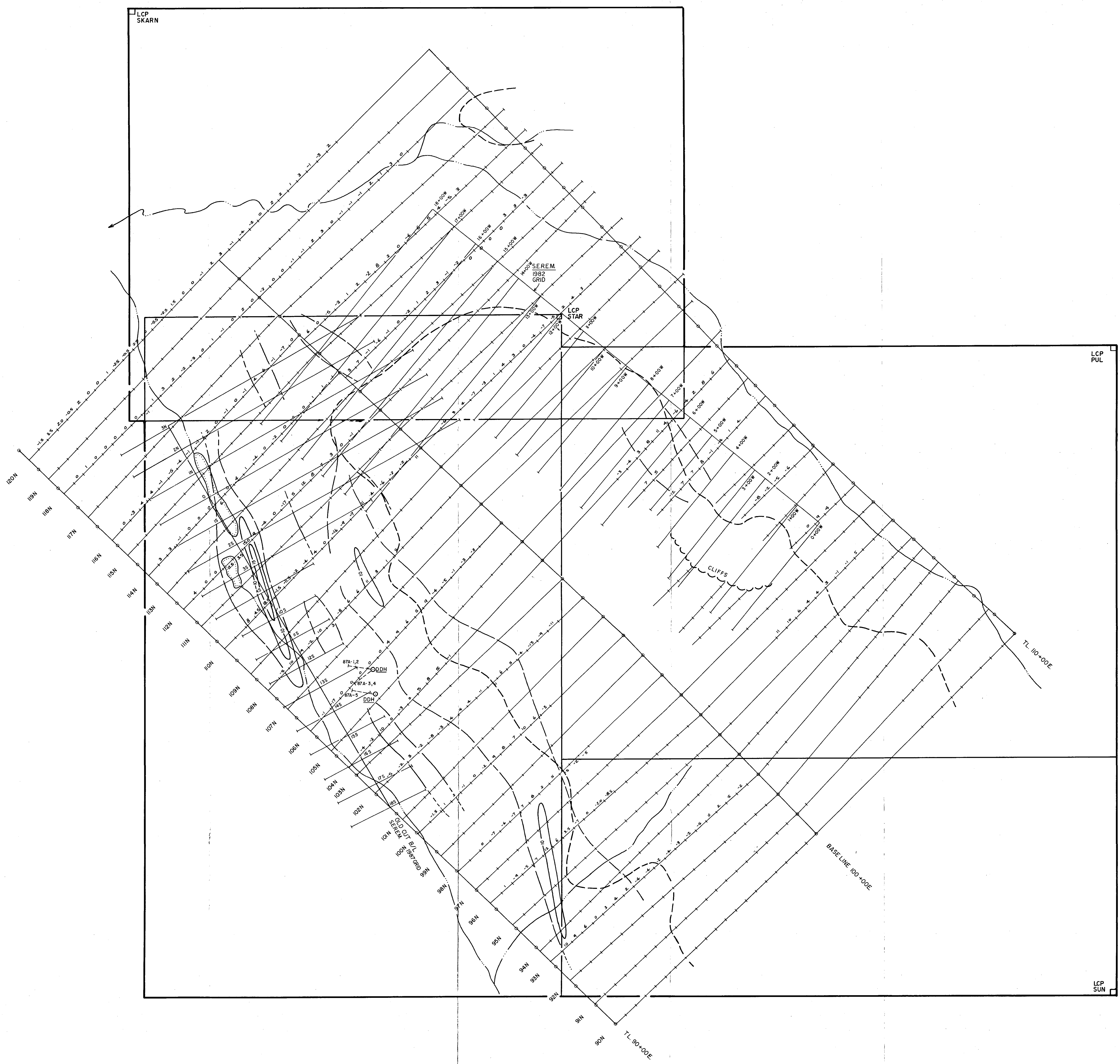
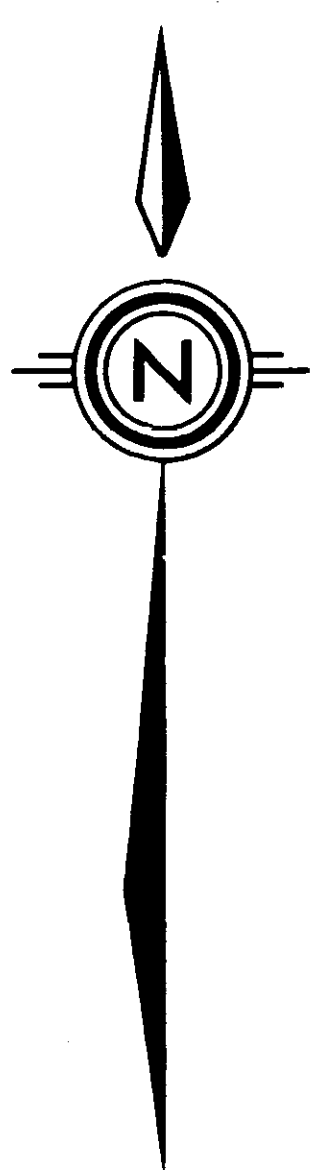
TANUTA VENTURES CORP.

MAGNETOMETER SURVEY

STAR, PUL, SUN, SKARN CLAIMS
OMINECA MINING DIVISION, B.C.

JOHN R. POLONI & ASSOCIATES LTD.

DRAWN. J.R.P.	CHECKED. J.R.P.	PLAN No. 11
SCALE. 1:5000	DATE. OCT. 15, 1997	

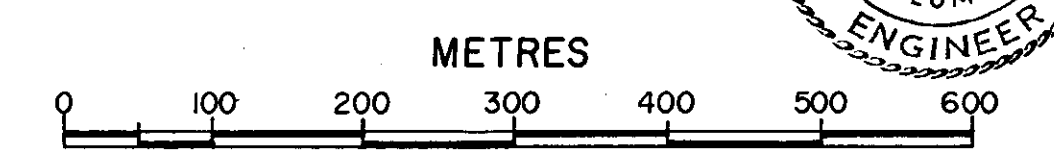
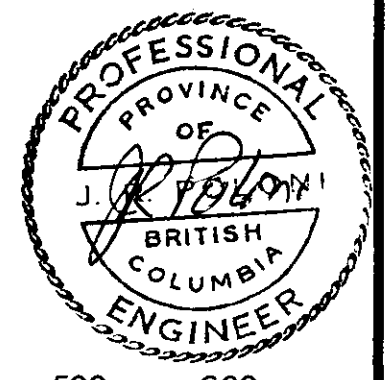


GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

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LEGEND

- D.D. HOLE
 - + LINE STATION SHOWING RESULT
 - CREEK
 - CLAIM POST
 - - - TREE LINE
- PHOENIX VLF-2 UNIT
SEATTLE TRANSMITTER STATION



TANUTA VENTURES CORP.

V.L.F.- E.M. SURVEY

STAR, PUL, SUN, SKARN MAP 11

OMINECA MINING DIVISION, B.C.

JOHN R. POLONI & ASSOCIATES LTD.

DRAWN.	J.R.P.	CHECKED.	J.R.P.	PLAN No.
SCALE	1:5000	DATE	OCT 15, 1997	12

CP 3W

I.D. 2W

I.D. 1W

STAR CLAIM

330°
BASELINE

2+00E

4+00E

6+00E

2+00W

3 N

2 N

1 N

0

1 S

2 S

3 S

4 S

5 S

6 S

7 S

8 S

9 S

10 S

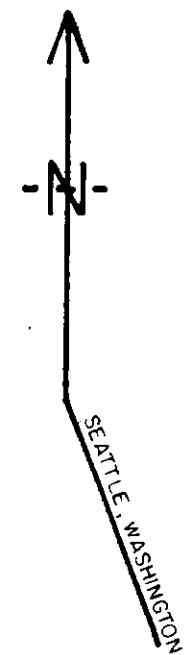
I.D. 3W, 1S

I.D. 3W, 2S

CONDUCTOR B

1986 TRENCH
LOCATION

CONDUCTOR A



GEOLOGICAL SURVEY BRANCH
EXAMINATION REPORT

25,220

- INSTRUMENT : GEONICS EM-16
- TRANSMITTER : NLK-24.8 KHZ, SEATTLE, WASHINGTON
- STATION
- CREEK
- CLAIM POST
- TRENCH

TANUTA VENTURES CORP.

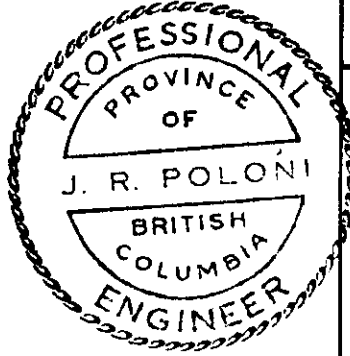
VLF - EM SURVEY

STAR, PUL, SUN, SKARN CLAIMS

OMINECA MINING DIVISION, B.C.

JOHN R. POLONI & ASSOCIATES LTD.

DRAWN	J.R.P.	CHECKED	J.R.P.	PLAN No.
SCALE	1:2500	DATE	OCT. 15, 1997	13



Mohan Vullimiri
J.R. Poloni

SEREM INC.

ACAPULCO GROUP MAP12

VLF - EM SURVEY

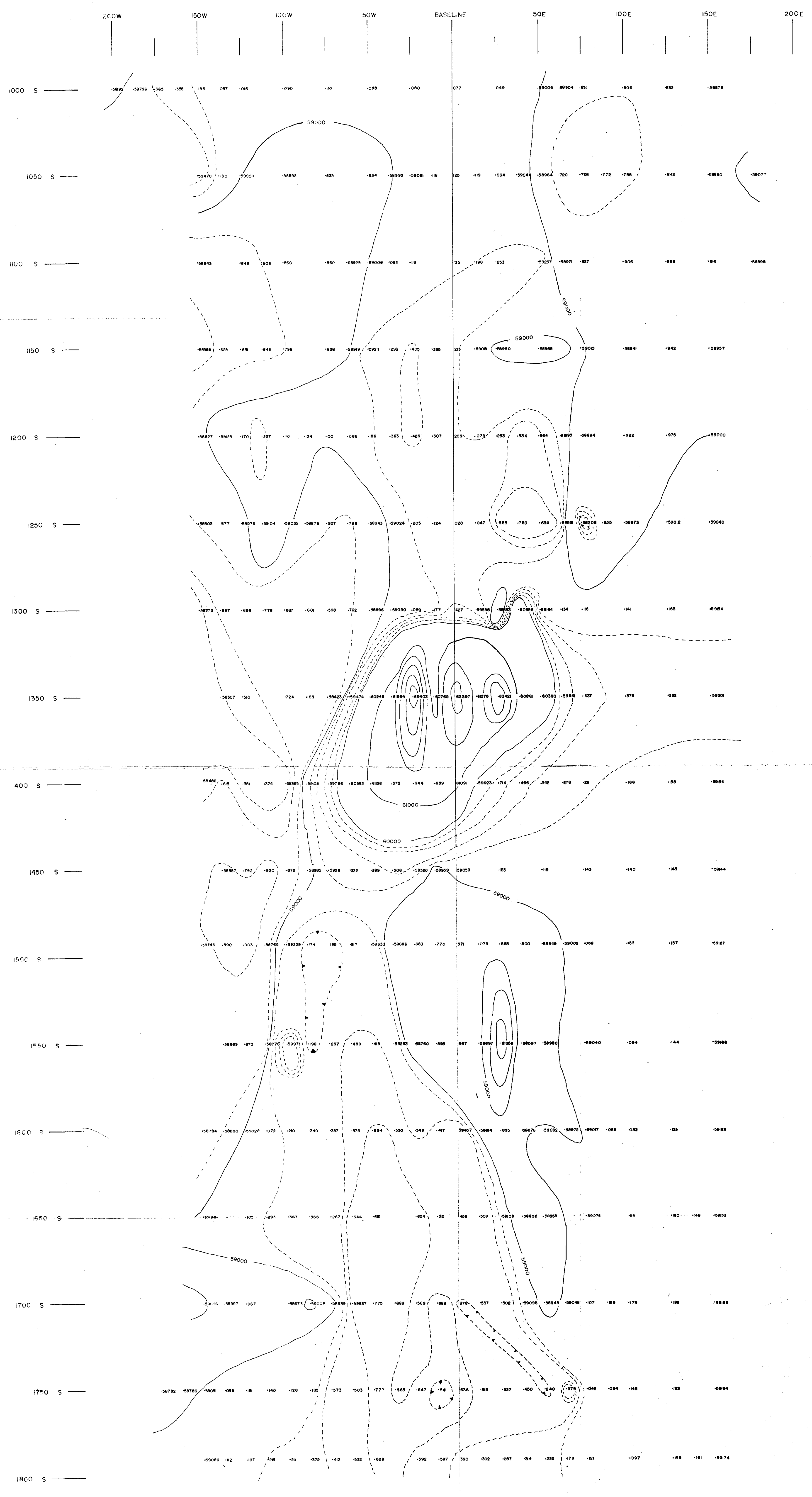
FRASER FILTER DATA

OMINECA M.D., B.C.

SCALE 1:2500

0 50 100 200 METRES

WORK BY	GRANT CROOKER & MOHAN VULLIMIRI
DRAWN BY	G. CROOKER
DATE	SEPT. 1985
FIGURE No.	G



LEGEND

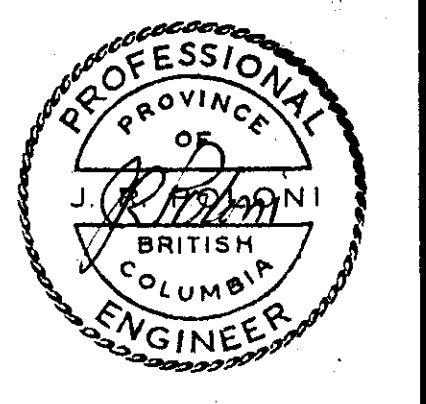
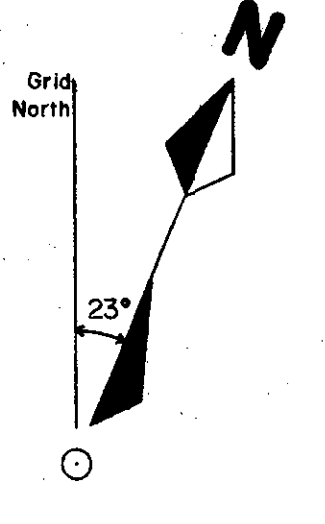
- 1000 gamma contour interval
- - - 200 gamma contour interval

Data was acquired with a Geometrics 286A,
total field, proton precession magnetometer.

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

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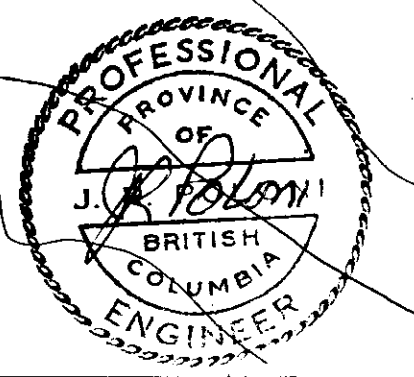
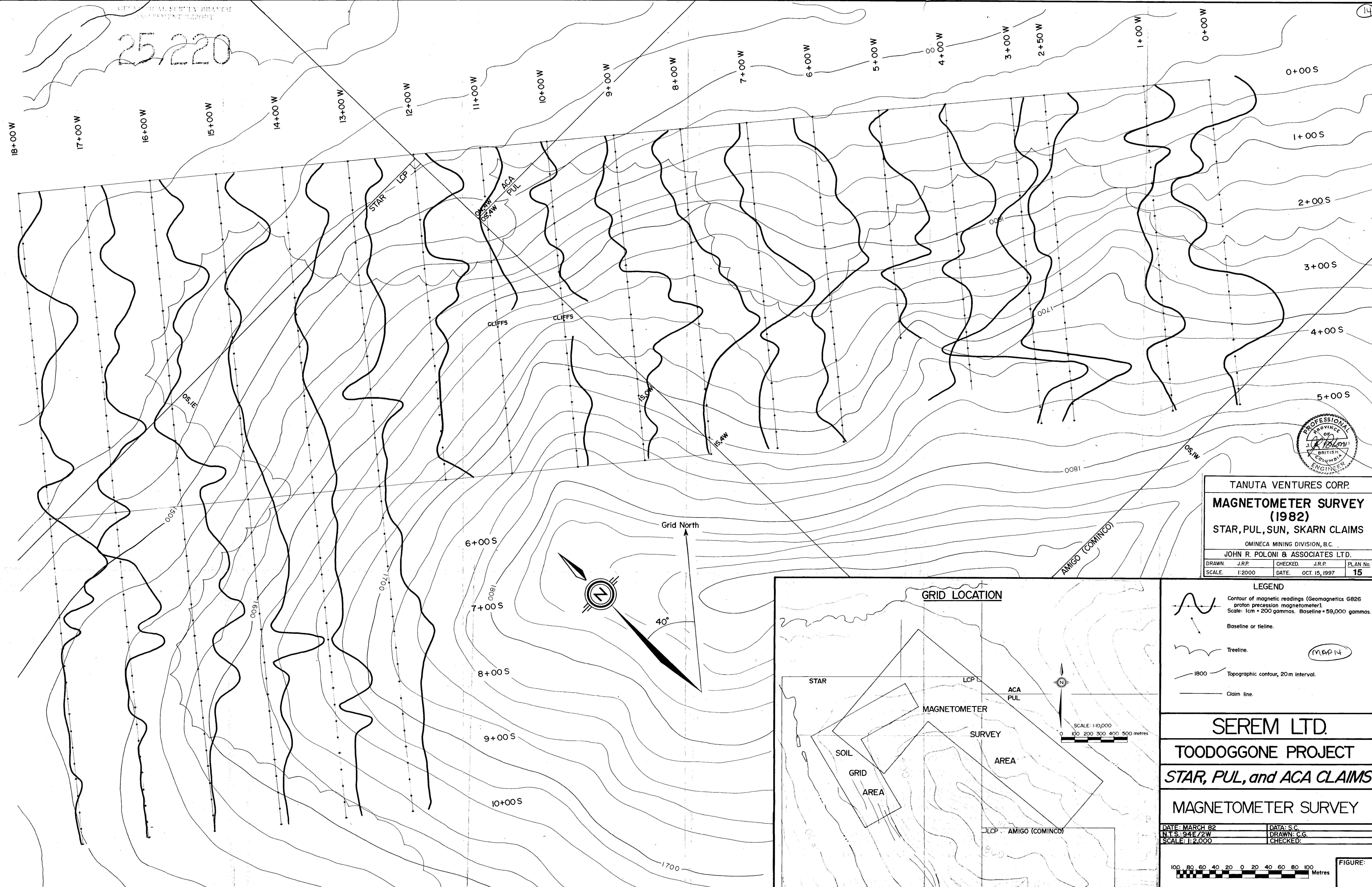
TANUTA VENTURES CORP.			
MAGNETOMETER SURVEY			
(1987)			
STAR, PUL, SUN, SKARN CLAIMS			
OMINECA MINING DIVISION, B.C.			
JOHN R. POLONI & ASSOCIATES LTD.			
DRAWN	J.R.P.	CHECKED	J.R.P.
SCALE	1:1000	DATE	OCT. 15, 1997
			PLAN No. 14



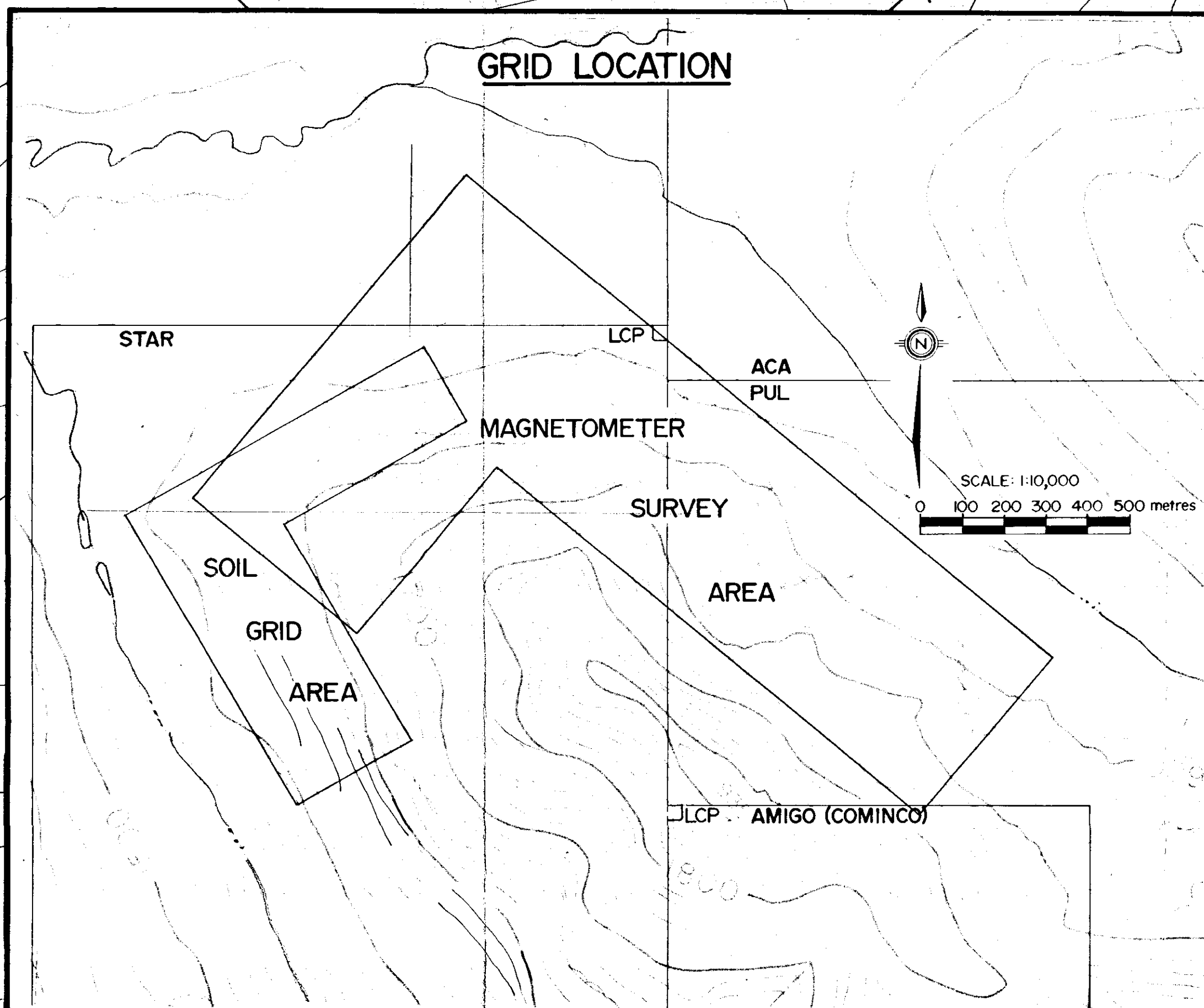
MAP 13

CHENI GOLD MINES INC.			
TOODOGGONE PROJECT			
ACAPULCO GROUP			
MAGNETOMETER SURVEY			
EXECUTED	CHENI	DATE	1997
DRAWN	SH	DATE	1997
INTERPRETED	KL	DATE	1997
UNAPPROVED	KL	DATE	1997
REVISIONS		SCALE	1:1000
		REPORT No.	94E/2
		MAP No.	

25 220



TANUTA VENTURES CORP.
MAGNETOMETER SURVEY (1982)
 STAR, PUL, SUN, SKARN CLAIMS
 OMINECA MINING DIVISION, B.C.
 JOHN R. POLONI & ASSOCIATES LTD.
 DRAWN: J.R.P. CHECKED: J.R.P. PLAN No.:
 SCALE: 1:2000 DATE: OCT. 15, 1997 15



- LEGEND**
- Contour of magnetic readings (Geomagnetics G826 proton precession magnetometer). Scale: 1cm = 200 gammas. Baseline = 59,000 gammas.
 - Baseline or tieline.
 - Treeline.
 - 1800 Topographic contour, 20m interval.
 - Claim line.

SEREM LTD.
TOODOGGONE PROJECT
STAR, PUL, and ACA CLAIMS
MAGNETOMETER SURVEY

DATE: MARCH 82 DATA: S.C.
 N.T.S.: 94E/2W DRAWN: C.G.
 SCALE: 1:2,000 CHECKED:

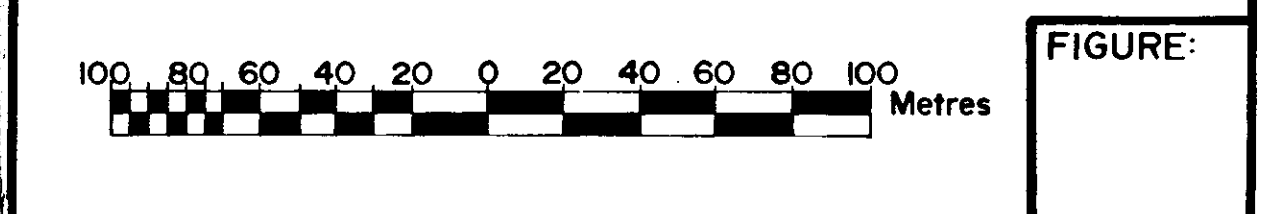
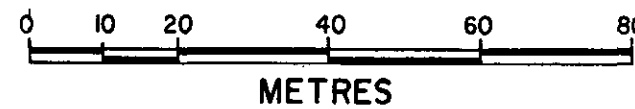
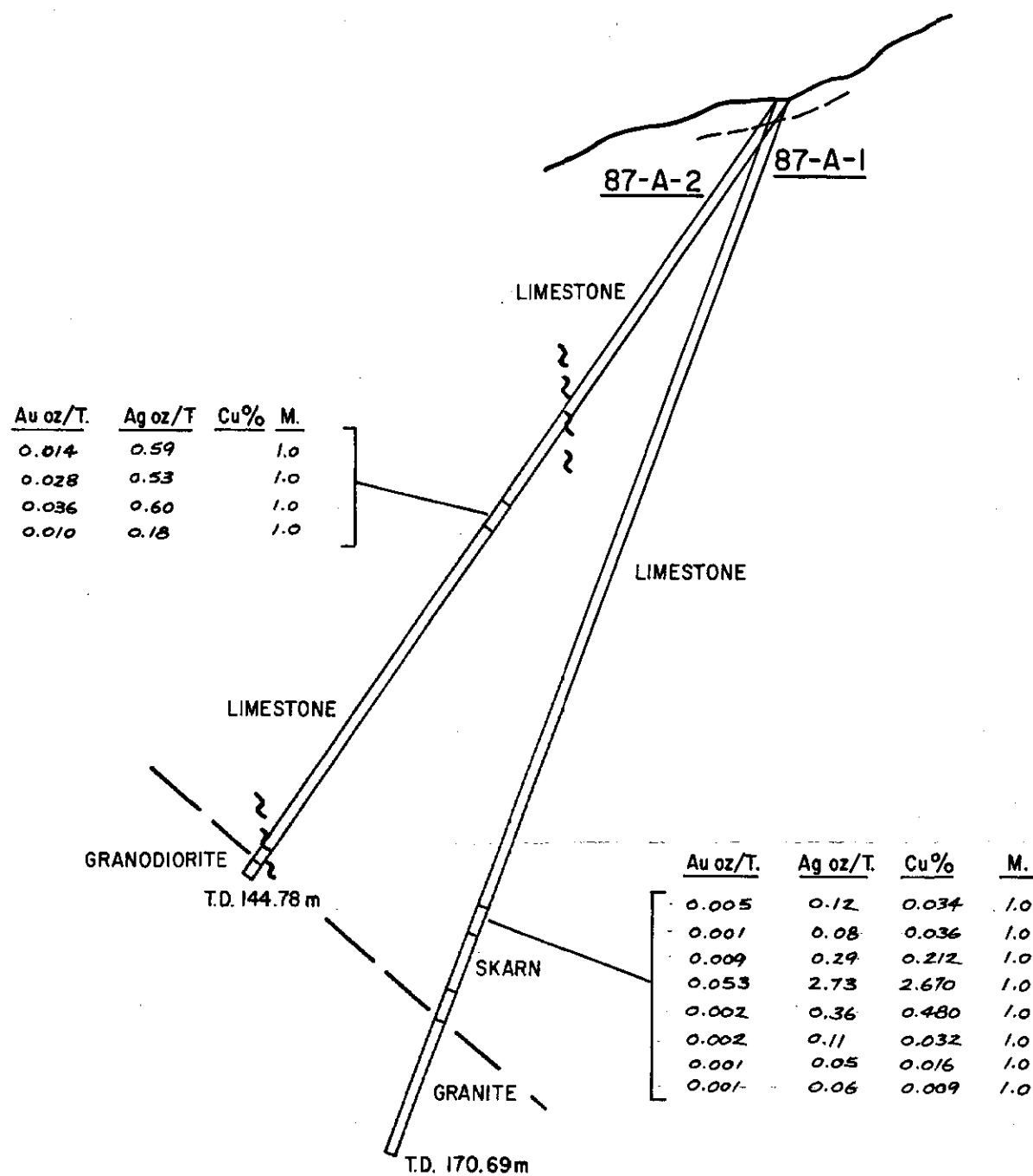


FIGURE:



GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

25,220



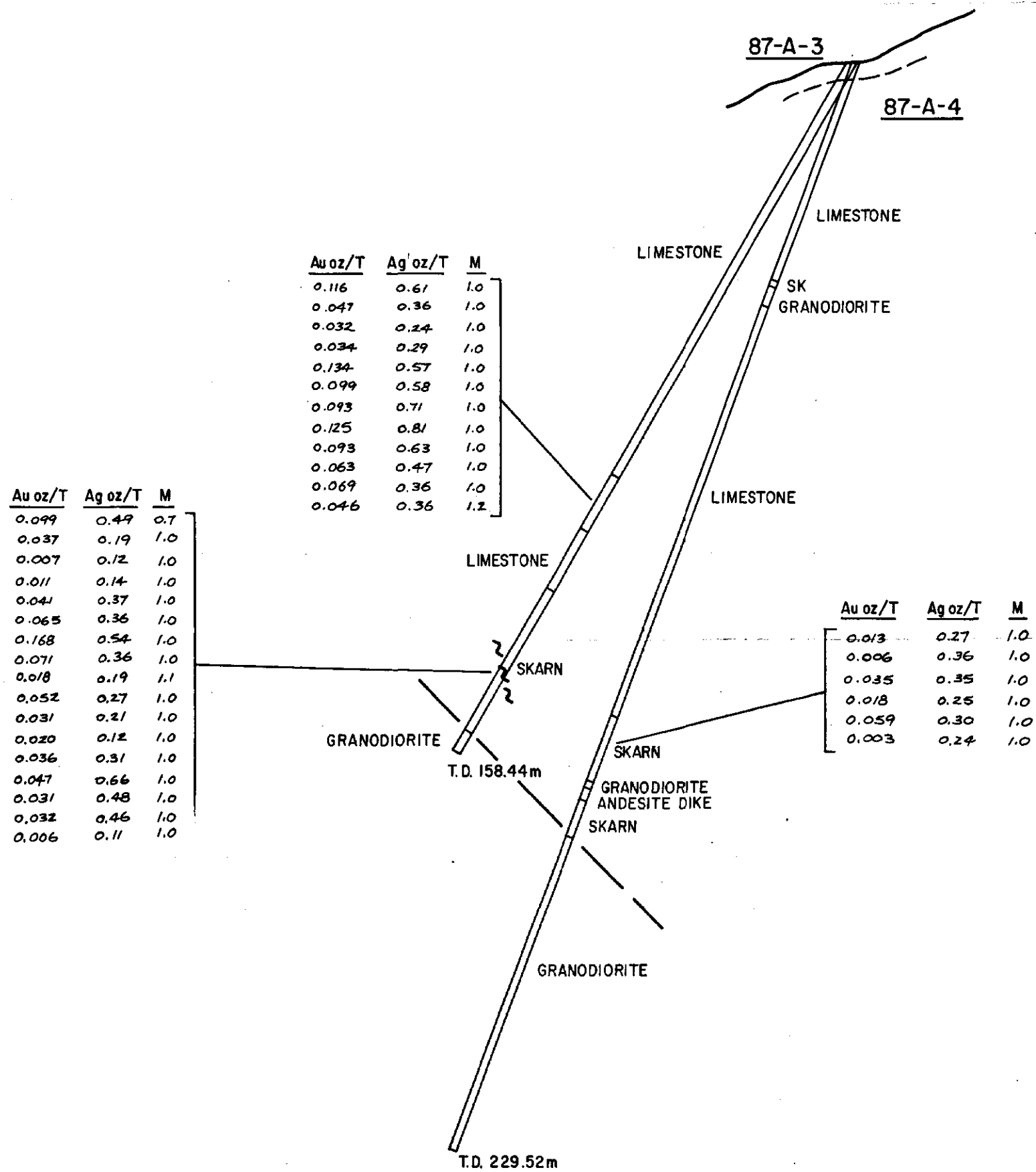
TANUTA VENTURES CORP.

DIAMOND DRILL HOLE SECTION
87-A-1, 87-A-2
AZIMUTH 281°, LOOKING NORTH
STAR, PUL, SUN, SKARN CLAIMS
OMINECA MINING DIVISION, B.C.

JOHN R. POLONI & ASSOCIATES LTD.

DRAWN. J.R.P.	CHECKED. J.R.P.	PLAN No. 16
SCALE. 1:1000	DATE. OCT. 15, 1997	

MAP 15

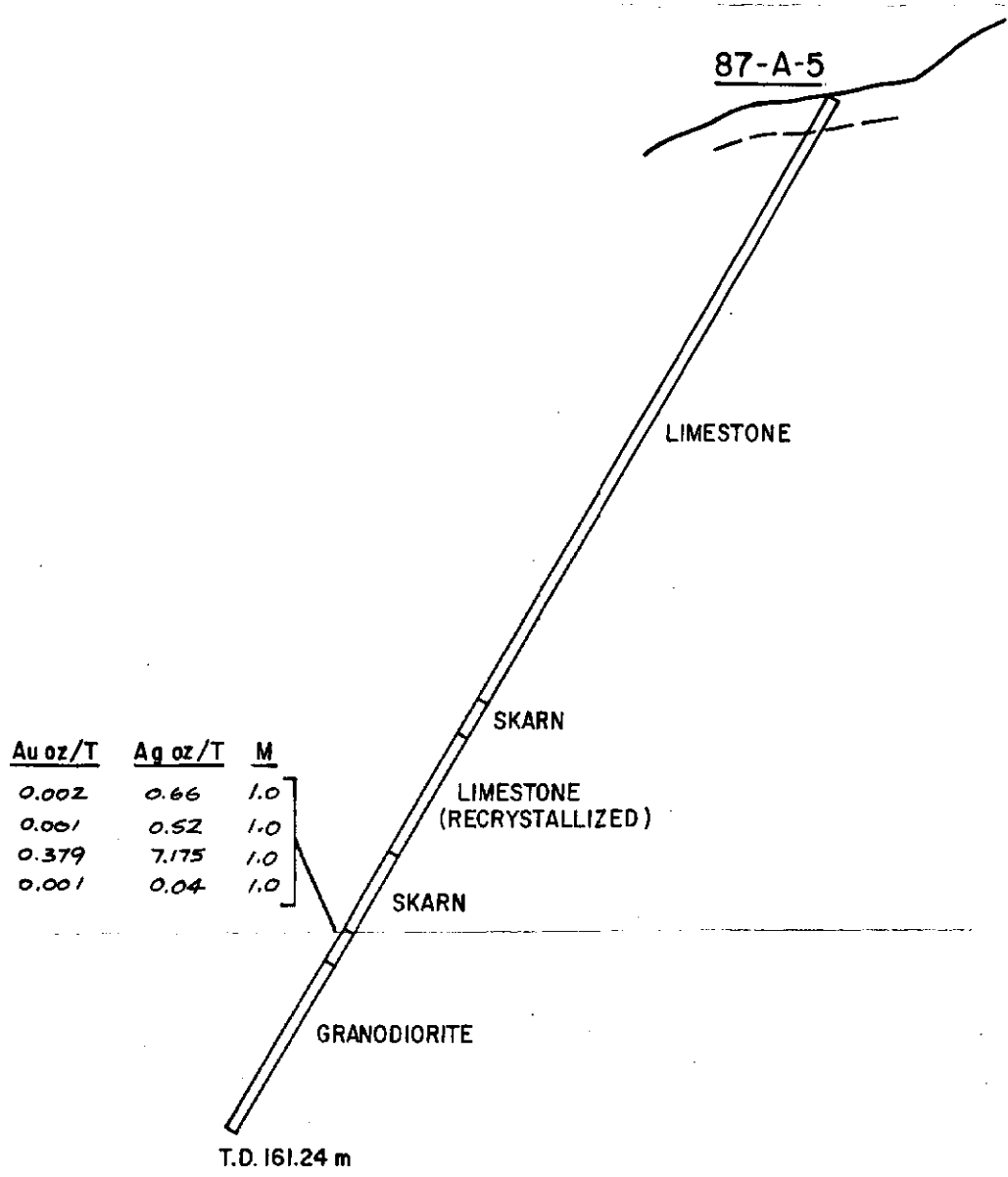


GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

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TANUTA VENTURES CORP.			
DIAMOND DRILL HOLE SECTION 87-A-3, 87-A-4			
AZIMUTH 234°, LOOKING N.W.			
STAR, PUL, SUN, SKARN CLAIMS			
OMINECA MINING DIVISION, B.C.			
JOHN R. POLONI & ASSOCIATES LTD.			
DRAWN.	J.R.P.	CHECKED.	J.R.P.
SCALE.	1:1000	DATE.	OCT. 15, 1997
			PLAN No. 17



GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

25,220



TANUTA VENTURES CORP.

DIAMOND DRILL HOLE SECTION
87-A-5
AZIMUTH 281°, LOOKING NORTH
STAR, PUL, SUN, SKARN CLAIMS
OMINECA MINING DIVISION, B.C.

JOHN R. POLONI & ASSOCIATES LTD.

DRAWN.	J.R.P.	CHECKED.	J.R.P.	PLAN No.
SCALE.	1:1000	DATE.	OCT. 15, 1997	18

MAP 17