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# GEOLOGICAL AND GEOCHEMICALERSPORT

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on the

**TUNJONY LAKE PROPERTY** 

(SON, KID, MOM, DAD, PURPLE, PINK, BROWN, YELLOW CLAIMS)

Trapper Lake Area, British Columbia

**Atlin Mining Division** 

N.T.S. 104K/7E

Latitude: 58°22'N; Longitude: 132°32.5'W

for

Toltec Resources Ltd. 1100 - 808 W. Hastings St. Vancouver, B.C.

by

Azimuth Geological Incorporated 205 - 470 Granville St. Vancouver B.C. GEOLOGICAL BRANCH

ASSESSMENT REPORT

Robert M. Cann, M.Sc., P. Geo. Gregory G. Crowe, M.Sc., P. Geol.

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### **SUMMARY**

The Tunjony Lake group comprises eight contiguous claims totalling 160 units and is located in northwestern British Columbia, approximately 110 km northwest of Telegraph Creek and 35 km northwest of the Golden Bear gold mine. Access is by float plane and/or helicopter.

The property covers a large area of the contact between Tertiary Coast Range quartz monzonite and Upper Triassic Stuhini Group andesitic volcaniclastics and flows. A small outlier of Tertiary Sloko Group tuffaceous sediments unconformably overlies Stuhini volcanics in the northwest corner of the claims. Northeast trending felsic dykes, which are probably coeval with the Sloko Group volcanics, cut the quartz monzonite and the volcanics.

There is no record of previous exploration on the claims but the property lies immediately south of Chevron's Inlaw property where Chevron defined a strong gold-arsenic-antimony anomaly and returned up to 1.30 oz/t gold in rock. Current reconnaissance work consisted of soil sampling (52 samples over 3.7 km), silt sampling (13 samples), rock sampling (36 samples), prospecting and geological mapping at 1:10,000 scale.

1991 prospecting and rock sampling located several areas containing elevated copper or gold values. A section of the quartz monzonite - volcanic contact is brecciated and silicified and ran 1.74% copper from one sample. Copper values from 0.25% to 2.00% were also found in a shear located north of Tunjony Lake and from an area of scattered quartz-chalcopyrite stringers located southeast of the lake. Soil/talus sampling below this last area suggests the area of mineralization is more widespread than exposed at surface.

Two widely separated samples contained elevated gold values. One sample is a float sample of epidotized quartz monzonite containing 300 ppb gold and the other sample is from pyritic, brecciated volcanics running 381 ppb gold. No follow-up was completed on either of these zones.

Only one silt sample was anomalous and ran 7908 ppm arsenic. An altered, pyritic felsic dyke and an anomalous soil sample near the head of this drainage suggests further prospecting and sampling is warranted in this area.

#### INTRODUCTION

At the request of Prime Equities Inc. (on behalf of Toltec Resources Ltd.) Azimuth Geological Inc. was contracted to evaluate the Tunjony Lake property using geological and geochemical techniques. The property is located in northwestern British Columbia, 35 km northwest of the Golden Bear mine, in an under-explored but geologically attractive area which has seen intermittent exploration for porphyry deposits, volcanogenic massive sulphide deposits and mesothermal shear-related gold deposits.

No previous work is recorded on the property; however, the claims lie immediately south of Chevron's Inlaw property (currently optioned to Consolidated Parklane Resources Inc.). In 1983 and 1984 Chevron completed soil and rock geochemical sampling on the Inlaw property which outlined a strong gold-arsenic-antimony in soil anomaly and returned up to 1.30 oz/t gold in rocks.

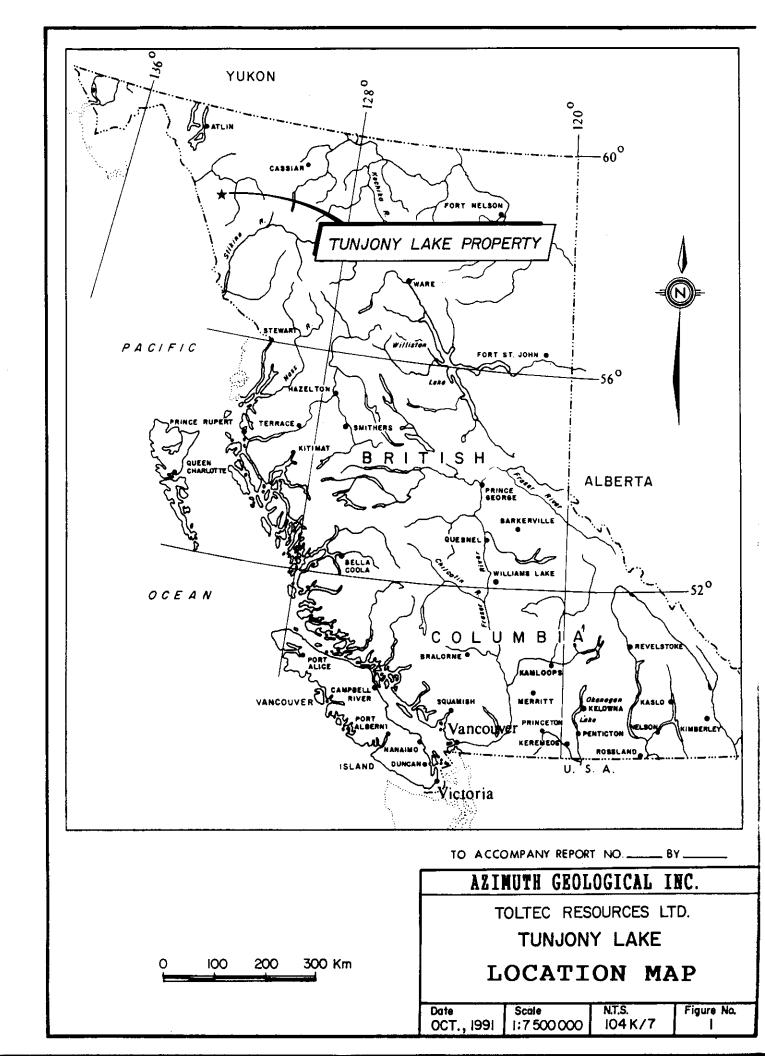
Current work was aimed at developing a preliminary understanding of the geological setting, and at completing initial reconnaissance exploration over most of the property. This report summarizes soil and rock sampling, prospecting and geological mapping conducted on the Tunjony Lake property between July 10 and August 3, 1991.

#### LOCATION, ACCESS and PHYSIOGRAPHY

The Tunjony Lake claim group is located in the extreme northwest corner of British Columbia (Figure 1), 1200 km northwest of Vancouver and 270 km south-southeast of Whitehorse, Yukon Territory (NTS: 104K/7). Closest supply towns are Telegraph Creek, 110 km to the southeast; Dease Lake, 140 km to the east; and Juneau, Alaska, 110 km to the west-southwest.

Access to the claim area is possible by float-equipped aircraft to Tunjony Lake or Trapper Lake (5 km north-northeast) or to Tatsamenie Lake (23 km southeast). Airstrips for conventional aircraft are located at Tatsamenie Lake, Muddy Lake (35 km southeast) and Tulsequah (65 km west-northwest). Final access would be by helicopter. A private road provides access from Telegraph Creek to the Golden Bear mine-site at Muddy Lake and is available for public use by prior arrangement with Golden Bear Operating Company.

Physiographically, the claims are located in the Tahltan Highland, a moderately rugged transitional zone between the Stikine Plateau and the eastern ranges of the Coast Mountains. Elevations on the Tunjony Lake property vary from approximately 975 m at Tunjony Lake to 2174 m near the centre of the Pink claim. All of the property is sub-alpine to alpine in nature.



#### **CLAIM STATUS**

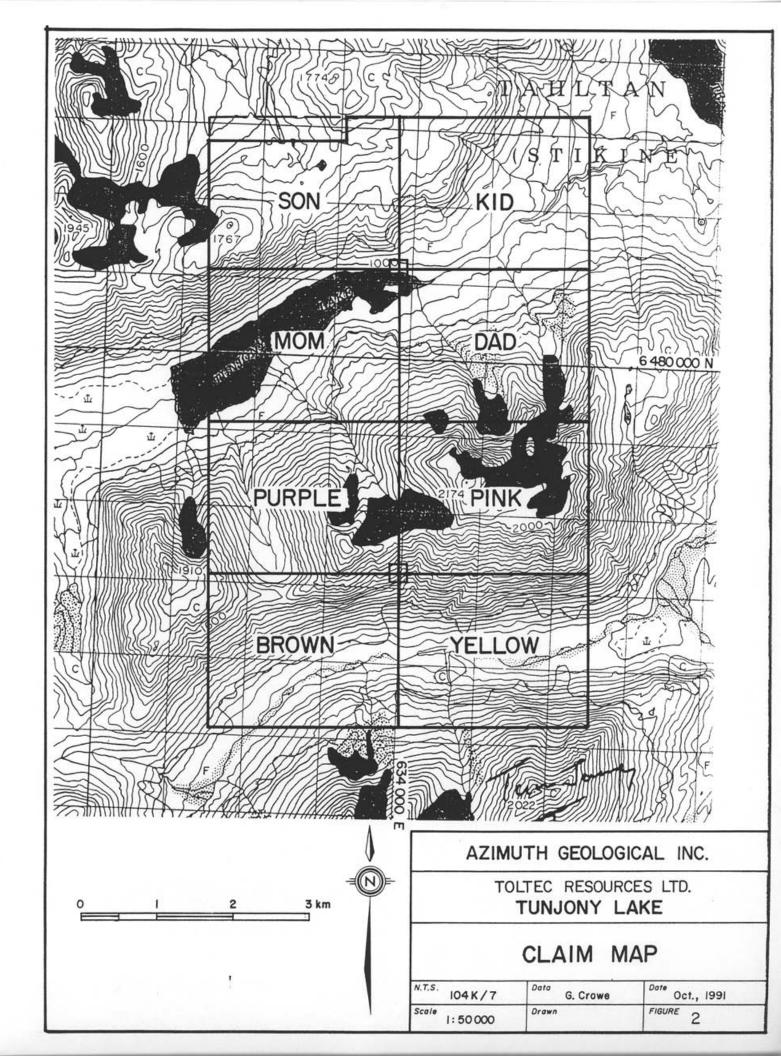
The Tunjony property consists of eight modified grid claims totalling 160 units (Figure 2) located in the Atlin Mining Division. Locations of Legal Corner Posts were confirmed in the field and approximate locations are shown in Figure 2 while exact locations are shown on Figure 4. Public records indicate all claims are owned by Toltec Resources Ltd.

Current claim data as shown in public records is compiled below.

#### Table 1. Claim data.

Claim Name Record Number		Units	Expiry Date <sup>1</sup>	
Pink	4487	20	March 19, 1995	
Yellow	4488	20	March 19, 1995	
Purple	4489	20	March 19, 1995	
Brown	4490	20	March 19, 1995	
Kid	4491	20	March 19, 1995	
Dad	4492	20	March 19, 1995	
Mom	4493	20	March 19, 1995	
Son	4494	20	March 19, 1995	

1: Assuming acceptance of current submission.



#### HISTORY

Although no record remains, it is likely that the general area of Tunjony Lake was prospected in the 1920's and 1930's following discovery of the Tulsequah Chief and Polaris Taku deposits, 65 km to the northwest.

No work is recorded on the claims prior to current staking by Toltec Resources Ltd.; however, Chevron Canada Resources Ltd. staked the adjoining Inlaw claims in 1983 and completed preliminary geological mapping, geochemical surveys and prospecting (Barr, 1989). Soil, rock and silt geochemistry conducted on the Inlaw claims in 1984 and 1988 defined a strong gold-arsenic-antimony in soil/talus anomaly and returned up to 44.6 g/t gold in rocks (Walton, 1985a; Barr, 1989).

The property was silt sampled in 1988 during a joint Federal - Provincial silt geochemical survey of the Tulsequah map-area. Of the five samples taken on the property, three samples taken near the south boundary of the property are weakly anomalous in silver and copper (GSC Open File 1647, 1988).

#### **REGIONAL GEOLOGY**

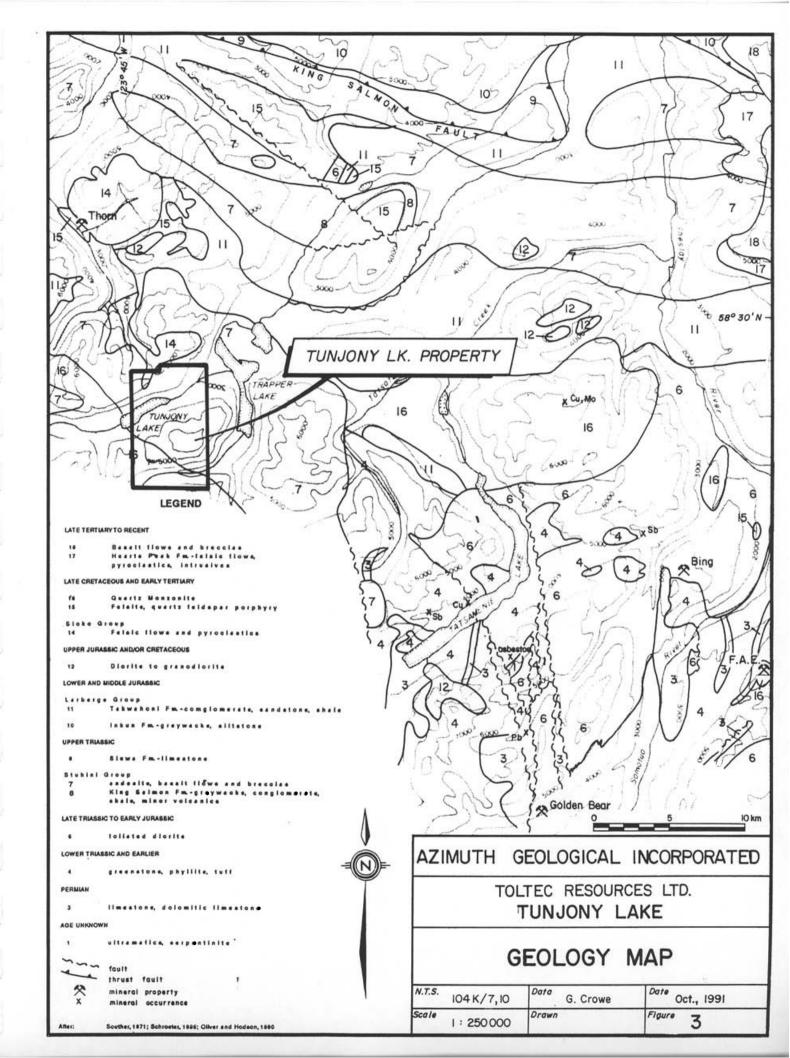
The Tulsequah map-area was most recently mapped by Souther (1971). Regional geology in the Tatsamenie Lake-Trapper Lake area is shown in Figure 3. Oldest rocks in the area are strongly deformed and regionally metamorphosed Permian and Lower Triassic metasediments and metavolcanics (Units 3 and 4) of the Stikine Assemblage (Monger, 1980) which are intruded by Lower or Middle Triassic foliated quartz diorite (Unit 6). These older rocks appear to be restricted to an area between Trapper and Tatsamenie Lakes.

A major regional unconformity separates older rocks from less deformed Upper Triassic and younger strata. Most widespread of the younger strata are Upper Triassic Stuhini Group basic volcanics and related sediments (Units 7 and 8). In the area of interest these rocks form a southeast-trending syncline enclosing a core of Lower and Middle Jurassic Takwahoni Formation (Laberge Group) sediments and overlying Upper Cretaceous to Tertiary felsic volcanics and related sub-volcanic intrusives of the Sloko Group (Units 11, 14 to 16). Current work has shown the Tunjony Lake claims to be underlain by the above Upper Triassic Stuhini volcanics and Tertiary Sloko Group volcanics and quartz monzonite. Middle Jurassic diorite plugs (Unit 12) commonly intrude Takwahoni and older rocks and often appear to be spatially associated with mineralization in the area.

In the northeast corner of the map-area, Upper Triassic limestone (Sinwa Formation: Unit 9) and Lower Jurassic sediments of the Inklin Formation (Unit 10) have been thrust southwestward along the King Salmon Fault to form the Atlin Horst.

Flat-lying Late Tertiary to Pleistocene volcanics (Units 17 and 18) overlie all units along the east margin of the map-area.

Three structural events have been documented in the area (Schroeter, 1986; Oliver and Hodgson, 1990). The oldest mid-Triassic event is typically represented by tight folds with north-trending axial surfaces. Mid-Jurassic deformation resulted from southwest-verging thrust faults which produced broad northwest-trending folds. Youngest structures are Eocene extension faults of apparent random orientation.



Mineralization in the Tulsequah area is dominated by volcanogenic(?) massive sulphide deposits in the Tulsequah district, 65 km west-northwest of Tunjony Lake, and by shear-hosted precious metal mineralization at and near the Golden Bear deposit. Copper-lead-zinc-gold-silver mineralization at Tulsequah Chief, Big Bull, and Ericksen-Ashby is associated with a contact between Permian felsic pyroclastic rocks and underlying massive andesitic flows (Gunning, 1988; Nelson and Payne, 1983). Most recent reserves for Tulsequah Chief are given as 7.8 Mt of 1.6% Cu, 1.2% Pb, 6.5% Zn, 2.7 g/t Au, 110 g/t Ag (Mining Journal, Jan. 17, 1992). Across the Tulsequah River at the nearby Polaris Taku property, Suntac Minerals Corporation report probable plus possible reserves of 803,765 tonnes grading 16.1 g/t Au (March 21, 1990 News Release). Mineralization occurs in an arsenopyrite-bearing quartz-carbonate shear zone cutting Permian(?) sediments and tuffs. Grade and geological setting suggest similarities with the Golden Bear deposit.

The Golden Bear deposit, located 37 km southeast of Tunjony Lake (Figure 3), is being actively mined by Chevron Minerals Ltd. and North American Metals Corp. (Homestake Mining Company) who report (1990 Annual Report) proven plus probable reserves (before mining) of 569,453 tonnes grading 17.60 g/t gold. Mineralization at Golden Bear consists of pyrite-arsenopyrite-scorodite-native gold within a persistent quartz-carbonate altered shear cutting Permian to Lower Triassic(?) limestone and metasediments.

The Thorn property, located 12 km north-northwest of Tunjony (Figure 3), is underlain by Eocene Sloko felsic volcanics intruded by a small quartz-feldspar-porphyry stock (Woodcock, 1987). Gold and silver are associated with both linear, east-west trending, pyrite-arsenopyrite-tetrahedrite-bearing silicified zones and with pods and lenses of pyrite-tetrahedrite-enargite. The property was drilled in 1986 by American Reserve Mining Corporation.

#### **1991 WORK PROGRAM**

Current work was conducted between July 10 and August 5, 1991 by geologist L. Lyons with assistance from other personnel (listed in Appendix A). Field work was supported from common camp facilities at Trapper Lake (5 km northeast of Tunjony Lake) where a contract Bell 206B helicopter supplied by Trans North Air was available for claim access.

Field work consisted of limited contour soil sampling at 50 m and 100 m intervals (3.7 km of line; 52 samples), silt sampling (13 samples) and 1: 10,000 scale mapping and prospecting. During mapping, samples of altered and mineralized float and outcrop were routinely taken (36 samples).

### **PROPERTY GEOLOGY**

Preliminary geological mapping at 1:10,000 scale was completed by Lyons in July 1991 using airphotos and topography for control. Mapping generally confirmed regional mapping by Souther (1971) and identified four major map units as described below. Mapping on the property was locally hindered by the abundance of talus, snow and ice cover and by steep topography.

#### Lithologies

#### Unit 4. Andesitic tuffs and agglomerates:

1

Much of the central and northern portion of the property is underlain by massive andesite tuffs, agglomerates and local feldspar porphyritic flows. Volcanics are commonly rustyweathering where pervasively iron-carbonate altered. Immediately south of Tunjony Lake a 500 m thick package of black cherty sediments occurs within the volcanics and trends southeast with steep northeast dip. Ubiquitous disseminated pyrite in the sediments causes the sediments to weather to a limonitic colour.

Souther (1971) assigned these volcanics to the Upper Triassic Stuhini Group.

### Unit 10. Tuffaceous sandstone:

An small erosional remnant of Tertiary Sloko Group tuffaceous sediment unconformably overlies Stuhini volcanics (Unit 4) on the Son claim. Sediments are unmineralized, poorly sorted but well bedded.

Souther (1971) shows the sediments extending for 5 km north from the Tunjony property along the west side of the Inlaw property. These rocks vary considerably from felsic to dacitic ash tuff, crystal (feldspar) lithic tuff and welded tuff toward the base. In outcrop, volcaniclastics vary from light tan or cream to pale green.

#### Unit 11. Felsic dykes:

Massive, cream to grey coloured feldspar porphyry, feldspar quartz porphyry and aphanitic felsite dykes cross-cut Units 4 and 12. These dykes are generally fresh and only rarely silicified and pyritic. Souther (1971) noted that these felsic dykes are often closely spatially associated with Sloko Group volcanics and considered them coeval and consanguineous with the Sloko Group.

Felsic dykes consistently trend approximately 030° and dip steeply to the northwest.

#### Unit 12. Monzonite, quartz monzonite:

1

Much of the southwest corner of the property is underlain by fine grained, commonly pyritic quartz monzonite. The contact with older Stuhini volcanics trends northwest-southeast and passes from the northwest corner of the Purple claim to the southeast corner of the Yellow claim. According to Souther (1971) this Tertiary quartz monzonite is part of the regionally extensive Coast Range batholith.

The contact, where exposed near the Pink-Yellow claim boundary, is silicified and brecciated over 2 to 3 m.

#### MINERALIZATION AND ROCK GEOCHEMISTRY

Rock samples were taken of all mineralized and altered float and outcrop encountered while prospecting or soil sampling. Four areas containing significant veining and/or base or precious metals were identified. Significant sample results are tabulated in Table 2 and results discussed in more detail below. Sample descriptions are appended in Appendix B.

Sample No.	mple No. ppb Au		ppm Cu <sup>1</sup>	ppm Pb <sup>1</sup>	ppm Zn <sup>1</sup>
				• · · · · · · · · · · · · · · · · · · ·	
18861	300	2.4	226	-	-
18874	3	5.9	17449	1750	349
18878	39	7.1	9620	-	386
18879	28	5.4	8861	-	315
18880	10	1.0	3486	-	-
18882	381	66.7	334	-	-
18897	2	7.4	2575	-	-
18898	1	27.4	20028	-	-
18909	2946 pp	m arsenic			

#### TABLE 2. Significant rock sample results.

1: Values less than 200 ppm Pb, 200 ppm Zn not shown.

1

Six of the rock samples show significant copper values (0.25% to 2.0%). Of these six samples, sample 18874 is from the silicified, brecciated contact between quartz monzonite and Stuhini volcanics. No sulphides were noted in this sample but malachite was abundant. The remaining five copper-rich samples are from a narrow, shear-controlled quartz-sericite alteration zone (samples 18878 - 18880) and from erratic chalcopyrite stringers (samples 18897 and 18898).

Gold shows no correlation with copper and the two anomalous samples have only minor copper values. Sample 18861 (300 ppb gold) is a float sample taken on the west side of the Purple claim. Mineralization consists of blebby to massive pyrite within epidotized quartz monzonite. Sample 18882 (381 ppb gold; 66.7 ppm silver) was taken near the boundary of the Son/Mom claims from a 1.5 m wide limonitic breccia zone with a silicified core. The zone is apparently discontinuous.

Sample 18909 was taken near the Son/Kid claim boundary and consists of strongly carbonate altered volcanic cut by minor quartz stringers. Although not anomalous for base or precious metals the sample does carry significant arsenic (0.29%) and suggests a potential epithermal system warranting further prospecting.

A large gossan was located near the centre of the Brown claim and is associated with pyritic quartz monzonite cut by numerous sub-parallel felsic, diorite, and basaltic dykes. Three rock samples taken from this area did not return anomalous values; however, a soil line run below the gossan did return several anomalous samples and is discussed further under Soil Geochemistry.

#### SOIL AND SILT GEOCHEMISTRY

The 52 soil samples were taken along four widely spaced contour soil lines. Two lines were sampled at 50 m spacing (L1060 and L1390) and two lines at 100 m spacing (L1255 and L1595). Because of the steep slopes and alpine terrain there is no soil development on the grid and all samples were of talus-fine material. Samples were taken at depths between 5 and 35 cm, placed in Kraft bags and shipped to TSL Laboratories in Richmond, B.C. (L1390) or to Min-En Labs in Vancouver, B.C. (all others) for 31 element ICP and geochemical gold analysis. Analytical techniques are included in Appendix E.

Gold and silver results are plotted on Figure 4 while all results are compiled in Appendix D.

L1595 is a 2.1 km line crossing a plateau like area with extensive overburden on the Son claim. Metal values in soils from this line are uniformally low with slightly elevated arsenic values (27 - 68 ppm) where the line crosses Tertiary Sloko sediments.

L1060 is a 1 km line extending along a steep slope below an area of andesitic volcanics cut by quartz-chalcopyrite stringers (rock samples 18897 & 18898; Yellow claim). Silver and copper values are elevated along most of the line, varying from 0.2 to 3.1 ppm silver and 135 to 630 ppm copper. Several stations along the line also show significantly anomalous cadmium (0.9 to 20.5 ppm), lead (23 to 669 ppm) and zinc (44 to 1691 ppm). There appears to be widespread mineralization in this area which merits further evaluation.

L1390 is a short 300 m line run along contour below a persistent, altered and quartz veined felsic dyke on the Dad claim. Sample 0+50E ran 250 ppb gold and suggests the area warrants further prospecting.

L1255 is a short 200 m line run below the gossan on the Brown claim to quickly test metal values in talus originating from the gossan. All samples are anomalous in copper (298 - 1133 ppm), molybdenum (63 - 183 ppm) and lead (135 -605 ppm). Gold values are all 5 ppb. Although the three rock samples taken from this area did not contain significant mineralization the area deserves further prospecting and sampling.

Thirteen conventional silt samples were taken where traverses crossed significant drainages. Samples were placed in Kraft bags and shipped to TSL Laboratories in Richmond, B.C. (Sample 18403) or to Min-En Labs in Vancouver, B.C. (all others) for 31 element ICP and geochemical gold analysis. Analytical techniques are included in Appendix E. All samples have background metal values except for sample 18871, taken in the northwest corner of the Dad claim, which ran 7908 ppm arsenic. Rock samples taken at the head of the drainage

(samples 18401 to 18406) are only weakly anomalous in gold (25 & 30 ppb). The highly anomalous arsenic value justifies more detailed silt sampling and prospecting in this drainage.

### CONCLUSIONS

The Tunjony Lake property covers a large area of the contact between Tertiary Coast Range quartz monzonite and Upper Triassic Stuhini Group andesitic volcaniclastics and flows. A small outlier of Tertiary Sloko Group tuffaceous sediments unconformably overlies Stuhini volcanics in the northwest corner of the claims. Northeast trending felsic dykes, which are probably coeval with the Sloko Group volcanics, cut the quartz monzonite and the volcanics.

Reconnaissance prospecting, rock sampling, soil sampling and silt sampling located three areas containing significant copper values (0.25% to 2.0%), two areas with elevated gold values and one drainage with strongly anomalous arsenic.

One of the areas containing copper mineralization is along a silicified and brecciated section of the quartz monzonite-volcanic contact. The other two areas are an altered shear and scattered quartz-chalcopyrite stringers within Stuhini volcanics. Soil sampling below the area of quartz-chalcopyrite stringers suggests mineralization is more widespread than seen on surface and deserves further evaluation. The areas of copper mineralization do not contain significant gold values.

Elevated gold values (300 ppb and 381 ppb) were found in two samples from widely separated areas. A float sample of epidotized quartz monzonite ran 300 ppb gold and a rusty, discontinuous breccia zone in volcanics ran 381 ppb gold. The float sample was not followed up.

A large gossan was discovered near the centre of the Brown claim which did not return any significant rock sample results. However, several soil/talus samples taken below the gossan were anomalous for copper, molybdenum and lead and justify additional prospecting and sampling in this area.

With one exception, silt samples contained only background metal values. The one anomalous sample was taken from a 1.5 km long drainage which drains northwest into the east end of Tunjony Lake and which ran 7908 ppm arsenic. Limited soil sampling and prospecting near the head of the drainage located a persistent, altered, pyritic felsic dyke and a single station gold in soil anomaly. Additional prospecting and sampling should further evaluate this drainage.

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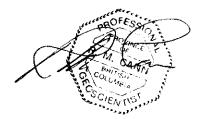
## CERTIFICATE

I, Robert M. Cann, of 1260 Silverwood Crescent, North Vancouver, British Columbia hereby certify that:

- 1) I am a consulting geologist with offices at 205-470 Granville Street, Vancouver, B.C.
- 2) I hold a degree of Bachelor of Science (Honours) in Geology from the University of British Columbia, 1976.
- 3) I hold a degree of Master of Science in Economic Geology from the University of British Columbia, 1979.
- 4) I have practised my profession continuously since 1979.
- 5) I am a Fellow of the Geological Association of Canada.
- 6) I am a registered member of The Association Of Professional Engineers and Geoscientists of B.C.
- 7) This report is based on work done under my direct supervision.

Dated on this 7th day of February, 1992 at Vancouver, B.C.

1



Robert M. Cann, M.Sc., P. Geol.

### CERTIFICATE

I, Gregory G. Crowe, of Bowen Bay Road, Bowen Island, British Columbia hereby certify that:

- 1) I am a consulting geologist with offices at 205 470 Granville Street, Vancouver, B.C.
- 2) I hold a degree of Bachelor of Science in Geology from Carleton University, 1977.
- 3) I hold a degree of Master of Science in Structural Geology from the University of Calgary, 1981.
- 4) I am a Fellow of the Geological Association of Canada.
- 5) I am a registered member of the Association of Professional Engineers, Geophysicists and Geologists of Alberta (Membership No. 35569).
- 6) This report is based on work done under my direct supervision.

Dated on this 7th day of February, 1992 at Vancouver, B.C.

1

Gregory G. Crowe, M.Sc., P. Geol.

### CERTIFICATE

Appendix A

**COSTS INCURRED** 

## **COSTS INCURRED - JULY 1 TO AUGUST 5**

Mobilization		\$	1,466.41
Demobilization (proportional share)			7,390.10
Supervision - R. M. Cann/G. Crowe Field superv L. Haynes/J. Lehtinen Sr. geol L. Lyons Sr. geol W. Taylor Ass't - T. Muraro Ass't - H. Culbert Ass't - S. Becherer	2.4 @ \$400/day 1.8 @ \$375/day 12.5 @ \$350/day 3.0 @ \$350/day 3.0 @ \$225/day 5.0 @ \$225/day 4.5 @ \$225/day		960.00 675.00 4,375.00 1,050.00 675.00 1,125.00 1,012.50
Food and accom. at Trapper Lk. camp	32.2 @ \$120/manday		3,864.00
Consumable supplies & equip. rental	32.2 @ \$25/manday		805.00
Telephone, communications			1,986.64
Portable radio rentals			50.00
Helicopter (Trans North)	5.15@ \$750/hr		3,865.33
Transportation (shipping, trucking, fixed	wing, etc.)		9,955.48
Analytical Soils (Au+31 element ICP) Rocks (Au+31 element ICP) Assays (Au)	60 @ \$12 8 @ \$17.40 35 @ \$17 5 @ \$20.40 6		480.00 1,410.00 510.00 102.00 50.50
Shipping			150.00
Camp Construction - Jempland (proportional share)			6,160.00
Publications, maps, airphotos			136.42

## **COSTS INCURRED** - cont.

Report	
Drafting	1,000.00
Copying/Reproductions	550.00
Writing	2,950.00

TOTAL

1

\$ 52,754.38

Appendix B

## **ROCK SAMPLE DESCRIPTIONS**

SAMPLE NO.	CLAIM	WIDTH metres r	UTM northing	UTM easting	ELEVATION metres	DESCRIPTION
18401	DAD	FLOAT	6479620	635110	1395	Quartz vein breccia float. Drusy, disseminated pyrite, clay and silica altered fragments.
18402	DAD	GRAB O/C	6479500	635300	1485	Carbonate quartz vein breccia, 20cm 213/54NW
18404	DAD	GRAB O/C	6479330	635580	1680	Carbonate-quartz vein breccia with spotty pyrite.
18405	DAD	GRAB O/C	6479410	635590	1650	Carbonate-quartz vein breccia with spotty pyrite.
18406	DAD	GRAB O/C	6479440	635600	1630	Quartz-carbonate vein with blebby pyrite, trace malachite 210/50NW.
18861		FLOAT	6478630	631150		Blebby to massive pyrite in epidote-limonite altered intrusive.
18866	PURPLE	GRAB O/C	6479080	632490		Quartz vein in altered volcanic tuff-stockwork zone. Rusty main vein up to 10cm, some brecciation, 074/74SE.
18872	BROWN	GRAB O/C	6477130	631390		Siliceous pyrite zone in quartz monzonite intrusive, 3cm width, with pyrite in wallrock.
18873	PINK	GRAB O/C	6477620	633900		Quartz vein breccia stockwork along monzonite/ Stuhini contact. 2-3m width 351/60W.
18874	PINK	GRAB O/C	6477620	633900		Siliceous quartz zone similar to 18873. Malachite stain
18875	PINK	GRAB O/C	6477620	633900		Same as 18873.
18876	PINK	GRAB O/C	6477700	634060		Massive pyrite in stringers hosted in chlorite altered volcanics.
18877	PINK	GRAB O/C	6477750	634170		Quartz -carbonate veins in altered volcanics.
18878	MOM	FLOAT	64 <b>803</b> 50	631200		Chlorite altered volcanic with malachite and limonite stain.
18879	MOM	GRAB O/C	64 <b>803</b> 50	631200		Silica and sericite altered volcanic(as 18878) Pyrite, bornite(?), chalcopyrite(?) and malachite stain. Zone pinches out to north. 143/64SW. 20cm.
18880	MOM	GRAB O/C	6480410	631180		Rusty zone with silicification and carbonate veins with pyrite & chalcopyrite(?).

SAMPLE NO.	CLAIM	WIDTH metres r	UTM northing	UTM easting	ELEVATIO	N DESCRIPTION
18881	MOM	GRAB O/C	6480700	631560		Quartz-carbonate veins in fractures within crystal tuff. Approx. 10-15cm width, 008/60SE.
18882	SON	GRAB O/C	6481080	632030		Quartz-carbonate breccia vein. Siliceous zone 70cm. Limonite breccia zone 1.5m. 209/60NW.
18883	SON	GR <b>AB</b> O/C	6481890	632510		Siliceous breccia with drusy texture around clasts. 1m width, O25/45SE.
18886	SON	GRAB O/C	6481650	633030		Carbonate vein in volcanic tuff. Rusty. 5–10cm, brecciated 000/90.
18888	SON	FLOAT	6481710	633260		Altered tuff-fuchsite/sericite/limonite.
18889	SON	GRAB O/C	6481710	633260		Altered tuff in fault breccia. Carbonate stringers.
18890	SON	GRAB O/C	6481710	633260		Siliceous altered tuff. Brecciated limonite zone approx 2m. Siliceous zone in hanging wall.
18891	SON	FLOAT	6481840	633770		Andesite tuff/flow with mafic phenos and disseminated pyrite.
18892	KID	FLOAT	6482760	634470		Drusy quartz vein. 10cm limonitic.
18895	YELLOW	FLOAT	6476820	636290		Andesite tuff with disseminated, blebby and stringers of pyrite.
18896	YELLOW	FLOAT	6476910	635770		Quartz, limonitic with spotty pyrite.
18897	YELLOW	GRAB O/C	6476880	635660		Andesite flow/dyke? Pyrite on fractures with minor malachite.
18898	YELLOW	GRAB O/C	6476880	635630		Quartz-chalcopyrite stringers in andesite.
18908	SON	GRAB O/C	6482560	633000		Carbonate-quartz vein, 15cm, in 10m width carbonate altered zone.
18909	KID	GRAB O/C	6482610	633910		Intense carbonate altered volcanic. Limonitic, brecciated, some quartz stringers.
18910	KID	GRAB O/C	6482600	633920		Carbonate-quartz vein breccia in carbonate altered volcanic.
18923	BROWN	GRAB O/C	6476780	631890		Limonitic intrusive monzonite with disseminated to blebby pyrite and spotty magnetite.

SAMPLE NO.	CLAIM	WIDTH metres n	UTM northing		ELEVATION metres	DESCRIPTION
18924	BROWN	GRAB O/C	6476510	632150		Felsic dyke with disseminated, blebby pyrite.
18925	BROWN	GRAB O/C	6476240	6 <b>3228</b> 0		Monzonite with fracture filled and disseminated pyrite. Adjacent to rhyolite dyke.

Appendix C

## **ROCK ANALYTICAL RESULTS**

COMP: AZIMUTH PROJ: TUNJONY ATTN: G.CROWE	PO TOLTJ				WEST 15TH ST., N	<b>S ICP REPORT</b> ORTH VANCOUVER, B.C. V7M 1T2 14 OR (604)988-4524		FILE NO: 1S-0191-RJ DATE: 91/07/20 * ROCKS * (ACT:F31
SAMPLE NUMBER 18854 18855 18856 18857 18857 18858 18861 18866	AG AL A PPM PPM PP .3 1440 3 1.6 3150 20 .8 2240 20 72.5-2030 190 1.7 2540 4 2.4-3690 1.0 2180 57	PM         PPM         PF           56         6         1           51         5         4           56         3         6           57         6         4           53         5         3           1         11         1	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	PPM         PPM         PPM           10         .3         3           10         .1         9           7610         .6         13           10         22.6         14           96150         .1         17           6120         .1         286	PPM         PPM         PP           20         6310         35           22         12460         150           34         17690         75           38488-         54480         80           192         51230         100           226         224810         43	0 2 480 196 2 30 7 130 0 1 410 163 26 20 59 90 0 1 4140 546 3 20 109 100 0 1 260 170 28 20 14 150 0 1 52490 2097 1 80 52 230 0 1 210 1 7 130 1 100	I         PPM         PM         PM	1 5 142 8
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COMP: AZIMUTH PROJ: TUNJONI ATTN: G.CROWE											iest 1	5TH ST	., NO	RTH V	- IC VANCOU (604)	VER, E	B.C.		172											DATE:	-0190-RJ 91/07/2 (ACT:F31
SAMPLE NUMBER 18872 18873 18874 18875 18876	.7 5.9 1.2	AL PPM 7400 2780 3780 4360 37770	AS PPM 23 33 21 40 1	B PPM 5 3 3 1 7	BA PPM 58 8 19 5 20	BE PPM .2 .3 .7 .6 .1	BI PPM 7 1 1 2 9	CA PPM 6260 4130 10 10 11520	CD PPM .1 .1 1.2 .1 .1	CO PPM 35 1 7 2 36	145 17449 200		PPM 860 1390 2740 2260	9 1 2 2	2950 370	PPM 74 115 593 76	PPM 2 64 119 49	330 10 20 10	2 2 2 2 2 2 2	520 50		PPM 5 2		1 1 7 4	PPM 521 9 11 9	V PPM 28.8 14.4 3.4 15.5 223.5	PPM 87 18 349 41	GA PPM 1 1 2 3 1	SN PPM F 1 1 1 1	W CR PPM PPM 2 50 7 184 6 90 6 167 3 36	AU~FIRE PPB 24 18 3 7 2
18877 18878 18879 18880 18881 18882	1.3 7.1 5.4 1.0 1.4 66.7	4910 34430 24330 37090 1370 3640	27 1376 972 296 34 69	1 6 5 7 1	8 28 15 63 8	.7 .6 .8 .8 .5 .5	3 1 1 3 2	68360 24130 22790 66080 86520 68030	.1 .1 .1 .1 .1 .1	8	70 9620 8861 3486 52 334	20100 54400 40120 65860 19560 21550	340 400 970 1290 290 510	7 60 44 66 3	11430 53210 34380 55190 19430 40740	946 935 428 1236 1170 462	7 1 2 4 4 4	30 100 9 200 7 20 2 10	19 999 738 1	290 900 1300 710 70 50	12 23	2 27 34 3 3	54 55 58 127	1 1 1 1 1 1	56 187 45 67 11 8	47.2 226.5 65.2 151.9 48.0 62.1	13 386 315 42 15 13	5 1 1 4 1	1 1 1 1 1 1	8 188 9 208 8 198 10 286 5 104 6 157	2 39 28 10 4 381
18883	1.0	1430	35	1	27	.1	1	970	.1	5	25	-5540	650	2	550	104	26	20	10	20	5	2	3	1	7	10.8	2	2	1	9 229	4
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MUNEE         AG         AL         AS         B         BA         BE         BL         CA         CD         CO         CU         FE         K         LI         M         MO         NA         NI         P         PB         PB         PPM         PM	73-RJ1 /08/06 T:F31)
18892       .1       1640       62       1       31       .1       1       7310       .1       10       47       23480       710       1       1020       2364       12       30       11       150       25       9       4       1       24       29.5       56       1       1       9       225         18895       1.9       37920       1       3       9       .1       17       12910       .1       39       45       96600       820       34       31290       1588       1       30       1       24       1       4830       243.7       93       1       1       4       33         18896       .5       1470       45       3       1       49280       730       1       530       62       33       20       6       130       8       2       1       55       9       40       1       1       7       102         18897       7.4       26640       1       1       13       20218       .1       36       2575       50260       14640       61       21590       47       1010       39       18       109       1       122	FIRE PPB 2 1 2 1
18908       1.9       2690       1       1       26       .6       1       99450       .1       12       12       12       1       1       28       5320       570       2       68730       1582       1       80       5       100       1       11       15       1552       970       2       68730       1582       1       80       5       100       1       11       15       1552       970       3       42330       1770       1       70       4       140       2       13       45       1       15       552.0       11       1       49       15       15       11       12       11       13       11       15       552.0       100       1       15       552.0       11       1       42       13       45       1       15       552.0       11       1       42       13       45       1       15       552.0       1       1       20       1       13       75       15       55       1       1       3       75       1       1       46       10       10       1       1       3       75       1       1       1       3 </td <td>4 46 2 5 2 1</td>	4 46 2 5 2 1
	1 3 22

#### MIN-EN LABS - ICP REPORT

I: G.CROWE	P.O. T									705			980-58					V7M	112										* p∩		E: 91/ (ACT)	
MPLE	AG	AL	AS	В	BA	BE	BI	CA	CD	CO	CU		K PPM					NA	NI	Р	PB	SB	SR	TH	TI	V	ZN	GA			R AU-F	
JMBER 3923 3924	.7	8970 10210	<u>PPM</u> 11 1	<u>РРМ</u> 12 9	55 310 55	.1 .1 .2	<u>РРМ</u> 7 14	5310 5800 9650	.1 .1 .1	<u>РРМ</u> 6 10	34 10	20320 40390	920 2910 1720	12 16	5110 8960 2310	224 233	5 6	770 570	1	770 1370	14 12 17	3 1	23 24	2 1	1103 2826 631	43.7 44.5	44 22	7	1 2 1	5 10	1	
3925	1.3	17770	1	7	55	.2	7 9	9650	. 1	6	366	15580	1720	8	2310	131	6	1790	1	840	17	1	50	2	651	26.3	24	2	1	49	1	
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# **TSL LABORATORIES**

2 - 302 - 48th STREET, EAST SASKATOON, SASKATCHEWAN S7K 6A4 (306) 931-1033 FAX: (306) 242-4717



#### **CERTIFICATE OF ANALYSIS**

SAMPLE(S) FROM SAMPLE(S) FROM Prime Exploration Ltd. 10th Floor-Box 10 808 West Hastings Street Vancouver, B.C. V6C 2X6



INVOICE #: 17944 P.O.: R3401

SAMPLE(S) OF ROCK

T. Muraro Project: TOLTJ Azimuth

REMARKS: Azimuth Geological Inc.

Au ppb

184012018402518404518405251840630

COPIES TO: J. Blackwell INVOICE TO: Prime Exploration - Vancouver

Aug 19/91

VED \_\_\_\_\_ Bernie Vinn Page 1 of 1

SIGNED .

For enquiries on this report, please contact Customer Service Department. Samples, Pulps and Rejects discarded two months from the date of this report.

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PRIME EXPI 10th Floor Box 1 808 West Hasting PROJ:TOLTJ S3034	10	ION	LT	D.							: (306	5) 931 C.A.	1	033 <b>P</b>	FAX	SKATCH #: (3 MA : stion	306) 2	242 -	67K (					P F	EPORT age l ile No ate	No. :	1 ( AU				
SAMPLE #	Ag ppm	A1 %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	к %	Mg %	Mn ppm	Mo	Na %	Ni ppm	P ppm	Pb ppm	Sb ppm	Sc ppm	Sn ppm	Sr ppm	TI ppm	V ppm	W ppm	Y ppm	Zn ppm	Zr pp
18401	. 1	0.24	30	< 10	17	< 1	< 5	17	1	15	35	30	4.7	0.21	0.91	1600		0.01	24	160	12	20	14	< 10	250	< 1	100	< 10	15	52	
18402	100.000	9 ° ° ° ° 8	35						< 1	5			11. AN 12		10.00	1400	100 C	0.0000000	16	一部	11	15		1000	170			< 10	7	18	
18404	Contraction of the		45 120						< 1 < 1		31				0.97	1500 1100		0.01	22	30	11 12	20	1000		400			100	9	26 28	
18405 -	Statistics, Married St.	1000101	120	1100 100 20	1000	13 NB	1.		208-227 2		110 66				T. Strikes	1200	104.000 miles		100	160	103		041111111		340		1011-11/3		6	29	

A .5 gm sample is digested with 2 ml of 3:1 HCL/HNO3 at 95 C for 90 min and diluted to 10 ml with DI H20 This method is partial for many oxide materials

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Appendix D

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## SOIL AND SILT ANALYTICAL RESULTS

COMP: JZIMUTH GEOLOGICAL

#### MIN-EN LABS - ICP REPORT

FILE NO: 15-0274-5J2+3

PROJ: TUNJONI
ATTN: G.CROWE/J.BLACKWELL

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

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

\* SOIL \* (ACT:F31)

DATE: 91/08/08

NUMBER         PPH         PPH<	IN: G.CROWE/J.BLA	CKWELL								(0	04)980	-2014	UK (	(004)9	58-474	24												- 50	1L "	(AL	.1:5
$ \begin{array}{c} 1060 09+50W \\ 1.2 14180 13 \\ 11060 09+50W \\ 1.8 17770 22 \\ 11060 09+50W \\ 1.8 17770 23 \\ 23 6 67 \\ 7 18 \\ .4 11 9620 \\ .1 9620 \\ .1 92 01 \\ .1 920 \\$	SAMPLE NUMBER																								V PPM						
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	L1060 09+50W L1060 09+00W L1060 08+50W	1.2 14180 1.3 17770 .8 23630	13 23 6	8 8 7	30 67 38	.9 .8 .4	2 8560 4 16370 11 9620	.1 1.4 .1	23 53 29	237 554 135	33940 41090 52210	1260 3360 1770	23 32 42	11270 14430 16460	1253 2317 1255	23 9 17	920 500 460	28 32 21	1840 2280 1290	89 91 52	1	27 43 42	1 1 1 1	446 658 2020	74.1 101.0 152.7	115 274 175	1 1 1 1	1 1 1 1	4 3 6 8 1	66 31 65 63	5
L1060       94+00W       2.8       28710       33       7       32       5       11       17290       1       67       630       5600       1560       48       25620       1747       8       480       83       1340       117       1       51       1       12191       235.       560       1       1       5       64       55       50       1       15       67       7       68       8       10       20450       22.5       57       542       47550       10010       35       66       1510       1669       3       52       1       1517       223.9       1691       1       1       5       64       55       550       550       550       550       550       550       550       550       550       550       550       550       560       1       1       54       15       350       4403       1821       13       550       64       101       350       440       1       12050       1323.9       1601       1       54       1       355       11       1       1       1       1       1       14       43       13350       1       1       133	L1060 07+50W L1060 07+00W L1060 06+50W L1060 06+00W L1060 05+50W	1.4 5350 .9 14500 1.6 24050 1.3 27710	1 18 65 42	5	13 71 89 28	.7	1 4880 5 14260 8 14330	8.1 .1	7 29 31	224 162 253	13130 28920 47920	420 1080 1740	1 23 49	870 11290 25750	121 1552 1376	42 13 21	480 450 440	9 32 58	2060 2210 980	15 71 46 23	1	13 42 41	1	113 542 1517 2027	13.1 137.3 136.5 127.7	44 375 220 130	1 1 1 1	1 1 1 1	1 5 6 1	21 54 0 <b>3</b>	5 5 10 5
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	L1060 05+00W L1060 04+50W L1060 04+60W L1060 03+50W L1060 03+60W	2.8 28710	81 33 34 92	6 7	24 168	.4 .5 .6	6 17420 11 17290 7 17940	9.8 .1 .1	84 67 58 57	530 630 473 542	36380 56060 45540 47550	1330 1560 1010 1030	25 48 36 29	13470 25620 20880 14430	1846 1747 1246 1821	12 8 7 13	430 480 530 550	38 83 64 68	2020 1340 1630 1510	397 117 95 669	1 3	46 51 50 52	1 1 1	2191 1430 1517	239.5 147.2 223.9	560 363	1 1 1 1	1 1 1 1	479	42 90 67 44	20 5 5
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	L1060 02+00W L1060 01+50W L1060 01+00W L1060 00+50W L1060 00+00W	2.4 21000 2.0 12610 .8 16010 .2 24980	36 31 59 164	6 7 6	56 51	.6 1.0	10 15800 4 23150 5 17130 6 11340	.1 6.3 1.1 .1	57 66 68	557 293 304	33620 42430 60470	1290 1110 840	16 20	9930 11590	1620 2006	13 21	540 560 380	45 50 64	2080 2310 2020	77 80 67	2 2 1	58 36	1 1 1 1	672 721 943	97.0 170.8 158.5	411 382 369 263	1 1 1 1	1 1 1	4 3 4 7 1	36 26 40 13	10 5 5 5
L1595       8+00E       .1       24780       4       6       67       .4       2       1470       .1       15       98       47160       1310       14       6380       485       1       40       17       1390       12       3       11       1       123       121.8       72       1       1       4       58       10         L1595       9+00E       .1       16390       1       6       601       .3       1       588       66730       1450       4       3140       1162       1       60       26       590       9       1       12       1       23       223.3       76       1       1       572       5         L1595       10+00E       .2       6990       10       2       485       .9       1       7280       .1       10       17       26900       1435       1       60       2       1340       38       1       56       3       34       61.7       62       1       1       8       5       5       55       1       6       30       24100       930       6       1200       550       1       50       14       1090 <td>L1595 1+00E L1595 3+00E L1595 4+00E L1595 5+00E</td> <td>.3 18820 .1 12660 .1 18690 .1 22210</td> <td>68 48 27</td> <td>4 5 5</td> <td>161 181 363 129</td> <td>.7 .8 .7 .8</td> <td>2 2110 1 910 3 3180 3 5010</td> <td>.1 .1 .1 .1</td> <td>13 20 10 19</td> <td>26 46 37 114</td> <td>20280 40610 32250 46890</td> <td>1760 1300 740 1080</td> <td>16 2 10 15</td> <td>3740 1350 3950 11390</td> <td>443 567 355 808</td> <td>1 1 1 1</td> <td>70 30 60 80</td> <td>20 16 12 34</td> <td>890 910 790 670</td> <td>44 22 17 15</td> <td>42</td> <td>11 7 12 17</td> <td>1</td> <td>24 18 118 315</td> <td>41.1 45.1 87.2 124.3</td> <td>63 66 54 67</td> <td>2 1 1 1</td> <td>1 1 1 1</td> <td>2 1 4 5 8</td> <td>89 21 59 85</td> <td>10 5</td>	L1595 1+00E L1595 3+00E L1595 4+00E L1595 5+00E	.3 18820 .1 12660 .1 18690 .1 22210	68 48 27	4 5 5	161 181 363 129	.7 .8 .7 .8	2 2110 1 910 3 3180 3 5010	.1 .1 .1 .1	13 20 10 19	26 46 37 114	20280 40610 32250 46890	1760 1300 740 1080	16 2 10 15	3740 1350 3950 11390	443 567 355 808	1 1 1 1	70 30 60 80	20 16 12 34	890 910 790 670	44 22 17 15	42	11 7 12 17	1	24 18 118 315	41.1 45.1 87.2 124.3	63 66 54 67	2 1 1 1	1 1 1 1	2 1 4 5 8	89 21 59 85	10 5
10-0-18887   .1 9000 3 5 553 .6 1 8020 .1 18 88 40970 1620 8 4430 1134 1 50 14 1090 17 1 54 1 32 93.6 91 1 1 2 19 5 10-0-18893   .4 22920 1 5 243 .8 3 9530 .1 26 56 36740 1560 13 39240 761 1 120 247 1550 16 1 44 1 541 77.4 85 1 1 5 138 5	L1595 7+00E L1595 8+00E L1595 9+00E L1595 10+00E	.1 19650 .1 24780 .1 16390 .2 6990	4	6 6 2	171 67 601 485	.8 .4 .3 .9	1 5680 <u>1 7580</u>	.1 .1 .1 .1	20 15 25 10	123 98 88 17	50190 47160 66730 26900	990 1310 1450 1430	14 14 4 3	9400 6380 3140 1690	923 485 1162 1435	1	80 40 60 60	17 26 2	690 1390 590 1340	12 9 38	1	12 56	1 1 1 3	170 123 23 34	127.2 121.8 223.3 61.7	72 76 62	1 1 1 1	1 1 1 1	4 5 1	56 58 72 8	10 5 5
	L1595 11+00E 10-0-18887 10-0-18893 10-0-18894	.1 9000 .4 22920	1	6 5 5 5	243	.7 .6 .8 .5	1 8020	.1	18 26	88 56	40970 36740	1620 1560	8 13	4430 39240	1134 761	1	50 120	14 247	1090 1550	16	1	54 44	1 1 1	32 541	93.6 77.4	91 85	1	1	2 1 5 13	19 58	5 5 5 5
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MP: AZIMUTH GEOLOGI OJ: TUNJONY P.O. TO TN: G.CROWE/J.BLACK	DLTJ								15T	<b>I LA</b> H ST., 4)980-	NORT	H VAN	COUVE	R, B.C	C. V7		2											NO: DATI	E: 91/	/08/
SAMPLE NUMBER		AS PPM	B PPM	BA	BE DDM D	BI C/ PPM PPI		CO PPM	CU	FE			MG	MN PPM	MO	NA	NI	P PPM	PB PPM	SB PPM	SR PPM	TH	TI PPM		/ ZN			W I PPM PI	CRAU- Pm	-WE1 PPE
L 1225 2+50W L 1225 1+50W L 1225 1+50W L 1225 1+00W L 1225 0+00W L 1595 12+00E	1.6 21290 1.2 18830 1.4 27980 1.0 21690 .4 14160	-	14 9 10 7 5	403 862 309 378 439		7 9210 6 8930 11 7610 7 7010 3 5850	) .1 ) .1 ) .1	67 61	1133 722 378	45300 42320 40870 38920 30980	800 1920 1390	21 18 25	7590 5460 7650 6430	2784 5137 4388	75 63 183 84	100 110 110	3 18 30 19	1950 2230 1620 1800 860	206 135 605 323 37	1 1 1 2 1	76 77 76 68 33		1111 300 497 465 136	84.0 46.0 62.2 51.5 73.4	7 122 195 2 208 5 161 4 57	3 3 4 4 2		12 3 3 3		
L 1595 13+00E L 1595 14+00E L 1595 15+00E L 1595 16+00E L 1595 17+00E	.5 16410 .5 18590 .4 27100 .4 26670 .5 26010	4 11 10 14 7	5	534 619 310 245 150	.7 .6 .2 .5 .3	2 7500 3 4520 3 2290 3 2220 3 1330	) .1 ) .1 ) .1 ) .1	6 10 8	26 15 24 29	32490 30670 25210 32290 30600	1560 1190 1190 1460	6 5 12 9	2880 2750 4030 3910	489 804	1 1 1	120 120 160	12 3 15 9	1100 1960 1380 1630	13 19 24	2 1 1 1	33 26 16 13 10	1 1 1 1	135 63 116 103 121	75.1 77.4 80.3	62 5 53	33	1 1 1 1	2222	10 16 25 23 29	
L 1595 18+00E L 1595 19+00E L 1595 20+00E L 1595 21+00E	.1 30610 .1 32410 .3 21690 .5 21240	46 29 21 21	6 6 5 4	529 173 70 89	.7 .5 .3 .4	4 8520 3 5210 3 3380 3 5360	) .1 ) .1	20	71	53460 51630 33950 38160	820	21 19 16 15	13270 11010 10010 17120	659 803 614 883	1 1 1	500 140 120 150	165 81 50 90	1850 1060 800 830	17 20 15 14	1 1 1	23 14 11 14	1 1 1	124 255 276 472	140.5 140.3 99.1 103.8	5 47 5 63 1 53 5 58	4434	1 1 1	9 19 6 10 5 1 6 10	)9 35	5555
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**TSL LABORATORIES** 

DIV. BURGENER TECHNICAL ENTERPRISES LIMITED

2 - 302 - 48th STREET, EAST SASKATOON, SASKATCHEWAN S7K 6A4 (306) 931-1033 FAX: (306) 242-4717

### **CERTIFICATE OF ANALYSIS**

SAMPLE(S) FROM 10th Floor-Box 10 808 West Hastings Street Vancouver, B.C. V6C 2X6



INVOICE #: 17949 P.O.: 1S-0415-SG1

SAMPLE(S) OF Soils

T. Muraro Project: TOLTJ Azimuth

REMARKS: Azimuth Geological Inc.

Au ppb

18403		5
L1390	0+00	<5
L1390	0+50	250
L1390	1+00	<5
L1390	1+50	<5
L1390	2+00	25
L1390		<5
L1390	3+00	<5

COPIES TO: J. Blackwell INVOICE TO: Prime Exploration - Vancouver

Aug 19/91

SIGNED \_\_\_\_\_\_ Bernie Umm Page 1 of 1

For enquiries on this report, please contact Customer Service Department. Samples, Pulps and Rejects discarded two months from the date of this report.

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10th 808	IME EXP h Floor Box West Hastin J:TOLTJ 41	10	LON	LT	D.					A. 233	2-48TH ONE #:	(30	6) 93: C.A	SASKAT 1 - 103 . P. Aqua-Re	PI	FAX	MA	306) SCA	242 -	s7к б 4717	A4				P				of 1 26MB			
SAM	MPLE #	Ag	Al	As	в	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	ĸ	Mg	Mn	Мо	Na	Ni	P	Pb	Sb	Sc	Sn	Sr	TÍ	v	w	Y	zn ]	Zr
		ppm	*	ppm	ppm	ppm	ppm	ppm	*	ppm	ppm	ppm	ppm	*	*	*	ppm	ppe	*	ppm	ppm	ppa	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppa	ppm	ppe
18403		< 1	2.3	20	< 10	18	٢ ١	< 5	2.3	< 1	25	160	98	4.1<0	.01	1.4	810	< 2	0.01	74	550	3	20	12	< 10	51	1100	110	< 10	9	53	8
L1390	0+00	< 1	3.4	10	< 10	35	< 1	< 5	0.59	< 1	32	200	77	5.1 0	.04	1.6	780	< 2	0.01	150	480	6	20	7	< 10	19	1300	140	< 10	5	62	4
L1390	00+50	< 1	2.0	< 5	< 10	46	< 1	< 5	0.61	< 1	19	180	57	4.2<0	.01	1.1	820	2	0.01	70	950	8	10	5	< 10	21	550	150	< 10	4	62	2
L1390	1+00	< 1	2.7	10	< 10	37	< 1	< 5	0.91	< 1	27	190	130	4.5<0	.01	1.4	770	< 2	0.01	120	720	7	10	7	< 10	24	570	140	< 10	7	64	4
L1390	1+50	< 1	2.1	15	< 10	39	< 1	5	0.78	< 1	20	200	59	4.2 0	.04	1.1	850	2	0.01	73	1500	6	5	4	< 10	23	350	170	< 10	4	54	2
L1390	2+00	< 1	3.1	15	10	28	< 1	< 5	0.66	< 1	44	220	120	5.1 0	.05	1.5	1100	< 2	0.02	150	590	3	20	10	< 10	16	1400	150	< 10	8	96	6
L1390	2+50	< 1	3.8	< 5	10	17	< 1	10	0.64	< 1	38	230	110	5.5 0	.03	1.6	940	< 2	0.01	180	550	1	25	9	< 10	13	1900	140	< 10	10	74	6
L1390	3+00	(1	2.7	15	10	78	< 1	< 5	0.66	< 1	22	180	120	4.3(0	.01	1.4	780	(2	0.01	100	570	10	10	12	< 10	27	770	160	< 10	11	68	5

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A .5 gm sample is digested with 2 ml of 3:1 HCL/HNO3 at 95 C for 90 min and diluted to 10 ml with DI H2O This method is partial for many oxide materials

SIGNED :

TSL/91

AMPLE	AG	AL	AS	В	BA	BE	BI	CA	CD	CO	CU	F	E K	LT	MG	MN	MO	NA	NI	P	PB	SB	SR	TH	TI	v	ZN	GA	SN	W C	R AU-	WE.
UMBER	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPI	1 PPM	PPM	PPM	PPM 1080	PPM	PPM	PPM	PPM	PPM	PPM	PPM I	PPM	PPM	PPM	PPM	PPM	PPM F 1	PM PP 5 16	<u>M</u>	PPI
8859 8860 8884	.1	20900 13730 17200	1 9 1	1 1 1	344 252 214	.1 .4 .5	- 3	16180 10160 9260	.1 .1 .1	21 18	81 40	4552 3722	) 2610 ) 1370 ) 1780	7 15	20550 19840	1203 797	1	230 150	139	900 1500	62 17	1	35 37	1	954 632	160.5 120.6 97.1	135 80	1	i 1	6 11 5 9	8	10
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COMP: AZIMUTH PROJ: TUNJONY ATTN: G.CROWE		AL								EST 1	<b>EN I</b> 15TH ST (604)98	r., NO	ORTH N	ANCOU	/ER, B 988-45	3.C. V 524		12										* SI	DAT LT *	E: 91 (AC	91-SJ /07/2 T:F31
SAMPLE NUMBER 18862 18863 18864 18865 18867	.7 10 .4 7 .4 11 .8 22 .9 21	150 2 930 68 400 187 290 22	7 5 5 8 4	BA PPM 132 65 73 189 34	.9 .5 .6 .9 1.0		7230 7050 6770 7850 15240	CD PPM .1 .1 .1 .1 .1	15 7 13 30 24	75	PPM 27340 18220 25920 52800 36610	PPM 1210 670 670 1710 490	18 10 19 32 42	PPM 7250 4820 9500 21290 30490	1415 692	PPM 5 1 4 1	PPM 250 120 110 160 50	5 3 28 65 108	PPM 1190 1270 1040 1250 850	PPM 41 21 28 25 13	PPM F 1 1 3 1	29 29 19 18 33	2 1 1 1	599 650 557 1042 660	PPM 63.7 56.5 74.5 130.4 93.8	PPM 80 58 81 149 72	PPM	PPM 1 1 1 2	PPM P 1 2 3 10 2	4 7 35 47 45	PPB 10 5 10 5 5
18868 18869 18870 18871	.6 23 .4 21 .3 25 .9 13	670 45 610 21 650 1 170 7908	5 3 10	71 37 49 18	1.0 .9 1.1 .4	4 4 20	6910 8770 8770 52690	.1 .1 .1 .1	36 21 30 178	107	51460 35290 44510 33220	630	31 25 33 10	31690 24590 37060 3000	1181 634 866 765	5 1 1 5	50 70 50 1070	166 79 97 38	980 860 790 1150	11 7 1 33	1	22 27 17 56	1 1 1	813	113.0 104.8 116.4 28.1	85	1 1 2	1 2 2 1	11 2 7 1 8 2 2	65 22	5 5 5
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Appendix E

### ANALYTICAL PROCEDURES

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Division of Assayers Corp. Ltd.

ANALYTICAL PRECEDURE REPORT FOR ASSESSMENT WORK: PROCEDURE FOR WET GOLD GEOCHEMICAL ANALYSIS

المحادية المحصوفين والبنا والإلاون

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

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

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

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

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



Division of Assayers Corp. Ltd.

ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT WORK: PROCEDURE FOR TRACE ELEMENT ICP

مستان المراجب والمراج

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

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

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

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

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

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