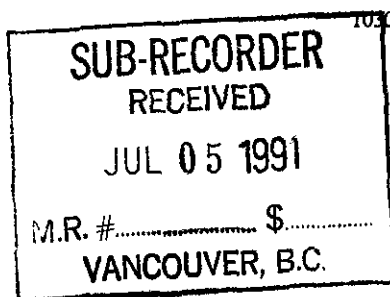


**Daiwan Engineering Ltd.**

1030 - 609 Granville Street, Vancouver, B.C. Canada V7Y 1G5

Phone: (604) 688-1508



**GEOLOGICAL AND GEOCHEMICAL ASSESSMENT REPORT**

**ON THE**

**SHANNON MINERAL CLAIM GROUP**

**NORTHERN VANCOUVER ISLAND, B.C.**

NTS: 92L/12E,W

Longitude: 127° 45' W

Latitude: 50° 40' N

For

**Universal Trident Industries Ltd.**

1030 - 609 Granville Street  
Vancouver, B.C.  
V7Y 1G5

By

David J. Pawliuk, B.Sc., P.Geol.

May 27, 1991

21,490

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**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

21,490

## SUMMARY

The Shannon claims cover ground that was previously held as part of the 'Expo' Claim Group by Utah Mines Ltd. during the late 1960s. The claims are immediately adjacent to auriferous base metal showings on the Dorlon and HPH mineral claims, and are north and east respectively of the Wann and Hushamu porphyry copper prospects.

The claims cover 12 square kilometres of ground east of Nahwitti Lake on N.T.S. map-sheet 92L/12. Utah Mines Limited conducted extensive geological mapping and geochemical soil sampling in this area between 1968 and 1974. Copper and zinc anomalies were outlined in the northeastern corner of the property as a result of this sampling.

The property is underlain by andesites and tuffs of the Bonanza Formation. These rocks are generally siliceous with moderate to high degrees of propylitic alteration with sulphide content consisting mainly of disseminated pyrite with possible chalcopyrite ranging from trace up to 10%.

Underlying the Bonanza Formation in the northeastern portion of the claims are cherts, cherty sediments, and andesite breccias that belong to the Parson Bay Formation. Thin-bedded limestone was also observed in the northeastern corner of the property. This unit is consistent with the lower contact of the Parson Bay Formation.

Intruding the Bonanza and Parson Bay formations and outcropping in an apparently northwest trend through the west-central region of the property is a Late Jurassic Island Intrusion which ranges in composition from quartz feldspar porphyry to rhyolite porphyry to quartz diorite to diorite, and is fine to coarse grained with locally up to 10 % magnetite.

Two rock samples collected in April 1989 were anomalous in copper. Sample SH-01 contained 0.21% copper and SH-05 contained 0.26% copper. These two samples came from a locally derived float boulder of siliceous sediment with 5-8% disseminated coarse pyrite.

The soils collected by Utah Mines Limited show a northwest-trending copper anomaly extending over 1.5 kilometres long and up to 500 metres wide centred in the limestone unit near an intrusive contact.

A zinc soil anomaly in the same area has values ranging to 860 ppm zinc. A second anomalous zinc zone, south of this area is within the Parson Bay Formation. This anomaly intermittently extends for over 1.5 kilometres northwesterly. Values range from 100 to 3100 ppm zinc.

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Thirty-five rock samples collected from the property area during April 1991 contain up to 2,344 parts per million (ppm) copper, 28,456 ppm zinc, 1,980 ppm lead, 3.4 ppm silver and up to 14 parts per billion (ppb) gold. The rocks containing the highest metal concentrations are skarns formed by the alteration of Parson Bay Formation rocks. These skarns contain pyrrhotite, pyrite, chalcopyrite, sphalerite and/or galena and occur as bands usually 5 to 25 cm wide which are conformable to bedding in the adjacent sediments.

There are a significant number of porphyry copper occurrences along Holberg Inlet to the south, and a number of lead-zinc replacement deposits along the Quatsino Formation limestone contact to the north of the property. These bounding mineralized zones indicate that the Shannon property could host replacement style base or precious metal mineralization, especially within the limy Parson Bay Formation sediments. Gold mineralization in these sediments would be analogous to "Carlin" style mineralization.

A programme of reconnaissance mapping, soil sampling with rock and silt sampling is proposed in this report. This preliminary programme is budgeted at \$30,000.

## **INTRODUCTION**

The Shannon property was staked in June 1989 and restaked by Daiwan Engineering Ltd. in June 1990 in lieu of assessment work. The claims cover ground that was previously held as part of the 'Expo' Claim Group by Utah Mines Limited during the late 1960s. The claims are immediately adjacent to auriferous base metal showings on the Dorlon and HPH mineral claims.

This report was prepared for assessment purposes, and is a presentation of detailed geological mapping and sampling on the northern half of the property.

## **LOCATION AND ACCESS**

The Shannon property is located on northern Vancouver Island approximately 360 km (225 miles) northwest of Vancouver, British Columbia (Figure 1). The claims cover 12 square km of ground east of Nahwitti Lake on N.T.S. map-sheet 92L/12. The northern and eastern portions of the claims can be reached by logging road. The remainder of the property is only accessible by foot or helicopter.

Access to the property is by an old logging road along the Nahwhitti River valley that leaves the Port Hardy-Holberg road at a point 20.0 road km west of Port Hardy.

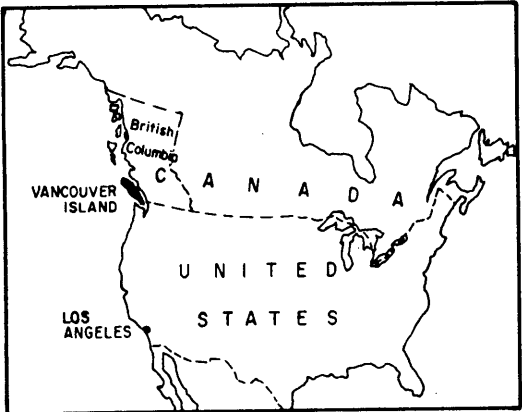
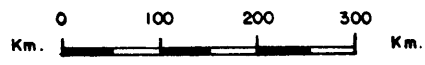
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**PROPERTY**

SCALE



UNIVERSAL TRIDENT INDUSTRIES LTD.		
SHANNON PROPERTY Northern Vancouver Island		
LOCATION MAP		
DAIWAN ENGINEERING LTD.		
SCALE	DATE	FIG.
As shown	JUNE '91	1

Regular airline service is provided by Canadian Airlines International and other carriers from Vancouver to Port Hardy on a daily schedule. Alternately, there is good highway access, with travel from Vancouver taking eight hours.

Port Hardy is the local commercial centre, but there are forestry and fishing centres at Coal Harbour and Holberg.

### PHYSIOGRAPHY AND CLIMATE

The property is centred on a large hill bounded by narrow, deeply incised valleys and steep slopes. Elevations range from approximately 210 to 620 m (690 to 2032 ft.). The hill tops are commonly about 300 metres (1,000 ft.) above valley bottom within the property.

The claims are located within an active logging area, consequently forest cover varies from mature stands of fir, hemlock, spruce and cedar to dense second growth, to open clear cut. Low areas, especially along creeks, are swampy and have thick brush and berry bushes. The centre of the property is a high plateau about 450 m asl which is predominantly cedar swamp.

Thick humus development on the forested slopes and scattered residual glacial gravels in the valley bottoms restrict geological mapping in these areas. Rock exposure is mainly limited to deeply incised, well-scoured creek gullies and logging road cuts.

The area is characterized by warm summers and mild winters. Snowfall in winter is limited to the higher elevations and exploration can usually continue year-round.

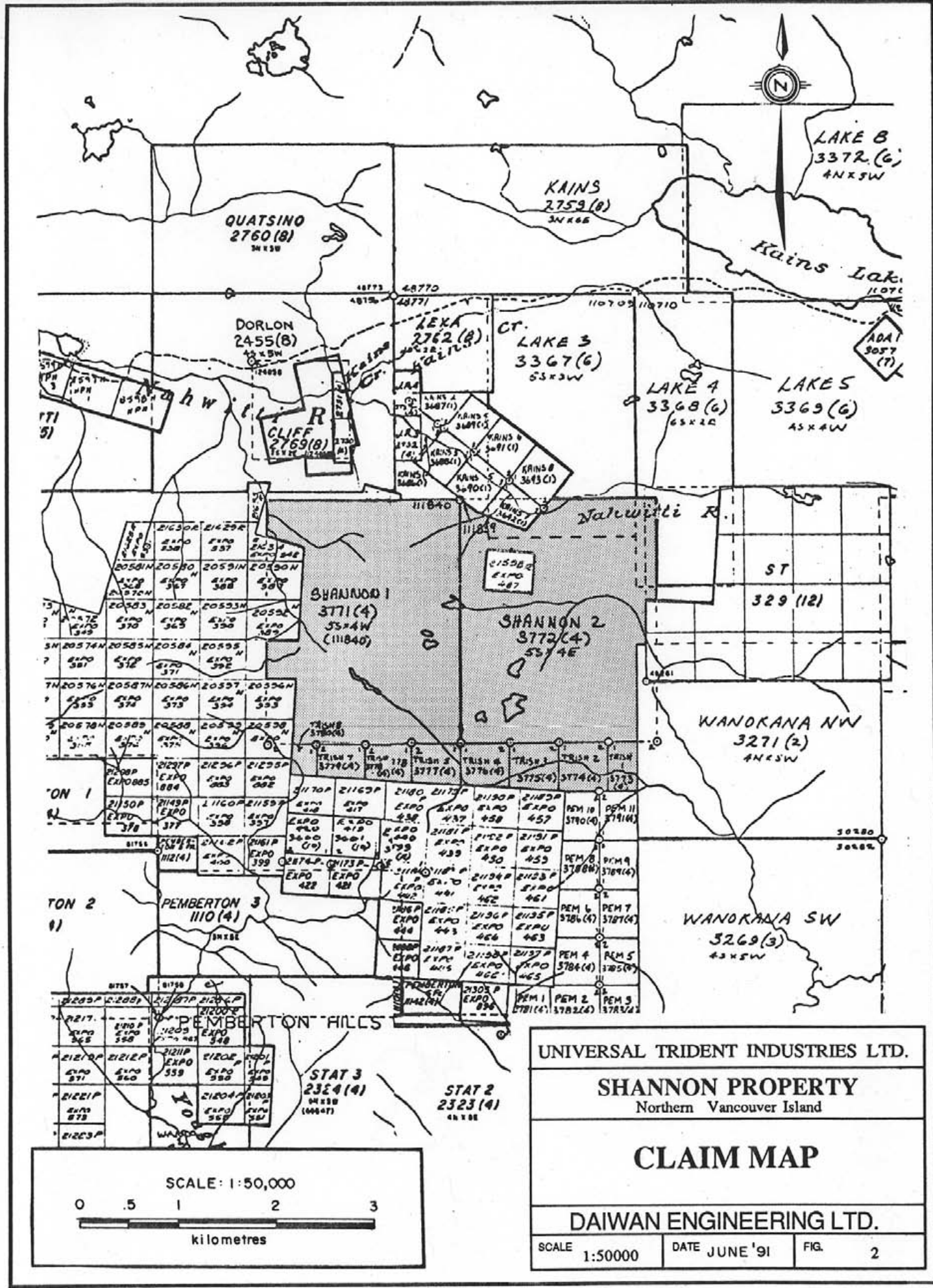
### PROPERTY

The property consists of 10 contiguous mineral claims totalling 48 units recorded within the Nanaimo Mining Division. The mineral claims were staked as the SHANNON 1, SHANNON 2 and TRISH 1 to 8 claims. The claims are all recorded in the name of Daiwan Engineering Ltd. and are held in trust for Universal Trident Industries Ltd. The claim particulars are as follows:

<u>Claim</u>	<u>Record No.</u>	<u>Units</u>	<u>Expiry Date</u>
TRISH 1-8	3773-80	8	April 19, 1991
SHANNON 1	3771	20	April 19, 1991
SHANNON 2	3772	20	April 19, 1991

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UNIVERSAL TRIDENT INDUSTRIES LTD.

**SHANNON PROPERTY**  
Northern Vancouver Island

**CLAIM MAP**

DAIWAN ENGINEERING LTD.

SCALE 1:50000	DATE JUNE '91	FIG. 2
---------------	---------------	--------

## HISTORY

In 1963 the B.C. Department of Mines published the results of a recently completed aeromagnetic survey covering the northern end of Vancouver Island<sup>2</sup>. Since porphyry copper deposits were of interest at the time, considerable exploration activity was generated in the area examining all magnetic anomalies for mineralized intrusive stocks. A continuous zone of high magnetic response was outlined parallel to the north side of Holberg Inlet; this zone crosses the entire northern tip of Vancouver Island.

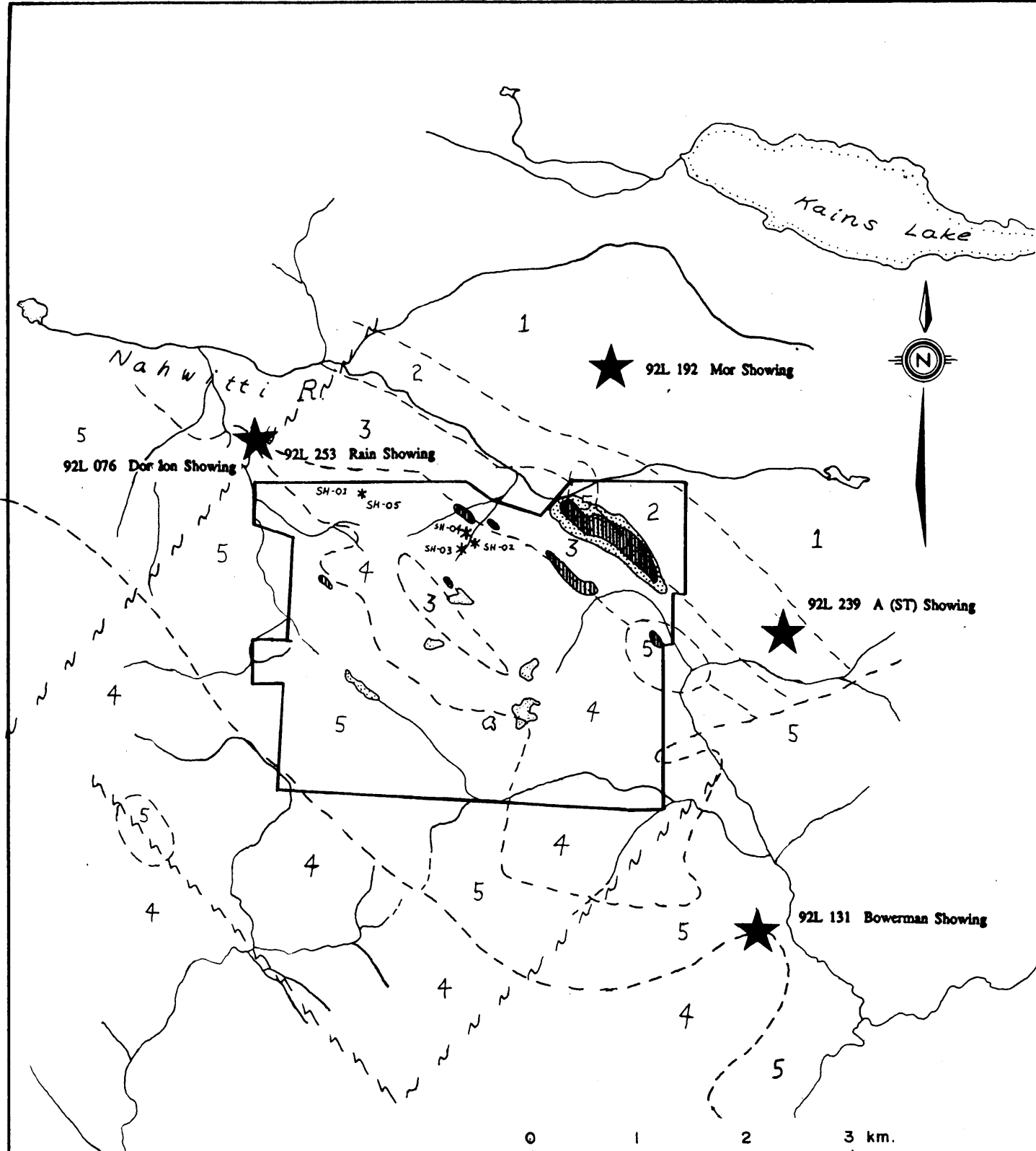
One magnetic anomaly of fairly large areal extent at the eastern end of Rupert Inlet covered a number of poorly exposed copper occurrences. A large number of claims were staked by Utah Mining & Construction Ltd. in 1966 and by 1970 exploration work had resulted in the discovery of the large copper-molybdenum deposit which has developed into the Island Copper Mine. The mine commenced production in October 1971. Production to 1987 has been in excess of 200 million tonnes milled, for concentrate sales of 753,000 tonnes of copper, 23.1 million grams gold, 168 million grams silver, and 15.3 tonnes molybdenum<sup>14</sup>.

With the discovery of a significant copper deposit on the Utah property, a great deal of interest was generated in the mineral belt by individuals and companies searching for copper.

During the height of the exploration activity, Utah Mines Ltd. controlled most of the ground extending from the east end of Rupert Inlet to the west end of Holberg Inlet including the Shannon property. Between 1968-74 they located another large copper-molybdenum deposit in Bonanza Formation volcanic rocks six km west of the Shannon property near Hushamu Lake. The drill-indicated reserve for the Hushamu deposit is greater than 100 million tonnes grading 0.32% copper, 0.008% molybdenum and 413 ppb gold. It is presently being evaluated for open pit mining by Moraga Resources Ltd.

Recorded work on the Shannon property dates back to 1968 when the property was held by Utah Mines as part of the Expo Claim Group. Between 1968 and 1974 Utah Mines Ltd. conducted extensive geological mapping and geochemical soil sampling in the area. The soil sampling outlined copper and zinc anomalies in the northeast corner of the property. Anomalous copper concentrations were found with values ranging up to 582 ppm copper within a northwest-trending anomaly over 1.5 km long and up to 500 m wide (Figure 5a). This anomaly is centred in the limestone unit near an intrusive contact. The zinc soil analyses produced an anomaly of similar dimensions in the same area with values ranging to 860 ppm. South of this area, a second zinc anomaly intermittently extends for over 1.5 km in a northwest direction. Soils within this second anomaly contain from 100 to 3100 ppm zinc (Figure 5a). These zinc concentrations may indicate mineralized fluid migration along bedding planes in the underlying Parson Bay sediments. A possible source of the mineralizing fluids would be the feldspar porphyry dyke systems which are associated with copper mineralization on the properties to the south.





**LEGEND**

- |   |  |       |                            |
|---|--|-------|----------------------------|
| 5 | Island Intrusion (diiorite)              | —     | Fault                      |
| 4 | Bonanza Formation (andesite, tuffs)      | - - - | Geologic Contact - Assumed |
| 3 | Parson Bay Formation (sediments)         | ★     | Minfile Mineral Occurrence |
| 2 | Quatsino Formation (limestone)           | •     | Sample Location            |
| 1 | Karmutsen Formation (basalts, andesites) | ▨     | zinc anomaly               |
|   |  | ▩     | copper anomaly             |

UNIVERSAL TRIDENT INDUSTRIES LTD.		
SHANNON PROPERTY NANAIMO M.D., B.C.		
<b>1990</b>		
<b>COMPILATION MAP</b>		
DAIWAN ENGINEERING LTD.		
SCALE 1:50000	DATE June '91	FIG. 5a

Since completion of the Utah surveys the only reported work on the property has been a one-day examination by Daiwan Engineering Ltd. in April, 1989. Samples collected at that time were anomalous in copper. Sample SH-01 contained 0.21% copper and SH-05 contained 0.26% copper. These two samples came from a locally derived float boulder of siliceous sediment with 5-8% disseminated coarse pyrite. The remaining 1989 samples were not anomalous in any of the six elements tested for.

## **REGIONAL GEOLOGY**

Vancouver Island north of Holberg and Rupert inlets is underlain by rocks of the Vancouver Group. These rocks range in age from Upper Triassic to Lower Jurassic. They are intruded by rocks of Jurassic and Tertiary age and disconformably overlain by Cretaceous sedimentary rocks. Figure 3 shows the regional geological mapping of the northern part of the island.

Faulting is prevalent in the area. Large-scale faults with hundreds to thousands of metres of displacement are offset by younger, strike-slip faults with displacements up to 750 metres (2,500 ft.).

The Vancouver Group is described as follows:

### **(a) Basal Sediment - Sill Unit: Middle and Upper Triassic Age**

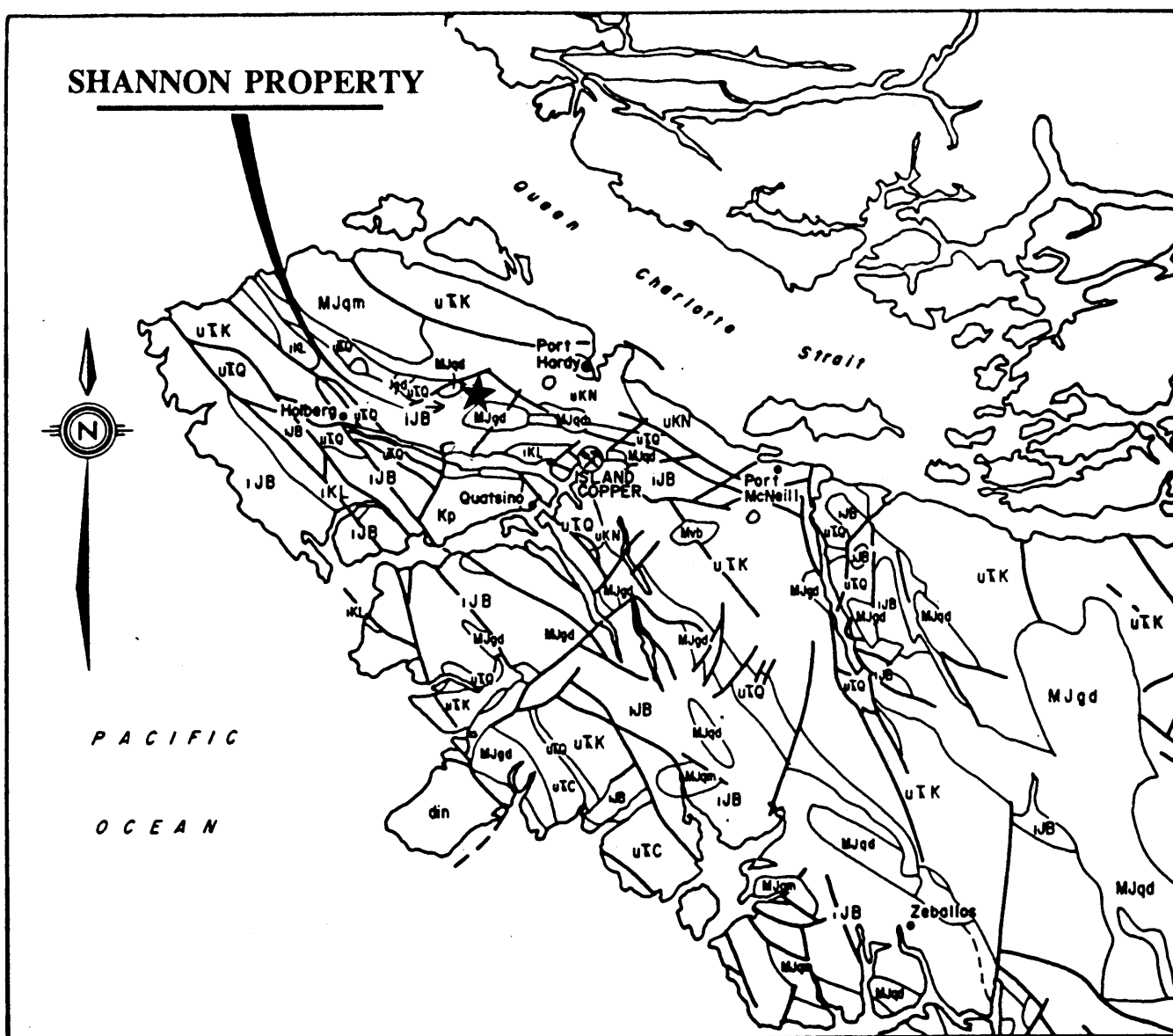
The basal sediment-sill unit consists of laminated to graded-bedded black shales and siltstones, silicified and invaded by diabase sills. The entire unit is estimated at 750-900 metres (2,500 - 3,000 ft.) with the sedimentary portion being about 180 metres (600 ft.) thick.

### **(b) Karmutsen Formation: Upper Triassic Age**

Karmutsen Formation consists of 3,000 - 6,000 metres (10-20,000 ft.) of volcanic flows, pyroclastics and minor sediments. It includes three distinct units: a lower pillow lava unit, a middle pillow breccia unit, and an upper lava flow unit. The latter consists of predominantly porphyritic and amygdaloidal basalt flows, individual flows of which range from 1-30 metres (to 100 ft.) thick.

Two thin bands of limestone occur near the top of the Karmutsen Formation. The distribution of limestone outcrops is erratic and suggests a series of lenses at the same general stratigraphic horizon rather than one continuous bed.

# SHANNON PROPERTY



## LEGEND

### MIOCENE

Mvb basalt flows, sills and dykes

### UPPER CRETACEOUS, PALEOCENE, EOCENE

Kp QUEEN CHARLOTTE GROUP: siltstone, shale, greywacke

### UPPER CRETACEOUS

uKN NANAIMO GROUP: sandstone, shale, conglomerate

### LOWER CRETACEOUS

iKL LONGARM; greywacke, conglomerate

### JURASSIC

Jgd granodiorite, quartz diorite

### MIDDLE JURASSIC

MJqm quartz monzonite, granite, monzonite  
 MJgd granodiorite  
 MJqd quartz diorite

### LOWER JURASSIC

IJB BONANZA; andesite, dacite, rhyolite

### UPPER TRIASSIC

uTQ QUATSINO and PARSON BAY: limestone, argillite  
 uTK KARMUTSEN: basalt, pillow lava

SCALE



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SHANNON PROPERTY  
Northern Vancouver Island

REGIONAL GEOLOGY

DAIWAN ENGINEERING LTD.

SCALE As shown

DATE JUNE '91

FIG. 3

The lower contact of the formation has not been observed on the northern part of Vancouver Island. The upper contact with limestone of the Quatsino Formation is generally discrete and easily recognized, although limestones and basalt locally are interbedded over a narrow stratigraphic interval at this contact.

Low-grade metamorphism of the Karmutsen Formation rocks has resulted in pervasive chloritization and amygdules filled with epidote, carbonate, zeolite, prehnite, chlorite, and quartz.

Basaltic rocks along contacts with intrusive stocks are in many places altered to dark-coloured hornblende hornfels. Skarn zones occur sporadically along these contacts, both in the inter-lava limestones and in the basalts.

(c) **Quatsino Formation: Upper Triassic Age**

The Quatsino Formation ranges from 60-1,000 metres (2,000-3,500 ft.) in thickness and consists almost entirely of limestone with a few thin andesite or basalt flows. It has conformable contacts with both the overlying Parson Bay sediments and the underlying Karmutsen Formation volcanics. The upper contact with the Parson Bay Formation is gradational with limestone grading upward into carbonaceous argillites.

Within the contact metamorphic/metasomatic aureoles adjacent to intrusive stocks, skarn development and silicification of limestone, accompanied by chalcopyrite-magnetite or galena, sphalerite and silver mineralization has been noted.

(d) **Parson Bay Formation: Upper Triassic Age**

The Parson Bay Formation consists of between 60-360 metres (200-1,200 ft.) of argillite, minor limestone, agglomeratic and tuffaceous limestone, tuff, quartzite and minor conglomerate. At both its base and top, the unit exhibits gradational contacts with the Quatsino and Harbledown formations.

On a regional scale, the rocks are unmetamorphosed. Locally, adjacent to intrusive contacts, pyrite-magnetite replacement bands up to one-half inch thick in banded tuffs have been observed.

(e) **Harbledown Formation: Lower Jurassic Age**

The Harbledown Formation consists of 485 metres (1,600 ft.) of a non-volcanic argillite-greywacke sequence separating the Parson Bay Formation from the Bonanza Formation.

(f) **Bonanza Formation: Lower Jurassic Age**

The Bonanza Formation is approximately 1,500 metres (8,500 ft.) thick. The lower portion consists of bedded and massive tuffs, formational breccias and amygdaloidal and porphyritic flows, in the compositional range andesite to basalt. Porphyritic dykes and sills intrude the lower part of the unit. In the upper part of the Bonanza, rhyodacite flows and breccias become more numerous and are interbedded with andesite and basalt flows, tuffs and tuff breccias.

Regional metamorphism within the Bonanza Formation is very low grade, possibly zeolite facies.

Plagioclase commonly is albitized and saussuritized. Chlorite, epidote and laumontite occur within the matrix of volcanic breccias, in veinlets, and in amygdules. Coarse intraformational breccias locally are hematized.

Biotite and amphibolite hornfels occur adjacent to stocks which intrude the Bonanza Formation. "Pyrobitumen", a black hydrocarbon erratically distributed within the Bonanza rocks, generally occurs as fracture filling or in the centre of zeolite-carbonate veins. Its distribution is not related to the position of the intrusive stocks.

**Cretaceous Sediments**

The Vancouver Group is unconformably overlain by non-marine Cretaceous sediments of the Longarm Formation which are estimated to be about 300 metres (1,000 ft.) thick in the Port Hardy area. The Longarm Formation consists of conglomerate, sandstone, greywacke, siltstone and some carbonaceous and impure coal seams; these sediments occupy local basins. Early coal mining in the district was from several of these basins.

**Intrusive Rocks**

The Vancouver Group rocks are intruded by a number of Jurassic-aged stocks and batholiths. In the Holberg Inlet area a belt of northwest-trending stocks extends from the east end of Rupert Inlet to the mouth of Stranby River on the north coast of Vancouver Island<sup>15</sup>.

Quartz-feldspar porphyry dykes and irregular bodies occur along the south edge of the belt of stocks. Dykes are characterized by coarse, subhedral quartz and plagioclase phenocrysts set in a pink, very fine grained, quartz and feldspar matrix. They are commonly extensively altered and pyritized. At Island Copper Mine, these porphyries are enveloped by altered, brecciated and mineralized Bonanza Formation wallrocks. The porphyries, too, are cut by siliceous veins, pyritized, extensively altered, and are

mineralized with copper where they have been brecciated. The quartz-feldspar porphyries are thought to be differentiates of middle Jurassic felsic intrusive rocks.

### Structure

The rocks north of Holberg and Rupert inlets are folded into shallow synclines with northwesterly fold axes. The steeper southwesterly limbs of the folds have apparently been truncated by faults roughly parallel to the fold axis. Failure of limestone during folding may have influenced the location of some of the faults as indicated by the proximity of the Dawson and Stranby River faults to the Quatsino Formation limestone. Transverse faulting is pronounced and manifested by numerous north and northeasterly trending faults and topographic lineaments.

The northern part of Vancouver Island lies in a block faulted structural setting with post Lower Cretaceous northwesterly trending faults apparently being the major system (Figure 3). This system causes both repetition and loss of parts of the stratigraphic section, with aggregate movement in a vertical sense in the order of tens to hundreds of metres. The most significant of these fault systems trends west to northwest along Rupert and Holberg inlets. Near the west end of Holberg Inlet this fault splits, with the main branch following Holberg Inlet and the other branch passing through the west side of the Stranby River valley. Another northwesterly system passes through William Lake and still another smaller system passes through Nahwitti Lake<sup>6</sup>.

Northeasterly trending faults comprise a subordinate fault system. In some cases, apparent lateral displacement in the order of several hundred metres can be measured on certain horizons. Movement, however, could be entirely vertical with the apparent offset resulting from the regional dip of the beds.

Recent computer modelling and interpretation of the governmental airborne magnetometer data has provided a clear understanding of the relationship of secondary conjugate sets of northeast and northwesterly faults related to the major west-northwest trending breaks<sup>7</sup>. These conjugate faults sets appear to relate directly to the significant metal occurrences at the Island Copper, Hushamu, Hep and Red Dog copper/gold deposits.

Generally, regional dip of the bedding is gentle to moderate southwesterly. In the area west of Holberg dips are locally much steeper in close proximity to major faults. There is little folding or flexuring of bedding visible, except along loci of major faults where it is particularly conspicuous in thinly bedded sediments of lower Bonanza Formation. Bedding is generally inconspicuous in massive beds of Karmutsen, Quatsino and Bonanza formation rocks, particularly inland where outcrops are widely scattered.

## REGIONAL MINERALIZATION

A number of types of mineral occurrences are known on northern Vancouver Island. These include:

1. Skarn deposits: copper-iron and lead-zinc skarns,
2. Copper in basic volcanic rocks (Karmutsen): in amygdules, fractures, small shears and quartz-carbonate veins, with no apparent relationship to intrusive activity,
3. Veins: with gold and/or base metal sulphides, related to intrusive rocks,
4. Porphyry copper deposits: largely in the country rock surrounding or enveloping granitic rocks and their porphyritic phases.

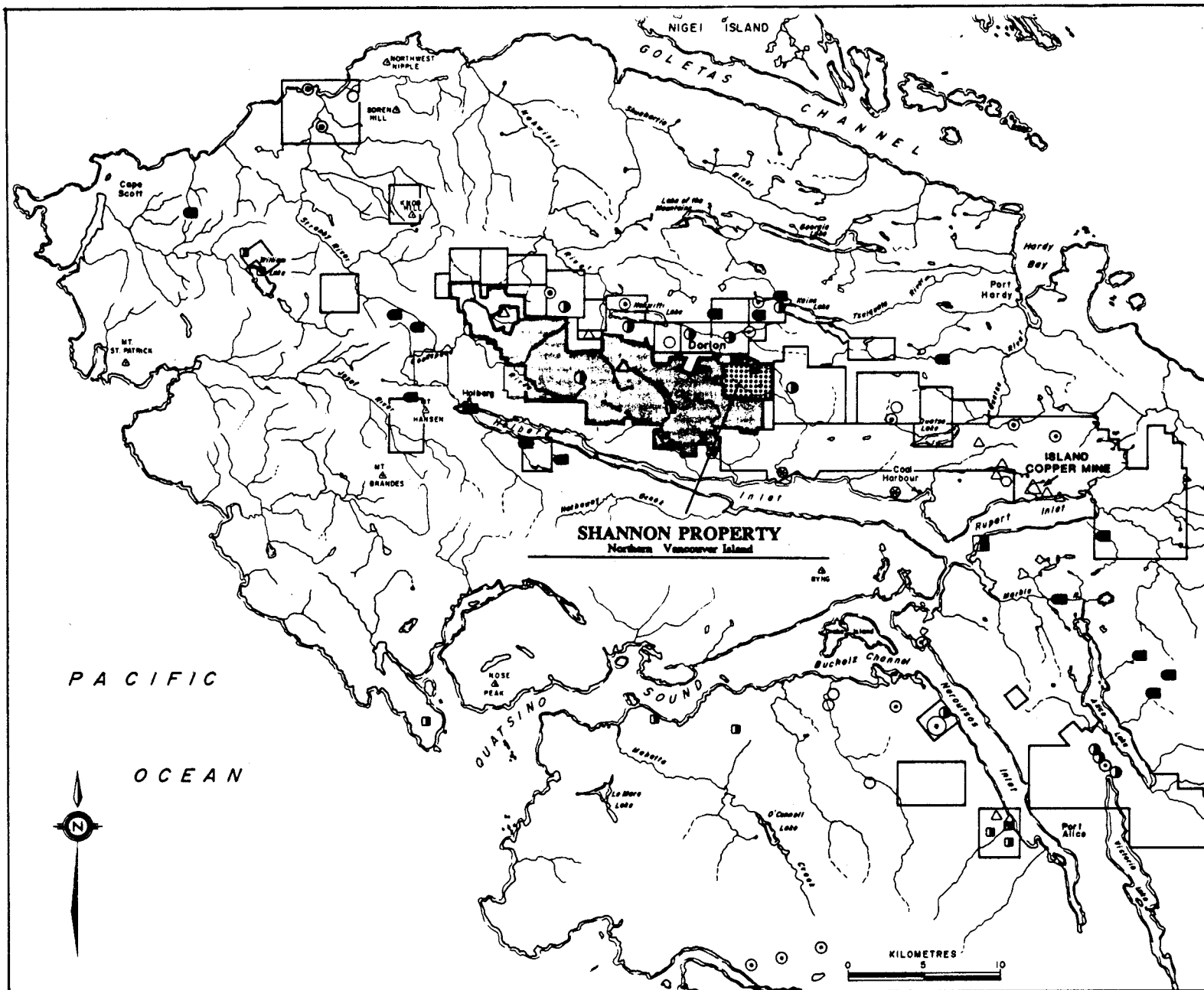
Four significant discoveries on ground near the Shannon property illustrate the copper mineralization in the area:

The Hep occurrence, 10 kilometres northwest of the Shannon property, contains an estimated 43,350 tonnes grading 0.80% copper at the intersection of two shear zones. The Hep claims are underlain by andesites and tuffs of the Bonanza Formation which are intruded by quartz monzonite. Propylitic alteration is most common, but argillic and siliceous alteration occurs along fractures and adjacent to the volcanic-intrusive contacts. Pyrite with chalcopyrite and lesser bornite occurs along fractures and as fine disseminations within the andesite.

The Hushamu deposit 6 kilometres west of the property is a zone of copper-molybdenum mineralization in the Bonanza volcanics estimated to contain over 107 million tons grading 0.30% Cu, 0.010% Mo and 0.010 opt Au.

The Red Dog deposit is located 14 kilometres northwest of the property. Tuffs and tuff breccia of the Bonanza Formation are intruded by diorite, quartz diorite and quartz-feldspar porphyry of the Island Intrusions. The tuffs have been altered to hornblende biotite hornfels in contact zones with silicification and hydrothermal alteration in shear zones. Chalcopyrite occurs as fine grained disseminations in the hornfels and in association with magnetite in siliceous breccia.

A fourth porphyry copper target presently being evaluated by Moraga Resources Ltd. lies immediately south of the Shannon property at Wanokana Creek. This property shows strong geochemical and geophysical resemblance to the Island Copper occurrence.



**LEGEND**

- Bog Iron
  - Potassium-alumina
  - △ Porphyry copper
  - Gold quartz veins
  - Copper-bearing veins
  - Lead-zinc skarn or replacement in limestone
  - Copper skarn
  - Iron skarn
  - Copper in volcanics
  - □ △ ○ Mineral occurrence
  - □ △ ○ Properties recording production
- (Data from British Columbia Department of Mines and Petroleum Resources, mineral inventory maps and cards; by E.V. Jackson and G.E. Eastwood)
- - Current Mineral Titles

UNIVERSAL TRIDENT INDUSTRIES LTD.		
SHANNON PROPERTY Northern Vancouver Island		
REGIONAL MINERALIZATION OF NORTHERN VANCOUVER ISLAND		
DAIWAN ENGINEERING LTD.		
SCALE	DATE	FIG.
As shown	JUNE '91	4



Several base metal showings have been reported immediately north of the Shannon property near Nahwitti Lake. These properties are owned by Hisway Resources Corporation. These occurrences show significant zinc-gold mineralization near the transitional contact between Quatsino Formation limestone and Bonanza Formation volcanics, and are outlined below.

The Dorlon occurrence immediately adjacent to the northwest edge of the property includes three areas of mineralization within a 250 metre radius; the Zinc Vein, the Nose Showing, and the Shaft Showing. The "Zinc" vein consists of sphalerite stringers up 0.5 metres wide and 6.0 metres long striking north and dipping vertically. These stringers occur in silicified limestone adjacent to a felsic dyke. A 0.61 metre chip sample collected in 1966 assayed 19.2 grams/tonne (0.560 opt) gold, 24.0 g/t (0.701 opt) silver and 28.35% zinc. Channel samples up to 0.30 metres across returned assays up to 18.49 g/t (0.54 opt) gold and 33.60% zinc.

The "Nose" showing consists of a 0.25 to 0.75 metre zone of massive sphalerite along a bedding plane in limestone. Trenching and drilling showed the mineralization to be gold-bearing. A 2.0 metre chip sample assayed 4.81 g/t (0.122 opt) gold and 17.37% zinc and grab samples of the massive sphalerite assayed up to 8.63 g/t (0.252 opt) gold and 32.19% zinc.

The "Shaft" showing consist of massive sphalerite within a breccia zone in limestone near a siliceous intrusive. A 1.6 metre channel sample assayed 10.31 g/t (0.301 opt) gold and 22.64% zinc, a 0.6 metre channel sample assayed 15.41 g/t (0.450 opt) gold and 29.63% zinc, and grab samples assayed up to 14.79 g/t (0.432 opt) gold and 32.14% zinc.

The HPH is further west, and covers three showings of galena-sphalerite-silver mineralization. The first is a skarn within the Quatsino Formation limestone adjacent to a felsic dyke. It is 3 metres wide and has been outlined along a strike length of 80 metres. Two shafts and one adit have been excavated in this occurrence which consists of galena and sphalerite with minor chalcopyrite, magnetite, pyrite and pyrrhotite. A 2.0 metre chip sample from the east wall of the east shaft assayed 3743.4 g/t (109.31 opt) silver, 38.1% lead and 10.6% zinc. Galena and sphalerite stringers in silicified limestone near the contact with Karmutsen Formation andesites assayed 267.4 g/t (7.81 opt) silver, 3.9% zinc, and 9.24% lead across 1.5 metres, and other areas of galena, sphalerite, pyrite and sparse chalcopyrite mineralization in siliceous Quatsino Formation limestones occur near the contact with Bonanza Formation volcanics.

## PROPERTY GEOLOGY

Only limited geological information has been recorded to date on the ground now covered by the Shannon and Trish mineral claims. The best-documented work is geological mapping in the area during the late 1960s and early 1970s by Utah Mines Ltd. when the ground was mapped as part of the Expo claim group.

The Shannon property is underlain by andesites and basalts of the Bonanza Formation; cherts, argillites and felsic tuffs of the Parson Bay Formation; diorite, gabbro and rhyolite porphyry of the Island Intrusions. The geology of the property is depicted on figures 5 and 5a.

The Bonanza Formation basalts and andesites are generally fine grained and massive. Locally the basalts are amygdaloidal flows or volcanic breccias; in places these rocks have been altered to schistose green garnet skarn. Bonanza Formation rocks contain up to 2 % disseminated pyrite and traces disseminated pyrrhotite.

Most of the rocks seen on the property are the cherts, argillites, felsic tuffs and breccias of the Parson Bay Formation. These rocks underlie the Bonanza Formation volcanics. Thinly bedded limestone in the northeastern corner of the property is typical of the lower contact of the Parson Bay Formation. Parson Bay rocks usually contain traces to about 2 % disseminated pyrite. Massive sulphide bands were observed in a few locales within the Parson Bay rocks, especially skarn-altered breccia beds. The massive sulphide bands contain pyrrhotite, pyrite, chalcopyrite and/or sphalerite; the bands range from a few mm to 35 cm wide and normally extend for a few metres along strike. Parson Bay sediments strike southeasterly and dip at moderate angles to the southwest.

The Bonanza and Parson Bay formations are intruded by diorite, gabbro and rhyolite porphyry of the Late Jurassic Island Intrusions. These rocks are fine to coarse grained and locally contain up to 10 % magnetite. The rhyolite porphyry is most abundant in the eastern part of the property (Figure 5).

### Rock Sampling

Thirty-five rock samples were collected from the property by the author. Sample descriptions are listed in Appendix 1; analytical results form Appendix 2.

These rocks contain up to 2,344 parts per million (ppm) copper, 28,456 ppm zinc, 1,980 ppm lead, 3.4 ppm silver and up to 14 parts per billion (ppb) gold.

The rocks with the highest metal contents are skarns formed by the alteration of Parson Bay Formation sediments (Appendices 1 and 2). These skarns are usually 5 to 25 cm wide bands of rock mineralized with pyrrhotite and pyrite with lesser amounts of sphalerite, chalcopyrite and galena exposed over a few metres strike length. Skarn bands range up to one metre wide and conform to the bedding within the adjacent Parson Bay rocks. Brecciated Parson Bay Formation sediments appear to be the rock type most often altered to skarn. Skarn is generally found adjacent to faults and/or felsite dykes, and has a dark brown to black weathered surface.

Rock sample 60415 contains 2,344 ppm copper, 293 ppm zinc and 3.4 ppm silver; it is a select sample from 4 sites of massive pyrrhotite band with pyrite and chalcopyrite lining fractures and disseminated. This sample was collected just outside the northwestern property boundary (Figure 5).

Rock sample 60422 contains 28,456 ppm zinc, 199 ppm copper, 521 ppm lead and 1.2 ppm silver. This is a select sample of garnet-sphalerite-pyrite-?chalcopyrite skarn within Parson Bay sediments in the east-central part of the property (Appendices 1 and 2, Figure 5).

Rock sample 60434 contains 1,980 ppm lead, 4,956 ppm zinc, 1.0 ppm silver and 13 ppb gold. This is a grab sample of skarn from 8 sites over a 4 m strike length. Pyrite and sphalerite are both present.

Rock sample 60402 contains 14 ppb gold, 19,076 ppm zinc, 1,083 ppm copper and 1.0 ppm silver. This is a grab sample of a 6 mm wide pyrrhotite, pyrite, chalcopyrite(?) and sphalerite band with 5 m strike length at the north-central property boundary (Figure 5).

## DISCUSSION

There are a significant number of porphyry copper occurrences along Holberg Inlet to the south, and a number of lead-zinc replacement occurrences along the Quatsino Formation limestone contact to the north of the Shannon property. These bounding mineralized zones indicate that the Shannon property could host replacement-style base or precious metal mineralization, especially within the limy Parson Bay Formation sediments. Gold mineralization in these sediments would be analogous to "Carlin" style mineralization.

Skarns containing zinc, copper, lead and silver occur in the northern and east-central portions of the Shannon property, within altered Parson Bay Formation rocks. The strong zinc anomalies associated with the copper mineralization in 1989 rock samples SH-01 and SH-05, and the mapped cherty sediments near the new forest access roads on the northern portion of the property are indications of replacement

style mineralization. The copper values obtained from the sediments add to this picture and the sediments should be carefully evaluated for gold mineralization.

It is also significant that the two large geochemical soil anomalies on the property have very different signatures. The northern anomaly, along the limestone, has both high copper and high zinc concentrations. The southern anomaly, across the valley and high up on the north-facing slope has only high zinc concentrations.

## **CONCLUSIONS**

- 1.0 The Shannon property lies immediately south of replacement lead-zinc-copper-gold occurrences on the Dorton and HPH properties.
- 2.0 The property lies immediately north of a porphyry copper style exploration target at Wanokana Creek, and is in an area favourable for replacement base metal and gold deposits.
- 3.0 The early work by Utah Mines Limited was directed solely towards finding the large alteration systems associated with porphyry copper deposits. No systematic sampling has been carried out for gold or base metal replacement mineralization, although there are significant indications of this in the adjacent properties.
- 4.0 There is limited outcrop in the central portion of the property; identification of replacement base metal or gold mineralization in this area is difficult because soil sampling and geological mapping are hampered by the thick, swampy overburden.

## **RECOMMENDATIONS**

- 1.0 Soil sampling along the existing road cuts is recommended to rapidly highlight copper or gold mineralization in areas of limited outcrop on the northern portion of the claims.
- 2.0 BHP-Utah Mines Ltd. should be approached for the use of their data and the possible re-assay of stored soil sample pulps for gold.
- 4.0 Stream sediment samples (heavy mineral concentrates) should be collected from the drainages across the property.
- 5.0 A tracked excavator may be useful for roadside clearing and trenching at mineral showings found by geological mapping and prospecting.

**RECOMMENDED BUDGET**

Detailed mapping, soil, rock and silt sampling:		
MOB	1,000	
Geochemical Survey:		
Grid - say 20 km flagged grid @ \$90/km plus control	2,000	
400 soil samples @ \$5.50/each for collection	2,200	
Assays:		
400 soils @ \$13.50	5,400	
say 100 rocks and sediments @ \$15	1,500	
Transportation:		
4x4 @ \$400/week	800	
gas and repairs	150	
mileage	200	
Food and Accommodation:		
3 men - 9 days @ \$65/day	1,755	
Wages:		
2 helpers - 9 days @ \$220/day	1,980	
1 geologist - 15 days @ \$260/day	3,900	
Excavator:		
Trenching - 4 days @ \$1,000/day	4,000	
Field Supplies	200	
Office	250	
Report and filing	<u>2,500</u>	
	27,635	27,835
Contingency 15%		<u>2,165</u>
	<b>TOTAL PHASE I</b>	<b><u>\$30,000</u></b>

**STATEMENT OF COSTS**

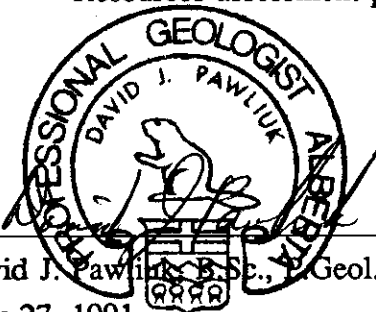
## Personnel:

D. Pawliuk, Senior Geologist		
11.1 days @ \$340/day	3,774.00	
P. Dasler, Manager		
0.35 days @ \$380/day	133.00	
T. Sheridan, Office Assistant		
0.95 days @ \$220/day	<u>209.00</u>	4,116.00
Food and Accommodation:	183.38	
Office:		
Typing, drafting	105.80	
Telephone:	26.12	
Supplies:	84.27	
Truck Rental:		
10 days @ \$55.47/day	554.66	
Assays:		
35 rocks @ \$13.19	461.77	
Airfare:	348.10	
Disbursement Fee:	420.78	
GST	<u>464.84</u>	<u>2,649.72</u>
<b>TOTAL</b>		<b>\$ <u>6,765.72</u></b>

## CERTIFICATE OF QUALIFICATIONS

I, David J. Pawliuk, do hereby certify that:

- 1.0 I am a geologist for Daiwan Engineering Ltd. with offices at 1030 - 609 Granville Street, Vancouver, British Columbia, V7Y 1G5.
- 2.0 I am a graduate of the University of Alberta, Edmonton, Alberta with a degree of B.Sc., Geology.
- 3.0 I am a Member, in good standing, of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
- 4.0 I have practiced my profession continuously since 1975.
- 5.0 This report is based on my personal fieldwork on the Shannon property and on other properties at northern Vancouver Island, and from reports of Professional Engineers and others working in the area.
- 6.0 I have no direct or indirect interest in the Shannon and surrounding properties, or in the shares of Universal Trident Industries Ltd., nor do I expect to receive any such interest.
- 7.0 This report is prepared for British Columbia Ministry of Energy, Mines and Petroleum Resources assessment purposes only.



David J. Pawliuk B.Sc., Geol.  
May 27, 1991

**Daiwan Engineering Ltd.**

(604) 688-1508, 1030-609 Granville Street, Vancouver, (604) 688-1508

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**APPENDIX 1**

**Sample Descriptions**

**SAMPLE DESCRIPTIONS**

- 60401 Chip sample across 1 m; greyish green, moderately fractured, schistose, chloritic andesite(?) with 3 % creamy white quartz veinlets to 15 mm wide (av. 2-3 mm) in an interlocking network. 0.5 to 1 % disseminated subhedral pyrite cubes.
- 60402 Grab from few locales over 5 m strike length of pyrrhotite, pyrite, chalcopyrite(?) and sphalerite band. Band to 6 mm wide, dark brown weathering.
- 60403 Continuous chip across 50 cm in soft, friable black Parson Bay argillite; intensely brecciated; 1 % off-white veinlets to 3 mm wide. Possible fault zone.
- 60404 Select sample from pyrite-rich (20 %) band a few cm wide along shear strike 053 dip 75 SE within rhyolite porphyry.
- 60405 Grab from few sites within 1 m X 1 m area of Parson Bay cherty felsic tuff with 1-2 % disseminated pyrite and pyrrhotite(?).
- 60406 Grab of Parson Bay brecciated tuff-chert with 1-2 % combined pyrite and pyrrhotite; ? chalcopyrite.
- 60407 Continuous chip across 30 cm in medium grey, pyritic (approx. 2 % disseminated), argillaceous cherts strike 165 dip 88 W.
- 60408 Continuous chip across 80 cm with local 15-20 % py over 2 or 3 cm; av. say 2-3 % py. Parson Bay sediments.
- 60409 Discontinuous chip across 1 m; py 0.5 to 3 % disseminated, lining fractures and as thin laminae. Parson Bay siltstones bedded on mm and cm scale.
- 60410 Grab of py-rich lens 50 cm long and up to 2 cm wide, parallel bedding. Pyrite lens overlain by light brown, dense rock forming another lens about 50 cm long and 5 to 7 cm wide. Possibly garnet or sphalerite?? within this material.
- 60411 Grab from concretion with about 4 % very finely disseminated py.
- 60412 Grab from 3 sites over 1 m X 1 m area in pyritic (2-3 %) Parson Bay sediments adjacent to steep shear trending 049 degrees.

- 60413 Grab from 4 sites over 10 m<sup>2</sup> area of rhyolite porphyry(?) with 1 % py diss and lining fractures. Clear quartz eyes; subangular off-white phenos or clasts 2-4 mm across from 10 to 15 % rock volume.
- 60414 Select sample from bed 6 cm thick with local 5 % py, 0.5 % cp and about 10 % dark metallic mineral (sphalerite). Bed extends for at least a few m along strike.
- 60415 Select sample from 4 sites over 5 m strike length of massive po band with py and cp lining fractures and disseminated. Bed 10-200 cm wide, parallel bedding, mineralized for 5 m along strike. Unmineralized Parson Bay near here is more green than seen anywhere else on the property.
- 60416 Continuous chip across 60 cm including a po band and less mineralized (average say 10 % combined py and po) rock overlying po band. A second massive po band with py (cp?) 10 cm wide is 40 cm above lower po band. 60415 from lower band.
- 60417 Select sample from massive po band about 4 m stratigraphically above 60415, 60416. Grab from 5 sites over 2m strike length. Massive po band about 30 cm wide, narrows to 15-20 cm wide py and mineral similar in appearance to blackjack sphalerite.
- 60418 Grab from few places over 2 m<sup>2</sup>; small exposure andesite or basalt, greyish maroon, very fine grained, traces to locally 2 % disseminated py. Weakly magnetic rock.
- 60419 Grab from 3 places across 1 m<sup>2</sup> exposure. Brownish grey, fine grained, dense andesite with po traces; weakly magnetic.
- 60420 Continuous chip across 30 cm in light grey-green Parson Bay cherty siltstone with 1 % disseminated py and cp(?) with epidote vltz along some fracture surfaces.
- 60421 Continuous chip across 35 cm in garnet-sphalerite-pyrite band within Parson Bay on south side creek gully.
- 60422 Select sample of garnet-sphalerite-pyrite-?chalcopyrite skarn band as for 60421. 1.5 m from 60421.
- 60423 Continuous chip across 25 cm of cherty black argillite with 2-4 % very fine disseminated pyrite.
- 60424 Continuous chip across light greyish green, skarn-altered Parson Bay sediment with approx. 1-2

% pyrite, 2 % pyrrhotite.

- 60425 Discontinuous chip across shear about 1 m wide in Parson Bay sediments.
- 60426 Grab sample from few locales over 1.5 by 3 m area at base of exposure. Dark rusty brown weathering, dark grey Parson Bay argillite with minor chert; moderately brecciated and fractured. Few m upslope are rhyolite porphyry dykes which intrude the sediments. Shearing with small drag folds along some portions of the sediment\porphyry contact.
- 60427 Grab from few places over 2 m by 3 m area; selected sample with up to 25 % pyrite, traces pyrrhotite, traces sphalerite? Rusty weathering Parson Bay sediments locally altered to light brownish green skarn.
- 60428 Grab sample from few places light brownish green skarn band with local sphalerite. Sampled over 1.5 m strike length, from a 20-25 cm wide band parallel bedding in sediments.
- 60429 Grab from several sites across 4 m in cherty Parson Bay sediments strike approx. 165° dip 67 W with 1 to locally 5 % po, traces to 3 % py, local specks cp.
- 60430 Select sample of Parson Bay with av. 3-4 % po, specks cp, py.
- 60431 Grab from three sites of dark greenish brown skarn (alteration product of brecciated Parson Bay rocks). Skarn contains up to 3 % po, about 0.5 % disseminated py; weakly magnetic. Brown garnet forms 70 % rock volume. Skarn approx. 1 m wide at edge of exposure.
- 60432 Grab from few locales over 2 m<sup>2</sup> of green garnet skarn with local limonite patches on weathered surface. Local black, oxidized mineral to 3 % rock volume.
- 60433 Discontinuous chip sample across 1 m; po 3-50 %, py 2-25 %, cp. Strongly magnetic Parson Bay rock.
- 60434 Grab sample from 8 places over 4 m strike length skarn band within and conformable with Parson Bay. Py both disseminated and as boxwork veinlets; sphalerite.
- 60435 Grab sample from few places over 2 m<sup>2</sup> exposure of brecciated Parson Bay. Angular chert and felsic tuff fragments in dark green, very fine grained matrix with disseminated py and mafics; probably approx. andesite composition. Pyrrhotite to 4 %, py to 3 %, traces cp.

**APPENDIX 2**

**ANALYTICAL RESULTS**

GEOCHEMICAL ANALYSIS CERTIFICATE

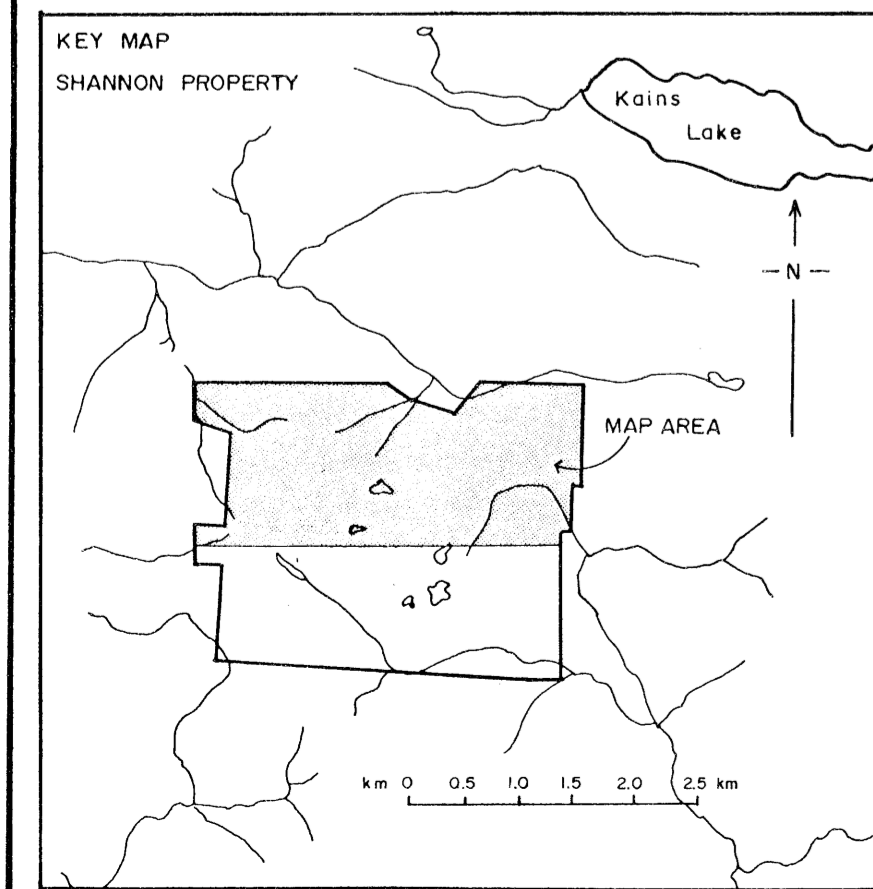
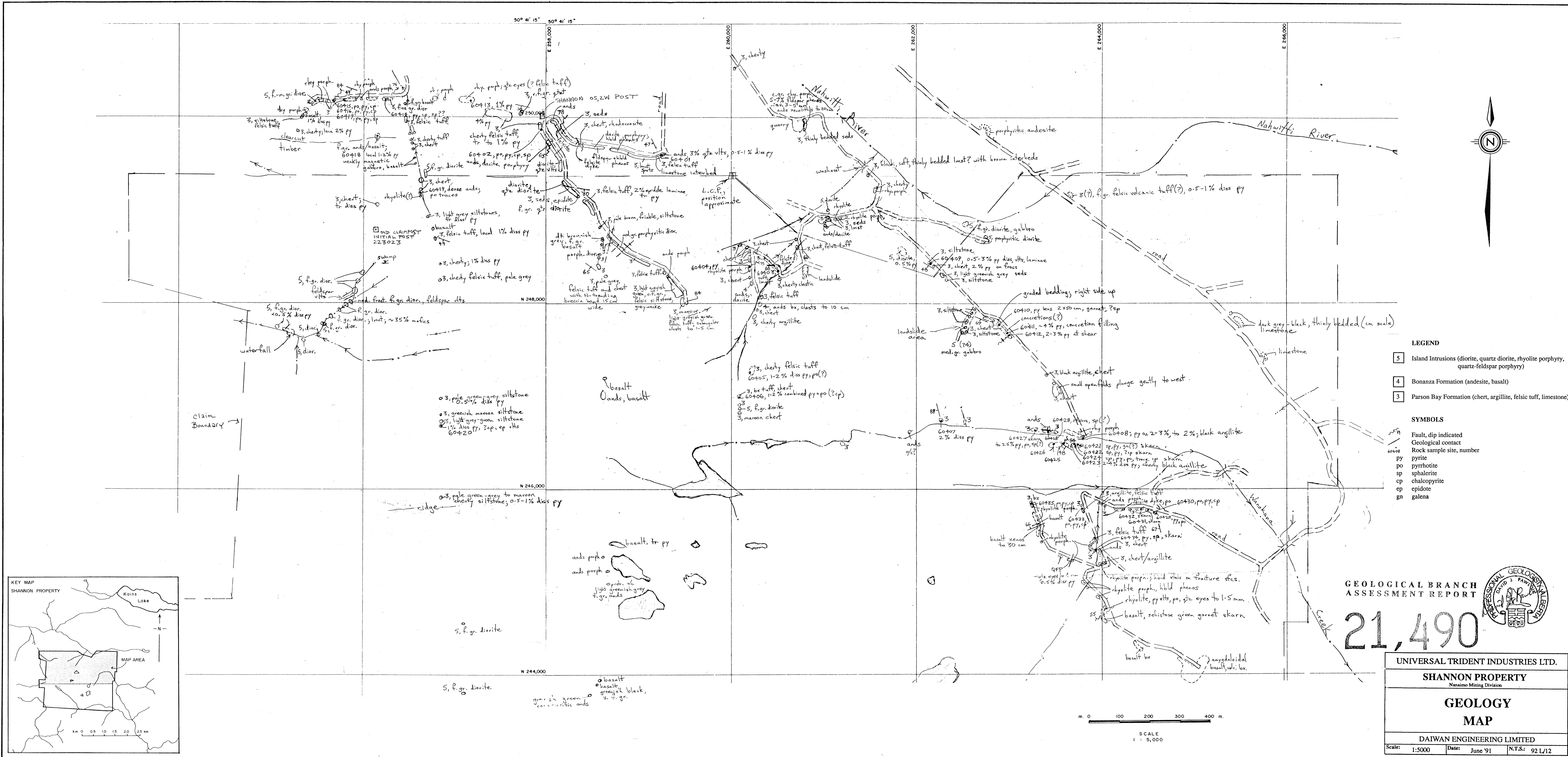
Daiwan Engineering Ltd. PROJECT SHANNON File # 91-0970

1030 - 609 Granville St., Vancouver BC V7Y 1G5 Submitted by: D.J. PAWLIUK

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au*
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	%	ppm
60401	3	57	9	50	.1	5	26	437	4.21	64	5	ND	1	188	.7	2	2	91	8.68	.040	2	2	1.06	12	.12	4	8.42	.06	.06	1	6
60402	13	1083	2	19076	1.0	107	36	830	5.61	17	5	ND	1	306	130.3	2	2	11	3.13	.043	2	4	.41	52	.07	236	2.29	.24	.10	1	14
60403	23	121	98	2039	3.2	47	12	1914	5.13	337	9	ND	1	72	19.4	8	2	423	1.92	.068	5	60	.80	36	.13	2	2.77	.01	.06	1	4
60404	5	289	4	65	.4	71	38	268	9.74	57	5	ND	1	69	.6	2	2	57	.87	.061	2	46	.36	11	.19	2	2.35	.09	.03	1	3
60405	2	33	14	26	.1	9	8	104	2.12	2	5	ND	1	149	.4	3	2	8	1.79	.036	2	9	.05	33	.07	4	2.13	.35	.03	1	1
60406	5	139	2	23	.1	58	31	145	3.10	2	14	ND	1	169	.2	2	2	33	1.67	.041	2	41	.48	30	.14	2	2.53	.42	.21	1	2
60407	7	95	2	76	.1	41	10	112	2.71	2	5	ND	1	227	.2	2	2	40	2.48	.129	3	13	.14	58	.11	2	3.15	.57	.02	1	1
60408	40	83	28	356	.4	29	12	1110	7.50	134	5	ND	1	148	4.3	2	2	118	1.21	.177	4	20	.25	73	.16	2	2.28	.21	.06	1	1
60409	4	78	20	178	.4	35	20	342	4.62	18	5	ND	1	297	2.1	2	2	59	1.94	.060	2	23	.50	68	.09	2	2.88	.46	.06	1	1
60410	2	41	6	57	.1	7	9	195	3.33	4	5	ND	1	78	.8	2	2	20	2.81	.053	2	9	.17	1	.06	3	1.76	.02	.02	1	1
60411	2	13	2	39	.2	12	6	347	2.01	2	5	ND	2	31	.2	2	2	54	7.75	.094	5	14	.24	1	.19	10	3.04	.02	.01	1	1
60412	3	238	10	45	.7	109	41	253	5.76	121	5	ND	1	477	1.5	4	6	20	4.22	.090	2	22	.34	110	.12	5	4.92	.42	.07	1	2
60413	1	17	28	80	.4	9	10	812	3.76	2	5	ND	3	104	.7	2	2	71	1.73	.047	8	6	.99	64	.20	5	3.33	.35	.70	1	1
60414	10	307	99	3846	.5	39	22	299	4.94	2	5	ND	1	10	40.4	2	2	16	2.59	.046	4	7	.03	1	.05	10	.93	.01	.01	3	2
60415	1	2344	19	293	3.4	204	393	368	27.10	435	5	ND	1	3	.9	2	17	23	.95	.013	3	2	.12	1	.03	2	.45	.01	.01	1	3
60416	1	1245	2	91	.6	147	201	732	17.49	201	5	ND	1	19	.4	2	2	25	3.89	.191	8	10	.20	5	.04	2	.85	.03	.01	1	3
60417	6	1238	4	91	1.7	251	400	667	27.68	2042	5	ND	2	9	.3	5	17	10	.95	.023	4	5	1.91	8	.02	21	.45	.01	.10	1	6
60418	1	75	2	43	.4	17	29	435	6.25	83	7	ND	1	235	.3	7	2	101	2.42	.064	3	11	1.01	176	.27	3	3.90	.43	.31	1	1
60419	1	66	2	40	.1	158	26	275	2.20	3	10	ND	1	409	.7	2	2	36	3.90	.036	2	173	1.23	104	.15	2	4.79	.44	.44	1	1
60420	3	322	9	76	.2	46	60	411	5.00	59	5	ND	1	30	.2	2	2	39	.53	.042	6	29	.49	20	.10	2	.99	.12	.03	1	1
60421	24	67	2	7600	.5	38	46	3856	5.23	58	5	ND	1	77	108.5	2	2	98	2.64	.193	3	15	.45	66	.11	4	.95	.01	.01	1	1
60422	9	199	521	28456	1.2	14	67	4136	5.80	31	11	ND	1	21	330.7	2	4	34	3.73	.076	2	3	.47	100	.04	2	.60	.01	.05	1	1
60423	118	87	4	170	.1	29	8	514	5.78	34	5	ND	1	126	1.7	2	2	129	.64	.085	3	13	1.10	62	.20	2	2.55	.19	.45	1	1
60424	25	126	6	87	.1	22	14	1198	5.38	15	8	ND	1	65	.6	2	2	61	.85	.091	3	8	.57	13	.14	4	1.60	.06	.02	1	1
60425	43	55	2	896	.4	28	13	891	3.57	112	5	ND	1	74	12.2	2	2	124	3.64	.074	5	14	.34	35	.15	2	3.04	.02	.05	1	1
60426	77	90	87	4067	.6	32	14	1042	4.12	146	21	ND	1	38	45.2	2	2	256	7.21	.052	5	20	.33	26	.16	8	3.95	.01	.02	1	1
60427	27	531	11	82	1.4	94	56	616	10.48	4	5	ND	1	292	1.1	2	3	125	4.38	.057	3	99	.74	42	.19	2	5.15	.23	.04	1	1
60428	5	72	114	477	.4	83	20	1320	2.76	34	5	ND	1	97	5.9	2	2	111	1.34	.080	5	78	.45	1	.21	2	1.34	.02	.01	1	1
60429	5	127	9	53	.2	25	21	263	3.41	5	5	ND	1	401	.7	2	2	29	3.72	.098	5	7	.13	41	.11	7	4.72	1.25	.05	1	2
60430	26	168	11	153	.4	41	35	508	5.11	15	5	ND	1	54	2.5	2	2	48	.77	.056	2	7	.32	18	.15	2	1.36	.13	.04	1	1
60431	9	33	2	426	.1	20	27	481	4.64	55	10	ND	1	329	4.6	2	2	194	1.97	.059	2	28	2.32	465	.32	2	4.25	.34	1.90	1	1
60432	3	90	27	80	.3	39	23	714	2.54	13	5	ND	1	189	1.1	2	2	76	1.73	.078	5	9	.42	7	.13	2	1.51	.01	.01	1	2
60433	9	522	19	36	.9	70	85	392	10.80	38	5	ND	1	152	1.1	2	2	29	1.60	.082	8	14	.29	19	.09	3	3.16	.49	.02	2	2
60434	9	21	1980	4956	1.0	32	22	2200	5.14	400	5	ND	1	58	43.3	2	2	31	3.85	.119	5	8	.72	1	.08	55	1.96	.02	.01	1	13
60435	2	46	19	130	.5	92	24	1054	3.09	46	5	ND	1	243	1.1	2	2	64	1.43	.066	8	140	1.06	110	.22	4	2.61	.25	.28	1	2
STANDARD C/AU-R	20	62	38	132	7.4	73	33	1112	3.99	41	18	7	40	48	18.5	15	19	59	.48	.089	40	59	.88	178	.09	38	1.87	.07	.15	11	510

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM. - SAMPLE TYPE: ROCK AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

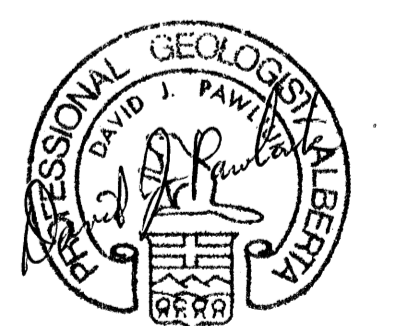
DATE RECEIVED: APR 15 1991 DATE REPORT MAILED: April 16/91 SIGNED BY: C. Leong, D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



- LEGEND**
- 5 Island Intrusions (diorite, quartz diorite, rhyolite porphyry, quartz-feldspar porphyry)
  - 4 Bonanza Formation (andesite, basalt)
  - 3 Parson Bay Formation (chert, argillite, felsic tuff, limestone)
- SYMBOLS**
- Fault, dip indicated
  - Geological contact
  - 60408 Rock sample site, number
  - py pyrite
  - po pyrrothite
  - sp sphalerite
  - cp chalcopyrite
  - ep epidote
  - gn galena

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

# 21,490



UNIVERSAL TRIDENT INDUSTRIES LTD.

SHANNON PROPERTY  
Nanaimo Mining Division

**GEOLOGY  
MAP**

DAIWAN ENGINEERING LIMITED

Scale: 1:5000 Date: June '91 N.T.S.: 92 L/12

