**Ministry of Energy & Mines**
Energy & Minerals Division
Geological Survey Branch

**ASSESSMENT REPORT**
**TITLE PAGE AND SUMMARY**

| **TYPE OF REPORT (type of survey(s))** | **TOTAL COST** | **$32,915.67** |
|---|---|---|
| Induced Polarization Survey | | |

AUTHOR(S) R. Ti Henneberry, P.Geo.

SIGNATURE(S) "signed and sealed"

NOTICE OF WORK NUMBER(S) / DATE(S)

YEAR OF WORK 2018

STATEMENT OF WORK – CASH PAYMENT EVENT NUMBERS / DATE(S) 5721175

PROPERTY NAME Tahsis

CLAIM NAME(S) (on which work was done)
1046318, 1046319

COMMODITIES SOUGHT Gold, copper

MINERAL INVENTORY MINFILE NUMBERS, IF KNOWN

MINING DIVISION Nanaimo NTS 092E/15 TRIM 092E087

LATITUDE LONGITUDE (at centre of work)

NORTHING 5532000 EASTING 668500 UTM ZONE 9 MAP DATUM NAD 83

OWNER 1
**Qualitas Holdings Corp.**

OWNER 2

MAILING ADDRESS
5215 6th Avenue
Delta, B.C. V4M 1L6

OPERATORS (who paid for work)
**Cross River Ventures Corp.**

MAILING ADDRESS
307 - 2628 Yew Street
Vancouver, British Columbia V6K 4T4

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size, attitude)
The property is underlain by Triassic Vancouver Group Karmutsen volcanics, Quatsino limestones and Parson Bay sediments, Jurassic Bonanza volcanics intruded by Jurassic and Eocene intrusions. The property is being explored for precious metals associated with the Eocene intrusives and replacement base metals in the Quatsino limestones.

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS
32787, 30088, 32787, 34395, 35793, 36467, 37375

| TYPE OF WORK IN THIS REPORT | EXTENT OF WORK (In Metric Units) | On Which Claims | Project Costs Apportioned |
|---|---|---|---|
| | | | |
| GEOLOGICAL (scale, area) | | | |
| Ground, mapping | | | |
| Photo Interpretation | | | |
| GEOPHYSICAL (line kilometres) | | | |
| Ground | | | |
| Magnetic | | | |
| Electromagnetic | | | |
| Induced Polarization | 5.5 line km | 1046318, 1046319 | |
| Radiometric | | | |
| Siesmic | | | |
| Other | | | |
| Airborne | | | |
| GEOCHEMICAL | | | |
| (number of samples analyzed for) | | | |
| Soil | | | |
| | | | |
| Rock | | | |
| Other | | | |
| DRILLING | | | |
| (total metres, number of holes, size) | | | |
| Core | | | |
| Non-core | | | |
| RELATED TECHNICAL | | | |
| Sampling / assaying | | | |
| Petrographic | | | |
| Mineralogical | | | |
| Metallurgic | | | |
| PROSPECTING (scale, area) | | | |
| PREPARATION / PHYSICAL | | | |
| Line/grid (kilometres) | | | |
| Topographic / Photogrammatic | | | |
| (scale, area) | | | |
| Legal Surveys (scale, area) | | | |
| Road, local access (kilometres) | | | |
| Trench (metres) | | | |
| Underground dev. (metres) | | | |
| Other | | | |
| | | TOTAL COST | $**32,915.67** |

**MAMMOTH**
**GEOLOGICAL LTD.**
2446 Bidston Road,
Mill Bay, B.C. Canada V0R 2P4
Phone: (250) 743-8228 Fax: (250) 743-4430
email : mammothgeo@shaw.ca

# GEOPHYSICAL ASSESSMENT REPORT

## TAHSIS PROPERTY
(Tenures 1046318, 1046319, 1046320, 1046321, 1046322)
(Work Performed on Tenures 1046318 and 1046319)

Located in the
Tahsis Area, Northern Vancouver Island

Nanaimo Mining Division
BC TRIM Sheets 092E087, 092E088, 092E097 and 092L007
UTM 666200E 5533000N in Zone 9 NAD 83

**Owner**
**Qualitas Holdings Corp.**
5215 – 6th Avenue
Delta, British Columbia V4M 1L6

**Operator**
**Cross River Ventures Corp.**
307 - 2628 Yew Street
Vancouver, British Columbia V6K 4T4

Work Program Completed By
Peter E. Walcott & Associates Limited

R. Tim Henneberry, P.Geo.
December 28, 2018

# SUMMARY

Cross River is earning a 100% interest, subject to a 3.0% Net Smelter Return (NSR) royalty in the 4,865 hectare Tahsis Property by making cash payments of $20,000, issuing 800,000 shares and completing $250,000 in exploration expenditures over the next 2 years to Qualitas Holdings Corp., the property vendor.

The Tahsis Property lies 105 kilometres west of Campbell River, British Columbia and consists of 5 claims. Road access is via Highway 28 west from Campbell River to the village of Gold River a distance of approximately 89 kilometres and then by the Head Bay Forest Service Road from Gold River to Tahsis a distance of approximately 62 kilometres. This road runs along the northeast boundary of the southern portion of the Tahsis Property claim block from kilometre 47 to kilometre 62. Access throughout the claim block is via logging roads in various stages of accessibility radiating from the village of Tahsis. The village of Tahsis is located on tidewater at the head of Tahsis Inlet.

The Tahsis property is underlain by Triassic Vancouver Group rocks, Jurassic Bonanza Group rocks and intrusions and Eocene Intrusions, with the Vancouver and Bonanza Group rocks trending in a southeast-northwest direction. The Tahsis area has a long exploration history due to its proximity to the Zeballos Gold Camp, approximately 25 kilometres to the northwest.

Recent exploration has identified three anomalous areas on the property: Target A, associated with the eastern contact area of the Mt. Washington Intrusive Suite quartz diorite; Target B, associated with the contact between the Quatsino limestone and Karmutsen volcanics; and Target E, within the Quatsino limestones with some interbedded Karmutsen basalts. All targets areas show elevated soil geochemistry for gold and or copper.

Cross River completed 5.5 line kilometres of Induced Polarization surveying over an existing logging road in the southwest section of the property in the Target B and Target E areas. The IP survey successfully identified areas of higher resistivity and coincidental chargeability high on lines 10+00E and 11+00 E. The high resistivity is interpreted as relating to the Quatsino limestone, while the high chargeability may be related to sulphide mineralization. Given the anomalous geochemical results obtained over the gird areas these coincidental geochemical and geophysical anomalies offer an attractive exploration target.

A program of excavator trenching and/or ground magnetics and VLF-EM is recommended for the three grid target areas at the Tahsis property. The ground geophysics contract is estimated at $50,000 all in, while the excavator trenching with limited soil sampling is estimated at $52,700, including permitting. The total Phase I budget with a $7,300 contingency is $107,800.

The cost of the 2018 IP Program was $32,915.67.

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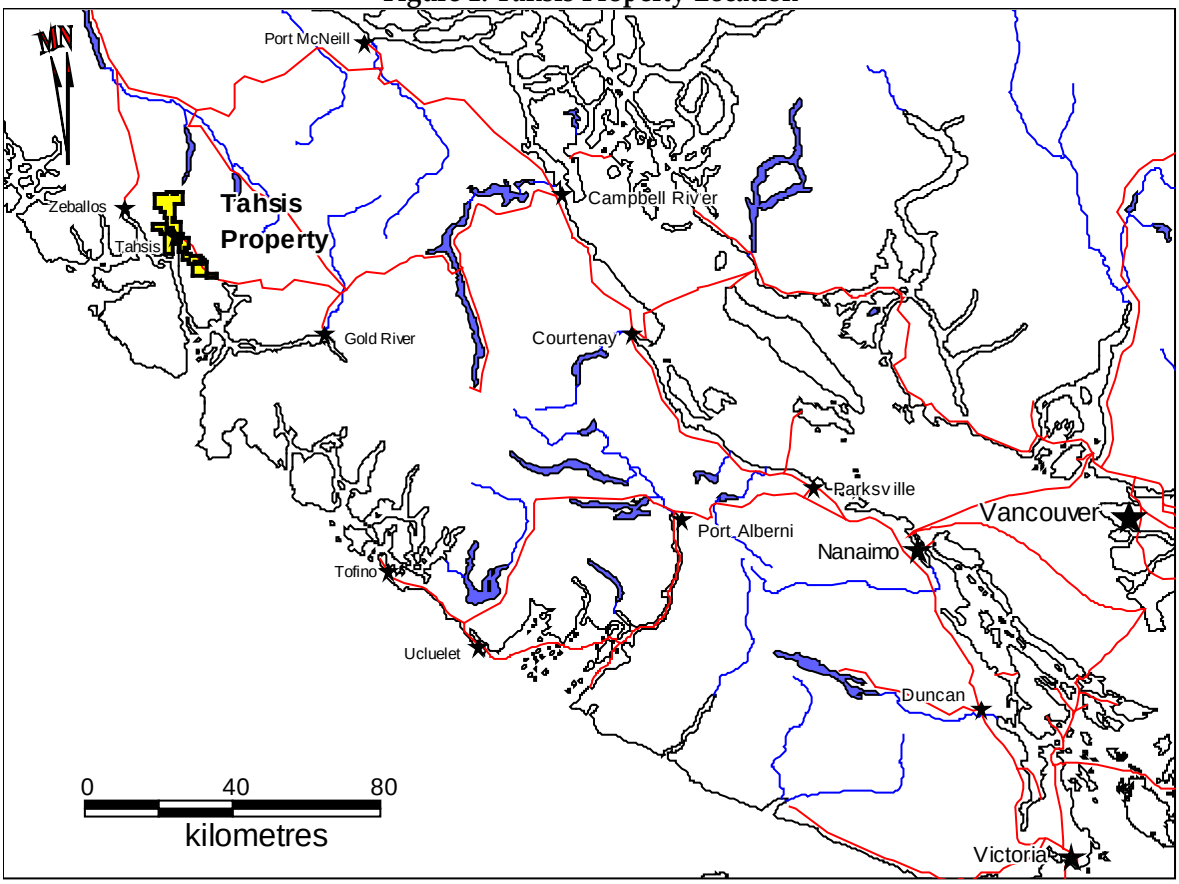
## APPENDIX

# INTRODUCTION

The purpose of this report is to document the 2018 Induced Polarization program on the Tahsis property to support the exploration expenditures. Unless otherwise specified all UTM coordinates are reported and all maps are projected in Zone 9 in the UTM datum NAD 83.

**Figure 1. Tahsis Property Location**




## LOCATION AND ACCESS

The Tahsis property lies proximal to the village of Tahsis, which lies 105 kilometres west of Campbell River, British Columbia. Road access is via Highway 28 west from Campbell River to the village of Gold River a distance of approximately 89 kilometres and then by the Head Bay Forest Service Road from Gold River to Tahsis a distance of approximately 62 kilometres. This road runs along the northeast boundary of the southern portion of the Tahsis Property claim block from kilometre 47 to kilometre 62. Access throughout the claim block is via logging roads in various stages of accessibility radiating from the village of Tahsis. The village of Tahsis is located on tidewater at the head of Tahsis Inlet.

Access to the northern section of the north claim block is via Nomash Mainline from the Zeballos road. The Zeballos road leaves Highway 19 approximately 151 kilometres north of Campbell River or 78 kilometres south of Port Hardy. Nomash Mainline logging road leaves the Zeballos road approximately 30 kilometres south from Highway 19 or 12 kilometres north of Zeballos. The north claim block lies at kilometre 7 along Nomash Mainline. The spur roads are deactivated and movement through this section of the north block is extremely difficult.

## PHYSIOGRAPHY AND CLIMATE

The topography on the Tahsis property is rugged, ranging from sea level at Tahsis Inlet to 1400 metres in the northern portion of the claim block. The vegetation is thick and dense and consists of cedar, hemlock and spruce, with alder, willow and salal underbrush. The area is actively being logged, so there are numerous cut blocks in various stages of regrowth.

In this part of the province the climate is typical of coastal British Columbia. Summers are generally warm and dry, though fog can present issues with air transport. Winters are mild and very wet. The snow line is generally in the area of 400-700 metres during the period December through February so work in those months must be confined to the lower slopes.

Logistics for working in this part of the province are excellent. Gravel road access will allow the easy movement of equipment and supplies to the property. Heavy equipment is available in Gold River or possibly Tahsis. It may also be possible to bring equipment in by water. Depending upon the type of exploration, the field season can run year round.

**Table 1. List of Tahsis Tenures**

| Tenure Number | Claim Name | Owner | Work Program | Map Number | Issue Date | Good To Date | Area (ha) |
|---|---|---|---|---|---|---|---|
| 1046318 | TAS 1 | 247642 (100%) | | 092E | 2016/aug/29 | 2019/sep/20 | 707.87 |
| 1046319 | TAS 2 | 247642 (100%) | | 092E | 2016/aug/29 | 2019/sep/20 | 1456.57 |
| 1046320 | TAS 3 | 247642 (100%) | | 092E | 2016/aug/29 | 2019/sep/20 | 935.47 |
| 1046321 | TAS 4 | 247642 (100%) | | 092E | 2016/aug/29 | 2019/sep/20 | 1038.75 |
| 1046322 | TAS 5 | 247642 (100%) | | 092E | 2016/aug/29 | 2019/sep/20 | 726.86 |
| | | | | | | | 4865.53 |

## CLAIMS

The Tahsis property consists of 5 mineral tenures totaling 4,865.53 hectares as shown on Figure 2 and detailed in Table 1.All tenures comprising the Tahsis Property are registered in the name of Qualitas Holdings Corp., the property vendor (owner Number 247642). Cross River Ventures Corp. is earning a 100% interest, subject to a 3.0% Net Smelter Return (NSR) royalty by making cash payments of $20,000, issuing 800,000 shares and completing $250,000 in exploration expenditures as detailed in Table 2.

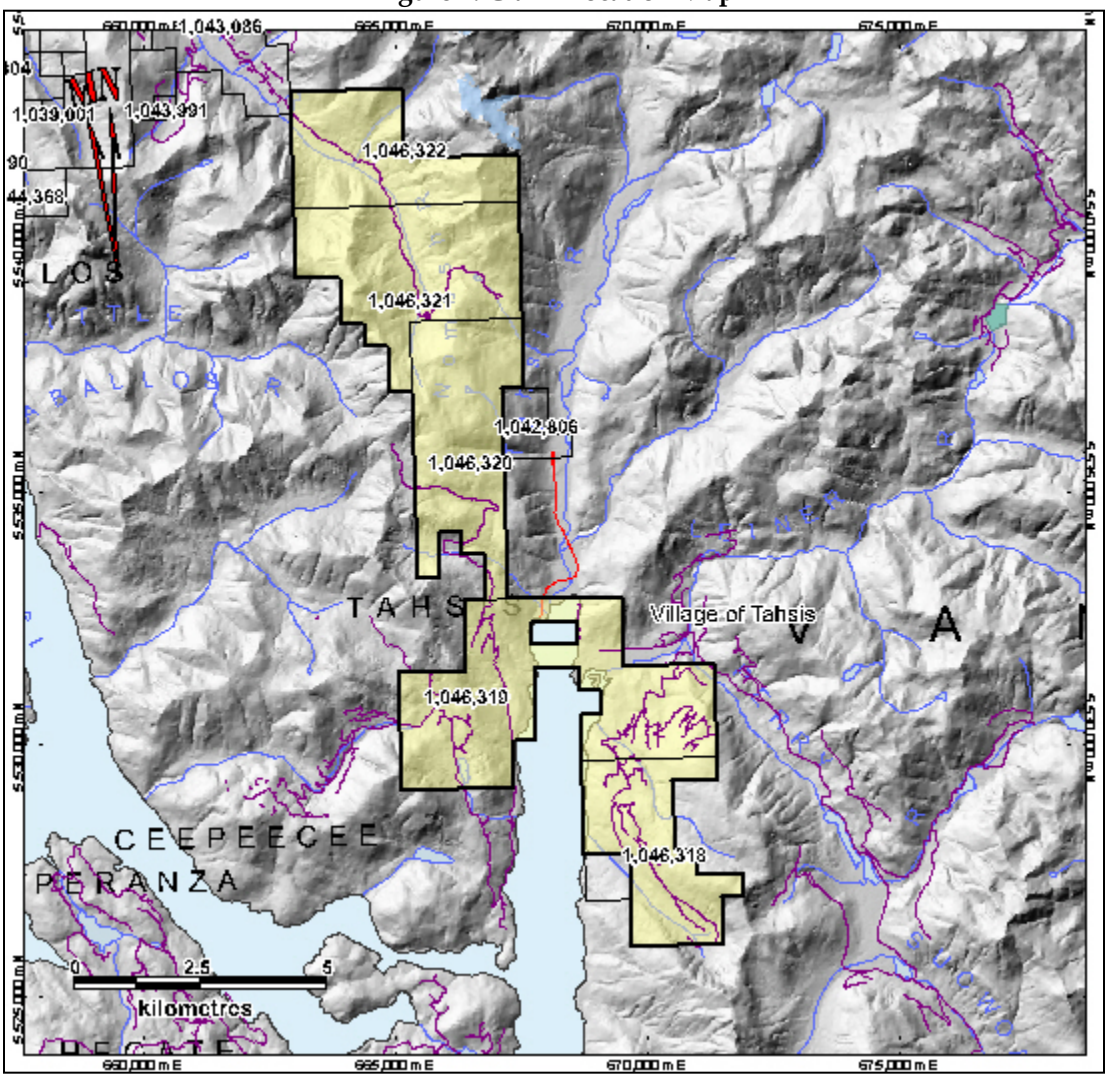
**Table 2. Agreement Terms**

| Payments | | |
|---|---|---|
| Date | Cash | Shares |
| Signing | $20,000 | |
| On CSE approval | | 300,000 |
| 1st anniversary of CSE approval | | 250,000 |
| 2nd anniversary of CSE approval | | 250,000 |
| **Totals** | **$20,000** | **800,000** |

| Work Commitments | |
|---|---|
| Expenditures of | Completed by |
| | |
| | |
| $100,000 | 1st anniversary |
| $150,000 | 2nd anniversary y |
| **$250,000** | |

Upon completion of the terms, Cross River Ventures Corp. will hold a 100% interest in the Tahsis claims, subject to the 3% NSR. Cross River Ventures Corp. can purchase up to 2% for $1,000,000 per 1% prior to commercial production.

**Figure 2. Claim Location Map**



# EXPLORATION HISTORY

The Tahsis area has a long exploration history due to its proximity to the Zeballos Gold Camp, approximately 25 kilometres to the northwest. In the Zeballos Gold Camp, 13 deposits produced a total of 287,811 ounces of gold and 124,700 ounces of silver from as early as 1930 until 1948 (Hoadley, 1953). One producer, Privateer, accounted for 154,381 ounces of gold and 60,878 ounces of silver. A total of 285,771 tons of ore was mined from Privateer's five main veins, of which 158,332 tons was milled. Twelve other producers accounted for the balance of production with total outputs ranging from 54,000 ounces of gold to 5 ounces of gold. The British Columbia Ministry of Energy Mines and Petroleum Resources MINFILE database lists 33 lode gold deposits and occurrences in the Zeballos Gold Camp, all of which are associated with quartz veining. Along with free gold, other associated minerals included pyrite, arsenopyrite, calcite and chalcopyrite with occasional galena and sphalerite. The geology of the Tahsis area is similar to the Zeballos camp, making it a favourable exploration target.

Exploration has spilled southeast from Zeballos into the Tahsis River Valley and further to the southeast following the Eocene Mt. Washington intrusive plugs, the host rocks of much of the Zeballos mineralization. There are several mineral occurrences on old crown granted mineral claims in the area of the Tahsis claims, though none of them lie within the present Tahsis property boundary. These include the Star of the West and Independence claims located within the small block of claims northwest of Tahsis excluded from the current Tahsis property and immediately to the east of the Tahsis property, respectively. The Independence is auriferous quartz veins while the Star of the West is a gold-copper skarn in Quatsino limestone.

The Tahsis property itself has a long exploration history. Table 3 shows a summary of the exploration history from the British Columbia Ministry of Energy, Mines and Petroleum Resources ARIS Assessment Report Index. The proximity of the Tahsis property to the Zeballos Gold Camp, approximately 25 kilometres to the northwest, has resulted in several cycles of exploration on the ground comprising the present Tahsis property.

The area around the old Independence workings, immediately east of the north central portion of the present Tahsis property, has been explored at regular intervals since the early 1980's. The first program was completed by property owner Peter Peto in 1983. A total of 15 rock samples, 4 silt samples and 9 soil samples were collected by various company geologists during the summer of 1983, divided between the Star of the West and the Independence claims (Peto, 1983).

North American Ventures Ltd. explored the Independence claim in 1987. They flagged a grid, collected 290 soil samples at 100 metre intervals along north-south lines paced 50 metres apart and then ran magnetometer and VLF-EM surveys over the grid lines. A subsequent review of the data showed the grid lines stopped well short of the projected location of the Independence veins. (Stephenson, 1987).

Landon Resources Ltd. completed a two year exploration program on the Star of the West workings and surrounding area in the early 1990's. This includes the small block of ground entirely surrounded by the present Tahsis property in the west central portion of the claim block. The initial 1990 program (Nelles, 1990) consisted of 12.6 line kilometres of magnetometer surveying, 6.2 line kilometres of Induced Polarization surveying, 32 rock samples, 8 heavy mineral samples, 7 petrographic analyses, geological mapping and two NQ diamond drill holes totaling 243 metres. The follow up 1991 program (Coombes, 1992) consisted of reconnaissance geological mapping at a scale of 1:5,000 (approximately 550 hectares); detailed geological mapping at a scale of 1:1,000 (approximately 60 hectares); grid construction (9,010 metres with 10m station intervals); soil (253 samples, of which, 213 were analyzed) and rock (22 samples) geochemical sampling; ground magnetometer geophysical surveys (14,910 metres at 10 metre intervals); and very low frequency electromagnetics (VLF-EM) geophysical surveys (11,280 metres at 10 metre intervals.

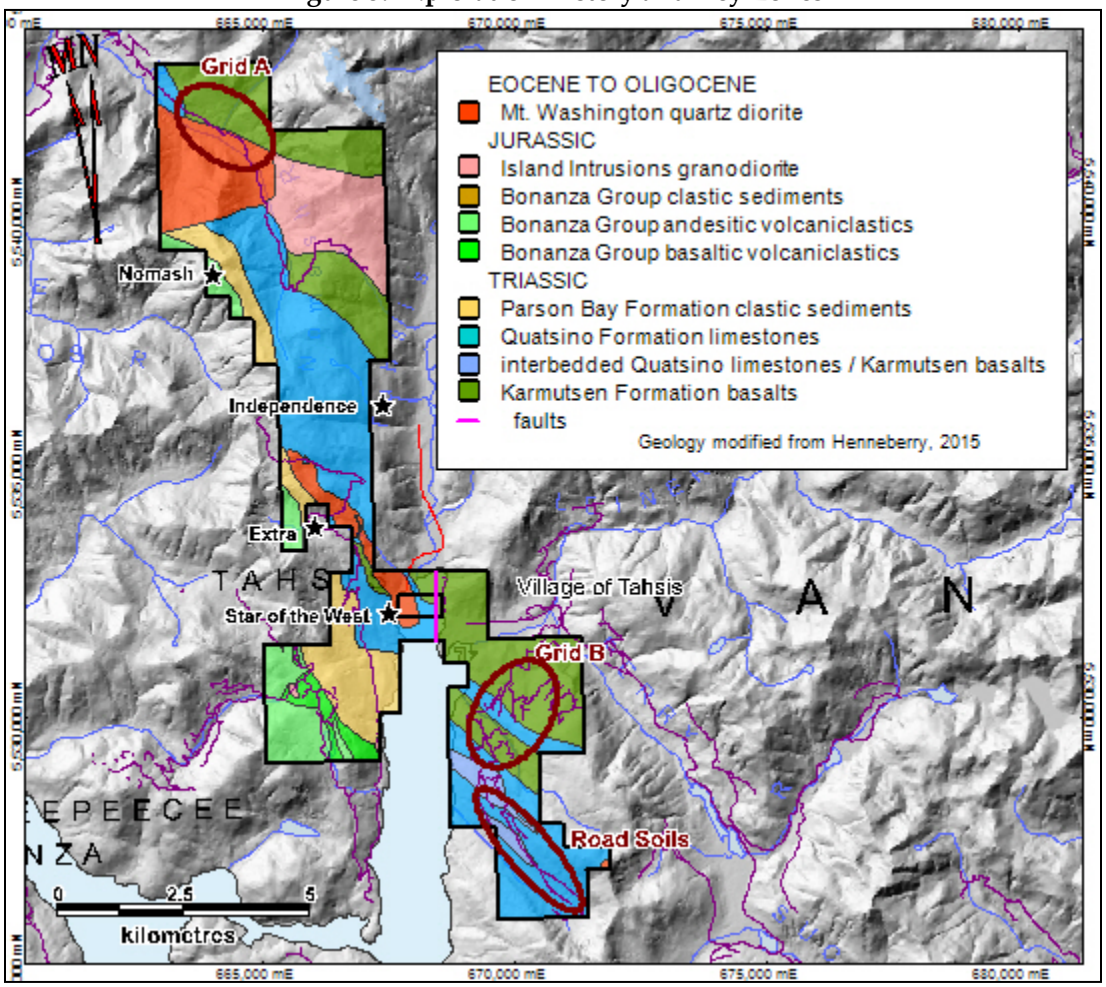
**Table 3. Summary of Exploration History**

| ARIS | Year | Reference | Company | Property | Work Done / Recommendations |
|---|---|---|---|---|---|
| 9130 | 1981 | White and Chabot, 1981 | Pan Ocean Oil Ltd. | Tah Group | Heavy mineral sampling and rock and stream geochemistry. Mapping, rock, soil silt geochemistry recommended. |
| 10157 | 1981 | Chabot, 1982 | Pan Ocean Oil Ltd. | Tah Group | Mapping, rock sampling. Rock sampling, mapping and prospecting recommended. |
| 10659 | 1981 | Beach, 1981 | Colin Beach | Water | Prospecting. Prospecting and rock sampling recommended. |
| 12058 | 1983 | Robinson, 1983 | Aberford Resources Ltd. | Tah Group | Mapping, rock sampling. Prospecting and detailed mapping recommended. |
| 12354 | 1983 | Peto, 1983 | Peter Peto | Independence, Tahsis | Soil, rock sampling. Prospecting and rock sampling recommended. |
| 13681 | 1985 | Ronning, 1985 | Homestake Mineral Deveopment Company | Tah Group | Rock sampling. No further work recommended. |
| 16426 | 1987 | Freeze, 1987 | Stow Resources Ltd. | Perry Group | Silt, rock sampling, mapping. Soil geochemistry, ground geophysics recommended. |
| 16673 | 1987 | Stephenson, 1987 | North American Ventures Ltd. | Independence | Soil, rock sampling. Soil sampling, ground geophysics, mapping recommended. |
| 20664 | 1990 | Nelles, 1990 | Landon Resources Ltd. | Extra | Mapping, rock sampling, IP/Mag surveys, diamond drilling. Mapping, follow up geophysics and diamond drilling recommended. |
| 22130 | 1991 | Coombes, 1992 | Landon Resources Ltd. | Extra | Mapping, rock sampling, IP/Mag surveys. No further work recommended. |
| 28652 | 1996 | Diakow, 1996a | Gerry Diakow | Extra | Rock sampling. Silt and soil sampling recommended. |
| 28659 | 1996 | Diakow, 1996b | Gerry Diakow | Geo | Rock sampling. Silt and soil sampling recommended. |
| 30088 | 2007 | Raven and Nelson, 2008 | Grande Portage Resources Ltd. | Cherry | Silt, soil, rock sampling, airborne geophysics. Prospecting, airborne geophysics recommended. |

These programs found three showings: the Poole Creek skarn area, where pyrite usually occurs as disseminations and fracture fillings associated with quartz, calcite, epidote and chlorite veining, and pyrrhotite and chalcopyrite predominantly occur as disseminations and fracture fillings; the Open Cut Zone, where semi-massive mineralization, including fracture-related chalcopyrite, is hosted by open tensional fractures between two north-northwesterly striking and steeply dipping strike-slip faults along the diorite-limestone contact; and the Adit Zone, where semi-massive pyrite and chalcopyrite mineralization at the intrusive contact of a northerly striking andesite dyke. (Coombes, 1992).

Diakow (1996a) staked the Extra claim to cover the Star of the West showings in 1996. He also staked a second block, the Geo claim, on the western side of Tahsis Inlet, now covered by the southwest portion of the present Tahsis property (Diakow, 1996b). Rock sampling programs, consisting of 7 rock samples from the Extra claim and a further 7 samples from the Geo claim, were conducted on each property.

**Figure 3. Exploration History and Key Zones**



Colin Beach explored his Water claim on 1981, taking one rock sample and flagging a grid. Nothing of significance was noted, Beach (1981). Minfile reports that a sample collected from this property assayed 0.061% Cu, 0.8 grams per tonne silver and 0.035 grams per tonne gold. Neither Beach nor anyone else has been able to duplicate this sample or result. The ground comprising the long expired Water claim underlies some of the northwest section of the current Tahsis property including the old Nomash showing.

Four exploration programs were completed on the bulk of the present Tahsis property. The 2007 program was completed by Grand Portage Resources Ltd. The claims subsequently expired and were acquired by Qualitas Holdings Corp., the property vendor, in 2011. They optioned the claims to Gold Ridge Resources Ltd., who subsequently completed a 2011 program. Gold Ridge later returned the claims and Qualitas next optioned them to Sojourn Ventures Inc. in 2013. Sojourn completed a program in 2013 and a second program in 2015 before returning the claims to vendor when they decided to move in a different direction. Three target areas were identified: Grid A, Grid B and the Road Soils Area (Figure 3).

Grande Portage completed a 2007 exploration program of airborne geophysics, property wide stream sediment sampling, supplemental soil sampling and limited rock sampling (Raven and Nelson, 2008). The airborne time domain electromagnetic and caesium vapour magnetometer survey ran into a month of poor weather and only 162.7 of the planned 1443 line kilometres were actually flown. No maps were produced due to lack of data. The stream sediment sampling program was confined to accessible areas of the property and consisted of 14 moss-mat silt and 236 conventional silt samples, identifying four areas for follow-up: Targets A through D. A total of 78 soil samples were taken in areas were stream drainages were minimal. The sampling assisted in confirming Targets A and D and suggested Target B could be larger in scope than suggested by the silt sampling. While a total of 26 rocks samples were reported as taken by Raven and Nelson (2008) assay results were only provided for 15 samples. Descriptions of the rock individual rock samples were not provided in the 2008 report, so it is unknown if the samples were float, grabs or chips.

Gold Ridge Exploration Corp. explored the present Tahsis claim block in the spring of 2011, completing a preliminary exploration program consisting of: 619 road soil samples, 42 rock samples and 34 silt samples testing 4 target areas identified by earlier operators. They had exploration success at Target A, located on both sides of Nomash Creek valley on the north claim block, returning elevated gold and copper values from soils and silts and at Target B, located to the east of the head of Tahsis Inlet, returning elevated gold and copper values from rocks and soils. Gold Ridge completed very limited sampling at Target C and Target D (Robb, 2011).

Sojourn Ventures Inc. undertook grid soil sampling programs at Target A and Target B in the summer of 2013. Extremely difficult ground conditions significantly curtailed the size of the proposed soil grids and lead to a program of road soil sampling to meet the exploration expenditures required under the option agreement. Grid and road soil sampling in the Target A area located a continuously anomalous 950 metre section of road at the top end of the grid, with gold-in-soil ranging from a minimum of 15 ppb to a maximum of 1672 ppb and copper-in-soil values ranging from a minimum 119 ppm of to a maximum of 1651 ppm.

Grid and road soil sampling in the Target B area located two clusters of anomalous gold and copper in soil: cluster 1 – approximately 450 metres north south by 500 metres east west and cluster 2 – approximately 1300 metres east west by 250 metres north south. Road soil sampling in the southwestern end of the claim block located anomalous gold and copper in soil values as the south end of Target D was approached at the extremity of the sampling program. Program statistics were 691 grid soils, 176 road soils, 2 moss mat stream sediment samples and 3 rock samples. (Henneberry, 2013).

Sojourn completed a second program of local road soil sampling, stream sediment sampling, rock sampling and preliminary geological mapping in 2015. A total of 108 road soil samples, 1 moss mat stream sediment sample, 23 conventional stream sediment samples and 14 rock samples were taken and 352 outcrop locations were logged during the July 2015 exploration program. This exploration allowed downsizing of the property by allowing some of the peripheral area claims to expire. (Henneberry, 2015).

The Grid A soil sampling concentrated in the area of the 2011 road Au-in-soil and Cu-in-soil anomalies in the northern claim block. The bush conditions were extremely difficult so the planned 200 metre by 50 metre sample grid was not possible. The sampling concentrated on the severely overgrown roads cutting through the grid and lines along the proposed grid wherever possible. The gold results showed scattered spot anomalies throughout the portion of the grid that was established. More importantly, it strongly suggests a significant zone of continuous Au-in-soil values along an overgrown road on the northern end of the grid. The continuous 950 metre section of road contained Au-in-soil values ranging from a minimum of 15 ppb to a maximum of 1672 ppb and Cu-in-soil values ranging from a minimum 119 ppm of to a maximum of 1651 ppm.

The Target A copper results showed considerable scatter through the part of the grid that was established. The overgrown road at the north end of the grid also appears to be strongly anomalous in copper over the same 950 metre section that is anomalous in gold. This area is a highly attractive target. This area of the property appears to be underlain by Karmutsen volcanics.

The Target B soil sampling concentrated in the area of the 2011 road Au-in-soil and Cu-in-soil anomalies in the southern claim block. The bush conditions were extremely difficult so the planned 200 metre by 50 metre sample grid was not possible. The sampling concentrated for the most part on the lower slopes which proved to be somewhat more accessible.

The initial observation from the sampling in this area is the gold and copper values are half of what they were in the Target A area. The geology in this area is Karmutsen volcanics and Quatsino limestones, in comparison to the Karmutsen volcanics and Mt. Washington suite intrusives at Grid A.

Grid B is associated with the contact between the Quatsino limestone and Karmutsen volcanics. Two cluster anomalies were clearly identifying during the 2013 grid soil sampling. Cluster 1 is approximately 450 metres north south by 500 metres east west and appears to lie on the lower slopes of a relatively gentle ridge. Cluster 2 is approximately 1300 metres east west by 250 metres north south and stretches down the west facing slope.

The gold results showed scatter throughout the grid, but also appear to have identified two anomalous clusters. Cluster 1 is in the southwest portion of the grid within the limestones and Cluster 2 appears to be a loosely defined zone trending through the centre of the grid.

The copper results appear to replicate the gold plot in that both Cluster 1 and Cluster 2 are clearly identifiable. Cluster 1 is approximately 450 metres north south by 500 metres east west and appears to lie on the lower slopes of a relatively gentle ridge. Cluster 2 is approximately 1300 metres east west by 250 metres north south and stretches down the west facing

A third area of interest lies to the south of Grid B in the road soil area, where a zone of anomalous gold in soil was located in 2015 in the same area where anomalous values were found in 2013. A 450 metre section of 50 metre spaced road soil sampling contains gold values ranging from a low of 6 ppb Au to a high of 146 ppb Au. Additional values of 9, 7, 6 and 14 ppb occur further to the south. Sampling in 2013 returned a 150 metre section with values of 7, 17, 23, and 27 ppb Au a kilometre to the southeast. The gold values look to be associated with an area of interbedded Quatsino limestone and Karmutsen basalt. There were no anomalous zones in the copper-in-soil.

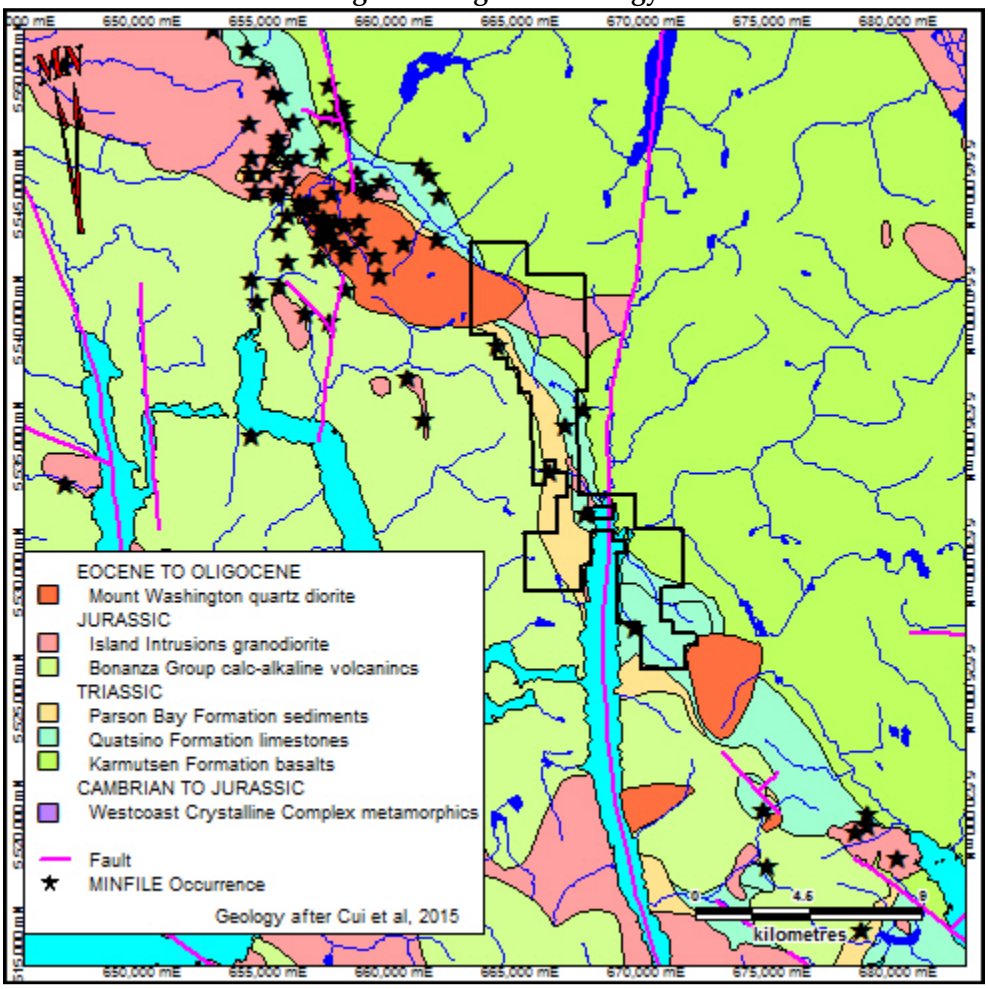
Rock and silt samples were taken during the 2011, 2013 and 2015 programs. A total of 59 rocks were taken over the three programs. Two copper samples stood out. A vuggy quartz pod showing copper oxides was located in the Karmutsen basalts in the area of Grid B. A grab sample of the zone returned a value of 1.075% copper. A rusty shear zone in the general area of the Extra showing returned a value of 3375 ppm copper. Two gold samples also stood out. A brecciated, 1 to 15 centimetre wide quartz carbonate vein with traces of disseminated fine grained pyrite returned a value of 738 ppb Au and a brecciated quartz stockwork zone in the same area returned a value of 393 ppb Au. Both gold samples lie within the Grid B area.

A total of 61 stream sediment samples were taking over the three programs. One area of anomalous copper values was located in the northwest corner of the property along the eastern contact of the Zeballos pluton. This area was also anomalous in gold and led to the establishment of the soil grid at the Grid A target. Other spot or cluster gold anomalies were located in areas of the originally southern claims that were abandoned when the property was downsized.

# REGIONAL GEOLOGY

The geology of northeast Vancouver Island has been described by Muller et al (1974) and Muller et al (1981). The area is located within the Insular Belt of the Canadian Cordillera. The map area is chiefly underlain by the middle to upper Triassic Vancouver Group, overlain by the lower Jurassic Bonanza Group. The Vancouver Group is intruded by large and small bodies of middle Jurassic Island Intrusions. The region may be divided into several large structural blocks, separated mainly by important near-vertical faults and themselves fractured into many small fault segments (Figure 4).

**Figure 4. Regional Geology**




The Vancouver Group is comprised of the lower Karmutsen Formation, middle Quatsino Formation and upper Parson Bay Formation. The Karmutsen Formation, the thickest and most widespread of the Vancouver Group formations, consists of basaltic pillow lavas, pillow breccias and lava flows with minor interbedded limestones, primarily in the upper part of the formation. Karmutsen rocks outcrop throughout northeastern Vancouver Island.

The Quatsino Formation overlies the basalts. The lower part of the Quatsino Formation consists of thick bedded to massive, brown-grey to light grey, grey to white weathering, fine to microcrystalline, commonly stylolithic limestone. The upper part is thin to thick bedded, darker brown and grey limestone, with fairly common layers of shell debris. The formation is in gradational contact with the overlying Parson Bay Formation by an increase in layers of calcareous pelites. Quatsino limestone outcrops as three narrow belts in the northern part of Vancouver Island.

The Parson Bay Formation consists of a series of interbedded silty limestones and calcareous shales and sandstones, and occasional beds of pure limestone. Parson Bay rocks outcrop sporadically overlying the Quatsino limestone.

The Bonanza Group overlies the Vancouver Group. Bonanza Group rocks are primarily a Jurassic assemblage of interbedded lava, breccia and tuff with compositions ranging from basalt through andesite and dacite to rhyolite, deposited in a volcanic island arc environment. The Bonanza Group outcrops throughout the map area.

Granitoid batholiths and stocks of the Island Intrusions underlie the central core of Vancouver Island from one end to the other. These intrusions range in composition from quartz diorite and tonalite to granodiorite and granite. Island Intrusions outcrop throughout the map area.

There are local Eocene quartz diorite intrusions of the Mount Washington Intrusive Suite that are more prominent on the western side of Vancouver Island.

The network of faults displayed at the north end of Vancouver Island appear to be the super position of two or more fracture patterns, each with characteristic directions but of different age and origin.

## PROPERTY GEOLOGY

The Tahsis property was mapped during the 2015 field program (Henneberry, 2015), concentrating on numerous logging roads within the claim block with coverage ranging from excellent through to non-existent. In inaccessible areas, the British Columbia Geological Survey 2015 Digital Geology (Cui et al, 2015) was integrated into the mapping. In addition, Nelles (1990) mapping in the area northwest of the head of Tahsis Inlet was integrated into the mapping.

Outcrop is generally abundant as soon as the logging roads leave the valley bottoms, with long stretches of more or less semi-continuous to continuous outcrop common along several of the logging roads. A total of 352 distinct outcrop locations were documented.

The Tahsis property is underlain by Triassic Vancouver Group rocks, Jurassic Bonanza Group rocks and intrusions and Eocene Intrusions, with the Vancouver and Bonanza Group rocks trending in a southeast-northwest direction. The geology is more complicated than shown on the 1:250,000 scale maps of sheets 092E and 092L accompanying Muller et al's (1974) and Muller et al's (1981) reports.

The Triassic Vancouver Group rocks cover 3/5 of the claim block. Moving northeast to southwest the Karmutsen Formation basalts abut the eastern boundary of the property. The rock is generally grey black to black on weathered surface and dark grey black to black on fresh surface. These rocks range from fine grained to fragmental, with exposures of pillow basalts noted locally. They are locally amygdaloidal. Alteration ranges from fresh to weakly to moderately hematitic. Abundant fracture epidote was noted in several outcrops on the northeast side of Tahsis Inlet. Disseminated pyrite in concentrations ranging from traces to 1% to 2% was noted locally. Copper was noted and sampled at one location.

Two specimens were sent for petrographic analysis, one from the east centre of the claim block and one from the southeast end of the claim block. Both samples were described as likely hypabyssal intrusives, with one described as a plagioclase phyric andesite or basaltic andesite and the other as a plagioclase-mafic (rare olivine?) phyric andesite or basaltic andesite porphyry.

The Quatsino Formation forms a narrow belt, 1000 to 1500 metres wide trending southeast-northwest through the centre of the property. The northeastern side is actually comprised more of interbedded limestone and basalt ranging in thickness from 10's of centimetres to a few metres. There is no alteration or skarnification at the limestone basalt contacts which suggest deposition on top of the limestone as opposed to dyke intrusion.

The limestone varies greatly in color and appearance throughout its exposure. The dominant stones are fine grained and dove grey to grey black in color. A larger exposure of white coarser grained marbleized limestone was noted proximal to the southern contact of the Mt. Washington intrusion at the northern end of the claim block. As would be expected, there is considerable variation in the strike and dip of the limestone beds with strikes and dips ranging from 030°/30°SE to 170°/40°E and 175°/42°W. Generally, the limestone was unmineralized, though locally 1% to 2% disseminated pyrite was noted.

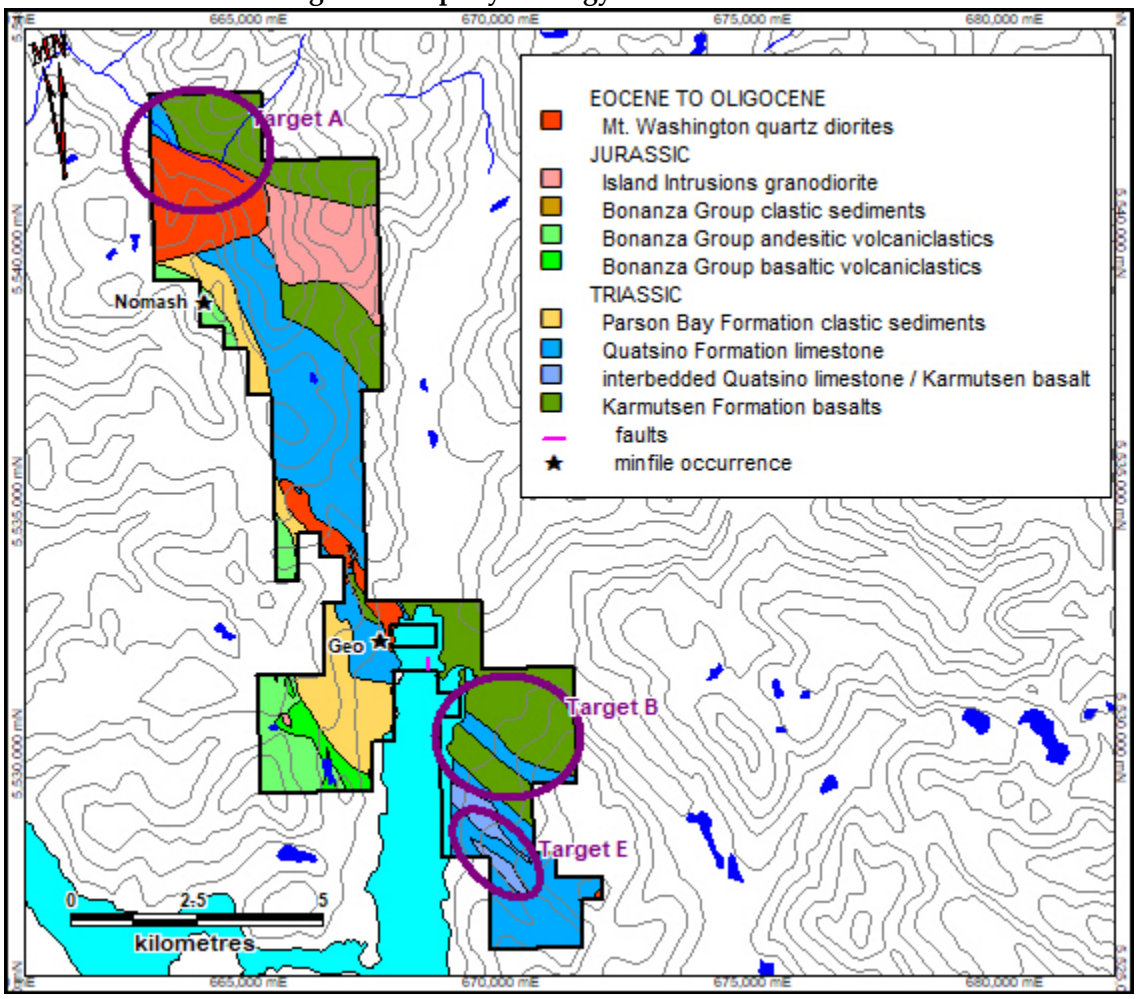
The Parson Bay calcareous clastic sediments outcrop along the southwestern edge of the limestone in the western side of the claim block. These rocks range from light brown to grey black in color with beds ranging in thickness from centimetres to 1 to 2 metres. They show varying amounts of disseminated pyrite, ranging from trace to 5%. They are for the most part altered with varying amounts of silica, clay, sericite and FeOx. A series on sub-parallel andesite dykes crosscutting the sediments were noted in one exposure.

The Bonanza Group rocks are confined to the western extremities of the claim block, overlying the Parson Bay sediments. The dominant units mapped were a dark grey black more basaltic volcaniclastic and a lighter grey green andesitic volcaniclastic along with local fine clastics. The volcaniclastics appear to gradually change from basaltic to andesitic towards the north.

The basaltic volcaniclastic ranges from fine grained to fragmental in texture and is grey black in color. Outcrops are generally massive to blocky. Alteration consists of weak to moderate carbonate as clots or stringers and local epidote, manganese and chlorite. Mineralization was rare and consisted of traces to ¼% disseminated pyrite. A peculiar circular lichen was quite common on the basaltic outcrops. This lichen was also regularly noted, though not as commonly, on the Karmutsen basalts.

The andesitic volcaniclastic is a lighter grey green in color and ranges from fine grained through fragmental to agglomerate. Outcrops are generally massive to blocky as well. Alteration consists of weak to moderate carbonate as clots or stringers and local epidote, manganese, chlorite and sericite, along with local fracture limonite and FeOx. Mineralization was rare and consisted of occasional traces of pyrite.

**Figure 5. Property Geology and Mineralization**



The clastic sediments were localized to small areas in the central western claim block. They consisted of thinly bedded siltstones to shales generally colored shades of brown or grey brown. The units found in the west central region were interbedded with volcaniclastics. Alteration consisted on carbonate clots and stringers in the north and limonite, with local sericite and silica in the south. No mineralization was noted.

Three specimens of Bonanza volcaniclastics were submitted for petrographic analysis: two from the more andesitic volcaniclastics in the west centre of the claim group and one from the basaltic volcaniclastics in the centre of the claim block. The two andesitic samples were both described as an intermediate volcaniclastics. The basaltic sample was described as a plagioclase-clinopyroxene phyric andesite or basaltic andesite porphyry, a likely hypabyssal intrusive.

One exposure of granodiorite of the Jurassic Island Intrusions was mapped in the northern part of the claim block. The massive cliff was composed of a medium grained grey rock. Weak sericite, epidote and FeOx were noted in the unmineralized rock.

Parts of three small stocks lie on the claim block. Exposures in the northernmost stock and the southernmost stock were examined. The northern stock is a blocky to sheeted medium grained, grey white diorite containing hornblende, biotite, plagioclase and quartz. No mineralization was noted and no alteration was noted. The blocky to sheeted southern stock is of similar composition and appearance. Again, no mineralization or alteration was noted.

## MINERALIZATION

The Tahsis Property is being explored for auriferous quartz vein and gold skarn mineralization. There presently are two known areas of bedrock mineralization on the property. These are the NOMASH (Minfile number: 092E 024) and the GEO property (Minfile number: 092E 010). On the Nomash property mineralization consisting of scattered chalcopyrite in a skarn is reported to occur over an area measuring 3.0 by 5.0 metres a short distance away from an intrusive contact. A sample collected from this area assayed 0.061% Cu, 0.8 g/t Ag and 0.035 g/t Au (Minfile: 092E 024). Subsequent work has not been able to verify the presence of this mineralization. The following description for the GEO occurrence is summarized from the B.C. government MINFILE database. Mineralization consisting of lenses of chalcopyrite, magnetite, pyrite, pyrrhotite and minor arsenopyrite is present in garnet-epidote altered limestone of the Quatsino Formation. One sample assayed 8.2grams per tonne gold, 34.3 grams per tonne silver, 9.0% copper and 14.0 % zinc. The locations of these samples are uncertain.

Three of the five target areas identified on the property have proven to have potential to host mineralization, Target A, Target B and Target E. These zones are shown on Figure 5:

- Target A is associated with the eastern contact area of the Mt. Washington Intrusive Suite quartz diorite. This is the intrusive associated with the gold veins of the Zeballos Gold Camp. Soil sampling along an abandoned and overgrown logging road at the north end of the target located a continuous 950 metre section of Au-in-soil values ranging from a minimum of 15 ppb to a maximum of 1672 ppb and Cu-in-soil values ranging from a minimum 119 ppm of to a maximum of 1651 ppm.
- Target B is associated with the contact between the Quatsino limestone and Karmutsen volcanics. Two cluster anomalies were clearly identifying during the 2013 grid soil sampling. Cluster 1 is approximately 450 metres north south by 500 metres east west and appears to lie on the lower slopes of a relatively gentle ridge. Cluster 2 is approximately 1300 metres east west by 250 metres north south and stretches down the west facing slope.
- Target E lies within the Quatsino limestones with some interbedded Karmutsen basalts. A 450 metre section of 50 metre spaced road soil sampling contains gold values ranging from a low of 6 ppb Au to a high of 146 ppb Au. Additional values of 9, 7, 6 and 14 ppb occur further to the south. Sampling in 2013 returned a 150 metre section with values of 7, 17, 23, and 27 ppb Au a kilometre to the southeast.

## GEOPHYSICAL SURVEY

The 2018 exploration program consisted of an Induced Polarization (IP) survey along accessible roads along the east side of Tahsis Inlet in the area of Target B and Target C. Measurements of the first through the sixth separation of apparent chargeability, the IP response parameter and resistivity were made along the traverse lines using the pole-dipole technique utilizing a 50 metre dipole. A total of two traverses were completed along the same road for a total of some 5.5 kilometres. A large switch back separates the two lines which were denoted to be Line 10+00E along the northern portion and Line 11+00E in the south. In addition to induced polarization surveying, horizontal / vertical positions of the line stations were measured using a Garmin handheld GPS unit.

The induced polarization (IP) survey was conducted using a pulse type system, the principal components of which were manufactured by Walcer Geophysics Ltd. of Enniskillen, Ontario, and by Instrumentation GDD of St. Foy, Quebec.

Complete details on the survey and pusedosections in a report completed by Peter E. Walcott and Associates Ltd. can be found in the appendix. The location of the survey lines can be found in Figure 6 at the rear of this report.

## SAMPLE PREPARATION, ANALYSIS AND SECURITY

There were no soil, silt or rock sampling undertaken in this program.

# INTERPRETATIONS AND CONCLUSIONS

The Tahsis Property lies within an area of high geological potential on the northwest coast of Vancouver Island. This area is prospective for auriferous gold veins, as shown by the proximal Zeballos Gold Camp; skarn and replacement mineralization within the Quatsino limestones and disseminated gold deposits in the limey sediments of the Parson Bay Formation.

The 2011 Gold Ridge Exploration Corp., 2013 and 2015 Sojourn Ventures Inc. and the 2016 and 2017 Qualitas Holdings Corp. exploration programs on the present Tahsis property continue to meet with success. The 2011 program followed up on two of the four targets identified as a result of Robb's (2011) historic compilation. The 2013 program focused on the Target A and Target B areas from the 2011 program and identified Au-in-soil and Cu-in-soil anomalies in prospective geological settings that require further exploration. The 2015, 2016 and 2017 programs concentrated on preliminary geological mapping and an initial assessment of the previously untested and peripheral areas of the claim block.

The geological mapping proved to be in general agreement with the government mapping, with the dominant units being the Vancouver Group in the eastern two thirds and the Bonanza Group dominating the western third. Local zones of copper mineralization of limited areal extent, typical of the Karmutsen Formation throughout Vancouver Island, were noted. The soil geochemistry located several areas of interesting gold and or copper values in the Quatsino limestone that will require follow up, especially the claims adjacent to the east side of Tahsis Inlet and north of the Mt. Washington stock in the southern section of the claim group. The Quatsino to the south of the stock did not show the same volume of interesting values.

There is very limited outcrop exposure over the areas of 2013 A grid accessed during the 2015 mapping, so little comment can be offered on the anomalies. While there is abundant outcrop over the 2013 B grid, little of significance was noted to explain the anomalies. Aside from these two grids, the other area of interest is Target E, the Quatsino limestone with minor interbedded Karmutsen basalts along the eastern side of Tahsis Inlet. A 450 metre section of road soil sampling at 50 metre intervals contains gold values ranging from a low of 6 ppb Au to a high of 146 ppb Au. Additional values of 9, 7, 6 and 14 ppb occur further to the south. Sampling of proximal roads in the same area in 2013 also returned several elevated values further supporting further exploration.

The IP survey successfully identified areas of higher resistivity and coincidental chargeability high on lines 10+00E and 11+00 E. the high resistivity is interpreted as relating to the Quatsino limestone, while the high chargeability may be related to sulphide mineralization. Given the anomalous geochemical results obtained over the gird areas these coincidental geochemical and geophysical anomalies offer an attractive exploration target.

All three target areas need to be followed up with some ground geophysics and trenching with some additional soil sampling. Ground geophysics will consist of magnetics and VLF-EM surveys over Grid A and Grid B. Grid A will consist of 5 N-S 1000 metre lines at 100 metre line spacings and Grid B will also consist of 5 N-S 1000 metre lines at 100 metre line spacings. Excavator trenching and soil sampling will be directed at Grid E, with some of the trenching also directed at Grid A and Grid B. A total of 100 soil samples will be taken over for Grid E and 25 hours of excavator trenching are earmarked for each of the three grids.

## RECOMMENDATIONS

A program of excavator trenching and/or ground magnetics and VLF-EM is recommended for the three grid target areas at the Tahsis property. The ground geophysics contract is estimated at $50,000 all in, while the excavator trenching with limited soil sampling is estimated at $52,700, including permitting. The total Phase I budget with a $7,300 contingency is $107,800 as shown in Table 4.

**Table 4. 2018 Budget Recommendation**

| | | | | | | |
|---|---|---|---|---|---|---|
| Ground Geophysics | | | | | | |
| | Two man | 28 | days | @ | $1,200 | $33,600 |
| | Vehicle | 28 | days | @ | $150 | $4,200 |
| | Room and Board | 28 | days | @ | $150 | $4,200 |
| | Fuel | | | | | $2,000 |
| | Machine Rentals | 28 | days | @ | $100 | $2,800 |
| | Processing and Report | | | | | $1,000 |
| Prospecting / trenching: | | | | | | |
| | Two man crew all in | 10 | days | @ | $1,950 | $19,500 |
| | Analysis - soils | 100 | samples | @ | $25 | $2,500 |
| | Analysis - rock | 50 | samples | @ | $40 | $2,000 |
| | Analysis - standards | 10 | samples | @ | $20 | $200 |
| | Excavator mob/demob | | | | | $1,500 |
| | Excavator (all in) | 75 | hours | @ | $150 | $11,250 |
| Equipment and Supplies: | | | | | | $750 |
| Supervision | | | | | | $2,000 |
| Travel | | | | | | $3,000 |
| Permitting | | | | | | $5,000 |
| Documentation | | | | | | $5,000 |
| Contingency | | | | | | $7,300 |
| | | | | | | |
| **Total Budget** | | | | | | **$107,800** |

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# CERTIFICATE FOR R. TIMOTHY HENNEBERRY

I, R.Tim Henneberry, P.Geo., a consulting geologist with offices at 2446 Bidston Road, Mill Bay, B.C. V0R 2P4 and 704 – 1060 Alberni Street, Vancouver, B.C. V6E 4K2 do hereby certify that: I am the Qualified Person for:

**Cross River Ventures Corp.**
307 - 2628 Yew Street
Vancouver, British Columbia V6K 4T4

I earned a Bachelor of Science Degree majoring in geology from Dalhousie University, graduating in May 1980.

I am registered with the Association of Professional Engineers and Geoscientists in the Province of British Columbia as a Professional Geoscientist.

I have practiced my profession continuously for 38 years since graduation.

I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101. My relevant experience for the purpose of this Technical Report is:

- 38 years of exploration experience in the western cordillera of North America
- 7 years experience on the Tahsis Property

I am responsible for the preparation of the assessment report titled "2018 Geophysical Report Tahsis Property" and dated December 28, 2018 relating to the Tahsis Property. I last visited the Tahsis property on February 3, 2018 to review outcrops and data.

I have had prior involvement with the property that is the subject of the Assessment Report.

As of December 28, 2018, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

I am independent of the Cross River Ventures Corp.

I make this Assessment Report effective December 28, 2018.

R Tim Henneberry

R.Tim Henneberry, P.Geo

STATEMENT OF COSTS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Services** | | | | | | | $2,875.00 |
| Field days | | days | @ | $800 | /day | $0 | |
| Management | 5 | hours | @ | $125 | /hour | $625 | |
| Report | 18 | hours | @ | $125 | /hour | $2,250 | |
| **Pro-Rated Expenses** | | | | | | | $0.00 |
| Travel | | | | | | $0.00 | |
| Lodging | | | | | | $0.00 | |
| Meals | | | | | | $0.00 | |
| Fuel | | | | | | $0.00 | |
| Supplies | | | | | | $0.00 | |
| Service (10%) | | | | | | $0.00 | |
| **Analysis** | | | | | | | $0.00 |
| Service (10%) | | | | | | $0.00 | |
| **Geophysical Contractor** | | | | | | | $30,040.67 |
| Mob / Demob | | | | | | $6,100.00 | |
| Equipment and crew | | | | | | $19,500.00 | |
| Meals and lodging | | | | | | $4,268.63 | |
| Fuel | | | | | | $172.04 | |
| **GST** #133959049 | | | | | | | $1,645.78 |
| Services | | | | | | $143.75 | |
| Expenses | | | | | | $0.00 | |
| Geophysical contractor | | | | | | $1,502.03 | |
| Analysis | | | | | | $0.00 | |
| **Total** | | | | | | | **$34,561.45** |
| **Total Filed (GST removed)** | | | | | | | **$32,915.67** |

668,000 mE
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5,526,000 mN

N

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1,046,321
1,046,320
1,046,319
1,046,318

Line 1000
Line 1100

EOCENE TO OLIGOCENE
Mt. Washington quartz diorite
JURASSIC
Island Intrusions granodiorite
Bonanza Group clastic sediments
Bonanza Group andesitic volcaniclastics
Bonanza Group basaltic volcaniclastics
TRIASSIC
Parson Bay Formation clastic sediments
Quatsino Formation limestones
interbedded Quatsino limestones / Karmutsen basalts
Karmutsen Formation basalts
faults
2018 Induced Polarization Line

Geology modified after Henneberry, 2015

Mammoth Geological Ltd.

Tahsis Project
2018 IP LInes

Date: 2018-12-28
Author: RTHenneberry
Office:
**Figure 6**
Scale: 1:10000
Projection: UTM Zone 9 (NAD 83)

0 125 250 500
metres

# A REPORT

# ON

# INDUCED POLARIZATION SURVEYING

**TAHSIS PROJECT**
**NANIAMO MINING DIVISION**
**BRITISH COLUMBIA**
**49° 53'N, 126° 38'W**
**NTS 9E/15**

**Claims Surveyed**

**1046318, 1046319**

**for**

**CROSS RIVER VENTURES CORP.**

**Vancouver, British Columbia**

**by**

**PETER E. WALCOTT & ASSOCIATES LIMITED**

**COQUITLAM, BRITISH COLUMBIA**
**DECEMBER 2018**

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## APPENDIX



## ACCOMPANYING MAPS

## INTRODUCTION.

Between November 24th, and November 30th, 2018, Peter E. Walcott & Associates Limited undertook induced polarization (IP) surveying for Cross River Ventures Corp. on its Tahsis Project located near the village of Tahsis, Vancouver Island, British Columbia.

Measurements – first to sixth separation – of apparent chargeability – the IP response parameter – and resistivity were made along the traverse lines using the pole-dipole technique utilising a 50 metre dipole.

A total of two traverses were completed along the same road for a total of some 5.5 kilometres. A large switch back separates the two lines which were denoted to be Line 10+00E along the northern portion and Line 11+00E in the south.

The data are presented as individual pseudo sections at a scale of 1:5,000.

In addition to induced polarization surveying, horizontal / vertical positions of the line stations were measured using a Garmin handheld GPS unit.

## PROPERTY LOCATION AND ACCESS.

The Tahsis project is located in the Namaimo Mining Division of British Columbia. It is situated around the village of Tahsis, some 150 kilometres west of Campbell River, British Columbia.

Access to the survey area was obtained by means of a deactivated forest service road running off Head Bay Rd., some 3 kilometres southwest of Tahsis.

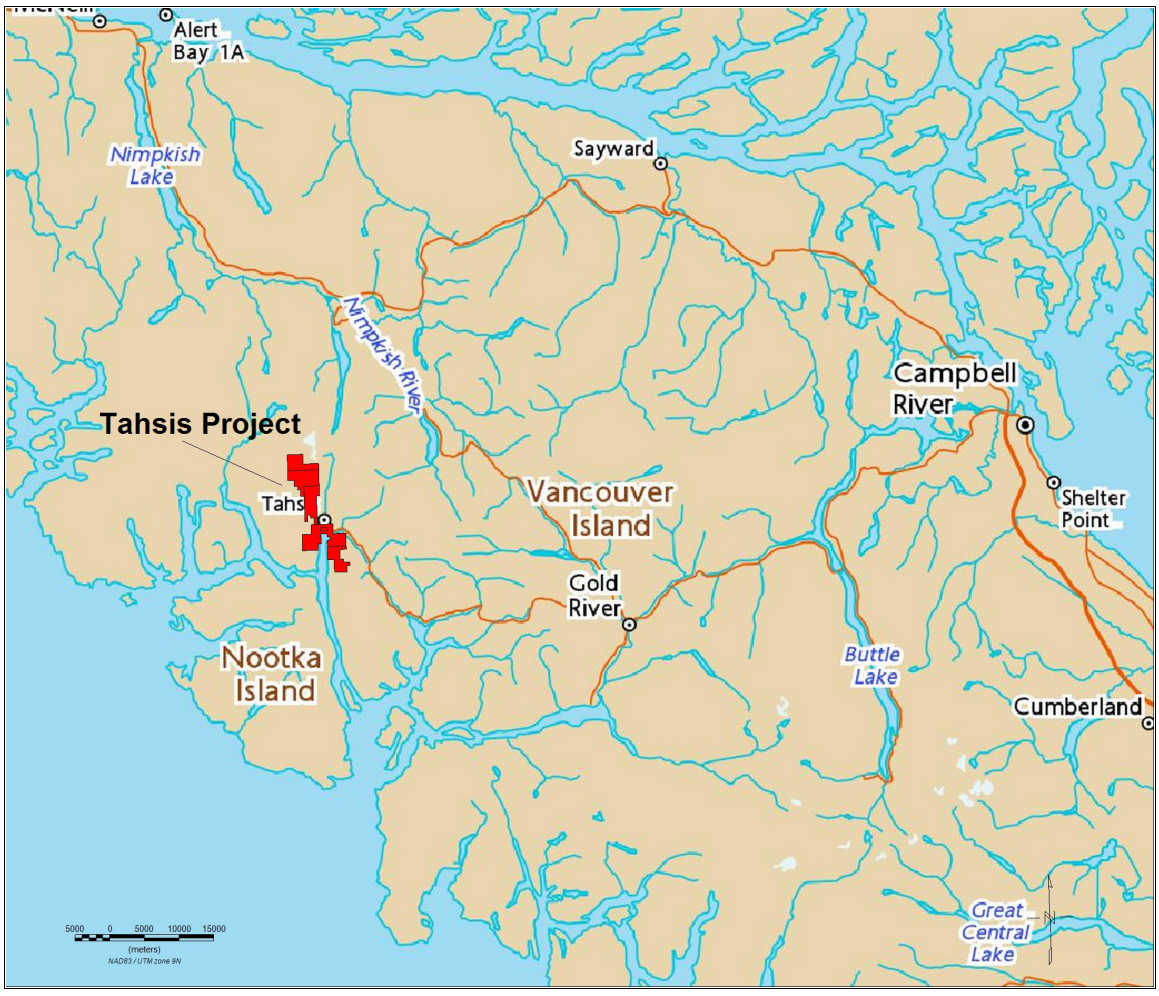



Fig. 1: Property Location Map

## PROPERTY LOCATION AND ACCESS con't

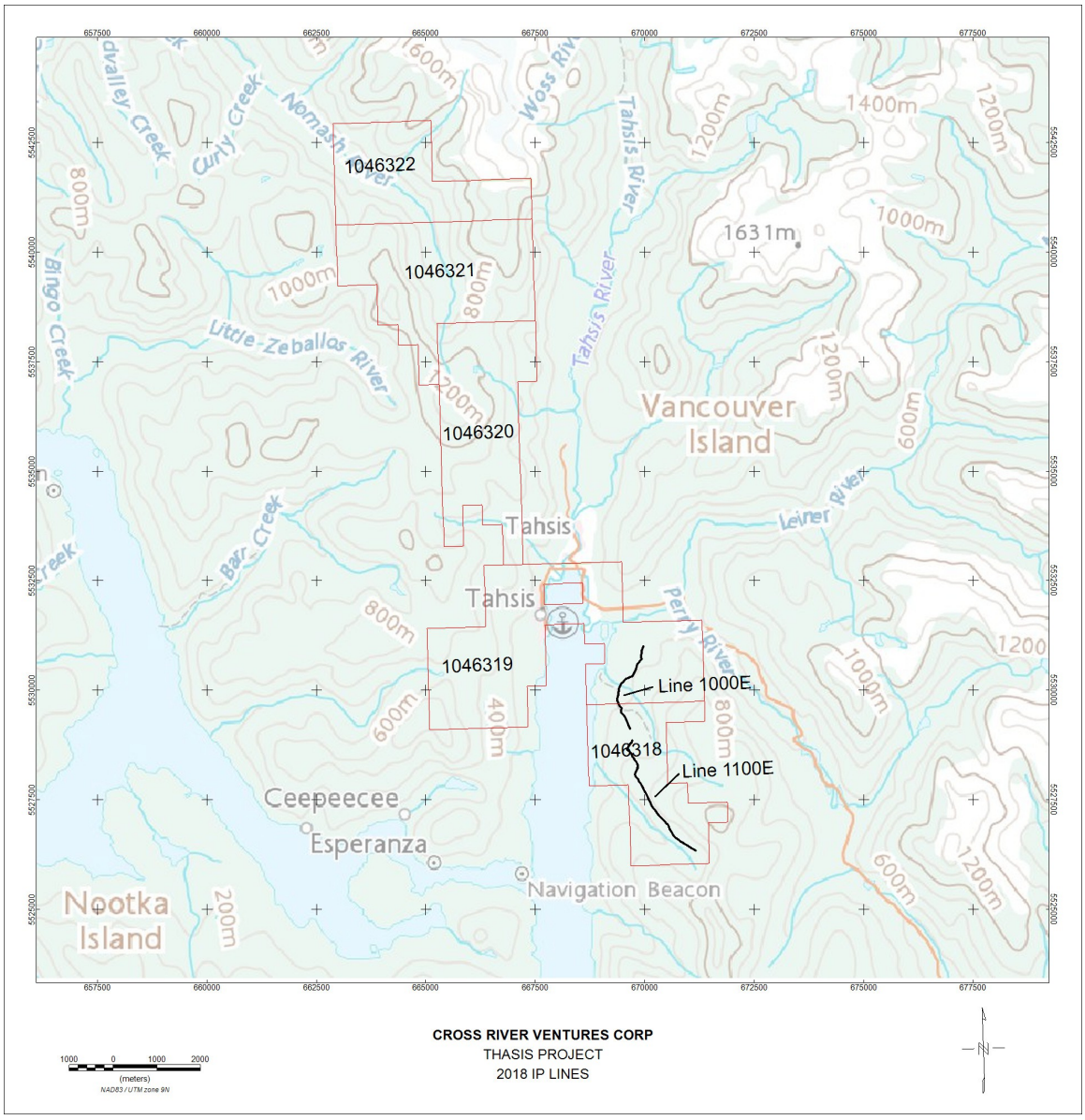



Fig. 2: IP Line and Claim Location Map

## PURPOSE.

The purpose of the survey was twofold. One to fulfil work requirements on the property and the other to see if any induced polarization response(s) was associated with the favourable geochemical results and prospective geology with an eye to undertaking further work on the property.

## SURVEY SPECIFICATIONS.

*The Induced Polarization Survey.*

The induced polarization (IP) survey was conducted using a pulse type system, the principal components of which were manufactured by Walcer Geophysics Ltd. of Enniskillen, Ontario, and by Instrumentation GDD of St. Foy, Quebec.

The system consists basically of three units, a receiver (GDD), transmitter (Walcer) and a motor generator (Honda). The transmitter, which provides a maximum of 9.0 kw dc to the ground, obtains its power from a 20 kw 60 cps alternator driven by a Honda 24 hp gasoline engine. The cycling rate of the transmitter is 2 seconds "current-on" and 2 seconds "current-off" with the pulses reversing continuously in polarity. The data recorded in the field consists of careful measurements of the current (I) in amperes flowing through the current electrodes $C_1$ and $C_2$, the primary voltages (V) appearing between any two potential electrodes, $P_1$ through $P_7$, during the "current-on" part of the cycle, and the apparent chargeability, ($M_a$) presented as a direct readout in millivolts per volt using a 200 millisecond delay and a 1000 millisecond sample window by the receiver, a digital receiver controlled by a micro-processor – the sample window is actually the total of twenty individual windows of 50 millisecond widths.

The apparent resistivity ( $\rho_a$) in ohm metres is proportional to the ratio of the primary voltage and the measured current, the proportionality factor depending on the geometry of the array used. The chargeability and resistivity are called apparent as they are values which that portion of the earth sampled would have if it were homogeneous. As the earth sampled is usually inhomogeneous the calculated apparent chargeability and resistivity are functions of the actual chargeability and resistivity of the rocks.

The survey was carried out using the "pole-dipole" method of surveying. In this method the current electrode, $C_1$, and the potential electrodes, $P_1$ through $P_{n+1}$, are moved in unison along the survey lines at a spacing of "a" (the dipole) apart, while the second current electrode, $C_2$, is kept constant at "infinity". The distance, "na" between $C_1$ and the nearest potential electrode generally controls the depth to be explored by the particular separation, "n", traverse.

On this survey a 50 metre dipole was employed and first to sixth separations readings were obtained. In all some 5.5 kilometres of surveying were completed.

**SURVEY SPECIFICATIONS cont'd.**

*Horizontal and vertical control.*

The horizontal position of the stations were recorded using a GLONASS equipped Garmin C64 handheld GPS receiver.

*Data Presentation.*

The I.P. data are presented as an individual pseudo-section plot of apparent chargeability and resistivity at a scale of 1:5,000. Plots of the 21 point moving filter – illustrated on the pseudo section – for the above are also displayed in the top window to better show the location of the anomalous zones.

## DISCUSSION OF RESULTS.

The two IP traverses follow along the same road roughly in a north – south and then in a northwest - southeast direction. An approximately 250 metre gap exists between the northern and southern portions of the survey. The road meandered too far to the west for useful data and a straight line through the bush would have required more time than was allotted to the project.

Line 10+00E tends to display lower chargeability and resistivity values than Line 11+00E. The geology map (Figure 3.) indicates that Line 10+00E predominantly covers the Karmutsen Basalts while Line 11+00E is predominantly over the Quatsino Limestone. One can infer that the Limestones give a higher resistivity and chargeability response than the Basalts.

Line 10+00E shows a zone of elevated resistivity values between 17+50S and 22+00S which correlates very well with the mapped Quatsino Limestone. This zone of higher resistivities (> 5000 Ohm*m) is bisected and flanked to the south and north by zones of lower than background resistivity (< 2500 Ohm*m) and elevated chargeability (> 10 mV/V). Narrow Mineralized veins may be the cause of these responses.

Line 11+00E exhibits a large zone of higher resistivity from ~ 52+50S to ~ 38+00S. No correlation can be discerned with the geology map but the causative feature is likely to be the limestones also. Several chargeability anomalies are seen within this zone in an area of high background values. The map and data both suggest that the line is oriented along strike making meaningful interpretations difficult.

At the southern extent of the high resistivity zone between 49+00S and 53+00S anomalous chargeability values ( > 25 mV/V) appear to coincide with slightly lower resistivity values ( 3000 > 5000 Ohm*m).

At the southern extremity of the line between 64+00S and 66+00S a discrete, well defined chargeability anomaly ( >25 mV/V) correlates well with a zone of low resistivity ( <2000 Ohm*m).

**DISCUSSION OF RESULTS cont'd.**

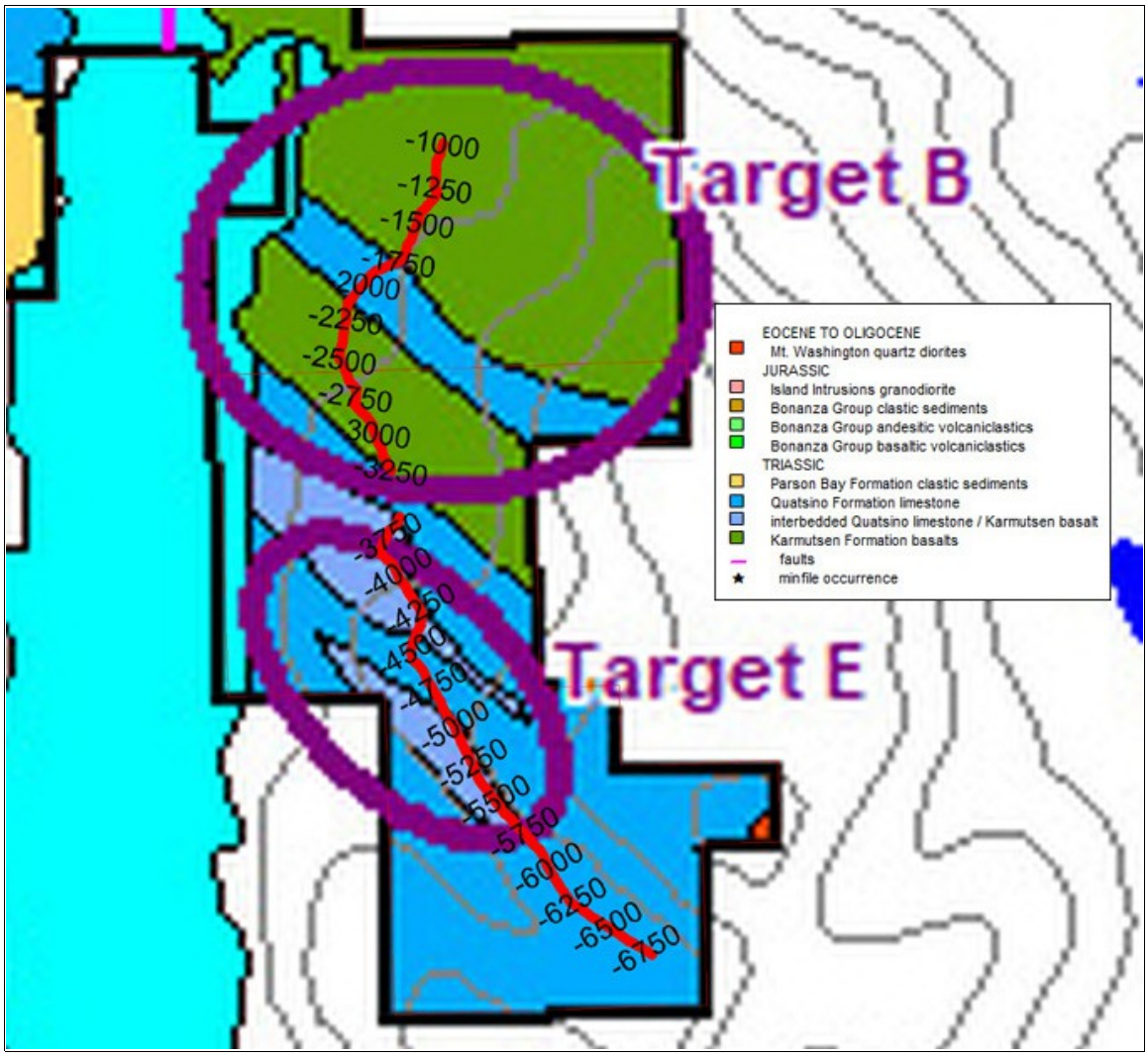



Fig 3. : IP Lines on geology (modified from Henneberry 2018)

## SUMMARY, CONCLUSIONS & RECOMMENDATIONS.

Between November 24th and 30th, 2018, Peter E. Walcott & Associates Limited undertook limited induced polarization (IP) surveying for Cross River Ventures Corp. on their Tahsis property.

The property is located in the Nanaimo MD of British Columbia near the Village of Tahsis.

Two traverses were designed along a road due to the limited budget to see if any induced polarization response(s) was associated with the favourable geochemical results and prospective geology with an eye to undertaking further work on the property.

The survey successfully identified several zones of anomalous chargeability values which may be due to sulphide mineralization, although it was essentially run along strike.

Follow up on these anomalies is recommended. This should include matching chargeability and resistivity responses to rock type and geological prospecting over the anomalies.

If deemed worthwhile, further IP surveying should be conducted perpendicular to the geology to better define anomalous zones. Due to the nature of the bush and terrain it is highly recommended that the lines are cut and chained prior to surveying. Tighter dipole spacing is recommended for better definition of the anomalous area on the northern line.

Respectfully submitted

**Peter E. Walcott & Associates Limited**

**Marek Welz**
**Geophysicist**

**December 2018**

# APPENDIX

## PERSONNEL EMPLOYED ON SURVEY.

| Name | Occupation | Address | Dates |
|---|---|---|---|
| Marek Welz | Geophysicist | 111-17 Fawcett Rd. Coquitlam, B.C. V3K 6V2 | November 24th- November 30th 2018 |
| Patrick Young | Geophysical Operator | " | " |
| Bruce Lajeunesse | " | " | " |
| Oldrich Kucera | " | " | " |
| Brendan Hall | " | " | " |


Scale 1:50000

1000 0 1000 2000 3000

(meters)

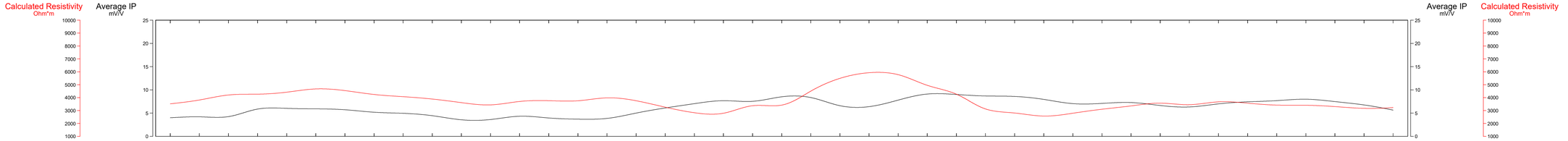
*NAD83 / UTM zone 9N*

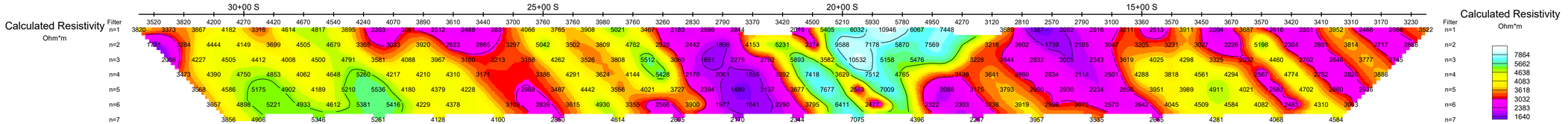
CROSS RIVER VENTURES CORP.

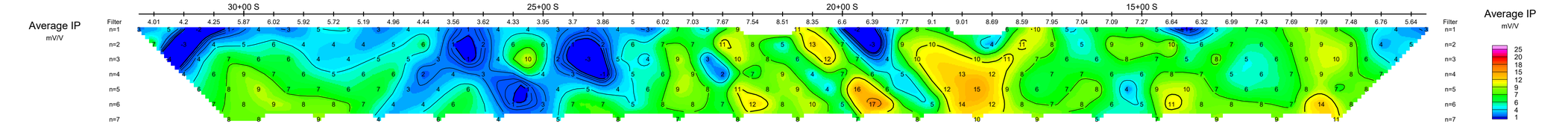
**INDUCED POLARIZATION SURVEYING**
**TAHSIS PROJECT**
**CLAIM LOCATION & 2018 IP LINES**

DECEMBER 2018

***PETER E. WALCOTT & ASSOCIATES LIMITED***

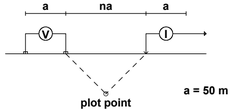



# 10+00 E

## Dipole-Pole Array




Instruments: Walcer 10.0 kW Tx
GDD 8 Rx

Frequency: 0.125 Hz.
Operators: M.W., P.Y.

Logarithmic
Contours: 1.5, 2, 3, 5, 7.5, 10,...

Scale 1:5000

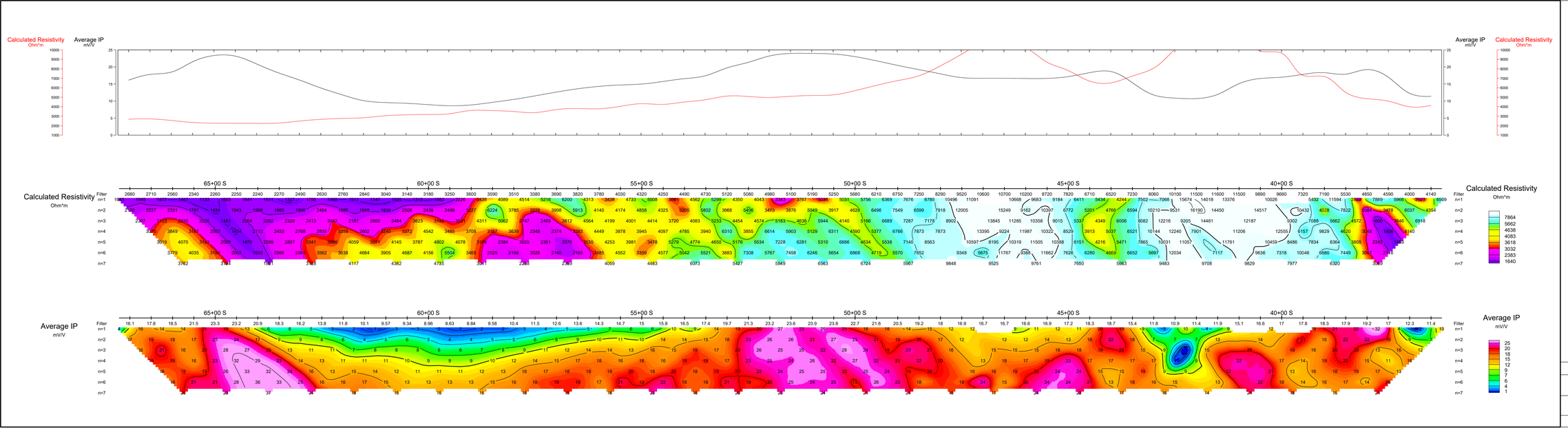
50 0 50 100 150 200 250 300
(meters)

CROSS RIVER VENTURES CORP.

INDUCED POLARIZATION SURVEY
TAHSIS PROJECT

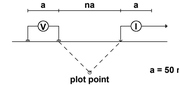
Date: DECEMBER 2018
Interpretation:

PETER E. WALCOTT & ASSOCIATES LIMITED




# 11+00 E

## Dipole-Pole Array




Instruments: Walcer 10.0 kW Tx
GDD 8 Rx

Frequency: 0.125 Hz.
Operators: M.W., P.Y.

Logarithmic
Contours: 1.5, 2, 3, 5, 7.5, 10,...

Scale 1:5000

50 0 50 100 150 200 250 300
(meters)

CROSS RIVER VENTURES CORP.

INDUCED POLARIZATION SURVEY
TAHSIS PROJECT

Date: DECEMBER 2018
Interpretation:

PETER E. WALCOTT & ASSOCIATES LIMITED