

84-#612 - 12597
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PRELIMINARY EM SURVEY

TROITSA GROUP CLAIMS

OMENICA M.D.

Hugo, Whiskey, Tad,
Triple D, Lefty.

Whitesail Lake Area (93E/6E and 11E)

53° 32' N, 127° 11' W.

Owner/operator: Westrex Dev.; Whitecaps Energy Corp.

by

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Ph D., U.B.C. 1965, geology

May, 1984

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

12,597

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LOCATION

The Troitsa Group Claims are located in the Whitesail Lake Map area (93E/6E and 11E), some 130 kilometers south of Houston, B.C. (Figure 1). Its centre is approximately at latitude 53° 32' N. and longitude 127° 11' W. The property is situated on the lower part of Troitsa and Coles Creeks, shown in the pocket.

ACCESS

Access is by helicopter from Smithers or Houston. No immediate lakes are present that may accommodate float plane access, although numerous lakes are present within 5km of the claim boundaries. Good gravel road access from Houston is present to the north shore of the eastern end of Tahtsa Lake, a distance of some 20 km from the property. This point presents a good mobilization station to the property.



Troitsa Group Claims	
LOCATION MAP	
OMINECA M.D., B.C.	NTS 93 E
Drawn by: T. Richards;	
DATE: Sept. 1983	SCALE:  100 miles
	FIG. 1

PHYSIOGRAHY

The claims are located within valley prongs of the Nechako Plateau, between isolated mountain blocks of the Hazelton Mountains. Elevation ranges from 915 meters to 1,370 meters and is of general moderate to low ruggedness. The western part of the claims are underlain by a broad, north-northwest trending valley occupied by Coles Creek, and the southern part is transected by Troitsa Creek. Between Troitsa Creek and Coles Creek, is a low hill rising gently, with few cliffs, to 1,220 meters elevation. South of Troitsa Creek a prominent hill rises abruptly to 1,370 meters elevation. Much of Troitsa Creek on the claims is an incised canyon of moderate relief.

The claims are heavily timbered with spruce, balsam and lesser hemlock. The eastern part of Troitsa Creek is underlain by extensive areas of open grassy meadows and willow swampland. 90% of the claims are covered by overburden.

The region is characterized by cold winters and mild summers. Snow is usually present from early November until early May.

WORK DONE

Field work was done on the property between April 25 and May 1, 1984. A fly camp was set up by Troitsa Creek near the eastern margin of the property, on 2 meters of snow, to act as a base of operations. A Phoenix-VLF-2 was used for an EM survey on the claims to delineate structures hypothesized to cross the property. 20 line-kilometers of survey was run using a hip-chain and compass survey. Stations were marked by ribbons at 50 meter intervals. Snow conditions permitted easy travel until early afternoon, after which conditions deteriorated.

REGIONAL GEOLOGIC SETTING

The property lies near the western boundary of the Intermontane Belt in west-central British Columbia. Here, stratified and intrusive rocks range in age from Lower Jurassic to Lower Tertiary. A stratigraphic column of this portion of the Intermontane Belt is as follows:

- Early Tertiary:
 - : Ootsa Lake Group; continental volcanics, rhyolite to andesite; coeval intrusives
- Upper Cretaceous - Early Tertiary:
 - : Kasalka Group; continental volcanics, rhyolite to andesite; flows, breccias, tuffs; coeval intrusives.
- Lower Cretaceous:
 - : Skeena Group; continental and shallow marine sandstone, shale, conglomerate.
- Upper Jurassic:
 - : Ashman formation; marine shale, siltstone and sandstone.
- Lower and Middle Jurassic:
 - : Hazelton Group; island arc, marine and non-marine volcanics; rhyolite to andesite; flow, breccias, tuffs and sediments; coeval intrusives.

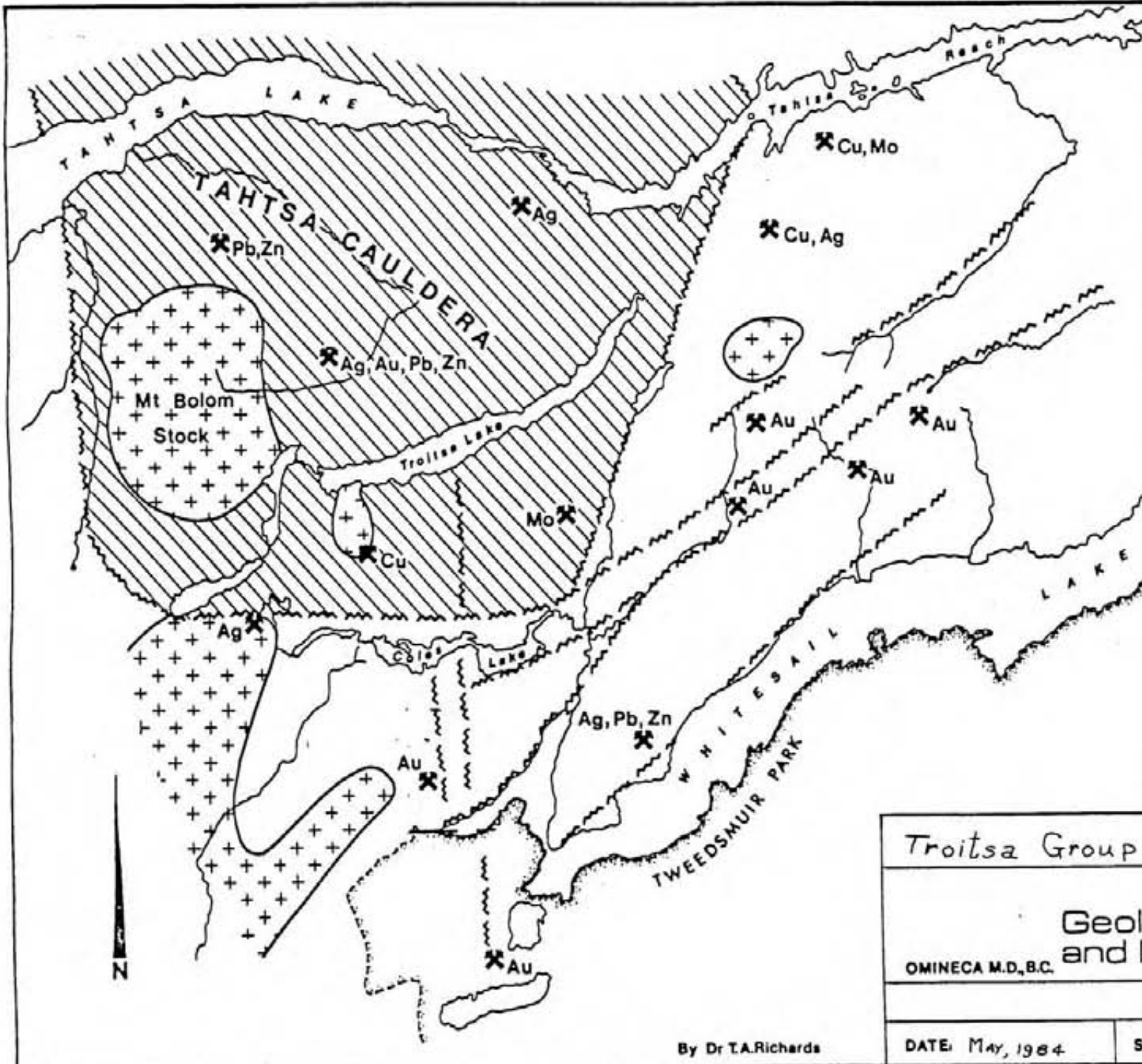
The structure of the area is dominated by faulting, comprising of long linear fault zones trending ENE and NNW and block fault morphology. Folding is generally confined to well bedded sediments in proximity to fault zones and intrusives.

LOCAL GEOLOGY

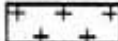
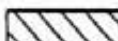


The area immediately surrounding the claim group comprises most of the stratigraphic and intrusive elements outlined above. The local region is dominated by a major structural-stratigraphic feature termed the Tahtsa Caldera. This is a major, Upper Cretaceous to Early Tertiary, down-drop volcanic basin measuring some 40 km north-south by 20 km east-west. Within the Caldera, rock units comprise the Skeena Group sediments overlain by up to 1,000 meters of volcanics of the Kasalka Group and intruded by coeval granitic stocks. Peripheral to this structure, most of the bed-rock is composed of various volcanic facies of the Hazelton Group. To the west, large granodiorite stocks that are probably apophyse of the intrusive rocks of the Coast Complex intrude the Hazelton strata.


The Tahtsa Caldera is bounded by steep faults, simplified in Figure 2. A major set of north-east trending steep faults defines a 5 to 8 kilometer wide fault zone termed the Whitesail Fault Zone. This zone strikes parallel to the trace of Whitesail Lake and transects the Troitsa property. North-northeast trending shear zones parallel the eastern margin of the caldera, particularly along the Coles Creek Valley. This fault system cuts the western margin of the property.

The Troitsa Group claims are situated adjacent to the southeast margin of the Tahtsa Caldera.



LEGEND

-  CRETACEOUS-TERTIARY PLUGS
-  CRETACEOUS VOLCANICS AND SEDIMENTS
-  JURASSIC (HAZELTON) VOLCANICS
-  MAJOR SHEAR AND FRACTURE SYSTEM

<i>Troitsa Group Claims</i>		
Geologic Elements and Mineralization		
OMINECA M.D., B.C.	NTS 93 E	
DATE: May, 1984	SCALE: 	FIG. 2

By Dr T.A. Richards

PROPERTY GEOLOGY

Limited geologic information is available on the Troitsa property. Bed rock geology is composed dominantly of volcanic and sedimentary rocks of the Hazelton Group. Shallow marine, fossiliferous volcanic sediments are known to be exposed in Coles Creek. Red volcanic tuff and breccia occur in the Troitsa Creek Canyon. On the prominent hill underlying the Tad Claims, are massive red and purple lapilli tuffs. The eastern portion of these claims is underlain by rounded exposures of pink granite of probable Jurassic age.

Major shear zones that are prominent in the Whitesail Lake area are known to cross the property. One prominent fault zone, trending 040° parallels Troitsa Creek, and forms a prominent gulley that flows into Troitsa Creek at a point on the Whiskey claim, where the creek changes bearing from 010° to 040°. Much ferruginous carbonate alteration accompanies this shear.

PROPERTY HISTORY

The Troitsa Group claims comprise of the following claim blocks comprise of 78 units.

<u>Claim:</u>	<u>Units</u>	<u>Record No.</u>	<u>Recording Date</u>
Hugo	20	5132	May 6, 1983
Whisky	20	5133	May 6, 1983
Tad 1-8	8	5134-41	May 6, 1983
Lefty	12	5320	June 23, 1983
Triple	18	5321	June 23, 1983

The properties were staked by T. A. Richards and C. Scott to cover probable extensions of known fault zones that are hosts to anomalous precious metal mineralization elsewhere in the Whitesail Lake area. The property was optioned to Westrex Resources Ltd. and Whitecap Energy Corp. of Vancouver in early 1984.

MINERALIZATION

The property is little prospected. Limited surveys conducted prior to staking, showed the presence of three, north-trending, vuggy quartz veins on the Tad claims. These attain widths to two meters and are enclosed in a 5 to 10 meter width propylitic alteration zone. Minor pyrite disseminated in vein and wall rock were noted. A single silt sample from the Tad Claims gave the following results; Cu-653 ppm, Ag-1.5 ppm, As-2,776 ppm and Sb-29 ppm (analysis by Vangeochem Lab. Ltd., 1521 Pemberton Avenue, North Vancouver, B.C.).

As this data predates the staking of the claims, it has not been applied for assessment.

VLF-ELECTROMAGNETIC (EM) SURVEY

An VLF-EM survey was conducted on the claims, using a Phoenix VLF-2 Electromagnetic unit. The purpose of the survey was to attempt to delineate possible major structures that had been hypothesized to cross the property. 20 kilometers of line were run with stations located at 50 meter intervals. The base line was defined by the claim boundary between the Hugo and Whisky claim, with the legal corner post defining the 00 point. Lines were located to minimize topographic effect. Four north-south lines, separated by 200 meter spacings were run on the eastern part of the claim boundary, and a rectangular grid traversed on the prominent hill between Coles and Troitsa Creeks.

Three stations were tried, only one of which could be received. Lualualei, Hawaii (23.4 kHz) was used as the VLF station. Cutler, Maine and Seattle, Washington could not be received. Lines were run by B. Holden and instrument readings by Dr. T. A. Richards.

RESULTS, VLF - EM SURVEY

Dip angle results are plotted on the accompanying map in the pocket. The survey displayed numerous cross-over points that confirm the presence of structures transecting the property. Confirmation that the cross-over point reflect the presence of shear zones, was noted by the changed in dip angle from easterly to westerly in the lines that traversed across the extension of the know fault zone that parallels Troitsa Creek (450S-100W; 600S-300W; and 800S-500W). A major cross-over of dip angles was also noted crossing a distinctive gully trending 070⁰ at station 00S-950W. Elsewhere, the presence of linear zones coincide with cross-over points could not be documented, as the snow cover was extensive (up to 2 meters).

A prominent change in dip was recorded in the south-eastern portion of the Whiskey claim. This is coincident with a break in slope between the prominent hill south of Troitsa Creek and the more gentle topography to the west. Trend of this cross-over parallels the fault zone known to exists in Troitsa Creek. Other distinctive zones, were noted adjacent Troitsa Creek. These are on strike and parallel with known fault zones immediately to the east, along the southern flank of the Whitesail Range. These anomalous zones are shown on the accompanying map in the pocket.

REGIONAL INTERPRETATION

Cross-over points deduced from the VLF-EM survey, probably represent NE trending faults that form part of the Whitesail fault zone. Anomalous precious metal mineralization is known to be associated with, and are found within these shear zones on the Whitesail Range, immediately to the east (Figure 3A, in pocket). These are usually quartz veins containing little sulfides, but are intermittently associated with shear zones that probably are responsible for the conductors located by the survey.

Further exploration of these zones should include a soil and silt geochemical grids that concentrate on and in immediate proximity to the shear zones deduced by VLF anomalies.

VLF surveys, using two stations if possible, should be continued to extend and delineate more precisely the presence of shear zones on the property.

ITEMIZED COST STATEMENT

Wages:

T. Richards - 8 days @\$300	\$2,400.00	
B. Holden - 7 days @\$150	1,050.00	
Employee expenses (15%)	<u>517.50</u>	\$3,967.50

Lodgings, meals;		130.67
Food		150.71
Camp Supplies & Expenses		352.05
Equipment (Tent, radios, EM unit)		450.00
Maps, Stationary, ...		50.00
Insurance, bookkeeping, office		125.00

Transportation:

Helicopter	1,446.46	
Truck (7 days @\$35)	<u>245.00</u>	1,691.46

Engineering Report (by T.L'Orsa; 30% of \$1,163.41)		348.90
Travel (Vancouver-Smithers)		140.00

Report Preparation:

T.A. Richards - 2 days @\$300	600.00	
Drafting - 6 hours @\$15	90.00	
Typing, Copying, etc.	<u>100.00</u>	790.00

TOTAL COSTS INCURRED: \$8,196.29

PRELIMINARY EM-VLF SURVEY

TROITSA GROUP CLAIMS

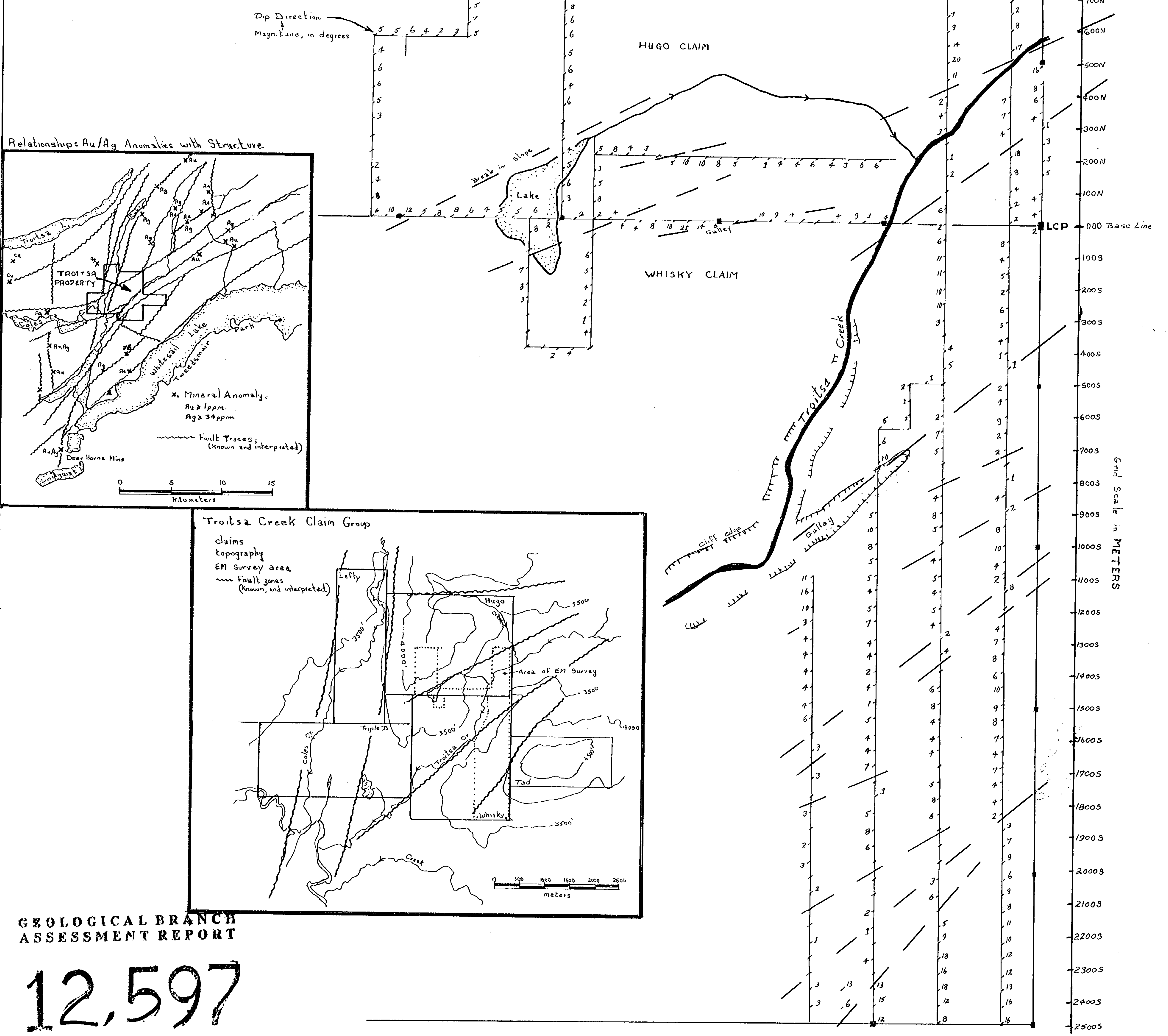
WHITESAIL LAKE MAP AREA (93E-11E & 6E)

OMENICA M.D.

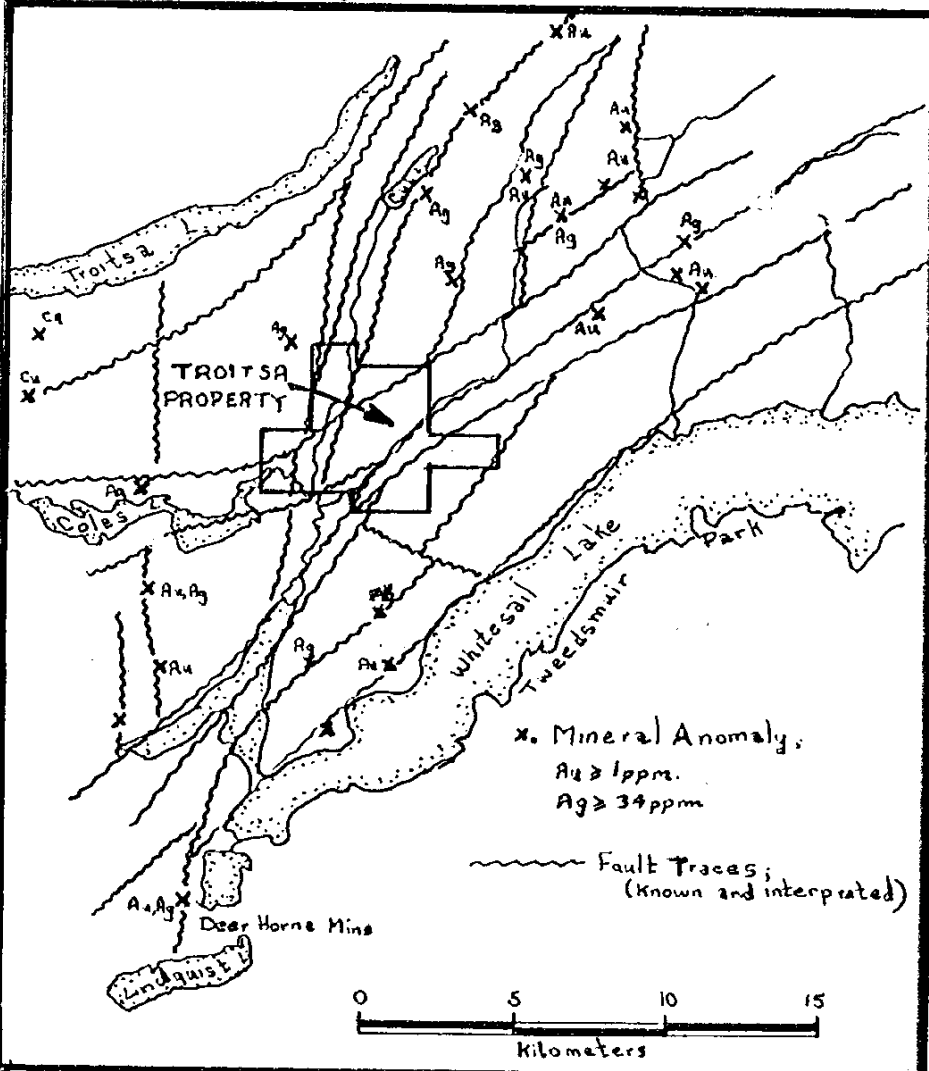
April 1984

Station Received: Hawaii
Instrument: Phoenix-2, VLF

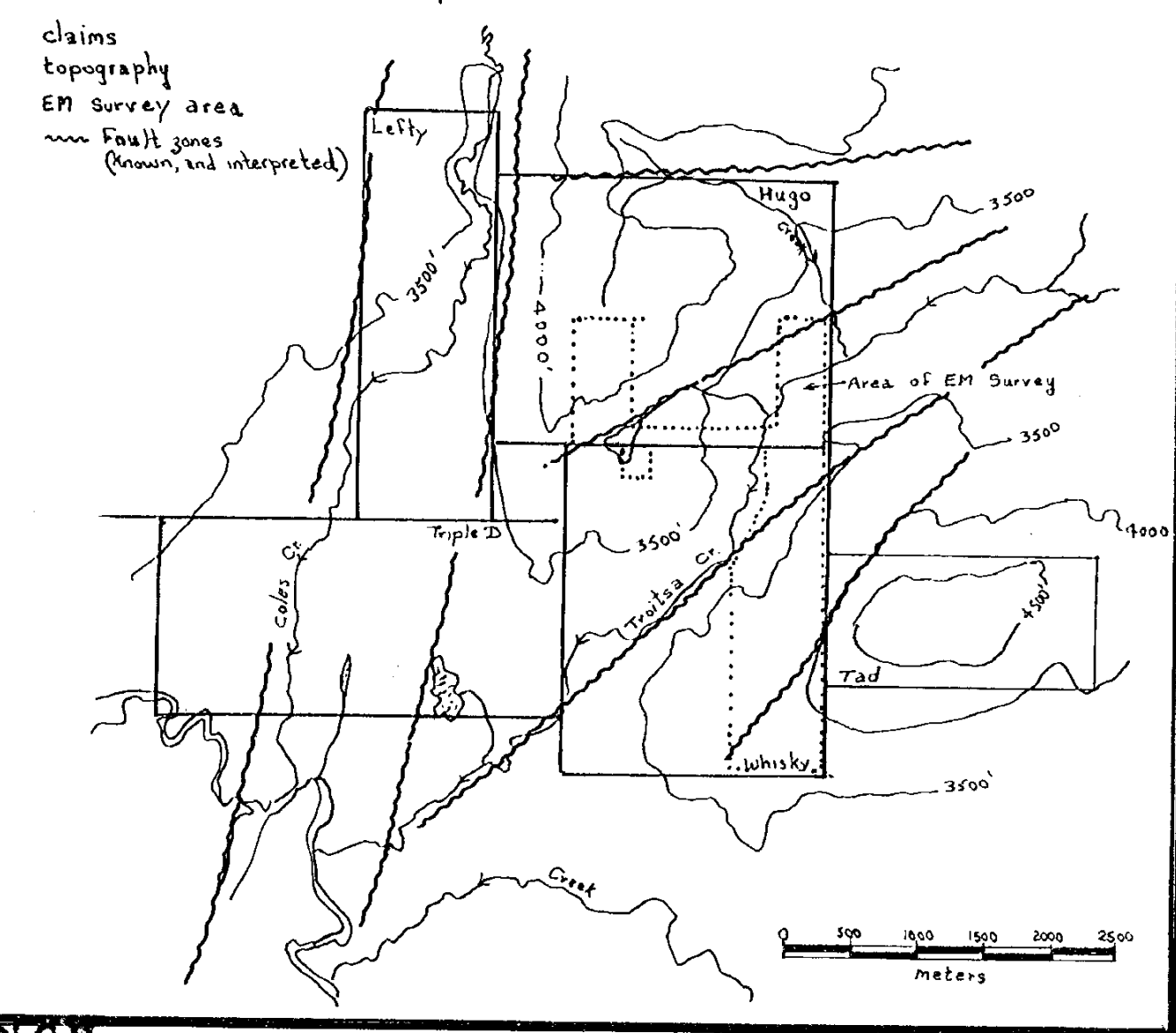
2200W 2100W 2000W 1900W 1800W 1700W 1600W 1500W 1400W 1300W 1200W 1100W 1000W 900W 800W 700W 600W 500W 400W 300W 200W 100W



Relationships Au/Ag Anomalies with Structure



Troitsa Creek Claim Group



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