

007176

GEOLOGY  
AND  
ECONOMIC POTENTIAL  
OF THE  
VULCAN AND REX PROPERTIES  
NANAIMO MINING DIVISION  
BRITISH COLUMBIA  
NTS 92F/1W  
LONG. 124 DEGREES 19 MINUTES  
LAT. 49 DEGREES 07 MINUTES

FOR:  
STOW RESOURCES LTD.  
300 - 800 West Pender Street  
Vancouver, British Columbia

PROPERTY FILE

92F 114

R. Tim Henneberry, F.G.A.C.  
Consulting Geologist  
July 28, 1987

### SUMMARY

A two part exploration program was undertaken on the Vulcan and Rex Properties of Stow Resources Ltd. The Vulcan program consisted of surface and underground geological mapping and sampling, geochemical sampling and geophysical surveying. Mapping concentrated on evaluating the Vulcan Shear Zone and prospecting for repeats of the zone. Geochemical and geophysical surveys were conducted to:

- a) test the strike potential of the Vulcan Shear Zone (E,V Grid); and
- b) test for repeats of the Vulcan Shear Zone on the west flank of Mount DeCosmos (A Grid).

The Rex program was initiated as a result of following-up gold silt anomalies at the western extremity of the Vulcan Property. This program consisted of silt sampling and local prospecting of adjoining ground, optioned to cover the strike extension of these anomalies.

Initial results are encouraging. Economic gold mineralization has been located within the present Vulcan Shear Zone workings. Four zones, anomalous in gold, have been identified by the A Grid geochemistry. The property wide exploration program has identified an interesting zone in the next creek to the south. This zone strikes across the Vulcan Property boundary onto the newly acquired Rex Property. A significant regional shear zone/hydrothermal conduit was located during initial prospecting of the Rex Property. Initial field observations suggest the zone and conduit lie along strike, and may be a continuation of the same structure.

A three stage exploration program is recommended to evaluate these targets. Stage A involves sampling and trenching the Vulcan Shear Zone along strike, examination of the grid soil anomalies and the South Creek silt anomaly and geological examination of the regional shear zone including mapping, and geochemical sampling. Stage B will test the Vulcan Shear Zone with diamond drilling. Stage C involves testing the regional shear on the REX property contingent on results from phase A.

Estimated cost of the recommended exploration program is \$125,587.50.

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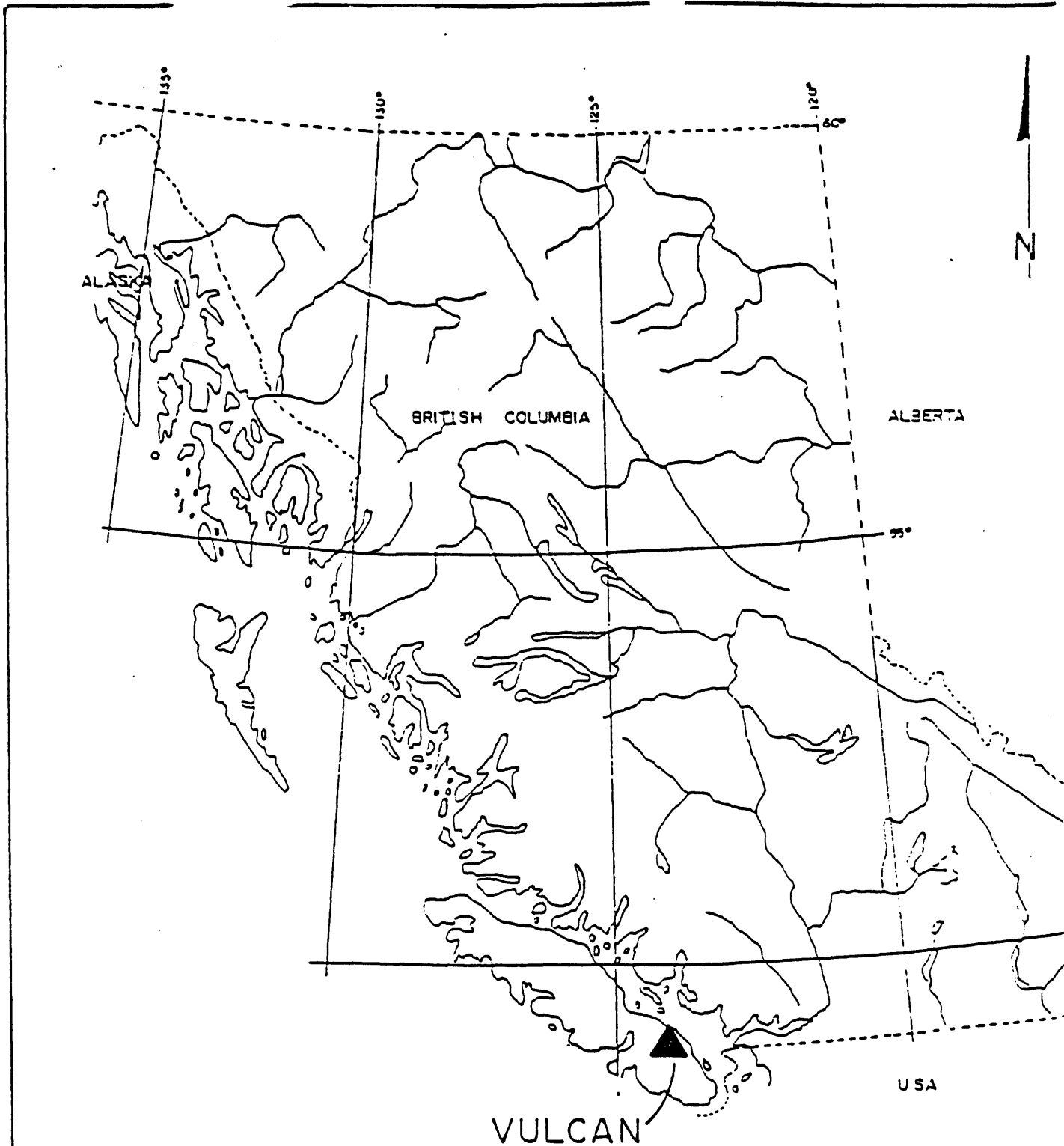
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## INTRODUCTION

A two part, four phase exploration program was undertaken on the Vulcan Group (Vulcan and Rex Properties) of Stow Resources Ltd. The Vulcan Group is located in the Nanaimo Mining Division of Vancouver Island. The target is shear hosted auriferous quartz veins, possibly related to the emplacement of a regional Tertiary dacite sill.

Previous exploration was confined to a 150 meter section of the Vulcan Shear Zone. Two shafts, a drift from one of the shafts, and a cross-cut adit were driven between 1930 and 1964. 15 tonnes (16.5 tons) of hand-sorted material were removed grading 74.6 grams per tonne (2.12 ounces per ton) gold and 27 grams per tonne (0.79 ounces per ton) silver.

Part I (Phases I, II, III) concentrated on the Vulcan Property, while Part II (Phase IV) explored the Rex property. Phase I of the 1986/1987 program was directed at evaluating the Vulcan Shear Zone in the immediate area of the workings. Phase II involved a property wide evaluation consisting of silt sampling, prospecting, geological mapping and sampling. Phase III established two grids, one to evaluate the Vulcan Shear Zone over a strike length of 1 kilometre and the second to explore for repeats of the Vulcan Shear Zone along the west flank of Mount DeCosmos. Based on the results of the Phase II silt sampling, Phase IV acquired additional ground to the west (the Rex property) to cover silt geochemistry and favorable geology. Property wide silt geochemistry and initial prospecting were also included as part of Phase IV.



VULCAN

STOW RESOURCES

PROPERTY LOCATION

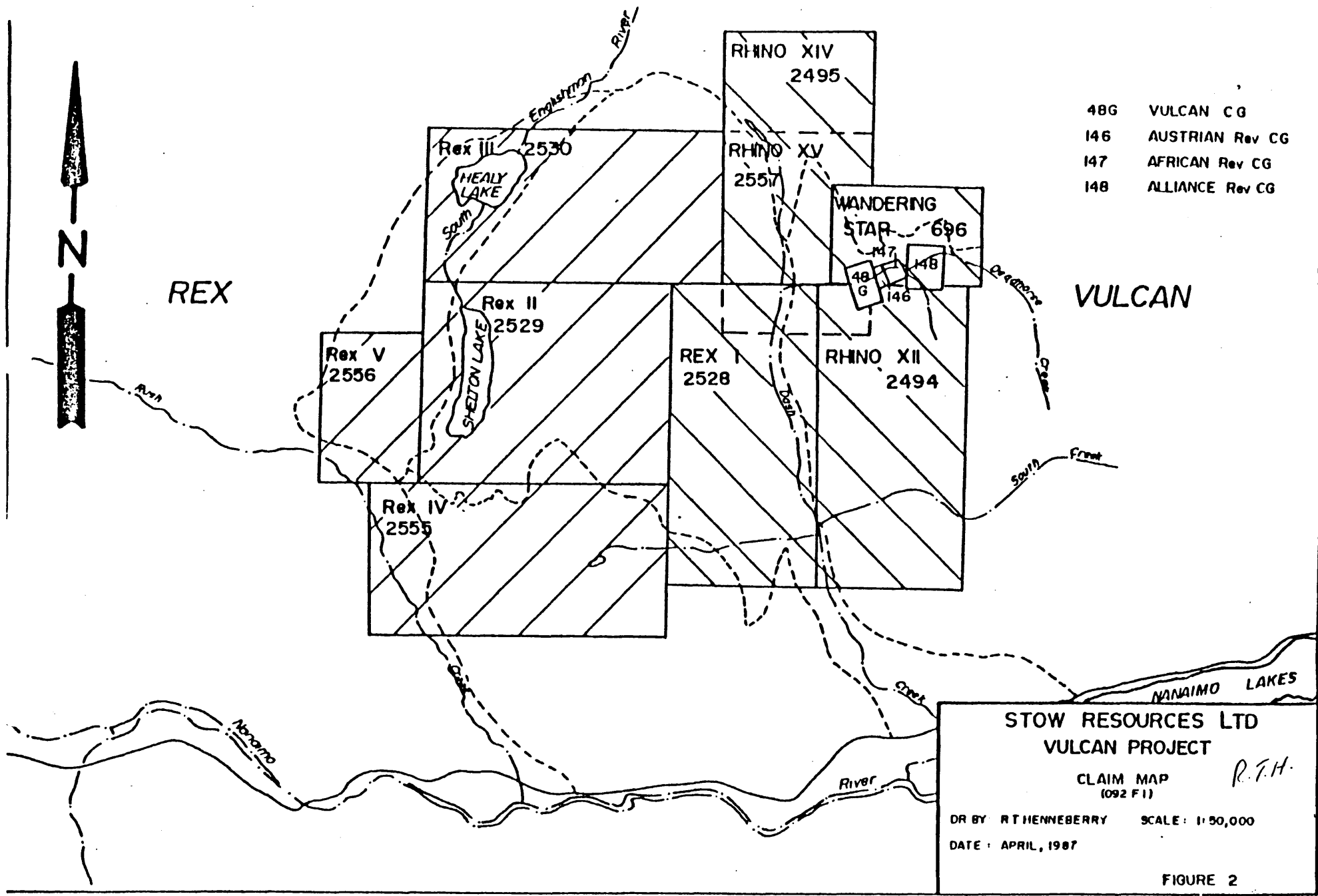
DR. BY:	RT HENNEBERRY	SCALE:	
DATE:	APRIL, 1987	APPRD. BY:	
CHK'D. BY:		REV.:	
OWG. NO.	FIGURE 1		

0 100 200 300 400 500  
KILOMETRES

### LOCATION, ACCESS

The Vulcan Property, consisting of 9 crown grants and mineral claims, and the 4 mineral claim Rex property together totaling approximately 3000 hectares, are located on the west flank of Mount DeCosmos approximately 25 kilometres southwest of Nanaimo (Figure 1). Access to the property is provided by the Nanaimo Lakes Road leaving Highway 1 approximately 7 kilometres south of Nanaimo. Access is generally quite good for much of the property, via a network of poorly maintained logging roads.

Topography is rugged as the property encompasses both sides of the Dash Creek Valley, a tributary of the Nanaimo River. Elevations range from 300 metres in the creek valley bottom to 1160 metres near the peak of Mount DeCosmos. Snow is found on the upper slopes of the mountain (+750 metres elevation) from November to April. Second generation growth is quite thick, with much of the lower slopes being reforested. Mature first generation growth is found only on the reverted crown grants. Several lesser creeks drain both sides of the Dash Creek Valley.





### PROPERTY HOLDINGS

The Vulcan Group (Figure 2) consists of the following mineral claims, crown grants and reverted crown grants under option to Stow Resources Ltd.:

#### Vulcan Property

Name	Record Number	Expiry Date	
Vulcan	48 G	September 30, 1988	CG
Austrian	146	March 02, 1988	Rev CG
African	147	March 02, 1988	Rev CG
Alliance	148	March 02, 1988	Rev CG
Wandering Star	696	October 31, 1987	Claim
Rhino XII	2494	October 30, 1987	Claim
Rhino XIV	2495	October 30, 1987	Claim
Rhino XV	2557	February 13, 1988	Claim
Rex I	2528	January 07, 1988	Claim

#### Rex Property

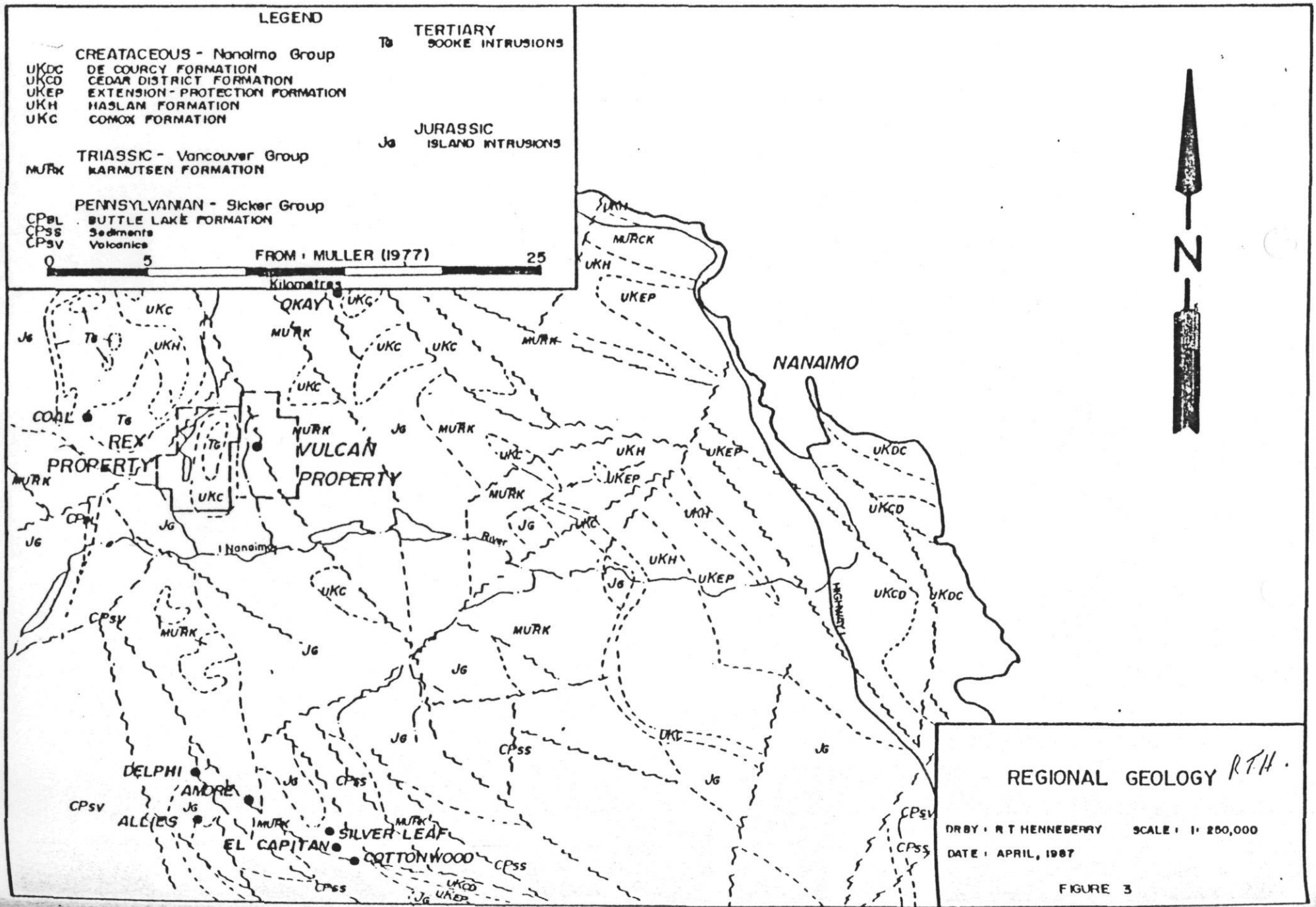
Name	Record Number	Expiry Date	
Rex II	2529	January 07, 1988	Claim
Rex III	2530	January 07, 1988	Claim
Rex IV	2555	February 13, 1988	Claim
Rex V	2556	February 13, 1988	Claim

The Vulcan Crown Grant and the Rhino XII, Rhino XIV and Rhino XV mineral claims are owned by Rhinoceros Ventures Limited of Victoria. The Wandering Star mineral claim and the Austrian, African and Alliance reverted crown grants are owned by B.A. Mines of Nanaimo. The Rex I-V mineral claims are owned by Geo P.C. Services Inc. of Vancouver. The entire package covers approximately 2975 hectares.

#### PREVIOUS EXPLORATION

Previous exploration has been confined to the Vulcan and Austrian crown grants. A 30 metre deep shaft, sunk on a 60 centimetre wide quartz vein in an andesite hosted shear zone, lies on the Austrian crown grant. Values to \$100.00 per ton (approximately 93 grams per tonne or 3 ounces per ton) were obtained from narrow sections of the vein. Documentation of the shaft is not available in the only source available, the 1930 BC Ministry of Mines Annual Report.

Workings on the Vulcan crown grant consist of a 31 metre shaft with a 42 metre drift driven 5 metres below the collar and a cross cut adit driven 12 metres below the shaft collar. The adit eventually picked up a structure, which turned out to be in the foot wall of the shaft vein. Minor stoping was done in a section of the upper drift, with 15 tonnes (16.5 tons) of hand-sorted ore being removed. This ore graded 74.6 grams per tonne (2.12 ounces per ton) gold and 27 grams per tonne (0.79 ounces per ton) silver.



## REGIONAL/PROPERTY GEOLOGY

The Vulcan Group (Figure 3) lies within the Alberni Map Sheet (092 F), mapped by Muller and Carson in 1969. Volcanics of the Karmutsen Formation have been intruded by granodiorites of the Jurassic Island Intrusions. These rocks are unconformably overlain by conglomerates and sandstones of the Cretaceous Nanaimo Group. Finally, regional scale Tertiary dacite sill cuts the sequence. This area has been structurally active, with numerous NW trending shear zones/faults cutting the sequence.

The Triassic Karmutsen Formation, the oldest unit in the area, underlies much of the eastern portion of the claim group (Figure 4). Andesitic pillow lavas, flows and tuffs are the predominant units. Thin slate beds were mapped between flows and interstitially between the pillows. Color varies from brown-black to dark green, indicative of an increase in chlorite. Overall Karmutsen rocks are fairly massive, exhibiting less than 2 percent fracturing. Alteration is predominantly chlorite, both on fracture planes and within the groundmass. Minor bleaching has been documented immediate to shear zones. Mineralization consists of local zones of disseminated pyrite (less than 1 percent).

A biotite granodiorite which intruded the andesites, underlies the south central part of the claim group. The andesite/granodiorite contact has been mapped on road C-15 and in South Creek. Along several of the road cuts, the granodiorite is extremely soft, indicating hydrothermal activity. Alteration consists of clay alteration of feldspar, chlorite alteration of mafics and argillic and chloritic alteration of the groundmass. The granodiorite exhibits 4 to 5 percent fracturing. Chlorite and clays, with much lesser carbonate are found on fracture faces. Traces of pyrite have been locally mapped within the intrusive.

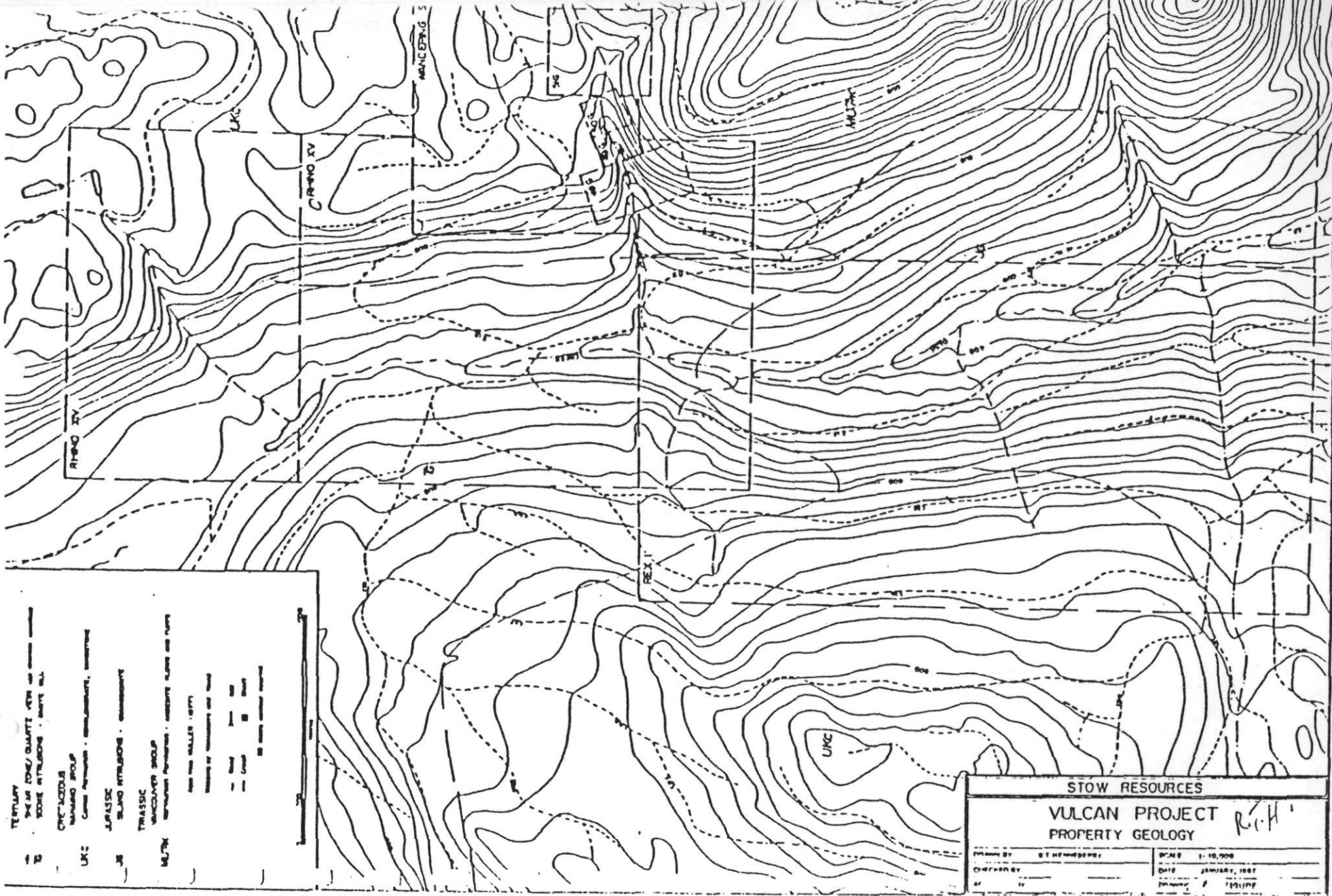
Conglomerates, with lesser sandstone, of the Comox Formation of the Nanaimo Group underlie the northeast and west central sections of the claim group, predominantly at higher elevations. Clasts within the poorly sorted conglomerates consist for the most part of Karmutsen volcanics. Volcanic and sedimentary clasts of the Sicker Group and granitic clasts of the Island Intrusions are also documented. Alteration, confined to halting shear zones of suspected Tertiary age, consists of limonite with local silicification and hematite. No mineralization was mapped in the Comox Formation.

Dacites of the Tertiary sill, the youngest rocks in the area, outcrop in the north central section of the property. The dacites, medium green to brown in color, carry 10 to 15 percent plagioclase phenocrysts. Alteration consists of argillization and chloritization of the phenocrysts and groundmass. The sill is remarkably massive, with very few fractures documented. No mineralization is documented in the sill.

Mineralization of interest on the property consists of shear hosted auriferous quartz veins. These structures have been documented in all units, suggesting a Tertiary age. Pronounced alteration halos, consisting of bleaching, chloritization, limonitization with lesser sericitization and silicification, are associated with the shear zones in the conglomerate and granodiorite. Shear zone alteration in the andesites consists of chlorite, with local limonite and silicification.

B.P. Minerals recently conducted an exploration program 6 kilometres to the west of the Vulcan Property (Marten et al, 1982; Findlay, 1983). Precious metal anomalies located during a regional silt geochemistry program lead to the discovery of a regional hydrothermal conduit, the Moriarity Lake Fault. Economic precious metal values were located within the structure, though the exploration program was directed toward a bulk tonnage low-grade zone in the Nanaimo Group sediments proximal to the Moriarity Lake Fault. Mineralization within the Fault has yet to be followed up.

Several shear hosted gold prospects are documented within a 15 kilometre radius of the Vulcan Property (APPENDIX D). Compilation of the geological information on each of these properties lead to a model to direct exploration for additional structures on the present Vulcan property. This model suggests potential targets on the Vulcan Property should strike N-S and/or E-W. They should be in the order of 50 to 100 metres along strike and 1 to 1.5 metres in width. The silt geochemistry and Grid A were directed at locating such a target.



**TERTIARY**  
 Silt and clay, quartz, vein and coarse sandstone  
 Sandstone, siltstone, shale, clay

**CRETACEOUS**  
**MARLBOROUGH GROUP**  
 Claystone, siltstone, sandstone, shale, clay

**JURASSIC**  
**BLAND MOUNTAIN GROUP** - conglomerate

**TRASSIC**  
**WINDY HOLLOW GROUP** - sandstone, siltstone, shale, clay

**METAMORPHIC**  
 Metamorphic rocks - sandstone, siltstone, shale, clay

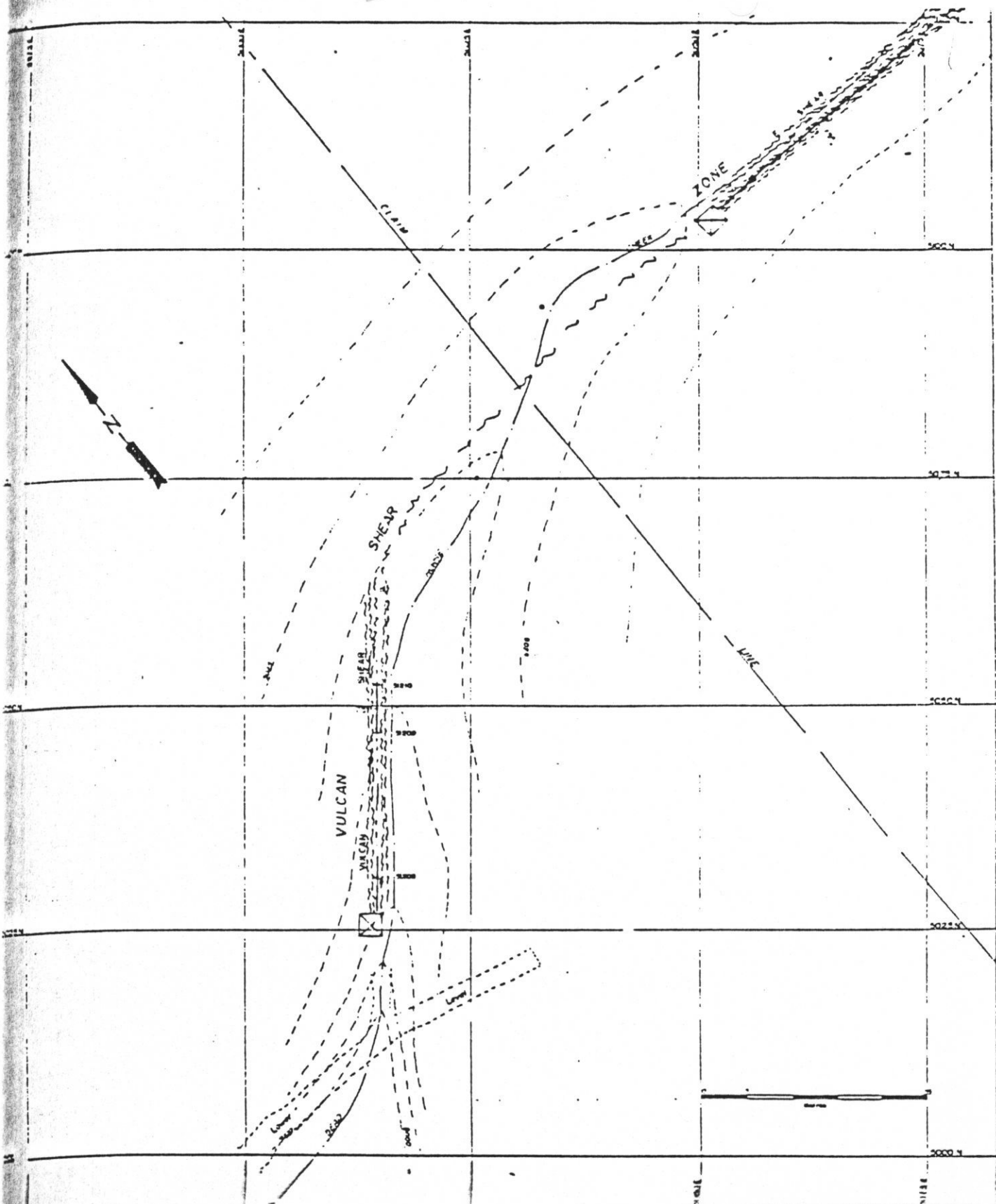
**SYMBOLS**  
 - - - - - Contour lines  
 - - - - - Fault lines  
 - - - - - Dashed lines  
 - - - - - Dotted lines

**SCALE**  
 1:10,000

**STOW RESOURCES**  
**VULCAN PROJECT**  
**PROPERTY GEOLOGY**

Drawn by: STOW RESOURCES  
 Checked by: STOW RESOURCES  
 Date: JANUARY 1981  
 Scale: 1:10,000

*R.H.*



## 1986/1987 PROGRAM

The Vulcan - Rex exploration program can be divided into four distinct phases. Phase I assessed the potential of the Vulcan Shear Zone via the existing workings. Phase II consisted of a silt sampling program concurrent with geological mapping and sampling over the Vulcan Property. Phase III consisted of geochemical and geophysical surveys for two distinct targets. Phase IV involved the acquisition and initial prospecting of the Rex Property to the west.

### PART I

#### Phase I - Vulcan Shear Zone Workings

Phase I concentrated on evaluating the potential of the Vulcan Shear Zone, based on mapping and sampling of the workings, which consists of a shaft, presently open for 12 metres, a drift collared from the shaft 5 metres below the shaft collar and a cross-cut adit driven 12 metres below the shaft collar. The drifts and cross-cuts were mapped at a scale of 1:250. Samples were taken at 2.5 metre intervals. Inaccessibility problems resulted in the shaft itself being neither mapped nor sampled. The Vulcan Shear was also mapped and sampled on surface.

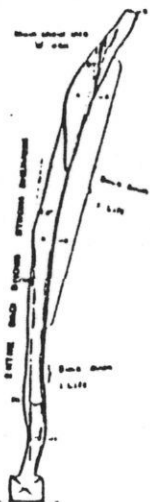
Propylized andesites of the Triassic Karmutsen Formation host the Vulcan Shear Zone in the vicinity of the workings. Chlorite content and degree of brecciation appear to increase as the Vulcan Shear Zone is approached. Mineralization is noticeably absent from the andesite, outside the boundaries of the shear zone.

A large percentage of the shaft is presently muck bound. The upper 12 metres of a total of 30 metres remains open. The lower level (or adit level) workings are not on the same structure as the shaft and the upper level. This has important ore shoot implications because the depth potential of the Vulcan ore shoot has not been tested by this level.

#### Surface Geology (Figure 5)

The Vulcan Shear Zone strikes 039 degrees on surface. Exposure is confined to the bottom of Dead Horse Creek, with the creek actually flowing over a large percentage of the exposure. The zone consists of intensely sheared andesite hosting discontinuous quartz and/or sulfide lenses. This zone has been traced on surface for 37 metres from the shaft to the point where it strikes into the north wall of the creek canyon. Width ranges from 40 to 150 centimetres.





LEGEND

- Boundary
- Survey Point
- Control Point
- Road to Station

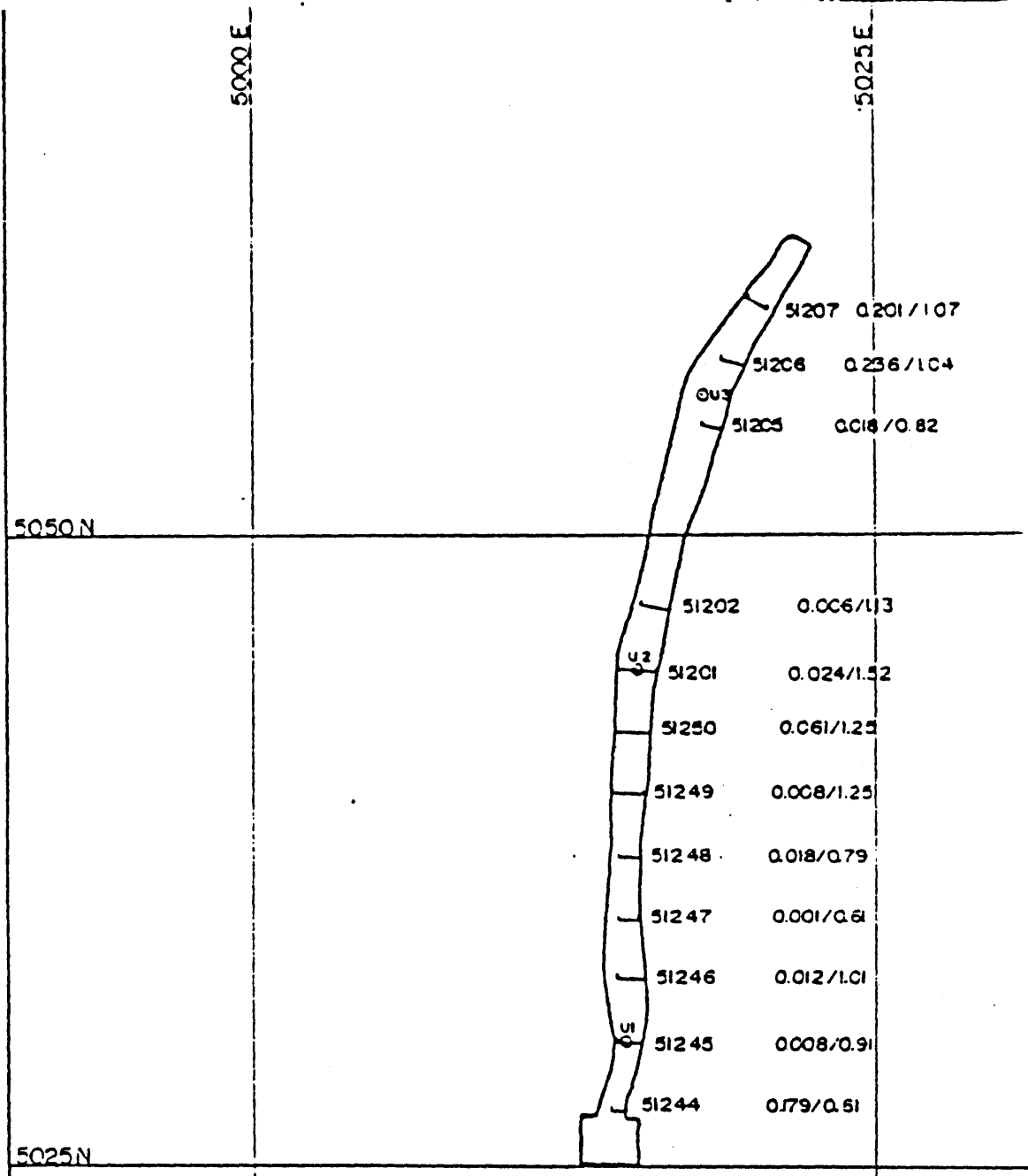
STUW RESOURCES LTD

VULCAN PROPERTY  
UPPER LEVEL GEOLOGY

DR BY - GEOMORPHIC  
DATE - 01.10.2000

SCALE - 1:500

FIGURE 04



opt Au / width metres

**VULCAN PROPERTY**  
 UPPER LEVEL ASSAY OVERL

DR BY: RT HENNESBERRY      SCALE: 1:25  
 DATE: OCTOBER, 1986

**FIGURE 6b**

Discontinuous lenses of quartz and sulfides occur in "vein" channels on the footwall and hanging wall of the shear. The "vein" channel is present throughout the entire length of the shear exposure, but quartz and sulfides are not consistently present within the channel. The width of these structures ranges from 2 to 15 centimetres. Mineralization consists of blebs and pods of pyrite, with local traces of galena and sphalerite. Concentrations range from 1 to 5 percent in the quartz. The sulfide pods range in width from 2 to 10 centimetres, and can be 30 centimetres in length. These pods are primarily pyrite. With the largest percentage of the shear being covered by the creek only three samples were taken on surface.

Further up the creek a second structure was noted. This is also a shear zone striking 090 degrees and dipping 75 degrees south coming in from the south wall of the canyon. The dip is a reversal of the Vulcan Shear which is 039/75 NW. This structure is a 50 to 180 centimetre wide zone of shearing, with a distinct 5 to 40 centimetre wide quartz vein on the hanging wall contact. Disseminated blebs of pyrite to 1 centimetre, comprising 1 to 5 percent of the vein were noted. This well developed vein was traced for 40 metres before it disappeared into the southeast wall of the canyon. A water filled shaft was noted at the southwest end of the vein. This structure has yet to be sampled.

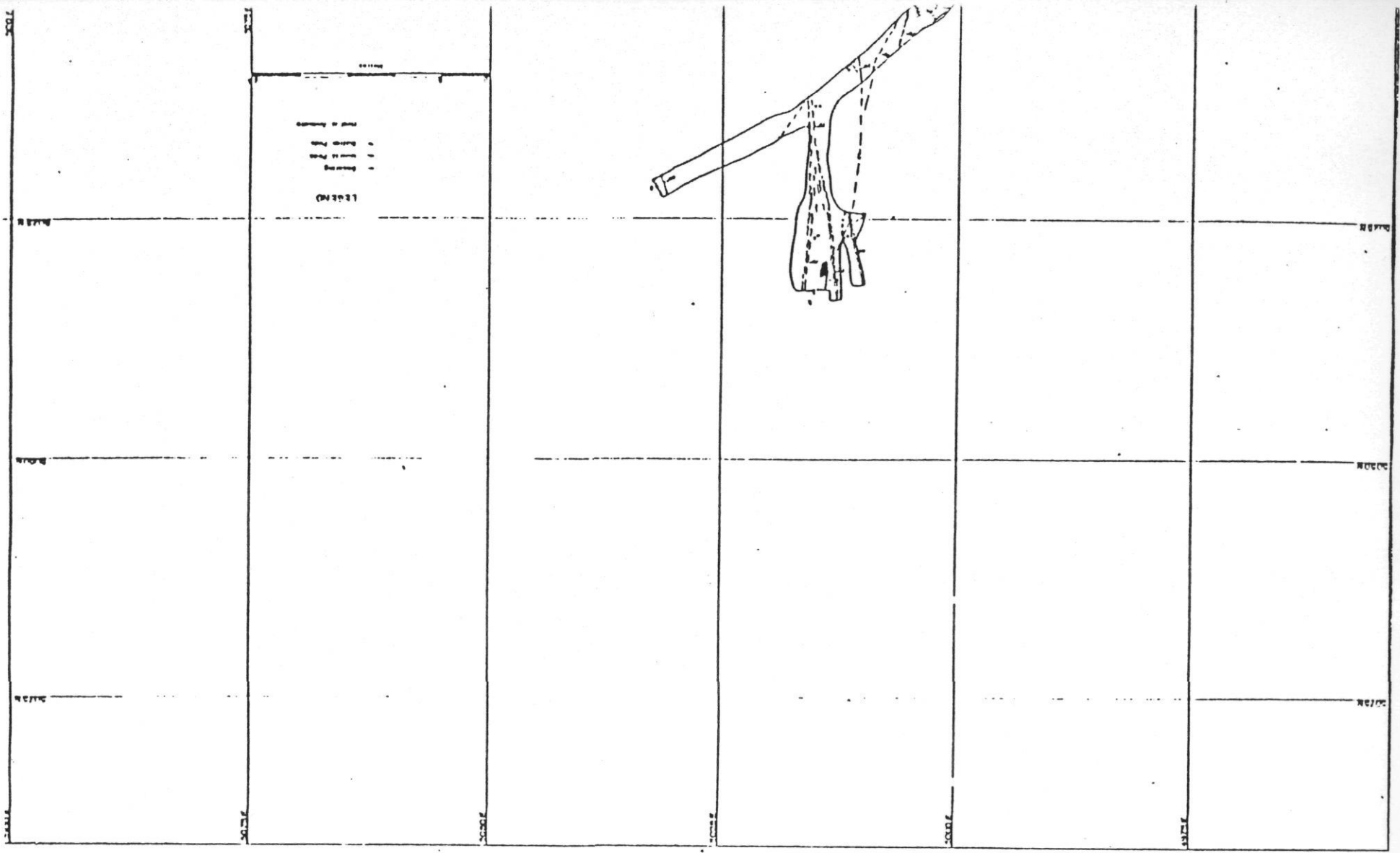
Subsequent mapping and geochemical sampling suggests both structures are in fact the same structure (the Vulcan Shear Zone). A major change in strike is associated with the area 37 metres north of the Vulcan Shaft.

#### Upper Level (Figure 6a, 6b)

The upper adit appears to be concentrated on the footwall of the zone. Two distinct splays were noted. The footwall of the shear appears to strike into the left (west) wall 3 metres from the present face.

Mineralization is much stronger on this level than either surface or the Lower Level. Discontinuous pods and seams of sulfides were noted throughout the strike length. These sulfides appear to be dominantly pyrite with traces of sphalerite and galena and range in width from 1 to 20 centimetres. A definite affiliation for the footwall of the shear was noted, though pods can appear elsewhere. Two parallel pods can occur as the sulfides do not jump from footwall to middle etc. Stronger concentrations were noted in the splay junction areas. Minor traces of sulfides were noted in the sheared andesite.

A large part of this drift has been high graded. 2 to 3 metres of back have been taken down, with sulfide mineralization still noted in the back. The muck appears to have been



TUCK

TUCK

TUCK

TUCK

TUCK

TUCK

SLEEVE

SLEEVE

SLEEVE

SLEEVE

SLEEVE

SLEEVE

TUCK

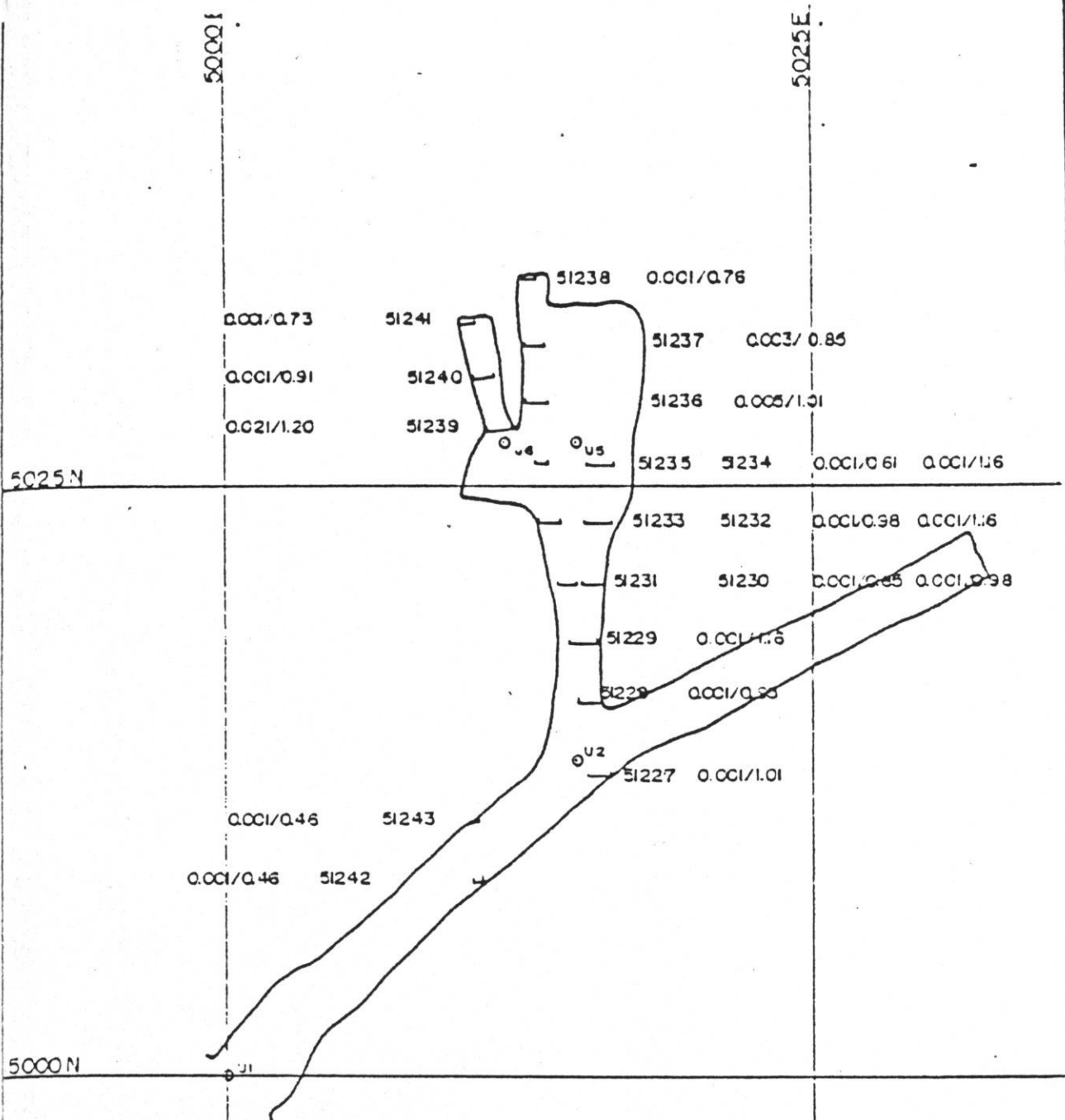
TUCK

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TUCK



opt Au / width metres

VULCAN PROPERTY

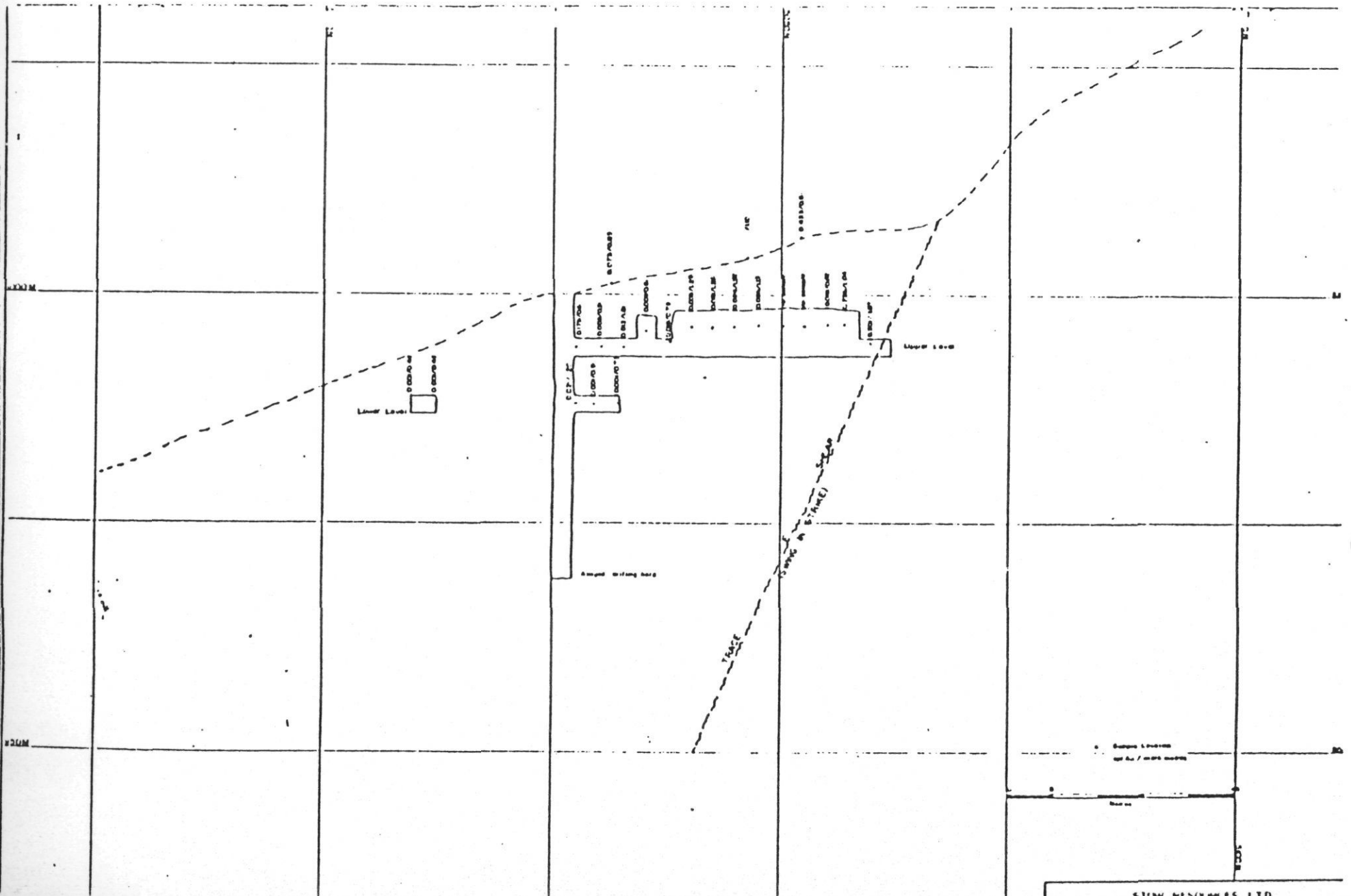
LOWER LEVEL ASSAY OVERLAY

DR BY: R. HENNEBERRY SCALE: 1:250

DATE: OCTOBER, 1996

FIGURE 7b

*R.H.*



hand sorted, as the bulk of it remains were it fell. This hand-sorted material is likely the 15 tonnes (16.5 tons) reported on the MinFile Sheet (092F - 114) for Vulcan. 1,119 grams (35 ounces) of gold were produced with an average grade of 74.6 grams per tonne (2.12 ounces per ton) gold.

The full width of the shear has not been exposed on this level, as the entire back shows strong shearing indications. This level stops about 2 metres short of the projected swing in strike. A total of 12 samples were taken across the back at 2.5 metre spacing, with two missed due to high backs.

#### Lower Level (Figure 7a, 7b)

The bulk of this drifting is a cross cut. The main shear is cut at 20 metres. A hanging wall structure was intersected at 15 metres. The main shear is a 60 to 150 centimetre wide zone of intensely sheared andesite with local gouge. Chlorite and carbonate occur as breccia infilling. Very local minor sulfide occurrences were noted in the main channel of the shear structure. The shear appears to branch at the cross cut intersection point, with nothing of significance being noted here.

The shaft is just in the hanging wall of the main channel on this level. The shaft structure appears to be the structure intersected in the main cross cut at 15 metres. This structure also had three rounds driven north from the shaft, and appears to be much more strongly mineralized with sulfides than the main shear. This structure is less than 5 centimetres in width, with sulfide mineralization consisting of lenses and pods.

The main channel noted has not been exposed in the upper drift, placing the footwall structure on the upper level in the hanging wall of the main channel on the lower level. The adit level likely followed the main channel until they realized they had passed the expected shaft intersection point. Subsequent slashing of the left wall eventually led to breakthrough.

### Long Section (Figure 8)

According to the Ministry of Mines Report for 1937, the Vulcan Shaft has been sunk to a depth of 31 metres, with minor drifting at the bottom of the shaft. Only 12 metres of the shaft is presently open (with the remainder being muck filled?).

The short drift from the shaft on the lower level has stopped short of the area stoped on the upper level. The presence of sulfides in the vein in this area may be an indication of mineralization just ahead of the present face.

The projection of the E Shear Zone (projected position of the change in strike) is plotted on the section. Perhaps the ore shoot on the Vulcan Shear is related to this change in strike.

### Phase II - Property Mapping and Sampling and Silt Sampling

Phase II was initiated to determine the potential of the remainder of the Vulcan Property. Geological mapping (Figure 4), sampling (Figure 9 - APPENDIX B) and prospecting concentrated on the numerous road cuts and the two major drainages on the west slope of Mount DeCosmos. All drainages of significance were silt sampled (Figure 10 - APPENDIX C).

Prospecting and sampling was confined to shear zones and/or quartz veins within all units. A total of 33 zones were sampled: 3 in the conglomerate, 1 in dacite sill, 13 in the granodiorite and 16 in the andesites. A total of 70 silt samples were taken.

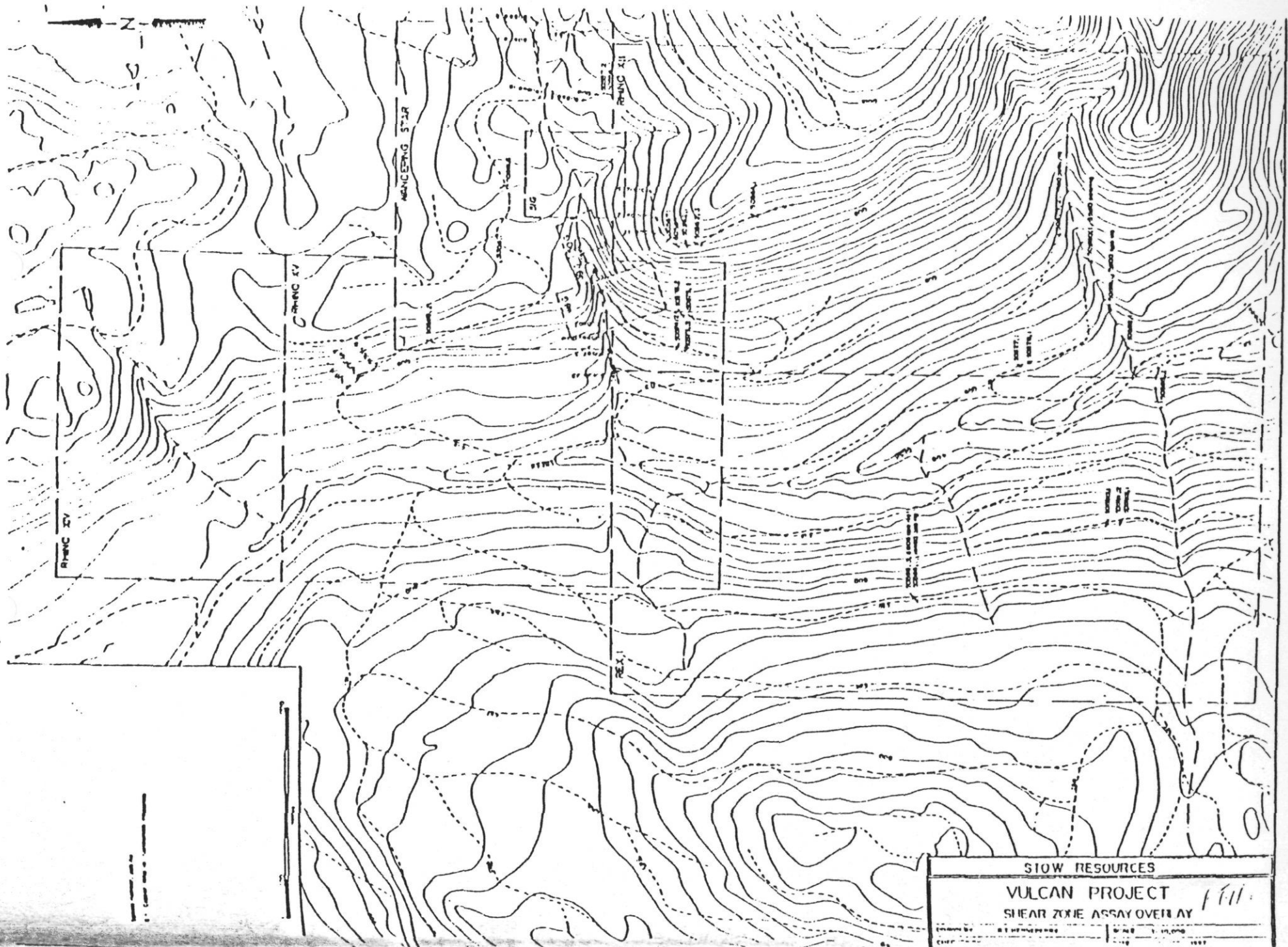
### Property Mapping and Sampling

Mapping and prospecting was directed at locating repeats of the Vulcan Shear Zone. Outcrops on all logging roads were mapped and prospected. The two major drainages on the west slope of Mount DeCosmos were prospected.

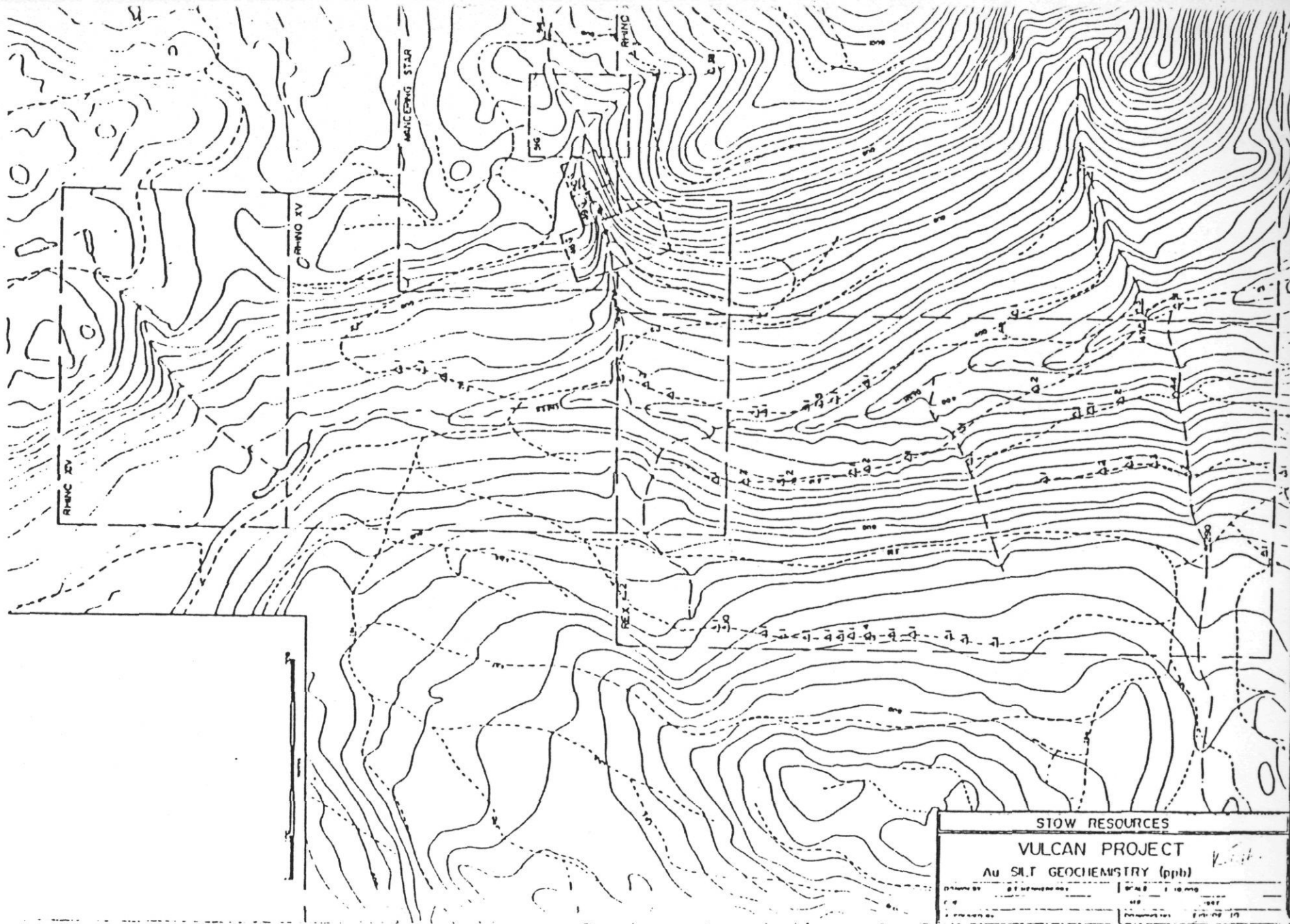
Shear zone strikes vary considerably, though 22 of the 33 zones mapped exhibit northeast strikes. Dips are for the most part steep (greater than 60 degrees) in an eastern or western direction. Widths range from 3 to 130 centimetres, averaging 20 to 40 centimetres. Chlorite and limonite are present in 90 percent of the zones. Clay alteration is for the most part absent. 50 percent of the zones exhibit carbonate, with 30 percent of the zones carrying hematite.

Sulfide mineralization is present in 12 of the zones. Percentages range from 1 to 15 percent, with pyrite occurring as the dominant sulfide. Chalcopyrite has been noted in two





SIOW RESOURCES  
 VULCAN PROJECT  
 SHEAR ZONE ASSAY OVERLAY *f 111*  
 Prepared by: *[illegible]*  
 Date: *[illegible]*  
 Scale: *[illegible]*  
 Sheet: *[illegible]* of *[illegible]*



STOW RESOURCES	
VULCAN PROJECT	
Au SALT GEOCHEMISTRY (ppb)	
Drawn by: J. J. [unclear]	Scale: 1" = 1000'
Checked by: [unclear]	Date: [unclear]
Author: [unclear]	Project No: [unclear]
Editor: [unclear]	Sheet No: [unclear]

samples. Assay values revealed little of significance, other than a sample from the strike projection of the Vulcan Shear Zone. This sample, taken approximately 200 metres to the west of the Vulcan Shaft, assayed 1720 parts per billion gold (0.05 ounces per ton) from a 3 centimetre vein within the shear.

Distinguishing characteristics of Karmutsen hosted shear zones are the presence of quartz veining within the zone and the predominance of chlorite with lesser limonite. Key granodiorite characteristics include limonite and clay alteration. Intense limonite alteration with local silicification marks the Comox conglomerate.

#### Silt Sampling

70 silt samples were taken on the property. Sediment rich moss was collected and sieved to recover the sample. A value was not returned for the lower Deadhorse Creek sample. Two anomalous areas were identified as a result of the silt sampling program.

Values in the range of 38 to 84 parts per billion (ppb) gold were recovered from the upper branches of Deadhorse Creek. A value of 84 ppb Au was returned from the actual creek itself, while values of 65 ppb and 38 ppb were returned from the tributaries. High water and snow precluded an investigation of these anomalies, though the results may represent the continuation of the Vulcan Shear Zone.

The area of extreme interest is in the southern portion of the claim block. An east and a west draining creek both flow into Dash Creek. Anomalous gold values were returned from 5 of the 7 samples taken along these creeks. The nature of the anomalies suggest a structure strikes down the east draining creek, across Dash Creek, and up the west draining creek, in a situation similar to Vulcan Shear Zone. High water and snow precluded investigation of these anomalies.

#### Phase III - Geochemistry and Geophysics

This phase of the exploration program explored the strike projections of the Vulcan Shear Zone (E,V Grid) and explored for repeats of the Vulcan Shear Zone on the west slope of Mount DeCosmos (A Grid). Geochemical sampling, along with proton magnetometer and VLF-EM surveying, were conducted over both grids. Plots were done for Au, Ag, As, Hg and Pb. Plots were also done for the proton magnetometer and VLF-EM data.

## A Grid

The purpose of the A Grid was to test for repeats of the Vulcan Shear Zone along the west flank of Mount DeCosmos. A baseline of 2200 metres was established trending 180 degrees. Cross lines, running 400 metres in each direction due east or west, were flagged at 50 metre intervals along the baseline. Sample stations were established at 50 metre intervals along the cross lines. The grid configuration resulted in a series of parallel lines 2200 metres long, trending 180 degrees, spaced at 50 metre intervals.

Soil samples were taken from the "B" horizon. All samples were analyzed via Acme Analytical's 30 element ICP geochemical technique. Separate geochemical analyses were done for Au and Hg. The proton magnetometer survey used tie-in stations to close the grid. Deviations were added or subtracted from the actual data. Jimmy Creek, Washington was the transmitter station for the VLF-EM survey. Dips were Fraser Filtered before plotting. The lower third of the grid was not VLF-EM surveyed due to equipment problems.

Au (Figure 11a): Gold values ranged from 1 to 255 ppb with a mean of 3.20 ppb and a standard deviation of 14.49. Values above 1 standard deviation were considered to be anomalous. 4 linear anomalies were noted.

Anomaly A is traceable for 350 metres at the north end of the grid. This anomaly returned the highest consistent values. Anomaly B, a discontinuous linear anomaly of 850 metres, lies between lines 1200N and 1500N. Anomaly C is a rather short 250 metre linear anomaly between lines 1000N and 1150N. Anomaly D is a 400 metre linear anomaly between lines 200N and 350N.

Ag (Figure 11b): Silver values ranged from 0.1 to 1.1 ppm with a mean of 0.19 ppm and a standard deviation of 0.15. Values above 1 standard deviation were considered anomalous. A large volume of background "noise" is associated with the silver geochemistry. Values along line 350N are consistently higher than elsewhere along the entire length of the line strongly suggesting sample contamination.

Anomalies A, C and D were not highlighted by the silver geochemistry. Anomaly B, only weakly anomalous in silver, has been traced 450 metres. Nothing else of significance was noted from the silver geochemistry.

As (Figure 11c): Arsenic values ranged from 2 to 63 ppm with a mean of 3.54 ppm and a standard deviation of 2.88. Values above 1 standard deviation were considered anomalous.

Anomalies A and C have been highlighted and extended by the arsenic geochemistry. Anomalies B and D were not identified by As. Nothing else of significance was noted from the arsenic geochemistry.

Hg (Figure 11d): Mercury values ranged from 10 to 700 ppb with a mean of 85.83 ppb and a standard deviation of 66.63. Values above 1 standard deviation were considered anomalous. As with silver there is a lot of background "noise" associated with this element. A large percentage of the anomalous values seem to be proximal to the logging roads suggesting the road material may have had high background mercury, rendering the mercury data useless.

Pb (Figure 11e): Lead values ranged from 2 to 28 ppm with a mean of 6.39 ppm and a standard deviation of 3.51. Values above 1 standard deviation were considered anomalous.

Anomalies A and B were successfully identified by the Pb geochemistry. Anomalies C and D were not. A large cluster anomaly is located on the eastern side of the grid on lines 750N and 800N. The source of this anomaly is presently unexplained.

Fraser Filtered Dips (Figure 11f): The VLF-EM data has suffered from strong background interference. None of the geochemical anomalies can be identified from the VLF-EM data. The strongest response appears to be from the Island Intrusive/Karmutsen Formation contact. An attempt was not made to contour the data.

Proton Magnetometer (Figure 11g): The large difference in magnetic responses between the different geological units appear to have masked any potential linear anomalies. None of the 4 anomalies highlighted by the geochemical sampling were located by the magnetometer survey. An attempt was not made to contour the data.

#### E,V Grid

This grid was established to aid in sorting out the geology in the area of the Vulcan Shear Zone workings and to test the strike potential of the Vulcan Shear Zone. The V baseline was flagged for 550 metres at 045 degrees from the collar of the Vulcan Shaft. Flagged cross lines trending 300 metres at 135 degrees and 300 metres at 315 degrees were established at 50 metre intervals. The E baseline was flagged for a distance of 500 metres due west from 0 +50 N on the V baseline. Flagged cross lines trending 300 metres due north and due south were established at 50 metre intervals. Sample stations were established at 25 metre intervals along the cross lines.

Soil samples were taken from the "B" horizon. All samples were analyzed via Acme Analytical's 30 element ICP geochemical technique. Separate geochemical analyses were done for Au and Hg. The proton magnetometer survey used tie-in stations to close the grid. Deviations were added or

subtracted from the actual data. Jimmy Creek, Washington was the transmitter station for the VLF- EM survey. Dips were Fraser Filtered before plotting. The western half of the E Grid was not surveyed with the proton magnetometer due to equipment problems.

Au (Figure 12a): Gold values ranged from 1 to 810 ppb with a mean of 4.7 ppb and a standard deviation of 35.3. Values above 1 standard deviation were considered anomalous.

The entire strike length of the shear zone tested is discontinuously anomalous with spot values of 810 ppb and 136 ppb recorded. A number of weakly anomalous values are concentrated in the area of the Vulcan Shaft and are likely related to it. A spot anomaly of 124 ppb on line 350W does not appear to have any strike continuity.

Ag (Figure 12b): Silver values ranged from 0.1 to 0.7 ppm with a mean of 0.17 ppm and a standard deviation of 0.12. Values above 1 standard deviation were considered anomalous.

As with gold the strike length of the shear zone is discontinuously anomalous. A large number of the samples on lines 450N and 500N returned anomalous values suggesting the possibility of contamination. The gold anomaly recorded on line 350W is highlighted by the silver, but on line 400W.

As (Figure 12c): Arsenic values ranged from 2 to 40 ppm with a mean of 4.19 ppm and a standard deviation of 3.14. Values exceeding 1 standard deviation were considered anomalous.

Considerable scatter is indicated from the arsenic geochemistry. The Vulcan Shear Zone is not anomalous in arsenic. The 350W 400W spot anomaly is not anomalous in arsenic. A possible linear anomaly is indicated at the extreme south of E Grid. A cluster anomaly is also indicated at the northeast corner of E Grid.

Hg (Figure 12d): Mercury values ranged from 10 to 490 ppb with a mean of 81.7 ppb and a standard deviation of 51.95. Values exceeding 1 standard deviation were considered anomalous.

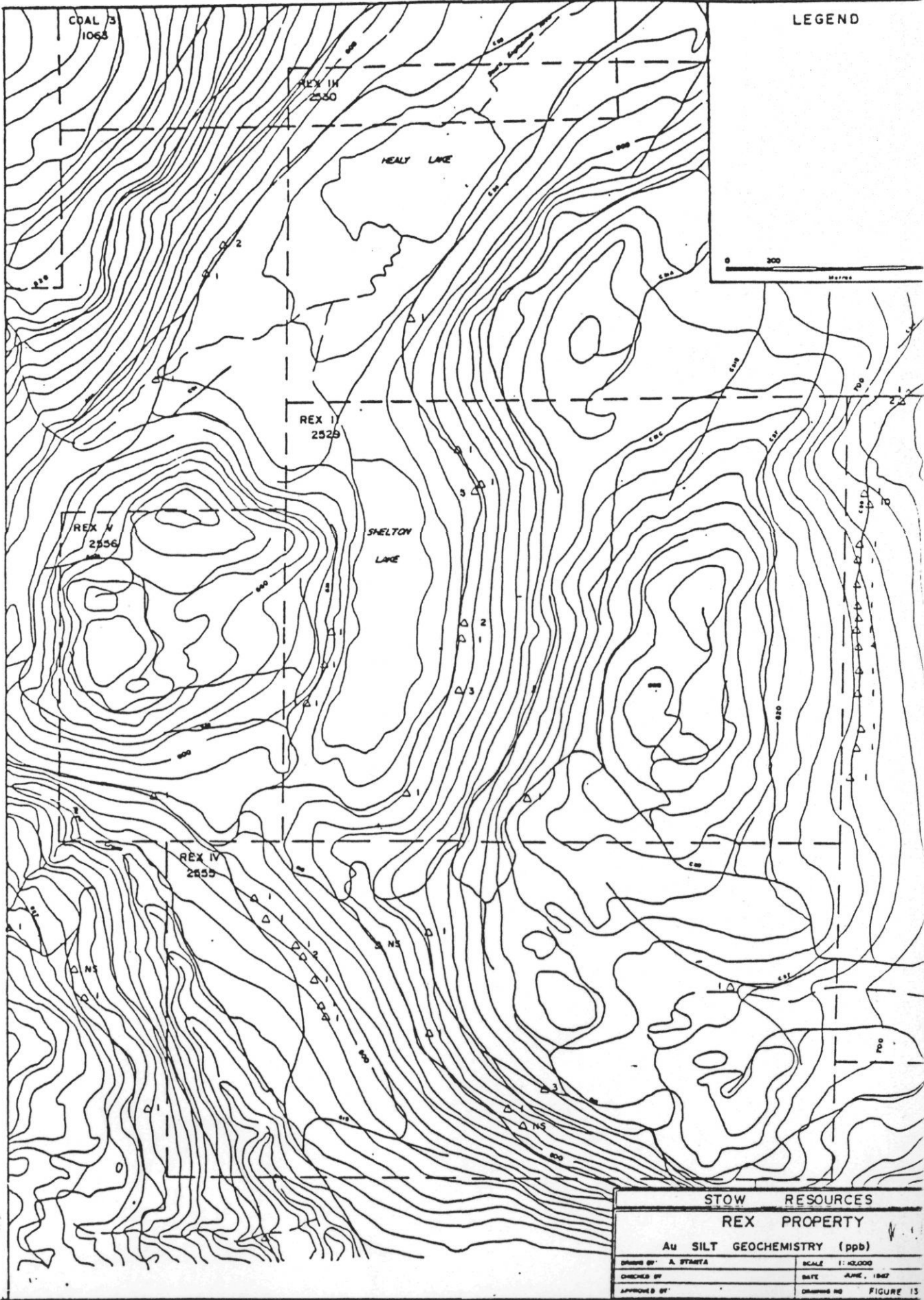
Though there is considerable scatter indicated from the mercury geochemistry, the strike length of the Vulcan Zone is discontinuously anomalous in mercury. The possible linear anomaly indicated by the arsenic is also highlighted by mercury. The possible cluster arsenic anomaly is not highlighted by mercury. The 350W 400W spot anomaly is not anomalous in mercury. The large clusters of anomalous values in the northern part of V Grid may be related to the Comox Formation.

Pb (Figure 12e): Lead values ranged from 2 to 40 ppm with a mean of 6.84 ppm and a standard deviation of 4.23. Values above 1 standard deviation were considered anomalous.

Though much scatter is evident throughout the lead geochemistry, the Vulcan Shear Zone is discontinuously anomalous in lead. The spot anomaly is not indicated by lead. The scatter over the west half of V Grid and the north half of E Grid does not appear to highlight any structure of significance.

Fraser Filtered Dips (Figure 12f): The filtered VLF-EM data suffers from strong background "noise". The Vulcan Shear Zone was weakly highlighted by this survey. No significant highs were located along strike. The scatter over the north half of E Grid and the west half of V Grid does not suggest a linear structure of any significance.

Proton Magnetometer (Figure 12g): Excellent magnetic responses were obtained from the surveyed grid. The Vulcan Shear Zone was successfully traced along strike as a fairly consistent magnetic low.



COAL 3  
1063

LEGEND

REX I  
2550

HEALY LAKE

REX I  
2529

REX IV  
2556

SHELTON LAKE

REX IV  
2555

STOW RESOURCES	
REX PROPERTY	
Au SILT GEOCHEMISTRY (ppb)	
DRAWN BY: A. STAMTA	SCALE: 1:40,000
CHECKED BY: BATE	DATE: JUNE, 1987
APPROVED BY:	DRAWING NO. FIGURE 13



COAL 3  
1068

### LEGEND

#### TERTIARY

- SHEAR ZONE
- TB SOOKE INTRUSIONS - DACITE SILL

#### CRETACEOUS

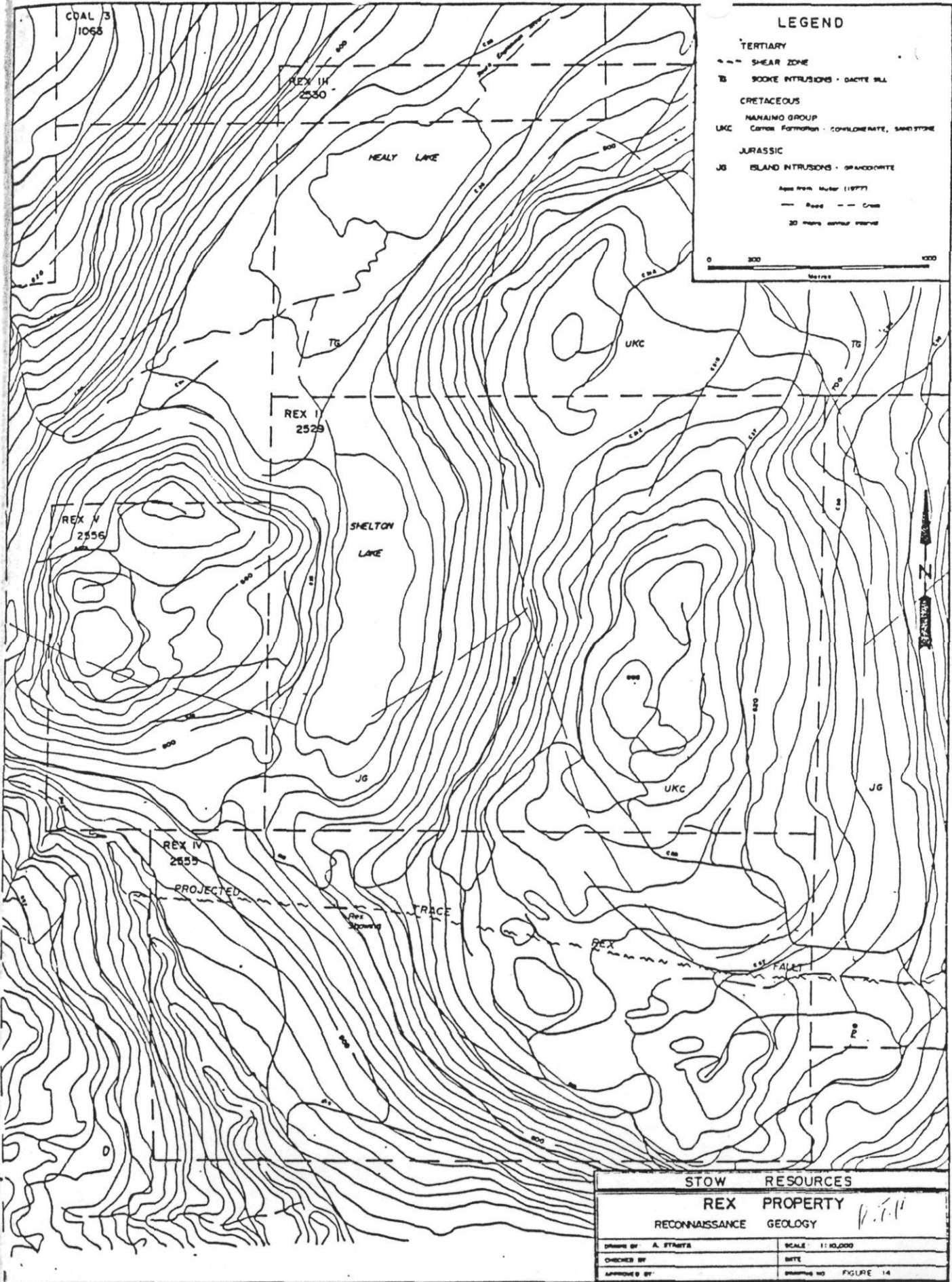
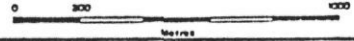
- MANAIMO GROUP
- UKC Caron Formation - CONGLOMERATE, SANDSTONE

#### JURASSIC

- JG ISLAND INTRUSIONS - GRANODIORITE

App from Map 11877

--- Road --- Cross  
20 meters contour interval



STOW RESOURCES

REX PROPERTY  
RECONNAISSANCE GEOLOGY

Drawn by A. STANTS

SCALE 1:10,000

CHECKED BY

DATE

APPROVED BY

Sheet No. FIGURE 14

PART II  
Phase IV - Rex Property

The Rex Property covers the western section of the silt anomaly located on the east and west draining creeks at the southern end of the claim group. B.P. Minerals program to the west was centred on a Tertiary dacite sill, similar to the sill in the area now covered by the Rex Property.

Due to budgetary constraints, sufficient funds were available at the time for silt sampling and initial prospecting only. Silt sampling results (Figure 13) were routinely low throughout the Rex Property. Reconnaissance prospecting (Figure 14) located a structure (Rex Fault) exhibiting intense hydrothermal alteration over an outcrop exposure in excess of 30 metres. Initial sampling of this exposure yielded anomalous values in mercury and antimony, a characteristic common within the upper reaches of a typical precious metal bearing epithermal system. Tracing the Rex Fault along strike suggests the anomalous silt samples in South Creek may have originated from this structure.

The target of the B.P. Minerals exploration program 6 kilometres to the west is a regional fault hydrothermal conduit similar to the Rex Fault. B.P.'s Moriarity Lake Fault, described by Marten in 1982, consists of a 3 metre wide zone of brown limonitic, weathered, sheared gouge with ankerite and quartz carbonate veins. Drilling shows that fault lies within a 35 metre wide zone of alteration, fracturing and silicification. The Rex Fault consists of a 50 centimetre wide bleached gouge zone within a 30 metre wide zone of argillic alteration, fracturing and brecciation. One horizontal quartz pod was mapped within the Rex Fault showing.

Soil geochemistry shows the Moriarity Fault is associated with enhanced silver, base metal, gold, mercury, arsenic and antimony values. The mineralized zone consists of a 12 metre section of intensely altered dacite with ankerite carbonate veins 1 cm wide. A grab sample from a mineralized vein within this 12 metre zone assayed 41 ounces per ton silver.

Rex Showing Sample Results

Sample	From	Width(m)	ppb Au	ppm Ag	ppm Sb	ppb Hg
1-11A1	0.0- 2.5	2.5	1	0.2	2	70
1-11A2	2.5- 5.0	2.5	1	0.2	2	80
1-11A3	5.0- 7.5	2.5	1	0.1	2	100
1-11A4	7.5-10.0	2.5	1	0.1	2	40
1-11A5	10.0-12.5	2.5	1	0.2	2	100
1-11A6	12.5-15.0	2.5	1	0.1	2	40
1-11A7	15.0-17.5	2.5	2	0.2	2	50
1-11A8	17.5-20.0	2.5	1	0.1	6	320

Initial sampling of the Rex Fault outcrop exposure yielded anomalous mercury values to 320 ppb. The projected strike extension of the Rex Fault to the east (on the present Vulcan Property) has yielded consistently anomalous gold values from silt samples taken from the creeks flowing over the extension.

## DISCUSSION

### Phase I - Vulcan Shear Zone Workings

The potential exists for locating economic mineralization within the Vulcan Shear Zone. Samples from both surface and the upper adit returned economic gold values. Workings of the lower adit must be discounted as these workings developed a parallel structure. A mineralized shoot appears to be associated with the change in strike of the zone 37 metres northeast of the Vulcan Shaft. A second zone (E Shear Zone) within the Vulcan Shear Zone, tested by a shaft, has yet to be evaluated. A third zone has been located 200 metres southwest of the Vulcan Shaft. A concentrated exploration program is required to evaluate these targets.

A two phase program is recommended for the mineralized shoot associated with the workings. At low water, the surface trace of the shoot should be hand-trenched and sampled at 2 metre intervals. The assay results should be incorporated into the long section to direct a follow up diamond drilling program. Topography will severely hamper surface drilling, necessitating originating the drilling from the lower adit. 300 metres of drilling is recommended primarily to test the down dip potential of the Vulcan mineralized shoot. One drill hole is also recommended to test the E Shear Zone to the northeast of the workings.

Surface sampling of the second zone is recommended at two metre intervals, again at low water. These assay results will direct the location of the drill hole planned for this zone from the lower adit. Surface mapping and sampling is recommended for the third zone located within the Vulcan Shear Zone.

### Phase II - Property Mapping and Sampling and Silt Sampling

A sample taken from the Vulcan Shear Zone 200 metres southwest of the Vulcan Shaft assayed 1720 ppb Au. Although several other shear zones and veins were sampled, values returned generally did not exceed background.

Two interesting targets were identified by the silt sampling. Prospecting and mapping, at low water, is recommended for the headwaters of Deadhorse Creek, and for the east and west draining creeks on the southern portion of the claim block. Follow up hand trenching and detailed sampling will test the potential of the targets.

### Phase III - Geochemistry and Geophysics

Several anomalies were located by the soil geochemistry. The E,V Grid successfully traced the strike projection of the Vulcan Shear Zone and also sorted out the geology in the immediate vicinity of the workings. Initially, the Vulcan Shear Zone was thought to strike into the wall of the canyon 37 metres northeast of the Vulcan Shaft, with Deadhorse Creek picking up and following a second structure, also hosting a shaft. Geochemistry has shown only one continuous zone exists in the creek.

Analysis of the geochemical results suggests gold is the best element for tracing the zones. Of the other 4 elements chosen, mercury did not pick up any of the structures, and silver, arsenic and lead were only marginally successful in highlighting structure.

The proton magnetometer successfully traced the Vulcan Shear Zone on E,V Grid, but did not pick up any of the structures on A Grid. The VLF-EM did not pick up any structure on A Grid, and only marginally outlined the Vulcan Shear Zone.

Investigation of the gold soil anomalies on A Grid, initially by prospecting and hand-trenching is recommended. Mechanical trenching and follow up diamond drilling will be initiated if warranted.

### Phase IV - Rex Property

A detailed exploration program is required for the Rex Property, acquired near the completion of the Vulcan exploration program. The Rex Fault, located during initial reconnaissance of the property, appears to lie on strike with the anomalous silt zone at the southern end of the Vulcan Property. Initial sampling from the discovery outcrop yielded anomalous values in mercury and antimony.

## CONCLUSIONS AND RECOMMENDATIONS

The potential exists for economic mineralization on the Vulcan and Rex Properties of Stow Resources Ltd.. The following work program is recommended to test this potential:

### Stage A

#### Immediate Vulcan Workings

- 1) Trench and clean the surface exposure of the Vulcan Shear for its entire length (37 metres) to enable detailed surface mapping and sampling (ie. 2 metre spacing).
- 2) Sample the surface exposure of the E Shear Zone at 2 metre intervals to evaluate its potential.
- 3) Prospect, map and sample the area of the 1720 ppb Au sample taken from the Vulcan Shear Zone 200 metres southwest of the Vulcan Shaft.

#### Investigation of Anomalies

- 4) Prospect the headwaters of Deadhorse Creek to evaluate the anomalous silt samples.
- 5) Prospect and map the east and west draining creeks at the southern end of the property to evaluate the silt anomalies.
- 6) Prospect and hand-trench the gold soil anomalies on A Grid.
- 7) Prospect and map the newly acquired ground to the west.
- 8) Establish a geochemical grid over the strike projection of the hydrothermal conduit, looking for precious metal mineralization within the structure and within suspected splay structures.

### Stage B

#### Immediate Vulcan Workings

- 2) 300 metres of diamond drilling from underground to test:
  - a) the pitch potential of the Vulcan ore shoot
  - b) the strike potential of the Vulcan Shear Zone
  - c) the potential of the E Shear Zone.

Stage C

Rex Property

- 1) 300 metres of drilling has been budgeted to test anomalous zones within the Rex Fault contingent on the results from Stage A.

Total cost of the proposed exploration program is estimated at \$125,587.50.

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Muller, J.E. and Carson, D.J.T. (1968). Geology and Mineral Deposits of the Alberni Map-Area (92 F). Geological Survey of Canada Paper 68-50.

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## General Comments

As the previous research had suggested, structure was located in the creek valleys. Structures were located within all of the major units present in the area; Triassic Karmutsen Volcanics (KM), Jurassic Granodiorite (GD), Cretaceous Comox Conglomerates (CX) and Tertiary Dacite sills (TD). Based on this observation an argument may be made to place a Tertiary age on the located zones (including the Vulcan). This Tertiary age makes these targets considerably more interesting, as they are likely NOT RELATED to the numerous minor copper-gold shear zones interspersed throughout the Karmutsen Formation.

The most interesting structures located were in the vicinity of South Creek. Sample 50581 represents a 10 centimetre quartz vein with a strike length of 60 metres at present. The presence of malachite stain makes this an interesting discovery, as the gold in the Tertiary quartz veins is usually intimately associated with lead and zinc, and to a lesser extent copper. The extreme weathered nature of the sulfides precludes an accurate identification.

The shear zone associated with road C15 is also extremely interesting. This is a definite hydrothermal zone, identified by intense gouge and a strong alteration envelope of chlorite and limonite. This area will receive further attention in the next phase of exploration.

The plan of attack is to run a series of soil geochemistry lines between South and DeadHorse Creeks, looking for repeats of the Vulcan structure, and the structure located in South Creek.

The silt geochemistry has identified two areas that warrant further attention. The first is in the area of the C19 - C19B road junction and above. The three creeks draining the upper reaches of Mount DeCosmos all have anomalous gold values, the highest being 84 ppb. At the time of my mapping program this area was underlain by snow.

The second is in the area of south creek. Anomalous values in both the west draining and east draining creeks suggest the possibility of an east west trending zone. Structure was noted in a reconnaissance down the east draining creek. Values as high as 570 ppb have been returned. Both these areas will receive further attention.

APPENDIX D  
Shear Zone Hosted Gold Occurrences  
Within 15 Kilometres of the Vulcan Property

- Delphi  
92C-013
- Quartz veins in Sicker porphyritic volcanics
  - 005 / steeply east
  - Width to 20 centimetres
  - 12 to 15 metres in strike length
  - Located in creek
- Allies  
92C-014
- Quartz veins in granite
  - 355 / steeply east
  - Width of 2 to 135 centimetres
  - Length less than 60 metres
  - Topographic location not given
- El Capitan  
92C-019
- Shear zone in andesite at hornblende dyke contact
  - 090 / steep dip
  - Width to 120 centimetres
  - 60 metres in strike length
  - Located on hill
- Cottonwood  
92C-020
- Shear in Karmutsen andesites
  - 070 / steeply N
  - Width to 75 centimetres
  - 60 metres in strike length
  - Located on hill
- Silver Leaf  
92C-021
- Shear in Karmutsen andesite
  - 092 / 65 S, 090 / steep S and 060 / vertical in junction
  - Width to 120 centimetres
  - 60 metres in strike length
  - Located on hill
- Amore  
92C-117
- Shear in Sicker sediments
  - Width to 30 centimetres
  - No other information given
- Okay  
92F-055
- Shear in Karmutsen
  - No other information given
- Vulcan  
92F-114
- Shear in Karmutsen andesite
  - 039 / 70 NW  
(appears to be in junction with shear 100/70S)
  - Width to 150 centimetres
  - 37 metres in strike length
  - Located in creek
- Coal  
92F-151
- Shear in Comox Formation / Tertiary Sill
  - 025 / 75 SE
  - 45 - 60 centimetres in width
  - At least 1 kilometre in strike length
  - Located on hill

This a brief summary of the known shear hosted gold occurrences in the immediate vicinity of the Vulcan Property. The purpose of the summary is to determine the strike, dip, strike length and width of potential targets for a reconnaissance property exploration program.

Of the 9 examined only 5 gave a topographic location. Two of the 5 were located in actual creek beds, while three were on hill sides. Two dominant strike directions were noted, N-S (within 20 degrees of north) and E-W (within 20 degrees of east). The strike length of the shear structures did not exceed 100 metres in any of the 9 occurrences, while the width did not exceed 1.5 metres. Depth information was note available for the shears.

Fyles (1955, BCDM Bulletin 37, page 61) states that regional shear zones (ie. 1.5 kilometres in strike length and 600 metres down dip) are not known to host precious metal occurrences. Much shorter zones are the precious metal host in this region.

An effective exploration program should begin with silt geochemistry for gold. The samples should be taken on traverses up the creek valley, allowing mapping to be co-incidental with the sampling. This program should adequately cover the potential for E-W structure. N-S structure could be prospected for by running geochemistry lines along the ridges between the creeks. Again, mapping should accompany the geochemical sampling.