

REPORT ON

THE SADIM PROPERTY

NTS. 92H/10E

Lat 49° 44' N; Long 120° 32' W

Similkameen M.D.

B.C.

for

TOBY VENTURES INC 430 - 580 Hornby Street Vancouver, BC V6C 3B6

by

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November 30, 2000

OCICAL SURVEY BRANCH

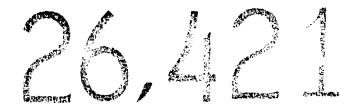


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1.0 SUMMARY

The Sadim property is a 1600 hectare property, 100% owned by Toby Ventures Inc, comprised of the Sadim 1,3,4 and Rum (MGS) claims. The property is situated in the Missezula Mountain area of southwestern BC between the towns of Merritt and Princeton (Figures 1,2). The claims are underlain by volcanic and sedimentary rocks of the Central Nicola Belt in a geological environment essentially similar to that hosting the porphyry copper-gold deposits of the Quesnel Trough in the Quesnel-Cariboo area to the north and the Copper Mtn - Ingerbelle deposits to the south. Gold mineralization found in structurally controlled quartz veins on the periphery of a local intrusive centre might ultimately be a distal expression of an underlying porphyry environment.

The 2000 exploration program carried out by Toby Ventures focused on two distinct areas, southwest Sadim 4 (Au) and Rum (Cu) claims respectively. The first, most southwestern area was an zone of structurally controlled quartz veins hosting gold mineralization, partially drill tested in 1995. A total of 338 meters of new trenching was carried out in the form of three new backhoe trenches. This activity was targeted south and northeast of old trench 94-2 (Figure 8), which contains an exposed structurally controlled gold-enriched quartz vein. Previous sampling conducted by Vanco Explorations Ltd of the discontinuous segments of quartz and fault gouge within this trench in 1986 averaged 2.44 oz/t Au across an average width of 1.9 ft over a length of 50.8 feet (McDougall, 1995).

During the current trenching program in October, 2000, a narrow sulphide-gold quartz vein was discovered in Trench 20-1 and expanded somewhat in Trench 20-3 which attempted to follow the vein along strike. Significant rock samples taken from this vein returned results of 23990, 7726 and 4850 ppb Au, respectively. This surface discovery and its correlation with previous drilling in the area indicate an additional definable gold-rich quartz vein similar to that exposed in old trench 94-2 to the north. This data together with previous drilling results in the area indicate two narrow auriferous sulphide quartz veins dipping to the southwest (Figures 8,9). Additional structural and airphoto interpretation is required in this area to determine if there is a "structural trap" to focus and concentrate gold mineralization.

The second area of the 2000 work program focused on an untested copper porphyry target within the more northerly Rum claim. Preliminary exploration by previous workers discovered an isolated outcrop exposure of highly fractured volcanics hosting disseminated copper mineralization and carried out an IP survey (J. Christofferson et al, 1971) within an area largely covered by overburden. The current work program involved line-cutting an area of 2400m north-south by 1300 m east-west and the completion of 27 line-kms of Induced Polarization geophysics carried out by SJV Geophysics Ltd. The survey defined a large 2000 m long chargeability anomaly extending north-south through the entire Rum Claim (Figure 10).

Proposed future exploration would involve approximately 1800 meters of drill testing along this major geophysical anomaly as well as smaller subsidiary anomalies on the Rum claim. This exploration would be in the search for a copper porphyry target similar in manifestation to the Axe prospect located just south of the Sadim property.

2.0 INTRODUCTION

This report was prepared at the request of Mr. C. Dyakowski (P.Geo), president of Toby Ventures Inc., 430 - 580 Hornby Street, Vancouver, BC, V6C 3B6. Toby Ventures Inc is the registered owner of the Sadim 1,3,4 and Rum modified grid system (MGS) claims.

The Sadim 1,3,4 and Rum claims form a contiguous modified grid system group covering an area approximately 4 km by 4 km, situated in the Missezula Mountain area of southwestern BC between the towns of Merritt and Princeton (Figure 2). The claims are underlain by volcanic and sedimentary rocks of the Central Nicola Belt in a geological environment essentially similar to that hosting the porphyry copper-gold deposits of the Quesnel Trough in the Quesnel-Cariboo area to the north and the Copper Mtn - Ingerbelle deposits to the south. Gold mineralization found in structurally controlled quartz veins on the periphery of a local intrusive centre might ultimately be a distal expression of an underlying porphyry environment.

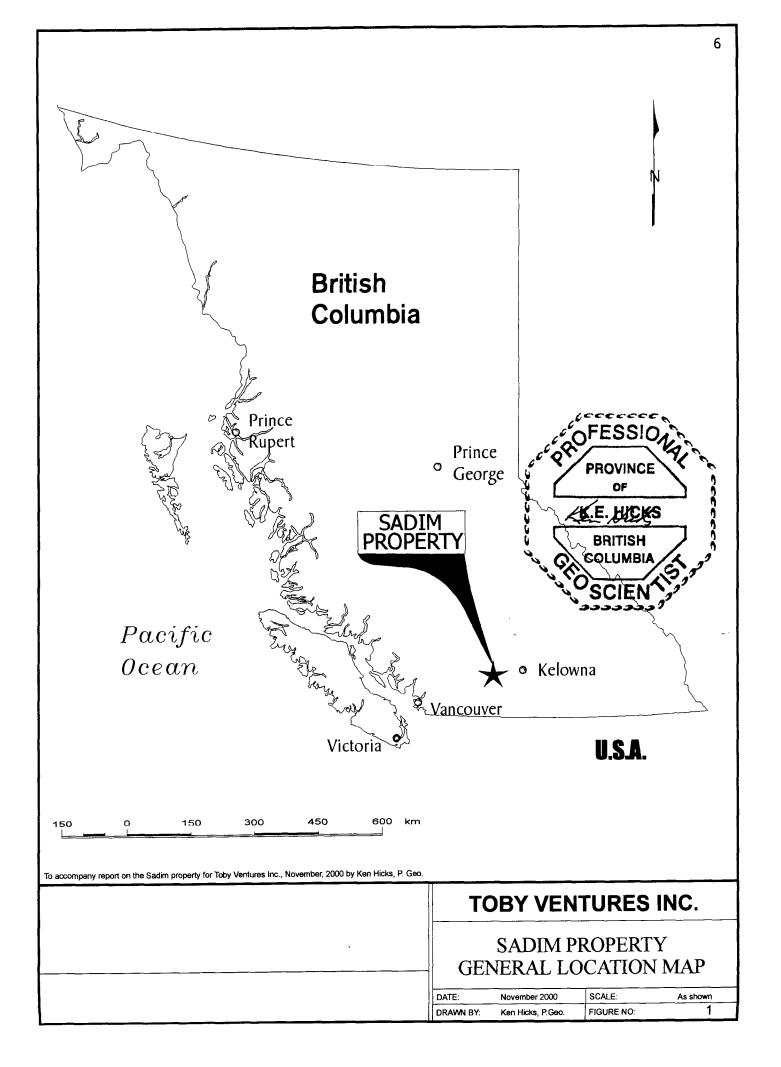
This report summarizes the results of the 2000 trenching and geophysical programmes in addition to numerous summaries of previous geological, geophysical, geochemical, drilling and trenching programmes. For previous property work this report draws to a large extent upon the 1994 and 1995 work programme reports authored by James J. McDougall and to a lesser extent earlier work programs on the property.

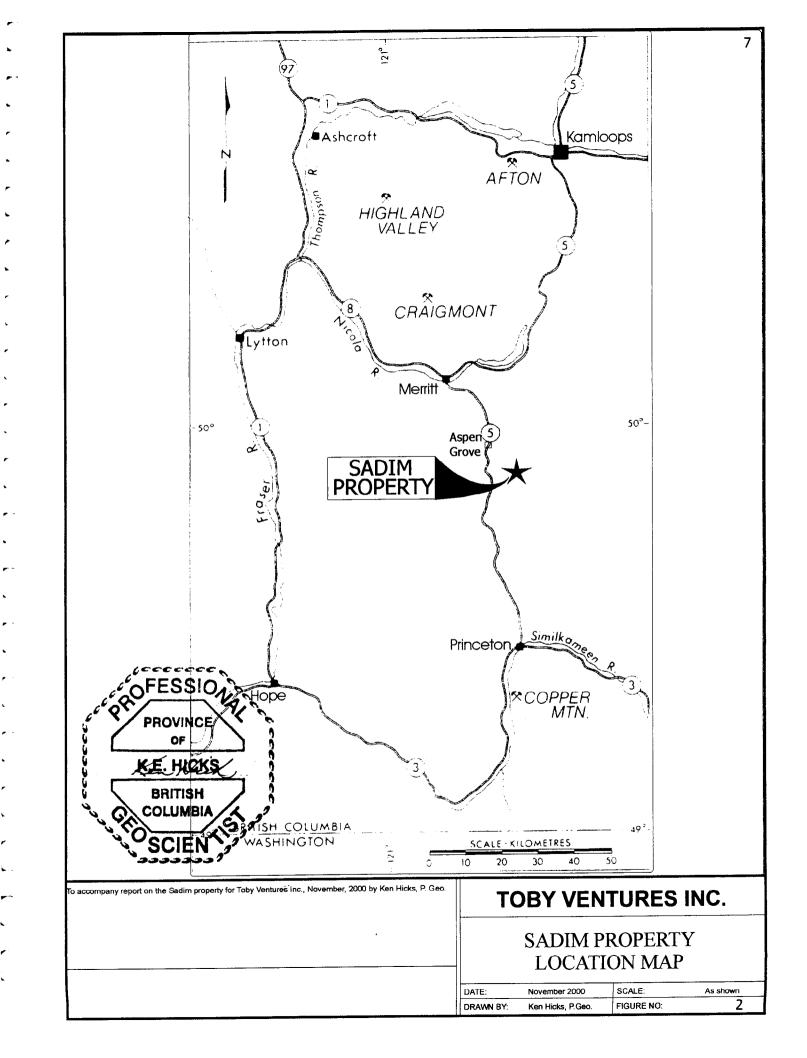
The author visited the property for the first time in October 2000 for a total of nine days and was accompanied by Mr. Dyakowski who has extensive knowledge of the property. The current work program involved 338 meters of excavator trenching in the Sadim 4 area and 27 kms of Induced Polarization survey in the Rum and Sadim 4 claims.

3.0 LOCATION AND ACCESS

The Sadim claims are situated four kilometres east of Highway 5A, 30 km north of Princeton and 45 km south of Merritt, within the Similkameen Mining Division, B.C. (Figures 1,2). The centre of the Sadim property is at 49° 43'N, 120° 32' 30"W. The corresponding U.T.M. coordinates are 5509900 N and 677800 E. The NTS mapsheet reference is 92 H/10 E.

Access to the Sadim and Rum claims from Highway 5A is by the Dillard-Ketchan Creek main logging roads which branch east from the highway about 12 km south of the village of Aspen Grove (Figure 2). The Ketchan Creek road traverses the Sadim 1 and 3 claims in a southeasterly direction. Distance from Highway 5A to the property is approximately 16 km direct line, centering immediately east of the "18 km" mileage marker on the Ketchan access road.





An alternate access route is by gravel logging road from Highway 5A at a point 2.5 km north of Allison Lake, although the eastern extremity of this road may be blocked off on occasion.

Within the property boundaries, logging, 'mining' and microwave station roads provide good access to all parts of the claim group. The BC Hydro power line crosses the centre of the Sadim 1 and 3 claims.

The property occupies the summit area and the western flank of the broad, north trending ridge separating the deep fault valleys of Summers Creek to the east and Allison Creek to the west. Elevations on the property range from 1615 metres at the summit of Microwave Hill, on the common boundary between Sadim 1 and Rum 2, to 920 metres approximately 200 metres east of Allison Lake. The topography is typical of this part of the Thompson Plateau, reflecting the effects of a predominantly northerly structural trend, accentuated by glaciation. Heavily forested, relatively gentle upland slopes are cut by deep, steep-sided, north trending valleys. Bedrock exposure varies and is largely a function of glacial action; generally outcrop is abundant on ridges and along the upper slopes of steep valleys but lower slopes and valley bottoms bear a thick mantle of glacial overburden.

Vegetation is dense on shaded and northerly slopes, but is more open on south facing hillsides; mixed conifers, alder and poplar predominate. About half of the area has been selectively and/or clear-cut logged. Snow cover remains at this elevation between late October and April.

The towns of Merritt and Princeton are communities approximately equidistant from the property and connected by Highway 5A (Figure 2). Basic supplies, accommodation and communication services for exploration crews are available in these communities. Local high voltage hydropower lines cross the property. The district has a stable labour reserve, which contributes substantially to the mining operations in Princeton and the Highland Valley area. Water for drilling is available on the property. Heavy-duty equipment (backhoes) is available in both Princeton and Merritt, and drilling companies are located locally.

4.0 CLAIMS

The Sadim property consists of four MGS mineral claims (Figure 3) containing 64 units, as follows:

| CLAIM NAME | NO. OF UNITS | ТҮРЕ | TENURE NO. | REGISTERED OWNER | RECORDING DATE | EXPIRY DATE |
|---------------|-----------------|------|---------------|----------------------|-------------------|------------------------|
| Sadim 1 | 20 | MGS | 248987 | Toby Ventures Inc | 10 Oct 1984 | 10/10/20 01 |
| Sadim 3 | 20 | MGS | 248989 | Toby Ventures Inc | 10 Oct 1984 | 10/10 /20 01 |
| Sadim 4 | 12 | MGS | 248990 | Toby Ventures Inc | 10 Oct 1984 | 10/10/20 01 |
| Rum | 12 | MGS | 380273 | Toby Ventures Inc | 11 Sept 2000 | 10/10/20 01 |

Table 1: Property Claim Data

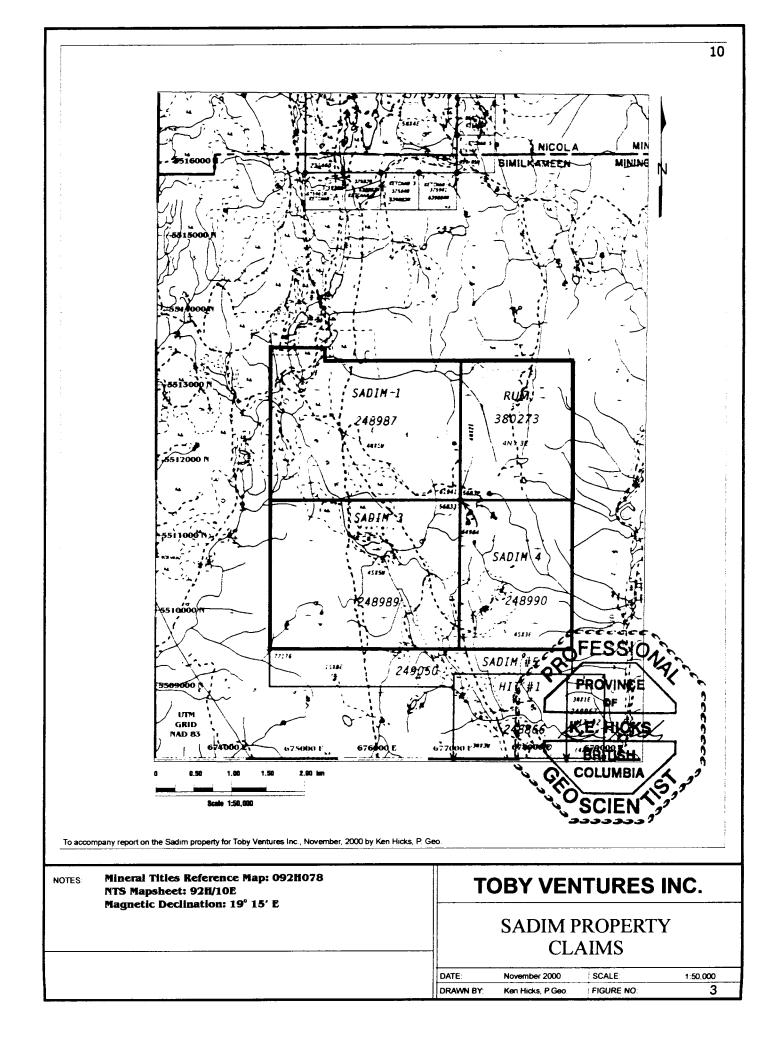
* The Sadim 1,3,4 and Rum claims are 100% owned by Toby Ventures Inc, subject to a 3% NSR based upon an underlying agreement with Vanco Explorations Ltd. Total acreage approximates 1600 hectares.

5.0 HISTORY AND DEVELOPMENT

The earliest record of work in the Sadim claim area dates back to the early 1960's—the beginning of the porphyry copper exploration boom that persisted until the early 1980's. Most of the work recorded within the Sadim property was concentrated over the Rum claim and the Rum 1 - 8 two-post claims (now within Rum claim) (Figures 6,7,10).

The following is a summary of past activity in the general property area:

- 1962 The 40 claim KR group was staked as a copper prospect by Plateau Metals Ltd. Work consisted of a magnetometer survey, bulldozer trenching, and an undisclosed amount of diamond drilling. The claims occupied the area presently covered by the Rum claim, and the northern part of the Sadim 4 claim.
- 1966 Adera Mining Ltd. optioned the KR claims and carried out soil sampling and magnetometer surveys followed by diamond drilling. The claims were allowed to lapse.
- 1970 Amax Explorations Inc staked the Rum claims; the southern half of the property lay within the area now covered by the Rum and Sadim 4 claims. The northern half of the property lay within the area now covered by the Rum MGS claims. Work done by Amax consisted of geological mapping, soil sampling, and



- 1970 cont magnetometer and IP surveys, followed by a nine-hole, 573 metre percussion drilling programme.
- 1972 Kalco Valley Mines Ltd optioned the Rum claims, then relinquished the property after a programme of mapping and trench sampling.
- 1973-74 Bronson Mines Ltd staked the Cindy claims, covering ground now lying within the Sadim 1 claim. Mapping and prospecting programmes were carried out.
- 1974 Ruskin Developments Ltd acquired the Rum claims, and completed geological mapping and soil sampling surveys before allowing the ground to lapse.
- 1979-81 Cominco Ltd staked 55 claims (Rum 1 55), coincident with the main area of interest covered by the original Rum claims staked by Amax. Cominco refurbished and renumbered the old Amax grid and used it for control of geological, soil and rock geochemical and magnetometer surveys. Since then, Cominco allowed the claims to lapse.
- 1984-86 Peter Peto staked the Coke 1 to 8, now covered by the Rum MSG claim. A programme of soil sampling and VLF-EM16 was conducted on the property. Since then Mr. Peto allowed the claims to lapse.
- 1984-91 The Sadim claims were staked in October 1984 by I. M. Watson and, following the discovery of gold-silver bearing quartz veins, were optioned to Laramide Resources in November 1985. Ownership was subsequently transferred to Vanco Explorations Ltd, a subsidiary of Laramide Resources. Between 1985 and 1987 the claims were explored by geological mapping, geochemical soil/rock sampling, excavator trenching, VLF-EM and magnetometer surveys, and by 15 diamond drill holes totalling 1,235 metres. Further trenching and sampling was carried out in 1991, the most recent work recorded.
- Harlow Ventures conducted geochemical, geophysical, geological and trenching programs. Trenching was focused on the auriferous quartz veins of the Sadim 4 claim. Previous trench #19 was extended, resampled and renamed as 94-2. Additional rock samples were collected from old trenches. The geophysical program consisted of a magnetometer and VLF EM survey on portions of the current Rum MGS claim
- 1995 Harlow Ventures Inc carried out an exploratory diamond drill program on the central, gold-bearing portion of the Sadim claims. The 12 hole, 2393 foot program intersected narrow sections of high gold values within structurally controlled quartz veins outlined in Figure 9. No work was conducted on the Rum claim.

6.0 REGIONAL GEOLOGY

(Summarized by I. M. Watson from V. A. Preto's "Geology of the Nicola Group between Missezula Lake and Allison Lake", Figures 4 and 5.)

The Upper Triassic Nicola Group rocks, the most important from an economic standpoint, extend from the 49th parallel north to Kamloops Lake, and continue beneath Tertiary cover to emerge in the Quesnel area as the Quesnel Belt (Preto, 1979).

The volcanics of the Quesnel and Nicola Belts form a mixed alkaline and calc-alkaline sequence of basalts and derived breccias, tuffs, and minor sediments.

The volcanic rocks are intruded by comagmatic alkaline plutons, ranging in composition from syenogabbro to alkali syenite. The intrusions appear to be structure related and occur in belts along major lineaments and faults. They vary in size from large to small stocks or batholiths, and have been emplaced into the volcanic centres which produced the abundance of volcanic material (Barr et al, 1976).

In the Allison Lake-Missezula area, Preto has delineated three assemblages—a Western Belt of easterly dipping calc-alkaline flows, pyroclastics and sediments; a Central Belt of alkaline and calc-alkaline volcanics and intrusions, and minor sediments; and an Eastern Belt of westerly dipping volcanic sediments, tuffs and alkaline flows associated with small monzonite porphyry stocks. The belts are separated by major north-striking faults.

Preto believes that the Central Belt of dominantly volcanic rocks originates from eruptive centres along the major fault system, and points out the greater concentrations of mineral deposits along this belt.

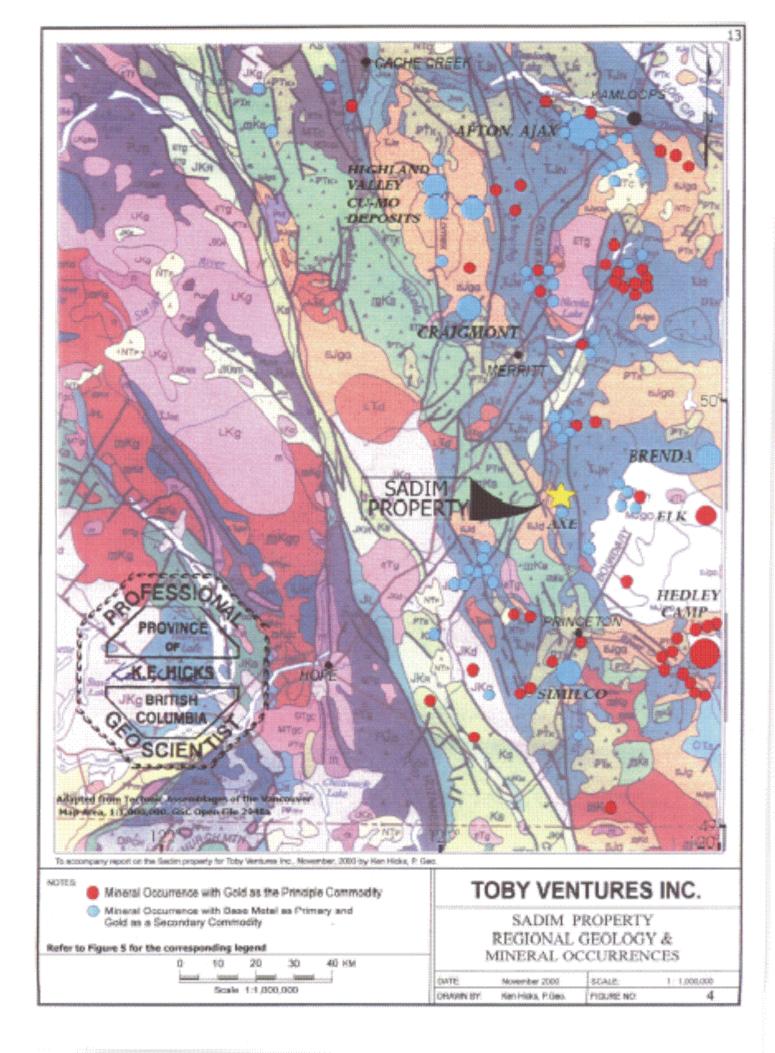
The Sadim property lies immediately west of the Summers Creek fault, which marks the eastern boundary of Preto's Central Belt (Fig 2).

The property is underlain by northerly striking intermediate to basic flows, green monolithic and polylithic volcanic breccias, tuffs, and less abundant argillites and limestones. These rocks have been intruded by irregular bodies of gabbroic to dioritic composition. Volcanics and sediments marginal to the intrusions have been variably propylitized (epidote-pyritechlorite-carbonate) and locally host erratically distributed copper-pyrite zones.

7.0 LOCAL GEOLOGY

7.1 Geology of the Sadim and Rum Claims

For the sake of uniformity, Preto's classification of rock types for the Central Belt has been adopted and amended as necessary (Figures 6 and 7). Little detailed information on the geology of the Rum claims is available.



14 LEGEND FOR CORDILLERAN TECTONIC ASSEMBLAGE, OPEN FILE 2948a MISSISSIPPIAN - UPPER TRIASSIC NEOGENE CHILCOTIN: back-arc volcanics; basalt flows transitional CACHE CREEK: oceanic volcanics and sediments NTc MTC and local accretionary prism melange; mainly between alkaline and tholeiitic types; nonmarine MORB-like thoeliitic to alkaline basalt, some PALEOGENE alkalic-enriched seamount basalt, serpentinized peridotite and dunite, gabbro, trondhjemite and KAMLOOPS: transtensional arc volcanics; alkalic-rich, calcdiabase; most subgreenschist, local blueschist; PTk alkaline andesite, basaltic andesite, dacite, rhyolite and basalt melange (Mtcm) with blocks of Upper Triassic flows, pyroclastics and epiclastic deposits. In south ans south-Nicola Assemblage; radiolarian ribbon chert, east, highly alkaline rhomb-porphyry flows and breccia; biargillite, volcanic sandstone, and limestone, locally modal basalt-rhyolite along Tintina fault; includes alkaline as bank, reef and lagoon complexes volcanics east of Foreland Belt; all non-marine SIFTON: nonmarine fault-trough clastics (locally includes PLUTONIC ROCKS PTs upper Cretaceous strata); shale, siltstone, sandstone, conglomerate, local lignite, marl and dacitic volcanics; EARLY TERTIARY nonmarine UPPER CRETACEOUS Undivided granodiorite and quartz diorite; eTg MIDKNIGHT PEAK; transpressional arc volcanics; green, grey, uKm LATE CRETACEOUS red and purple andesite, dacite, and basalt breccia and tuff; nonmarine Undivided granodiorite, leucogranodiorite, guartz mKs monzonite, quartz diorite, tonalite CRETACEOUS MID-CRETACEOUS SKEENA: easterly derived back-arc clastics; mostly easterly Ks Variable foliated homblende quartz diorite, tonalite, derived clastics; volcanic wacke, sandstone with detrital mica, mKg siltstone, shale, conglomerate, with granitic clasts, chertand hornblende diorite pebble conglomerate, ironstone lenses, coal; marine and Cascade: elongate syntectonic to post tectonic plutons mKgc nonmarine of tonalite and quartx diorite with local cores of hypersthene-augite diorite and some foliated borders **MID-CRETACEOUS** SOUTH FORK: transtensional cauldron-subsidence and arc LATE JURASSIC - EARLY CRETACEOUS mKs volcanics; calc-alkaline basaltic andesite, latite, rhyodacite Gabbro-diorite-migmatic complex; homblende-biotite and rhyolite flows, pyroclastics, ignimbite, epiclastic rocks JKd quartz diorite in calderas and fault troughs; non-marine EARLY JURASSIC UPPER JURASSIC - LOWER CRETACEOUS Undivided granodiorite, leucogranodiorite, quartz ലgG monzonite, quartz diorite, tonalite RELAY MOUNTAIN: easterly derived clastics; shale and siltsone lkr in central Tyaughton Trough; greywacke and conglomerate at trough margins; derived in part from volcanic terranes to the Older partially foliated and altered homblende granodiorite and eJq east; marine and metamorphic equivalents (Jkrm) quartz diorite Undivided diorite, monzodiorite, gabbro, diabase, amphibolite LOWER AND MIDDLE JURASSIC e]d LADNER: arc clastics and volcanics; argillite, subordinate JL siltstone, greywacke and conglomerate with basic and felsic LATE TRIASSIC - EARLY JURASSIC volcanic clasts grading laterally eastward and upward into Undivided diorite, monzodiorite, gabbro, diabase, amphibolite DCT andesitic pyroclastics and flows; marine and nonmarine HALL: Quesnellia arc-derived clastics; carbonaceous shale LATE TRIASSIC Jha siltstone, greywacke and conglomerate derived from Homblende-biotite quartz diorite volcanic and granitic rocks of Quesnellia; marine LTg UPPER TRIASSIC - LOWER JURASSIC Gabbro sills ιTd NICOLA: arc volcanics in Quesnellia; Calc-alkaline TJn andesite, dacite, rhyolite subaerial flows, ignimbrite encestic, decide, myolite subserial nows, ignimibile prince light of the subserial nows, ignimibile release reprinting, and site and dacite flows and ordanic decide grading for their eastward into relatively alkaline august por byny flows, analcite pachybasalt and tractive resister, volcanic clastics and many the decide, subserial mestone and minor nuartific marine and promatical PERMIAN Undivided diorite monzodiorite, gabbro diabase, amphibole 0 Pd quartzite; marine and normarine? Adapted from Geotogicar Super Consider Open File 248a TOBY VENTURES INC. ares Inc., November, 2000 by Ken Hicks, P. Geo. BRITISH SADIM PROPERTY COLUMBIA REGIONAL GEOLOGY LEGEND SCIEN **3333333**9 DATE November 2000 SCALE As shown DRAWN BY: FIGURE NO: 5 Ken Hicks, P.Geo

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Andesites (Unit 1a, Figure 7)

Green to grey-green, fine to medium grained pyroxene andesites, intercalated with tuffs, breccias and sediments, underlie the south and central parts of the Sadim 4 claim. Locally, adjacent to the dioritic intrusions, the andesites are variably altered, with development of chlorite, carbonate, and epidote. The marginal, fine-grained altered phases of the diorites are difficult to distinguish in the field.

Breccia (Unit 1d)

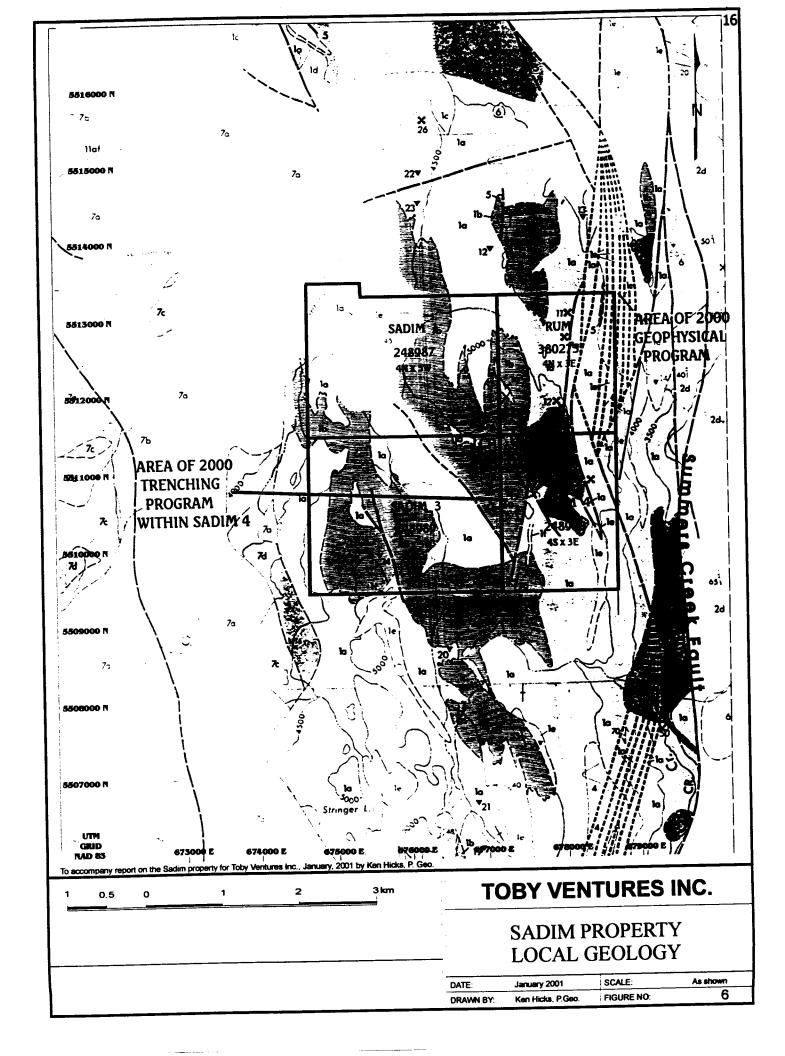
The breccias in the Sadim area are predominantly green in colour. Andesite fragments of variable size occur in a tuffaceous nature. Breccias containing limestone fragments (**Unit 1df, Figure 7**) are developed locally adjacent to limestone units; presumably these breccias overlie the limestones and are in part derived from them.

Tuffs (Unit 1e, Figure 7)

Intimately associated with the breccias and flow rocks are tuffs of green-grey hue and an andesitic appearance. The tuffs which weather a tan color are less abundant than the breccias and andesites and their occurrence appears to be lenticular, but this may be a function of structural disruption by cross faulting, more than depositional discontinuity as they re-occur along several kilometres of strike length. Possibly significant varieties of the tuffaceous unit were noted in the south central part of the Rum and Sadim 4 claims; here a fairly distinctive purplish grey tuff (Unit 1et, Figure 7) containing small andesitic fragments, is intercalated with rusty-buff weathering, fine to medium grained rock containing orange hematite along numerous fracture planes (Unit 1eth, Figure 7). This latter unit is highly fractured and contains narrow (2 - 30 cm) sulphide bearing quartz veins, which trend generally east-west and dip at varying degrees to the south. The fractures/quartz veins appear to have developed as a result of late stage east-west cross faulting. The quartz veins tend to be craggy along their margins and centres, and contain patchy and weakly disseminated pyrite, chalcopyrite, and rare galena. The wall rocks are finely pyritised. The host tuffs are not well exposed, occurring as small outcrops and distinctive float over a total distance on the claims of nearly 1,000 m, but more continuously over 300 m apparent strike length. Sampling of the tuff and quartz veins revealed anomalous gold content. The tuffs are the most important rock units locally as they host the gold veins of interest.

Limestone (Unit 1f, Figure 7)

Dominantly pale grey, fine grained limestones occur as apparently lenticular bodies within the tuffaceous/breccia sequence which hosts the mineralization of interest. Several narrow beds have been identified in the south and central



| LEGEND FC | |
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| GEOLOGY OF THE NIC | |
| BETWEEN MERRITT AND | PRINCETON |
| (V.A. PRETO 1972 | 2-1975) |
| | |
| LOWER JURASSIC OR LATER | 30 ANDESITIC TO DACITIC BRECCIA AND |
| 8 PENNASK BATHOLITH: BIOTITE-HORNBLENDE GRANODIORITE AND QUARTZ MONZONITE | 3C GREY, MASSIVE TO CHERTY LIMESTONE, COMMONLY FOSSILIFEROUS |
| UPPER TRIASSIC TO LOWER JURASSIC | 3d CALCAREOUS VOLCANIC CONGLOMERATE. |
| 7 ALLISON LAKE PLUTON | TUFF AND BRECCIA |
| 73 REDDISH TO REDDISH GREY BIOTITE- | EASTERN BELT |
| MONZONITE | 20 PURPLE AND GREY, LOCALLY 20 ANALCITE-BEARING, AUGITE PLAGIO |
| 7b GREY HORNBLENDE GRANODIORITE | CLASE TRACHYANDESITE AND TRACHY- |
| C GREY TO DARK GREY HORNBLENDE OIGNITE, GABBRO, AND QUARTZ DIORITE | BASALT PORPHYRY FLOWS AND MINOR Flow Breccia |
| 7d METAVOLCANIC ROCKS WITHIN OR NEAR THE PLUTON | 2b REDDISH TO GREENISH GREY CRYSTAL, LITHIC, AND LAPILLI TUFF |
| | 2C WOLCANIC SANDSTONE AND SILTSTONE. |
| 6 PINK AND GREY MONZONITE AND SYENITE, MEDIUM-GRAINED AND GENERALLY PORPHY- RITIC; FINE-GRAINED GREY DACITE | 2d MASSIVE TO CRUDELY LAYERED LAHAR |
| GA MONZONITE AND SYENITE BRECCIA | |
| | CENTRAL BELT |
| 5 DIORITE, QUARTZ DIORITE, MONZONITE, AND DIORITE BRECCIA; MINOR FINE-GRAINED HORN- BLENDE PORPHYRY | 1a REDDISH TO GREEN AUGITE- Plagioclase Andesite and Basalt Flows; occasional Analcite-Bearing Trachybasalt |
| LEUCOCRATIC, PYRITIC QUARTZ PORPHYRY, | 1b AUTOBRECCIATED EQUIVALENTS OF 1. |
| 4 LOCALLY HIGHLY SHEARED AND MYLONITIZED | 1C RED VOLCANIC BRECCIA AND LAHAR |
| LOWER TO MIDDLE JURASSIC | |
| CORRELATION UNCERTAIN | 1d GREEN VOLCANIC BRECCIA AND LAHAR DEPOSITS, MOSTLY MASSIVE |
| A BUFF-WEATHERING GREY, CALCAREOUS SILT- STONE, SANDSTONE, AND GRIT, WITH INTER- LAYERED BUFF-WEATHERING SILTY LIMESTONE | 10 CRYSTAL AND LITHIC TUFF, GENERALLY WELL BEDDED |
| | 16 BEDDED TO MASSIVE, GREY, FOSSIL |
| UPPER TRIASSIC | LATED CALCAREOUS SEDIMENTARY |
| 1,2,3 NICOLA GROUP | ROCKS |
| WESTERN BELT | 19 WELL-BEDDED SILTSTONE, SANDSTONE, AND ARGILLITE; MINOR GRITSTONE AND |
| FESSION BRECCIA | PEBBLE CONGLOMERATE |
| PROVINCE | |
| o addompany report on the Sortin property for Tuby Vendres Inc., November, 2000 by Ken Hicks, P. G | |
| K.E. HICKS | TOBY VENTURES INC. |
| GA COLUMBIA | SADIM PROPERTY |
| | LOCAL GEOLOGY LEGEND |
| SUIEN y | DATE: November 2000 SCALE: As shown |
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part of the claim group. ie. immediately east of, and faulted partly within, #2 trench. Limestone is the dominant unit within more hilly terrain to the north and east of the tuff sequence as shown on Fig 4. Its extent has not been determined, nor has its contact relationship with the tuff sequence. It hosts no known mineralization of interest within the claim group, but an andesite limestone breccia recognized by Watson (Unit 1df,) may have some significance.

Argillite (Unit 1g, Figure 7)

Dark grey, fine-grained and finely bedded argillites also occur within the pyroclastic rock. Bedded argillites were noted in trenches 94 - 8 and 9 in the southeastern part of the claim group.

Diorite (Unit 5, Figure 7)

Grey, pale grey, fine to medium grained crystalline pyroxene diorite underlies the Rum claim and the eastern part of the Sadim claims.

8.0 CURRENT WORK PROGRAM

8.1 Trenching in the Sadim 4 area

8.1.a Objective

A total of 338 meters of new trenching was completed on the Sadim 4 claim, centred on the previous trench 94-2 at coordinates 677075 E, 5510325 N (Figure 8). The objective of this new trenching was to explore the possibility of additional roughly east-west auriferous quartz veins within the overburden covered area north and south of trench 94-2.

8.1.b Equipment

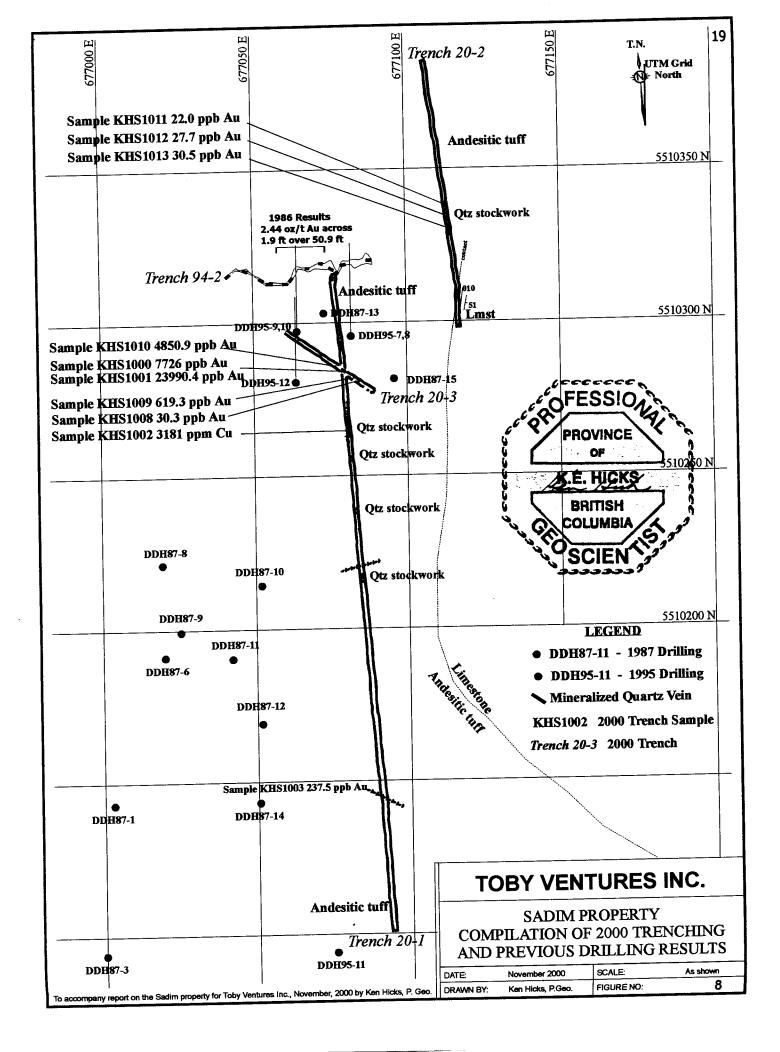
Equipment used for trenching was a Caterpillar excavator 215 LC from Tibar Construction, Merritt, and the operator was the owner, Jim Rabbit.

8.1.c Overburden

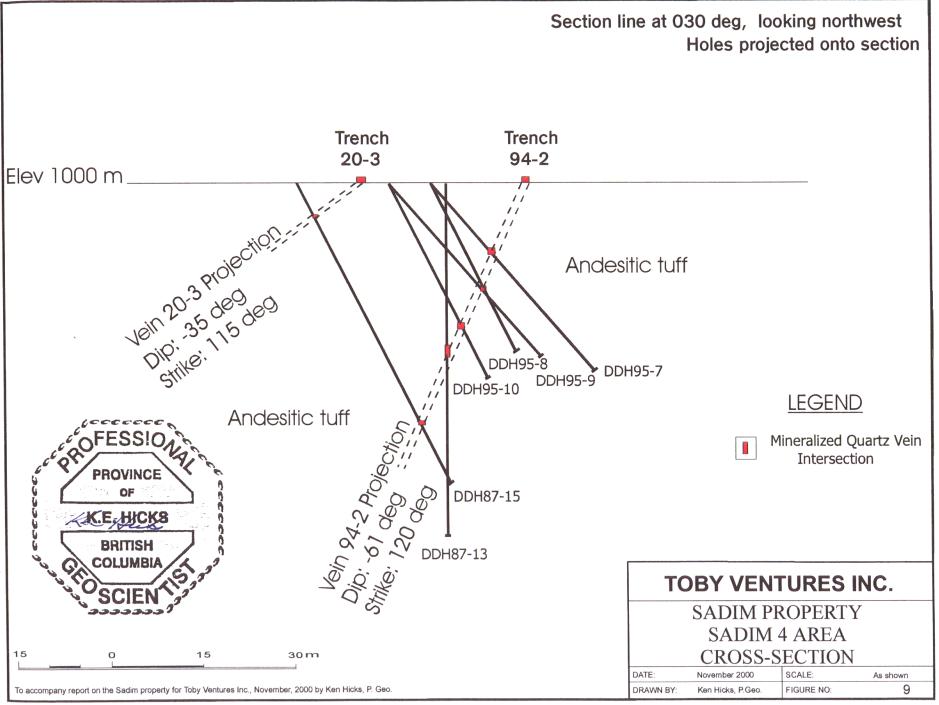
Throughout the general area of trenching the thickness of the overburden averaged approximately 1 meter of compact and clay-rich glacial till. This provided for a clean, sturdy wall which remained intact during the duration of the trench mapping. In areas of creeks or seepages, the thickness of overburden increased to a maximum of 3.5 meters. In light of this information, the use of typical surface soil samples would not accurately reflect the underlying geology.

8.1.d Lithologies

The only discernible geological units encountered in the current trenching program were intermixed tuffaceous volcanic sequences of Triassic (Nicola Series) tuffaceous horizons and interbedded limestone lenses, all of which strike northerly and dip easterly at moderate angles.







The andesitic tuff was purplish-green in color with fragments of similar composition to the matrix. A orange-tan weathering rind was typically found on oxidized surfaces such as the till-rock interface. Trench 20-2 is the only trench which intersected both the limestone and tuffaceous units. The orientation of the contact between these units was approximately 010 degrees dipping 51 degrees to the southeast.

8.1.e Alteration

Most rock units have been weakly chloritized and pyritized, but the tuff unit appears to exhibit carbonatization in addition to more widespread pyritization, contributing to the prominent limonitic-hematitic hue near surface.

8.1.f Mineralization

Discrete zones of resistant weathering quartz veinlet stockworks within the tuffaceous volcanics were found scattered along the length of Trenches 20-1 and 20-2 (Figure 8). Widely spaced hairline quartz veinlets at random orientations were usually barren but rarely contained specks of chalcopyrite and pyrite. None of the five rock grab samples taken from these stockwork zones returned significant economic gold values. One grab sample, KHS1002, taken along a narrow malachite-rich fracture, returned a value of 3181 ppm Cu. Also randomly scattered minor quartz and/or carbonate veins from 1 to 3 cm were all found to be barren of mineralization.

The only significant quartz vein mineralization encountered during the trenching program occurred at 32 meters south of Trench 94-2 within Trench 20-1 (Figure 8). This mineralization consisted of a strongly fractured and shattered quartz vein containing minor amounts of chalcopyrite, galena and sphalerite. Grab sample KHS1001 returned values of 23990 ppb Au from quartz vein material with up to 5% mixed sulphides. Sample KHS1000 was a chip sample across a true width of 40 cm and returned values of 7726 ppb Au. This intersection was followed up by Trench 20-3 which attempted to follow the mineralization along strike. Additional samples along strike of the main intersection taken with Trench 20-3 returned values of 4850, 619 and 30 ppb Au, respectively. A total of five samples were collected from this zone (Figure 8, Appendix A).

8.1.g Sample Analysis

Geochemical analysis was carried out by Acme Laboratories of Vancouver, B.C. A total of nine rock samples were collected from the current trenching program. All samples were analyzed using 32 element ICP and AA gold. A complete description of the analytical technique is described in Appendix A. A complete listing of sample analytical results is contained within Appendix B.

8.2 Rum Claim

8.2.a Introduction

The geological environment on the Rum claims is similar to that of the Sadim claims. The main difference is that a micro diorite stock, which is in contact with the Nicola Group along the regional Missezula fault, has intruded the Nicola rocks. Several rock grab samples were collected during a brief prospecting visit to the claim. Most samples showed epidotization as well as pyritization is evident near the low grade copper occurrences on the Rum claims.

8.2.b Geophysical Program

SJ Geophysics Ltd was commissioned by Toby Ventures Inc to complete an Induced Polarization survey on their Sadim Property in October 2000. Some 27 line-kms of IP/Resistivity measurements were gathered across 22 roughly east-west lines. Lines were approximately 100 meters apart along the compass and hip-chain slope-corrected central baseline and extended east and west from the baseline along uncorrected lines. Lines averaged 1200 meters in length with measurement stations at 25 meter intervals.

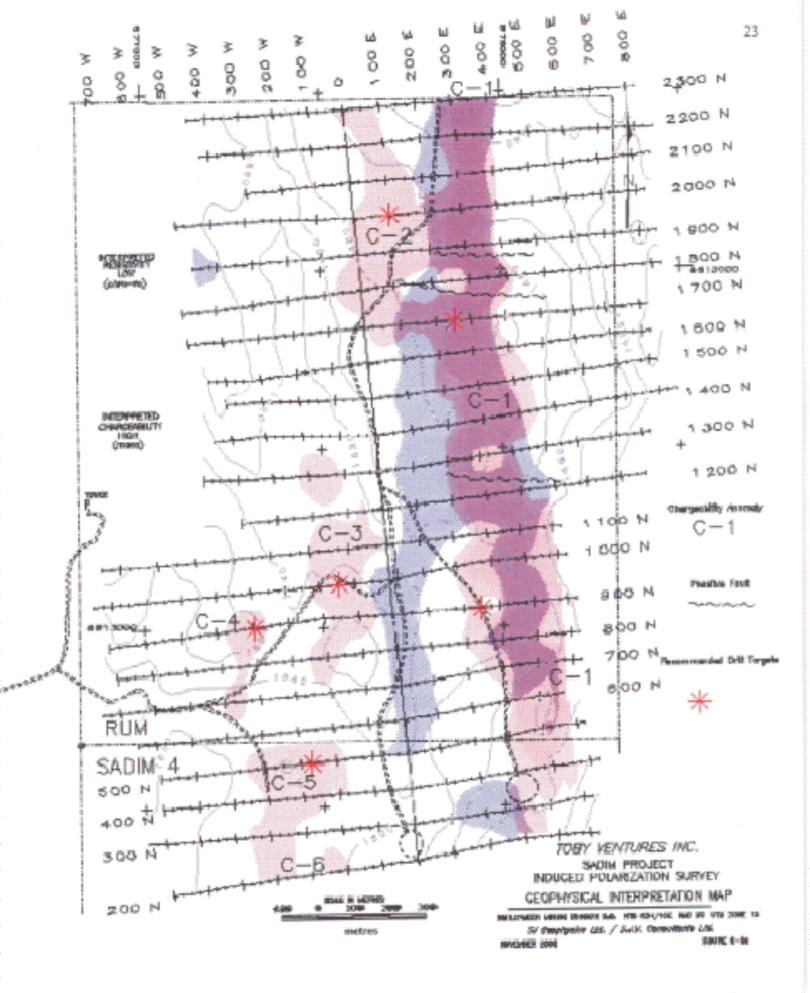
8.2.c Results

A total of 5 significant chargeability/resistivity anomalies were discovered during the geophysical survey. Excerpt:

'The most dominant feature, C-1, is a narrow, north-south trending band of very high chargeability and low resistivity material. This zone is likely related to a major fault system and separates high resistivity/low chargeability material to the east from more modest chargeability and resistivity material to the west'

'Five chargeability anomalies (C2-C6) are noted to the west of C-1. Although they approach the surface in some locations, these anomalies are typically buried 50 to 150 meters from the surface. These anomalies exhibit characteristics similar to those that could be expected from a porphyry system.'

A compete geophysical report on the Sadim property by SJV Consultants Ltd accompanies this geological report.



FRAME NO:

10

9.0 EXAMPLES OF CU PORPHYRY MINERALIZATION IN THE VICINITY OF THE SADIM PROPERTY

'Copper deposits are particularily abundant in the central part of the map Sheet, within the eastern part of the Nicola belt, in an area that trends north along Summers Creek and Missezula Lake, to just beyond the town of Aspen Grove. These porphyry copper deposits are hosted in Nicola Group volcanic rocks and tend to be associated with small fine-grained dioritic to monzonitic intrusions. One such occurrence is the AXE prospect (Minfile no. 092HNE040), located 20 kilometres north of Princeton. This deposit contains 57.5 million tonnes grading 0.50 per cent copper in three zones of mineralization (092HNE040, 142, 143). A second occurrence, the Cincinnatti prospect (092HNE084), is located 4.5 km southeast of Aspen Grove and contains 1.8 million tonnes grading 1.0 per cent copper'

Reference: BC Geological Survey website; Minfile; Tulameen Mapsheet, NTS 092HNE.

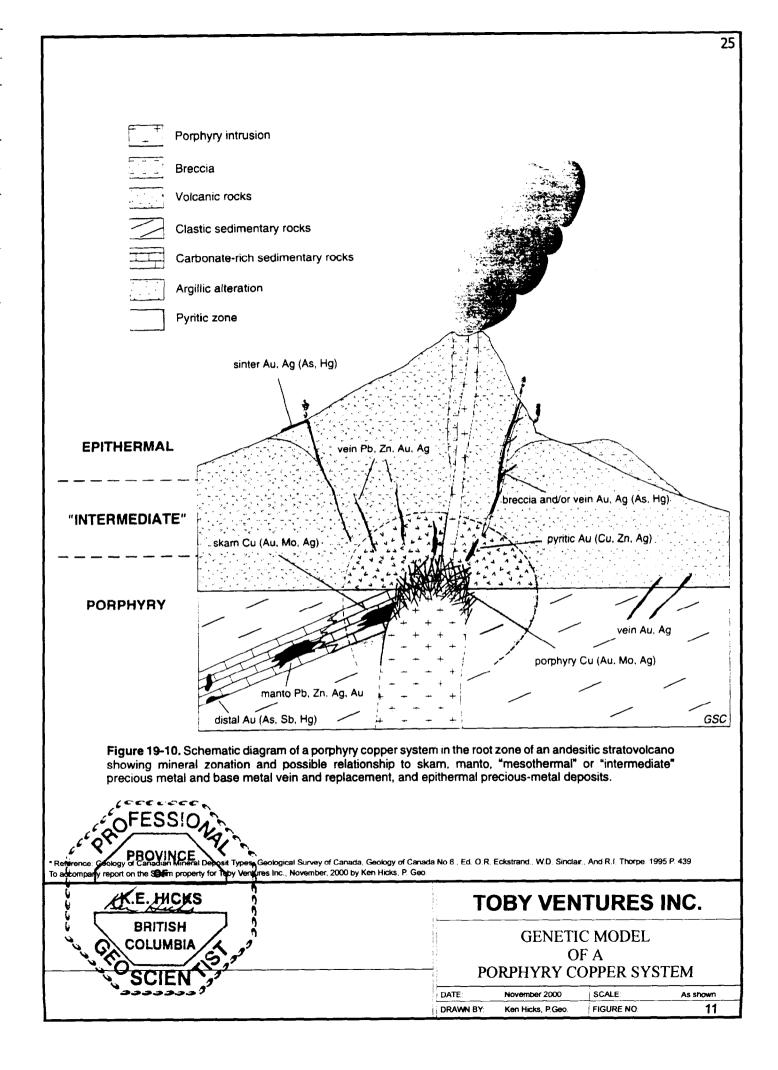
10 CONCLUSIONS

A total of 338 meters of machine trenching was completed on the western boundary of the Sadim 4 claim (Figure 6). Nine samples were collected of the most significant occurrences of quartz veining, stockworking and fault shearing.

A narrow sulphide-gold quartz vein was discovered in Trench 20-1 and expanded somewhat in Trench 20-3 which attempted to follow the vein along strike (Figure 8). Significant rock samples taken from this vein returned results of 23990, 7726 and 4850 ppb Au, respectively. This surface discovery and its correlation with previous drilling in the area indicate an additional definable gold-rich quartz vein similar to that exposed in old trench 94-2, which is located approximately 32 meters to the north. This data together with previous drilling results in the area indicate two narrow auriferous sulphide quartz veins dipping to the southwest (Figure 9). Other areas of weak quartz stockworking found within trenches were sampled but found to contain only weakly geochemically anomalous gold values.

Additional structural and airphoto interpretation is required in this area to determine if there is a "structural trap" to focus and concentrate the quartz veining and hence gold mineralization.

The second area of the 2000 work program focused on a copper porphyry target within the Rum claim. Preliminary exploration by previous workers discovered an isolated outcrop exposure of highly fractured volcanics hosting disseminated copper mineralization containing minor gold in an area largely covered by overburden. This gold (very low grade), The current work program involved line-cutting an area of 2400m north-south by 1300 m east-west and the completion of 27 line-kms of Induced Polarization geophysics carried out by SJV Geophysics Ltd. The survey defined a large 2000 m long IP chargeability anomaly in the easterly section of the grid extending north-south through the entire Rum Claim (Figure 10).



The Induced Polarization survey covered a forested, lightly overburdened area of Nicola volcanics adjacent to a microdiorite intrusive stock cut by numerous fault splays as indicated by the regional and local mapping (Figure 6). It also covered a more heavily untested overburdened and forested down slope area to the east where an important lengthy but narrower positive IP response was generated. This scenario is very similar to the Axe Prospect, just south of the Sadim Property, which is reported to contain a geological resource of 57.5 million tonnes at a grade of 0.50% Cu in three zones of mineralization (BCGS website; Minefile; Tulameen mapsheet; Axe prospect). The proximity of existing porphyry style mineralization adds to the exploration potential of the Sadim property.

11.0 RECOMMENDATIONS

It is recommended that the primary target of drill investigation be the large geophysical anomalies on the Rum claim. This is based upon the generally pervasive overburden, the solitary exposure of fractured-controlled copper mineralization in this area and the existence of the large untested more easterly geophysical anomaly in this area of structural complexity. This would include areas regionally mapped as Upper Triassic Nicola volcanics as well as Mid to Late Cretaceous aged Summers Creek granodiorite and quartz diorite intrusive to the south. Splays of the north-striking Missezula Creek fault system, which elsewhere reportedly dips steeply west, cuts through the geophysical area of interest.

Proposed future exploration would involve approximately 1800 meters of drill testing along this major most easterly geophysical anomaly as well as smaller subsidiary, more westerly anomalies on the Rum claim. Proposed drill holes to test the strong undrilled easternmost anomaly should be both inclined easterly and possibly vertically from near the roadway, as shown on Figure 10 and more fully displayed within the complete geophysical report, (Appendix E). The more westerly suggested drill holes (probably vertical) on Lines 1000N, 900N and 500N, will test This exploration would be in the search for a copper porphyry target similar in manifestation to the Axe prospect located just south of the Sadim property (Figure 4).



12.0 PROPOSED STAGE 1 EXPLORATION COST ESTIMATES

This stage will involve drill testing along the length of the large geophysical anomaly on the Rum within the Nicola volcanics and adjacent to the intrusive center. In addition, extensions of gold-bearing quartz veins within the Sadim 4 and their intersection with structural breaks could also provide suitable drill targets.

| Definitive and exploratory diamond drilling (contract) Fill-in and deeper drilling, 6000 ft @ \$18/ft (NQ, all inclusive) | \$108,000 |
|---|-------------------------|
| Site Preparation and Rehabilitation (D7 cat) | \$16,000 |
| Surveying | 2,500 |
| Assaying and metallurgical testing | 10,000 |
| <u>Wages</u> Geologist 30 man-days @ \$300/day Geological Assistant 30 man-days@ \$200/day Core Splitter 30 man days @ \$200/day | 9,000 6,000 6,000 |
| Transportation | 6,000 |
| Lodging 90 man days @ \$60/day | 5,400 |
| Field supplies | 4,000 |
| Supervision | 10,000 |
| Overhead Office, communication, environmental, permitting, etc. | 5,000 |
| SUB TOTAL | 181,900 |
| Contingency | 18,100 |
| TOTAL | 200,000 |

CERTIFICATE

- I, Kenneth E. Hicks, do hereby certify:
- That I am a consulting geologist with a business office at 14541-16A Avenue, Surrey, BC. V4A 5S1.
- 2. That I am a graduate in geology at the University of British Columbia (BSc, Hons 1982).
- 3. That I am a member in good standing of the Association of Professional Engineers and Geoscientists of the Province of British Columbia.
- 4. That I have practised my profession as a geologist since graduation.
- 5. That the information, opinions and recommendations in the attached report are based on studies of the available published information and private company reports on the area occupied by the Toby Ventures Inc. mineral claims, and on the field visit conducted from October 4 12, 2000.
- 6. That I own no interest in the securities or property holdings of Toby Ventures Inc., nor do I expect to obtain any such interest.
- 7. This report may be used for a prospectus pertaining to the current exploration program of Toby Ventures Inc.

Dated at Vancouver, British Columbia, this 30th day of November, 2000.

Ken Hicks

Kenneth E. Hicks, P.Geo.



REFERENCES

Barr, D. A., Fox, P. E., Northcote, K. E., and Preto, V. A., 1976. "The Alkaline Porphyry Deposits—A Summary"; in CIMM Special Vol. No. 15.

McDougall, J.J. "Report on the Sadim Property, November 1994 (Revised July 1995)."

- McDougall, J.J., "Report on the Sadim Property (including the Rum and Stefan Claims)" 92H/10E. Similkameen Mining District for Harlow Ventures Inc. Nov 15, 1994 (Revised July 30, 1995)
- McDougall, J.J., "Summary Report. 1995 Drill Program on the Sadim Property". NTS 92H/10. Similkameen Mining District, BC.. For Harlow Ventures Inc.. November 1995 (revised July 5, 1996)
- Preto, V.A.,(1975). "Notes to Accompany Preliminary Map No. 17. Geology of the Allison Lake Missezula Lake Area". BC MEMPR.

Mining Review, 1994. Summer edition "Prospecting, Exploration & Mine Development".

- Preto, V.A.,(1979). "Geology of the Nicola Group between Merritt and Princeton". Bull. 69, BC MEMPR.
- Watson. I.M., (1984). "Summary Review of the Sadim Property, Aspen Grove area, BC".. Similkameen Mining District, 92H/10E.
- Watson, I. M., (1985). "Reconnaissance Geological and Geochemical Surveys of the Sadim Group", for Laramide Resources Ltd.
- Watson, I. M., (1994). "Summary Review of the Sadim Property" unpublished company report. Vanco Explorations Limited.

Assessment Reports-BC MEMPR

| #517 - 1963 | Report on the K.R. Group of Plateau Metals Ltd. by Asarco Smelting and Refining Co. (geology, magnetometer survey). |
|--------------|--|
| #985 - 1967 | Geochemical Report on the K.R. Group by C. Lammle for Adera Mining Ltd. |
| #1857 - 1969 | Geochemical Report on the Allison Lake Claims by A. C. Skerl for Blue Gulch Exploration Ltd. |
| #3363 - 1971 | Geological, Geochemical and Geophysical Report on the Ketchan Creek Property by J. Christofferson, G. De Paoli, and C. Hodgson for Amax Exploration Inc. |

- #4464 1973 Report on Geochemical and Geological Surveys by John R. Poloni for Blue Gulch Explorations Ltd. Geological and Prospecting Reports on the Cindy Group by D. C. #5044 - 1973 Malcolm and E. Sleeman. #6036 - 1976 Geochemical Report on Rum Claim Group by D. G. Mark for Ruskin Developments Ltd. Ground Magnetic and Soil Geochemical Survey over Part of the Rum #8352 - 1980 Property by D. T. Mehner for Cominco Ltd. Soil Geochemical Survey over Part of the Rum Property by D.T. Mehner #9407 - 1981 for Cominco Ltd. #14304 - 1985 Geochemical Report on the Coke 1 - 8 Claims by P. Peto. #15007 - 1986 Geophysical Survey on the Coke 1 - 8 Claims by P. Peto. #15969 - 1987 Trenching, Geological Mapping and Sampling and Diamond Drilling Programmes on the Sadim Property Sadim 1 - 6 Claims by I. M. Watson & Associates Ltd. for Laramide Resources Ltd.
- #16206 1987 Report on the 1987 Geochemical Sampling on the Coke Property by E. W. Yarrow for P. Peto.
- #16889 1988 Reconnaissance Geochemical Rock Sampling, VLF-EM Magnetometer Surveys, Trenching, Geological Mapping and Sampling and Diamond Drilling Programmes by I. M. Watson & Associates Ltd. for Laramide Resources Ltd.

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ITEMIZED COST OF THE 2000 EXPLORATION PROGRAM

Wages:

| K. Hicks, B.Sc, P. Geo; 9 days @ \$300/day M. Schmidt;24 days @\$200/day T. Jones;23 days@ \$200/day P. Poissant;23.5 days @ \$200/day B. Krenn;5 days@150/day J.Bey;5 days @150/day M. Patry;8 days@ \$150/day N. Patry;4 days @ \$150/day | \$3,600.00 \$2,800.00 \$2,600.00 \$2,700.00 \$750.00 \$750.00 \$1,200.00 \$600.00 \$15,000.00 | \$15,000.00 |
|--|---|-------------|
| Transportation: | | |
| Truck rentals (2) Fuel Tolls Taxi | \$1,969.99 \$757.36 \$120.00 <u>\$45.10</u> \$2,892.45 | \$2,892.45 |
| Accommodation: | | |
| 183 man days @ \$60/night | | \$10,980.00 |
| Contractors: | | |
| SJ Geophysics Ltd IP Geophysical Program including report | | \$35,500.00 |
| Tibar Construction Mob and demob of 215 excavator for trenching 338 meters of trenching Mob and demob of D8-H cat for backfilling trenche | es | \$3562.95 |
| Rentals: | | |
| 2 Chainsaws 3 weeks @ \$200/wk chainsaw repairs | \$600.00 <u>\$78.56</u> \$678.56 | \$678.56 |

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Assays:

| Acme Analytical Labs Ltd | | \$282.22 |
|---|---|-------------------|
| Telephone: | | |
| BC Tel Mobility Telus | | \$177.35 24.45 |
| Exploration supplies: | | |
| Miscellaneous items including flagging, paint etc | | \$706.50 |
| WCB | | \$1076.40 |
| Report Preparation: | | |
| K. Hicks, P. Geo J.J. Mc Dougall & Assoc Printing | \$3000.00 \$1000.00 <u>\$389.26</u> \$4,389.26 | \$4,389.26 |
| GST (7% of \$75,273.14) | | \$5,269.11 |
| TOTAL COST | | \$80,539.25 |

APPENDIX A

List of Rock Samples collected on the Sadim Property

List of Rock Samples, Coordinates, Description - Sadim Project October 4-12, 2000

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| <u>Sample</u> | Location | | GPS Coordinates | Description |
|---------------|---|----------------------|-----------------------|--|
| Reference | e Sadim Trench #20-1 | Start (North end) | | |
| KHS1000 | Sadim Trench #20-1 | 32m south | 677076 E / 5510284 N | 40 cm chip sample of Qtz vn with sulphides |
| KHS1001 | Sadim Trench #20-1 | 32m south | 677076 E / 5510284 N | Selected Qtz vn grab with cpy, sp, ga, py |
| KHS1002 | Sadim Trench #20-1 | 51-54m | 677077 E / 551261 N | Chip; Frac-control Cu min with qtz stkwk |
| KHS1003 | Sadim Trench #20-1 | 168-175.5m | 677076 E / 5510144 N | Chip; Fault/Shear with qtz vnlts |
| KHS1004 | Rum Claim - Outcrop sample | | 677657 E / 5512172 N | Grab; Intrusive breccia |
| KHS1005 | Rum Claim - Outcrop sample | | 677632 E / 5512099 N | Grab; Pyrtitic f.g. intr with cpy |
| KHS1006 | Rum Claim - Outcrop sample | | 677536 E / 5512056 N | Grab; Limonitic altn of intr |
| KHS1007 | Rum Claim - Outcrop sample | | 677474 E / 5511952 N | Grab; Limonitic altn of intr |
| Reference | e Sadim Trench #20-3 | Start (East side) | 677085 E / 5510277 N | Extending 88 m to the north |
| KHS1008 | Sadim Trench #20-3, 6 m SE from KHS1000 | 677080 E/ 5510280 N | Grab;Shattered qtz vn | in andesite tuff |
| KHS1009 | Sadim Trench #20-3, 4 m SE from KHS1000 | 677079 E / 5510281 N | Grab; as above | |

| <u>Sample</u> L | Location | | GPS Coordinates | Description |
|-----------------|---|----------------------|----------------------|---|
| KHS1010 S | Sadim Trench #20-3, 3 m NW from KHS1000 | 677074 E / 5510286 N | Grab; as above | |
| Reference S | Sadim Trench #20-2 | Start (South end) | | |
| KHS1011 S | Sadim Trench #20-2 | 40 m north | 677118 E / 5510338 N | Grab; sili andes tuff w qtz vnlts, tr cpy |
| KHS1012 S | Sadim Trench #20-2 | 32 m north | 677118 E / 5510331 N | Left wall, grab;shear-hosted 10cm qtz vn |
| KHS1013 | Sadim Trench #20-2 | 30-35 m north | 677118 E / 5510331 N | Right wall, chip; shear zn with qtz vnlts |
| KHS1014 S | Sadim Trench #20-2 | 5-10 m north | 677118 E / 5510311 N | Chip; Limonitic Imst, orange wea, frac |

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Total of 15 Rock samples

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APPENDIX B

List of Rock Samples with Abbreviated Results

List of Rock Samples with Abbreviated Results

| Sample | Location | <u>Cu (ppm)</u> | <u>Mo (ppm)</u> | <u>Analysis</u> Pb (ppm) | <u>Zn (ppm)</u> | <u>Au (ppb)</u> |
|---------|---------------------------------|-----------------|-----------------|-----------------------------|-----------------|-----------------|
| KHS1000 | Sadim Trench #20-1 | 279 | 7 | 534 | 98 | 7726 |
| KHS1001 | Sadim Trench #20-1 (sulphides) | 1319 | 11 | 6540 | 3108 | 23990 |
| KHS1002 | Sadim Trench #20-1 | 3181 | 1 | 13 | 57 | 105 |
| KHS1003 | Sadim Trench #20-1 | 172 | 3 | 13 | 95 | 237 |
| KHS1004 | Rum Claim | 22 | 7 | <3 | 5 | 15 |
| KHS1005 | Rum Claim | 1233 | 5 | 9 | 227 | 18 |
| KHS1006 | Rum Claim | 67 | 4 | 280 | 178 | 13 |
| KHS1007 | Rum Claim | 44 | 4 | 8 | 8 | 12 |
| KHS1008 | Sadim Trench #20-3 (x-cut) | 328 | 1 | 16 | 37 | 30 |
| KHS1009 | Sadim Trench #20-3 (x-cut) | 178 | 2 | 16 | 95 | 619 |
| KHS1010 | Sadim Trench #20-3 (x-cut) | 292 | 5 | 83 | 248 | 4850 |
| KHS1011 | Sadim Trench #20-2 | 229 | 1 | 4 | 38 | 22 |
| KHS1012 | Sadim Trench #20-2 | 6 | 3 | 15 | 12 | 27 |
| KHS1013 | Sadim Trench #20-2 | 78 | 2 | 11 | 40 | 30 |
| KHS1014 | Sadim Trench #20-2 | 222 | 2 | 21 | 35 | 58 |

Total of 15 Rock samples

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APPENDIX C

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Certificate of Analyses

| M IALY (ISO 900 | L I 2 Acc | | kat d lited | | S L(.) | | · | G | E. EOC | | TIĽ MIC | | bt. Al | | YSI | | ER | |) Fica | | - | · I |)12 | (6 | 1 | 534, | . . | I. FA | L., , . | -04 |) I) I |
|--------------------|--------------|-----------|-----------------------|------|------------|-----------|-----|-----------|-----------|-----------|------------|-----------|-----------|-----------|----------------|----|-----------|----------|------------|-------|-----------|-----|------------|---------------|---------|----------|-------------|---------|---------|----------|------------|
| T | | | | | <u>Max</u> | : I1 | nve | estn | ent | | | | | | T SZ Vancou | | | | ile 318 | # A | 1004 | 411 | 1 | | | | | | | | |
| SAMPLE# | Mo ppm | Cu ppr | | | - | Ni ppm | | Mn ppm | Fe % | As ppm | U ppm | Au ppm | | Sr opm | Cd ppm | | Bi ppm | V ppm | Ca % | - | La ppm | | Mg % | Ba ppm | Ti % | 8 ppm | Al % | Na % | K % | W ppm | Au* ppb |
| KHS 1000 | 7 | 275 | 534 | 98 | 54.6 | 11 | 2 | 212 | .97 | 8 | <8 | 8 | <2 | 6 | 9.5 | 25 | <3 | 4 | . 18 | .009 | <1 | 37 | .02 | 261• | <.01 | <3 | .07 | .01 | .03 | 13 | |
| KHS 1001 | 11 | 1319 | 6540 | 3108 | 196.0 | 20 | 1 | 100 | 1.33 | 9 | <8 | 25 | <2 | 4 | 333.9 | 59 | <3 | 1 | .04 | .002 | <1 | 36 | .01 | 80• | <.01 | | | .01 | | 2 | 23990.4 |
| KHS 1002 | 1 | 3181 | 13 | 57 | 3.1 | 15 | 16 | 880 | 3.32 | 5 | <8 | <2 | <2 | 157 | .5 | <3 | <3 | 103 | 10.38 | .090 | 6 | 40 | | | | - | | .05 | | <2 | 105.7 |
| KHS 1003 | 3 | 172 | | 95 | 1.6 | 11 | 21 | 1452 | 4.21 | 13 | <8 | <2 | <2 | 152 | 1.9 | 5 | <3 | 41 | 5.52 | . 129 | 6 | 9 | .27 | ' 92 3 | .01 | <3 | .91 | .02 | .29 | <2 | |
| KHS 1008 | 1 | 328 | 3 16 | 37 | .4 | 7 | 6 | 789 | 1.65 | 5 | <8 | <2 | <2 | 267 | 1.1 | <3 | <3 | 27 | 22.15 | .062 | 4 | 10 | .13 | 141 | <.01 | <3 | .39 | .02 | .08 | <2 | 30.3 |
| KHS 1009 | 2 | 178 | 3 16 | 95 | 5.0 | 9 | 7 | 663 | 1.82 | 7 | <8 | <2 | <2 | 268 | 5.7 | 6 | <3 | 12 | 18.35 | .060 | 4 | 13 | . 19 | 253 | <.01 | <3 | .33 | .01 | .17 | 3 | 619.3 |
| KHS 1010 | 5 | 292 | | | | - | 11 | | 3.32 | | <8 | 5 | <2 | | 23.2 | <3 | <3 | 17 | 1.78 | .083 | 3 | 25 | . 12 | 280 | <.01 | 3 | .53 | .02 | .23 | 5 | 4850.9 |
| KHS 1011 | 1 | 229 | | 38 | | 7 | 9 | 1282 | 2.16 | 10 | <8 | <2 | <2 | 301 | .4 | <3 | <3 | 22 | 20.88 | .071 | 6 | 5 | .42 | 2 515 | <.01 | <3 | .38 | .02 | .12 | 3 | 22.0 |
| KHS 1012 | 3 | | 5 15 | | | - | - | 966 | | | | | | 695 | .8 | <3 | <3 | 5 | 25.81 | .042 | : 7 | 5 | . 18 | 3 67· | <.01 | <3 | .21 | .01 | .05 | 3 | 27.7 |
| KHS 1013 | 2 | 78 | 3 11 | 40 | <.3 | 14 | 13 | 1031 | 3.17 | 12 | <8 | | <2 | 271 | .8 | <3 | <3 | 20 | 15.61 | .088 | 6 | 14 | .98 | 3 446 | <.01 | <3 | .49 | .02 | .14 | <2 | 30.5 |
| KHS 1014 | 2 | 222 | 2 21 | 35 | .7 | 10 | 8 | 671 | 2.14 | 27 | <8 | <2 | <2 | 462 | 1.6 | <3 | <3 | 14 | 21.69 | .068 | 5 6 | 6 | .20 | 61 | <.01 | <3 | .33 | .01 | .12 | 2 | 58.1 |
| 307 | 2 | 212 | | 32 | | 6 | 4 | 488 | 1.03 | <2 | <8 | <2 | <2 | 71 | <.2 | <3 | <3 | 2 | 3.24 | .081 | 2 | 5 | 1.41 | 1 27 | <.01 | <3 | .34 | .06 | .12 | <2 | |
| 309 | 1 | 85 | | 243 | <.3 | 6 | 28 | 672 | 3.44 | 6 | <8 | <2 | <2 | 67 | 1.9 | <3 | <3 | 24 | 3.11 | .089 |) 2 | 9 | .85 | 5 138 | <.01 | <3 | 1.07 | .04 | .20 | <2 | 12. |

GROUP 1D - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-ES. UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM. ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB

5 239 <.3 6 28 661 3.40 6 <8 <2 <2 66 1.8 <3 <3 25 3.08 .089 1 9 .84 142<.01 4 1.08 .05 .20 <2

4 46 <.3 8 4 566 2.17 <2 <8 <2 5 75 <.2 <3 <3 38 .67 .097 8 79 .65 242 .14 3 1.00 .07 .46 3

26 68 40 169 5.3 38 12 784 3.46 58 21 3 22 30 23.2 14 25 75 .57 .085 20 169 .61 154 .09 20 1.84 .04 .16 15

11.8

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Data_ FA

- SAMPLE TYPE: ROCK R150 60C AU* BY ACID LEACHED, ANALYZE BY ICP-MS. (10 gm)

Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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RE 309

STANDARD C3/DS2

STANDARD G-2

All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of the analysis only.

| 1 1 | | | | | <u>Ma</u> | <u>x</u> | Inv | est | | | 37 | 50 We | 51 471 | h Ave. | Vanco | ouver | BC V6E | 3 3 1 8 | 5 | | | | | | | | | |
|---|------|-----------------|---------------|-----------------|-----------------|--------------|------------------|-------------------|-------------------|---------------------|----------------------|----------------------|----------------|---|----------------|------------------|-----------------------------|----------------|---------------------|--------------------|--------------------------|--------------------|-------------------|---------|---------------------|----------------------------|------------------------|---|
| SAMPLE# | Mo | | | | | | | | Fe %p | As xprnpp | UA | u Th | Sr | Cd Sb opm ppm | Bi | v | | Р | La Cr pm ppm | | Ba 1 ppm | | | Na % | ¢₩/ %ppm | | | |
| KHS 1004 KHS 1005 KHS 1006 KHS 1007 RE KHS 1007 | 5 1 | 233 67 44 | 9 280 8 | 227 178 8 | .8 1.5 .3 | 10 1 6 | 9 13 3 1 7 | 542 133 385 | .84 .62 .97 | 6 < 11 < 33 < | <8 < <8 < <8 < | 2 <2 2 <2 2 <2 | 59 29 35 | <.2 <3 1.5 <3 .9 <3 <.2 <3 <.2 <3 | <3 <3 <3 | 11 2 40 46 | 2.99 .1 .16 .1 .21 .1 | 11 70 21 | 2 12 3 5 3 12 | 1.38 .37 .41 | 61<.(122 .(42<.(| 1 8 1 <3 1 6 | .36 .62 .62 | .08 .0 | 8 <2 2 3 4 <2 | 15 18 13 12 11 | 2 <2 5 3 4 | <pre><2 .0 3 .1 4 .0 2 .0 4 .0</pre> |
| STANDARD C3 | 24 | 63 | 38 | 169 | 5.3 | 34 | 11 7 | 84 3 | 5.37 | 54 | 18 | 3 20 | 29 Z | 1.6 16 | 5 22 | 76 | .54 .0 | 92 | 18 163 | .59 | 147 .0 | 9 22 | 1.76 | .04 .1 | 7 16 | - | - | - |
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APPENDIX D

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List of Analytical Procedures for Rock Sample Processing

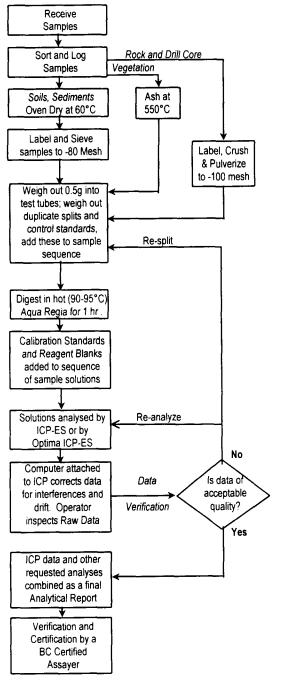
AA ACME ANALYTICAL LABORATORIES LTD.



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METHODS AND SPECIFICATIONS FOR ANALYTICAL PACKAGE GROUP 1D & 1DX - ICP ANALYSIS – AQUA REGIA

Analytical Process



Comments

Sample Preparation

Soils and sediments are dried (60°C) and sieved to -80 mesh (-177 m), rocks and drill core are crushed and pulverized to -150 mesh (-100 m). Vegetation is dried (60°C) and pulverized or dry ashed (550°C). Moss-mat samples are dried (60°C), pounded then sieved to recover -80 mesh sediment or ashed at 550°C then sieved to -80 mesh with potential loss by volatilization of Hg, As, Sb, Bi and Cr. Aliquots of 0.5 g are weighed into test tubes. Duplicate aliquots are taken from two samples in each batch of 34 samples to measure precision. An aliquot of sample standard STD C3 is added to each batch to monitor accuracy.

Sample Digestion

Aqua Regia is a 2:2:2 mixture of ACS grade conc. HCl, conc. HNO₃ and demineralized H₂O. Aqua Regia is added to each sample and to two empty reagent blank test tubes in each batch of samples. Sample solutions are digested for 1 hr in a hot water bath (90-95°C).

Sample Analysis

Group 1D: sample solutions are aspirated into a Jarrel Ash AtomComp 800 or 975 ICP emission spectrograph to determine 30 elements: Ag, Al, As, Au, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sr, Th, Ti, U, V, W, Zn.

Group 1DX: sample solutions are aspirated into a Perkin Elmer Optima 3300 Dual View ICP emission spectrograph to determine 35 elements: Ag, Al, As, Au, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, *Ga*, *Hg*, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, *Tl*, Sr, Th, Ti, U, V, W, Zn.

Data Evaluation

Raw and final data from the ICP-ES undergoes a final verification by a British Columbia Certified Assayer who then signs the Analytical Report before it is released to the client. Chief Assayer is Clarence Leong, other certified assayers are Dean Toye and Jacky Wang.

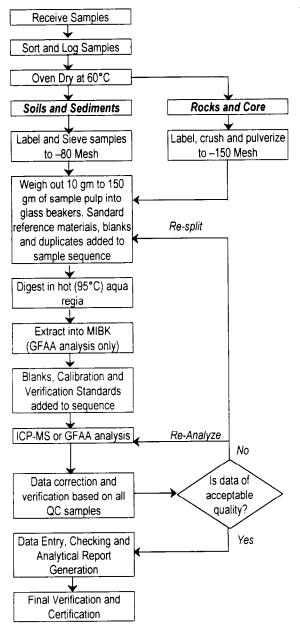




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METHODS AND SPECIFICATIONS FOR ANALYTICAL PACKAGE GROUP 3A - AU BY WET EXTRACTION

Analytical Process



Comments

Sample Preparation

Soils and sediments are dried (60°C) and sieved to -80 mesh (-177 microns), rocks and drill core are crushed and pulverized to 95% -150 mesh (-100 microns). Plant samples are dried (60°C), pulverized or ashed (550°C). Sediment in moss mats is recovered by disaggregating and sieving to -80 mesh. Sample splits of 10 gm to 150 gm are weighed into glass beakers. Duplicate splits of crushed (reject duplicate) and pulverized (pulp duplicate) material included in every 34 drill core or trench samples define preparation (reject duplicate) and analytical precision (pulp duplicate). Duplicate pulp splits (only) are included in every batch of soil, sediment and routine rock samples. A blank and in-house standard reference material STD FA-100 are carried through all stages of the analytical methodical to monitor accuracy. STD FA-100 has been certified in-house against certified reference materials.

Sample Digestion and Extraction

Aqua Regia is a 2:2:2 mixture of ACS grade conc. HCl, conc. HNO₃ and distilled H₂O. Aqua Regia is added to each sample and to the empty reagent blank test tube in each batch of samples. Sample solutions are heated for 1 hr in a boiling hot water bath (95°C). For Graphite Furnace AA analysis, MIBK is added and the samples are shaken to extract Au into the MIBK phase.

Sample Analysis

ICP-MS (Perkin Elmer Elan 6000) analysis is conducted on the acid solution to determine Au \pm Pt. Graphite furnace AAS (Varian model SpectrAA 10Plus) is conducted on the MIBK extract to determine Au.

Data Evaluation

Raw and final data undergoes a final verification by a British Columbia Certified Assayer who must sign the analytical report before release to the client. Chief assayer is Clarence Leong, other certified assayers are Dean Toye and Jacky Wang..

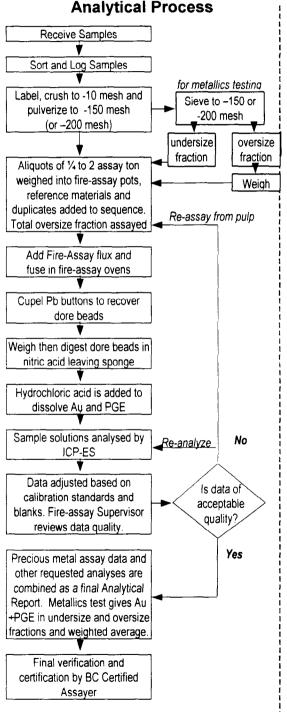
| Document: Methods and Specifications for New Group 3A.doc | Date: Feb 3, 2000 | Prepared By: J. Gravel |
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| Document. Methods and Specifications for New Group SA.doc | Duto: 1 00 0; 2000 | |



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METHODS AND SPECIFICATIONS FOR ANALYTICAL PACKAGE GROUP 6 - PRECIOUS METAL ASSAY



Comments

Sample Preparation

Rocks and drill core are crushed to 75% minus 10 mesh (-1.7 mm), a 250 g subsample is riffle split then pulverized to 95% minus 150 mesh (-100 microns) or minus 200 mesh upon request. Reject and pulp duplicate splits are taken from two samples in every 34 to monitor sub-sampling variation related to sample inhomogeniety and analytical variation, respectively. One quarter (7.5 g) to two assay ton (58.4 ±0.01g) splits are weighed. STD Au-1 (Au reference material), STD Aq-2 (Aq reference material) or STD FA-10R (Au, Pt, Pd, Rh reference material) and a blank are added to each analytical batch to monitor accuracy. Results are reported in imperial (oz/t) or metric (gm/mt) measure. For metallics testing, 500+ gm is pulverized and sieved through a 150 or 200 mesh screen. The oversize material on the screen is weighed and assaved in total. A 1 or 2 assay ton split of the undersize fraction is also assayed .

Sample Digestion

Sample split is mixed with fire-assay fluxes containing PbO litharge and a Ag inquart then heated at 1000°C for 1 hour to liberate Au + PGE. After cooling, lead buttons are recovered and cupelled at 950°C to render Ag \pm Au \pm Pt \pm Pd \pm Rh dore beads. Beads are weighed then leached in 1 mL of conc. HNO₃ at >95°C to dissolve Ag leaving Au \pm PGE sponges. A Au inquart is used for Rh assays where the concentration is likely to exceed 10 ppb. The sponge is dissolved by adding 6 mL of 50% HCI.

Sample Analysis

The solutions are analyzed by ICP-ES (Jarrel Ash Atom-Comp model 800 or 975) to determine Au, Pt, Pd and Rh. Au or PGEs over 1 oz/t are determined by gravimetric finish. Ag is determined both by fire assay and wet assay. Ag over 10 oz/t is reported from the fire assay while concentrations <10 oz/t are reported from the wet assay. Metallics testing reports concentrations of Au \pm PGEs in the undersize fraction, the oversize fraction and the calculated weighted average of these fractions.

Data Evaluation

Raw and final data undergoes a final verification by a British Columbia Certified Assayer who then signs the Analytical Report before it is released to the client. Chief Assayer is Clarence Leong, other certified assayers are Dean Toye and Jacky Wang.

Document: Methods and Specifications for Group 6.doc Date: May, 2000 Prepared By: J. Gravel

APPENDIX E

I.P. Geophysical Report by SJV Consultants Ltd

GEOPHYSICAL INTERPRETATION REPORT

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on the

Sadim Property

Similkameen Mining Division, B.C. N.T.S. 82H/10E

Latitude: 49° 44' N, Longitude: 120° 32' W

Prepared for:

TOBY VENTURES INC.

by

E. Trent Pezzot, B. Sc., P. Geo.

S.J.V. Consultants Ltd.

Date of Work: Oct. 10 – Oct. 27, 2000 Date of Report: Nov. 17, 2000

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1:5000 Scale Plan Maps

| Plate G-1a | APPARENT RESISTIVITY (N=2) | Pocket |
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| | COLOUR CONTOUR PLAN MAP (1:5,000) | |

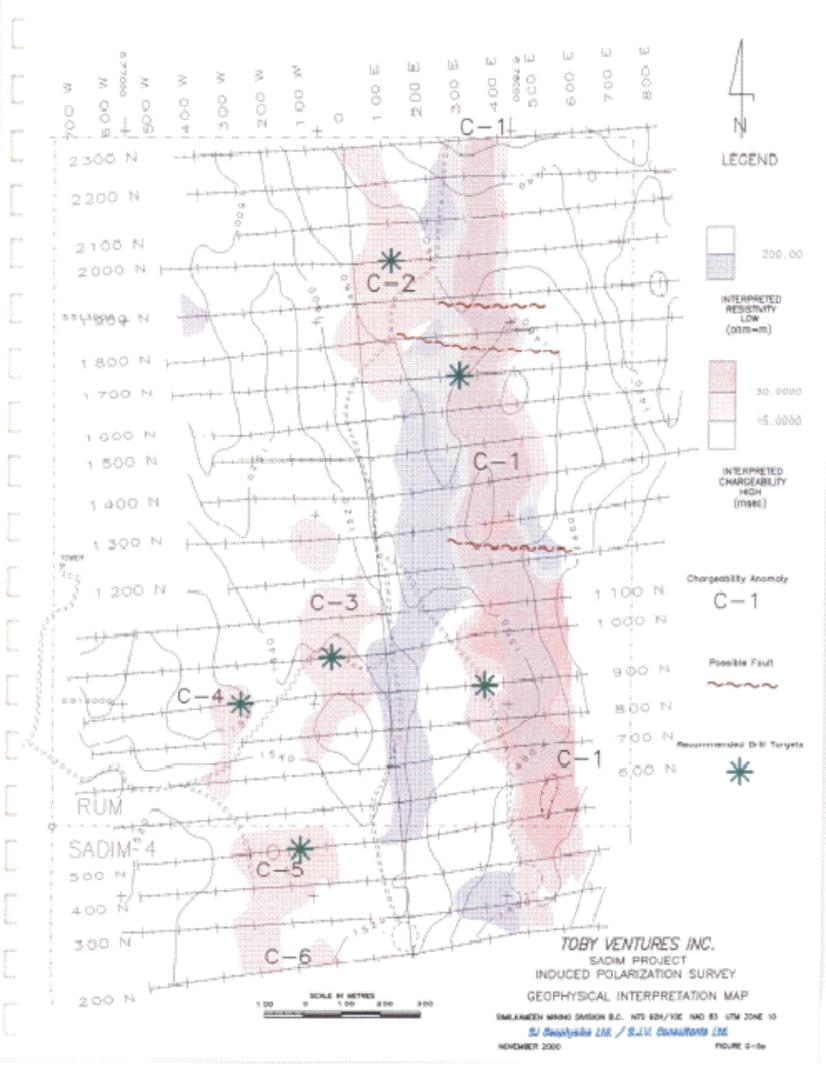
Summary and Conclusions

SJ Geophysics conducted approximately 27 line kilometres of induced polarization survey across a portion of the Sadim 1, 3, 4 and Rum claim group in south central B.C. This survey was undertaken on behalf of Toby Ventures Inc. and completed in October, 2000. The area is being explored for porphyry copper and gold potential in Nicola Group volcanic rocks.

Both the resistivity and IP components of the geophysical survey detected three discrete geological regimes. The most dominant feature (C-1) is a narrow, north-south trending band of very high chargeability and low resistivity material. This zone is likely related to a major fault system and separates high resistivity/low chargeability material to the east, from more moderate chargeability and resistivity material to the west. It is only weakly evident on the southernmost lines but is considered open along strike to the north. There are indications that this lineation may be cut by east-west trending faults at two locations along its' mapped length.

No significant IP and/or chargeability anomalies are observed to the east of the C-1 anomaly.

Five chargeability anomalies (C-2 to C-6) are noted to the west of C-1. Although they approach the surface in some locations, these anomalies are typically buried 50 to 150 metres from the surface. These anomalies exhibit characteristics similar to those that could be expected from a porphyry system. The southernmost anomaly (C-6) is considered open to the south.



Introduction

SJ Geophysics Ltd. completed an induced polarization (IP) survey on the Sadim Project in southcentral B.C. The survey was commissioned by Chris Dyakowski of Max Investments Inc. on behalf of Toby Ventures Inc, the property owners. The survey was conducted under the direction of Ken Hicks, project geologist. Some 27 line kilometres of IP/Resistivity measurements were gathered across 22 lines.

Previous exploration in the area focused on locating copper and gold porphyry mineralization. It was the intention of the geophysical surveys to assist in the general geological mapping of the area as well as to detail and delineate IP targets identified in previous work.

This report is written as an addendum to a more complete report being prepared by Ken Hicks, P.Geo. Brief descriptions of the claims, geology, and previous work are included but readers are referred to Hicks' report for more detailed descriptions.

Property Location and Access

The Sadim property consists of four contiguous claims (Sadim 1, 2, 4 and Rum), totaling 64 units. It is located in the Aspen Grove area, between Merritt and Princeton, in the Similkameen Mining Division and NTS 92H/10E. The approximate geographic coordinates are latitude 49° 44' north and longitude 120° 32' west. Claim outlines are included on all maps in this report.

The property can be reached by following BC Highway 5A, north from Princeton for approximately 35 kilometres. At this point a microwave tower access road heads northeast from the highway and provides direct access to the property. An extensive network of logging roads provides 4-wheel drive access to much of the property.

Geology

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Government geological mapping shows the Sadim property as being underlain by Central Belt volcanics (augite plagioclase andesite and basal flows) of the Upper Triassic Nicola Group. According to a soil geochemistry report (Assessment Report 9407) by D. T. Melhner, a major north-south fault separates diorite, monzonite intrusive rocks and coarse volcanic fragments to the west from predominantly fine grained tuffs and sedimentary rocks to the east. In another report (Assessment Report # 14304) P. Peto states that disseminated pyrite and chalcopyrite occur in an elongated microdiorite that intrudes alkaline flows and volcaniclastics.

The main exploration target is described as a copper and gold porphyry.

Previous Work

According to the government files, 16 assessment reports have been filed over this ground from 1963 to 1995. Recorded work includes geological mapping, soil geochemistry, geophysics (magnetics, vlf-em, IP), trenching and drilling.

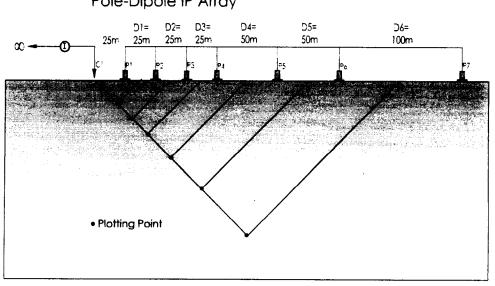
According one of the project geologists J.J. McDougall, some shallow and weak IP anomalies on the western portion of the property have been tested by percussion drilling.

Geophysical Techniques

Induced Polarization Method

The time domain IP technique energizes the ground surface with an alternating square wave pulse via a pair of current electrodes. On most surveys, such as this one, the IP/Resistivity measurements are made on a regular grid of stations along survey lines.

There are several different electrode array configurations that are commonly used, each with advantages and disadvantages. The choice of array is dependent upon a number of factors, including the type of target, ground conditions and topography. For this survey an expander pole-dipole array was used, similar to the one illustrated below.







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After the transmitter (Tx) pulse has been transmitted into the ground via the current electrodes, the IP effect is measured as a time diminishing voltage at the receiver electrodes. The IP effect is a measure of the amount of IP polarizable materials in the subsurface rock. Under ideal circumstances, IP chargeability responses are a measure of the amount of disseminated metallic sulfides in the subsurface rocks.

Unfortunately, there are other rock materials that give rise to IP effects, including some graphitic rocks, clays and some metamorphic rocks (serpentinite for example) so, that from a geological point of view, IP responses are almost never uniquely interpretable. Because of the non-uniqueness of geophysical measurements it is always prudent to incorporate other data sets to assist in interpretation.

Also, from the IP measurements the apparent (bulk) resistivity of the ground is calculated from the input current and the measured primary voltage.

IP/Resistivity measurements are generally considered to be repeatable within about five percent. However, they will exceed that if field conditions change due to variable water content or variable electrode contact.

IP/Resistivity measurements are influenced, to a large degree, by the rock materials nearest the surface (or, more precisely, nearest the measuring electrodes), and the interpretation of the traditional pseudosection presentation of IP data in the past have often been uncertain. This is because stronger responses that are located near surface could mask a weaker one that is located at depth.

Field Work and Instrumentation

The geophysical survey was conducted during the period of October 10 to October 27, 2000. This period included 2 mobilization days and 16 production days. The geophysical crew consisted of Jan Dobrescu and Pavel Dubchak (geophysicists), Mark Steiner (geotechnician) and Dave Hladky (geologist). Michael Schmidt was also employed as field assistant and supervised the IP survey on behalf of Toby Ventures Inc.

Survey Grid

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The survey grid was established by Toby Ventures Inc. It consists of 22 east-west oriented lines (200N to 2300N) nominally spaced at 100 metre intervals with stations flagged at 25 meter increments. Lines averaged approximately 1200 metres in length. In

several instances, the IP crew extended the survey lines, using compass and hip chains, to close off interesting IP responses. A total of some 27 line kilometers of survey were completed.

The geophysical crew used a GPS receiver to record UTM coordinates at selected points on the grid. A minimum of three points were recorded on each line: at both ends and at the baseline. Points where the survey lines changed direction were also recorded. Inclinometer (slope) readings were collected every 25m along the lines in order to determine the relative (horizontal distance) and elevation of the stations. The location and topographic data were incorporated into the subsequent plotting and inversion routines.

Instrumentation

The IP survey utilized an Iris VIP 3000 kW transmitter (Tx) with a 2 seconds on, 2 seconds off duty cycle, and an Iris ELREC-10 receiver (Rx).

The infinity electrode consisted of three 1-meter long stainless steel stakes. The two current stakes were also 1-meter long stainless steel stakes. The measuring dipole array consisted of wires attached to stainless steel electrodes.

Survey Parameters

The IP and resistivity data were collected using an expanding pole-dipole array consisting of 6 dipoles of lengths 25, 25, 50, 50, 50 and 100 meters. Potential electrodes were consistently placed to the west of the near current electrode. The infinity electrode was placed a minimum of one km from the closest part of the grid and the ground was kept moist with a saline solution. The distance between the current electrode and the first dipole electrode was kept constant at 25 meters. Data was gathered at 50 metre station increments along all lines. The timing cycle was set at 2 seconds on and 2 seconds off. The potential decay was recorded over 10 time windows, with widths of 80, 80, 80, 80, 160, 160, 160, 320, 320 and 320 ms. The first measurement was taken after a delay of 80 ms from the current shutoff.

The receiver was tested both by using the internal test as well as synching to a resistive 1Ω load connected to the transmitter used. This was determined to be free from chargeability errors on all voltage ranges used during the survey.

The IP data was downloaded daily from the receiver to a computer and preliminary processing was performed to assess the quality of the data.

Data Processing and Plotting

Final processing of all geophysical data and maps were produced by S.J.V. Consultants Ltd. in Vancouver, using a combination of Geopak, RtiCad, DCIPINV (inversion) and in-house proprietary software that adjusts for the expanding pole-dipole array used and compensates for topographic effects.

All maps included in this report are registered to the NAD 83, Zone 10 UTM coordinate system. UTM coordinates, the survey grid and claim outlines provide common reference points on all maps.

Colored pseudosections of both the apparent resistivity and chargeability components are presented for individual lines in <u>Appendix A</u>. The apparent resistivity is illustrated with a logarithmic colour distribution, ranging from 75 to 2,000 ohm metres. The chargeability data is presented with two different colour distributions. On lines 2300N to 1100N it is illustrated with a linear colour range from 0 to 60 ms. On lines 1100N to 200N, the colours are distributed from 0 to 30 ms, in order to highlight lower amplitude features present in this portion of the grid.

Plan coloured contour maps of these same data are presented at a 1:10,000 scale in <u>Appendix B</u>. Plates G-1a – G-1c, G-2a – G-2c present the apparent resistivity and chargeability data respectively for dipole separations 2, 4 and 6.

IP inversion programs have recently become available that allow a more definitive interpretation. The purpose of the inversion process is to convert surface IP/Resistivity measurements into a realistic "Inverted (Interpreted) Depth Section." The use of the inversion routine is a subjective one because the input into the inversion routine calls for a number of user selectable variables whose adjustment can greatly influence the output. The output from the inversion routines assist in providing a more reliable interpretation of IP/Resistivity data.

The inversion programs are generally applied iteratively to, 1) evaluate the output with regard to what is geologically known, 2) to estimate the depth of detection, and 3) to determine the viability of specific measurements.

The Inversion Program (DCINV2D) used by the SJ Geophysical Group was developed by a consortium of major mining companies under the auspices of the UBC-

Geophysical Inversion Facility. It solves two inverse problems. The DC potentials are first inverted to recover the spatial distribution of electrical resistivities, and, secondly, the chargeability data (IP) are inverted to recover the spatial distribution of IP polarizable particles in the rocks.

The Interpreted Depth Section maps represent the cross sectional distribution of polarizable materials, in the case of IP effect, and the cross sectional distribution of the resistivities, in the case of the resistivity parameter.

Inversion processing was applied to all of the IP data. Coloured interpreted depth sections are presented in <u>Appendix C</u>. The resistivity depthsections are drawn with a logarithmic colour distribution from 25 to 5000 ohm-metres. The chargeability depth sections are presented with two different linear colour distributions: 0 - 90 ms and 0-36 ms, to illustrate various aspects of the interpretation. The cut-off depths for these sections represent the point at which the viability of the data becomes questionable, and in this case, correspond with slightly greater depths than proposed by the traditional skin depth calculations. They are determined by comparing two inversion runs using different estimates of background reference values.

<u>Appendix D</u> contains 4 plan colour contour maps (1:10,000 scale) of the interpreted resistivity and chargeability data at two different depths from surface: 50 metres and 100 metres.

A compilation and interpretation map is presented as Plate G-5a.

The colour contour plan maps of apparent resistivity and chargeability for N=2 (Plate G-1a, G-2a) and the interpreted resistivity and chargeability for the 100 metre depth (Plate G-3b, G-4b) are presented at a 1:5000 scale in pockets at the back of the report. These are provided for direct comparison with geological and field maps.

Maps for these and any other separation/depth parameters can be provided at any required scale.

Discussion of Results

The geophysical anomalies and trends discussed below are identified on the 1:10000 scale interpretation map G-5a (page 2) and the 1:5000 scale plan map G-4b (pocket).

There is excellent correlation between the chargeability and resistivity components of the IP survey. Both delineate three distinct regimes that are evident in

both the pseudosection and plan map formats. The most dominant is linear trend of low resistivity and very high chargeability that strikes nearly north-south near grid coordinate 300E. To the east the rocks exhibit fairly uniform high resistivities and low chargeabilities. To the west the IP responses are more moderate in amplitude, but exhibit high local variability. Several of these localized anomalies exhibit amplitudes that are typical of a porphyry style of mineralization.

The dominant linear trend (C-1) is evident in the pseudosection displays (Appendix A) as a typical "pant-leg" type of response, indicative of a narrow, tabular body. It is outlined by apparent resistivities of less than 200 ohm-metres with a central core ~100 ohm-metre material. The chargeability response is similarly layered with a central core of >50 ms material and radiating "pantlegs" of > 25 ms. The apparent resistivity anomaly varies from ~ 150 to 300 metres in width (near surface) while the chargeability anomaly is more distinct and varies from 50 to 100 metres in width (near surface).

The inversion results provide a much more geologically valid cross section. The depthsection displays (Appendix C) for both the resistivity and chargeability data delineate a narrow, tabular zone with a dip that varies between vertical and steep ($\sim 75^{\circ}$) to the west. The chargeability high is usually narrower than the resistivity low and falls along the eastern flank of the resistivity trend. The overall characteristics of the trend are fairly consistent from lines 2300N to 1300N, however there as some subtle changes along strike. The zone widens gradually from north to south. The chargeable material is likely exposed at the surface (or at the base of the overburden) from lines 2300N to 1800N. There is a slight offset in the manner of a right lateral fault in the vicinity of 1800N and from this point south, the zone gradually plunges to a depth of ~ 75 metres by line 1300N.

There is an abrupt change in the characteristics of the C-1 trend in the vicinity of line 1300N, possibly indicating the presence of a westerly or northwesterly trending fault. The changes are most dramatic in the resistivity component. In the vicinity of line 1200N the resistivity low splits into two zones that gradually diverge to the south. The western branch exhibits a lower resistivity than the eastern branch however both zones are more resistive than the zone measured to the north. The chargeability trend follows the eastern resistivity low only and is likely buried 50-100 metres from the surface. The chargeability anomaly in this area is lower in amplitude than that seen to the north. It is most chargeable on line 900N and fades to the south.

The linear nature of Anomaly C-1 is not typical of a porphyry style deposit. It is more likely related to a shear, fault or contact structure.

The eastern ends of lines 1200N to 1300N are characterized by very low chargeabilities (< 3ms) and high apparent resistivities (>1000 ohm-m). There are no significant chargeability anomalies in this area. The apparent resistivity pseudosections exhibit an inverted pyramid type of response, with the deepest and highest resistivities noted near line 1700N. The resistivity inversions show two separate high (>800 ohm-m) resistivity zones in this area. One is a surfacial layer up to 25 metres thick. The second zone is thicker and extends to depth. On some lines, these zones appear to be separated by a thin (up to 25 metre thick) layer of slightly lower resistivity material. As seen on the pseudosection displays, the highest resistivities are mapped in the vicinity of line 1700N and they gradually decrease to the north and south.

The western portion of the grid exhibits more complex resistivity and chargeability distributions. Apparent resistivities typically range between 300 and 700 ohm-m although there are several isolated areas where higher and lower values are recorded. There are no clear patterns evident in the resistivity plan data with the exception of a weak correlation with topography. Several hills are mirrored by higher resistivity trends. The inversion depthsections suggest most of these resistivity variations are confined to the near surface (< 100 metres) and the responses become more uniform with depth.

More interesting responses are noted in the chargeability data on this west side of the survey grid. Although there is a certain amount of near surface, high frequency variations that complicate the pseudosection displays, the inversion results clearly delineate several discrete anomalies that warrant further investigation. Five specific targets (C-2 to C-6) are identified on the plan map (plate G-4b) and described below. The amplitude of these anomalies is typically some 3-4 times the local background.

- C-2. This 20 msec. anomaly forms a linear trend extending from 2300N to 1700N, centred near station 100E. It appears to have a deep component (~125 metres) with a narrow, vertical neck or pipe that extends to surface. It coincides with a weak, resistivity high.
- **C-3.** This 25 msec anomaly extends from line 1100N to 800N, centred near station 150W. It is strongest on line 1000N at ~ 150 metres depth. There

are some scattered near surface responses superimposed over the deeper anomaly.

- C-4. This anomaly is traced along grid co-ordinate 400W from the surface on line 1200N to a depth of 75 metres on line 800N. A maximum amplitude of \sim 30 msec is mapped on line 900N.
- C-5. This anomaly is mapped on line 500N and 400N centred at station 300W. It is different from the other anomalies in that it exhibits a pronounced easterly dip, most notably on line 500N and is also associated with a relatively high (>1000 ohm-m) resistivity. Depth to the top of this anomaly is estimated at ~ 100 metres.
- **C-6.** This weaker anomaly is mapped on the southernmost lines 300N and 200N. It appears to be an extension of C-5 where the anomaly splits and into three smaller zones. This anomaly is considered open to the south.

Recommendations

5

There appears to be a considerable amount of previous work (geological, geochemical, geophysical, trenching and drilling) related to these properties. This data should be compiled by the project geologists, digitized and registered to a common GIS format.

Chargeability anomalies C-1 to C-5 cited in this report warrant further investigation by diamond drilling and/or trenching. They should first be reviewed by the project geologists to determine whether they can be prioritized on the basis of other corroborating data.

The IP technique measures electrical potentials and decays across a large volume of material and the anomalies outline a general area of interest. The source material generating these anomalies can be offset from the plotted location. For this reason, it is a common practice to test IP anomalies by drilling a fence of holes across them, typically starting near the centre of the anomaly and stepping out as necessary in order to identify the source material. It is important to review the drill results as they become available and modify the drill programs accordingly. The recommendations below specify a location for an initial hole to test the centre of each of the chargeable targets.

• C-1: This anomaly should be drilled in at least two locations in order to test the northern and southern portions of the linear trend. The northern section is fairly

consistent from 2300N to 1600N. Road access and topographic considerations can be weighed in the selection of a drill location for this area. The drill collar should be set up to the west of the anomaly so that a 45° angled hole will intersect the centre of the chargeability anomaly as illustrated on the interpreted depthsections in Appendix C. Coordinate 1700N / 250E for example to test the anomaly at 75 metres depth below station 325E. The southern section is more variable. The initial hole is recommended at grid coordinates 900N / 250E in order to test the anomaly at 125 metres depth below station 375E.

- C-2: A vertical hole, spotted at grid coordinate 2000N / 100E and drilled to a minimum depth of 150 metres is recommended. This location will test both an upper and lower zone to this anomaly.
- C-3: A vertical hole, spotted at grid coordinate 1000N / 150W and drilled to a minimum depth of 200 metres is recommended.
- C-4: A vertical hole, spotted at grid coordinate 900N / 400W and drilled to a minimum depth of 100 metres is recommended.
- C-5: A hole, spotted at grid coordinate 500N / 275W and drilled at an angle of 60° to the west, designed to intersect a point 100 metres below station 325W is recommended.

Respectfully submitted

per S.J.V. Consultants Ltd.

SCIEN E. Trent Pezzot, B.Sc., P.Geo.

Geophysics, Geology

Statement of Qualifications

I, E. Trent Pezzot, of the city of Surrey, Province of British Columbia, hereby certify:

- I graduated from the University of British Columbia in 1974 with a B.Sc. degree in the combined Honours Geology and Geophysics program.

I have practised my profession continuously from that date.

- I am a registered member of the Association of Professional Engineers and Geoscientists of British Columbia.

- I hold no direct or indirect interest in, nor expect to receive any benefits from, the mineral property or properties described in this report.

FESSIC E. Trent Pezzon BSC P.Geo.

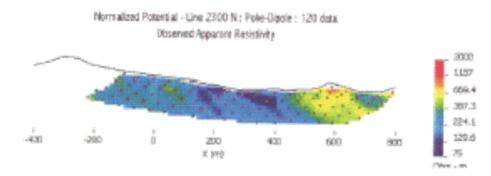
November 17, 2000

| APPENDIX 1 Pseudosection Displays | Page Page |
|---|-----------|
| Apparent Resistivity: Logarithmic Colour Distribution 75 - 2000 ohm-m | 15 |
| Line 2300N | |
| Line 2200N | 15 |
| Line 2100N | 15 |
| Line 2000N | |
| Line 1900N | 16 |
| Line 1800N | 16 |
| Line 1700N | 16 |
| Line 1600N | |
| Line 1500N | |
| Line 1400N | |
| Line 1300N | |
| Line 1200N | |
| Line 1100N | |
| Line 1000N | |
| Line 900N | |
| Line 800N | |
| Line 700N | |
| Line 600N | |
| Line 500N | |
| Line 400N | |
| Line 300N | |
| Line 200N | |
| | |
| Chargeability: Linear Colour Distribution 0 –60 msec. | |
| Line 2300N | |
| Line 2200N | |
| Line 2100N | |
| Line 2000N | |
| Line 1900N | |
| Line 1800N | |
| Line 1700N | |
| Line 1600N | |
| Line 1500N | |
| Line 1400N | |
| Line 1300N | |
| Line 1200N | |
| Line 1100N | |
| Chargeability: Linear Colour Distribution 0-30 msec. | |
| Line 1100N | |
| Line 1000N | |
| Line 900N | 24 |
| Line 800N | 25 |
| Line 700N | 25 |
| Line 600N | 25 |
| Line 500N | 25 |
| Line 400N | |
| Line 300N | |
| Line 200N | |
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Apparent Resistivity: Logarithmic Colour Distribution

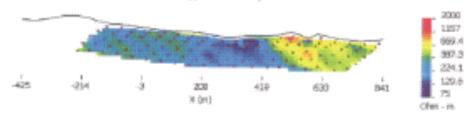


75 - 2000 ohm-m

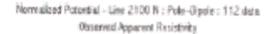
Line 2200N

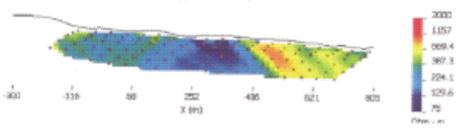
Line 2300N

Normalized Patential - Line 2200 N : Poles-Dipole : 1,26 data Observed Apparent Resistivity



Line 2100N

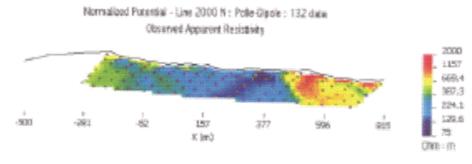




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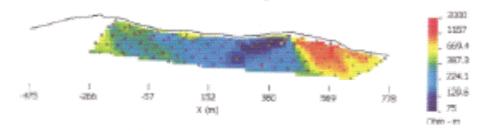
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Line 2000N

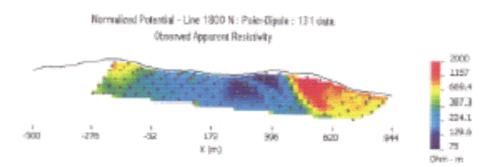


Line 1900N

Normalized Patential - Line 1903 N : Pole-Dipole : 126 gata Observed Apparent Resistantly

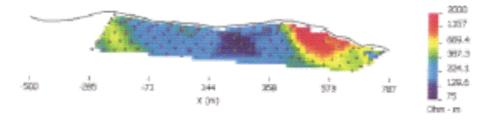


Line 1800N



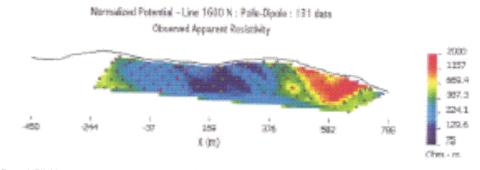
Line 1700N

Normalized Potential - Line: 1700 N : Pole-Dipole : 126 data Observed Apparent ResistMay

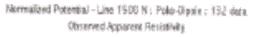


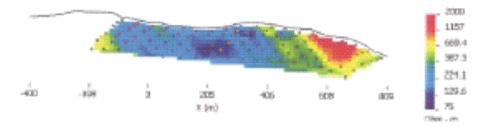
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Line 1600N



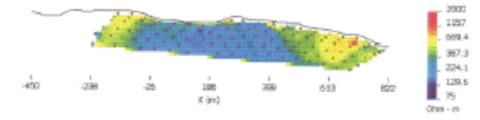
Line 1500N





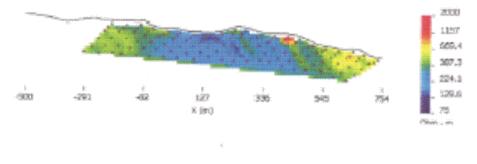
Line 1400N

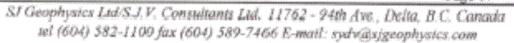
Normalized Potential - Line 3400 N : Pole-Opcie : 120 data Observed Apparent Resistability



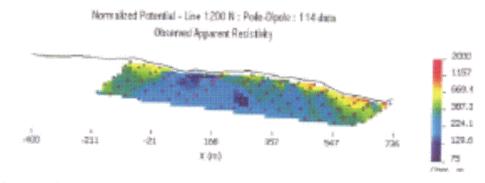
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Normalized Potential - Line 1300 N : Pole-Olpole : 126 data Observed Apparent Resistivity



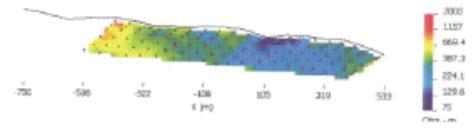


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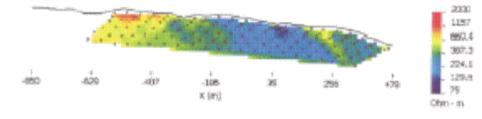
Line 1100N

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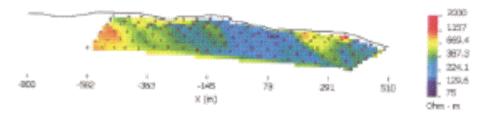
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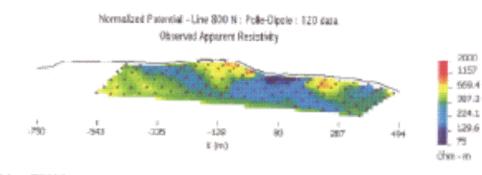
Line 900N

Normalized Potential - Line 900 N : Pole-Dipole : 1,25 (sea Observed Apparent Resistainty



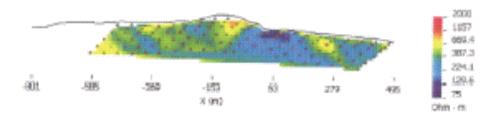
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Line 800N



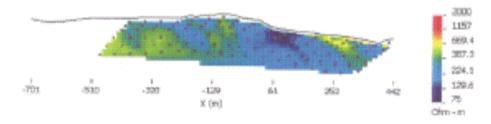


Normalized Potential - Line 700 N : Pole-Dipole : 126 data Observed Augustant Resignisity

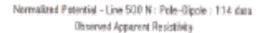


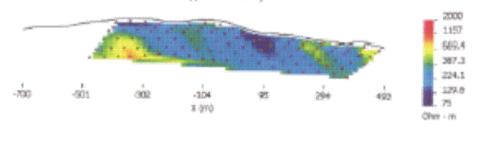
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Nerrowkanol Fotenalial - Line 600 Nil: Poten-Olpote ; 805 Gasa. Observed Apparent Resistivity



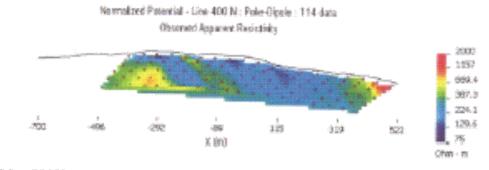
Line 500N





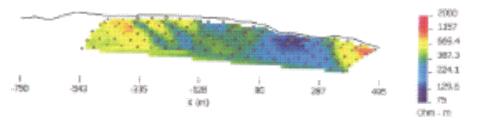
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Line 400N



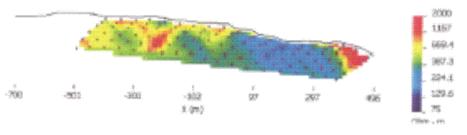
Line 300N

Nermalized Potential - Line 300 N : Polm Dipole : 120 date. Observed Apparent Registrativy



Line 200N

Normalized Potential - Una 200 N : Pole-Optin : 120 data Observed Apparent Rasispidty

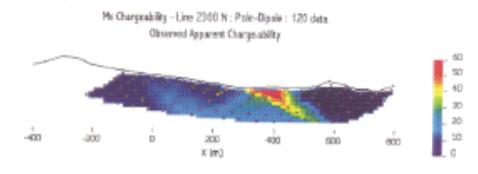


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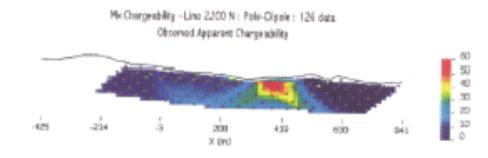
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Chargeability: Linear Colour Distribution 0-60 msec.

Line 2300N

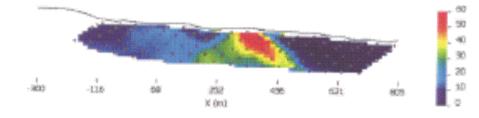


Line 2200N

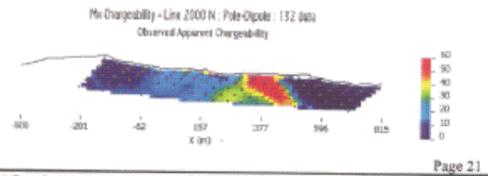


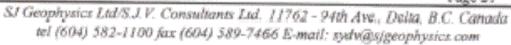
Line 2100N

Mc Overgenhility - Line 2100 N : Pole-Olpele : 112 data Showyed Apparent Charge ability

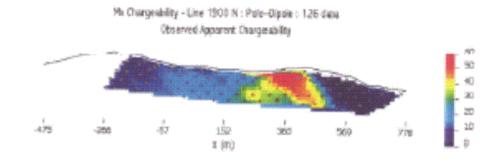


Line 2000N



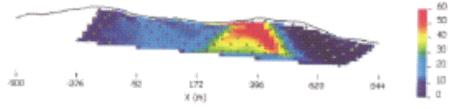


Line 1900N



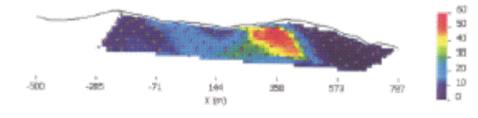
Line 1800N





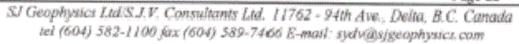
Line 1700N

McChargenbillty - Line 1700 N : Pole-Dipole : 126 data Observed Apparent Charge ability



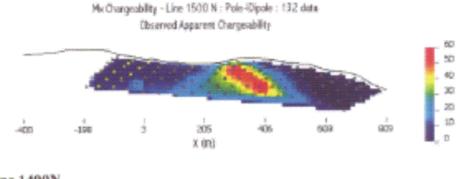
Line 1600N

Mix Chargenbility - Line 1600 N : Pole Okpale : 131 data Observed Apparent Chargealbility 80 50 40 30 20 :982 -102 160 176 <u>مۇرى</u> 37 100 ű X (m)

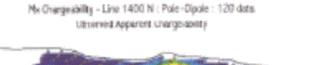


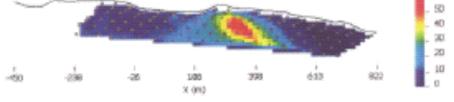
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Line 1500N



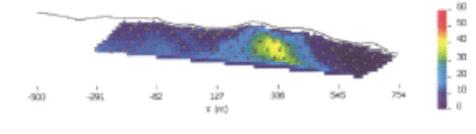
Line 1400N





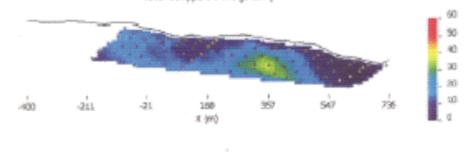
Line 1300N

Mc Chargeability - Line 1900 N : Pole-Dipole : 125 date Of served Apparent Charge ability



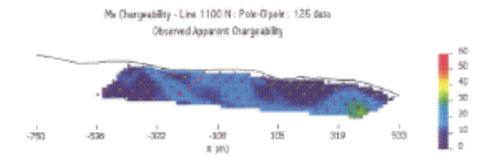
Line 1200N





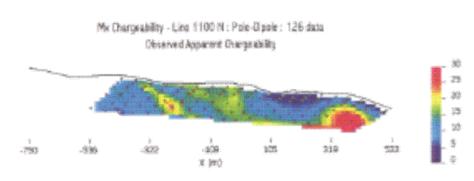
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Line 1100N

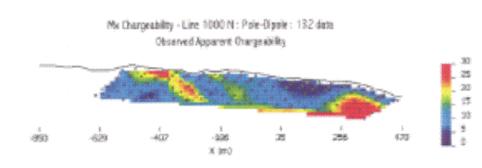


Chargeability: Linear Colour Distribution 0-30 msec.

Line 1100N

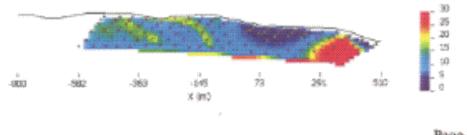


Line 1000N



Line 900N

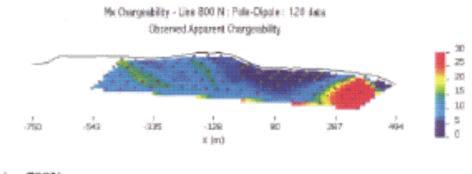
Me Chargeoblity - Line 500 N : Pole Dipole : \$25 data Deserved Apparent Charge ability



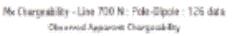
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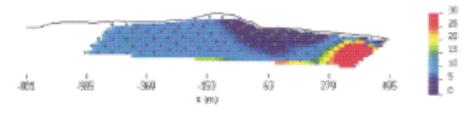
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Line 800N



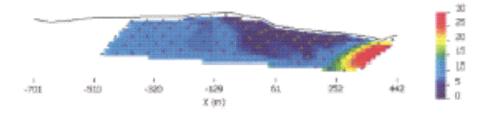






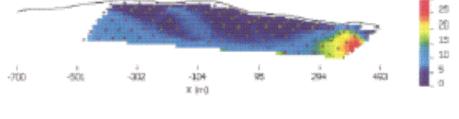
Line 600N

He Compediate - Live 600 N - Pole Objects - 160 data. Observed Apparent Charge shallby



Line 500N

Mix Chargenbility - Line 500 N : Pole-Dipole :: 114 data. Observed Apparent Chargenbility

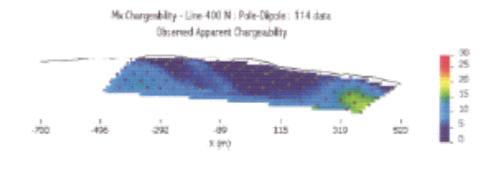


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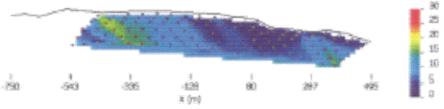
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Line 400N



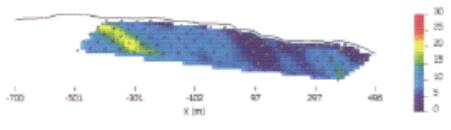
Line 300N

Me Chargeability - Line 300 N : Pole-Olipcie : 120 data Observed Apparent Chargea bility



Line 200N

Mic Chargeobility - Line 200 M : Pole-Okpole : 120 data Observed Apparent Chargeobility



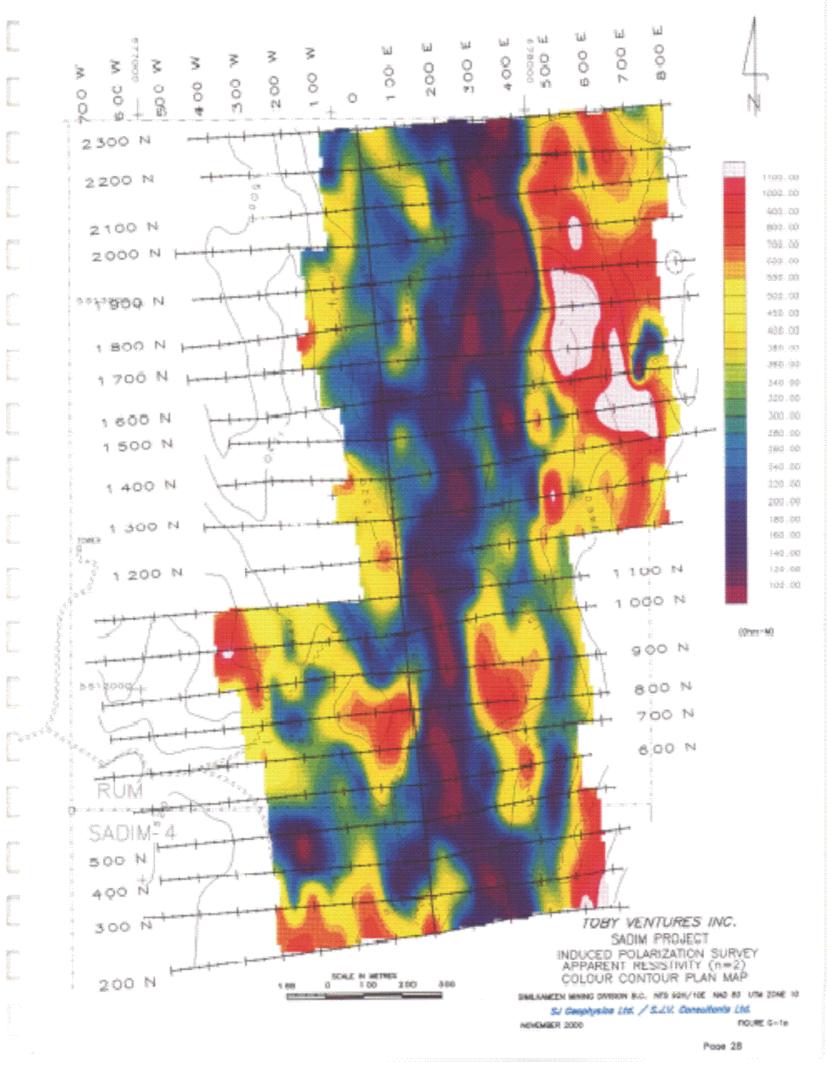
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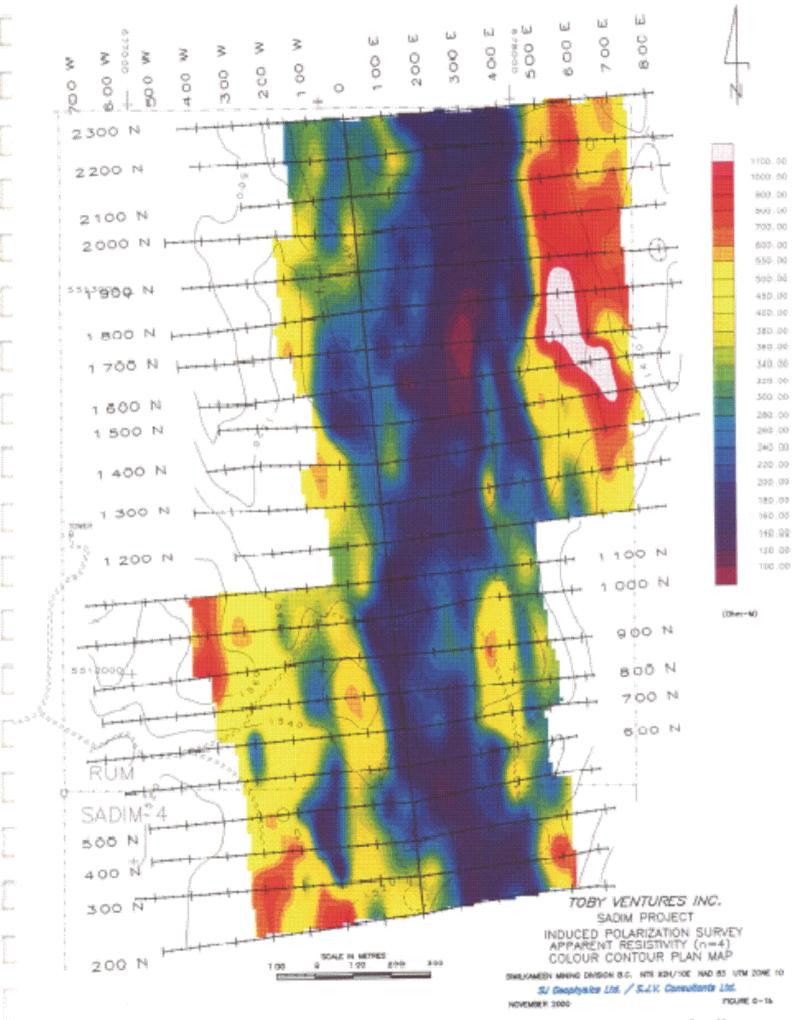
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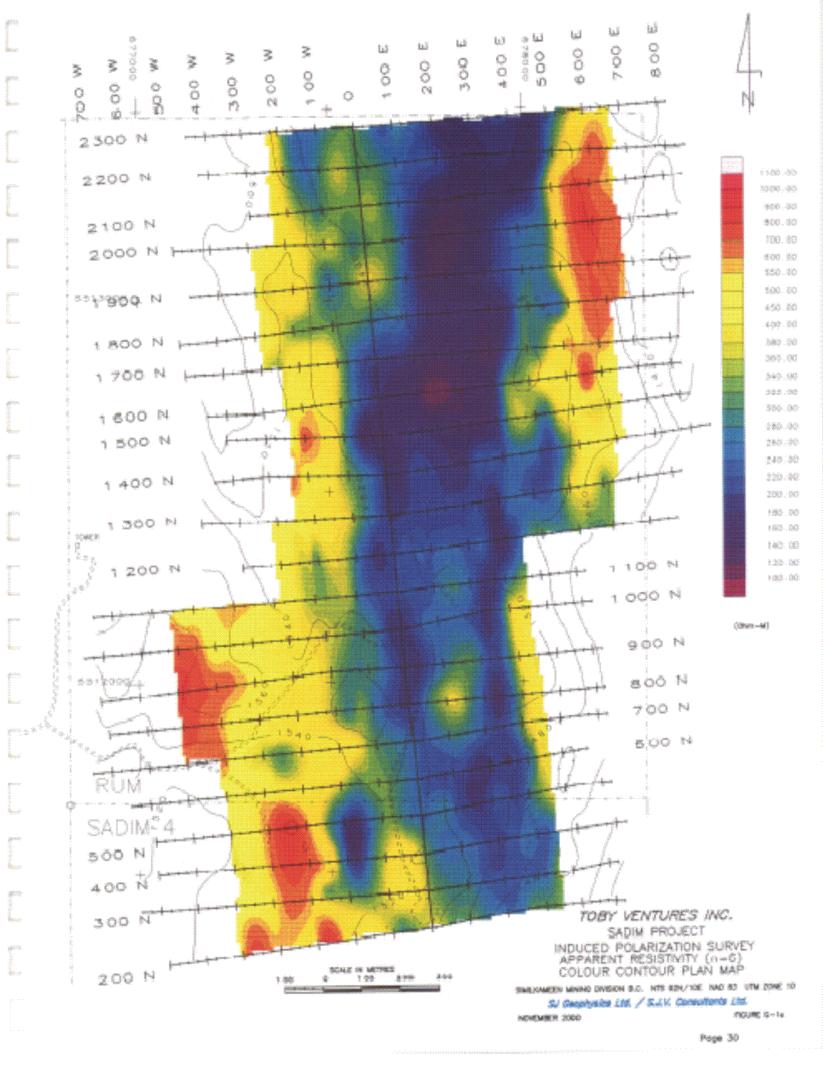
APPENDIX 2

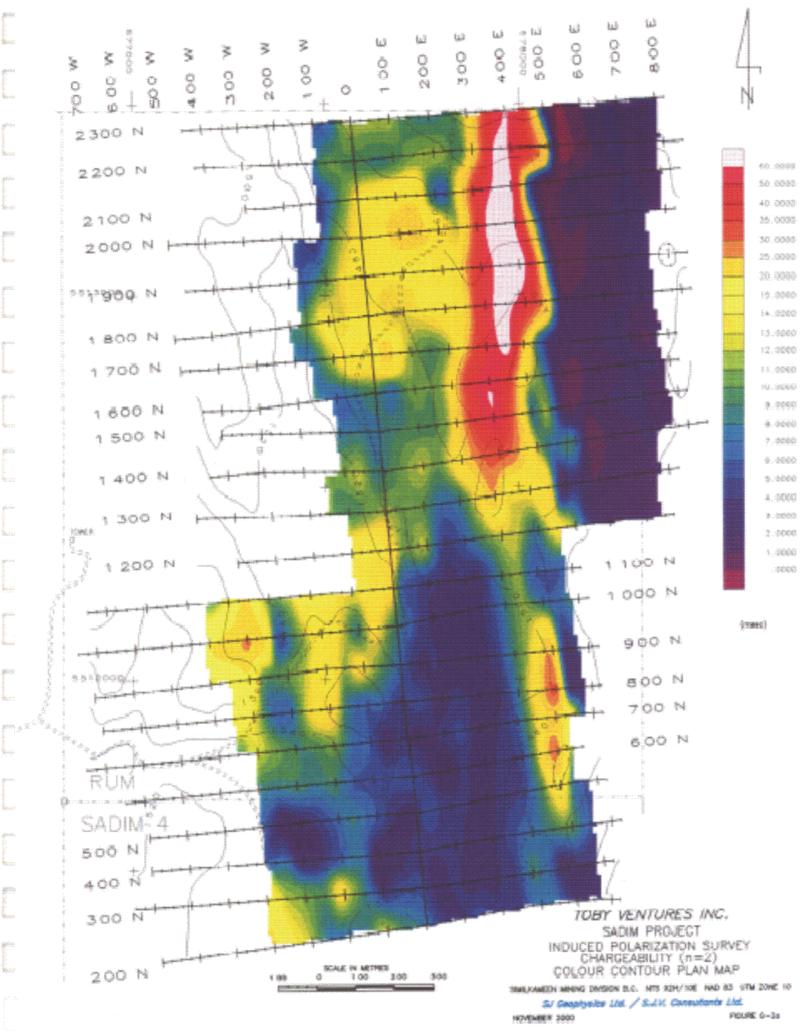
Plan Maps – Apparent Resistivity, Chargeability (n=2,4,6)

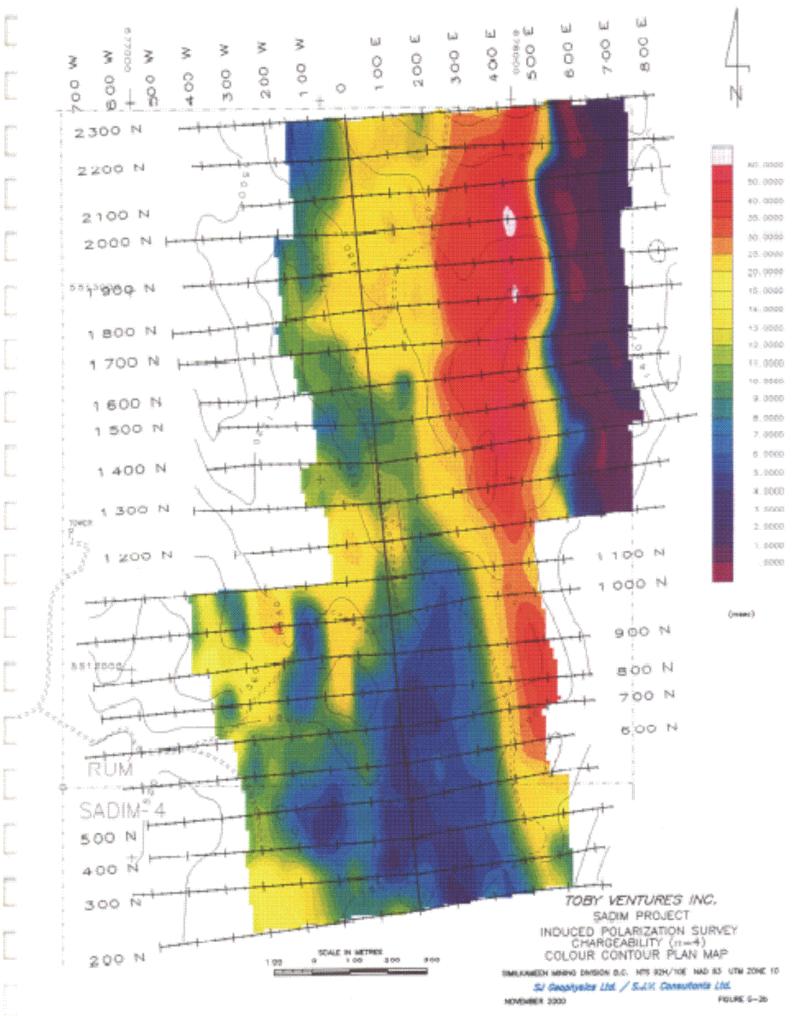
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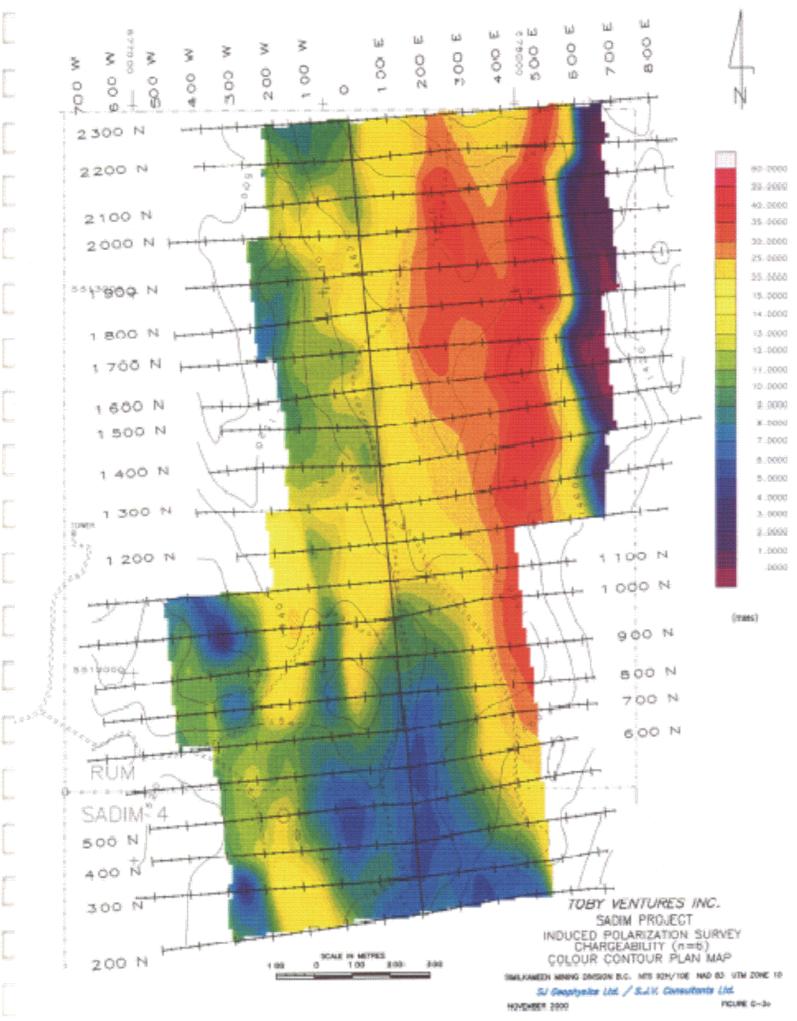












Proge 33

| PENDIX 3 Interpreted Depthsection Displays | <u>Pa</u> |
|--|---------------------------|
| garithmic Colour Distribution : 25 – 5000 ohm-m | ••••••••••••••••••••••••• |
| Line 2300N | |
| Line 2200N | |
| Line 2100N | |
| Line 2000N | |
| Line 1900N | |
| Line 1800N | |
| Line 1700N | |
| Line 1600N | |
| Line 1500N | |
| Line 1400N | |
| Line 1300N | |
| Line 1200N | |
| Line 1100N | |
| Line 1000N | |
| Line 900N | |
| Line 800N | |
| Line 700N | |
| Line 600N | |
| Line 500N | |
| | |
| Line 400N | |
| Line 300N | |
| Line 200N | |
| argeability ear Colour Distribution : 0 – 90 msec | |
| | |
| Line 2300N | |
| Line 2200N | |
| Line 2100N | , |
| Line 2000N | |
| Line 1900N | |
| Line 1800N | |
| Line 1700N | |
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| Chargeability | |
|---|------------|
| Linear Colour Distribution : 0 – 36 msec. | |
| Line 2300N | 46 |
| Line 2200N | 46 |
| Line 2100N | 46 |
| Line 2000N | 46 |
| Line 1900N | 47 |
| Line 1800N | |
| Line 1700N | |
| Line 1600N | |
| Line 1500N | |
| Line 1400N | |
| Line 1300N | |
| Line 1200N | 10 |
| Line 1100N | 40 |
| Line 1000N | |
| Line 900N | |
| Line 800N | 40 |
| Line 700N | |
| Line 600N | |
| Line 500N | |
| Line 400N | 50 |
| Line 300N | 5 0 |
| Line 200N | 50 |

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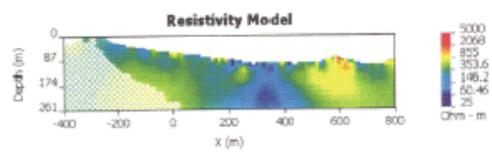
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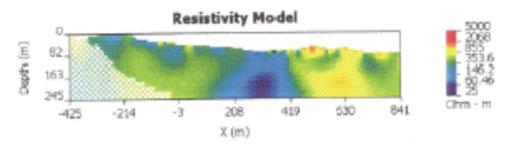
Resistivity

Logarithmic Colour Distribution : 25 - 5000 ohm-m

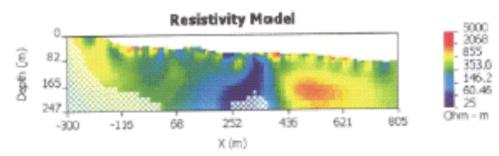


Line 2300N

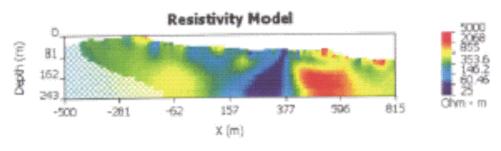




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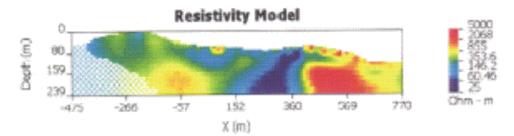




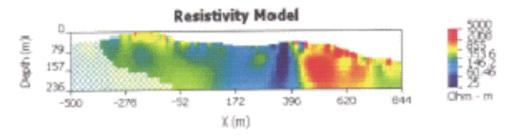
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Line 1900N

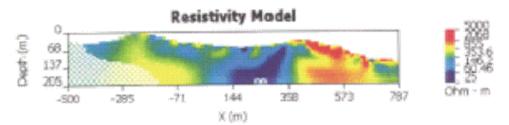
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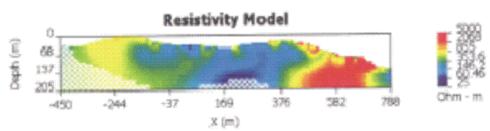


Line 1800N



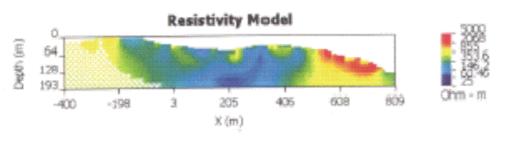
Line 1700N





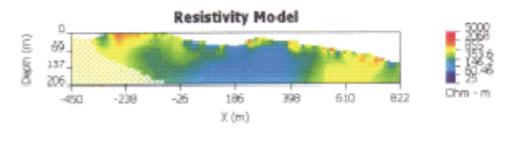
Line 1600N



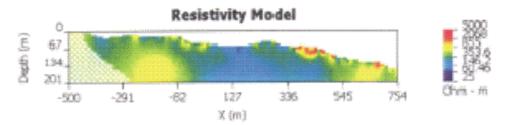


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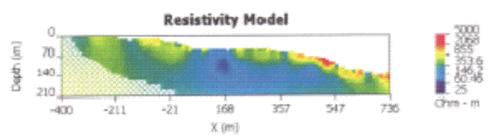
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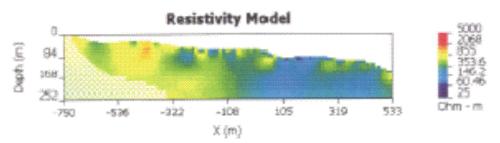
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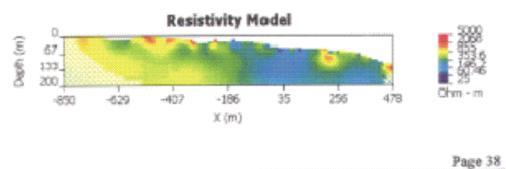










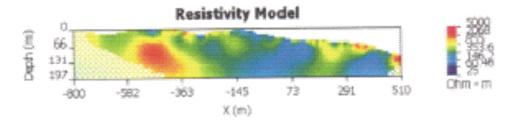


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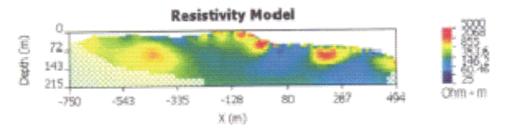


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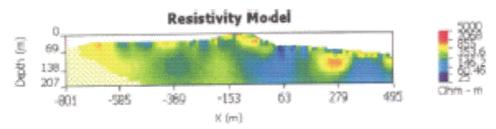
Line 900N



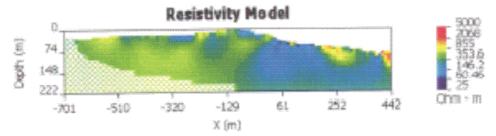
Line 800N



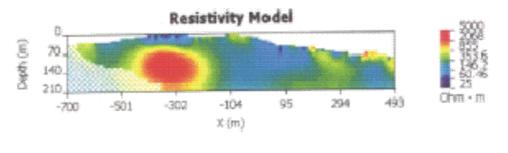
Line 700N



Line 600N



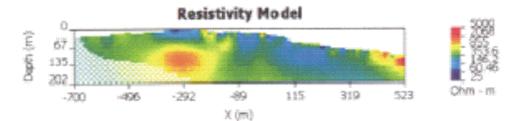
Line 500N



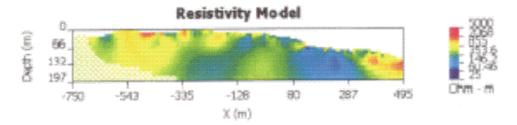
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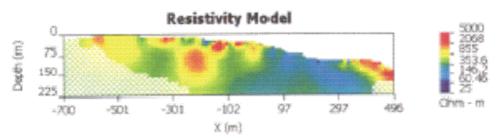
Line 400N



Line 300N







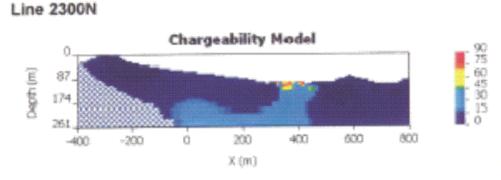
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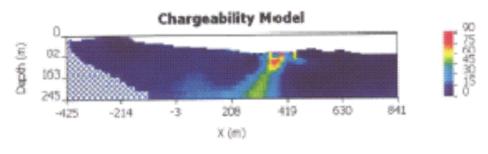
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Chargeability

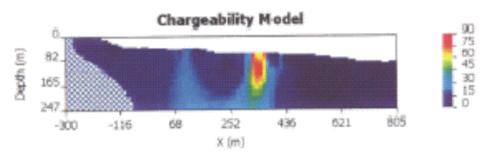
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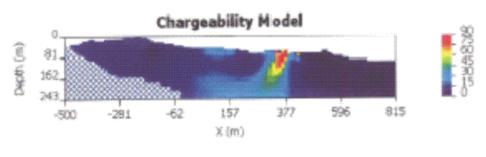
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Line 2100N

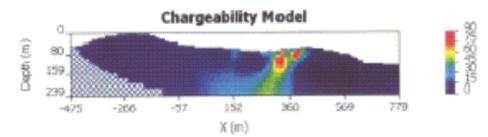


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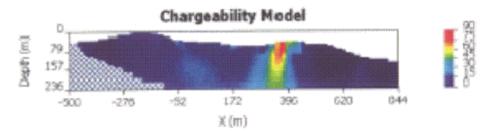


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Line 1900N

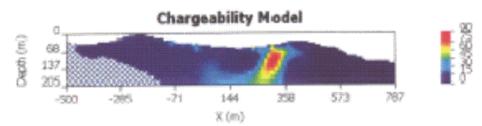


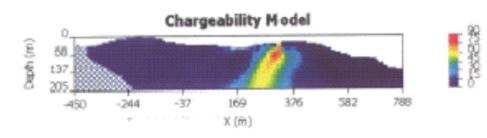
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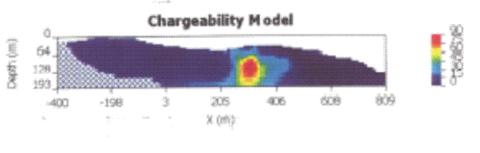
Line 1700N

Line 1600N

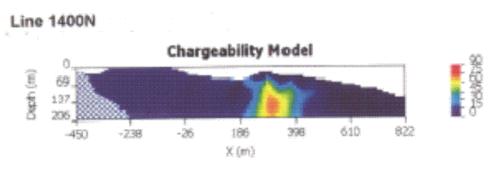




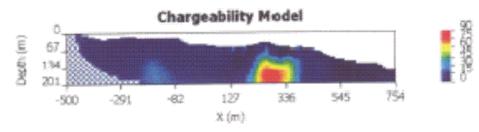




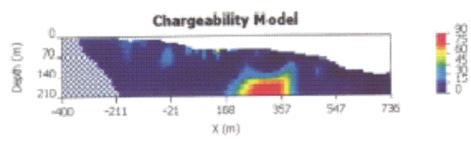
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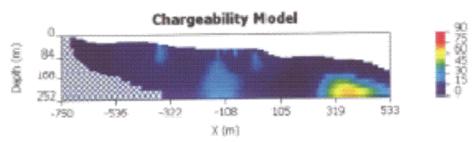
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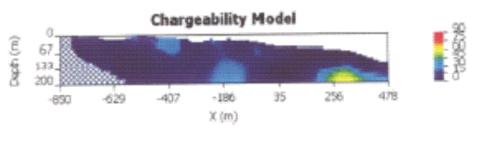






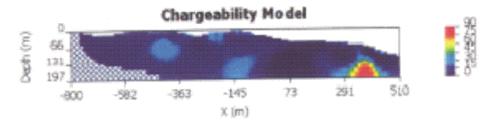




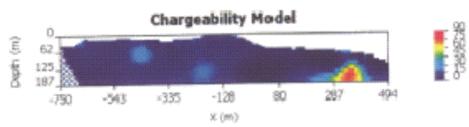


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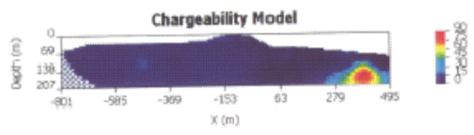
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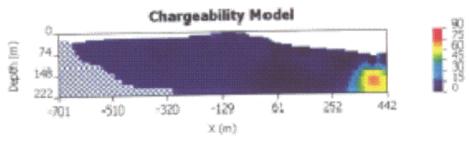
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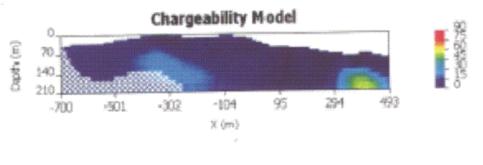
Line 700N



Line 600N

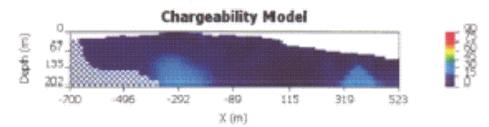


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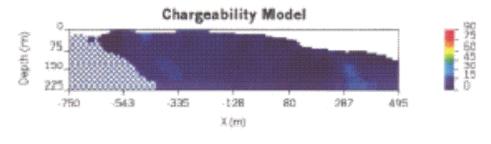


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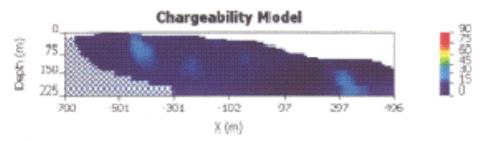
Line 400N



Line 300N





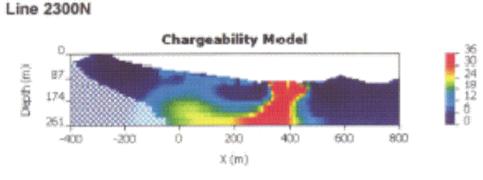


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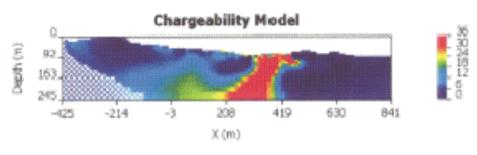
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Chargeability

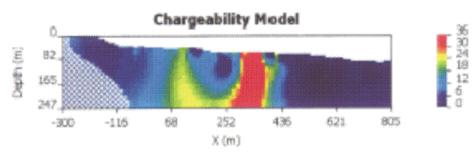
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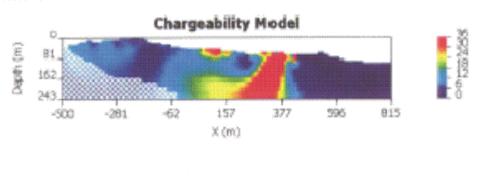
Line 2200N







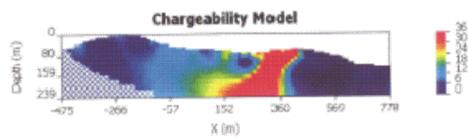
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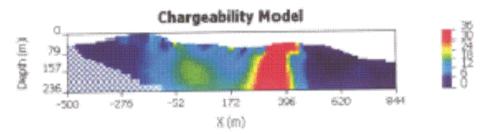
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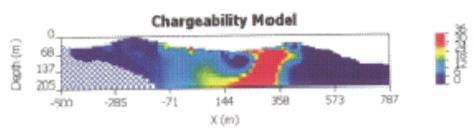




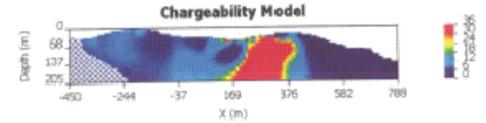
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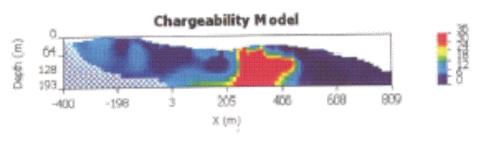
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Line 1600N

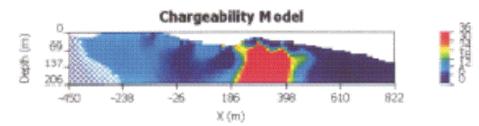


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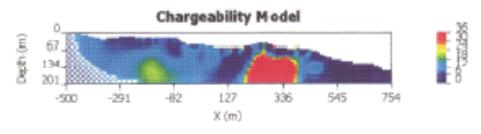


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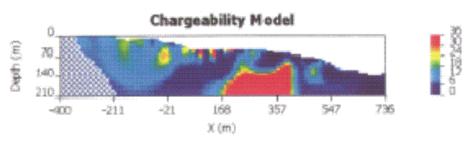
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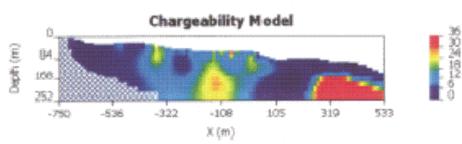
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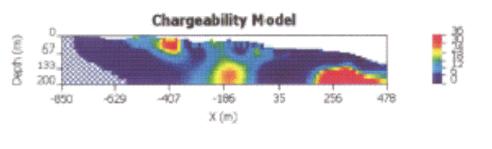






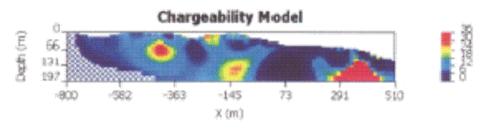




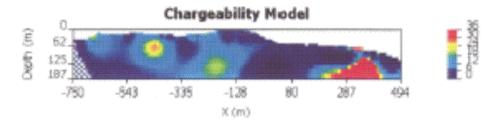


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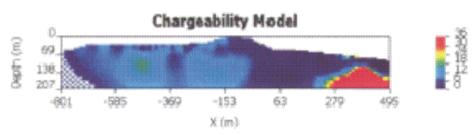
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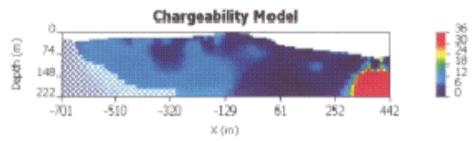
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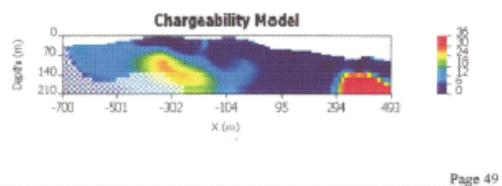






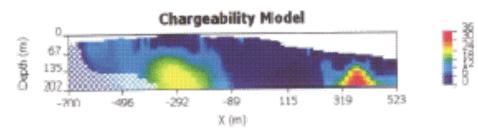




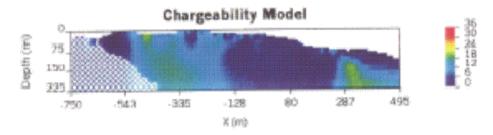


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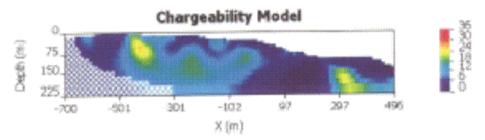
Line 400N



Line 300N



Line 200N



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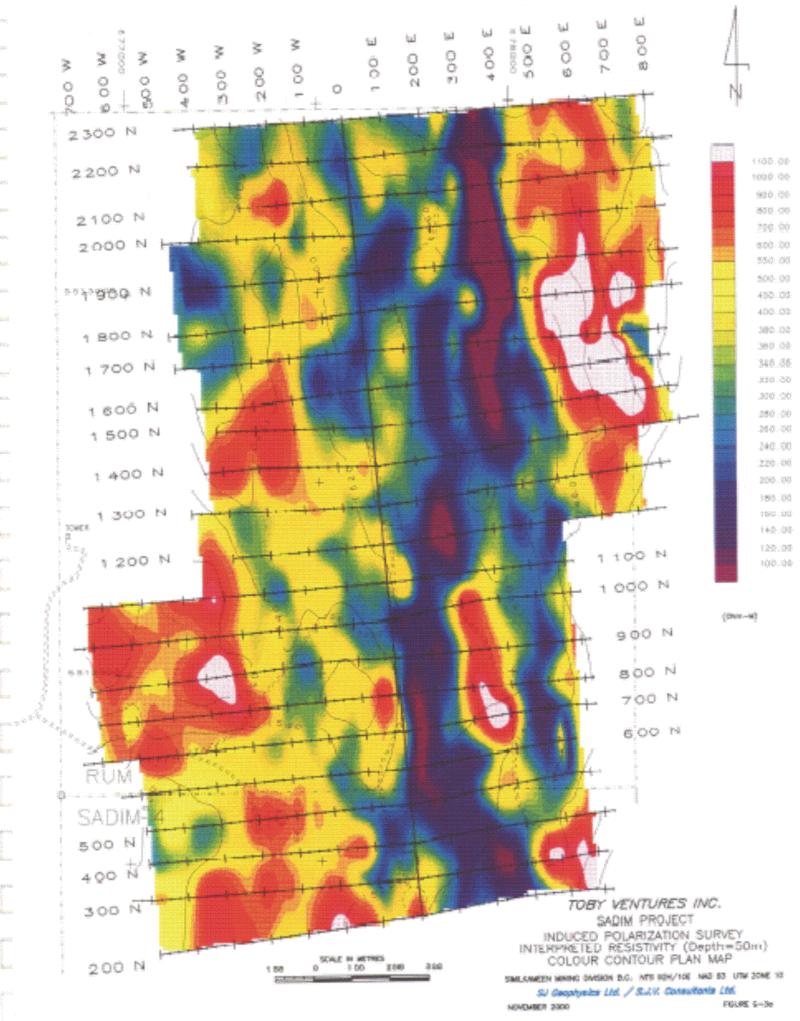
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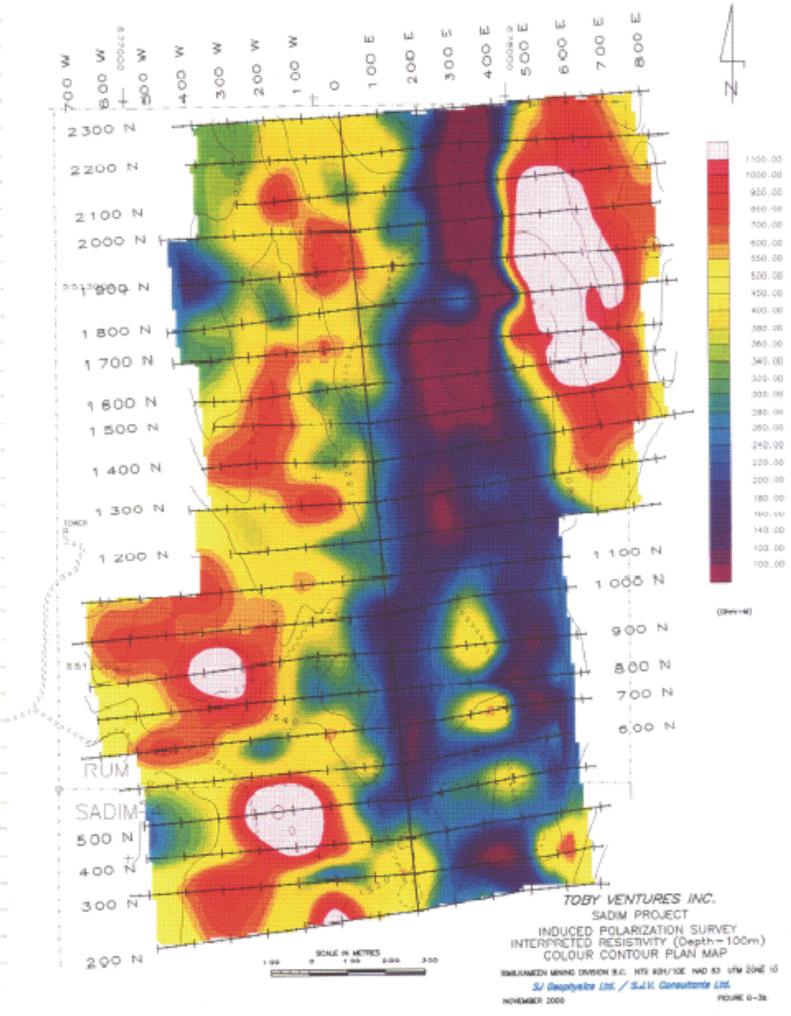
APPENDIX 4

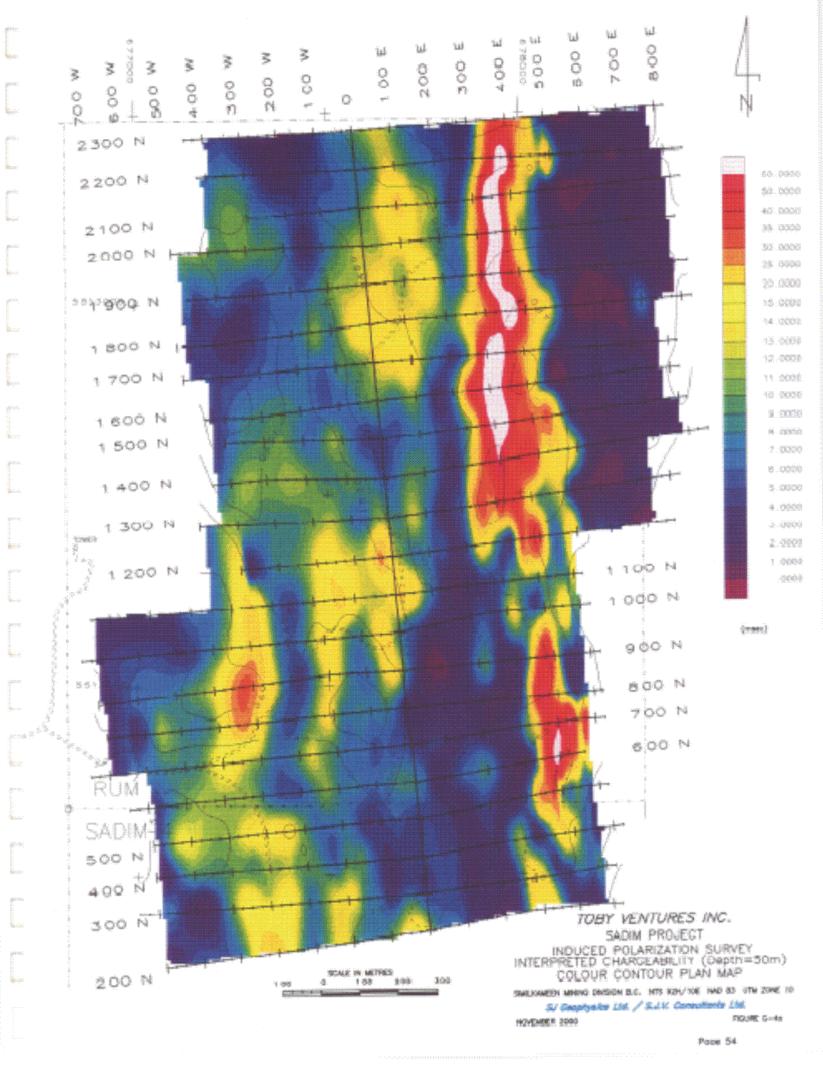
Plan maps – Interpreted Resistivity, Chargeability (depth = 50, 100 metres)

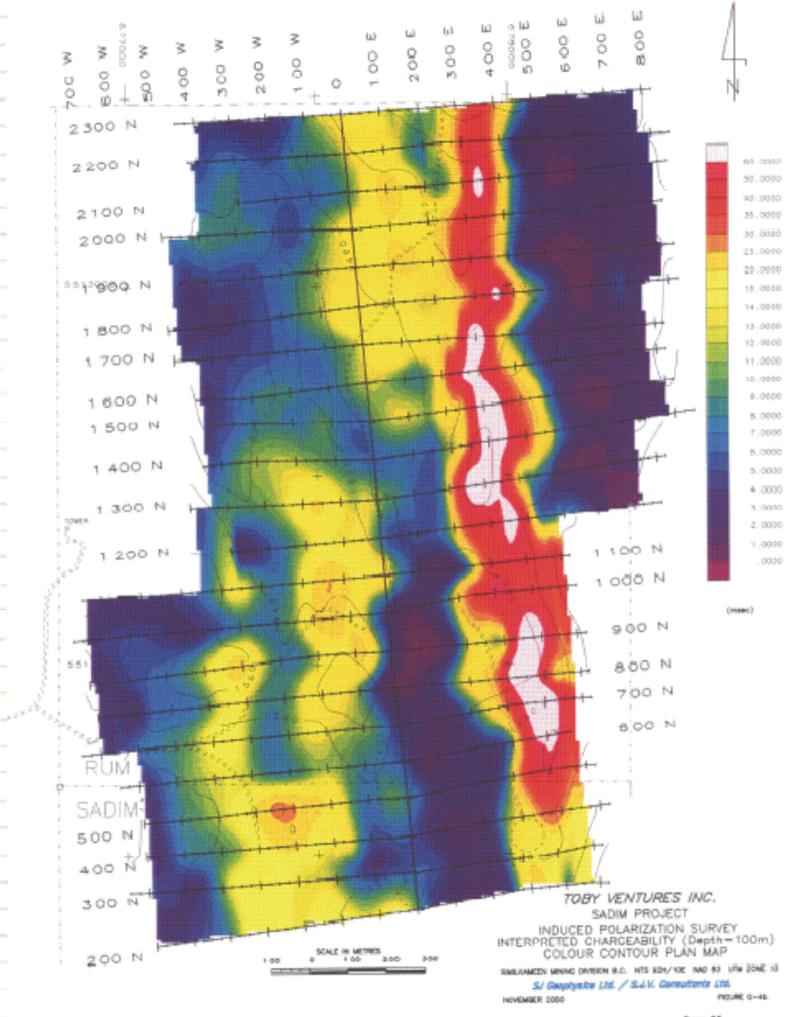
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| Plate G-3a | INTERPRETED RESISTIVITY (Depth = 50m) | 52 |
|------------|--|----|
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| Plate G-3b | INTERPRETED RESISTIVITY (Depth = 100m) | 53 |
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| | COLOUR CONTOUR PLAN MAP (1:10,000) | |









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