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GEOLOGICAL EVALUATION OF THE WINDY CRAGGY DRILL CORE

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Introduction

The author was engaged by Geddes Resources Ltd. to carry out a study of drill core from the Windy Craggy deposit during the summer of 1986. The objectives of the program were to:

- re-log the core in a reconnaissance fashion,
- chemically analyze any mineralized core not previously sampled,
- sample selected sulphidic material for spectral analysis and for metallurgical testing, and to
- re-interpret the core and other relevant data as necessary in order to better understand the deposit, particularly with respect to its potential for additional gold mineralization.

This report summarizes the results of observations made on drill core from DDHs 5b-81, 7-81, 9-82, 10-82, 11-82, 12-82, 13-83, 14-83, 15-83, 16-83, 17-83, 19-83, 20-83 and 21-83. During the course of the program, 11 kg of core from DDH 14 (440.0 to 470.0 m) were sent to the Canada Centre for Mineral and Energy Technology (CANMET) for mineralogical and metallurgical testing; this report also summarizes the initial findings of this work.

Previous work

The Windy Craggy property occurs in the St-Elias mountain range of northwestern British Columbia, 60 km west of the Haines Road and 10 km east of the Alsek River. Mineralization on the properly was discovered by aircraft reconnaissance in 1958 by J.McDougall, then of Falconbridge Nickel Mines Ltd. Intensive exploration was carried out on the property by Falconbridge and Geddes Resources Ltd. between 1981 and 1983, during which time 22 holes, for a total of 8049.5 m, were drilled.

The Falconbridge-Geddes Resources exploration program outlined a deposit with a minimum strike length of 1800 m. Approximately 1300 m of this was tested by diamond drilling, as a result of which apparant true widths of massive sulphides of up to 200 m were encountered (eg., DDH 11-82). A "world class" sulphide body was revealed, containing reserves variously reported as 350 M tonnes of 1.5% Cu, 0.08% Co (the Financial Post, Dec. 10, 1983), 317.4 M tonnes grading 1.5% Cu, 0.9 kg Co (Schroeter and MacIntyre 1985) and 100 M tonnes of 2.4% Cu, including 26 M tonnes of 3.29% Cu (McDougall, 1984). A major gold discovery (9.2 g/t Au, 9.6 g/t Ag and 1.21% Cu over a true width of 45 m, in DDH 14-83) was also made during the course of this program.

Geological Setting

The Windy Craggy deposit is contained within the Alexander lithostructural domain of the Insular Tectonic Belt. Specifically, it occurs in a weakly metamorphosed, laterally extensive Triassic volcano-sedimentary sequence, that is now believed to constitute an important base and precious metal metallogenic province (Berg and Grybeck, 1980).

Two other important occurences are known in this belt within 10 km of Windy Craggy - the Tats showing (up to 13.5% Cu, 0.12% Co in grab samples) and the Rime/St-Joe prospect (up to 89 g/t Au in grab samples). Several others have recently been discovered along the B.C.- Alaska border, 75 km to the south, eg. Glacier Creek (3 to 4 M tonnes of up to 76% Ba, 3.6Zn), Mount Henry Clay (up to 33% Zn, 2.5% Cu, and 5% Ba/6' in glacial erratics) and Herbert Mouth (up to 15.6 g/t Au in grab samples --MacIntyre and Schroeter, 1985; MacIntyre, 1984). These are all considered to be stratabound, volcanogenic and stratigraphically equivalent to the Windy Craggy deposit.

Mineralization at Windy Craggy occurs in MacIntyres's (1985) middle Tats Group, and specifically at the contact between the thick argillites which occur at the top of this unit and underlying basalt. The middle Tats Group is underlain by the basaltic flows and argillites of the lower Tats Group and by Devonian sedimentary basement; it is overlain by 2000 m of upper Tats Group pillowed basalt. Both host rocks and ore have been deformed by isoclinal northwest-plunging F_1 folds and by open, northeast-plunging F_2 folds. Both have also been offset by high angle faults coaxial to F_1 and by a later, northeast-trending fault set (Gammon and Chandler, 1985).

The Windy Craggy sulphides appear to be contained in an F_1 synform, and are considered by others to be enveloped by extensively altered and sulphide-veined basalt. Two mineralized zones are recognized within the synform-- a northern copper-rich pyritic mass, and a southern Co-rich pyrrhotitic body. The deposit is considered to have formed in a back-arc, or Guaymas-type epicontinental rifting environment (MacIntyre, 1986).

Drill Core Geology

Although a variety of geologists had evidently examined the Windy Craggy core during the course of the 1981-83 drilling program, the Falconbridge logs were found to be precise and consistent. Moreover, the interpretations illustrated in the Falconbridge plans and sections were found to be plausible, although a more conservative approach to geological extrapolation is employed in drawings P-86-02-1 to-9.

Most of the sulphide-bearing intersections were found to have been split. As a result, re-analysis for Au was carried out only on selected core from the holes drilled in 1981 and on carbonate-sulphide material thought to be similar to that hosting gold mineralization in DDH 14-83. Although rapidly oxidizing pyrrhotite had previously been reported, only a small amount of sulphide was found to have decrepitated.

Some re-interpretation of the drill logs was found to be necessary. For example, little evidence was found for the pervasive stockwork alteration reported in the logs, and described by other geologists (eg., MacIntyre, 1985). The sulphide "stringer zones" and "silicified volcanics" thought to be present between 284.9 m and 293.3 m in DDH 20-83, between 291.3 m and 390.1 m in DDH 12-82, and in much of the core from the southern part of the deposit was found to consist of interbedded semi-massive sulphides, chert and tuff. The "pyritic quartz veins" and "chloritic alteration" described between 120.4 m and 122.8 m in DDH 9-82 and elsewhere, was re-interpreted as

basalt flow-top material (one such zone, between 583.0m and 586.0m in DDH 13-83, grades 5 g/t Au). The "silicified rock" logged between 231.8 m and 252.8 m in DDH 13-83 was found to be grey cherty argillite. Most important, evidence was not found for significant pre-tectonic hydrothermal alteration, implied by the description of abundant "siliceous intervals" and "stringer sulphides", in the gold-rich zone present between 419.7 m and 480.6 m in DDH 14-83.

Few useful stratigraphic markers were found in the core. An attempt was therefore made to use younging indicators (flow top features, disposition of intraflow microgabbro, various sedimentary textures) and bedding-foliation relationships as a means of defining the morphology of the deposit. Nevertheless, the structural complexity of the deposit and the low drill hole density allows for only a rough geological interpretation.

The following lithological units were recognized:

1) Limestone

Mappable light grey argillaceous limestone was noted only in DDH 5b. However, similar material is relatively abundant as fine interbeds in calcareous argillite west of the south zone in DDHs 11-82,13-83 and 14-83, and these usually contain disseminated barren pyrite. The siltstone noted in the Falconbridge logs appears to correspond to these thin argillaceous limestone beds. Thin, irregular beds of limestone, often containing significant chert, pyrite, pyrrhotite and chalcopyrite, separate basaltic flows near the ore zones, and are occasionally auriferous.

2) Argillite

Argillite is the most voluminous unit logged and, from younging evidence, constitutes the immediate footwall of the southern sulphide zone. Basalt separates argillite and massive sulphide in the north zone.

A variety of textures and compositions are represented in this unit. Weakly bedded, black cherty argillite, often containing heavily disseminated pyrhotite, chert and minor chloritic tuff, envelopes semi-massive to massive sulphide in the south zone. Well-bedded, medium-grey calcareous argillite, often containing late gypsum-infilled fractures, is found stratigraphically down section from cherty argillite on both limbs of the south zone synform. Younging features are moderately abundant in the latter, but not in the former. "Nodular" medium-grey calcareous argillite, containing granule-to cobble-sized ankerite-calcite spherules (concretions ? soft sedimentary fragments ?) occurs roughly between calcareous and cherty argillite in the south zone, and seems to signal proximity to mineralization in some of the north zone drill holes (eg. DDH 12-83, 14-83, 16-83, 17-83). Conductive graphitic argillite was not found to be common.

Reduced copper sulphides in argillite are reported in surface samples from the Geddes Resources property. However, no such mineralization was observed in drill core.

3) Basalt

Basalt is moderately abundant in the vicinity of massive sulphides although, as indicated, it consitutes the direct footwall only in the north zone. Although evidence of strong hydrothermal alteration reported in basalt by others was not seen, weak chloritic alteration is common. Only erratic Mg-Fe-LOI enrichment and Ca depletion is evident from available major element analyses (Gregory, 1983; MacIntyre, 1986). There is, however, a trend towards greater chloritization and increasing thickness of footwall basalt from the south to north in the area drilled.

Basalt is present mostly as flows, often with recognizable ropey calcareous and sulphidic flow tops. Small calcareous amygdules are often concentrated near flow tops, whereas microgabbro is often developed at the base of thick flows. Basaltic tuff is moderately abundant, and is usually found in association with iron sulphide.

From MacIntyre's (1986) data, it seems that the unaltered middle Tats Group basalts found in the Windy Craggy footwall are chemically distinct, being more aluminous, more alkaline, relatively LREE-enriched and TiO_2-depleted with respect to the basalts of the upper Tats Group. Although minor ultramafic volcanics are present (eg., from 36.6 m to 37.8 m in DDH 12-82), the rocks of this unit generally fall in a narrow compositional range (SiO_2 in weakly altered basalt varies from 45% to 50%). No convincing intermediate or felsic volcanics were observed.

4) Subvolcanic Andesite

Fine-grained hypabyssal, light greenish-grey andesitic dykes and sills are common on the western side of the Windy Craggy synform, between holes 5b-81 and 21-83. These intrusive rocks are usually massive and unfoliated, although carbonate alteration, small feldspar pherocrysts and local glomeroporphyritic textures can be found. Cross-cutting relationships with surrounding lithologies and chilled margins are often evident. These dykes and sills seem to be compositionally unrelated to the other volcanic rocks in the sequence, and have an uncertain temporal and genetic relationship to them.

5) Chert

Chert is a major constituent of the semi-massive sulphide units and can occasionally be found as rounded fragments in massive sulphides. Units of sulphide-poor chert unrelated to thick sulphides are uncommon and, when found, still contain thin interlaminations of sulphide, chloritic schist (altered tuff ? exhalite ?) and/or carbonate. Facies change is suspected between holes 14-83, 12-82 and 21-83 involving chert, black cherty argillite and possibly carbonate-chert-sulphide rock.

6) Weathered Core

Heavily weathered core was observed near the collars of DDHs 12-82, 15-83, 17-83 and 21-83. Extensive weathering of massive sulphides 60 m below the inferred surface is also observed between 280 m and 320 m in DDH 11-82.

In all of these cases, weathering can be attributed to a major fault zone which extends down the centre of the Windy Craggy synform -- the "Axial Fault Zone". Goethite-healed fault gouge is locally evident in this fault zone.

Some of the weathered fault rubble sampled by the author was observed to be significantly auriferous. Among the better assays obtained were:

DDH 11-82,	1031 to 1054' (314.3 m - 321.3 m,	(approx.) approx.)	3.7 g/t Au/7.0 m
DDH 12-82,	70 to 94' (21.3 m to 28.7 m,	(approx.) approx.)	4.0 g/t Au/7.3 m
DDH 12-82,	109 to 129' (33.2 m to 39.3 m,	(approx.) approx.)	1.6 g/t Au/6.1 m
DDH 17-83,	20.0 m to 30.0 m	(approx.)	2.5 g/t Au/10.0 m
DDH 17-83,	37.0 m to 43.0 m	(approx.)	1.5 g/t Au/6.0 m
DDH 21-83,	31.0 m to 38.0 m	(approx.)	4.3 g/t Au/7.0 m
(including 6.4 g/t/4.0 m from 34-38 m, approx.)			
DDH 21-83,	73.0 m to 76.0 m	(approx.)	2.8 g/t Au/3.0 m

7) **Massive Sulphides**

Massive sulphide zones composed of pyrrhotite or pyrite are chemically, texturally and spatially distinct. Zones of pyrrhotitic massive sulphides are fine-grained, dense, and contain minor dark siliceous gangue. Pyritic massive sulphides are fine-to medium-grained, contain chalcopyrite in streaks and as aggregates interstitial to pyrite grains, contain gangue material which varies from silicious to sideritic/ankeritic and frequently exhibit coarse bedding. A crude relationship is evident between the carbonate content of the gangue and the copper grade of the corresponding pyritic unit.

The massive sulphides show no clear metal zoning, other than the lateral pyrite-Cu to pyrrhotite-Co distinction that is made between the north and south deposits. To date, only minor sphalerite has been found in either zone. The magnetite described previously as occuring throughout the massive sulphide zones was not observed by the author.

Thirty five-element quantitative spectral analyses were carried out on seven composites from a variety of massive to semi-massive sulphidic samples, in order to evaluate the potential in the deposit for economic byproducts. The following sulphide types were investigated: auriferous semi-massive pyrite in carbonate from DDH 14-83 (samples 14-440A and 14-452A), massive pyrrhotite with elevated Co content from DDHs 9-82 and 12-82 (samples 9-1420A and 12-231A), massive pyrrhotite containing unusually high Cu grade, and moderate Co values from DDH 12 (sample 12-218A), a massive pyrite sample relatively rich in Zn from DDH 12 (sample 12-527) and unusual semi-massive, coarse- grained pyrite-chalcopyrite material from DDH 11 (sample 11-1344).

The results, tabulated in Appendix A, show sample 14-440A to be weakly enriched in Ga (17 ppm), sample 14-452A to be anomalous in Mo (52 ppm), samples 12-218A, 12-231A and 9-1420A to be enriched in Sb (73-160 ppm) and sample 12-527 to contain elevated contents of Sb and Cd (51 and 87 ppm respectively).

8) **Semi-massive sulphides**

Semi-massive sulphides envelop the southern massive sulphide zone, and seem to increase in thickness as the massive sulphide decreases. This unit consist of irregularly interbedded massive pyrrhotite, occasional massive pyrite, black chert, cherty argillite and chloritic chert; it rarely contains important concentrations of economic metals. The unit is easily distinguishable from the auriferous, sulphide-bearing carbonate unit discribed below.

A similar heterogeneous semi-massive sulphide unit envelops thin massive pyrrhotite west of the north zone, towards the bottom of DDH 12-82. It may represent the distal expression of the thick massive sulphide body comprising the south zone. It is suspected that rocks of this unit may grade further into cherty argillite and chert.

Rocks of this unit have been described previously in terms of silicified and chloritic alteration and stringer sulphides. However, there is no question that they reflect chemical and clastic sedimentation.

9) **Carbonate-sulphide rock**

This unit is typified by the rocks of gold-rich zone encountered in DDH 14-83, and is compositionally distinct from all of the other units logged. It is also stratigraphically distinct; it occurs between massive sulphide and basalt in DDH 14-83, and between massive sulphide and footwall calc-argillite in a number of other holes.

The unit in DDH 14-83 is composed of fine-to medium-grained, medium brownish-grey Fe-Mg carbonate (calcite is rare), and subordinate grey cherty quartz. The former is buff-brown on the lightly weathered outer surface of the core, whereas the latter weathers white. Pyrite, subordinate pyrrhotite and moderately abundant chalcopyrite occur heavily disseminated, as semi-massive pods and bands, and occasionally as massive fragments in carbonate. In contrast, only weakly disseminated sulphides are observed in the cherty quartz. No visible gold was seen in any of the core.

Cherty quartz is present mostly in the form of poorly sorted, subangular to subrounded fragments, which are invariably enclosed by sulphide-bearing carbonate. However, bands of thinly laminated, non-fragmental cherty material can also be found occasionally. The carbonate-sulphide-chert unit in DDH 14-83 is cut by F_2-related, barren calcite veins (plate 2).

A total of 10 intersections of this unit, including the gold zone in DDH 14-83, have so far been recognized. Some of the anomalous values obtained are:

DDH 17-83	124.0 - 133.0 m	0.8 g/t Au/9.0 m
DDH 17-83	158.0 - 159.0 m	7.5 g/t Au/1.0 m
DDH 12-82	558 - 612 ft (170.1 - 186.6 m)	0.7 g/t Au/16.5 m
DDH 11-82	899 - 911 ft (274.1 - 277.7 m)	1.3 g/t Au/3.7 m
DDH 11-82	1540 - 1555 ft (469.5 - 474.1 m)	1.2 g/t Au/4.6 m
DDH 11-82	1601 - 1612 ft (448.1 - 491.5 m)	1.5 g/t Au/3.4 m
DDH 11-82	1704 - 1726 ft (519.5 - 526.2 m)	1.3 g/t Au/6.7 m
DDH 13-83	325.0 - 327.0 m	1.1 g/t Au/2.0 m

All of the above occur in carbonate-sulphide intersections which are believed to be stratigraphically equivalent to the one intersected in DDH 14-83; they resemble the low-grade calcite-bearing material present towards the margins of the main zone. They differ with respect to thickness and Au grade, in the relative abundance of calcite in the gangue, and in the preponderance of pyrrhotite. Cherty fragments are rare or absent, although small chloritized volcanic or sulphidic clasts may be present.

All of these auriferous intersections occur in the vicinity of the northern massive pyritic deposit. All are believed to represent exhalitic sediment, in which the original carbonate-chert bedding has been transposed and dislocated by tectonic brecciation and/or by soft sediment deformation. They do not appear to reflect epigenetic mineralization, as has been inferred previously.

10) Gabbro

Black, medium-to coarse-grained hornblende gabbro intersects calcareous argillite near the tops of DDHs 11-82 and 13-83. Its chilled margins were previously logged as mafic tuff.

This unit is inferred to cut the hypabyssal andesitic of unit 4, and may be the youngest lithology present.

Gold Zone Mineralogy

A petrographic examination was carried out by the author on the following six polished thin sections from the gold zone of DDH 14-83:

426.64 - 3 thin sections	(from	423.8 - 427.0 =	4.30 g/t Au)
452.50 - 1 thin section	(from	452.0 - 455.0 =	34.97 g/t Au)
456.15 - 1 thin section	(from	455.0 - 458.0 =	22.63 g/t Au)
455.35 - 1 thin section	(from	455.0 - 458.0 =	22.63 g/t Au)

A total of 15 gold grains, averaging 5 to 10 microns in size, were observed in samples 452.5, 456.15 and 455.35.

All four samples contain semi-massive sulphides, and bands or fragments of chert in abundant fine-to medium-grained carbonate. Petrographic and wet chemical analysis shows the carbonate to consist of siderite, ankerite and minor calcite. The cherty bands and fragments consist of very fine-grained, mosaic-textured quartz. The fine-grained, laminated and silica-rich nature of the latter, and the sharp contact between carbonate and unaltered basalt observed in a number of samples from this zone tends to support a sedimentary origin for this unit.

The carbonate fraction in the samples contains 10-40% of fine-to medium-grained pyrite, subordinate pyrrhotite, and minor sphalerite, pentlandite, Fe-chlorite, quartz, hematite and stilpnomelane. The sulphides occur as irregular patches, and as intergrowths between carbonate grains. The chert bands and fragments contain 5-10% of very fine-grained sulphide, in the form of weak disseminations and very thin laminae.

A direct spatial and genetic relationship between gold and carbonate is evident in these samples. Gold grains were found only with carbonate; none were apparant in chert or in silica-rich sample 426.65. Moreover, gold was observed primarily in association with the pyrite in the carbonate bands. An early, often brecciated, subidiomorphic to idiomorphic variety of pyrite, usually found in association with chalcopyrite, was found to be a particularly favourable host for free gold. Three varieties of free gold grains were recognized;

- bright yellow, very fine-grained gold (1-2 μm), found as inclusions in pyrite;
- lighter yellow, relatively coarse-grained gold (20-25 μm), found at the contacts between pyrite and gangue;
- pale yellow (argentiferous ?) fine-grained (3-6 μm) gold found in fractures in pyrite.

Gasparrini (1983) studied two samples from DDH 14-83 by means of petrography and scanning electron microscopy. Gold was observed in only one sample, as grains with an average size of less than 10 μm. The silver content of these grains was found to vary between 15 and 30%.

Based on her observations, Gasparrini obtained a textural categorization of gold identical to the above. A fine and even distribution of gold through the rocks of the gold zone was inferred, which, as pointed out in her

report, is in contrast with the dense and irregular concentrations found in many other gold ores.

CANMET has used petrography and electron probe micro-analysis to study the nature and mode of occurrence of gold in samples provided by the author from 440 m, 452 m and 458 m in DDH 14-83 (Wilson , in preparation). Nineteen gold grains were observed in the 15 polished sections analyzed.

Gold was observed by CANMET to range in size from 3 to 60 μm, and to average 13 μm. However, on a weight basis, 70% of the gold was found in grains greater than 30 μm in size, and 87% in grains larger than 20 μm. In contrast with previous studies, most of the free gold was observed to occur in gangue.

In view of the association observed in at least some samples between gold and an early phase of pyrite, and particularly since gold is often found as inclusions in such pyrite, the gold mineralization in DDH 14-83 is assumed to have occured early in the history of the deposit. Since a sedimentary origin is evident for the carbonate unit and its associated sulphides, a syngenetic origin for the gold is also inferred. Note that only one gold-bearing veinlet-- an 8 mm long, 1mm wide quartz-filled tension fracture in sample 440 -- was observed in all of the sections examined by the author and by CANMET (plate 1b).

Its occurence in the free state, and in an acceptable size range suggest good metallurgical properties for the gold zone around DDH 14-83. On the basis of textural evidence, Gasperrini (1983) concluded that a gold recovery greater than 60% could be expected, although some loss might occur in relation to very fine-grained, unliberated particles totally enclosed in pyrite.

Metallurgical Tests

Metallurgical tests on composite samples from the gold zone at Windy Craggy were carried out in 1986 by Coastech Research Inc. (Summers and Marchant, 1986) and by Mr. A. Stemerowicz of CANMET.

The Coastech results indicate that a copper concentrate with a copper recovery of 82% and a grade of 20% Cu can be achieved by means of floatation. Gold recovery of 83% to a bulk floatation concentrate was obtained. Additional testwork was recommended to improve concentrate cleaning efficiency; cleaning will improve the concentrate gold grade, although recovery might decrease due to loss of unliberated gold in pyrite/pyrrhotite.

Selective floatation at a 90% -325 mesh grind was carried out by CANMET on material provided by the author from the gold zone. A concentrate with a Cu recovery of 85% and a grade of 27% Cu was obtained, with a gold recovery of 69%. Cyanidation of the floatation tailings resulted in a total gold recovery of 97%, although high cyanide and lime consumption was reported.

Preliminary gravity concentration tests were also carried out by CANMET. Jigging at -14 mesh and tabling of the reground (90% -325 mesh) jig tailing resulted in a gold recovery of 56%. Gold recoveries of 70% or better may be obtainable with further testing (A. Stemerowicz, pers. comm., 1986). Further gravity concentration study, and mercury amalgamation trials on both floatation and gravity concentrates is recommended by CANMET.

Summary and Conclusions

An interpretation of the Wind Craggy geology is presented in dwg. P86-02-1. The presence of two sulphide bodies, separated by a 100 m "gap" of basalt, can be confirmed at the 1600 m level. Both bodies occupy the core of what is probably the same F_1 (?) synform, and both have been affected by a major fault system (the "Axial Fault Zone") which extends through the centre of the southern sulphide body. The two sulphide zones appear to have an overall northwesterly plunge. The limbs of the north and south zone synformal folds extend to the northeast and northwest, which indicates that mineralization is open along strike in these directions, as well as down plunge and at depth. The presence in the south zone of supergene-enriched covellite-bearing material (11.1% Cu, 0.20% Co/9.1 m, in DDH 11-82), suggests local potential for high grade base metal mineralization additional to that evident in the unaltered sulphides.

Evidence for two foliations, two corresponding fold phases and at least as many generations of faulting is evident in the drill core, which supports the multiphase deformation style for the Windy Craggy area suggested by Falconbridge. The superposition of these structural events may explain the complexity of the deposit. Thus the two sulphide zones probably represent segments of the same body, with the gap between the two probably being the result of major F_1-F_2 cross-folding. Structural mapping at surface in the vicinity of the gap will determine if F_2 is synformal here, and if the two bodies are likely to join at depth.

The rocks enclosing the deposit do not appear to be strongly altered, as has been suggested by others. Instead, the semi-massive sulphides surrounding the main areas of mineralization are now considered to consist of interbedded sulphide, chert, cherty argillite and chloritic tuff/exhalite. However, increasing chloritization of footwall basalt, as well as possible basalt thickening, is noted in the vicinity of the north sulphide zone. The possibility therefore exists that the major focus of hydrothermal alteration and footwall basalt doming lies down plunge and/or along strike to the northwest of the area drilled.

The gold intersection in DDH 14-83 is compositionally and texturally distinct with respect to all of the other sulphidic units encountered, and occurs at a distinct stratigraphic level near the base of the massive sulphides. The interection in hole 14-83 is not unique; analogous, but less well mineralized carbonate-sulphide intersections were encountered at similar stratigraphic levels in a number of other drill holes. In particular, the thin, folded (?) weakly auriferous carbonate zones intersected near the end of DDH 11-82 may represent the eastern strike limit of the main gold zone.

The carbonate-sulphide units in DDHs 12-82, 13-83, 15-83 and 17-83 are inferred to be the folded, distal equivalents of the gold-bearing unit interected in DDH 14-83.

Petrographic study suggests that gold in this carbonate-sulphide rock exists in the free state, in association with pyrite and with carbonate gangue. Observed grains vary in diameter from 1μm to 70μm. A mean size of between 5μ and 13 μm is apparant, although work by CANMET suggests that by weight most of the gold occurs in grains larger in size than the mean.

Metallurgical testing of material from the DDH 14-83 gold zone by CANMET and by Coastech Research Inc. indicates good gold recovery (69 to 83%) to a copper floatation concentrate. Of particular interest from the point of view of capital cost is the possibility, suggested by CANMET, for acceptable gold recoveries by gravitational methods.

Evidence exists in weathered core for significant epigenetic (?) gold mineralization along the "Axial Fault Zone" (eg., 4.0g/t Au/7.3 m in DDH 12-82, 6.4g/t Au/4.0 m in DDH 21-83), which is distinct from the syngenetic mineralization found in carbonate-sulphide rock. It is therefore concluded that the fault zone constitutes an important new gold exploration target.

Existing tonnage and grade estimates indicate that Windy Craggy may be among the word's largest known base metal deposits. From the present study, it is concluded that excellent potential exists for base metal reserves additional to those already outlined down plunge and along strike of the north sulphide zone to the northwest, in the direction of increasing alteration and footwall basalt thickening.

It is also concluded that the gold-rich carbonate-sulphide zone intersected by DDH 14-83 is stratabound, and that its contained mineralization is syngenetic in origin. Potential is therefore believed to exist for stratigraphic continuity of this zone, and hence for significant additional gold mineralization of this type on the property. Reserve calculations cannot be made on the basis of a single drill hole, but sufficient confidence can be placed on the continuity of this zone to support speculation on the presence of a gold-bearing resource of several million tonnes (eg., Fox 1986; McDougall, 1984). The metallurgical properties of this resource are likely to be good.

Recommendations

Additional exploration at Windy Craggy is clearly warranted. It is recommended that a program be designed to meet the following objectives:

- The detailed definition of base and precious metal reserves in the area of previous drilling. Because of anticipated structural complexity and the limitation on surface drill sites, McDougall's (1984) recommendation for an underground exploration program is supported.

- The reconnaissance evaluation of the "Axial Fault Zone", of the area to the northwest of the north sulphide zone, and of the high grade supergene Cu-Co zone intersected by DDH 11-82. Drilling in the Axial Fault Zone

should be initiated in the "gap" between the north and south sulphide bodies, where it intersects the base of the massive sulphides. Drilling should be done both in the zone of weathering and below it to determine if gold enrichment is primary, or due to the oxidation of sulphides, as is the case for Canamax's Ketza River deposit, Y.T.

- Detailed structural mapping and reconnaissance drilling in the "gap" between the two sulphides zones, to test the hypothesis that the two zones join at depth.

- Additional metallurgical testing of material from both the gold and massive sulphide zones. In particular, tests should be continued on gravity methods of gold beneficiation.

The commercial feasibility of the Great Central Mines chloride-based hydrometallurgical process (eg., Craigen and Beattie, 1985; Beattie, Craigen and Sarkar, 1984) should also be evaluated, This process could result in the extraction of all of the potential product at Windy Craggy, including Cu, Ag, Au, Co and S, is more suitable for the deposit than acid pressure leaching methods, and is potentially an economically attractive option to conventional pyrometallurgical methods.

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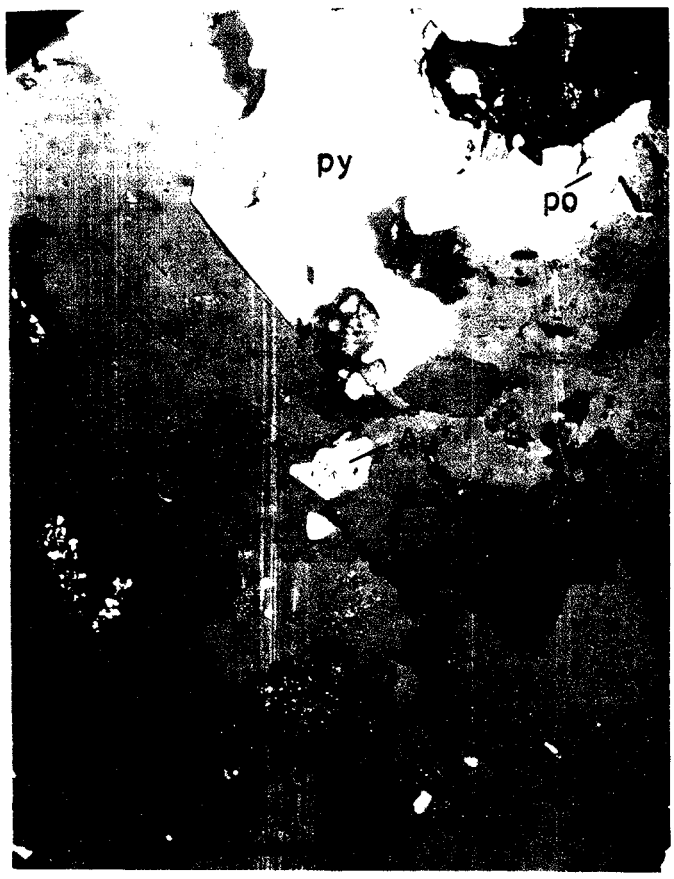
Plate 1

a) Microphotograph of CANMET sample 452, showing a large gold grain in carbonate, near subhedral pyrite.

b) Microphotograph of CANMET sample 440, showing a small (8 mm X 1 mm) quartz-infilled tension fracture in carbonate. A grain of free gold occurs with chalcopyrite in this veinlet.

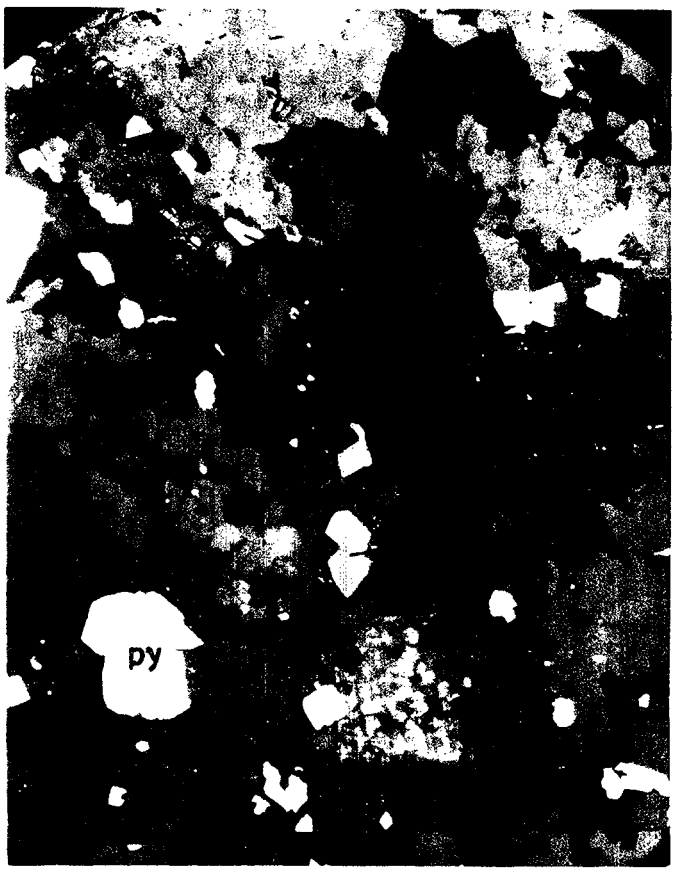
c) Microphotograph of CANMET sample 440, showing several small gold grains in carbonate.

d) Microphotograph of CANMET sample 452, showing a large, C-shaped grain of gold in carbonate, near a large grain of subhedral pyrite.

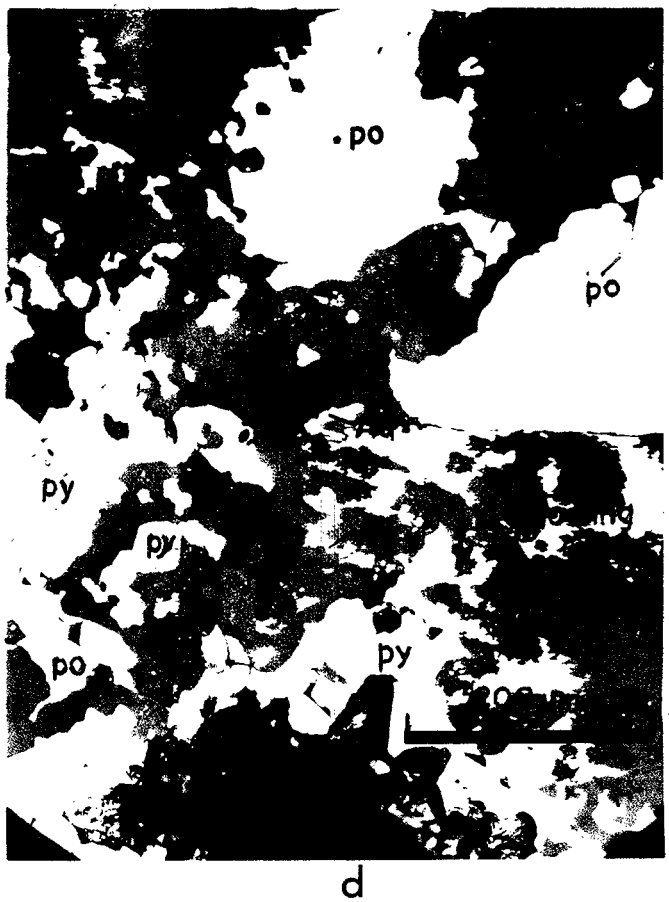


a

b



c



d

Plate 2

a) Drill sample from 452.5m, DDH 14-83, showing a folded band of finely laminated chert (light grey) and thicker auriferous carbonate-sulphide (brown). Gold is found only with the carbonate-sulphide rock. Barren quartz-carbonate veinlets are confined to the S_2 direction, along which chert banding has been dislocated.

b) Drill sample from 447.5 m, DDH 14-83, showing a contact between crudely interbedded chert (light grey) and auriferous carbonate-sulphide rock, and relatively unaltered basalt (green).

c) Drill core from 448.65 m, DDH 14-83, showing interbedded laminated chert (light grey) and auriferous carbonate-sulphide (brown). Incipient P_2-related fracturing of the chert is evident.

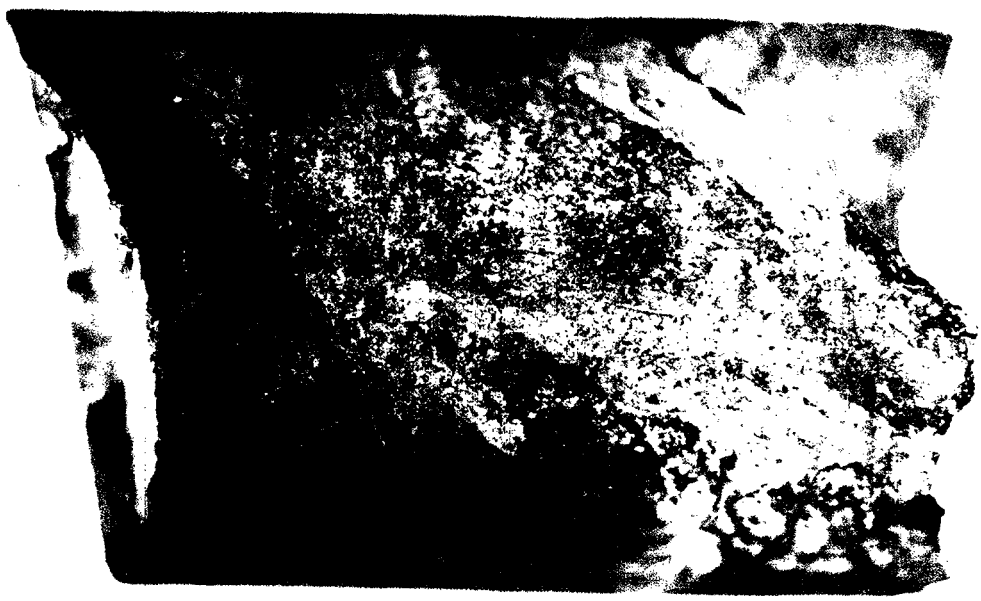
d) Drill core from 463.8 m, DDH 14-83, showing typical gold zone material. Chert (light grey) is present as a rounded fragment in auriferous carbonate-sulphide rock (brown).

e) Drill core from 470.1 m, DDH 14-83, showing typical gold zone material. Chert (light grey) is present as contorted subangular laths (dislocated beds ?) in auriferous carbonate-sulphide rock (brown). The cross-cutting calcite-quartz veinlets are late and barren.

f) Drill core from 470.1 m, DDH 14-83, showing fine-bedded, weakly auriferous carbonate-sulphide rock. This sample contains more calcite than is typical for the strongly auriferous parts of the gold zone, and resembles carbonate-sulphide rock intersected in DDHs 11-82, 12-82, 13-82, 15-83 and 17-83.

a

b

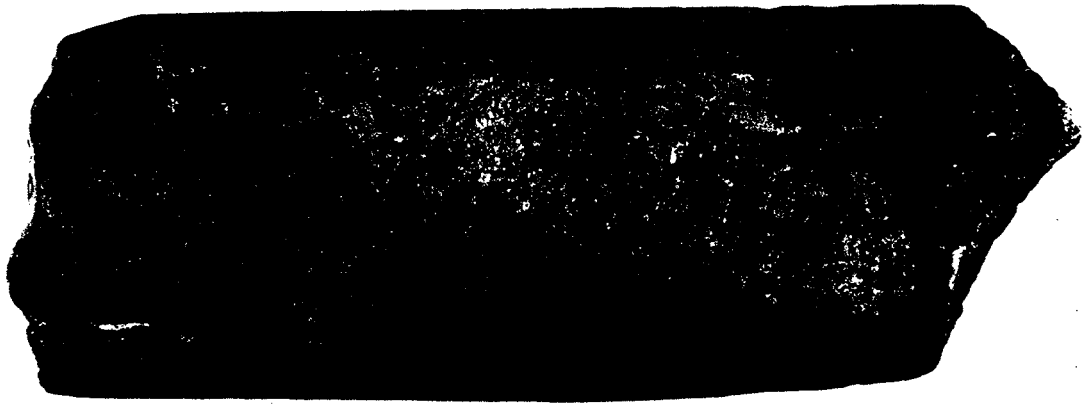


c

d

e

f



Appendix A

New analyses from the Windy Craggy drill core

Sample no.	Analysed for	Location key
14-440[a]	Spectral*	ddh 14-83,440.3-452.0 m
14-452[a]	Spectral	ddh 14-83,452.0-476.0 m
12-218[a]	Spectral	ddh 12-83,218.0-227.0 ft
12-231[a]	Spectral	ddh 12-83,231.0-241.0 ft
12-527	Spectral	ddh 12-83,527.0-547.0 ft
14-175	Au	ddh 14-83,175.26-175.60 m
14-191	Au	ddh 14-83,191.65-192.0 m
14-207	Au	ddh 14-83,207.5-209.0 m
14-214	Cu,Zn,Co,Au	ddh 14-83,214.3-215.3 m
14-215	Cu,Zn,Co,Au	ddh 14-83,215.3-216.3 m
14-216	Cu,Zn,Co,Au	ddh 14-83,216.3-217.3 m
14-217	Cu,Zn,Co,Au	ddh 14-83,217.3-218.3 m
14-221	Cu,Zn,Co,Au	ddh 14-83,221.0-222.0 m
14-222	Cu,Zn,Co,Au	ddh 14-83,222.0-223.0 m
14-223	Cu,Zn,Co Au	ddh 14-83,223.0-224.0 m
14-276	Cu,Zn,Co,Au	ddh 14-83,276.2-277.2 m
14-277	Cu,Zn,Co,Au	ddh 14-83,277.2-278.2 m
14-279	Cu,Zn,Co,Au	ddh 14-83,279.2-280.2 m
14-280	Cu,Zn,Co,Au	ddh 14-83,280.2-281.2 m
14-299	Cu,Zn,Co,Au	ddh 14-83,299.7-301.2 m
14-304	Au	ddh 14-83,304.6-305.6 m
14-307	Au	ddh 14-83,307.1-308.1 m
14-308	Au	ddh 14-83,308.1-309.1 m
14-313	Cu,Zn,Co,Au	ddh 14-83,313.0-314.0 m
14-325	Cu,Zn,Co,Au	ddh 14-83,325.75-326.75 m
14-385	Cu,Zn,Co,Au	ddh 14-83,385.02-386.02 m
12-558	Au	ddh 12-83,558.0-561.0 ft
12-561	Au	ddh 12-83,561.0-564.0 ft
12-564	Au	ddh 12-83,564.0-567.0 ft
12-567	Au	ddh 12-83,567.0-570.0 ft
12-570	Au	ddh 12-83,570.0-573.0 ft
12-573	Au	ddh 12-83,573.0-576.0 ft
12-576	Au	ddh 12-83,576.0-579.0 ft
12-579	Au	ddh 12-83,579.0-582.0 ft
12-582	Au	ddh 12-83,582.0-585.0 ft
12-585	Au	ddh 12-83,585.0-588.0 ft
12-588	Au	ddh 12-83,588.0-591.0 ft
12-591	Au	ddh 12-83,591.0-594.0 ft
12-594	Au	ddh 12-83,594.0-597.0 ft
12-597	Au	ddh 12-83,597.0-600.0 ft
12-600	Au	ddh 12-83,600.0-603.0 ft
12-603	Au	ddh 12-83,603.0-606.0 ft
12-606	Au	ddh 12-83,606.0-609.0 ft
12-609	Au	ddh 12-83,609.0-612.0 ft
12-641	Au	ddh 12-83,641.0-643.0 ft
12-644	Au	ddh 12-83,643,0-647.0 ft
12-647	Au	ddh 12-83,647.0-653.0 ft
12-728	Au	ddh 12-83,728.0-729.0 ft
12-733	Au	ddh 12-83,733.3-734.5 ft

*Spectral= gold + 25 package (Au,Sb,As,Ba,Cd,Cs,Cr,Co,Eu,Hf,Ir,Fe,La,Mo,Ni,Rb,Sc, Se,Ag,Ta,Tb,Th,W,U,Yb,Zn) + Ge,Ga,Pt,Pb,Sn,Zr,Be,Pb,Be,Bi

Sample no.	Analysed for	Location key
16-103	Au	DDH 16-83, 102.9-103.9m
16-157	Au	DDH 16-83, 156.8-157.8m
17-16	Au	DDH 17-83, 16-18m (approx.)
17-18	Au	DDH 17-83, 18-20m (approx.)
17-20	Au	DDH 17-83, 20-22m (approx.)
17-22	Au	DDH 17-83, 22-24m (approx.)
17-24	Au	DDH 17-83, 24-26m (approx.)
17-26	Au	DDH 17-83, 26-28m (approx.)
17-28	Au	DDH 17-83, 28-30m (approx.)
17-37	Au	DDH 17-83, 37-40m (approx.)
17-40	Au	DDH 17-83, 40-43m (approx.)
17-111	Au	DDH 17-83, 111.75-112.75m
17-124	Au	DDH 17-83, 124.0-125.0m
17-125	Au	DDH 17-83, 125.0-126.0m
17-126	Au	DDH 17-83, 126.0-127.0m
17-127	Au	DDH 17-83, 127.0-128.0m
17-128	Au	DDH 17-83, 128.0-129.0m
17-129	Au	DDH 17-83, 129.0-130.0m
17-130	Au	DDH 17-83, 130.0-131.0m
17-131	Au	DDH 17-83, 131.0-132.0m
17-132	Au	DDH 17-83, 132.0-133.0m
17-156	Au	DDH 17-83, 156.0-157.0m
17-157	Au	DDH 17-83, 157.0-158.0m
17-158	Au	DDH 17-83, 158.0-159.0m
21-31	Au	DDH 21-83, 31-32m (approx.)
21-32	Au	DDH 21-83, 32-33m (approx.)
21-33	Au	DDH 21-83, 33-34m (approx.)
21-34	Au	DDH 21-83, 34-35m (approx.)
21-35	Au	DDH 21-83, 35-36m (approx.)
21-36	Au	DDH 21-83, 36-37m (approx.)
21-37	Au	DDH 21-83, 37-38m (approx.)
21-41	Au	DDH 21-83, 41-42m (approx.)
21-42	Au	DDH 21-83, 42-43m (approx.)
21-43	Au	DDH 21-83, 43-44m (approx.)
21-44	Au	DDH 21-83, 44-45m (approx.)
21-45	Au	DDH 21-83, 45-46m (approx.)
21-46	Au	DDH 21-83, 46-47m (approx.)
21-47	Au	DDH 21-83, 47-48m (approx.)
21-71	Au	DDH 21-83. 71-72m (approx.)
21-72	Au	DDH 21-83, 72-73m (approx.)
21-73	Au	DDH 21-83, 73-74m (approx.)
21-74	Au	DDH 21-83, 74-75m (approx.)
21-75	Au	DDH 21-83, 75-76m (approx.)
21-76	Au	DDH 21-83, 76-77m (approx.)
21-117	Au	DDH 21-83, 117-119m (approx.)

Sample no.	Analysed for	Location key
12-70	Au	DDH 83-12, 70-73' (approx.)
12-73	Au	DDH 83-12, 73-76' (appro.x)
12-76	Au	DDH 83-12, 76-79' (approx.)
12-79	Au	DDH 83-12, 79-82' (approx.)
12-82	Au	DDH 83-12, 82-85' (approx.)
12-85	Au	DDH 83-12, 85-88' (approx.)
12-88	Au	DDH 83-12, 88-91' (approx.)
12-91	Au	DDH 83-12, 91-94' (approx.)
12-94	Au	DDH 83-12, 94-97' (approx.)
12-97	Au	DDH 83-12, 97-106' (approx.)
12-106	Au	DDH 83-12, 106-109' (approx.)
12-109	Au	DDH 83-12, 109-112' (approx.)
12-112	Au	DDH 83-12, 112-115' (approx.)
12-115	Au	DDH 83-12, 115-118' (approx.)
12-118	Au	DDH 83-12, 118-121' (approx.)
12-123	Au	DDH 83-12, 123-126' (approx.)
12-126	Au	DDH 83-12, 126-129' (approx.)
12-129	Au	DDH 83-12, 129-132' (approx.)
12-132	Au	DDH 83-12, 132-135' (approx.)
12-172	Au	DDH 83-12, 172-175' (approx.)
12-175	Au	DDH 83-12, 175-178' (approx.)
12-178	Au	DDH 83-12, 178-181' (approx.)
12-181	Au	DDH 83-12, 181-184' (approx.)
12-184	Au	DDH 83-12, 184-188' (approx.)
11-416	Au	DDH 83-11, 416-419'
11-419	Au	DDH 83-11, 419-422'
11-422	Au	DDH 83-11, 422-425'
11-896	Au	DDH 83-11, 896-899'
11-899	Au	DDH 83-11, 899-902'
11-902	Au	DDH 83-11, 902-905'
11-905	Au	DDH 83-11, 905-908'
11-908	Au	DDH 83-11, 908-911'
11-974	Au	DDH 83-11, 974-977' (approx.)
11-977	Au	DDH 83-11, 977-984' (approx.)
11-984	Au	DDH 83-11, 984-987' (approx.)
11-1014	Au	DDH 83-11, 1014-1024' (approx.)
11-1031	Au	DDH 83-11, 1031-1054' (approx.)
11-1054	Au	DDH 83-11, 1054-1064' (approx.)
11-1217	Au	DDH 83-11, 1217-1220'
11-1220	Au	DDH 83-11, 1220-1223'
11-1344	Spectral analysis	DDH 83-11, 1344.5-1352'
11-1364	Au	DDH 83-11, 1364-1368'
11-1374	Au	DDH 83-11, 1374-1377'
11-1396	Au	DDH 83-11, 1396-1399'
11-1474	Au	DDH 83-11, 1474-1477'
11-1477	Au	DDH 83-11, 1477-1480'
11-1480	Au	DDH 83-11, 1480-1483'
11-1534	Au	DDH 83-11, 1534-1537'

11-1537	Au	DDH 83-11, 1537'-1540'
11-1540	Au	DDH 83-11, 1540'-1543'
11-1543	Au	DDH 83-11, 1543'-1546'
11-1546	Au	DDH 83-11, 1546'-1549'
11-1549	Au	DDH 83-11, 1549'-1552'
11-1552	Au	DDH 83-11, 1552'-1555'
11-1555	Au	DDH 83-11, 1555'-1558'
11-1558	Au	DDH 83-11, 1558'-1561'
11-1601	Au	DDH 83-11, 1601'-1603'
11-1603	Au	DDH 83-11, 1603-1606'
11-1606	Au	DDH 83-11, 1606-1609'
11-1609	Au	DDH 83-11, 1609-1612'
11-1634	Au	DDH 83-11, 1634-1637'
11-1637	Au	DDH 83-11, 1637-1640'
11-1643	Au	DDH 83-11, 1643-1646'
11-1646	Au	DDH 83-11, 1646-1649'
11-1649	Au	DDH 83-11, 1649-1652'
11-1652	Au	DDH 83-11, 1652'-1655'
11-1655	Au	DDH 83-11, 1655-1658'
11-1658	Au	DDH 83-11, 1658'-1661'
11-1661	Au	DDH 83-11, 1661'-1664'
11-1664	Au	DDH 83-11, 1664-1667'
11-1667	Au	DDH 83-11, 1667-1670'
11-1670	Au	DDH 83-11, 1670-1673'
11-1673	Au	DDH 83-11, 1673-1676'
11-1676	Au	DDH 83-11, 1676-1679'
11-1679	Au	DDH 83-11, 1679-1682'
11-1682	Au	DDH 83-11, 1682-1685'
11-1685	Au	DDH 83-11, 1685-1688'
11-1688	Au	DDH 83-11, 1688-1691'
11-1691	Au	DDH 83-11, 1691-1694'
11-1694	Au	DDH 83-11, 1694-1697'
11-1697	Au	DDH 83-11, 1697-1700'
11-1701	Au	DDH 83-11, 1701-1704'
11-1704	Au	DDH 83-11, 1704-1707'
11-1707	Au	DDH 83-11, 1707-1710'
11-1710	Au	DDH 83-11, 1710-1713'
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11-1729	Au	DDH 83-11 1729-1732'
11-1732	Au	DDH 83-11 1732-1735'
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11-1738	Au	DDH 83-11 1738-1741'
11-1741	Au	DDH 83-11 1741-1744'
11-1747	Au	DDH 83-11 1747-1750'
11-1777	Au	DDH 83-11 1777-1780'
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13-254	Au	DDH 83-13 254-255m
13-255	Au	DDH 83-13 255-256m
13-256	Au	DDH 83-13 256-257m
13-257	Au	DDH 83-13 257-258m

13-258	Au	DDH 83-13 258-259m
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13-261	Au	DDH 83-13 261-262m
13-262	Au	DDH 83-13 262-263m
13-263	Au	DDH 83-13 263-264m
13-264	Au	DDH 83-13 264-265m
13-265	Au	DDH 83-13 265-266m
13-266	Au	DDH 83-13 266-267m
13-267	Au	DDH 83-13 267-268m
13-268	Au	DDH 83-13 268-269m
13-269	Au	DDH 83-13 269-270m
13-270	Au	DDH 83-13 270-271m
13-318	Au	DDH 83-13 318-319m
13-319	Au	DDH 83-13 319-320m
13-320	Au	DDH 83-13 320-321m
13-321	Au	DDH 83-13 321-322m
13-322	Au	DDH 83-13 322-323m
13-323	Au	DDH 83-13 323-324m
13-324	Au	DDH 83-13 324-325m
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13-326	Au	DDH 83-13 326-327m
13-327	Au	DDH 83-13 327-328m
13-328	Au	DDH 83-13 328-329m
13-585	Au	DDH 83-13 585-586m
13-586	Au	DDH 83-13 586-587m
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9-780	Au	DDH 81-9 770-780'
9-810	Au	DDH 81-9 810-820'
9-920	Au	DDH 81-9 920-930'
9-947	Au	DDH 81-9 947-957'
9-1020	Au	DDH 81-9 1020-1030'
9-1060	Au	DDH 81-9 1060-1070'
9-1070	Au	DDH 81-9 1070-1080'
9-1080	Au	DDH 81-9 1080-1090'
9-1090	Au	DDH 81-9 1090-1095'
9-1390	Co	DDH 81-9 1390-1393'
9-1393	Co	DDH 81-9 1393-1396'
9-1396	Co	DDH 81-9 1396-1399'
9-1399	Co	DDH 81-9 1399-1402'
9-1402	Co	DDH 81-9 1402-1405'
9-1405	Co	DDH 81-9 1405-1408'
9-1408	Co	DDH 81-9 1408-1411'
9-1420	Co	DDH 81-9 1420-1423'
9-1420A	Spectral analysis	DDH 81-9 1420-1450'
9-1423	Co	DDH 81-9 1423-1426'
9-1426	Co	DDH 81-9 1426-1429'
9-1429	Co	DDH 81-9 1429'-1432'
9-1432	Co	DDH 81-9 1432'-1435'
9-1435	Co	DDH 81-9 1435-1438'
9-1438	Co	DDH 81-9 1438-1441'
9-1441	Co	DDH 81-9 1441-1444'
9-1444	Co	DDH 81-9 1444-1447'
9-1447	Co	DDH 81-9 1447-1450'

5-560	Au	DDH 81-5B 560-563'
5-563	Au	DDH 81-5B 563-567'
5-680	Au	DDH 81-5B 680-683'
5-683	Au	DDH 81-5B 683-686'
5-686	Au	DDH 81-5B 686-689'
5-689	Au	DDH 81-5B 689-692'
5-820	Au	DDH 81-5B 820-823'
5-823	Au	DDh 81-5B 823-826'
5-832	Au	DDH 81-5B 832-835'
5-835	Au	DDh 81-5B 835-838'
5-838	Au	DDH 81-5B 838-841'
5-841	Au	DDH 81-5B 841-844'
5-844	Au	DDH 81-5B 844-847'
5-879	Au	DDH 81-5B 879-881'
5-1029	Au	DDH 81-5B 1029-1032'
5-1032	Au	DDH 81-5B 1032-1035'
5-1035	Au	DDH 81-5B 1035-1038'
5-1038	Au	DDH 81-5B 1038'1041'
5-1051	Au	DDH 81-5B 1051-1054'
5-1054	Au	DDH 81-5B 1054-1057'
5-1057	Au	DDH 81-5B 1057-1060'
5-1097	Au	DDH 81-5B 1097-1100'
5-1100	Au	DDH 81-5B 1100-1103'
5-1228	Au	DDH 81-5B 1228-1232'
5-1232	Au	DDH 81-5B 1232-1235'
5-1235	Au	DDH 81-5B 1235-1238'
5-1238	Au	DDH 81-5B 1238-1241'
5-1241	Au	DDH 81-5B 1241-1244'
5-1244	Au	DDH 81-5B 1244-1247'
5-1247	Au	DDH 81-5B 1247-1250'
5-1250	Au	DDH 81-5B 1250-1253'
15-206	Au	DDH 83-15 206-207m
15-207	Au	DDH 83-15 207-208m
15-208	Au	DDH 83-15 208-209m
15-209	Au	DDH 83-15 209-210m
15-210	Au	DDH 85-15 210-211m
15-211	Au	DDH 83-15 211-212m
15-212	Au	DDH 83-15 212-213m
15-213	Au	DDH 83-15 213-214m
15-214	Au	DDH 83-15 214-215m
15-215	Au	DDH 83-15 215-216m
15-216	Au	DDH 83-15 216-217m
15-217	Au	DDH 83-15 217-218m
15-218	Au	DDH 83-15 218-219m
15-219	Au	DDH 83-15 219-220m
15-220	Au	DDH 83-15 220-221m
15-221	Au	DDH 83-15 221-222m

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Geochemical Lab Report

REPO 126-3466 (COMPLETE) REFERENCE INFO:

CLIENT: GEDDES RESOURCES SUBMITTED BY: UNKNOWN

PROJECT: WINDY CRAGGY DATE PRINTED: 28-AUG-86

ORDER	ELEMENT		NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au	Gold	2	5 PPB	NOT APPLICABLE	IND. NEUTRON ACTIV.
2	Sb	Antimony	19	0.2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
3	As	Arsenic	2	1 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
4	Ba	Barium	2	100 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
5	Cd	Cadmium	2	10 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
6	Cs	Cesium	2	1 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
7	Cr	Chromium	2	50 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
8	Co	Cobalt	2	10 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
9	Eu	Europium	2	2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
10	Hf	Hafnium	19	2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
11	Ir	Iridium	19	100 PPB	NOT APPLICABLE	IND. NEUTRON ACTIV.
12	Fe	Iron	19	0.5 PCT	NOT APPLICABLE	IND. NEUTRON ACTIV.
13	La	Lanthanum	19	5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
14	Mo	Molybdenum	19	2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
15	Ni	Nickel	19	50 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
16	Rb	Rubidium	19	10 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
17	Sc	Scandium	19	0.5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
18	Se	Selenium	19	10 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
19	Ag	Silver	2	5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
20	Ta	Tantalum	19	1 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
21	Tb	Terbium	19	1 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
22	Th	Thorium	19	0.5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
23	W	Tungsten	19	2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
24	U	Uranium	19	0.5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
25	Yb	Ytterbium	19	5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
26	Zn	Zinc	19	200 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
27	Pb	Lead	2	2 PPM	HNO3-HCL HOT EXTR	Atomic Absorption
28	Zn	Zinc	2	1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption
29	Co	Cobalt	18	1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption
30	Bi	Bismuth	19	1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption
31	Be	Beryllium	19	0.5 PPM	MULT ACID TOT DIG	Atomic Absorption
32	Ge	Germanium	2	10 PPM	OTHER	D.C. Plasma
33	Ga	Gallium	2	5 PPM	MULT ACID TOT DIG	D.C. Plasma
34	Pt	Platinum	2	15 PPB	FIRE-ASSAY	Fire Assay AA
35	Pd	Palladium	2	2 PPB	FIRE-ASSAY	Fire Assay AA

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ex: 04-352667

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Geochemical Lab Report

EPORT: 126-3466 (COMPLETE)

REFERENCE INFO:

LI : GEDDES RESOURCES
RO..T: WINDY CRAGGY

SUBMITTED BY: UNKNOWN
DATE PRINTED: 28-AUG-86

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
D DRILL CORE	19	2 -150	19	CRUSH,PULVERIZE -150	19

REPORT COPIES TO: MR. GEDDES WEBSTER
DR. J.S. FOX

INVOICE TO: MR. GEDDES WEBSTER

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REPORT: 126-3466

PROJECT: WINDY CRAGGY PAGE 1A

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Sb PPM	As PPM	Ba PPM	Cd PPM	Cs PPM	Cr PPM	Co PPM	Eu PPM	Hf PPM	Ir PPB	Fe PCT
D2 9-1390			0.7								<2	<100	50.1
D2 9-1393			0.3								<2	<100	54.2
D2 9-1396			0.6								<2	<100	55.6
D2 9-1399			0.4								<2	<100	54.7
D2 9-1402			0.3								<2	<100	54.1
D2 9-1405			0.8								<2	<100	52.4
D2 9-1408			1.3								<2	<100	50.5
D2 9-1420			0.7								<2	<100	55.7
D2 9-1420A		21	0.5	13	110	<13	<1	54	1810	<2	<2	<100	51.6
D2 9-1423			1.0								<2	<100	53.6
D2 9-1426			0.6								<2	<100	52.4
D2 9-1429			<0.2								<2	<100	57.5
D2 9-1432			0.4								<2	<100	54.8
D2 9-1435			0.4								<2	<100	55.7
D2 9-1438			0.3								<2	<100	55.6
D2 9-1441			1.4								<2	<100	51.1
D2 9-1444			0.6								<2	<100	52.2
D2 9-1447			0.5								<2	<100	56.5
D2 11-1344		140	1.2	43	<100	<10	<1	110	310	<2	<2	<100	29.0

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REPORT: 126-3466

PROJECT: WINDY CRAGGY PAGE 18

SAMPLE NUMBER	ELEMENT UNITS	La PPM	Mo PPM	Ni PPM	Rb PPM	Sc PPM	Se PPM	Ag PPM	Ta PPM	Tb PPM	Th PPM	W PPM	PP
D2 9-1390		<5	<5	<50	<27	1.0	160		<1	<1	<0.7	<6	<0.
D2 9-1393		<5	<5	<50	<29	<0.6	170		<1	<1	<0.7	<6	<0.
D2 9-1396		<5	<5	<50	52	<0.6	180		<1	<1	<0.7	<7	<0.
D2 9-1399		<5	<5	<50	<28	<0.6	210		<1	<1	<0.7	<6	<0.
D2 9-1402		<5	<5	<50	77	<0.6	170		<1	<1	<0.7	<7	<0.
D2 9-1405		<5	<5	<50	<29	0.6	150		<1	<1	<0.7	<6	<0.
D2 9-1408		<5	<5	<50	<29	<0.6	180		<1	<1	<0.7	<7	<0.
D2 9-1420		<5	<5	<50	<28	<0.6	160		1	<1	<0.7	<6	<0.
D2 9-1420A		<5	<5	<50	<26	1.3	160	<7	<1	<1	<0.7	<6	<0.
D2 9-1423		<5	<5	<50	<26	<0.6	170		<1	<1	<0.7	<6	<0.
D2 9-1426		<5	<5	<50	<27	<0.6	160		<1	<1	<0.7	<6	<0.
D2 9-1429		<5	<5	<50	<28	0.8	170		<1	<1	<0.8	<7	<0.
D2 9-1432		<5	<6	<50	<30	1.0	150		<1	<1	<0.8	<7	<0.
D2 9-1435		<5	<5	<50	43	1.1	130		<1	<1	<0.7	<7	<0.
D2 9-1438		<5	<5	<50	56	0.9	71		<1	<1	<0.6	<6	<0.
D2 9-1441		<5	5	<50	27	1.9	130		<1	<1	<0.7	<6	<0.
D2 9-1444		<5	<6	<50	<28	<0.6	170		<1	<1	<0.8	<7	<0.
D2 9-1447		<5	<5	<50	35	<0.6	170		<1	<1	<0.7	<7	<0.
D2 11-1344		<5	12	<50	<14	2.1	<10	9	<1	<1	<0.5	<4	<0.

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REPORT: 126-3466

PROJECT: WINDY CRAGGY PAGE 1C

SAMPLE NUMBER	ELEMENT UNITS	Yb PPM	Zn PPM	Pb PPM	Zn PPM	Co PPM	Bi PPM	Be PPM	Ge PPM	Ga PPM	Pt PPB	Pd PPB
D2 9-1390		<5	<200			1040	<1	<0.5				
D2 9-1393		<5	<200			1020	<1	<0.5				
D2 9-1396		<5	<200			1070	<1	<0.5				
D2 9-1399		<5	<200			1140	<1	<0.5				
D2 9-1402		<5	<200			1100	<1	<0.5				
D2 9-1405		<5	<200			1300	<1	<0.5				
D2 9-1408		<5	<200			1320	<1	<0.5				
D2 9-1420		<5	<200			1050	<1	<0.5				
D2 9-1420A		<5	<200	7	21	1000	<1	<0.5	<10	11	<50	<5
D2 9-1423		<5	<200			920	<1	<0.5				
D2 9-1426		<5	<200			1010	<1	<0.5				
D2 9-1429		<5	<200			960	<1	<0.5				
D2 9-1432		<5	<210			1080	<1	<0.5				
D2 9-1435		<5	<200			1000	<1	<0.5				
D2 9-1438		<5	<200			860	<1	<0.5				
D2 9-1441		<5	<200			870	<1	<0.5				
D2 9-1444		<5	<200			810	<1	<0.5				
D2 9-1447		<5	<200			830	<1	<0.5				
D2 11-1344		<5	<200	11	52		<1	<0.5	<10	6	<50	<5

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Geochemical Lab Report

RT: 126-3466 (COMPLETE)

REFERENCE INFO:

CLIENT: GEDDES RESOURCES

ECT: WINDY CRAGGY

SUBMITTED BY: UNKNOWN
DATE PRINTED: 2-SEP-86

ORDER		ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au	Gold	2	5 PPB	NOT APPLICABLE	IND. NEUTRON ACTIV.
2	Sb	Antimony	2	0.2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
3	As	Arsenic	2	1 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
4	Ba	Barium	2	100 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
5	Cd	Cadmium	2	10 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
6	Cs	Cesium	2	1 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
7	Cr	Chromium	2	50 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
8	Co	Cobalt	2	10 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
9	Eu	Europium	2	2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
10	Hf	Hafnium	2	2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
11	Ir	Iridium	2	100 PPB	NOT APPLICABLE	IND. NEUTRON ACTIV.
12	Fe	Iron	2	0.5 PCT	NOT APPLICABLE	IND. NEUTRON ACTIV.
13	La	Lanthanum	2	5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
14	Mo	Molybdenum	2	2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
15	Ni	Nickel	2	50 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
16	Rb	Rubidium	2	10 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
17	Sc	Scandium	2	0.5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
18	Se	Selenium	2	10 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
19	Ag	Silver	2	5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
20	Ta	Tantalum	2	1 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
21	Tb	Terbium	2	1 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
22	Th	Thorium	2	0.5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
23	W	Tungsten	2	2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
24	U	Uranium	2	0.5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
25	Yb	Ytterbium	2	5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
26	Zn	Zinc	2	200 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
27	Pb	Lead	2	2 PPM	HNO3-HCL HOT EXTR	Atomic Absorption
28	Zn	Zinc	2	1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption
29	Co	Cobalt	17	1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption
30	Bi	Bismuth	2	1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption
31	Be	Beryllium	2	0.5 PPM	MULT ACID TOT DIG	Atomic Absorption
32	Ge	Germanium	2	10 PPM	OTHER	D.C. Plasma
33	Ga	Gallium	2	5 PPM	MULT ACID TOT DIG	D.C. Plasma
34	Pt	Platinum	2	15 PPB	FIRE-ASSAY	Fire Assay AA
35	Pd	Palladium	2	2 PPB	FIRE-ASSAY	Fire Assay AA

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Geochemical
Lab Report

R RT: 126-3466 (COMPLETE)

REFERENCE INFO:

CLIENT: GEDDES RESOURCES
P ECT: WINDY CRAGGY

SUBMITTED BY: UNKNOWN
DATE PRINTED: 2-SEP-86

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
D DRILL CORE	19	2 -150	19	CRUSH.PULVERIZE -150	19

REPORT COPIES TO: MR. GEDDES WEBSTER
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Geochemical Lab Report

REPORT: 126-3466 | PROJECT: WINDY CRAGGY | PAGE 1A

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Sb PPM	As PPM	Ba PPM	Cd PPM	Cs PPM	Cr PPM	Co PPM	Eu PPM	Hf PPM	Ir PPB	Fe PCT
D2 9-1390													
D2 9-1393													
D2 9-1396													
D2 9-1399													
D2 9-1402													
D2 9-1405													
D2 9-1408													
D2 9-1420													
D2 9-1420A		21	0.5	13	110	<13	<1	54	1810	<2	<2	<100	51.6
D2 9-1423													
D2 9-1426													
D2 9-1429													
D2 9-1432													
D2 9-1435													
D2 9-1438													
D2 9-1441													
D2 9-1444													
D2 9-1447													
D2 11-1344		140	1.2	43	<100	<10	<1	110	310	<2	<2	<100	29.0

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Geochemical Lab Report

REPORT: 126-3466

PROJECT: WINDY CRAGGY PAGE 1B

SAMPLE NUMBER	ELEMENT UNITS	La PPM	Mo PPM	Ni PPM	Rb PPM	Sc PPM	Se PPM	Ag PPM	Ta PPM	Tb PPM	Th PPM	W PPM	PP
D2 9-1390													
D2 9-1393													
D2 9-1396													
D2 9-1399													
D2 9-1402													
D2 9-1405													
D2 9-1408													
D2 9-1420													
D2 9-1420A		<5	<5	<50	<26	1.3	160	<7	<1	<1	<0.7	<6	<0.
D2 9-1423													
D2 9-1426													
D2 9-1429													
D2 9-1432													
D2 9-1435													
D2 9-1438													
D2 9-1441													
D2 9-1444													
D2 9-1447													
D2 11-1344		<5	12	<50	<14	2.1	<10	9	<1	<1	<0.5	<4	<0.

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Geochemical Lab Report

REPORT: 126-3466

PROJECT: WINDY CRAGGY PAGE 1C

SAMPLE NUMBER	ELEMENT UNITS	Yb PPM	Zn PPM	Pb PPM	Zn PPM	Co PPM	Bi PPM	Be PPM	Ge PPM	Ga PPM	Pt PPB	Pd PPB
D2 9-1390						1040						
D2 9-1393						1020						
D2 9-1396						1070						
D2 9-1399						1140						
D2 9-1402						1100						
D2 9-1405						1300						
D2 9-1408						1320						
D2 9-1420						1050						
D2 9-1420A		<5	<200	7	21		<1	<0.5	<10	11	<50	<5
D2 9-1423						920						
D2 9-1426						1010						
D2 9-1429						960						
D2 9-1432						1080						
D2 9-1435						1000						
D2 9-1438						860						
D2 9-1441						870						
D2 9-1444						810						
D2 9-1447						830						
D2 11-1344		<5	<200	11	52		<1	<0.5	<10	6	<50	<5

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Certificate of Analysis

REPORT: 426-3467 (COMPLETE)

REFERENCE INFO:

CLIENT: GEDDES RESOURCES
PROJECT: WINDY CRAGGY

SUBMITTED BY: UNKNOWN
DATE PRINTED: 25-AUG-86

ORDER	ELEMENT		NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au	Gold - FIRE ASSAY	188	0.001 OPT		
2	Au	Gold	188	70 PPB		Fire Assay AA

SAMPLE TYPES		NUMBER
D	DRILL CORE	172
R	ROCK OR BED ROCK	16

SIZE FRACTIONS		NUMBER
2	-150	188

SAMPLE PREPARATIONS	NUMBER
ASSAY PREP	188

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REPORT: 426-3467 PROJECT: WINDY CRAGGY

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au PPB	SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au PPB
D2 5-560		0.002	69	D2 9-1070		0.002	69
D2 5-563		0.007	240	D2 9-1080		<0.002	<69
D2 5-680		<0.002	<69	D2 9-1090		<0.002	<69
D2 5-683		0.002	69	D2 11-416		0.004	137
D2 5-686		<0.002	<69	D2 11-896		0.010	343
D2 5-689		0.003	103	D2 11-899		0.036	1234
D2 5-820		0.003	103	D2 11-902		0.017	583
D2 5-823		0.004	137	D2 11-905		0.054	1851
D2 5-832		0.004	137	D2 11-908		0.044	1509
D2 5-835		0.005	171	D2 11-954		0.010	343
D2 5-838		0.002	69	D2 11-974		0.015	514
D2 5-841		0.003	103	D2 11-977		0.019	651
D2 5-844		0.005	171	D2 11-984		0.045	1543
D2 5-879		0.003	103	D2 11-1014		0.030	1029
D2 5-1029		0.002	69	D2 11-1031		0.109	3737
D2 5-1032		0.002	69	D2 11-1054		0.019	651
D2 5-1035		0.003	103	D2 11-1217		0.005	171
D2 5-1038		0.004	137	D2 11-1220		0.008	274
D2 5-1051		0.003	103	D2 11-1364		0.011	377
D2 5-1054		0.003	103	D2 11-1374		0.010	343
D2 5-1057		0.002	69	D2 11-1396		0.003	103
D2 5-1097		0.003	103	D2 11-1474		0.022	754
D2 5-1100		0.002	69	D2 11-1477		0.010	343
D2 5-1228		0.005	171	D2 11-1480		0.014	480
D2 5-1232		0.003	103	D2 11-1534		0.015	514
D2 5-1235		0.003	103	D2 11-1537		0.014	480
D2 5-1238		0.002	69	D2 11-1540		0.024	823
D2 5-1241		0.003	103	D2 11-1543		0.019	651
D2 5-1244		0.003	103	D2 11-1546		0.069	2366
D2 5-1247		0.002	69	D2 11-1549		0.028	960
D2 5-1250		0.002	69	D2 11-1552		0.031	1063
D2 6-826		0.003	103	D2 11-1555		0.009	309
D2 6-829		0.002	69	D2 11-1558		0.028	960
D2 9-770		0.002	69	D2 11-1601		0.041	1406
D2 9-780		0.002	69	D2 11-1603		0.028	960
D2 9-810		0.002	69	D2 11-1606		0.028	960
D2 9-920		0.007	240	D2 11-1609		0.082	2811
D2 9-947		0.002	69	D2 11-1634		0.006	206
D2 9-1020		0.002	69	D2 11-1637		0.007	240
D2 9-1060		0.002	69	D2 11-1643		0.018	617

Registered Assayer, Province of British Columbia

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REPORT: 426-3467

PROJECT: WINDY CRAGGY PAGE 2

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au PPB	SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au PPB
D2 11-1646		0.013	446	D2 12-85		0.182	6240
D2 11-1649		0.006	206	D2 12-88		0.036	1234
D2 11-1652		0.006	206	D2 12-91		0.065	2229
D2 11-1655		0.003	103	D2 12-94		0.025	857
D2 11-1658		0.003	103	D2 12-97		0.019	651
D2 11-1661		0.004	137	D2 12-106		0.019	651
D2 11-1664		0.004	137	D2 12-109		0.052	1783
D2 11-1667		0.007	240	D2 12-112		0.105	3600
D2 11-1670		0.009	309	D2 12-115		0.097	3326
D2 11-1673		0.014	480	D2 12-118		0.030	1029
D2 11-1676		0.012	411	D2 12-123		0.012	411
D2 11-1679		0.016	549	D2 12-126		0.034	1166
D2 11-1682		0.018	617	D2 12-129		0.012	411
D2 11-1685		0.010	343	D2 12-132		0.025	857
D2 11-1688		0.032	1097	D2 12-172		0.011	377
D2 11-1691		0.020	686	D2 12-175		0.011	377
D2 11-1694		0.019	651	D2 12-178		0.011	377
D2 11-1697		0.025	857	D2 12-181		0.013	446
D2 11-1701		0.017	583	D2 12-184		0.011	377
D2 11-1704		0.031	1063	D2 12-419		0.005	171
D2 11-1707		0.027	926	D2 12-422		0.004	137
D2 11-1710		0.048	1646	D2 13-253		0.002	69
D2 11-1713		0.060	2057	D2 13-254		<0.002	<69
D2 11-1717		0.030	1029	D2 13-255		<0.002	<69
D2 11-1720		0.030	1029	D2 13-256		0.003	103
D2 11-1723		0.036	1234	D2 13-257		0.004	137
D2 11-1726		0.009	309	D2 13-258		0.003	103
D2 11-1729		0.016	549	D2 13-259		<0.002	<69
D2 11-1732		0.016	549	D2 13-260		0.002	69
D2 11-1735		0.017	583	D2 13-261		0.003	103
D2 11-1738		0.014	480	D2 13-262		0.002	69
D2 11-1741		0.028	960	D2 13-263		0.004	137
D2 11-1747A		0.005	171	D2 13-264		0.002	69
D2 11-1747B		0.006	206	D2 13-265		0.004	137
D2 11-1777		0.050	1714	D2 13-266		<0.002	<69
D2 12-70		0.090	3086	D2 13-267		<0.002	<69
D2 12-73		0.057	1954	D2 13-268		<0.002	<69
D2 12-76		0.049	1680	D2 13-269		0.002	69
D2 12-79		0.252	8640	D2 13-270		0.003	103
D2 12-82		0.192	6583	D2 13-318		0.008	274

Registered Assayer, Province of British Columbia

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Certificate of Analysis

REPORT: 426-3467 PROJECT: WINDY CRAGGY PAGE 3

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Au PPB
D2 13-319		0.018	617
D2 13-320		0.011	377
D2 13-321		0.013	446
D2 13-322		0.010	343
D2 13-323		0.003	103
D2 13-324		0.002	69
D2 13-325		0.047	1611
D2 13-326		0.016	549
D2 13-327		0.004	137
D2 13-328		0.005	171
D2 13-585		0.002	69
D2 13-586		0.069	2366
R2 15-206		0.024	823
R2 15-207		0.006	206
R2 15-208		0.010	343
R2 15-209		0.005	171
R2 15-210		0.010	343
R2 15-211		0.012	411
R2 15-212		0.022	754
R2 15-213		0.008	274
R2 15-214		0.002	69
R2 15-215		<0.002	<69
R2 15-216		0.005	171
R2 15-217		0.003	103
R2 15-218		0.008	274
R2 15-219		0.003	103
R2 15-220		<0.002	<69
R2 15-221		0.002	69

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Certificate of Analysis

REPORT: 426-2288 (COMPLETE)

REFERENCE INFO:

CLIENT: GEDDES RESOURCES
PROJECT: NONE GIVEN

SUBMITTED BY: J FOX
DATE PRINTED: 22-JUL-86

ORDER	ELEMENT		NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au	Gold	45	70 PPB		Fire Assay AA
2	Au	Gold - FIRE ASSAY	45	0.001 OPT		

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
D DRILL CORE	45	2 -150	45	ASSAY PREP	45

NOTES: = indicates SEE OBS REMARKS

REMARKS: = AU - ERRATIC RESULTS NOTED. THE REPORTED RESULT IS THE AVERAGE.

REPORT COPIES TO: MR. GEDDES WEBSTER
DR. J.S. FOX

INVOICE TO: MR. GEDDES WEBSTER

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Certificate of Analysis

REPORT: 426-2288

PROJECT: NONE GIVEN PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Au OPT
D2 16-103		103	0.003
D2 16-157		171	0.005
D2 17-16		137	0.004
D2 17-18		686	0.020
D2 17-20		3199	0.093
D2 17-22		2469	0.072
D2 17-24		2331	0.068
D2 17-26		2434	0.071
D2 17-28		2126	0.062
D2 17-37		1371	0.040
D2 17-40		1611	0.047
D2 17-111		137	0.004
D2 17-124		1371	0.040
D2 17-125		343	0.010
D2 17-126		1371	0.040
D2 17-127		411	0.012
D2 17-128		1028	0.030
D2 17-129		274	0.008
D2 17-130		1029	0.030
D2 17-131		617	0.018
D2 17-132		583	0.017
D2 17-156		445	0.013
D2 17-157		411	0.012
D2 17-158		7474	0.218
D2 21-31		1954	0.057
D2 21-32		1097	0.032
D2 21-33		1474	0.043
D2 21-34		3429	0.100
D2 21-35		11006	0.321
D2 21-36		2606	0.076
D2 21-37		8777	0.256
D2 21-41		1097	0.032
D2 21-42		2640	0.077
D2 21-43		3600	0.105
D2 21-44		1851	0.054
D2 21-45		2400	0.070
D2 21-46		857	0.025
D2 21-47		377	0.011
D2 21-71		720	0.021
D2 21-72		343	0.010

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Au OPT
D2 21-73		3086=	0.090=
D2 21-74		4114	0.120
D2 21-75		1097	0.032
D2 21-76		69	0.002
D2 21-117		65	0.002

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Geochemical Lab Report

226-1274 (COMPLETE)

REFERENCE INFO:

CLIENT: GEDDES RESOURCES

SUBMITTED BY: UNKNOWN

PROJ: NONE GIVEN

DATE PRINTED: 17-JUN-86

ORDER	ELEMENT		NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Pb	Lead	5	2 PPM	HNO3-HCL HOT EXTR	Atomic Absorption
2	Ga	Gallium	5	5 PPM	MULT ACID TOT DIG	D.C. Plasma
3	Ge	Germanium	5	5 PPM	OTHER	D.C. Plasma
4	Be	Beryllium	5	0.5 PPM	MULT ACID TOT DIG	Atomic Absorption
5	Bi	Bismuth	5	1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption
6	Pt	Platinum	5	15 PPB	FIRE-ASSAY	Fire Assay AA
7	Pd	Palladium	5	2 PPB	FIRE-ASSAY	Fire Assay AA
8	Sn	Tin	5	5 PPM		X-RAY Fluorescence
9	Zr	Zirconium	5	5 PPM		X-RAY Fluorescence
10	Au	Gold	5	5 PPB	NOT APPLICABLE	IND. NEUTRON ACTIV.
11	Sb	Antimony	5	0.2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
12	As	Arsenic	5	1 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
13	Ba	Barium	5	100 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
14	Cd	Cadmium	5	10 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
15	Cs	Cesium	5	1 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
16	Cr	Chromium	5	50 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
17	Co	Cobalt	5	10 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
18	Eu	Europium	5	2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
19	Hf	Hafnium	5	2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
20	Ir	Iridium	5	100 PPB	NOT APPLICABLE	IND. NEUTRON ACTIV.
21	Fe	Iron	5	0.5 PCT	NOT APPLICABLE	IND. NEUTRON ACTIV.
22	La	Lanthanum	5	5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
23	Mo	Molybdenum	5	2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
24	Ni	Nickel	5	50 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
25	Rb	Rubidium	5	10 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
26	Sc	Scandium	5	0.5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
27	Se	Selenium	5	10 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
28	Ag	Silver	5	5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
29	Ta	Tantalum	5	1 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
30	Tb	Terbium	5	1 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
31	Th	Thorium	5	0.5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
32	W	Tungsten	5	2 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
33	U	Uranium	5	0.5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
34	Yb	Ytterbium	5	5 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.
35	Zn	Zinc	5	200 PPM	NOT APPLICABLE	IND. NEUTRON ACTIV.

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Geochemical Lab Report

PO 226-1274 (COMPLETE)

REFERENCE INFO:

ITEM: GEORGE RESOURCES
QU : NONE GIVEN

SUBMITTED BY: UNKNOWN
DATE PRINTED: 17-JUN-94

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
D DRILL CORE	5	2 -150	5	CRUSH,PULVERIZE -150	5
				BATCH SURCHARGE	5

NOTES: = indicates SEE ORS REMARKS

REMARKS: = Sn INTERFERENCE NOTED DUE TO Fe

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Geochemical Lab Report

REPORT: 226-127A | PROJECT: NONE GIVEN | PAGE 1A

SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Ga PPM	Ge PPM	Be PPM	Bi PPM	Pt PPB	Pd PPB	Sn PPM	Zr PPM	Au PPB	Sb PPM	As PPM
D2 12-218A		69	8	<5	<0.5	<1	<50	<5	10=	22	360	6.8	94
D2 12-231A		54	9	<5	<0.5	<1	<50	<5	15=	20	170	3.9	25
D2 12-527		780	9	<5	<0.5	<1	<50	<5	15=	19	320	51.1	772
D2 14-440A		14	17	<5	<0.5	<1	<50	<5	5	39	9940	2.3	14
D2 14-452A		20	11	<5	<0.5	<1	<50	<5	5	36	14300	3.4	17

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Geochemical Lab Report

REPORT: 226-1274

PROJECT: NONE GIVEN PAGE 10

SAMPLE NUMBER	ELEMENT UNITS	Ba PPM	Cd PPM	Ce PPM	Cr PPM	Co PPM	Eu PPM	Hf PPM	Ir PPB	Se PCT	La PPM	Mo PPM	Ni PPM
D2 12-218A		<100	<10	<1	140	920	<2	<2	<100	40.0	<5	19	<50
D2 12-231A		<100	<10	<1	91	910	<2	<2	<100	47.0	<5	18	<50
D2 12-527		<100	97	<1	57	210	<2	<2	<100	39.0	<5	27	<50
D2 14-440A		<100	<10	<1	100	40	<2	<2	<100	30.0	5	39	<50
D2 14-452A		<100	<10	<1	73	44	<2	<2	<100	27.0	<5	52	<50

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Geochemical Lab Report

REPORT: 226-1274 | PROJECT: NOMS GIVEN | PAGE 10

SAMPLE NUMBER	ELEMENT UNITS	Rb PPM	Sr PPM	Ba PPM	Ag PPM	Ta PPM	Tl PPM	Th PPM	W PPM	U PPM	Yb PPM	Zn PPM
D2 12-218A		<15	<0.5	73	6	<1	<1	<0.4	<3	<0.5	<5	860
D2 12-231A		<15	0.6	85	5	<1	<1	<0.5	<3	<0.5	<5	560
D2 12-527		<12	0.6	<11	24	<1	<1	<0.7	<4	<0.6	<5	37800
D2 14-440A		12	3.3	<10	<5	<1	<1	<0.5	<2	1.9	<5	<200
D2 14-452A		<10	1.7	<10	13	<1	<1	<0.5	<2	1.6	<5	260

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Geochemical Lab Report

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Geochemical Lab Report

REPORT: 126-1274 (COMPLETE)

REFERENCE INFO:

CLIENT: GEDDES RESOURCES
PROJECT: NONE GIVEN

SUBMITTED BY: UNKNOWN
DATE PRINTED: 17-JUN 86

ORDER	ELEMENT		NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au	Gold	44	1 PPB	FIRE-ASSAY	FIRE ASSAY ICP
2	Cu	Copper	15	1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption
3	Zn	Zinc	15	1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption
4	Co	Cobalt	15	1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption

SAMPLE TYPES		NUMBER	SIZE FRACTIONS		NUMBER	SAMPLE PREPARATIONS	NUMBER
D	DRILL CORE	44	3	-150	44	CRUSH,PULVERIZE -150	44

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Geochemical Lab Report

REPORT: 126-1274 | PROJECT: NONE GIVEN | PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Cu PPM	Zn PPM	Co PPM
D2 12-558		600			
D2 12-561		900			
D2 12-564		880			
D2 12-567		820			
D2 12-570		980			
D2 12-573		900			
D2 12-576		660			
D2 12-579		600			
D2 12-582		800			
D2 12-585		620			
D2 12-588		300			
D2 12-591		280			
D2 12-594		620			
D2 12-597		640			
D2 12-600		680			
D2 12-603		980			
D2 12-606		960			
D2 12-609		600			
D2 12-641		520			
D2 12-644		200			
D2 12-647		85			
D2 12-728		190			
D2 12-733		100			
D2 14-175		3			
D2 14-191		40			
D2 14-207		30			
D2 14-214		300	540	35	11
D2 14-215		65	200	19	2
D2 14-216		140	630	32	11
D2 14-217		85	560	26	6
D2 14-221		45	1580	25	12
D2 14-222		25	1040	25	15
D2 14-223		60	2250	24	43
D2 14-276		75	3400	31	6
D2 14-277		30	1750	38	12
D2 14-279		30	980	82	8
D2 14-280		35	2600	80	17
D2 14-299		500	1700	25	16
D2 14-304		260			
D2 14-307		12			
D2 14-308		17			
D2 14-313		35	1240	28	85
D2 14-325		240	2800	34	30
D2 14-385		70	14000	64	550

SMITHERS

FAME REPORT (E129) 15748

Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources

TYPE OF REPORT/SURVEY(S)
GEOCHEMICAL; GEOLOGICAL 38,241.83

AUTHOR(S) J.S. Fox SIGNATURE(S)

DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED Feb. 24/87 YEAR OF WORK 1986

PROPERTY NAME(S)
Windy Craggy

COMMODITIES PRESENT Cu, Au, Co, Ag, Zn

B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN 114P-2

MINING DIVISION Atlin NTS 114P/12E

LATITUDE 59°44' LONGITUDE 137°44'

NAMES and NUMBERS of all mineral tenures in good standing (when work was done) that cover the property (Examples: [illegible] PHOENIX 2 (10 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified Mining Leases must be given as shown above.)

W.C. 1

OWNER(S)
(1) Geddes Resources Limited (2)

MAILING ADDRESS

OPERATOR(S) (that is, Company paying for the work)
(1) as above (2)

MAILING ADDRESS

SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, size, and attitude)

The property is underlain by a sequence of graphitic shales and argillites with intercalated volcanic flows. The volcanic flows are mafic pillow basalts with minor sediments known as the Tats complex, Triassic to Siluro-Devonian age. Mineralization occurs as stratabound massive sulphides consisting mainly of pyrrhotite. Sulphides become pyritic with some sphalerite to the north. The deposit is zoned with a potential for copper, cobalt and gold.

REFERENCES TO PREVIOUS WORK

A.R. 13144, 11763, 11045, 10946, 10531, 10000, 8118, 5608
11500, 9815, 10741, 11501, 12821, 15600

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	COST APPORTIONED
GEOLOGICAL (scale, area)			
Ground	GEOL 1:1250	W.C. 1	
Photo			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for ....)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying	SAMP 300; multielement	W.C. 1	
Petrographic	PETR 4 thin sections		
Mineralogic	MNGR 1		
Metallurgic	META 1		
PROSPECTING (scale, area)			
PREPARATORY/PHYSICAL			
Legal surveys (scale, area)			
Topographic (scale, area)			
Photogrammetric (scale, area)			
Line/grid (kilometres)			
Road, local access (kilometres)			
Trench (metres)			
Underground (metres)			
		TOTAL COST	38,241.83

FOR MINISTRY USE ONLY	NAME OF PAC ACCOUNT	DEBIT	CREDIT	REMARKS
Value work done (from report) 38,241.83				
Value of work approved				
Value claimed (from statement)				
Value credited to PAC account				
Value debited to PAC account				
Accepted Date March 1/88	Rept. No 15748			Information Class (3)