



GEOLOGICAL REPORT ON THE WHITE PROPERTY ROOSEVELT TOWNSHIP SUDBURY MINING DIVISION NTS 41 I/04

CATHERINE BUTELLA OPAP File NO. OP93-682 December, 1993

Chtherine & Butella January 12, 1994



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GEOLOGY MAP

(back pocket)

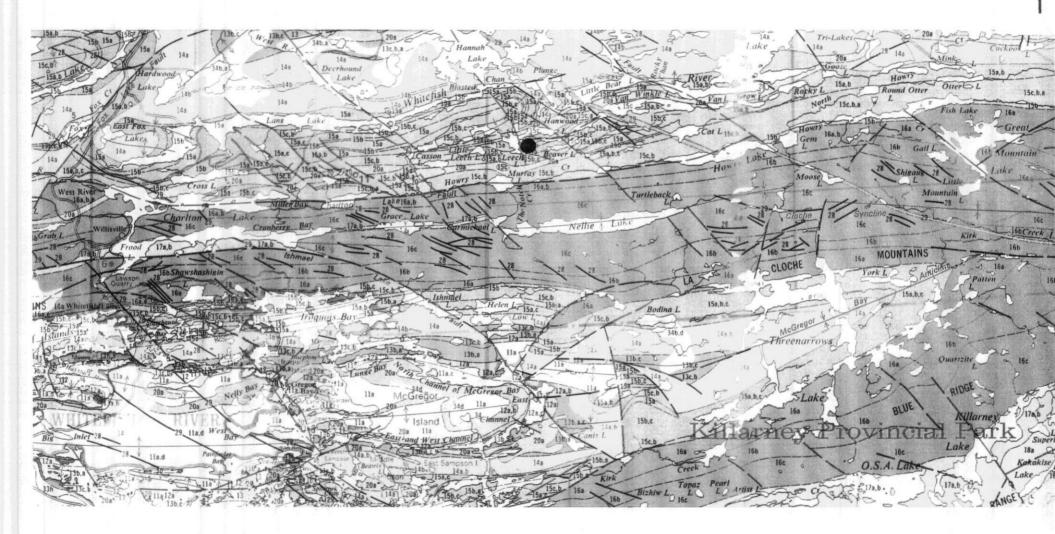
1. **SUMMARY**

The WHITE Property is underlain by sedimentary rocks of the Gowganda formation and is crosscut by east-west trending sills and dykes of gabbro and Nipissing diabase. Stratabound sulphide-associated gold mineralization has been detected at the sediment/mafic intrusive rock contact and solely within siliceous sediments. Gold assays up to 0.88 ounces per ton over 0.70 m have been detected within a 350 m long stratabound sulphide zone along the southern margin of the claim group. Recent geological mapping has identified several other mineralized occurrences on the property. The mineralization on the property is similar to the former producing Bousquet Mine in Curtin Township, which produced 4,700 ounces of gold and the McMillan Mine in Mongowin Township, which produced 10,590 ounces of gold. Gold is associated with disseminated to semi-massive pyrite, minor arsenopyrite and chalcopyrite within a brittle-fractured quartzite. Accessory quartz and ankerite veining is prevalent within the showings.

A program of line cutting and geological mapping and sampling was recently completed as part of an Ontario Prospectors Assistance Program Grant (OPAP).

WHITE PROPERTY

Location and Geology Map



Taken from: Ontario Geological Survey Map 2360 Sudbury-Manitoulin, Sudbury and

Manitoulin Districts

Scale: 1:126,720 or 1 inch to 2 miles.

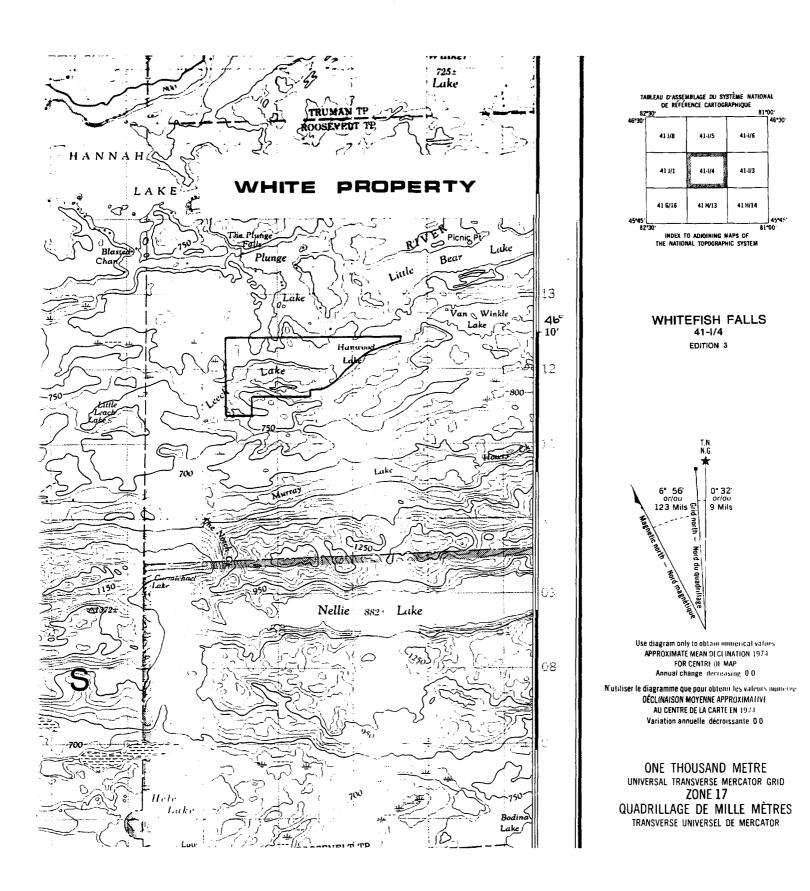
Figure 1.

2. LOCATION AND ACCESS

The **White Property** claim group consists of eleven contiguous unpatented mining claims straddling Leech Lake, in western Roosevelt Township, Sudbury Mining Division, District of Sudbury (NTS 41 I/04). The property is approximately 20 km southeast of Espanola and 55 km southwest of Sudbury. The area is bounded by latitude 46° 09' 22" to 46° 10' 23" and longitude 81° 31' 15" to 81° 33' 15" (Figure 1A).

Access to the **White Property** is via Highway 6 from Espanola, 12 km south to the Lang Lake Resort access road and 3 km east via gravel road to the government dock. A water taxi service is available from Lang Lake Lodge at \$50/ return trip. The property can be reached by boat from the government dock east via Lang Lake connecting to the southwest bay of Plunge Lake, approximately 15 km. A trail connects the southwestern bay of Plunge Lake with Leech Lake. The north end of Line 0+00 is located a few metres west of the trail. Leech Lake and Hanwood Lake are also connected by a government portage trail which crosses the southern tie line 4+00 S at 0+95W.

Accommodation was facilitated on site by renting a local cabin on Plunge Lake.

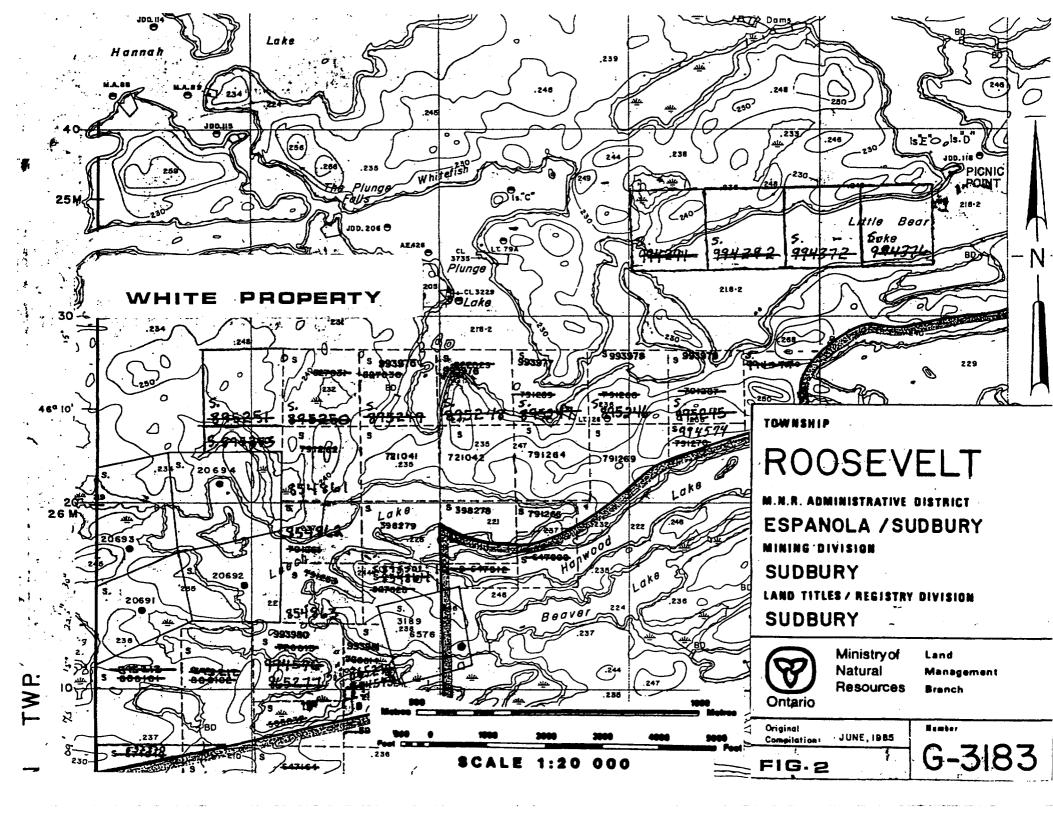


LOCATION MAP

3. PROPERTY DESCRIPTION

The **White Property** is 100% owned by James William White of Box 71, Whitefish Falls, Ontario, P0P 2H0. Mr. White currently holds Ontario Prospectors Licence No. C33855. The property consists of 11 unpatented mining claims within Roosevelt Township (Claim Plan G3183), Sudbury Mining District (Figure 2). No agreements or contractual obligations apply to the property. The claims are in good standing with respect to assessment requirements.

Claim Number	Recording Date
S854861	May 26, 1986
S854862	May 26, 1986
S854863	May 26, 1986
S721041	November 18, 1983
S721042	November 18, 1983
S791264	May 15, 1984
S791266	May 15, 1984
S791269	July 24, 1984
S994574	May 13, 1988
S398278	October 17, 1980
S398279	October 17, 1980



4. PREVIOUS WORK

Harwood Lake Mines Ltd. performed 4,006 feet of diamond drilling in 12 holes between 1935 and 1937. Several pits and trenches were excavated during this program and a 50 foot shaft was sunk immediately south of Hanwood Lake on the Bousquet Claim in 1937.

Mechanical stripping, trenching and sampling were completed by James White from 1980 to 1982, outlining anomalous gold values in quartz veining and sulphide rich units within quartzite host rock along the south margin of the claim group.

J.W. Grant and R.J. Fraser completed line cutting and ground geophysical surveys within the immediate vicinity and overlapping the White property.

Shawonis Explorations Ent. Ltd. and associates completed preliminary prospecting, geological mapping and sampling over the claim group defining several areas with anomalous gold in altered sediments.

5. REGIONAL GEOLOGY

The White Property is underlain by a 3000 m thick sub-vertically dipping, east-west trending, sequence of coarse polymicitic conglomerate, greywacke, sandstone and quartzite of the Gowganda formation which extends for an excess of 60 km. The Gowganda formation is bounded to the north and south by clastic rocks of the Serpent formation and Lorrain formation respectively (Card, 1978, O.G.S. Map 2360). These Proterozoic rocks are intruded by 100 to 500 m thick sub concordant mafic intrusive sills and dykes. The former producing Bousquet Mine in Curtain Towhship, is at the southern margin of a mafic intrusive sill, hosted within Gowganda sedimentary rocks. Numerous gold showings on the White Property display a similar regional stratigraphic/structural setting as the Bousquet Mine and both contain similar alteration and accessory mineral associations with gold.

6. WORK DONE

A preliminary exploration program consisting of prospecting, line cutting, and geological mapping and sampling was carried out in intervals during the period of July to November, 1993. All work, with the exception of a cursory examination of the adjacent Bousquet claim, was completed on the **White Claim Group** as described in Section 4, entitled, Property Description.

Line Cutting

Robinson Exploration Services Ltd. was contracted for the purpose of establishing a cut line grid on the **White Property**. Under the applicants supervision, a base line was established on the northern half of the claim group extending from L 8+00W to 14+00E at an azimuth of 082° (See Figure 3). Axe and chainsaw cut lines were completed at 200m intervals from L 8+00W to L 14+00E with pickets every 25m extending from the northern claim boundary south to Leech Lake and Hanwood Lake. Flagged compass and topolines were completed between the cut lines at 100 m intervals (Figure 3). A tie line was extended west from L 8+00 E to L 2+00 E at 5+00 S and from L 2+00 E to 1+50 W at 4+00 S. A total of 8.3 kms of cut line and 6.5 km of flagged lines were completed.

Prospecting and Geology

Utilizing the cut and flagged grid, the property was prospected and mapped at a scale of 1:2,500. See Section 7, Property Geology for details. Forty-six samples were collected on the **White Group** of which 44 were sent for analysis. (See Assays) Prospecting on the Bousquet Claim indicates a sheared sedimentary package on the south shore of

Hanwood Lake similar to that found on the north shore within the **White** group.

Quartzite to quarto-feldspathic rocks are fine grained to medium grained, locally pebbly and often contain lenses of siltstone. Locally these units are brecciated and cherty and often display weak to moderate carbonate alteration, rusty zones and sub-parallel milky white to greyish quartz veins. Sheared quartzite hosts a 1.6 metre wide fairly massive looking white quartz vein near the southwest shore of Hanwood. This roughly east west trending vein appears to extend over a strike length of approximately 50 m and exhibits hematization and local carbonate. A shaft sunk on this vein near the gabbro-sediment contact is completely water filled. No samples were taken.

Samples

Forty-six grab and/or composite chip-grab samples were collected during the evaluation program. Of these, 44 were sent to Assayers Ontario Laboratories in Toronto for analysis. All samples have been briefly described in Section 8, Sample Descriptions.

Significant assay values are also tabulated. For sample locations refer to Geology Map (Back Pocket).

Assays

Assay certificates are included as Appendix I. Rock samples were sent to Assayers

Ontario laboratories (Chauncey Assay Laboratories division) at 33 Chauncey Ave.,

Toronto. All samples are crushed and prepared to -100 mesh. A 10 gram pulp then

undergoes aqua regia digestion (40 mls) and is diluted to 100 mls. A suite of 24

elements was determined by using the ICP-geoscan technique. Gold determination was

by MIBK and AA finish. Detection limits for Au are 5 ppb. Elements quoted in ppm have a detection limited of 10 ppm. Those quoted in % are detectable to .1%. Due to a miscommunication only 40 samples were analyzed as some samples were combined at the lab.

7.0 PROPERTY GEOLOGY

Sedimentary rocks including polymictic conglomerate, greywacke and quartzite predominate the stratigraphic section along the north and south margins of Leech Lake. The sediments trend easterly and are sub-vertically dipping, although foliations and bedding are very poorly visible in outcrop. Gold mineralization is hosted within a white to pink, very fine grained quartzite. Three or more stratigraphic horizons of quartzite with gold showings have been recognized on the property. Gold mineralization on the White property appears most often to be associated with quart-carbonate, sulphidequartz or brecciated smokey quartz veining within the quartizitic-sedimentary horizon. The most significant gold occurrence extends for approximately 350 m on surface, and is located between Leech and Hanwood Lakes, centred on L 0+00, 4+75S. Here erratic gold values have been determined in both massive sulphide lenses and in brecciated smokey quartz veining, with assays to greater than 1 oz/ton Au (previous results) in several grab samples. A pink facies alteration within quartzite locally coincides with the gold showings, possibly reflecting albite or very fine grained interstitial hematite. The quartzite is commonly extensively fractured and rusty weathered reflecting accessory pyrite. Locally the unit is strongly silicified and weak to moderate carbonatization can also be seen on outcrop scale.

The sedimentary succession is intruded by a medium to coarse grained locally pegmatitic mafic intrusive rock which extends across the northern half of the property.

These mafic intrusive rocks, composed largely of gabbroic sequences, form a 100 to

500m thick easterly trending sill which has been traced from 7+50W to 14+00E. Assays taken from samples in outcrop at or near the southern mafic intrusive/sedimentary rock contact are generally somewhat to strongly anomalous in gold and/or base metal values. The former producing Bousquet Mine in Curtain Township and the MacMillan in Mongowin Township, are located in similar settings at the mafic intrusive/sedimentary rock contact. Nipissing Diabase dykes and sills intrude all rock types in the property area. Sulphide mineralization on the property consists largely of disseminations of pyrite and arsenopyrite with trace chalcopyrite. Locally blebs and pods to lenses of massive sulphide appear generally in association with veining within stratabound horizons as indicated.

SAMPLE DESCRIPTIONS

Sample No.	Туре	Description	Significant Assay Results
CB-001	grab	Grey quartzite. V.f.g to m.g. Qtz eyes visible. Serc. Minor dk gy/smokey qtz. stringers to white qtz stringers (to 3mm) to < 5-10% diss. py. Minor local carb. Weather buff to grey, local brown. Gossan. Pronounced subvert fract.	31 ppb Au 91 ppm Cr 38 ppm Pb
CB-002	grab	Grey qtzite. = above. Vfg to aphanitic. Trace sulphide. Siliceous. O/C more massive.	39 ppb Au 151 ppm Cu
CB-002A	grab	Smokey to dark gy qtz vein within above. Concoidal fract. Locally vuggy. Contains py cubes, blebs & diss.	Miscommunication. Lab combined Samples 2 & 2A.
CB-003	grab	F.g locally sucrosic pink to gy qtzite (feldspathoqtz). Abundant siderite. V.f.g py±aspy diss. to 10-12% locally. Pink to gy weather.	23 ppb Au 99 ppm Cu
CB-004	grab	Locally silicified pink to dk gy qtzite. V.f.g to m.g. Abundant siderite. Minor vis sulphides (py±aspy). Contains crackled opaque to smokey qv. with blebs, diss. aspy & py. Carb fract.	56 ppb Au 150 ppm Cu
CB-005	grab	Conglomerate? Sandstone-siltstone with wacke, qtzite, ± igneous clasts. (mm to several cm) Choloritized. Chl, bio vis in matrix. Tr. blue qtz eyes. Slickensides. Tr. sulphide blebs & diss. V. strong carb. Tr. apple green mineral. Local pebbly weather surface.	18 ppb Au 129 ppm Cu 100 ppm Cr 99 ppm V

Sample No.	Туре	Description	Significant Assay Results
CB-006	grab	QV. white opaque to gy. Abundant limonite on fract. Massive to abundant brittle fractures. Cross cutting fract. infilled with v.f.g aspy. Also blebs & diss throughout aspy, local py ±cpy. Black weather.	80 ppb Au 201 ppm Cu
CB-006A	grab composite vein types	Qv with sulphide (aspy) bands/lam to 10cm wide. Also drk grey to smokey ±cherty crackled qv with blebs & diss. of aspy, py. Pockets of chloritic rock (host?) within vein. M-grained gy Fe-carb.	63 ppb Au 652 ppm Cu 81 ppm Cr
СВ-006В	grab	Aphanitic silicified (?) salmon pink quartzite. Riddled with cross cutting sub-parallel grey qv. (mm to cm). Fe carb stains on fract. Trace v.f diss sulphides. Local sericite. Carb fract.	59 ppb Au 180 ppm Cu
CB-006C	grab	Quartz-carb vein. Trace to 1% py-aspy-cpy diss. & blebs. Pink to brown to dark grey rhombo carb. 10-20 cm wide veins.	18 ppb Au 91 ppm Cu 1119 ppm Mn
CB-006D	chip	Opaque white to grey QV. Fairly mass. Minor ser. Tr. sulphide.	23 ppb Au 185 ppm Cu
СВ-007	grab	Dark grey gritty wacke matrix. (Possible conglm). Qtz & felds pebbles. Str. carb reaction. Diss. stringers and blebs py±aspy (5% to local +25%) Cherty blebs & shards - grey to pinkish. Local chlz. Contains vuggy qv.	15 ppb Au 151 ppm Cu 180 ppm Cr 23 ppm Zn
CB-008	composite grab	Wall rock pink to grey quartzite with minor grey cherty siltstone. Tr. py-aspy.	20 ppb Au 245 ppm Cu

Sample No.	Туре	Description	Significant Assay Results
CB-009	grab	Fg to mg. white to pinkish qtzite. Pebble matrix. Dk gy qtz + sulphide (mass aspy) filled fract. Local blebs, diss. & veinlets of aspy±py to several %. Local Gossan.	48 ppb Au 165 ppm Cu
CB-010	grab	Pink to grey brown f.g. qtzite. V.sil. with multiple smokey to dark grey to whitish qv. 5-10% smokey QV's to 20-3cm wide. Sid/Lim. locally. Locally cherty. Tr. py±aspy.	98 ppb Au 160 ppm Cu 230 ppm Ni
CB-010A	grab & chip	Smokey to dk gy to wt. QV + minor alb±serc. within silty to cherty banded unit. Tr. Mn. Py blebs± tr aspy. Locally vuggy & rusty. Host well banded siltst/sst-cherty unit. Lam from m to cm wide. Greenish to bleach weather.	42 ppb Au 150 ppm Cu
СВ-011		Massive py vein (090/065N). At gabbro-sed. contact. Massive, blebs, bands & diss py in qtz±carb rock. Poss tr cpy. Near contact qtzite - wacke host f.g. dark grey to greenish grey. Chlz. Loc. slick.	50 ppb Au 265 ppm Cu
СВ-011А	grab	Host light brn grey to dk gy qtzite. Fe carb veins. Sucrosic. Tr. diss sulph.	58 ppb Au 291 ppm Cu
CB-012	composite grab	V.f.g gry sil siltstone-qtzite unit. 1-3% diss pycpy ±aspy. Chl ±serc. Slickenslides. Near gabbro contact matrix becomes more muddy grey. Increase grain size and detrital material Grossaned. > sulphides.	19 ppb Au 801 ppm Cu 651 ppm Mn 111 ppm Zn
CB-013		BIF. Banded siltstone breccia unit and black chert. V.f.g sandy/silty band (3cm) contains 80% pinkish cherty fragments. Strongly magnetic. mm lam of poss mt. Diss sulphides to 3%. Extremely sil. Locally matrix reddish pink.	26 ppb Au 189 ppm Cu 239 ppm Cr 529 ppm Mn 19 ppm Zn

Sample No.	Туре	Description	Significant Assay Results
CB-013A		BIF? Lam cherty-siltstone unit. Locally bx. Light tan to reddish brown & black lam. V.f.g diss. ubiquitous sulphide + micro stringers py±aspy +po +mt to 20% loc. Weather buff.	Miscommunication Lab combined samples 13 & 13A
CB-014	grab	Mafic intrusive? Dk gy to charcoal f.g rock with euhedral xls (carb?) - xls weather brown carb. (str. reaction) wk local magnetic. Tr. sulphpy+po. Pitted weather surface (euh.xl) dk bwn to bl. Fairly mass. o/c.	19 ppb Au 91 ppm Cu 129 ppm V 39 ppm Zn
CB-015 near contact @14		Dk gy to black f-mg rock slightly gritty. Contains qtz pebbles & fragments of lt gn-grey aphanitic rock. Tr. sulph. Chlz, carbz. V.f black qtz eyes. Wacke?	16 ppb Au 295 ppm Cu 81 ppm Ni 291 ppm Cr 1203 ppm Mn 29 ppm Zn
CB-016 (CB-OP)		Sandstone-sst./Muddy quartzite. Weathers buff to dk gy brn. Dk gy to lt gy f.g rock. Pitted where minerals weathered out. Bx-banded Tr. dk apple green streaks Tr. py Goassaned. Loc carb reac.	18 ppb Au 181 ppm Cu 10 ppm Zn
CB-017		Siltstone. Locally cherty. Aphanitic gy to brn to buff. V.f lam. Local greenish sil. micro stringers/lam + diss. sulph (loc to 10%). Micro parallel x-cutting qv. Loc. Mn. Weathers rust to beige to dk choc brn.	41 ppb Au 150 ppm Cu 995 ppm Mn
CB-018	Composite grab	V.f.g light bn to white qtzite. 2% milky white qv 1/2-1 cm subll. Minor cubes, blebs, diss py. Tr. aspy. Str. carb reaction.	30 ppb Au 239 ppm Cu
CB-019	grab	White quartzite. Fg to v. fg. Limonite. Diss & fract fill sulph. Up to 20% aspy loc on fract. Silicified. Weathers dark brown to yellow-gossan.	181 ppb Au 110 ppm Cu

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Sample No.	Туре	Description	Significant Assay Results
CB-020	grab	Sulphide zone. Mass. py aspy. Tr cpy. In smokey crackle qv. Bx. Matrix qv also contains V.f.g diss aspy.	.15 oz/ton Au 191 ppm Cu 265 ppm Co
CB-021	grab	Grey to white to pink qtzite host. Irreg sulphide units with grey cherty envelopes. F.g. sucrosic. Local splashes cpy. Tr. aspy + py.	163 ppb Au 123 ppm Cu
CB-021A	grab	White qtzite as above.	.046 oz/ton Au 199 ppm Cu
CB-021B	grab	Brn to pink qtzite. As above 1-3% v.f. diss py. Tr. aspy.	Miscommunication Lab combined samples 21A & 21B
CB-022	grab	Opaque white to dark grey QV with pods mass sulph. Py-aspy. tr. cpy. Concoidal fract.	.099 oz/ton Au 111 ppm Cu
CB-023	grab	Host rock white-gy qtzite. Mg. Cubic sulphides, diss & fract fill. Py-asp (minor)	238 ppb Au 115 ppm Cu
CB-024	grab	Sulphide zone. Sulphide vein.	40 ppb Au 129 ppm Cu
CB-025	composite grab	Sulphide zone.	51 ppb Au 101 ppm Cu
CB-026	grab	White to gy f.g pebbly qtzite. Tr. diss V.f.g sulph.	23 ppb Au 91 ppm Cu
СВ-027	composite grab	Bx milky white to gy qtz-sulph vein/Dk black pebbly sil. qtzite. Pods of aspy-py. Also diss. & vug fill sulph also as fract fill. Tr cpy. Crackle text vein.	.059 oz/ton Au
CB-027A	grab	Host: Greenish white to gy to pink f.g qtzite. Pebbly to siliceous. Minor sulph. diss. Gossan.	38 ppb Au 165 ppm Cu
CB-029 (028 same not assayed)		Siliceous dk gy to glassy bl. qtzite with x cutting sulhide veins 3mm+. Also smokey QV mm + V.f.g dk qtz eyes. Minor diss sulph.	100 ppb Au 80 ppm Cu

Sample No.	Туре	Description	Significant Assay Results
CB-030	grab	M.g gry qtzite containing sub11 & x-cutting, milky qtzv 2-3 cm with sulphide envelopes. Pyaspy±cpy to several % locally. Serc. Ubiquitous diss aspy-py. Locally glassy bl. qtz eyes.	150 ppb Au 91 ppm Cu
CB-031	grab	Smokey grey to black QV. Crackle. Contains blebs & pods mass sulph + V.f.g diss. minor dark grey carb also.	0.042 oz/ton Au 189 ppm Cu
CB-032	grab	Dk gy to lt brn qtzite V.f.g to f.g. Contains siltstone clasts. Possibly banded. Locally pebbly weather surface. Tr. sulph. Conglomerate?	39 ppb Au 165 ppm Cu
CB-033	grab	Pebbly siltstone/conglomerate. Also contains a f.g. whitish grey qtzitic unit with up to 25% V.f.g. aspy diss ± tr py. Limonite. Local vuggy qtz pods.	31 ppb Au 150 ppm Cu
CB-033A	chip	Vuggy qv. in above	Lab combined sample with CB-033
L7+25E ~ 4+70s	grab	Pink to white quartzite. V.f.g mass rock. Multiple x-cutting micro qv. Locally pebbly Siderite on fract & replacing cubic sulphides. Tr to 3% diss sulphide (py). Weathers buff to red brown to dk brn.	N/A

9.0 Conclusions and Recommendations

The White Claim Group is underlain by roughly east-west trending sub-vertically dipping metasediments of Gowganda Formation, Huronian Supergroup. On the property the Gowganda formation consists largely of a series of polymictic conglomerate siltstone and argillite, greywacke and quartzite. Minor Banded Iron Formation rocks also appear in the northern portion of the claim group. Conglomerates contain clasts of all rock types including very minor occurrences of mafic and granitic rock fragments.

The sedimentary rock assemblage is intruded by a medium to coarse grained, locally pegmatitic, mafic intrusive (largely gabbroic) rock sequence. Nippissing diabase dykes and sills intrude all rock types on the property.

Several zones anomalous in gold and base metal content have been determined. Stratabound quartz-Sulphide-associated gold mineralization has been detected at or near the sediment/mafic intrusive rock contact within siliceous, often carbonatized and fractured, sediments.

Current assay results indicate values to .15 oz/ton Au in a smokey brecciated quartz-massive unit within the main "sulphide vein" located immediately north of the western portion of Hanwood Lake. Past assay values for rock samples in this zone yielded up to 46,800 ppb Au. Cu values for current assays range from 23 ppm Cu to 801 ppm Cu. The latter sample was obtained from siliceous quartzite associated with strong sulphide mineralization, located near the southern end of the Leech Lake-Plunge Lake portage, in old workings. These workings are within the sediment/mafic rock contact. The Gabbroic unit remains largely untested.

Veinwork often containing sulphide blebs and vugs infilled with massive pyrite ± arsenopyrite and what may be marcasite mineralization appear to be of several ages.

Associated mineralization seems to increase near vein contacts that parallel the 276° trend of the sulphide dyke.

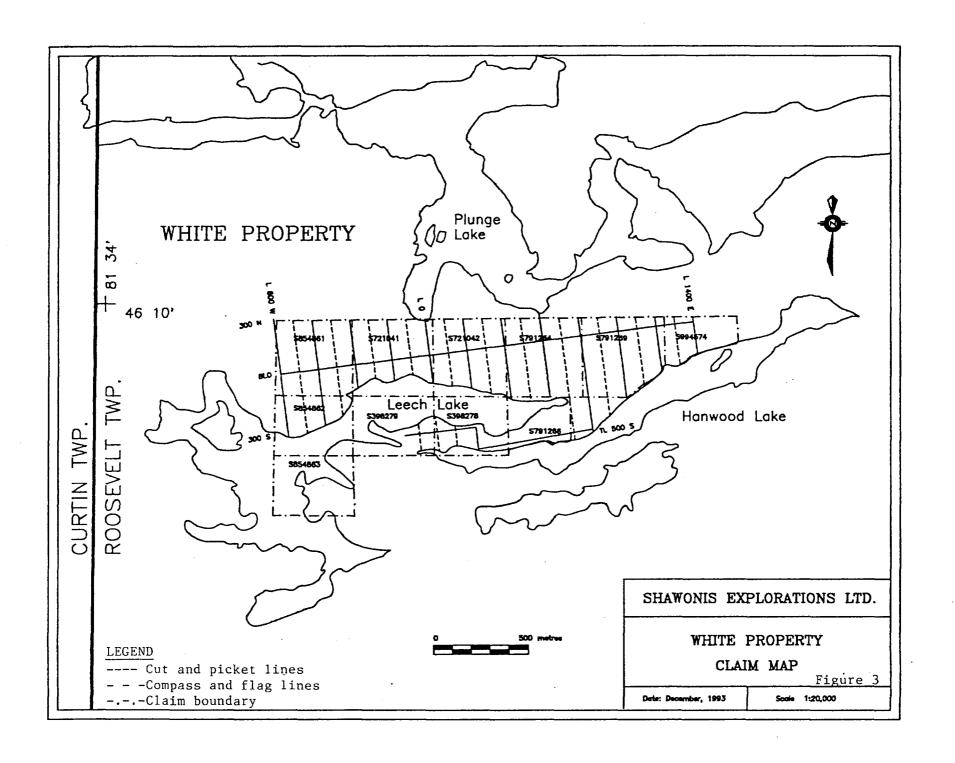
The current programme provided for a basic cursory examination of the White property. Excessive rain in the later summer months hampered progress of line cutting and thus set the work schedule back by several days. Therefore, heavy snowfall prevented a more detailed mapping of rock units within the property boundaries. It is recommended that a follow-up program should be undertaken. Results from multi-element analysis on the property indicate several target zones.

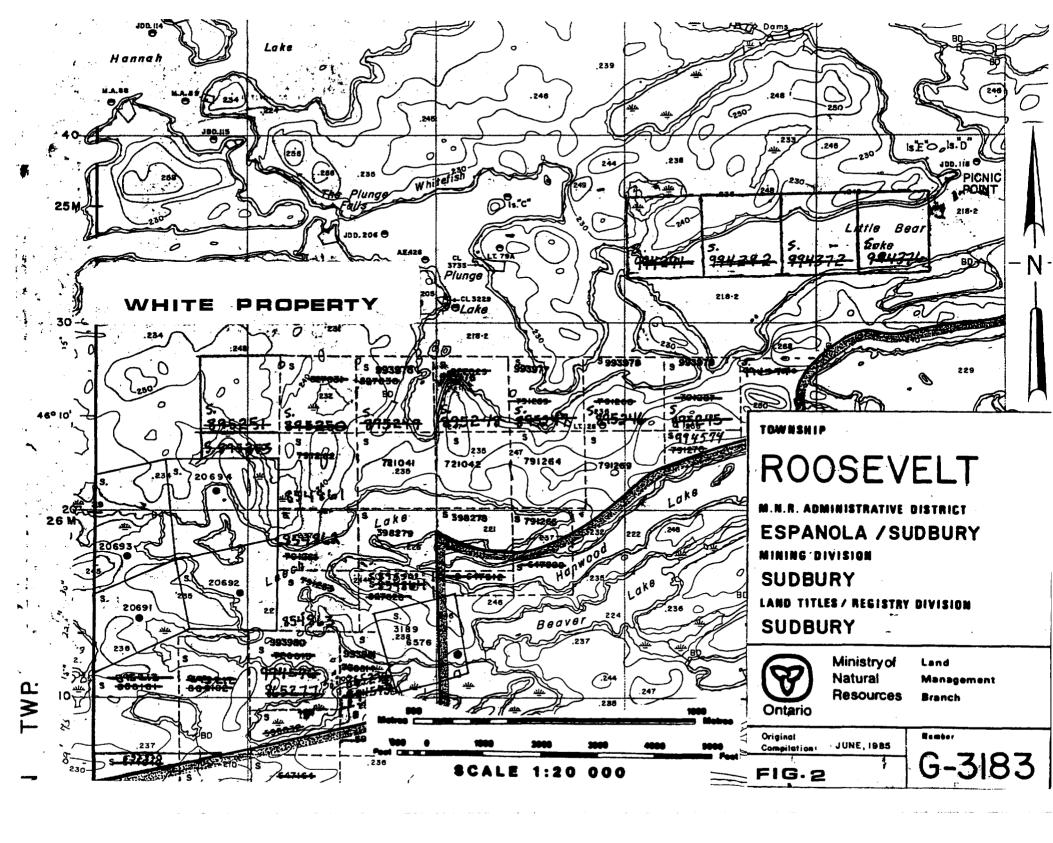
A more detailed stripping and mapping of these zones at a scale of 1:100 is highly recommended. Infill grid lines at 50 m line spacings are recommended over other areas of the property within the sediment/mafic intrusive rock contact. Ground geophysical surveys and geochemical testing performed over the entire property to include lake coverage, would better target these areas. BIF occurrences should be explored in greater detail. Cleaning and detailed channel sampling of those pits and trenches that returned samples with significant mineral values is also recommended.

CERTIFICATE OF QUALIFICATIONS

- I, Catherine Irene Butella, of R.R. #2 Brantford, Ontario, hereby certify:
- 1. I am a graduate of Lakehead University (1983) and hold a BSC degree in Geology and an HBSC in Biology.
- 2. I am presently a self employed contractor.
- 3. I wholly own and operate Shawonis Explorations and Enterprises Ltd.
- 4. I have been employed in my profession by various mining companies for the past 14 years.
- 5. The information contained in this report was obtained during the completion of a preliminary exploration programme carried out for James W. White of Espanola, and was conducted over time intervals from late summer to early winter months 1993.
- 6. Neither Shawonis Explorations and Enterprises nor myself have any direct or indirect interest in the property described.

Dated at Brantford, Ontario this 16th day of December, 1983.





APPENDIX I Assay Certificates

33 Chauncey Avenue, Toronto, Ontario MBZ 2Z2 Tel: (416) 239-3527 FAX: (416) 239-4012

CERTIFICATE OF ANALYSIS

SUBMITTED BY: SHAWONIS EXPLORATIONS + ENT. LTD.

CERTIFICATE NO: MI-3422-01 DATE: JANUARY 11, 1994

ATTENTION: CATHY BUTELLA

.a. . DATE RECEIVED: JANUARY 5, 1994 SAMPLES OF: ROCKS

RESULTS IN ppm AND %

SAMPLE NO:	CB-001	CB-002	CB-003	CB-004	CB-005
Ag Al % As Bi Ca % Cd Co Cr Cu Fe % Mg % Mn Mo Ni P % Pb S % Sb	CB-001 .5 .2 < 10 < 10 .1 < 10 < 10 91 189 2.4 .1 190 < 10 2.3 .05 38 .01 < 10 < 10	.1 .2 < 10 < 10 .04 < 10 25 .45 151 1.1 .1 181 < 10 1.9 .02 .11 .01	CB-003 .2 .09 < 10 < 10 .08 < 10 11 .38 .99 1.1 .02 .230 < 10 1.6 .02 < 10 .01 < 10 < 10	.2 < 10 < 10 < 5 < 10 < 10 45 150 1.5 .2 265 < 10 2.9 .02 < 10	CB-005 .4 1.5 < 10 < 10 .2 < 10 45 100 129 2.9 1.5 300 < 10 5.0 .01 < 10 .02 < 10 < 10
Sr Th U V W Zn		< 10 < 10 < 10 < 10 < 10 < 10 < 10		< 10 < 10 < 10 < 10 < 10 < 10 < 10	

33 Chauncey Avenue, Toronto, Ontario MBZ 2Z2 Tel: (416) 239-3527 FAX: (416) 239-4012

CERTIFICATE OF ANALYSIS

SUBMITTED BY: SHAWONIS EXPLORATIONS + ENT. LTD.

CERTIFICATE NO: MI-3422-02 DATE: JANUARY 11, 1994

ATTENTION: CATHY BUTELLA

DATE RECEIVED: JANUARY 5, 1994 SAMPLES OF: ROCKS

RESULTS IN ppm AND Z

SAMPLE NO:	CB-006	CB-006A	CB-009B	CB-006C	CB-006D
Ag Al % Bi Ca % Cd Cr Cu Fe % Mg % Mn Mo Ni P % Pb	.2 .06 < 10 .04 < 10 23 58 201 2.0 .08 151 < 10 81 .02 < 10	.4 .1 < 10 .08 < 10 31 81 652 2.3 .09 230 < 10 31 .02 < 10	.4 .05 < 10 1.8 < 10 29 29 180 1.5 .5 295 < 10 52 .05 < 10	1.8 .03 < 10 19.8 < 10 15 45 91 2.9 5.1 1119 < 10 26 .09 15	<.01 .1 < 10 1.8 < 10 11 41 185 1.9 .8 291 < 10 23 .06 < 10
Pb	< 10	< 10	< 10	15	< 10
S % Sb	1.9 < 10	1.5 < 10	.9 < 10	1.5 < 10	1.9 < 10
Sr Th U V W	< 10 < 10 < 10 < 10 < 10	. < 10 < 10 < 10 < 10 < 10	< 10 < 10 < 10 < 10 < 10	< 10 < 10 < 10 < 10 < 10	< 10 < 10 < 10 < 10 < 10
Zn	< 10	< 10	< 10	15	< 10

CHAUNCEY ASSAY LABORATORIES LTD.

33 Chauncey Avenue, Toronto, Ontario M8Z 2Z2
Tel: (416) 239-3527 FAX: (416) 239-4012.

GECCHEM ANALYSIS

SAMPLE PREP: SAMPLES ARE CRUSHED USING A JAW CRUSHER, CONE CRUSHER, RIFFLED

AND PULVERIZED TO -100 MESH.

METHOD: SAMPLE SIZE 10 GRAMS OF SAMPLE.

AQUA REGIA DIGESTION (40 MLS.)

AND DILUTED TO 100 MLS.

AU BY MIBK AND AA FINISH.

GEOSCAN - ICP.

CHAUNCEY ASSAY LABORATORIES LTD. 33 Chauncey Avenue, Toronto, Ontario MBZ 2Z2 Tel: (416) 239-3527 FAX: (416) 239-4012

CERTIFICATE OF ANALYSIS

CERTIFICATE NO.: MI-3422 DATE: JANUARY 11, 1994
SUBMITTED BY: SHAMONIS EXPLORATIONS + ENT. LTD.
ATTENTION: CATHY BUTELLA

DATE RECEIVED: JANUARY 5, 1994 SAMPLES OF: ROCKS

SAMPLE NO.:	AU PPB	AU OZ/TON
CB-001	31	
-002	39	
-003	23	
-004	56	
-005	18	
-006	80	
-006A	6 3	
-006B	59	
-004C	18	
-006D	23	
-007	15	
-00B	20	
-009	48	
-010	98	
-010A	42	
-011	50	
-011A	58	
-012	19	
-013	26	
-014	19	
-015	16	
-017	41	
-018	30	
-019	181	
-020		. 15
-021	16 3	
-021A		.046
-022		.099
-023	238	
-024	40	
-025	51	
~026	23	
-027	70	.059
-027A -029	38	
-029 -030	100	and the second second
-030 -031	158	040
-032	3 9	.042
-032	37 31	
CB-OP	31 18	
OD DI	10	
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J. van Engelen Mgr.

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CERTIFICATE OF ANALYSIS

SUBMITTED BY: SHAWONIS EXPLORATIONS + ENT. LTD.

CERTIFICATE NO: MI-3422-03 DATE: JANUARY 11, 1994

ATTENTION: CATHY BUTELLA

DATE RECEIVED: JANUARY 5, 1994 SAMPLES OF: ROCKS

RESULTS IN ppm AND %

SAMPLE NO:	CB-007	CB008	CB-009	CB-0010	CB-0010A
Ag Al % As Bi % Cod Cor Cu % Mo Ni% Pb % Shrh U V W	.4 1.0 < 10 < 10 < 10 < 10 .1 < 10 45 180 151 2.9 1.5 345 < 10 65 .01 15 1.5 < 10 < 10 < 10 < 10 < 10 < 10	.4 .2 < 10 < 10 .4 < 10 18 .55 245 1.8 .2 261 < 10 29 .01 < 10 < 10 < 10 < 10 < 10 < 10 < 10 <	.6 .2 < 10 < 10 .02 < 10 81 50 165 2.3 .06 110 < 10 < 10 < 10 < 10 < 10 < 10 < 10	.8 .1 < 10 < 10 .6 < 10 111 29 160 1.9 .6 265 < 10 230 .01 < 10 2.9 < 10 < 10	.6 .09 < 10 < 10 .8 < 10 23 26 159 1.5 .4 241 < 10 46 .02 < 10 1.0 < 10 < 10 < 10 < 10 < 10
Zn	23	< 10	< 10	₹ 10	\ 10

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CERTIFICATE OF ANALYSIS

SUBMITTED BY: SHAWONIS EXPLORATIONS + ENT. LTD.

CERTIFICATE NO: MI-3422-04 DATE: JANUARY 11, 1994

ATTENTION: CATHY BUTELLA

DATE RECEIVED: JANUARY 5, 1994 SAMPLES OF: ROCKS

RESULTS IN ppm AND Z

Ag 1.0 .4 .4 .2 1.0 Al % .09 .05 .1 1.1 2.3 As < 10 < 10 < 10 < 10 < 10 Bi < 10 < 10 < 10 < 10 < 10 Ca % .06 .05 3.9 .1 2.6 Cd < 10 < 10 < 10 < 10 < 10 Co 35 39 .1 51	
Cr 11 18 29 239 26 Cu 265 291 801 189 91 Fe % 23.9 5.1 2.9 4.5 19.1 Mg % .04 .03 1.8 1.5 2.3 Mn 100 119 651 529 98	As < 10 < 10 < 10 < 10 < 10 Bi < 10 < 10 < 10 < 10 < 10 Ca % .06 .05 3.9 .1 2.6 Cd < 10 < 10 < 10 < 10 < 10 Co 35 29 38 29 51
Ni 29 23 29 51 24 P % .02 .01 .5 .01 .02 Pb 10 < 10 10 < 10 18 S % 23.0 15.9 4.5 9.1 3.8 Sb < 10 < 10 < 10 < 10 < 10 Sr < 10 < 10 < 10 < 10	Cu 265 291 801 189 91 Fe % 23.9 5.1 2.9 4.5 19.1 Mg % .04 .03 1.8 1.5 2.3 Mn 100 119 651 529 98 Mo < 10 < 10 < 10 < 10 < 10 Ni 29 23 29 51 24 P % .02 .01 .5 .01 .02 Pb 10 < 10 10 < 10 18 S % 23.0 15.9 4.5 9.1 3.8 Sb < 10 < 10 < 10 < 10 < 10
	Cu 265 291 801 189 91 Fe % 23.9 5.1 2.9 4.5 19.1 Mg % .04 .03 1.8 1.5 2.3
Cu 265 291 801 189 91 Fe % 23.9 5.1 2.9 4.5 19.1 Mg % .04 .03 1.8 1.5 2.3 Mn 100 119 651 529 98	Er 11 18 29 239 26

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J. van Engelen Mgr

LIMITURELY ASSAY LABORATORIES LTD.

33 Chauncey Avenue, Toronto, Ontario MBZ 222 Tel: (416) 239-3527 FAX: (416) 239-4012

CERTIFICATE OF ANALYSIS

SUBMITTED BY: SHAWONIS EXPLORATIONS + ENT. LTD.

CERTIFICATE NO: MI-3422-05 DATE: JANUARY 11, 1994

ATTENTION: CATHY BUTELLA

DATE RECEIVED: JANUARY 5, 1994 SAMPLES OF: ROCKS

RESULTS IN ppm AND Z

SAMPLE NO:	CB-015	CB-017	CB-018	CB-019	CB-020	
Ag	.8	1.0	.2	.4	1.0	
Al %	1.1	.09	.1	.05	.02	
As	< 10	< 10	< 10	< 10	< 10	
Bi	< 10	< 10	< 10	< 10	< 10	
Ca %	.6	2.0	.1	.09	.01	
Cd	< 10	< 10	< 10	< 10	< 10	
Co	23	25	< 10	< 10	265	
Cr	291	38	58	31	19	
Cu	295	150	239	110	191	
Fe %	4.0	4.5	1.9	2.5	19.9	
Mg %	1.1	1.5	.1	.1	.01	
Mn	1203	995	251	181	95	
Ma	< 10	< 10	< 10	< 10	< 10	
Ni P % Pb	81 .02 15	45 .05 < 10	18 .02 < 10	15 .01 < 10	.01 < 10	
S %	3.8	4.0	4.5	8.1	25.8	
Sb	< 10	< 10	< 10	< 10	< 10	
Sr	< 10	< 10	< 10	< 10	< 10	
Th	< 10	< 10	< 10	< 10	< 10	Survey and a survey
U	< 10	< 10	< 10	< 10	< 10	
V	< 10	< 10	< 10	< 10	< 10	
W	< 10	< 10	< 10	< 10	< 10	
Zn	29	< 10	₹ 10	< 10	< 10	7

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CERTIFICATE OF ANALYSIS

SUBMITTED BY: SHAWONIS EXPLORATIONS + ENT. LTD.

CERTIFICATE NO: MI-3422-06 DATE: JANUARY 11, 1994

ATTENTION: CATHY BUTELLA

DATE RECEIVED: JANUARY 5, 1994 SAMPLES OF: ROCKS

RESULTS IN ppm AND Z

SAMPLE NO:	CB-021	CB-021A	CB-022	CB-023	CB-024	
Ag Al %	.2	.6 .08	1.8 .01	.2 .09	.2 .2	
As	< 10	< 10	< 10	< 10	< 10	
Вî	< 10	< 10	< 10	< 10	< 10	
Ca %	.01	.01	.01	.01	.01	
Cd	< 10	< 10	< 10	< 10	< 10	
Co	19	111	18	23	< 10	
Cr	28	23	18	29	45	
Cu	123	199	111	115	129	
Fe %	1.9	4.5	17.1	2.6	1.9	
Mg %	65 0	119	100	239	1601	
Mn	160	99	81	101	190	
Ma	< 10	< 10	< 10	< 10	< 10	
Ni	15	23	19	11	18	
P %	.01	.01	.01	.01	.01	
Рb	< 10	< 10	10	< 10	< 10	
s %	2.3	11.0	15.8	3.8	2.3	
Sb	< 10	< 10	< 10	< 10	< 10	
Sr	< 10	< 10	< 10	< 10	< 10	
Th	< 10	< 10	< 10	< 10	< 10	
U	< 10	< 10	< 10	< 10	< 10	
V	< 10	< 10	< 10	< 10	< 10	The second second
W	< 10	< 10	< 10	< 10	< 10	\
Zn	< 10	< 10	< 10	< 10	< 10	

J. Van Ergelen Mgr

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CERTIFICATE OF ANALYSIS

SUBMITTED BY: SHAWONIS EXPLORATIONS + ENT. LTD.

CERTIFICATE NO: MI-3422-07 DATE: JANUARY 11, 1994

ATTENTION: CATHY BUTELLA

DATE RECEIVED: JANUARY 5, 1994 SAMPLES OF: ROCKS

RESULTS IN ppm AND %

SAMPLE NO:	CB-025	CB-026	CB-027	CB-027A	CB-029
Ag	.1	<.1	1.0	.4	.4
Al %	.2	.2	.1	.1	.08
As	< 10	< 10	< 10	< 10	< 10
Bi	< 10	< 10	< 10	< 10	< 10
Ca %	.01	.01	.01	.01	.01
Cd	< 10	< 10	< 10	< 10	< 10
Co	< 10	< 10	65	50	< 10
Cr	31	29	< 10	31	19
Cu	101	91	23	165	80
Fe %	1.6	1.0	19.0	2.3	1.8
Mg %	.04	.1	.02	.02	.03
Mn	145	110	100	111	91
Mo	< 10	< 10	< 10	< 10	< 10
Ni	15	15	29	23	< 10
P %	.01	.01	.01	.01	.01
Pb	< 10	< 10	19	< 10	< 10
S %	2.3	1.9	15.0	9.8	8.1
Sb	< 10	< 10	< 10	< 10	< 10
Sr	< 10	< 10	< 10	< 10	< 10
Th	< 10	< 10	< 10	< 10	< 10
U	< 10	< 10	< 10	< 10	< 10
∨	< 10	< 10	< 10	< 10	< 10
₩	< 10	< 10	< 10	< 10	< 10
Zn	< 10	< 10	< 10	< 10	< 10

CERTIFICATE OF ANALYSIS

SUBMITTED BY: SHAWONIS EXPLORATIONS + ENT. LTD.

CERTIFICATE NO: MI-3422-08 DATE: JANUARY 11, 1994

ATTENTION: CATHY BUTELLA

DATE RECEIVED: JANUARY 5, 1994 SAMPLES OF: ROCKS

RESULTS IN ppm AND Z

SAMPLE NO:	CB-030	CB-031	CB-032	CB-033	CB-OP
Ag	.2	.6	. 6	. 4	. 4
Al %	.08	.04	1.5	.06	1.5
As	< 10	< 10	< 10	< 10	< 10
Bi	< 10	< 10	< 10	< 10	< 10
Ca %	.05	.02	. 4	.06	. 1
Cd	< 10	< 10	< 10	< 10	< 10
Co	11	18	16	< 10	23
Cr	19	19	44	38	84
Ըս	9 1	187	165	150	181
Fe %	2.6	3.5	3.5	2.6	3.8
Mg %	.05	.04	1.0	.08	1.0
Mn	101	81	82 9	260	231
Mo	< 10	< 10	< 10	< 10	< 10
Ni	11	. 25	50	25	81
P %	.02	.02	.05	.02	.02
Pb	< 10	< 10	< 10	< 10	< 10
S %	9.9	15.1	3.8	1.5	1.9
Sb	< 10	< 10	< 10	< 10	< 10
Sr	< 10	< 10	< 10	< 10	< 10
Th	< 10	< 10	< 10	< 10	< 10
u	< 10	< 10	< 10	< 10	< 10
V	< 10	< 10	< 10	< 10	< 10
W	< 10	< 10	< 10	< 10	< 10
Zn	< 10	< 10	19	< 10	10
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