

REPORT ON THE
PRINCESS/BLACK STURGEON
AND
RAJAH/ROSEMAN
GOLD PROPERTIES FOR
THE J.E.DUNHAM TRUST

1939

The SECTION

by J.A.GOODWIN, FGAC DECEMBER 1987 COP



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1.0 INTRODUCTION

This report describes two gold properties in the Kenora area that are presently held in trust for Mr John E.Dunham. The properties were optioned from Mr. G. Zebruck of Kenora in September, 1987.

The author is an independent consultant and was requested to prepare this report by J.E.Dunham on November 12th, 1987. Both properties were visited on November 17th and, despite minor snow cover, a number of mineral occurrences were located and sampled and an overview of the geological environment was obtained.

Information used in this report consists of reports published by the Ontario Ministry of Natural Resources and company reports in the MNR assessment files. All information is therefore in the public domain with the exception of a number of drill hole assays obtained from Mr.G.Zebruck of Kenora. Data was examined and this report written between 16-11-87 and 01-12-87.

The author's qualifications and a bibliography are appended to this report.

2.0 PROPERTY DESCRIPTION AND LOCATION

Information concerning property rights and status is taken from correspondence between G. Zebruck and the Ontario government, G. Zebruck and J.E.Dunham and MNR plans M-1987

and M-1992 dated 04-09-87. The author has not contacted the Kenora Mining Recorder to verify tenure. A sufficient number of claim posts were inspected by the author to determine that the mineral showings described in this report are indeed on the properties.

Both properties are at present being held in trust for J.E.Dunham, 5196 Suncrest Road, Burlington, Ontario. L7L 3W8.

The Princess/Black Sturgeon property consists of 12 contiguous mineral claims on the southern shore of Black Sturgeon Lake, 13 km northeast of the town of Kenora, Ontario (Figures 1 & 2). Detailed property information is given in table 1.

Surface rights of the claims are vested in the Crown with the exception of a narrow strip of small patents and cottage leases on the shore of Black Sturgeon Lake. Right-of-ways cross the claims for the Northern Ontario Pipeline (Crown Corporation) and Trans Canada Pipelines.

The Rajah/Roseman property consists of 14 contiguous mineral claims 1.6 km west-southwest of the Princess/Black Sturgeon property (Figures 1 & 2). Detailed property information is given in table 1.

Surface rights of the claims are vested in the Crown with the exception of one surface-rights-only patent covering two claims in the northeast of the group. Right-of-ways cross the property for the Northern Ontario Pipeline (Crown Corporation) and Ontario Hydro power lines.

TABLE 1

PRINCESS/BLACK STURGEON AND RAJAH/ROSEMAN PROPERTIES CLAIM INFORMATION

PRINCESS/BLACK STURGEON

NUMBER OF CLAIMS: 12

LOCATION: KENORA MINING DIVISION, DISTRICT OF KENORA, HAYCOCK TOWNSHIP, CONCESSION V, PARTS OF LOTS 11 AND 12 AND CONCESSION VI, SOUTHERN HALF OF LOTS 11 AND 12.

<u>CLAIM NUMBERS</u>: 899595,899596,899597,899598,899599,899600,1003736, 1003737,1003738,1003739,1003740,1003741.

RECORDING DATE: 10-06-87

CLAIMS IN GOOD STANDING UNTIL: 10-06-88

RAJAH/ROSEMAN

NUMBER OF CLAIMS: 14

LOCATION: KENORA MINING DIVISION, DISTRICT OF KENORA, JAFFRAY TOWNSHIP, CONCESSION V, PARTS OF LOTS 12,13,14 AND 15.

CLAIM NUMBERS: 895621,895622,895623,1003745,1017839,1017840,
1017924,1017925,1017926,1017927,1017928,1017929,
1017930,1017931.

RECORDING DATES: CLAIMS 895621-895623 = 08-10-86
ALL OTHER CLAIMS = 13-11-87

CLAIMS IN GOOD STANDING UNTIL: CLAIMS 895621-895623 = 31-05-88
ALL OTHER CLAIMS = 13-11-88

3.0 ACCESSIBILITY, CLIMATE AND LOCAL RESOURCES

Access to both properties is excellent. The Trans-Canada highway (highway 17) is 5 km south of the Rajah/Roseman property which is also crossed by paved highway 604 to the Kenora Airport. All-weather gravel roads cross both properties and cottage, pipeline and hydro line access roads and four-wheel drive tracks crisscross them also. A new road to bypass Kenora is to be constructed in 1988 and will cross the Rajah/Roseman property.

The Kenora airport, with daily jet service to Winnipeg, Thunder Bay and Toronto, is 0.5 km southeast of the Rajah/Roseman property and 0.8 km southwest of Princess/Black Sturgeon.

Rail access via the Canadian Pacific Railway is available less than 1 km south of the properties.

Climate is typical of Western Ontario. Snow cover and sub-zero temperatures usually last from November to April or May, followed by summer weather with daily high temperatures averaging 21°C.

Topography is moderately rugged with steep-sided ridges separated by narrow, often swamp-filled valleys. Vegetation is mainly secondary growth of poplar, spruce and minor balsam and ash.

Local resources are plentiful. Both properties are crossed by two natural gas pipelines, the Rajah/Roseman by a major hydro line and the Princess/Black Sturgeon by domestic lines. Fresh water is plentiful and local labour and services are available from Kenora, approximately 10 km to the southwest.

4.0 REGIONAL GEOLOGY AND MINERALIZATION

The Kenora district is underlain by rocks of Precambrian age belonging to two geological subprovinces within the Superior Province. The Dunham properties lie within a narrow, northeast-trending wedge of rocks of the Wabigoon Subprovince, north of which are gneissic rocks of the English River Subprovince.

Figure 2 illustrates the regional geology of the area. The following description is from Davies, Smith and Blackburn, 1985.

"A wedge-shaped area of volcanic and sedimentary rocks extends northeast from the main body of supracrustal rocks in the vicinity of Kenora. Intensely deformed gneisses lie to the northwest, and to the east are granitoid stocks which may be related to the Dryberry batholith. Tholeitic basalts are overlain by fine-grained intermediate to felsic pyroclastics, which in turn are overlain by clastic sediments. A gabbroic sill lies near the top of the basaltic sequence.

The principal direction of faulting, the weak to strong foliation, and the trace of fold axes are all approximately parallel to wedge boundaries and converge to the northeast. At the northwest side of the wedge mafic rocks are highly deformed and metamorphosed but elsewhere primary features are largely preserved. An oval stock of porphyritic quartz monzonite, which lies on the trace of the Airport Anticline, is only weakly foliated.

All the known volcanic-hosted gold occurrences except one are in basalt and are associated with quartz veins or silicified shears. Fractured and mineralized felsite dykes which lie in sheared basalts have also been investigated. The mineralized zones trend northeast and are interpreted to be related to movement along near-vertical axial planar shears. Tourmaline and minor sulphides are associated with most quartz veins; chlorite, biotite, carbonate and sulphides are common in the sheared basalt.

Gold occurrences in the Island Lake quartz diorite are associated with shearing. Most of the mineralization is in or near quartz veins which occupy zones of dilatancy. Gold is associated with pyrite, especially along minor fractures in the quartz and the host diorite or quartz diorite. Dike-like bodies of ultra-mylonite lie near mineralized and silicified shears at these occurrences."

The potential for economic gold mineralization in this area is indicated by the Scramble Prospect. This occurrence, lying directly south of the Rajah/Roseman property, is being explored underground by Madelaine Mines and Boise Cascade Canada Ltd. Three hundred thousand tons grading 0.3 oz/t Au is said to have been defined to date (J.E.Dunham, personal communication).

5.0 PRINCESS/BLACK STURGEON PROPERTY

5.1 HISTORY

Very little integrated exploration has been done on the property, although gold occurrences have been known and sporadically tested since the 1890's. The following information is from King and Foster, 1983, and assessment files listed in the bibliography.

1896 - Two shafts, 12.8 and 11 metres deep, were sunk on gold-bearing quartz veins at the Black Sturgeon location by Mr. A.Benson, the owner and manager. No grade, tonnage or production are reported.

1897 - At the Princess location, Princess Gold Mining Co. sunk a 19.8 metre shaft on a quartz vein which "showed free gold plentifully" and an unspecified amount of cross-cutting was done to locate the vein, which appeared to pinch out at about 5 metres depth. Some test pitting was done in the area.

1897 to 1898 - A shaft was sunk at the Black Sturgeon location to 53.4 metres. It is not clear if this was a new shaft or deepening of one of the existing ones. Seventeen point one and 25 metres of lateral development were done at the 28 and 52 metre levels, respectively. No grade, tonnage or production are reported.

1920 - A "few hundred dollars" were reported to have been recovered from ore shipped from the Princess shaft to smelters.

1960 - Seven diamond drill holes, totalling 185.4 metres, were drilled by American Yellowknife Mines Ltd.

1983 - The present claim group was staked by G.R.Zebruck of Kenora.

1985 - Kennco Explorations (Canada) Inc. cut 25 km of grid lines, geologically mapped and sampled the property and did 23 km of magnetic and VLF-EM surveys.

1987 - The property was optioned by the J.E. Dunham trust.

5.2 PROPERTY GEOLOGY

Map 1 illustrates local geology and mineralization in the area (After King and Foster, 1983).

Outcrop is generally good in the western portion of the property, however overburden covers most of the eastern portion and reaches 11 metres depth at the Black Sturgeon shaft. It should be noted that angular, near in-situ rubble produced by blasting along the gas pipelines provides an excellent crosssequence section for geological mapping and sampling.

The property is underlain by mafic to intermediate volcanics in the northwest and the Island Lake quartz diorite stock in the southeast. The contact between the two lithologies is marked by a hybrid zone.

The mafic to intermediate volcanics are predominantly massive flows with local pods of epidote/garnet/pyrrhotite and quartz/calcite/pyrrhotite. Minor mafic tuffs and gabbroic units occur throughout the sequence.

The Island Lake Stock, where it outcrops on the property, is a medium- to coarse-grained diorite to biotite-hornblende granodiorite.

The hybrid contact zone contains schistose to gneissic rocks with numerous narrow sills and dyke networks of quartz monzonite.

Almost no structural information is available for the property. Schistosity in the mafic volcanics strikes roughly northeast and dips vertically to steeply north. Major structures in the area generally strike northeast (Map 1). As the Scramble shear also strikes northeast, it is possible that the Princess occurrence lies on the same structure.

5.3 MINERALIZATION

All known exploration on the property to date has been for gold. It should be emphasized here that, despite the presence of shafts, a number of drill holes and work by Kennco, no serious, integrated exploration has been done and therefore the potential of the property to host economic gold mineralization remains essentially untested.

Early information on the Princess and Black Sturgeon workings is sketchy; the following information is from Ontario Department of Mines annual reports.

The Princess shaft was sunk on a "small outcropping of white quartz which showed free gold plentifully" (Bow 1898). The vein strikes northeast and dips vertically. Coleman (1898) writes: "The rock is green hornblende schist with some dyke-like bands of granite. there was not much pyritous (sic.) schist on the dump, but some rusty, good-looking quartz.....We were told that the rock the whole width of the shaft assays from \$ 6.00 to \$ 12.60 per ton, and that the quartz can be traced across the valley for some hundreds of yards. The pyritous schist does not seem as extensive here as at the Scramble, and as it is less micaceous, and a stretch of drift-covered country separat

es the two mines, there may be some doubt whether it is the same band of schist."

Although the accuracy of the information given to Coleman is not known, the following is of interest: as the width of the shaft was 4 feet (Bow, 1898) and the price of gold in 1898 about \$ 30.00, the above mentioned assay would be 0.2 to 0.42 oz/ton over a width of 4 feet (1.22 metres).

Kennco took 7 grab samples from the shaft dump including "highly gossanous rock (presumably originally pyritic)." The maximum value obtained was 35 ppb Au.

The Black Sturgeon shaft occurs in an area of low relief and poor exposure, and as it is collared in 11 metres of overburden and is full of water, strike direction of the structure could not be determined. Bow (1898) calls the structure the Number 1 Vein and states that it is believed to strike northeast and occur on the contact between granite and schist. He also states that the location of the shaft was calculated from the Number 2 shaft, 1200 feet to the northeast. This would imply that the structure is at least 1200 feet (366 metres) long. Bow also states that "considerable prospecting has been done and quite a number of veins have been found." It is not clear how many of these veins are on the present property.

No grades, widths or production are reported from the Black Sturgeon.

Kennco (1985) states that from an examination of dump material, gold mineralization apparently occurs in tension gash quartz-carbonate veins in sheared diorite which is silicified,

granulated, chloritic and carries 2% evenly distributed pyrite. A composite grab sample of sheared diorite fragments contained 95 ppb Au and a composite grab sample of quartz fragments also contained 95 ppb Au. A grab sample of diorite containing quartz-carbonate-pyrite vein returned 430 ppb Au.

In 1960, 7 drill holes by American Yellowknife Mines Ltd. tested the property (Map 1). Drill logs and hole locations are available in the MNR assessment files. A plan of the locations of these holes together with assay results was obtained from G.Zebruck who was given it by N.Zroback, a previous owner of the property.

The following points must be made:

- 1) The actual locations of these drill holes are in doubt due to poor location maps; it is thought possible that holes 5 and 6 may have tested the Princess structure and holes 1 and 2 the Black Sturgeon.
- 2) The analyses on the Zroback map are unatributable as no assay sheets have been seen.
- 3) No widths accompany the assays on the Zroback map.

Despite the above facts, the information should be considered and a summary of the drilling is given below. Hole locations, as shown in the assessment report, and assays from the Zroback map.

Hole # 1 intersected 18 metres of "hornblende quartz porphyry" mineralized with pyrite, pyrrhotite, minor chalcopyrite and quartz stringers. The accompanying assay is 0.16 oz/ton Au and 0.55 oz/ton Ag.

Hole # 2 intersected 0.6 metres of similar material with no assays given.

Hole # 3 intersected 3.6 metres of pyritic quartz porphyry with an accompanying assay of 0.25 oz/ton Au.

Hole # 4 intersected 5.5 metres of hornblende quartz porphyry, heavily mineralized with pyrite, chalcopyrite, bornite and narrow quartz stringers. No assays given.

Hole # 5 intersected 16.5 metres of "greenstone" with quartz and calcite stringers heavily mineralized with pyrite, chalcopyrite and minor bornite. No assays reported.

Hole # 6 intersected only sparse mineralization. No assays reported.

Hole # 7 intersected 1.5 metres of pyritc hornblende schist. No assays.

Two un-numbered drill holes northeast of the Princess shaft are shown on the Zroback map, along with an accompanying assay of 0.15 oz/ton Au. No other data on these holes were located. A grab sample assay of 0.06 oz/ton Au in the southeast of the property is similarly undocumented.

5.4 GEOPHYSICS

In 1985 Kennco did 23 km of magnetometer and VLF-EM survey on a cut grid covering the property. Details of the surveys are given in "Report on Ground Magnetic and VLF-EM Surveys, Haycock Township, Kenora Mining District, Ontario, by F.L. Jagodits" in the MNR Assessment Files. (Map 2).

The VLF-EM survey proved to be of little use in defining mineralized structures or subtle lithologies due to an excessive number of cultural artifacts such as pipelines and hydro-lines.

The magnetic survey is also affected by cultural artifacts and results are even more obscured by machine-contouring of the data that does not take geology into account. The survey does however delineate a weak positive magnetic anomaly extending 200 metres southwest from the Black Sturgeon shaft. This may be due to the presence of pyrrhotite.

The Princess shaft appears to lie on the northern edge of a +400 metre long positive anomaly that probably represents a mafic volcanic unit.

6.0 RAJAH/ROSEMAN PROPERTY

6.1 HISTORY

As with the Princess/Black Sturgeon property,gold has been known on the Rajah/Roseman property since the 1890's. Early work consisted of pitting, trenching and exploration shafts. No comprehensive exploration has been done except some work in 1984-1985 which was intended to test the area for an extension of the Scramble horizon.

The following information is compiled from ODM Annual Reports, King and Foster (1983) and reports in the MNR assessment files.

1890 - Messrs. McGee, Brereton and Henesy staked Mining Location 317P (131 acres) covering the Rajah # 2 location and sold it to J.F.Caldwell, owner of the Sultana Mine.

1892 to 1894 - Property optioned to the Rajah Gold Mining Co. of London, England. Two shafts and two test pits were sunk, the northern shaft (Rajah # 1) being 18 metres deep and inclined at 85° to the northwest. At 11 metres depth, 14 metres were drifted to the south. The southern shaft is 19 metres deep (Rajah # 2). No production is reported.

Pre-1946 - Roseman occurrence held by Mr.Silverman who dug an 11 metre trench on mineralization.

1946 - Mr. Roseman, who had bought the property from Silverman, drilled 1 X-Ray drill hole to 32 metres.

1983 - Claims 895621 to 895623 staked by G.Zebruck and R. Schienbein to cover the Rajah # 1 and# 2 shafts.

1984 - Three miles of grid and magnetometer survey were done on the Zebruck claims.

1984 - Sixteen claims surrounding the Zebruck claims, 13 of which are now part of the Rajah/Roseman property, were geologically mapped and sampled by Boise Cascade. No assay results were reported.

1985 - The 16 claims were re-mapped, sampled and covered by 10.4 km of VLF-EM and 12.4 km of magnetic surveys by Kennco.

1987 - Eleven claims covering the Roseman occurrence and the bulk of the 16 Boise Cascade claims were staked by G.Zebruck and his total holding of 14 claims were optioned to the J.E. Dunham Trust.

6.2 PROPERTY GEOLOGY

Outcrop is generally excellent on the property, with the exception of a northeasterly-trending swamp running through the center of the claims and occupied by a small stream and series of ponds (Map 1).

Geological information is from King and Foster (1983) and ODM Annual Reports.

The property is underlain by a series of mafic to felsic volcanics, striking northeast and variably dipping from 80° to the southeast to 75° to the northwest.

Mafic rocks vary from fine grained basaltic flows and tuffs to komatilitic flows and gabbroic flows and sills. Regional metamorphism is amphibolite grade and 80% of the rocks consist of hornblende with 20% quartz, feldspar, iron oxide, epidote, clinozoisite and sphene.

Felsic rocks are generally strongly deformed clastics with fragments being highly elongate parallel to the regional trend.

Important structures, related to the gold mineralization, occur on the property. A major northeast-trending anticline crosses the claims in the area of mineralization (King and Foster 1983).

The northeast-trending depression that crosses the property immediately northwest of the Rajah showings and closely associated with the Roseman occurrence is occupied by a deformation zone at least 300 metres wide (ODM Mineral Occurrence file, Rajah Property). Adjacent mafic volcanics are strongly sheared and carbonatized and variably silicified and pyritized. A felsic unit that is coincident with the deformation zone is strongly sheared and in some places mylonitized.

6.3 MINERALIZATION

Little quantitative information exists for the Rajah workings. Ontario MNR Mineral Deposit Record Document SMDR 001341 describes the occurrence as follows:

"The quartz vein containing gold.....has been traced for 1/3 of a mile. But about midway, an east and west gorge breaks this continuity. At the northern end, the vein dips about 85° to the northwest, and the hanging wall is well defined from top to bottom of the shaft that was opened there to depth of 60 feet (Rajah #1-author). At 36 feet a gallery was driven southward on the vein. It's average width was 5 feet. The ore is a finegrained quartzite in bands of blue and white, and along with gold, fine silver, it carries pyrite. On the southern side of the gorge, another shaft, to the depth of 63 feet was sunk (Rajah #2-author). The geology here consists mostly of hornblende schist, containing a band of quartz, which varies in width from 10 inches to 3 feet. At this time, there was also an opening made in the vein at the place where the gorge breaks it's continuity. Samples of ore taken showed it to be composed of banded quartzite, with some limonite and tourmaline."

Early assays of grab samples report up to \$200 gold per ton (Blue, 1893), approximately 6.66 oz/ton Au. An assay of 39 oz/ton of silver is reported in the Weekly Herald and Algoma Miner of July 21st, 1893, although no location or sample description are available.

Seven grab samples of silicified material from the old workings were taken by the OGS Resident Geologist in 1986. The highest result was 70 ppb Au (ODM Mineral Occurrence File, Rajah Property).

Three old pits lie west of the Rajah #1 shaft, immediately east of the depression containing the deformation zone. In 1984 G.Zebruck took 2 grab samples from the southern and two from the northern pits. One sample from the northern pit (pit #5) contained 0.02 oz/ton Au and the samples from the south-

ern pit (pit #4) contained 0.7 and 0.28 oz/ton Au (ODM Assessment files). A grab sample from one of these pits (unspecified) taken by the OGS Resident Geologist In 1986 contained 1.91 oz/ton Au.

No data is available on two pits and an adit, shown on King and Fosters 1983 map as lying on the western side of the deformation zone in the southwestern part of the property.

A 5-foot (1.52 metre) chip sample was taken by G.Zebruck in sheared, carbonatized and pyritized mafic volcanics containing quartz-carbonate stringers. The sample is in a wide section of such material in a road cut on highway 604 immediately east of the deformation zone, and contained 0.01 oz/ton Au.

The Roseman occurrence is described in a general way in W.C.Hood's report on geological mapping of the Bond claims-North Block for Boise Cascade in 1984 (MNR Assessment Files). Hood states that an "interesting mineralized area",400 x 200 metres is underlain by mafic tuffs but also hosts a series of dacite/andesite lenses, two exhalitive iron formations and several pyritic quartz veins up to 1 metre thick. The lithologies within this zone are noted as being similar to those in the vicinity of the Scramble and Electro properties, although the area appears to be about 1 km higher in the volcanic stratigraphy than the Scramble/Electro Zone.

Although some sampling was done in this area, no assays are available.

A description of the Roseman occurrence was given by R.Thompson, the Kenora Resident Geologist in 1946. The report is available in the MNR Assessment files. Thompson describes the showing as a "guartz vein containing small amounts of pyrite, say up to 2%. The quartz is sugary and is intersected by minor slip surfaces; dark green chlorite occurs in and near the vein. The wall rock, hornblende schist, shows quite minor alterations: in places some minor scattered pyrite is seen. The strike of the vein is not constant; it appears to be about N55°W. A flat dip some 30-35° towards the southwest is shown about the middle of the trench.....The vein appears to pinch out at the south end of the trench. At the north end....it is concealed by overburden; some 60-80 feet north of this rock outcrops across the indicated strike of the vein, which is not seen. The width of the vein in the south part of the trench is some 3 feet, in the north part it is reported to be 5 feet wide. Mr. Roseman told the writer that he obtained three assay returns of \$10.40, \$10.80 and \$10.40 (gold at \$35.00/oz.) from the north part of the trench (0.29, 0.31 and 0.29 oz/ton - author). Samples taken by others are reported to have given assay returns of \$14.00 and \$39.00 (0.4 and 1.11 oz/ton Au - author). The most striking feature of this showing is that the strike about N55°W is nearly at right angles to the regional schistosity about N50°E.....The X-Ray drill hole.....passed under the southern part of the trench. Apparently the hole was spotted under the misapprehension that the strike of the vein was parallel with the regional schistosity..... only a few small (less than 1") quartz stringers were seen. Minor pyrite, chalcopyrite and pyrrhotite were present."

Ten rock grab samples were taken along the gas pipeline by Kennco in 1985. Two of these samples were of irregular quartz veins in sheared metabasalts and contained 0.01 and 0.02 oz/ton Au (Map 1).

6.4 GEOPHYSICS

Mr.G.Zebruck completed three miles of magnetometer survey over claims 895621 to 895623 in 1984. Results are documented in "Magnetometer Survey Report, Rajah Occurrence, Jaffray Twp. District of Kenora, Ontario." by G.R.Zebruck, 1984, in the MNR Assessment files. (Map 2).

The survey, although limited in extent, indicated that structures and lithologies trend northeast and dip subvertically.

Two relatively low amplitude negative anomalies occur over the Rajah workings. The anomalies, 18×244 and 30×183 metres in size, lie on a prominent northeasterly lineament and may represent alteration such as silicification along a fault. Such alteration may be associated with gold mineralization.

In 1985 Kennco did 12.5 km of magnetometer survey and 10.5 km of VLF-EM survey over the Bond North Block claims that predated the Rajah/Roseman claims surrounding claims 895621 to 895623. Results are detailed in "VLF-EM and Magnetic Surveys on Part of the Bond North Block", by R.M. Kuehnbaum, 1985, in the MNR Assessment Files.

Results were inconclusive and it was recommended that the claims be dropped.

7.0 VALUATION OF THE PROPERTIES

In compliance with a request by Mr.J.E.Dunham, the author has attempted to place a value on the Princess/Black

Sturgeon and Rajah/Roseman properties. It is recognised that any such valuation is tentative and should only be used as a rough guide in any future negotiations.

The value of the properties is calculated as the aggregate of the estimated cost of previous work that has added value to the properties. In this case, the early shafts, pits and trenches are disallowed as no adequate geological or analytical data remains.

7.1 PRINCESS/BLACK STURGEON PROPERTY

The following is a conesrvative estimate of cost-of-work on the Princess/Black Sturgeon property. This is based on work by American Yellowknife Mines in 1960, staking of the claims by Zebruck in 1983 and work by Kennco in 1985:

Claim staking, 12 claims @ \$ 100/claim	=	\$ 1200.00
185.4 metres of drilling @ \$ 65/metre	=	\$12051.00
Linecutting, 25 km @ \$ 200/km	=	\$ 5000.00
Mag and VLF-EM surveys, 23 km @ \$ 200/km	=	\$ 4600.00
Geological mapping and sampling	=	\$ 800.00
Report preparation		\$ 1000.00
Analyses, 34 samples @ \$ 7/sample	=_	\$ 238.00
TOTAL	=	\$24889.00

7.2 RAJAH/ROSEMAN PROPERTY

The following cost-of-work estimate is based on work by Boise Cascade, Kennco and Zebruck.

Claim staking, 14 claims @ \$ 100/claim	= \$ 1400.00
Linecutting, 18 km @ \$ 200/km	= \$ 3600.00
Mag surveys, 17.22 km @ \$ 100/km	= \$ 1722.00
VLF-EM survey, 10.4 km @ \$ 100/km	= \$ 1040.00
Geological mapping and sampling	= \$11000.00
Analyses, 35 samples @ \$ 7/sample	= \$ 245.00
TOTAL	= \$19007.00

The total estimated value of both properties is therefore in the order of \$ 45,000.

7.3 VALUE OF POTENTIAL DEPOSIT

The Scramble deposit illustrates that this area can contain gold deposits of at least 300,000 tons grading 0.3 oz/ton Au. This deposit therefore contains 90,000 ounces of gold with a value of US\$ 36m (with gold at US\$ 400/oz).

It must be stressed that this is in-ground value and does not represent potential profit, nor is it implied that the Rajah/Roseman or Princess/Black Sturgeon properties contain such a deposit.

8.0 CONCLUSIONS AND RECOMMENDATIONS

8.1 PRINCESS/BLACK STURGEON PROPERTY

It is concluded from the information presented in this report that the Princess/Black Sturgeon property represents an underexplored target with good potential for economic gold mineral-

ization.

The following exploration program is recommended:

A grid with cross-lines at 100 metre intervals should be established and covered by I.P. and gradiometer surveys. The property should be geologically mapped and sampled with particular attention given to new exposure and rubble available on pipelines and powerlines. The Black Sturgeon and possibly the Princess shafts should be dewatered, mapped and sampled. Some trenching, detailed mapping and sampling may be possible on the property, a decision to be taken after the geophysics and geology surveys are completed.

After compilation of data from the above work, diamond drilling of priority targets will be necessary.

The cost of this program is estimated as:

Linecutting, 21 km @ \$ 200/km	=	\$	4200.00
I.P. survey, 21 km @ \$ 500/km	=	\$	10500.00
Gradiometer magnetic survey, 21 km @ $$140/km$	=	\$	2940.00
Geological mapping, sampling and reports	=	\$	20000.00
Analyses-200 for Au+Ag @ \$ 13.25/sample			2650.00
Drill core analyses, 1000 as above	=	\$	13250.00
Dewatering shafts, trenching	=	\$	10000.00
Diamond drilling, 2000 metres @ \$ 100/m	=	\$2	200000.00
TOTAL	=	\$2	263540.00

8.2 RAJAH/ROSEMAN PROPERTY

This property is similar to the Princess/Black Sturgeon in that it is relatively underexplored, presumably because of the fragmented nature of the original claim holdings.

The 300-metre wide deformation zone that crosses the property in a northeasterly direction is coincident with the Roseman occurrence and is flanked by gold showings with values in grab samples up to 0.70 oz/ton Au.

This zone is parallel to known mineralized structures in the area such as the Scramble shear, and is considered to have excellent potential to host economic gold mineralization.

The following exploration program is proposed:

The property should be covered by a cut grid with cross-lines at 100 metre intervals. The grid should be covered by gradiometer magnetic and VLF-EM surveys and some test-lines of I.P. should test the surveys effectiveness in investigating the deformation zone. Geological mapping should cover the property with particular attention being given to locating mineralization associated with the deformation zone and defining the chert-pyrrhotite iron formations.

The Rajah shafts should be dewatered, mapped and sampled and the adit and trenches indicated in the southwest of the property should be located, mapped and sampled.

Targets indicated by this initial work should be trenched, geologically mapped in detail and sampled or tested by diamond drilling if overburden does not allow trenching.

The cost of this program is estimated as:

Linecutting, 26 km @ \$ 200/km = \$ 5200.00 Gradiometer survey, 26 km @ \$ 140/km = \$ 3640.00

VLF-EM survey, 26 km @ \$ 100/km	=	\$ 2600.00
I.P. survey, 10 km @ \$ 500/km	=	\$ 5000.00
Geological mapping, sampling and reports	=	\$ 20000.00
Analyses, 200 for Au+Ag @ \$ 13.25/sample	=	\$ 2650.00
Drill core analyses, 1000 as above	=	\$ 13250.00
Dewatering shafts, trenching	=	\$ 10000.00
Diamond drilling, 2000 metres @ \$ 100/m	=	\$ 200000.00
TOTAL	=	\$ 262340.00

The total budget necessary for the full program on both properties is therefore \$ 525,880.00. However, the programs could be split into two or more phases depending on availability of funding.

9.0 BIBLIOGRAPHY

- Bow, 1898: Ontario Bureau of Mines Report Vol. VII, part 1, p.28.
- Coleman, A.P., 1898: Fourth Report on the West Ontario Gold Region
 Ontario Bureau of Mines Report, Vol VII, part 2.
- Davies, J.C., Smith, P.M., Blackburn, C.E., 1985: Geologic Setting and Style of Gold Mineralization in the Lake of the Woods Area. in; Field Trip Guide Book, Institute on Lake Superior Geology, 31st Annual Meeting.
- Hood, W.C., 1984: Report on Geological Mapping of the Bond Claims
 North Block in the Kenora Area, Northwestern Ontario.
 Boise Cascade Can. Ltd. Company Assessment report.
- Jagoditz, F.L., 1985: Report on Ground Magnetic and VLF-EM Surveys Haycock Township. Kennco Explorations. Company Assessment Report.
- King, H.L., Foster, J.R., 1983: Kenora-Keewatin Area, Eastern Part, Kenora District, Ont. Geol.Surv. Map P 2618.
- Kuehnbaum, R.M., 1985: VLF-EM and Magnetic Surveys on Part of the Bond North Block. Kennco Explorations. Company Assessment Report.
- 1985: Geology of Part of the Bond North Block.
 Kennco Explorations. Assessment Report.

- Reid, S.E., 1987: Jaffray-Haycock GDIF # 395. Ontario Geological Survey.
- Suchanek, C., 1985: Geological Report on Grid D Zebruck Option Haycock Township, District of Kenora, Ontario. Kennco Explorations. Company Assessment Report.
- Thompson, R., 1946: A Short Report on Claim P-318, Jaffray Twp. District of Kenora. In Assessment Files.
- Zebruck, G.R., 1984: Magnetometer Survey Report, Rajah Occurrence Jaffray Twp. District of Kenora, Ontario. Assessment Report.
- Zebruck, G.R., 1984: Assay Results from sampling of Rajah Property. Assessment files.

APPENDIX 1

DESCRIPTION OF SAMPLES TAKEN BY AUTHOR

SAMPLE

DESCRIPTION

- 1701 Black Sturgeon shaft dump. Dioritic "wall-rock" with 5% pyrite.
- 1702 Black Sturgeon shaft dump. White quartz vein in altered mafic volcanic with 10% disseminated pyrite.
- 1703 Black Sturgeon shaft dump. Dioritic "wall-rock".
- 1704 Black Sturgeon shaft dump. Quartz stringers in silicified mafic volcanic with 5% pyrite.
- 1705 Black Sturgeon shaft dump. Dioritic "wall-rock" with 5% pyrite.
- 1706 Black Sturgeon shaft dump. Sheared quartz with tourmaline and 5% pyrite.
- 1707 Black Sturgeon shaft dump. White quartz vein with 10% pyrite.
- 1708 Princess shaft dump. Rusty white quartz.
- 1709 Princess shaft dump. Rusty quartz with tourmaline and 5% pyrite.
- 1710 Rajah shaft dump. Two-centimetre quartz vein with

pyrrhotite in altered chloritic mafic rock with pyrite stringers.

- 1711 Rajah #1 shaft dump. White quartz with thin chloritic laminae and minor pyrite.
- 1712 Rajah #1 shaft dump. White quartz with 5% pyrrhotite and chalcopyrite and chlorite stringers.
- 1713 Trench near Roseman showing. Banded chert-pyrrhotite iron formation.
- 1714 #4 trench on Rajah. White to grey quartz with thin tourmaline partings.
- 1715 #4 trench on Rajah. Grey-black quartz with thin rust partings.
- 1716 #4 trench on Rajah. White-grey quartz with 1% pyrite on fracture faces.

APPENDIX 2
ANALYSIS RESULTS
OF AUTHOR'S SAMPLING

APPENDIX 3
CERTIFICATES

J.A. GOODWIN

PROJECT GENERATION AND MANAGEMENT

4219 TRELLIS CRESCENT, MISSISSAUGA, ONTARIO, CANADA. L5L 2M1.

TEL: (416) 820-3294

CERTIFICATE OF QUALIFICATIONS

- I, John A. Goodwin, do hereby swear that:
- I reside at 4219 Trellis Crescent, Mississauga, Ontario. L5L 2M1.
- My occupation is that of a consulting and contracting geologist;
- I graduated from London University, Great Britain, in 1972 with a BSc. Degree in Geology;
- I have 15 years experience as a geologist in mineral exploration and related fields, including experience in gold exploration programs in Ontario, the Northwest Territories and abroad;
- I am a Fellow of the Geological Association of Canada;
- My knowledge of the Princess/Black Sturgeon and Rajah/Roseman properties is based on an examination of the properties on November 17th, 1987, public information as detailed in a biography in the report to which this certificate is attached and on private information appended to the same report;
- I have not, directly or indirectly, received or expect to receive any interest, direct or indirect, in the properties held by the J.E.Dunham Trust or affiliates, or beneficially own, directly or indirectly, any securities in any successor company.

This done and signed on the first day of December, 1987.

J.A. GOODWIN

- PROJECT GENERATION AND MANAGEMENT

4219 TRELLIS CRESCENT, MISSISSAUGA, ONTARIO, CANADA. L5L 2M1.

TEL: (416) 820-3294

TO: THE DIRECTORS OF THE J.E.DUNHAM TRUST AND ANY SUCCESSOR COMPANIES.

CONSENT TO USE REPORTS

John A.Goodwin hereby consents to the use and filing by the J.E.Dunham Trust or any successor companies, of my report on the Princess/Black Sturgeon and Rajah/Roseman Gold Properties dated the first of December, 1987, with any or all Provincial Securities Commissions in Canada, and to the inclusion of my name and reference to said reports and extracts therefrom in any company circulars or reports.

DATED AT Toronto, Ontario, this second day of December, 1987. BY John A. Goodwin, FGAC CALCULATION OF EXPENDITURE CREDITS FOR LAFFRAY CLAIM BLOCK (14 CLAIMS)

TOTAL OF ALL INVOICES \$ 7,266.42 LESS EXPENSES 1,50584 5,760.58

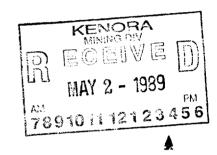
14 x 5760.58 = 3101.85

TOTAL EXPENDITURG CREDITS \$ 3190.47

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CALCULATION OF EXPENDITURE CREDITS FOR HAYCOCK CLAIM BLUCK (12 CLAIMS)

TOTAL OF ALL INVOICES \$ 7266.42 LESS EXPENSES 1505.84 5760.58

> 12 x 5760.58 = 2658.72 PLUS ASSAYS 126.63 \$ 2785.35

* NOTE CREDITS NOT REQUIRED FOR HAYCOCK CLAIMS
NO REPORT OF WORK SUBMITTED A 1

INVOICE

<u>TO</u>: J.E.DUNHAM DATE: 01-12-87

RE: KENORA GOLD PROJECT

FOR: PROPERTY VISIT AND PREPARATION OF QUALIFYING REPORT

Geologist, 10 days @ CAN \$ 300/day = \$ 3000.00

Expenses as per attached receipts = \$ 805.92

Subtotal = \$ 3805.92

Overhead @ 10% = \$ 380.59

TOTAL = \$ 4186.51

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J. A. GOODWA

ROJECT GENERATION AND MANAGEMENT 4219 TRELLIS CRESCENT, MISSISSAUGA, ONTARIO, CANADA. L5L 2M1.

TEL: (416) 820-3294

INVOICE

TO: J.E.DUNHAM DATE: 15-12-87

RE: KENORA GOLD PROJECT

FOR: FINAL PREPARATION OF REPORT, 20 COPIES, PREPARATION OF GRIDS AND GRID SPECS.

Geologist, 7 days @ \$ 300/day

Expenses as per attached receipts

Subtotal

Overheads @ 10%

TOTAL

= \$ 2100.00

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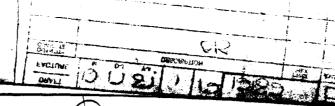
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R. GOODWIN
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ISSISSAUGA, ONTARIO
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Invoice : 0132886

Date : 14-DEC-87

Report No: 017-6778

Project : NONE

Reference:

					
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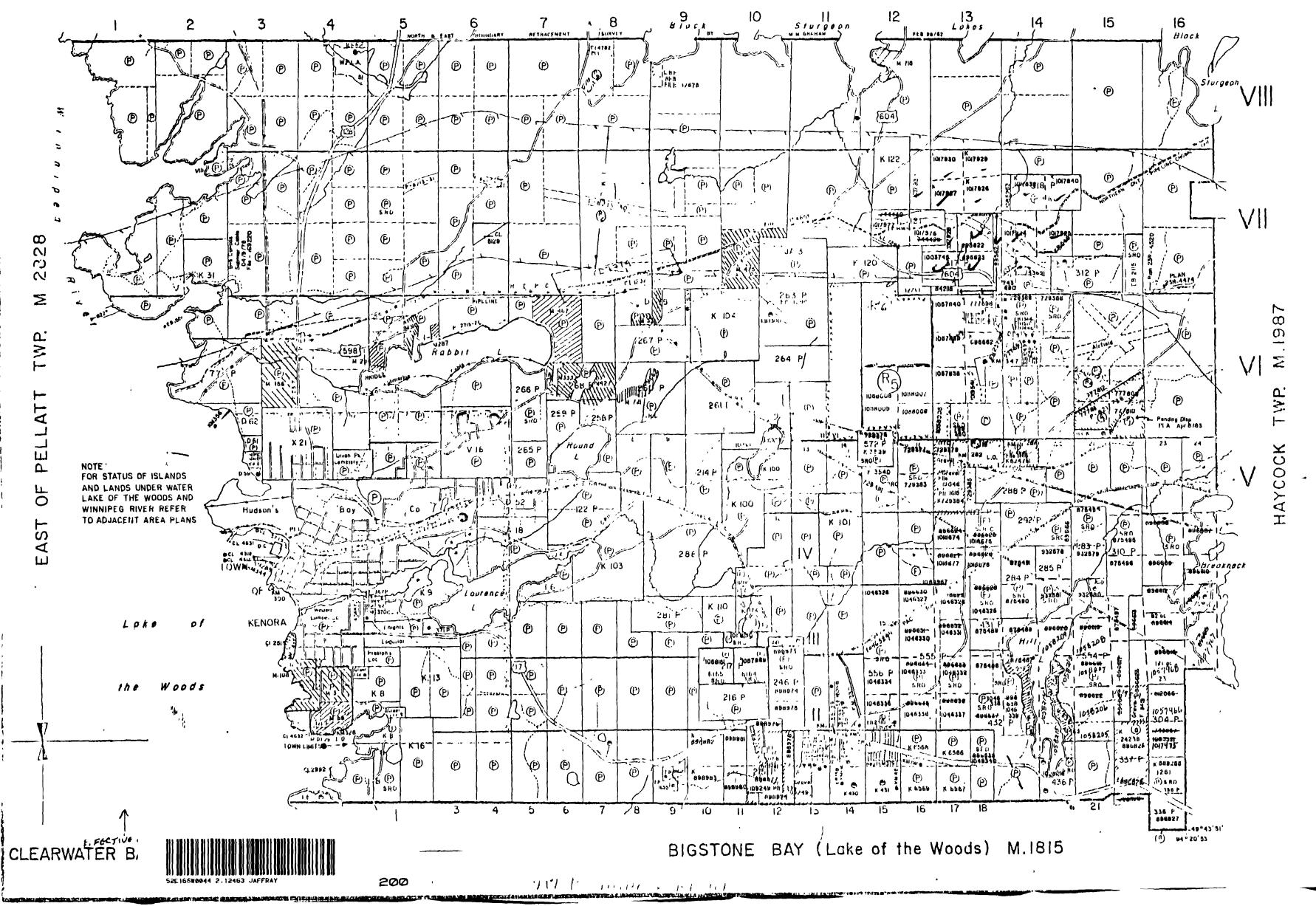
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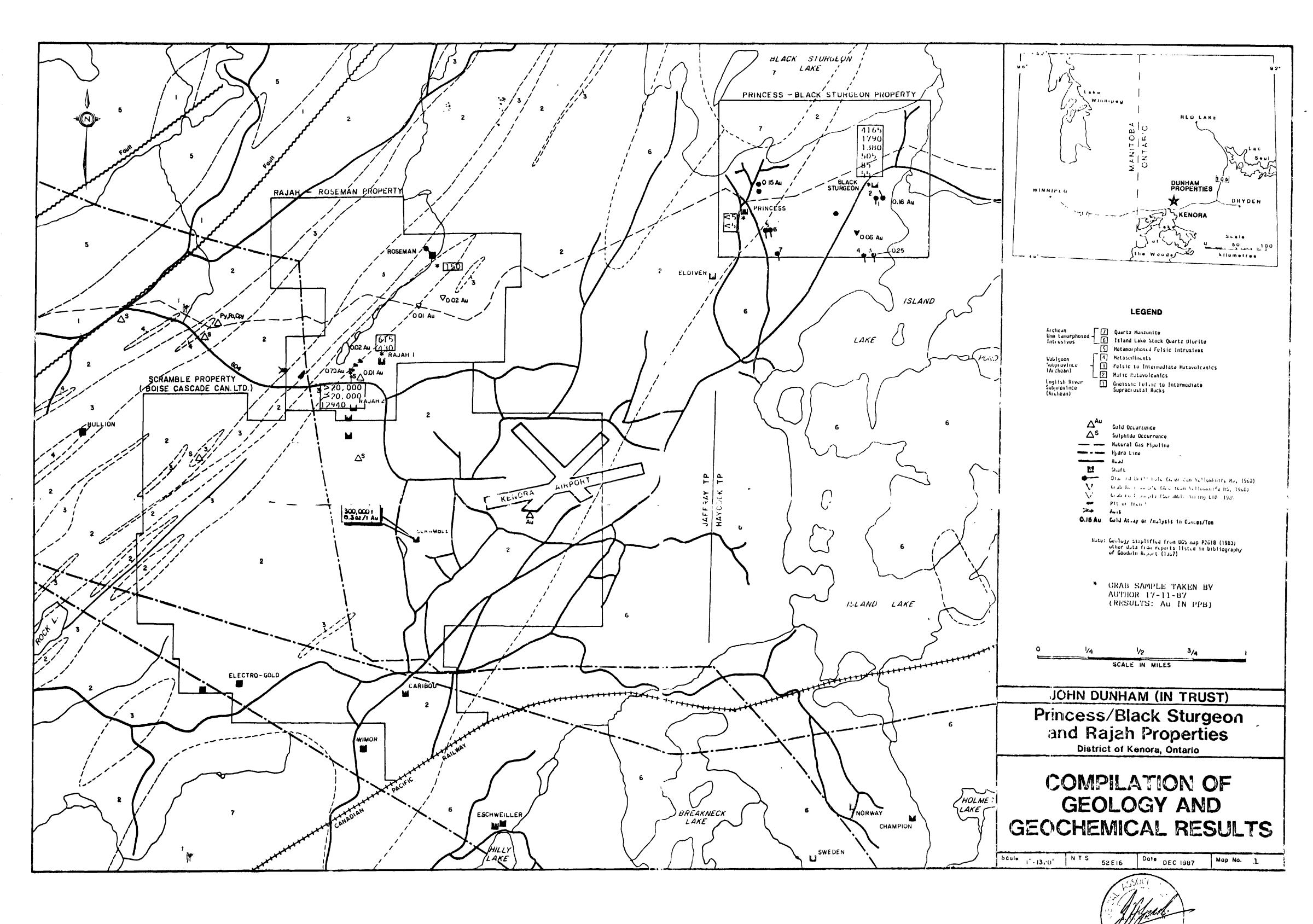
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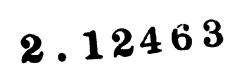
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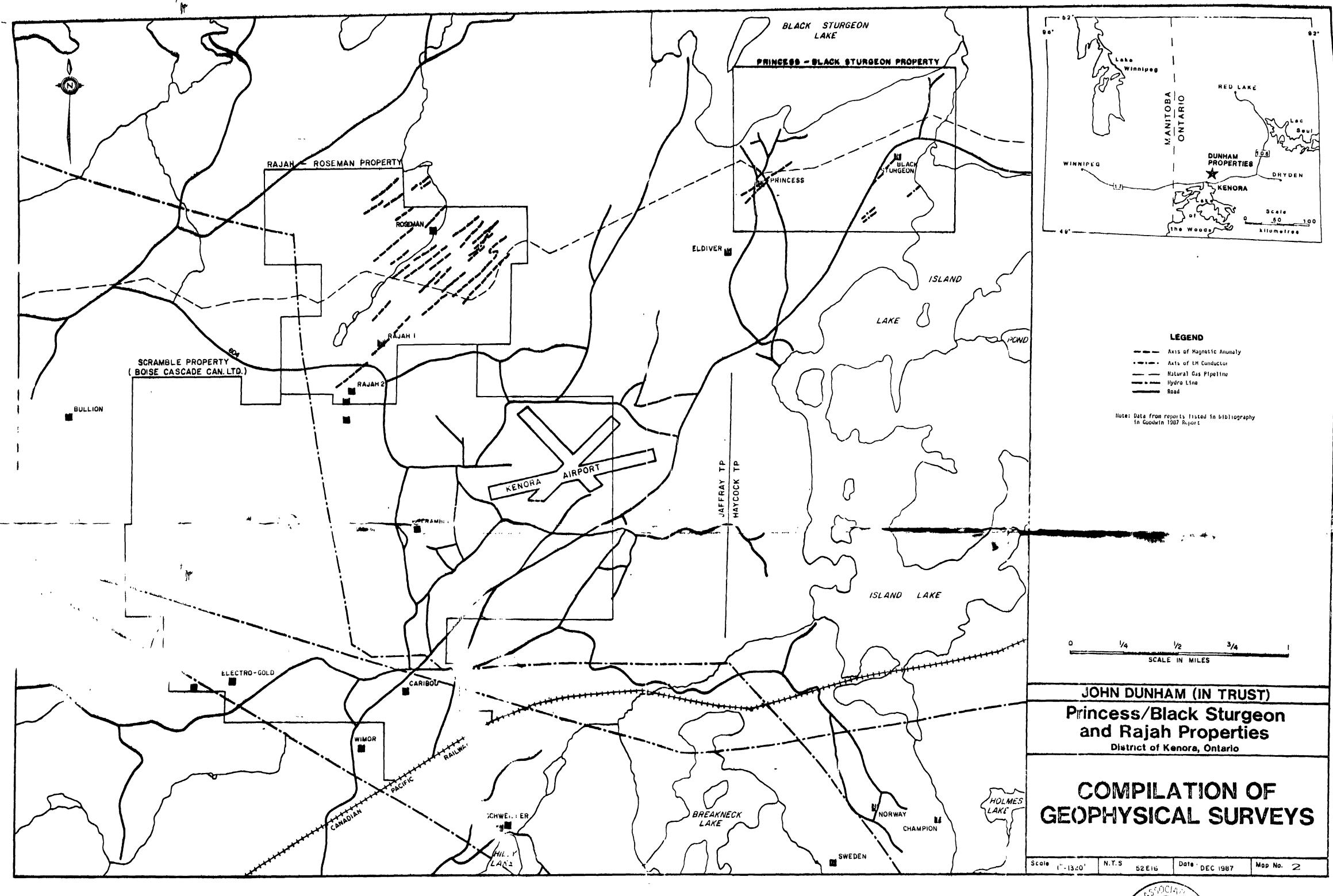
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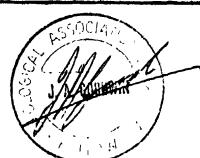
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