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SUMMARY REPORT

ON

1983 DIAMOND DRILL PROGRAM

Mackelcan and Rathbun Townships Properties

Sudbury Area

Ontario

for

FLAG RESOURCES LIMITED

Wolf Lake Joint Venture

by

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GEOLOGICAL ENGINEERING SERVICES

North Bay, Ontario

January 1984

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INTRODUCTION

This report has been prepared at the request of management, FLAG RESOURCES LIMITED, Calgary, Alberta. It is essentially a brief resume of the exploration drilling done between January and October 1983 on a series of gold-bearing zones and control structure on the company's Mackelcan township gold prospect Northeast of Sudbury, Ontario.

A total of 27,735 feet were drilled in 75 drill holes which cost the company $636,523.95 in direct field costs.

Gold values on the property occur within mineralized pink quartzite breccias localized within associated regional fracture zones hosted by Lorrain Quartzite, a formation of the Huronian Supergroup sedimentary sequence.

FLAG RESOURCES LIMITED became interested in the Mackelcan property after management reviewed and recognized the potential of the Scadding gold occurrences localized in fault controlled mineralized chlorite breccia zones of Serpent Quartzite formation, also a member of the Huronian sedimentary sequence. The Scadding deposits

were first brought to the attention of FLAG RESOURCES LIMITED in 1980 as were the Mackelcan gold showings.
The Mackelcan showings bore some general similarities to the Scadding occurrences but were of particular interest because they represented virtually unexplored gold showings in an atypical environment not previously exposed to detail geophysics or program diamond drilling.

The Scadding gold deposits will be in production during early 1984. Mining and milling facilities have been erected on the site.

The Mackelcan gold showings have been subjected to 2 periods of drilling. Both gold-bearing zones and gold-bearing control structures have been partially explored. Additional exploration and definition drilling will be required to determine economic potential.

A brief description of the regional and local geology coupled with descriptions of the various showings is presented in this report. These descriptions are based entirely on megascopic observations in the field. Apart from standard assay data, observations made do not involve exotic analytical or petrographic studies.

The diamond drill hole logs accompanying this report have not been edited and thus contain some typographic and minor errors of ommission. Note that DDH's WL83-1, 2, 3, 4, 5, 7 and 23 were drilled on the West edge of claim S551335. DDH WL83-19 was drilled on claim S551334.

There may be some minor revisions required in DDH co-ordinate designations however, the plans are correct within grid discrepencies and drafting precision.

Claim boundaries shown on the plans are approximate but well within 5% of true location in extreme cases.

The Mackelcan township gold-bearing zones are considered to be important enough to merit additional technically guided

control drilling with the object of sorting out the structural setting and defining specific zones of potentially economic or economic gold enrichment.

The pioneer programs of exploration drilling carried out by FLAG RESOURCES LIMITED have been successful in localizing numerous areas on the Mackelcan property which yield anomalous and significant gold and copper mineralization in previously unrecognized regional and local structures.

PROPERTY

568 Unpatented Mining claims
22,720 acres - approximately
Sudbury Mining Division
Ontario

30 optioned claims - Mackelcan township
367 staked claims - Mackelcan township
171 staked claims - Rathbun township

See Figures No. 2 and No. 3

COMPANIES

FLAG RESOURCES LIMITED

Wolf Lake Joint Venture
Mackelcan and Rathbun townships properties
Sudbury Mining Division
Ontario

Flag Resources Limited - 60%
Golden Briar Mines Ltd. - 40%

LOCATION

Wolf Lake

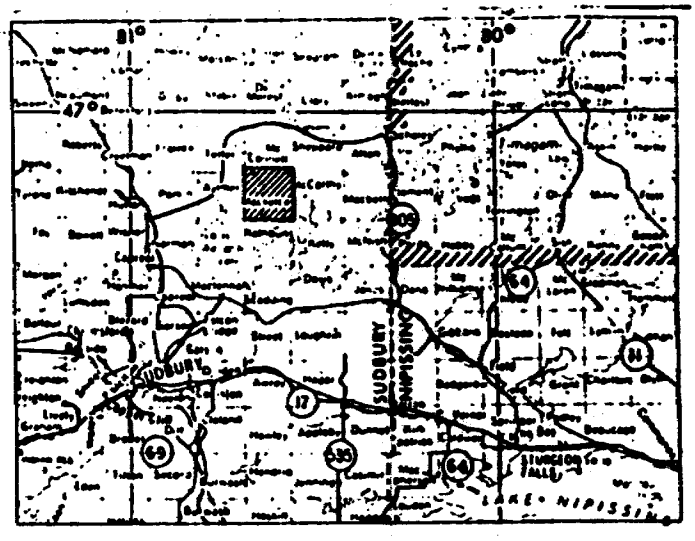
Approximate centre of Mackelcan township
Approximate centre of North quadrant of claim group
30 miles Northeast Sudbury, Ontario

See Figures No. 1, No. 2 and No. 3.

ACCESS

Aircraft

Float plane from Ramsey Lake - Sudbury



LOCATION MAP

Scale: 1:1 584 000 or
1 inch to 25 miles

FLAG RESOURCES LIMITED

Wolf Lake Joint Venture
Mackelcan & Rathbun Townships Properties
Sudbury Area
Ontario

INDEX MAP

DATE: January 1984 FIGURE NO 1

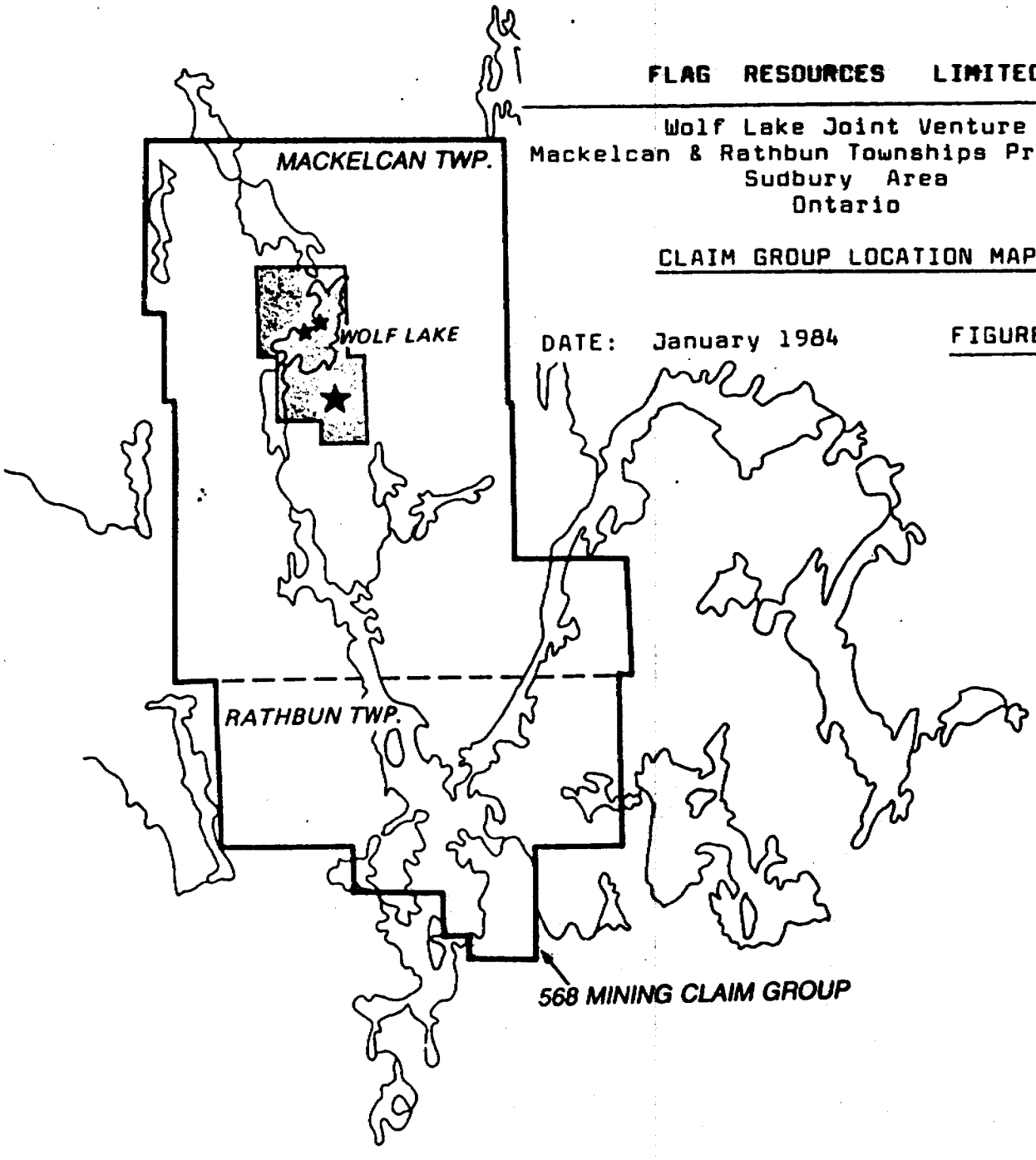
FLAG RESOURCES LIMITED

Wolf Lake Joint Venture
Mackelcan & Rathbun Townships Properties
Sudbury Area
Ontario

CLAIM GROUP LOCATION MAP

DATE: January 1984

FIGURE NO 2



WOLF LAKE PROJECT AREA

MACKELCAN — RATHBUN TWPS.

MILES
0 1 2 3 4
1 2 3 4 5
KILOMETRES

1.4cm=1 mi

From FLAG RESOURCES LIMITED Annual Report , 30 April 1981

Roads

No direct road links.

Nearest road access on South via Kukagami Lake Road which runs North from Highway #17 a distance of about 8 miles East of Wanapitei to South end of Rathbun Lake (Northeast edge of Lake Wanapitei).

Wolf Lake Camp about 6 miles North of road end on Rathbun Lake.

Nearest access on North via bush and logging roads originating near Glen Afton (West of River Valley) which run North and West. Some terminate on North end of Dewdney Lake which is about 3 miles from the camp on Wolf Lake.

Nearest access on West is about 5 miles to a North-South bush road which terminates on the Northwest end of Lake Wanapitei but which connects to Milnet and Capreol.

Snow track vehicle access is possible in winter a distance of about 7 miles up the North arm of Matagamasi Lake, Jones Lake and into Wolf Lake from the Kukagami Lake road that services the South end of Matagamasi Lake.

Boat and Canoe

The North arm of Matagamasi Lake provides boat and canoe access to Wolf Lake from the South.
Dewdney Lake provides similar access from the North.

See Figure No. 4 for some location reference.

TOPOGRAPHY

Rugged.

See also Figure No. 4.

Numerous hills - some with abrupt scarp type elevations.
Highest elevations in Northwest portion of claim group.

Elevations up to 500' above level of Wolf Lake.

A ridge along the East side of Wolf Lake rises up to 450' above the level of the lake.

South half of claim group relatively flat with elevation differences of about 150'.

Numerous lakes, the largest of which trend North Northwest, some North Northeast. Wolf Lake on the Chiniguchi drainage chain which ultimately empties into the Sturgeon River further to the East.

Hills have a park-like cover of stately red pine intermixed with moose maple, some evergreens, and occasional birch and poplar. Swampy areas are mainly spruce covered with an undercover of 'Labrador tea'.

Topograph reflects some of the more prominent underlying structures, particularly lineaments and fault scarps as well as the resistant bedrock lithology which give rise to Lorrain Formation hills and ridges.

HISTORY AND DEVELOPMENT

Early

Mackelcan Township - Wolf Lake

Shallow inclined shaft on Northwest peninsula.
Adjacent hand trenching.
Hand trenching on currently designated No. 1, No. 2 and No. 3 Zones.

Jones and Jess Lakes

Shallow inclined shaft and open cut West of Jess Lake and North of Jones Lake.

See DDH plan, Figure No. 10.

Hand trenching and stripping, Jess Lake.

Recent

Mackelcan Township - Wolf, Jess and Jones Lakes

1973

Four (4) shallow packsack holes on No. 1 Zone - Wolf Lake.
Some trenching.

1979 Local geochemical surveying and sampling by P.A.R. Brown on Northwest peninsula, Wolf Lake, and shaft area West of Jess Lake. Modest rock trenching on No. 1, No. 2 and No. 3 Zones by A.E. Jerome.

1979 Property Examination report by Frederick C. Charlton, M.Sc., F.G.A.C. for A.E. Jerome.

1980 Property Examination report by C.T. Bischoff, P. Eng. for M.C. McLeod.

1981 Airborne VLF electromagnetic and magnetic surveying by Kenting for Canadian Occidental Petroleum Ltd. on behalf of a consortium of Junior companies over Mackelcan township. East-West (222 miles) and North-South (224 miles) lines flown on ½ mile intervals.

Airborne VLF electromagnetic and magnetic surveying by Kenting for Flag Oils Limited flown on East-West and North-South lines at ½ mile intervals in Rathbun township.

Ground I.P., magnetic and VLF electromagnetic surveying totalling 33.5 miles covering the Wolf, Jess and Jones Lakes showings and structures completed.

11,364 feet of diamond drilling in 31 holes completed.
Most drilling done on the No. 1, No. 2 and No. 3 showings on Wolf Lake.
Jones and Jess Lakes anomalies also drill tested.

<u>Telfer and McConnell Townships</u>

1979 A consortium of major companies headed by Canico held a licence of occupation over 62,600 acres in the townships.
Three deep holes drilled: one in Telfer township within the Lorrain basin and two on the Northeast edge of the Lorrain basin in Demorest township.
The first hole in Telfer township within the Lorrain basin sectioned 5,139' of Huronian sediments; Lorrain, Gowganda and Mississagi before entering basement.
The two holes in Demorest sectioned Nipissing diabase and some Huronian formations including a conglomerate unit with anomalous gold values up to .026 oz Au.

The Canico drilling is located approximately 10 miles North of the FLAG RESOURCES LIMITED gold occurrences on Wolf Lake.

Mackelcan and Aylmer Townships

1957
1965

The Nova Beaucage Mines Limited Property in Aylmer township has been explored by trenching, packsack drilling, I.P. Surveying and airborne geophysical surveying. This work was done by Kennco Explorations (Canada) Limited in 1957 and by Nova Beaucage in 1965.

Chalcopyrite mineralization occurs in brecciated and banded siltstones of the Gowganda formation in association with fault structures.

Values up to 1.07% copper are reported from surface sampling.

The showing is located 6.5 miles West of FLAG RESOURCES LIMITED's Mackelcan township gold occurrences.

Scadding Township

1972
1984

Westfield Minerals is currently placing the Watt-McLean property in production.

A 200 ton per day milling plant has been constructed on site and will process gold ore from the Watt-McLean gold deposits as well as accomodate custom feed from other properties in the general area.

Three gold deposits have been outlined by drilling. These deposits are fault controlled gold-bearing mineralized chlorite breccias in Serpent Quartzite formation.

The Scadding gold deposits are located approximately 14 miles South of the FLAG RESOURCES LIMITED gold occurrences in Mackelcan township.

GEOLOGY

General

Mackelcan township gold occurrences held by FLAG RESOURCES LIMITED are hosted by Lorrain quartzite formation, a member of

the Cobalt Group (Lorrain and Gowganda formations) which is part of a larger sedimentary sequence classified as the Huronian Supergroup.

Huronian supergroup formations comprise sequences of Precambrian clastic sediments derived from eroded granitic and volcanic platform rocks situated immediately to the North. The principal units within sequences of Huronian sediments are wackes, arenites (quartz,carbonate), arkoses, conglomerates and carbonate-bearing rocks.

The distribution of Huronian sediments in East Central Ontario extends Easterly from Sault Ste. Marie through Bruce Mines, Blind River, Espanola and Sudbury, with a broad bulge Northerly beyond Lake Wanapitei to encompass Mackelcan township, Temagami, Cobalt and Gowganda with tongues into Matachewan, Kirkland Lake and Noranda.

Huronian sediments appear to lie along the margins of the Superior and Grenville tectonic provinces.

The legend for Figure No. 5 lists the age sequence of Huronian sedimentary units in Mackelcan township.

Local

Lorrain quartzite in the immediate showing areas in Mackelcan township, particularily at Wolf, Jess and Jones Lakes, are prominently bedded grey-green generally uniformly fine granular quartzites.

Local thin conglomeritic beds with rounded quartz pebbles up to about 1" or less are common.

Fine hair-like alternating beds of black magnetite have been observed in the quartzite in some drill core and on an island in Wolf Lake.

The gold occurrences at Wolf, Jess and Jones Lakes are situated within the Southeast sector of a large eliptical shaped basin of Lorrain quartzite measuring approximately 14 miles by 8 miles. Underlying the Lorrain quartzite are wackes of the Gowganda Formation.

A maximum thickness in excess of 11,000' of Lorrain quartzite lies within the basin located in Mackelcan, Aylmer, Tefler and McConnell townships.

Numerous lineaments and fault structures bisect the basin. The lineaments are sometimes prominently evident in topography appearing as scarps and linear depressions that extend for considerable distance.

Bedded Lorrain quartzite segments have been tilted and rotated at various angles on either side of the lineaments and regional fault structures.

The tilting of quartzite beds is prominently displayed at Wolf Lake where visual apparent rotation can be observed. For example, the beds on the point near the No. 1 Zone are inclined 56° Northerly. The beds on the East side of Wolf Lake are inclined 09° Northerly and the beds on the West side of Wolf Lake are inclined between 20 and 25° Northerly.

Sudbury type breccias appear to be localized along and adjacent to some of the lineaments, faults, and fracture zones. They are prominently exposed adjacent to some of the gold showings on Wolf, Jess and Jones Lakes.

Pink arkosic quartzite and mineralized pink quartzite breccia are localized within and along some of the lineaments. They appear as rounded, oblong or tabular bodies.

Diabase dykes are associated with at least one lineament that trends Northeasterly through Wolf Lake. It is exposed in outcrop and has been noted in drill core.

Approximately 30% of the terrain adjacent and surrounding Wolf, Jess and Jones Lakes is outcrop. The predominant rock type is bedded grey-green granular Lorrain quartzite.

Figure No. 5 portrays some of the geological features alluded to here. They are illustrated in cartoon-like fashion on the geological map. Figure No. 6 illustrates the regional geology.

Showings

Gold mineralization appears to be localized within mineralized pink quartzite breccia zones and in hematized limonitic and kaolinitic fracture zones associated with the pink quartzite breccia.

Milk white quartz-carbonate veins and fragments comprise the matrix of the breccia.

Pyrite (non cubic) or marcasite ? is erratically disseminated in portions of the pink quartzite breccia. Occasionally, massive patches, lenses, or fragments of sulphides, mainly pyrite, over core lengths of 4 feet, have been intersected in drill holes.

Chalcopyrite is a common sulphide consistent in the No. 1 Zone, Camp Zone and parts of the No. 3 Zone. It appears to be a minor constituent in the No. 2 Zone and is virtually absent at Jess and Jones Lakes.

Some carbonate minerals identified are calcite, ankerite and an apple green unidentified variety.

The No. 1 Zone and Camp Zone contain a deep blue mineral coating chalcopyrite which is tentatively identified as covellite.

Geothite occurs at the No. 1 Zone surface showing and has also been observed in drill core from the No. 1 and Camp Zones.

Native gold is common at the No. 1 Zone both in surface samples, pannings and drill core. Native gold has been observed in surface samples and drill core from the No. 2 Zone. Gold can be panned and has been observed in drill core from the No. 3 Zone.

No reliable visual identification of native gold has been made from the Jess or Jones Lake showings. High grade gold assays have nevertheless been obtained in core samples from the Jess Lake Zone.

Variations are common and pervasive in the pink quartzite breccia zones. Some sections intersected in drill core contain generally narrow, but sometimes up to 2 foot widths of thinly bedded, fine grey-green granular quartzite beds and occasionally, fragments.

Chlorite is a frequent constituent in portions of the breccia zones. It occurs as chloritized quartz fragments and as massive clots of dark green chlorite. The chlorite is both barren and pyritic.

Peculiar breccias such as 'streamer breccia' — generally fine and mixed course unsorted angular pink quartzite fragments in a variably chloritic quartz-carbonate matrix have been intersected. A fine 'porcelain breccia' (pink kaolinitic fragments) intermixed with quartz fragments and sulphides was intersected in one drill at Jess Lake.

Textural and mineral content variations occur within the breccia zones over very short distances laterally and vertically.

A tabular illustration of what the target structures and zones appear to be like in the showing areas are as listed below in generalized form. The illustration begins with the broad target and ends with the 'bulls eye' target. (*)

Gold-Bearing Target Structures

Country rocks

Grey-green, granular bedded Lorrain Quartzite - segmented.

Host Structures

Lineaments, Fractures, Faults.

Pink Quartzite Zones, Lenses.
- massive
- bedded
- sparse sulphides

Pink Quartzite Breccia Zones
- vague brecciation
- prominent brecciation

*Sulphides (pyrite [non cubic] chalcopyrite±)
- disseminated
- massive
- patchy
- variable

*Fractures
- kaolinitic
- hematitic
- limonitic
- pyritic

Native gold, where observed, is associated with pyrite and/or chalcopyrite but appears to occur in the free state.

There appears to be no unfailing corellation between the amount of pyrite or chalcopyrite and gold values. Some sulphides must nevertheless be present in any section that yields gold.

Trace amounts of nickel have been obtained from samples (1981) at Jones Lake.

Trace amounts of cobalt have been obtained in samples (1981) from the No. 3 Zone.

Silver is virtually absent from the few samples tested.

SURFACE SAMPLING

Surface samples from the open cut and shaft dump near Jones Lake were taken to check for gold values at the old workings and in the vicinity of 1981 and 1983 drill holes.

In all cases anomalous or better values were obtained.

The locations from which samples were taken are shown on Figure No. 10.

Appendix A documents sample data.

DIAMOND DRILL PROGRAM

The 1983 drilling program began in January and terminated in October.

Two machines were used on the Wolf Lake portions of the program.

A total of 75 holes were drilled on Wolf, Jess and Jones Lakes for a total footage of 27,735' including several holes on Wolf Lake which did not penetrate consolidated rock.

Direct on site drilling costs including moves, caretaker, and material left in holes amounted to $636,523.95.

The drilling program was, in part, a follow-up on the 1981 drill program based on recommendations in a report by Paul C. McLean, consulting geologist, and Frank P. Tagliamonte, P. Eng.

Murdo C. McLeod, President of FLAG RESOURCES LIMITED directed and supervised the drilling program aided by A.E. Jerome, prospector-vendor.

Figures No. 7, No. 8, No. 9 and No. 10 document drill hole locations from both the 1981 and 1983 programs.

Appendix B abstracts some of the intersections and assays obtained from the WL83 series of drill holes around Wolf Lake.

Appendix C abstracts some of the intersections and assays obtained from the A83 series of drill holes at Jess and Jones Lakes.

Statistical Summary of Drill Holes

Location	No. of Holes	Total Footage
WL83 Series Wolf Lake	46	14,365
A83 Series Jess Lake	23	11,228
Jones Lake	6	2,142
(includes deepening of A81-9)		
Total	75	27,735

SHOWING DESCRIPTION AND COMMENTARY

No. 3 Zone

This zone is located on a blunt peninsula on the Northwest side of Wolf Lake.

It is identified as a gossan zone on government geological maps.

Pop blasting by early and recent prospecting expose disseminated pyrite (non cubic) and

chalcopyrite in salmon pink quartzite breccia with quartz-carbonate matrix.

Fine gold can be panned from shoreline sands (not plentiful) and from fragmented mineralized pink quartzite breccia.

An excellent exposure of large breccia blocks is located on the shore at this site.

A thin skin of the No. 3 Zone outcrops along about a 100' stretch of Wolf Lake shoreline.

One line section, the only long East-West cross-section drilled, provides a partial interpretation of the attitude of the No. 3 Zone. A cartoon-like presentation is shown on No. 1 Cartoon.

Gold-bearing pink quartzite breccia at the No. 3 Zone appears to be localized along or at the intersection of two interpreted lineaments.

The attitude of the breccia zone appears to be inclined to the East. It appears to be, in part, controlled by a fracture system but is also to some extent preferentially influenced by bedding.

Notably, virtually the entire horizon of mineralized pink quartzite breccia is anomalous in gold.

Occasional exceptions are the random contaminated areas of gray granitic textured quartzite and blocks or beds of fine granular grey-green quartzite within the mineralized pink quartzite breccia zone.

Gold values above .10 and rarely up to 1.0 oz Au tend to be erratically distributed but comparatively persistent in some contiguous holes. The best gold values, with few exceptions, tend to be localized at the base and edges of the breccia. This pattern is illustrated by value trends noted in the vertical holes. The inclined holes drilled in 1981 appear to have sectioned longer intervals of breccia near its contact with adjacent Lorrain Quartzite, hence numerically higher and more frequent gold values were obtained. The entire pink

quartzite breccia is nevertheless demonstrably pervasively, though perhaps erratically, gold-bearing in a value range from anomalous to significant.

All the vertical holes drilled on or near the No. 3 Zone intersected gold-bearing pink quartzite breccia except for those listed below.

Comments on the tentatively designated miss holes are as tabulated.

Refer also to Figure No. 7 and the No. 1 Cartoon.

DDH NO.	Categorization	Remarks
No. 3 Zone Grid		
WL83- 5	Step-out NE	Probably sectioned W Edge of Zone
WL83- 8	Step-out SW	Not drilled deep enough - 200' depth
WL83-10	Prospect	Not drilled deep enough - 200' depth
WL83-11	Key Grid hole	Lost due to deep and boulder-filled lake bottom
WL83-14	Prospect (Anomaly)	Not drilled deep enough - See No. 1 Cartoon
WL83-20	Deep Prospect	Penetrated known West edge of zone
WL83-23	Step-out NW	Not drilled deep enough - 215' depth

Ten vertical holes were drilled on the No. 3 Zone grid including one lost hole. Four additional long step-out holes were too shallow to intersect the probable presence of the No. 3 Zone structure. A total of 46 holes were drilled at Wolf Lake, 10 of which probed the No. 3 Zone.

An examination of Figure No. 7 (DDH LOCATION PLAN), No. 1 Cartoon and the foregoing DDH

commentary will illustrate that the No. 3 Zone is wide open and undelineated.

Sulphide mineralization tends to be persistent but erratic in distribution and concentration within the breccia zone. Occasionally, fragments ? of massive sulphides have been intersected.

The contact areas between the breccia and quartzite are invariably kaolinitic, hematized, and limonite stained. This type of alteration is also present along and in most of the multiple fracture zones near the contact of the breccia zones and host Lorrain Quartzite.

A fairly common oddity at the margins of the breccia zones and usually hosted within the Lorrain Quartzite or Sudbury Breccia are narrow barren grey quartz stringers. Stringers are common in drill core but can be seen on surface at the No. 2 and No. 3 Zones. On surface these stringers are 2" or less in width and flat lying relative to the reference plain. They occur randomly.

The No. 3 Zone remains an open target structure for continued gold exploration.

Lake Structure

Holes WL83-9, A, C, and D were vertical probes attempting to check the accessible vicinity of deemed anomalous I.P. readings in Wolf Lake. The holes failed to reach bedrock because of deep water and lake bottom boulders.

Hole WL83-13 penetrated the target area from an on shore set-up. Anomalous gold values were obtained within pink quartzite breccia, and in weakly mineralized pink quartzite fragments in a fracture zone.

The Lake Structure intersections are deduced to locate the position of a Northeast trending lineament that is associated with the No. 3 Zone. The trace of the lineament was previously projected from topographic and geological observations.

Two additional fan holes collared in the vicinity of WL83-13 were not drilled deep enough to reach the Lake Structure target area.

Additional drilling is required to evaluate and examine the Lake Structure for gold-bearing breccia zones.

Southwest Structure

Hole WL83-22 intersected a narrow zone of pink quartzite, some associated fracturing and a narrow diabase dyke. These intersections are deduced to locate the position of the Northeast trending lineament that is associated with the No. 3 Zone. An adjacent outcrop exposure contains unmineralized pink quartzite breccia with quartz-carbonate matrix.

No. 2 Zone

Five short holes were drilled from one location on the West edge of the No. 2 Zone. Holes were angled North, East and West. One hole was drilled vertical.

Intersections obtained in the vertical hole are:

.582 oz Au/1'

.054 oz Au/21' (average)

The No. 2 Zone has not been adequately investigated by drilling.

There are several areas along the No. 2 Zone that could easily be cross-trenched.

This zone appears to be localized along a subsidiary lineament or localized fracture zone that trends Northeasterly through the No. 1 Zone, Camp Zone and Shaft Zone.

A small pop blast location on one part of the No. 2 Zone exposes mineralized, kaolinitic, and hematitic stained quartzite. Fine visible gold has been observed in rock samples from the showing and in drill core from the vertical hole. Some hand samples contain glassy quartz in association with

sulphides (non cubic pyrite).

Surface 'showings' are localized along a short section of outcrop on the East edge of a scarp that is the topographic expression of the No. 2 Zone lineament or fracture zone.

Sudbury breccia exposures flank the No. 2 Zone.

Relatively flat, narrow, barren quartz stringers are exposed on the West side of the scarp at the No. 2 Zone similar to those exposed at the No. 3 Zone mentioned earlier.

No. 1 Zone

This is the best exposure on the property since it has attracted most of the attention of prospectors. Considerable surface blasting has been done.

Angular, unsorted pink quartzite breccia liberally mineralized with pyrite (non cubic), chalcopyrite, and covellite ? are exposed here. Matrix material comprises milk white quartz-carbonate fragments and gash veinlets. Minor amounts of geothite have been observed at surface and in drill core.

Native gold is pervasive in the mineralized breccia. It can be panned with ease from fines and shoreline sediments. It is visible in hand specimens and drill core.

Some visual examples of large eliptical-form breccia fragments are observable where the breccia is in contact with Sudbury Brecciated host Lorrain Quartzite. There are also visual examples of pink quartzite permeating the host Lorrain quartzite somewhat like a metasomatic type alteration feature.

Assays from hand samples, composite samples and drill core have returned some high values up to 1.00 oz in gold and 2%+ in copper.

Several random holes have been drilled on and in the vicinity of the No. 1 Zone. None of the drilling provides definitive data on which to interpret the configuration or tenure of the zone. It is nevertheless conjectured that the No. 1 Zone is a local

lense lying along a branch or subsidiary "break" to the lineament projected through the Southwest structure, Lake Structure and No. 3 Zone. The same break or system of tight fractures are postulated to trend through the shaft area and the No. 2 Zone.

The No. 1 Zone provides an example of the type of high grade gold and copper likely to be present in portions of, or directly in, mineralized pink quartzite breccias at Wolf Lake and vicinity.

Hole WL83-26 was drilled to intersect VLF anomalies adjacent and West of the No. 1 Zone on the shore of Wolf Lake. No explanation for the VLF anomalies was obtained but the hole bottomed near the No. 1 Zone structure and intersected a narrow fracture zone with kaolinitic alteration and hematitic staining. This type of alteration usually indicates proximity to the margin of mineralized pink quartzite breccia.

Jess-Jones Lake Structure

The Jess-Jones Lake Structure is outlined on Figure No. 5. It is a lobed broken circular-like structure composed of variable, generally massive and brecciated pink quartzite. Fragments and thin beds of grey-green silty quartzite are distributed conformably and randomly in the structure. Local massive patches of milk white quartz in vein form is exposed near the shaft area.

Quartz-carbonate breccia zones are patchy and variable as well.

Disseminated pyrite (non cubic) is randomly and variably distributed through the pink quartzite breccia zones. Chalcopyrite is sparse and seldom present.

Part of the structure is identified as a gossan zone on government geological maps.

Early prospectors sank a shallow shaft, opened a rock trench and otherwise stripped weakly gossaned or obvious pyrite zones within the structure on the Jones Lake Zone.

Hand stripping and shallow test pitting expose sulphides in pink quartzite breccia on the Jess Lake Zone.

The Jess-Jones Lake Structure stands out as a readily recognizable geological unit within adjacent Lorrain Quartzite and Sudbury Breccia. Some 'contact' areas are gradational and fuzzy whereas others are sharp and defined.

At least one prominent lineament (Jones Lake Lineament) traverses the East central portion of the structure. It is defined as a scarp through the structure and as both a scarp and trough depression North to Wolf Lake and South through Jones Lake. The lineament is projected to intersect the Lake Structure - No. 3 Zone Structure within or adjacent to the No. 3 Zone in Wolf Lake.

The Jess-Jones Lake Structure is defined by I.P. and VLF anomalies, hence has prominent geophysical, topographic and geological signatures.

Three holes probed I.P. anomaly peaks on the structure during 1981. The Jess Lake anomaly produced the most significant intersections which averaged:

.069 oz Au/28'

Holes drilled on the Jones Lake Zone in the shaft-open cut area intersected pyritic zones which yielded mainly low anomalous gold values.

One hole intersected pink quartzite breccia with chlorite and quartz-carbonate matrix containing disseminated pyrite. The chlorite association bears some resemblance to gold-bearing chlorite breccias in Scadding township. No significant gold values were obtained in the Jones Lake intersections however.

One hole, A81-9, deepened in 1983 intersected long sections of streamer breccia. This is a very distinctive breccia containing unsorted angular fragments of pink quartzite in a weakly mineralized chloritic quartz-carbonate matrix. Some anomalous gold values were obtained.

A hole drilled on the Jess Lake South Zone intersected mineralized pink quartzite breccia. Gold values were negligible. This hole may have missed the I.P. anomaly peak but nevertheless did not adequately explore the South Zone structure.

Jess Lake Zone

The Jess Lake Zone is a semi-circular lobe in the Northwest portion of the Jess-Jones Lake structure. It is a topographically apparent structural graben open to the South and closed on the North. An interpreted Easterly dipping fracture zone appears to mark its Western extremity. It is flanked by Sudbury Breccia and Lorrain Quartzite.

Appendix C documents the numerous intersections obtained in a randomly drilled series of partially patterned drill holes. Drill hole locations are shown on Figure No. 7 and No. 9. The No. 2 Cartoon portrays a tentative interpretation of the underlying geology and structure based on one idealized cross-section.

The Jess Lake Zone appears to comprise the following segments:

a) A steep Easterly dipping fracture zone along the West side of the zone.

b) An erratically mineralized pink quartzite breccia with quartz-carbonate matrix designated the upper zone. It appears to bottom at about the 300' level.

c) An underlying sparsely mineralized vaguely bedded quartzite with patchy sections of mineralized pink quartzite breccia containing quartz-carbonate matrix. This segment appears to lie between the 500' - 900' level. This segment identified as the lower zone.

A zone of pink and grey quartzite, locally bedded, occasionally granitic textured is sandwiched between the upper and lower zones. It is approximately 250' thick on the idealized section and may be thicker elsewhere.

Most of the inclined holes sectioned the fracture zone. It is characterized by kaolinitic alteration, patchy hematitic staining and limonitic staining. The best and most frequent gold values appear to be confined to the proximity of the fracture zone. A persistent but not necessarily contiguous series of significant intersections have been obtained. Most of the better grade gold values lie in the interval between 164 and 250 feet on the idealized section. The fracture zone does not appear to have been tested below the 300' elevation.

A vertical hole in the vicinity of the fracture zone suggests that gold values may extend to surface immediately North of the North end of Jess Lake.

The main body of the Upper Zone has not been tested in any detail but long sections of anomolous and the occasional significant (.10+ oz Au) value has been obtained.

The Lower Zone was intersected in two random vertical holes. Another random vertical hole yielded inconclusive results. Long sections of anomalous gold values and at least one significant (.10+ oz Au) gold value was obtained.

Both vertical and inclined holes on a control grid will be required to thoroughly investigate the Jess Lake Zone.

A deep cross trench on the probable surface expression of the fracture zone immediately North of Jess Lake would provide good bulk sample material and a visual assessment of the geological setting if it is possible to penetrate the overburden above the water table.

SUMMARY AND CONCLUSIONS

The 39,100 feet of mainly prospect drilling completed to date has located a series of gold-bearing structures and potential gold-bearing structures on Wolf, Jess and Jones Lakes. This drilling has also provided important and essentially valuable geological data.

All this acquired data requires processing, compilation and study in order to wisely plan future exploration and definition drilling programs.

The processing and compilation envisages the preparation of at least the following:

Sections:	Geological Structural Assay
Plans:	Longitudinal Elevation Isopach Geological Drill Hole
	(Uniform scale)
Model:	No. 3 Zone Jess Lake Zone

Inspite of the modifications which may result from refined processing of existing data, the following general assessments are made on the basis of familiarity with the work that has been done.

No. 3 Zone

Open and undelimited. Will require both inclined and vertical drill probes on a control grid to explore and delimit.

No. 2 Zone, No. 1 Zone, Camp Zone, Shaft Zone

Postulated to be on the same fracture system hosting the No. 1 Zone and Shaft structure. Not adequately drill tested. Will require orientation drilling then systematic spaced sectional drilling at intervals along the structure (Northeast from No. 1 Zone showing).

Readily accessible locations on the zone can be cross-trenched to provide geological information and access for sampling. This would be a more revealing and less expensive preliminary approach as opposed to diamond drilling.

The No. 1 Zone, Camp Zone, Shaft Zone and currently identified No. 2 Zone are all on the same or related structure and are simply

individual gold-bearing mineralized occurrences along the same structural horizon.

Lake Structure and Southwest Structure

Part of the lineament trending Southwesterly and Northeasterly through Wolf Lake and the No. 3 Zone. Will ultimately require sectional drill probes at intervals along the structure to search for gold-bearing breccia zones.

Jess-Jones Lake Structure

This is a relatively large geologically, geophysically and topographically defined target area.
Localized zones within the structure are brecciated, sulphide enriched and gold-bearing. Apart from the Jess Lake Zone, which is localized and partially defined, the remaining portions of the structure may best be explored by selected cross-section drill holes which overlap the contacts and section the lineaments and/or fracture zones.

A bulk sample test of the Jess Lake Zone breccia and fracture zone segment would provide information on gold tenor, and geological characteristics.

Some very limited, short drill holes may in fact indicate the point at which the fracture zone segment penetrates the surface or conversely backhoe cross-trenching may uncover it.

Gold-Bearing Breccia Zones - Commentary

The gold-bearing breccia zones at Wolf, Jess, and Jones Lakes are reminiscent of carbonate gold occurrences - namely Kerr Addison. Though there are no specific petrological similarities, the erratic distribution of the gold and the irregular nature of the host structure are generally comparable. This suggests that an evaluation of gold-bearing structures of the type that appear to be present on the FLAG RESOURCES LIMITED property will require close spaced drilling and ultimately bulk sampling and pilot mill testing.

Future Exploration

Future exploration on the FLAG RESOURCES LIMITED property should be directly supervised by a competent exploration geologist in cooperation with management. Support staff should be directly responsible to the supervising geologist.

The irregular nature of the breccia zones and unpredictable variations in their sulphide and gold content requires that drilling be carried out in a controlled atmosphere that provides time for careful evaluation of results prior to proceeding with succeeding drill holes. A one machine drill program is consequently desirable until such time as structure and gold value trends are established or indicated.

The gold-bearing zones and control structures currently indicated merit continuing exploration investigations.

RECOMMENDATIONS

Process existing data prior to resuming exploration investigations.

Both surface trenching and close control diamond drilling programs are recommended.

Some local confirmation or detail, specialized I.P. surveying may be desirable, particularly at Wolf Lake where the original I.P. did not indicate the mineralized zones encountered in drilling.

Respectfully submitted,

Frank P. Tagliamonte, P. Eng.

REGISTERED PROFESSIONAL ENGINEER
MINING
F. P. TAGLIAMONTE
PROVINCE OF ONTARIO

GEOLOGICAL ENGINEERING SERVICES

NORTH BAY, ONTARIO

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FLAG RESOURCES LTD.
Mackelcan Township Gold Prospect
Sudbury Area
Ontario

SURFACE SAMPLING - Aug. Sept. 1983

Jones Lake Sector
(see DDH plan for location)

Sample No.	oz Au/T	Remarks
OPEN CUT		
Special # 1	.070	Mineralized hand specimen - dump
# 2	.060	W Wall - mineralized patch
# 4	.026	W Wall - mineralized patch
# 5	.110	Sulphide sand - dump
# 6	.070	Mineralized hand specimen - dump
# 8	.109	Mineralized hand specimen - N Side dump
#12	.038	Sulphides - NE corner
SHAFT		
Special # 3	.008	Sulphide specimens - dump
# 9	.004	Sulphide specimens - composite of dump
#10	.004	Sulphide specimens - composite of dump
#13	.002	Selected sulphide specimens - dump
DDH #A81-1		
Special # 7	.002	Sulphide bearing core - specimen from 254'

FLAG RESOURCES LTD.
Mackelcan Township Gold Prospect
Sudbury Area
Ontario

WOLF LAKE DDH PROGRAM

1983

Resumé of DDH Intersections

WL83 Series

(See DDH Plans for Locations)

DDH No.	INCLINATION	AVERAGES oz Au/Ft or Core Length Sampled	FOOTAGE From To	REMARKS and Assay Range
No. 3 Zone Grid				
WL83 - 1	-90°	380.0'	70.0 - 450.0	Tr - .084
WL83 - 2	-90°	.099 / 9.8' @ 271'		
		78.5'	282.0 - 360.5	.002 - .045
	(includes	.046 / 6.0'	317.0 - 323.0)	
WL83 - 3	-90°	273.5'	69.0 - 342.5	Tr - .038
		.035 / 19.0'	307.0 - 335.0	
WL83 - 4	-90°	186.0'	111.0 - 297.0	Tr - .126
	(includes	.083 / 19.5'	216.5 - 236.0)	
	(includes	.126 / 9.5'	216.5 - 226.0)	
WL83 - 5	-90°	0		drilled on West edge of Zone
WL83 - 6	-90°	172.0'	100.0 - 272.0	Tr - .044
		57.0'	272.0 - 329.0	Tr - .145
	(includes	.145 / 10.5'	290.0 - 300.5)	
		89.5'	329.0 - 418.5	.004 - .050
	(includes	.041 / 22.9'	395.5 - 418.5)	
WL83 - 7	-90°	367.5'	96.0 - 463.5	Tr - .056
	(includes	.056 / 9.5'	306.0 - 315.5)	
	(includes	.054 / 9.0'	412.0 - 421.0)	

DDH No.	INCLINATION	AVERAGES oz Au/Ft or Core Length Sampled	FOOTAGE From To	REMARKS and Assay Range
Prospect Step-Out				
WL83 - 8	-90°	θ		200' depth, not deep enough
Prospect Step-Out I. P. Readings check				
WL83 - 9	-90°	θ		167' depth
WL83 - 9A	-90°	θ		158' depth
WL83 - 9C	-90°	θ		158' depth
WL83 - 9D	-90°	θ		172' depth
	all holes failed to reach bedrock			
WL83 - 10	-90°	θ		201' depth, not deep enough
No. 3 Zone Grid				
WL83 - 11	-90°	θ		155' depth lost hole
	hole did not reach bedrock			
WL83 - 12	-90°	334.5'	37.0 - 371.5	Tr - .046
	(includes	.046 / 9.0'	67.5 - 76.5)	
	(includes	.022 / 9.6'	342.8 - 352.4)	
Prospect Step-Out I. P. Readings chec.				
WL83 - 13	-50°	296.7'	614.3 - 911.0	Tr - .040
	(includes	.040 / 10.0'	678.0 - 688.0)	
	(includes	.026 / 4.5'	888.0 - 892.5)	
Prospect Step-Out				
WL83 - 14	-90°	θ		251' depth
	(drilled to check lake sediment [anomaly])			
WL83 - 15	-50°	θ		400' depth
	(drilled to cross-section structure)			

DDH No.	INCLINATION	AVERAGES oz Au/Ft or Core Length Sampled	FOOTAGE From To	REMARKS and Assay Range
No. 3 Zone - Prospect				
WL83 - 16	-60°	.122 / 19.5'	168.5 - 188.0	
	(includes	.340 / 5.0'	178.0 - 183.0)	
Prospect Step-Out				
WL83 - 17	-50°	ϴ		207' depth
	(started to check WL83 - 13 lake structure but abandoned prior to depth objective)			
No. 3 Zone - Prospect				
WL83 - 18	-60°	.068 / 2.0'	26.0 - 28.0	
		.060 / 5.0'	151.0 - 156.0	
	(undercut West edge No. 3 Zone)			
Prospect Step-Out				
WL83 - 19	-90°	ϴ		97' depth
	(abandoned due to ice conditions)			
No. 3 Zone - 1981 Grid	(deepened WL81-20)			
WL83 - 20	-90°	ϴ		
	(hole flattened to 55° @ 1,000')			
No. 1 Zone - Prospect				
WL83 - 21	-70°	ϴ		
Southwest Structure - Prospect				
WL83 - 22	-50°	ϴ		
	(short section of pink quartzite, fracturing, and diabase intersected)			

DDH No.	INCLINATION	AVERAGES oz Au/Ft or Core Length Sampled	FOOTAGE From	To	REMARKS and Assay Range
No. 3 Zone - Step-Out					
WL83 - 23	-90°	Ø			215' depth not deep enough
No. 2 Zone - Prospect					
WL83 - 24	-70°	Ø			drilled North to 229'
WL83 - 24A	-90°	.582 / 1.0' @ 31'			
		.054 / 21.0'	11.0 -	32.0	
WL83 - 24B	-50°	Ø			drilled North to 34'
WL83 - 24C	-50°	Ø			drilled East to 76'
WL83 - 25	-45°	Ø			drilled West to 207'
VLF (Anomaly) X-Section West of No. 1 Zone					
WL83 - 26	-45°	Ø			
No. 1 Zone - Prospect					
WL83 - 27	-60°	.137 / 12.0'	6.0 -	18.0	
		.086 / 5.5'	24.0 -	29.5	
		(drilled Southwest through No. 1 Zone Showing)			
No. 1 Zone - Prospect Camp Zone					
WL83 - 28	-90°	.033Au,2.5%Cu/74.5'	131.0 -	205.5	
		.037Au,2.85%Cu/65'	131.0 -	196.0	
		.043Au,3.60%Cu/48'	148.0 -	196.0	
WL83 - 29	-90°	Ø			

DDH No.	INCLINATION	AVERAGES oz Au/Ft or Core Length Sampled	FOOTAGE From To	REMARKS and Assay Range
No. 1 Zone - Prospect Camp Zone (continued)				
WL83 - 30	-90°	0		
WL83 - 31	-90°	.002 / 5.0'	161.5 - 166.5	
WL83 - 32	-90°	.006Au,.025%Cu/3'	84.5 - 87.5	
		.002Au,.007%Cu/5'	87.5 - 92.5	
		.044Au,.085%Cu/5.5'	92.5 - 98.0	
WL83 - 33	-62°	.109Au,1.73%Cu/36'	96.0 - 132.0	
		.127Au,1.54%Cu/27'	96.0 - 123.0	
		.163Au,1.58%Cu/17'	96.0 - 113.0	
		97.0'	44.0 - 141.0	sampled section
		.044Au,.022%Cu/10'	70.0 - 80.0	
WL83 - 34	-70°	.155Au,.076%Cu/16.5'	57.0 - 73.5	
		.399Au,.052%Cu/6'	57.0 - 63.0	
		48.0'	97.0 - 145.0	Tr - .044
		.114Au,1.94%Cu/28'	162.0 - 190.0	
		.152Au,2.43%Cu/15'	162.0 - 177.0	
WL83 - 35	-70°	.05Au,.034%Cu/2.5'	19.5 - 22.0	
		.273Au,.20%Cu/7'	65.0 - 72.0	
		.129Au,.094%Cu/4'	49.0 - 53.0	
		.08Au,.047%Cu/2'	26.5 - 28.5	
WL83 - 36	-60°	.082Au,.47%Cu/9'	169.0 - 178.0	
	(includes	.097Au,2.60%Cu/28'	194.0 - 222.0)	
	(includes	.14Au,3.81%Cu/18'	194.0 - 212.0)	
		.01Au,.44%Cu/10'	222.0 - 232.0	
		.02Au,1.05%Cu/10'	212.0 - 222.0	
		.04Au,2.75%Cu/9.5'	202.5 - 212.0	
		.25Au,5%Cu/8.5'	194.0 - 202.5	
		16.0'	178.0 - 194.0	.004 - .006

DDH No.	INCLINATION	AVERAGES oz Au/Ft Core Length Sampled	FOOTAGE From	To	REMARKS and Assay Range
No. 1 Zone - Prospect Camp Zone (continued)					
WL83 - 37	-60°	0			348' depth
WL83 - 38	-60°	0			502' depth

***

FLAG RESOURCES LTD.
Mackelcan Township Gold Prospect
Sudbury Area
Ontario

JESS AND JONES LAKES DDH PROGRAM

1983

Resumé of DDH Intersections

A83 Series

(See DDH Plans for Locations)

DDH No.	INCLINATION	AVERAGES oz Au/Ft or Core Length Sampled	FOOTAGE From	To	REMARKS and Assay Range
Jess Lake Zone					
A81 - 2	-45°	.069 / 28.0'	387.0	415.0	
A83 - 1	-60°	152.0'	6.0	158.0	Tr - .012
		86.0'	279.5	365.5	.004 - .320
	(includes	.079 / 46.0'	319.5	365.5)	
	(includes	.120 / 28.5'	337.0	365.5)	
A83 - 2	-50°	122.0'	156.0	278.0	Tr - .008
A83 - 3	-90°	214.5'	2.0	216.5	upper zone Tr - .022
		286.0'	579.0	865.0	lower zone Tr - .042
	(includes	.042 / 5.0'	819.0	824.0)	
A83 - 3A	-90°	162.0'	4.0	166.0	.002 - .014
A83 - 4	-50°	0			abandoned
A83 - 5	-90°	162.0'	137.5	299.5	Tr - .038
	(includes	.038 / 9.0'	262.0	271.0)	

DDH No.	INCLINATION	AVERAGES oz Au/Ft or Core Length Sampled	FOOTAGE From To	REMARKS and Assay Range
Jess Lake Zone (continued)				
A83 - 6	-90°	33.0'	16.0 - 49.0	.002 - .006
		.014 / 10.7'	249.3 - 260.0	
		.006 / 9.0'	286.0 - 295.0	
		81.0'	336.0 - 417.0	.002 - .112
		.062 / 19.0'	379.0 - 398.0	
		.093 / 18.0'	336.0 - 354.0	
		.018 / 10.5'	512.5 - 523.0	
		.112 / 9.5'	344.5 - 354.0	
		.020 / 8.0'	524.0 - 532.0	
A83 - 7	-45°	95.0'	46.0 - 141.0	Tr - .006
		184.5'	217.0 - 323.5	.002 - .580
	(includes	.141 / 66.5'	236.5 - 303.0)	
	(includes	.290 / 27.5'	275.5 - 303.0)	
	(includes	.580 / 9.5'	275.5 - 285.0)	
A83 - 7A	-60°	64.5'	50.5 - 115.0	Tr - .010
		57.0'	180.0 - 237.0	.002 - .010
		.500 / 1.0'	@ 267.5	
A83 - 8	-45°	ø		387' depth
A83 - 9		314.0'	3.0 - 317.0	Tr - .026
		.026 / 9.5'	223.0 - 232.5	
		.022 / 9.0'	242.0 - 251.0	
A81-83-9	-85°	random 10' samples		Jones Lake Zone Tr - .002
	(hole deepened from 379' [1981] to 867' [1983])			streamer breccia
A83 - 10	-45°	175.5'	23.5 - 199.0	.002 - .012
		.024 / 5.0'	227.0 - 232.0	
		.014 / 2.5'	279.0 - 281.5	

DDH No.	INCLINATION	AVERAGES oz Au/Ft or Core Length Sampled	FOOTAGE From To	REMARKS and Assay Range
Jess Lake Zone continued)				
A83 - 10A	-60°	101.5'	105.5 - 207.0	Tr - .008
A83 - 11	-45°	269.5'	8.0 - 277.5	Tr - .230
		.080 / 46.0'	181.5 - 227.5	
		.100 / 28.5'	181.5 - 210.0	
		.198 / 15.0'	253.0 - 268.0	
	(includes	.230 / 10.0'	253.0 - 263.0)	
	(includes	.135 / 5.0'	263.0 - 268.0)	
A83 - 12	-45°	22.0'	164.0 - 186.0	.002 - .020
		54.0'	255.0 - 309.0	.002 - .736
	(includes	.210 / 19.5'	263.5 - 283.0)	
	(includes	.109 / 9.5'	273.5 - 283.0)	
	(includes	.736 / 4.0'	263.5 - 267.5)	
A83 - 13	-47°	118.5'	229.5 - 348.0	.002 - .131
	(includes	.073 / 57.0'	272.0 - 329.0)	
	(includes	.087 / 38.0'	272.0 - 310.0)	
	(includes	.091 / 28.5'	272.0 - 300.5)	
A83 - 14	-45°	159.5'	112.0 - 271.5	Tr - .417
	(includes	.107 / 57.5'	204.5 - 262.0)	
	(includes	.114 / 48.0'	214.0 - 262.0)	
	(includes	.102 / 19.0'	204.5 - 223.5)	
	(includes	.134 / 9.5'	214.0 - 223.5)	
	(includes	.417 / 9.0'	253.0 - 262.0)	
A83 - 15	-45°	141.0'	6.0 - 141.0	.002 - .114
	(includes	.084 / 18.0'	129.0 - 147.0)	
	(includes	.114 / 9.0'	129.0 - 138.0)	
A83 - 16	-45°	0		87' depth

DDH No.	INCLINATION	AVERAGES oz Au/Ft or Core Length Sampled	FOOTAGE From To	REMARKS and Assay Range
Jess Lake Zone (continued)				
A83 - 17	-90°	215.0'	6.0 - 221.0	.008 - .126
		.051 /215.0'	6.0 - 212.0	
		.116 / 19.5'	16.0 - 35.5	
	(includes	.126 / 10.0'	16.0 - 26.0)	
	(includes	.105 / 9.5'	26.0 - 35.5)	
		.120 / 9.5'	54.0 - 63.5	
		.068 / 29.0'	116.0 - 145.0	
		.060 / 19.0'	126.0 - 145.0	
		.058 / 18.5'	164.5 - 183.0	
A83 - 18	-90°	163.0'	22.0 - 185.0	Tr - .020
A83 - 19	-90°	76.0'	4.0 - 80.0	Tr - .008
		67.0'	238.5 - 305.5	Tr - .002
		46.0'	499.0 - 545.0	.002 - .006
A83 - 20	-90°	104.0'	2.0 - 106.0	.002 - .006
		.010 / 10.0'	480.0 - 490.0	
		331.0'	593.0 - 924.0	Tr - .220
		.154 - 19.5'	876.0 - 895.5	
	(includes	.220 / 10.	876.0 - 886.5	
Jones Lake Zone				
A83 - 21	-60°	190.0'	265.0 - 455.0	Tr - .008
A83 - 22	-90°	47.0'	19.0 - 66.0	Tr
A83 - 23	-90°	~~0~~		158' depth
A83 - 23A	-50°	~~0~~		100' depth
A83 - 24	-90°	264.0'	2.0 - 266.0	Tr - .022

***

APPENDIX D

SUMMARY COMMENTS

Jess Lake Zone

Some especially distinctive breccia types have been observed and are briefly described.

Mineralized Pink Quartzite Breccia

Vague and distinct unsorted pink quartzite fragments with milk white quartz-carbonate matrix. Variably mineralized with non cubic pyrite mainly in the matrix material but also as small fragments, patches and fine disseminations in the pink arkosic quartzite.

Chlorite Breccia

Not a common type but occasionally present. Random, generally small angular clots usually associated with quartz distributed in pink quartzite breccia.
Chlorite varies from massive and soft to difuse and hard. Pyrite mineralization is commonly in the form of massive patches or disseminations within the chlorite. Some chlorite sections are devoid of pyrite.

Streamer Breccia

This is a very distinctive breccia form. It comprises very angular unsorted but generally small (under 12") fragments of pink arkosic quartzite cemented by ash gray and dark green chloritic quartz. Pyrite is sometimes sparsely disseminated in the chloritic quartz matrix.

Porcelain Breccia

This is a mixture of finely fragmented angular pink quartzite, quartz, sulphides, and kaolinitic feldspar.

Chert Breccia

Chert fragments are rarely noted. An old trench adjacent to DDH #A83-17 exposes

well mineralized pink quartzite breccia with rare random small angular fragments of hard gray flinty chert or rhyolite.

Sulphide Breccia

Occasional rare fragments, patches and bands up to 4' in core length within mineralized pink arkosic quartzite breccia are deduced to represent sulphide breccia fragments in the quartzite.

Chalcopyrite Distribution

Chalcopyrite mineralization is prevalent in parts of the breccia zones at Wolf Lake notably in the No. 1 and Camp Zones. It is virtually absent at Jess and Jones Lakes.

Gold Value Distribution

Virtually all the horizons of mineralized pink quartzite breccia sampled at Wolf Lake, and Jess Lake in particular, appear to be anomolous in gold.

Three distinctive assay categories are apparent:

1) tr — .008 oz Au anomalous
2) .01 — .09 oz Au significant
3) .10 — 1.0+ oz Au potential economic

In most sections averaged, at least one, but frequently 2 assays in the 3 category range are combined with several in the 2 category range to produce an average value from .05 up to .20 oz gold over variable but generally long core widths.

It appears possible that assay values in the 2 category range may represent zones of gold enrichment in the breccias that are potentially economic in dimension and grade.

Observations of this type combined with processing of current assay and geological data may indicate target zones within the breccias that warrant closer spaced drill probes. Also, a bulk sample of an isolated zone within the category

2 assay threshold may provide a gold tenor test that would be more realistic than drill core assay analyses. A grade factor may thus be devisable that could help in economic assessments of particular gold-bearing zones on the property.

ASSAYERS LIMITED

QUEBEC: 183 RUE GAMBLE O., C.P. 665 - ROUYN, J9X 2R8 TEL: [illegible]

ONTARIO: 20 VICTORIA STREET, SUITE 506 - TORONTO, M5C 2N8 - TEL: [illegible]

CERTIFICATE OF ANALYSIS

FOR: Flag Oils Limited

Calgary, Alberta

LAB NO.	SAMPLE NO.	GOLD OZ. PER TON	SILVER OZ. PER TON	COPPER %	ZINC %			
9694	831-3	0.02						
5	831-4	0.02						
6	831-5	0.005						
7	831-6	0.005						
8	831-29	0.03						
9	832-8	0.03						
9700	8312-4	0.04						
1	832-11	0.02						
2	8313-8	0.03						
3	834-12	0.12						
9704	834-13	0.03						

DATE

March 7, 1983

CERTIFIED CORRECT

UNLESS IT IS SPECIFICALLY STATED OTHERWISE GOLD AND SILVER VALUES REPORTED ON THESE SHEETS HAVE NOT BEEN ADJUSTED TO COMPENSATE FOR LOSSES AND GAINS INHERENT IN THE FIRE ASSAY PROCESS.
SAUF MENTION CONTRAIRE, LES ESSAIS POUR L'OR ET L'ARGENT, NE SONT PAS CORRIGES POUR LES PERTES ET GAINS QUI SONT INHERENTS AU PROCEDE D'ANALYSE.

BELL-WHITE ANALYTICAL LABORATORIES LTD.
P.O. BOX 187. HAILEYBURY, ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 1963 DATE: February 11, 1983

SAMPLE(S) OF: Core (31) RECEIVED: February, 1983

SAMPLE(S) FROM: Mr. Frank P. Tagliamonte
Geological Engineering Services

Sample No.	Oz. Gold
831-1	0.002*
-2	0.008
-3	0.012
-4	0.048
-5	0.004
-6	0.014
-7	0.002*
-8	0.002*
-9	0.006
831-10	0.002*
-11	trace
-12	0.004
-13	trace
-14	trace
832-1	0.008
-2	0.002*
-3	0.099**
-4	0.006
-5	0.014
-6	0.008
-7	0.002*
-8	0.046
-9	0.006
832-10	0.010
-11	0.028
-12	0.008
833-1	0.002*
-2	0.016
-3	0.006
-4	0.004
-5	0.008

* Estimated

** Checked

BELL-WHITE ANALYTICAL LABORATORIES LTD.

Per

BELL-WHITE ANALYTICAL LABORATORIES LTD.
P.O. BOX 187. HAILEYBURY, ONTARIO TEL: 672-3107

Certificate of Analysis

NO. B47-83 DATE: February 21, 1983

SAMPLE(S) OF: Core (1) RECEIVED: February, 1983

SAMPLE(S) FROM: Mr. Frank Tagliamonte
Flag Oil Limited

Sample No.	Copper/ppm
833-8	2920

IN ACCORDANCE WITH LONG-ESTABLISHED NORTH AMERICAN CUSTOM, UNLESS IT IS SPECIFICALLY STATED OTHERWISE GOLD AND SILVER VALUES REPORTED ON THESE SHEETS HAVE NOT BEEN ADJUSTED TO COMPENSATE FOR LOSSES AND GAINS INHERENT IN THE FIRE ASSAY PROCESS.

BELL-WHITE ANALYTICAL LABORATORIES LTD.

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Certificate of Analysis

NO. 4270 DATE: March 2, 1983

SAMPLE(S) OF: Core (22) RECEIVED: February, 1983

SAMPLE(S) FROM: Mr. Frank P. Tagliamonte
Flag Resources Limited

Sample No.	Oz. Gold	Sample No.	Oz. Gold
8312-1	0.008	8312-34	0.014
-2	0.012	-35	0.010
-3	0.020	8313-1	0.002*
-4	0.046	-2	trace
-5	0.002*	-3	0.004
-6	0.002*	-4	0.010
-7	0.006	-5	0.006
-8	0.004	-6	0.004
-9	0.004	-7	0.012
-10	0.006	-8	0.040**
8312-33	0.022	8313-12	0.004

* Estimated

** Checked

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P.O. BOX 187. HAILEYBURY, ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 4473

DATE: March 4, 1983

SAMPLE(S) OF: Core (36)

RECEIVED: March, 1983

SAMPLE(S) FROM: Mr. Frank Tagliamonte
Flag Resources Limited

Sample No.	Oz. Gold	Sample No.	Oz. Gold
8312-11	trace	8312-29	0.002*
-12	trace	-30	0.010
-13	0.006	-31	0.002*
-14	trace	-32	0.012
-15	trace	8313-9	trace
-16	trace	-10	trace
-17	trace	-11	0.006
-18	trace	8313-13	0.020
-19	0.002*	-14	trace
-20	0.004	-15	0.002*
-21	0.004	-16	0.004
-22	0.002*	-17	trace
-23	0.006	-18	trace
-24	0.002*	-19	trace
-25	0.004	-20	0.002*
-26	0.002	-21	0.006
-27	0.004	-22	trace
-28	0.006	-23	trace

*Estimated

BELL-WHITE ANALYTICAL LABORATORIES LTD.

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P.O. BOX 187. HAILEYBURY. ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 4786

DATE: March 8, 1983

SAMPLE(S) OF: Rock (2)

RECEIVED: March, 1983

SAMPLE(S) FROM: Mr. Frank P. Tagliamonte
Flag Resources Limited

Sample No.	Oz. Gold
65543	trace
65544	trace

IN ACCORDANCE WITH LONG-ESTABLISHED NORTH AMERICAN CUSTOM, UNLESS IT IS SPECIFICALLY STATED OTHERWISE GOLD AND SILVER VALUES REPORTED ON THESE SHEETS HAVE NOT BEEN ADJUSTED TO COMPENSATE FOR LOSSES AND GAINS INHERENT IN THE FIRE ASSAY PROCESS.

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BELL-WHITE ANALYTICAL LABORATORIES LTD.
P.O. BOX 187. HAILEYBURY, ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 4787 DATE: March 8, 1983

SAMPLE(S) OF: Core (14) RECEIVED: March, 1983

SAMPLE(S) FROM: Mr. Frank P. Tagliamonte
Flag Resources Inc.

Sample No.	Oz. Gold
8313-27	0.002*
-28	0.004
-29	trace
-30	0.022
-31	0.026
-32	0.014
-33	0.004
-34	0.006
-35	0.004
8316-1	0.006
-2	0.068
-3	0.046
-4	0.340**
-5	0.030

* Estimated

** Cnecked

IN ACCORDANCE WITH LONG-ESTABLISHED NORTH AMERICAN CUSTOM, UNLESS IT IS SPECIFICALLY STATED OTHERWISE GOLD AND SILVER VALUES REPORTED ON THESE SHEETS HAVE NOT BEEN ADJUSTED TO COMPENSATE FOR LOSSES AND GAINS INHERENT IN THE FIRE ASSAY PROCESS.

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P.O. BOX 187. HAILEYBURY, ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 5167

DATE: March 10, 1983

SAMPLE(S) OF. Core (3)

RECEIVED: March, 1983

SAMPLE(S) FROM: Frank P. Tagliamonte
Flag Resources Limited

Sample No.	Oz. Gold
8313-24	trace
-25	trace
-26	0.002*

* Estimated

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P.O. BOX 187. HAILEYBURY. ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 6915

DATE: March 23, 1983

SAMPLE(S) OF: Core (36)

RECEIVED: March, 1983

SAMPLE(S) FROM: Mr. Frank Tagliamonte
Flag Resources Limited

Sample No.	Oz. Gold	Sample No.	Oz. Gold
831-1	0.012	831-19	0.004
-2	0.006	-20	0.006
-3	0.002*	-21	0.010
-4	trace	-22	0.014
-5	trace	-23	0.034
-6	trace	-24	0.320**
-7	0.004	-25	0.038
-8	0.006	832-1	0.004
-9	0.002*	-2	0.002*
-10	trace	-3	0.008
-11	0.004	-4	trace
-12	trace	-5	0.002*
-13	0.002*	-6	trace
-14	0.002*	-7	0.004
-15	trace	-8	0.004
-16	0.008	-9	0.002*
-17	0.006	-10	0.002*
-18	0.004	8322-1	trace

* Estimated

** Checked

IN ACCORDANCE WITH LONG-ESTABLISHED NORTH AMERICAN CUSTOM, UNLESS IT IS SPECIFICALLY STATED OTHERWISE GOLD AND SILVER VALUES REPORTED ON THESE SHEETS HAVE NOT BEEN ADJUSTED TO COMPENSATE FOR LOSSES AND GAINS INHERENT IN THE FIRE ASSAY PROCESS.

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BELL - WHITE ANALYTICAL LABORATORIES LTD.
P.O. BOX 187. HAILEYBURY. ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 7683 DATE: March 30, 1983

SAMPLE(S) OF: Core (26) RECEIVED: March, 1983

SAMPLE(S) FROM: Mr. Frank P. Tagliamonte
Flag Resources Limited

Sample No.	Oz. Gold	Oz. Silver
832-11	trace	
-12	0.006	
833-1	trace	
-2	0.004	
-3	0.022	
-4	0.002*	
-5	trace	
-6	trace	
-7	trace	
-8	0.004	
-9	0.004	
-10	0.002*	
-11	0.002*	
-12	0.008	
-13	trace	
-14	0.002*	
-15	0.002*	
-16	trace	
833-25	trace	
83-2-13	trace	
8117-1	0.004	
8324A-1	0.061**	0.03
-2	0.002*	trace
-3	0.004	trace
-4	0.048**	0.02
-5	0.582**	0.06

* Estimated

** Checked

IN ACCORDANCE WITH LONG-ESTABLISHED NORTH AMERICAN CUSTOM, UNLESS IT IS SPECIFICALLY STATED OTHERWISE GOLD AND SILVER VALUES REPORTED ON THESE SHEETS HAVE NOT BEEN ADJUSTED TO COMPENSATE FOR LOSSES AND GAINS INHERENT IN THE FIRE ASSAY PROCESS.

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BELL-WHITE ANALYTICAL LABORATORIES LTD.
P.O. BOX 187. HAILEYBURY, ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 7684 DATE: March 30, 1983

SAMPLE(S) OF: Core (37) RECEIVED: March, 1983

SAMPLE(S) FROM: Mr. Frank P. Tagliamonte
Flag Resources Limited

Sample No.	Oz. Gold	Sample No.	Oz. Gold
833-17	0.004	833-38	trace
-18	0.008	-39	0.018
-19	0.006	-40	0.012
-20	0.004	-41	0.016
-21	0.006	-42	0.022
-22	0.008	-43	0.018
-23	0.002*	-44	0.020
-24	0.004	-45	0.008
833-26	0.002*	-46	0.024
833-28	0.004	-47	0.012
-29	0.002*	-48	0.022
-30	trace	-49	0.008
-31	trace	-50	0.014
-32	trace	-51	0.010
-33	0.004	-52	0.012
-34	0.002*	-53	0.042
-35	0.002*	-54	0.020
-36	0.004	-55	0.014
-37	trace		

* Estimated

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P.O. BOX 187. HAILEYBURY. ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 8545 DATE: April 5, 1983

SAMPLE(S) OF: Core (18) RECEIVED: March, 1983

SAMPLE(S) FROM: Mr. Frank P. Tagliamonte
Flag Resources Limited

Sample No.	Oz. Gold
A833A1	0.002*
2	0.014
3	0.002*
4	0.008
5	0.006
6	0.012
7	0.004
8	0.002*
9	0.002*
A833A10	0.006
11	0.002*
12	0.002*
13	0.002*
14	0.004
15	0.008
16	0.002*
17	0.006
A833-27	0.010

* Estimated

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BELL-WHITE ANALYTICAL LABORATORIES LTD.
P.O. BOX 187. HAILEYBURY. ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 11421

DATE: April 26, 1983

SAMPLE(S) OF: Core (2)

RECEIVED: April, 1983

SAMPLE(S) FROM: Mr. Frank P. Tagliamonte
Flag Resources Limited

Sample No.	Oz. Gold
WL8327-1	0.137**
-2	0.086

** Checked

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P.O. BOX 187. HAILEYBURY, ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 13953

DATE: May 13, 1983

SAMPLE(S) OF: Core (18)

RECEIVED: May, 1983

SAMPLE(S) FROM: Mr. Frank P. Tagliamonte
Flag Resources Limited

Sample No.	Oz. Gold
A835-1	0.004
-2	0.002*
-3	trace
-4	0.002*
-5	0.018
-6	0.010
-7	0.014
-8	0.022
-9	0.022
-10	0.012
-11	0.006
-12	0.004
-13	0.004
-14	0.030
-15	0.038
-16	0.022
-17	0.008
-18	0.014

* Estimated

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Certificate of Analysis

NO. 16349

DATE: June 8, 1983

SAMPLE(S) OF: Core (20)

RECEIVED: June, 1983

SAMPLE(S) FROM: Mr. Frank Tagliamonte
Flag Resources Limited

Sample No.	Gold/oz.	Sample No.	Gold/oz.
A837A-16	trace	A839-9	trace
-17	trace	-10	0.002*
A839-1	0.002*	A839-27	trace
-2	0.002*	-28	trace
-3	0.002*	-29	0.002*
-4	trace	-30	0.002*
-5	0.002*	-31	trace
-6	0.004	-32	trace
-7	0.004	-33	trace
-8	0.002*	-34	trace

* Estimate

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P.O. BOX 187. HAILEYBURY, ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 17167

DATE: June 15, 1983

SAMPLE(S) OF: Core (28)

RECEIVED: June, 1983

SAMPLE(S) FROM: Mr. Frank Tagliamonte
Flag Resources Limited

Sample No.	Gold/oz.	Sample No.	Gold/oz.
A8310-21	0.002*	A8311-13	0.008
-22	0.014	-14	0.002*
A8311-1	0.002*	-15	0.006
-2	0.002*	-16	0.002*
-3	0.002*	-17	0.006
-4	0.004	-18	0.014
-5	0.002*	-19	0.121**
-6	trace	-20	0.024
-7	0.018	-21	0.161**
-8	trace	-22	0.028
-9	0.002*	-23	0.040
A8311-10	0.006	-24	0.004
-11	0.002*	-25	0.004
-12	0.020	-26	0.002*

* Estimate

** Checked

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P.O. BOX 187, HAILEYBURY, ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 17561

DATE: June 20, 1983

SAMPLE(S) OF: Rock (7)

RECEIVED: June, 1983

SAMPLE(S) FROM: Mr. Frank Tagliamonte
Flag Resources Limited

Sample No.	Gold/oz.
701	0.010
2	0.008
DPG-1	0.002*
-2	0.060
-3	0.006
-4	0.004
BMJ-1	2.59**

* Estimate

** Checked

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BELL-WHITE ANALYTICAL LABORATORIES LTD.
P.O. BOX 187, HAILEYBURY, ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 20150 DATE: July 11, 1983

SAMPLE(S) OF: Core (36) RECEIVED: July, 1983

SAMPLE(S) FROM: Mr. Frank Tagliamonte
Flag Resources Limited

	Sample No.	Gold/oz.		Sample No.	Gold/oz.
A8310A	1	0.002*	A8312	2	0.004
	2	0.002*		3	0.002*
	3	0.006		4	0.002*
	4	0.002*		5	0.006
	5	0.008		6	0.020
	6	0.002*		7	0.018
	7	trace		8	0.736**
	8	0.002*		9	0.004
	9	0.004		10	0.109**
	10	0.002*		11	0.014
	11	trace		12	0.002*
	12	0.002*		13	0.002*
	13	0.002*	A81839	1	0.002*
	14	0.002*		2	0.002*
	15	trace		3	trace
A8311	27	0.230**		4	0.004
	28	0.135**		5	0.002*
A8312	1	0.002*		6	0.002*

* Estimate

** Checked

IN ACCORDANCE WITH LONG-ESTABLISHED NORTH AMERICAN CUSTOM, UNLESS IT IS SPECIFICALLY STATED OTHERWISE GOLD AND SILVER VALUES REPORTED ON THESE SHEETS HAVE NOT BEEN ADJUSTED TO COMPENSATE FOR LOSSES AND GAINS INHERENT IN THE FIRE ASSAY PROCESS.

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Certificate of Analysis

NO. 20606

DATE: July 14, 1983

SAMPLE(S) OF: Core (18)

RECEIVED: July, 1983

SAMPLE(S) FROM: Mr. Frank P. Tagliamonte
Flag Resources Limited

Sample No.	Gold/oz.
A8311-29	trace
-30	0.010
A8312-14	0.486**
A8313-1	0.004
-2	0.002*
-3	0.002*
-4	0.014
-5	0.004
-6	0.002*
-7	0.030
-8	0.131**
-9	0.034
-10	0.108**
-11	0.074
-12	0.034
-13	0.054
-14	0.008
A833A-18	0.006

** Checked

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BELL-WHITE ANALYTICAL LABORATORIES LTD.
P.O. BOX 187. HAILEYBURY, ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 20890

DATE: July 20, 1983

SAMPLE(S) OF: Core (17)

RECEIVED: July, 1983

SAMPLE(S) FROM: Mr. Frank P. Tagliamonte
Flag Resources Limited

Sample No.	Gold/oz.
A8314-1	0.006
-2	0.006
-3	0.006
-4	0.020
-5	trace
-6	trace
-7	0.026
-8	0.004
-9	0.002*
-10	0.002*
-11	0.004
-12	0.070
-13	0.134**
-14	0.018
-15	0.024
-16	0.004
-17	0.417**

* Estimate

** Checked

IN ACCORDANCE WITH LONG-ESTABLISHED NORTH AMERICAN CUSTOM, UNLESS IT IS SPECIFICALLY STATED OTHERWISE GOLD AND SILVER VALUES REPORTED ON THESE SHEETS HAVE NOT BEEN ADJUSTED TO COMPENSATE FOR LOSSES AND GAINS INHERENT IN THE FIRE ASSAY PROCESS.

BELL-WHITE ANALYTICAL LABORATORIES LTD.

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Certificate of Analysis

NO. 21445

DATE: July 25, 1983

SAMPLE(S) OF: Core (11)

RECEIVED: July, 1983

SAMPLE(S) FROM: Mr. Frank P. Tagliamonte
Flag Resources Limited

Sample No.	Gold/oz.
A8315-1	0.002*
-2	0.006
-3	0.002*
-4	0.002*
A8315-9	0.002*
-10	0.002*
-11	0.006
-12	0.006
-13	0.024
-14	0.114**
-15	0.026

* Estimate

** Checked

IN ACCORDANCE WITH LONG-ESTABLISHED NORTH AMERICAN CUSTOM, UNLESS IT IS SPECIFICALLY STATED OTHERWISE GOLD AND SILVER VALUES REPORTED ON THESE SHEETS HAVE NOT BEEN ADJUSTED TO COMPENSATE FOR LOSSES AND GAINS INHERENT IN THE FIRE ASSAY PROCESS.

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Certificate of Analysis

NO. 21682

DATE: July 26, 1983

SAMPLE(S) OF: Core (6)

RECEIVED: July, 1983

SAMPLE(S) FROM: Mr. Frank Tagliamonte
Flag Resources Limited

Sample No.	Gold/oz.
A8314-18	0.004
A8315-5	0.010
-6	0.018
-7	0.004
-8	0.002*
A833A-18	0.010

* Estimate

IN ACCORDANCE WITH LONG-ESTABLISHED NORTH AMERICAN CUSTOM, UNLESS IT IS SPECIFICALLY STATED OTHERWISE GOLD AND SILVER VALUES REPORTED ON THESE SHEETS HAVE NOT BEEN ADJUSTED TO COMPENSATE FOR LOSSES AND GAINS INHERENT IN THE FIRE ASSAY PROCESS.

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Certificate of Analysis

NO. 21683

DATE: July 26, 1983

SAMPLE(S) OF: Rock (2)

RECEIVED: July, 1983

SAMPLE(S) FROM: Mr. Frank P. Tagliamonte
Flag Resources Limited

Sample No.	Gold/oz.
SP-1	0.070
SP-2	0.066

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BELL-WHITE ANALYTICAL LABORATORIES LTD.
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Certificate of Analysis

NO. 23351B

DATE: August 3, 1983

SAMPLE(S) OF: Core (23)

RECEIVED: July, 1983

SAMPLE(S) FROM: Mr. Frank P. Tagliamonte
Flag Resources Limited

Sample No.	Oz. Gold
A8317 - 1	0.020
2	0.126**
3	0.105**
4	0.024
5	0.014
6	0.120**
7	0.014
8	0.082
9	0.036
10	0.060
11	0.022
12	0.046
13	0.080
14	0.066
15	0.058
16	0.012
17	0.016
18	0.056
19	0.060
20	0.028
21	0.024
22	0.074
23	0.008

** Checked.

BELL-WHITE ANALYTICAL LABORATORIES LTD.

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BELL-WHITE ANALYTICAL LABORATORIES LTD.
P.O. BOX 187. HAILEYBURY, ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 23477A

DATE: August 5, 1983

SAMPLE(S) OF: Rock (4)

RECEIVED: August, 1983

SAMPLE(S) FROM: Mr. Frank P. Tagliamonte
Flag Resources Limited

Sample No.	Gold/oz.
SP-3	0.008
-4	0.026
-5	0.110
-6	0.070

IN ACCORDANCE WITH LONG-ESTABLISHED NORTH AMERICAN CUSTOM, UNLESS IT IS SPECIFICALLY STATED OTHERWISE GOLD AND SILVER VALUES REPORTED ON THESE SHEETS HAVE NOT BEEN ADJUSTED TO COMPENSATE FOR LOSSES AND GAINS INHERENT IN THE FIRE ASSAY PROCESS.

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Certificate of Analysis

NO. 23476A

DATE: August 5, 1983

SAMPLE(S) OF: Core (18)

RECEIVED: August, 1983

SAMPLE(S) FROM: Mr. Frank P. Tagliamonte
Flag Resources Limited

Sample No.	Gold/oz.
A8318-1	0.002*
-2	0.004
-3	0.004
-4	0.004
-5	0.004
-6	0.020
-7	0.008
-8	0.004
-9	0.004
-10	0.002*
-11	0.002*
-12	0.002*
-13	0.002*
-14	0.002*
-15	trace
-16	trace
-17	trace
-18	0.004

* Estimate

IN ACCORDANCE WITH LONG ESTABLISHED NORTH AMERICAN CUSTOM, UNLESS IT IS SPECIFICALLY STATED OTHERWISE GOLD AND SILVER VALUES REPORTED ON THESE SHEETS HAVE NOT BEEN ADJUSTED TO COMPENSATE FOR LOSSES AND GAINS INHERENT IN THE FIRE ASSAY PROCESS.

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BELL-WHITE ANALYTICAL LABORATORIES LTD.
P.O. BOX 187. HAILEYBURY, ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 26462 DATE: August 26, 1983

SAMPLE(S) OF: Rock(3) RECEIVED: August, 1983

SAMPLE(S) FROM: Mr. F. Tagliamonte for Flag Resources Ltd.

Sample No.	Oz. Gold
7	0.002*
8	0.109**
9	0.004

* Estimated.

** Checked.

BELL-WHITE ANALYTICAL LABORATORIES LTD.

BELL-WHITE ANALYTICAL LABORATORIES LTD.
P.O. BOX 187. HAILEYBURY, ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 27045

DATE: August 31, 1983

SAMPLE(S) OF: Rock (2)
Core (60)

RECEIVED: August, 1983

SAMPLE(S) FROM: Mr. Frank P. Tagliamonte
Flag Resources Limited

Sample No.	Gold/oz.	Sample No.	Gold/oz.	Sample No.	Gold/oz.
Special #10	0.004	A8320-19	0.002*	A8320-40	0.220**
Special #11	0.004	-20	0.002*	-41	0.076
		-21	0.002*	A8319-1	trace
A8320-1	0.002*	-22	0.010	-2	0.002*
-2	0.004	-23	0.002*	-3	0.002*
-3	0.004	-24	0.002*	-4	0.002*
-4	0.004	-25	0.020	-5	0.002*
-5	0.006	-26	0.022	-6	0.004
-6	0.002*	-27	0.016	-7	0.006
-7	0.004	-28	0.026	-8	0.008
-8	0.002*	-29	0.028	-9	0.002*
-9	0.010	-30	0.022	-10	0.002*
A8320-10	0.002*	-31	0.006	-11	0.002*
-11	0.002*	-32	0.006	-12	0.002*
-12	0.002*	-33	0.002*	-13	trace
-13	0.010	-34	0.002*	-14	0.002*
-14	0.004	-35	0.010	-15	trace
-15	0.008	-36	0.090	-16	trace
-16	0.004	-37	0.022	-17	0.006
-17	0.008	-38	0.002*	-18	0.002*
-18	0.012	-39	0.022	-19	0.004

* Estimate

** Checked

IN ACCORDANCE WITH LONG-ESTABLISHED NORTH AMERICAN CUSTOM, UNLESS IT IS SPECIFICALLY STATED OTHERWISE GOLD AND SILVER VALUES REPORTED ON THESE SHEETS HAVE NOT BEEN ADJUSTED TO COMPENSATE FOR LOSSES AND GAINS INHERENT IN THE FIRE ASSAY PROCESS.

BELL-WHITE ANALYTICAL LABORATORIES LTD.

BELL-WHITE ANALYTICAL LABORATORIES LTD.
P.O. BOX 187. HAILEYBURY, ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 28882

DATE: September 19, 1983

SAMPLE(S) OF: Core (6)
Rock (1)

RECEIVED: September, 1983

SAMPLE(S) FROM: Flag Resources Limited
Mr. Frank Tagliamonte

Sample No.	Gold/oz.
A8322-1	0.002*
-2	trace
-3	trace
-4	trace
-5	trace
-6	trace
Special #12	0.004

* Estimate

BELL-WHITE ANALYTICAL LABORATORIES LTD.

Per

BELL-WHITE ANALYTICAL LABORATORIES LTD.
P.O. BOX 187. HAILEYBURY, ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 29808 DATE: September 23, 1983

SAMPLE(S) OF: Core(21) RECEIVED: September , 1983

SAMPLE(S) FROM: Mr. F. P. Tagliamonte, for Flag Resources Ltd.

Sample No.	Oz. Gold
A8324- 8	0.006
9	0.004
10	0.012
11	0.020
12	0.022
13	0.014
14	0.004
15	0.006
16	0.012
17	0.002*
18	0.004
19	Trace
20	0.002*
21	0.006
22	0.006
23	0.010
24	0.004
25	0.008
26	0.006
27	0.004
28	0.002*

* Estimated.

ACCORDANCE WITH LONG-ESTABLISHED NORTH RICAN CUSTOM, UNLESS IT IS SPECIFICALLY STATED ERWISE GOLD AND SILVER VALUES REPORTED ON E SHEETS HAVE NOT BEEN ADJUSTED TO COMPEN- FOR LOSSES AND GAINS INHERENT IN THE FIRE ASSAY PROCESS.

BELL-WHITE ANALYTICAL LABORATORIES LTD.

Per

BELL-WHITE ANALYTICAL LABORATORIES LTD.
P.O. BOX 187, HAILEYBURY, ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 34100

DATE: October 25, 1983

SAMPLE(S) OF: Core (33)

RECEIVED: October, 1983

SAMPLE(S) FROM: Mr. Frank P. Tagliamonte
Flag Resources Limited

Sample No.	Gold/oz.	% Copper	Sample No.	Gold/oz.	% Copper
WL83-32-1	0.006	0.025	WL83-34-4	0.002*	0.031
-2	.002*	0.007	-5	Trace	0.017
-3	0.044	0.085	-6	0.006	0.005
WL83-32-1	0.002*	0.030	-7	0.044	0.395
-2	0.006	0.245	-8	0.110**	1.10
-3	Trace	0.048	-9	0.176**	3.20
-4	0.044	0.022	-10	0.070	1.38
-5	0.010	0.033	WL83-35-1	0.050	0.340
-6	0.004	0.043	-2	0.080	0.047
-7	0.133**	0.425	-3	0.129**	0.094
-8	0.186**	2.50	-4	0.273**	0.200
-9	0.066	1.47	WL83-36-1	0.082	0.470
-10	0.054	2.28	-2	0.250**	5.00
-11	0.034	0.240	-3	0.040	2.75
WL83-34-1	0.399	0.052	-4	0.020	1.05
-2	0.016	0.120	-5	0.010	0.440
-3	0.024	0.112			

* Estimate

** Checked

ACCORDANCE WITH LONG-ESTABLISHED NORTH ERICAN CUSTOM, UNLESS IT IS SPECIFICALLY STATED ERWISE GOLD AND SILVER VALUES REPORTED ON SE SHEETS HAVE NOT BEEN ADJUSTED TO COMPEN- E FOR LOSSES AND GAINS INHERENT IN THE FIRE ASSAY PROCESS.

BELL-WHITE ANALYTICAL LABORATORIES LTD.

PER

BELL - WHITE ANALYTICAL LABORATORIES LTD.
P.O. BOX 187. HAILEYBURY, ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 34742

DATE: October 27, 1983

SAMPLE(S) OF: Core(10)

RECEIVED: October, 1983

SAMPLE(S) FROM: Mr. F. P. Tagliamonte, Flag Resources Ltd.

Sample No.	Oz. Gold	Sample No.	Oz. Gold
WL8329-1	Trace	WL8335-7	Trace
WL8330-1	Trace	WL8336-7	0.004
WL8331-1	0.002*	WL8338-1	Trace
WL8335-5	0.002*	WL8338-2	0.002*
WL8335-6	0.002*	WL8338-6	0.006

* Estimated.

BELL-WHITE ANALYTICAL LABORATORIES LTD.

BELL - WHITE ANALYTICAL LABORATORIES LTD.
P.O. BOX 187. HAILEYBURY. ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 38946

DATE: November 23, 1983

SAMPLE(S) OF: Core(9)

RECEIVED: November, 1983

SAMPLE(S) FROM: Mr. F. Tagliamonte, Flag Resources Ltd.

Sample No.	Oz. Gold	% Copper
WL 8341-1	0.006	0.070
2	0.016	1.80
3	0.032	1.38
4	0.119	1.95
5	0.042	4.40
6	0.006	0.280
7	0.010	0.195
8	0.058	1.80
9	0.046	0.420

ACCORDANCE WITH LONG-ESTABLISHED NORTH ERICAN CUSTOM, UNLESS IT IS SPECIFICALLY STATED HERWISE GOLD AND SILVER VALUES REPORTED ON ESE SHEETS HAVE NOT BEEN ADJUSTED TO COMPEN- TE FOR LOSSES AND GAINS INHERENT IN THE FIRE ASSAY PROCESS.

BELL-WHITE ANALYTICAL LABORATORIES LTD.

BELL - WHITE ANALYTICAL LABORATORIES LTD.
P.O. BOX 187, HAILEYBURY, ONTARIO TEL: 672-3107

Certificate of Analysis

NO. 40363

DATE: December , 198.

SAMPLE(S) OF: Core(5)

RECEIVED: December , 198.

SAMPLE(S) FROM: Mr. F. Tagliamonte, Flag Resources Ltd.

Sample No.	Oz. Gold	% Copper
WL-8341-10	0.420	0.1
WL-8341-11	0.056	0.14
WL-8341-12	0.123	0.28
WL-8342-1	0.002*	0.01
WL-8342-2	0.004	0.07

* Estimated.

BELL-WHITE ANALYTICAL LABORATORIES LTD.

DIAMOND DRILL RECORD

LOGGED BY F.P. Tagliamonte, P. Eng.

PROPERTY FLAG RESOURCES LTD. Wolf Lake Project Mackelcan twp. Ontario.

D.D.H. No. A83-13 PAGE 1

LATITUDE 11 + 14S BEARING OF HOLE AZ. 290° STARTED 4 July 1983

DEPARTURE 2 + 53E 15'± above DIP OF HOLE -47° COMPLETED 7 July 1983

ELEVATION Jess Lake. DIP TESTS 407' - 43° DEPTH 407' (124.05m)

CLAIM No. S 515304

DIRECTION AND DISTANCE FROM NE. CLAIM POST

CORE SIZE BXQ DIAMOND DRILL CONTRACTOR Les Forages Philippon Diamond Drilling Inc. Rouyn, Quebec.

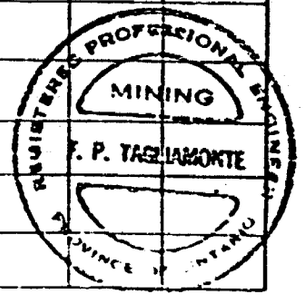
FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
0	3.05	CASING					
3.05	72.24±	QUARTZITE Pink Massive Bedded					
		Salmon pink generally massive granular arkosic quartzite.					
		Vaguely bedded @ 55°.					
		Occassional fragment of milk white quartz-carbonate with associated granular pyrite.					
		Multiple fractures @ low and high angles to core.					
		Random series of variable width.					
		Variations as noted.					
		3.05 - 7.62					
		25 Random patches of milk white quartz-carbonate and associated granular pyrite and minor black chlorite.					
		Random thin 1/8"± seams of granular pyrite generally @ 50°.					
		Some slips with seams and plattings of pyrite.					
		7.62 - 25.6 Random series of slips and occassional thin 1/8"± seam of granular pyrite.					
		9.1 20cm bed of pale green silty quartzite.					
		Limonitic slip contacts @ 48°.					
		16.6 4cm beige quartzite bed @ 60°.					
		Slip contacts.					
		31.08 -58.22 Conteminated pink quartzite.					
		Salmon pink granular arkosic background with black diffuse zones and seams - fine magnetite?					
		Disseminated flakes of kaolinite throughout.					
		Vaguely bedded @ 50°±.					
		33.53 20cm pale beige granular, pitted quartzite bed.					
		Bedding @ 55°.					

REGISTERED PROFESSIONAL ENGINEER MINING F. P. TAGLIAMONTE PROVINCE OF ONTARIO

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
3.05	72.24±	QUARTZITE Pink Massive Bedded cont'd					
		36.88 7cm beige granular bed quartzite @ 45°.					
		37.19 30cm pale dirty gray granular quartzite bed.					
		Slips and bedding @ 32°.					
		40.69 70cm pale green fine granular quartzite bed.					
		Bedding and slips @ 45°.					
		42.06 24cm fused pale green quartzite bed.					
		Bedding @ 40°.					
		44.04 12cm pale green finely bedded granular quartzite bed.					
		Bedding @ 40°.					
		45.57 10cm pale green finely bedded granular quartzite bed.					
		Bedding @ 45°.					
		46.33 20cm pale green granular pitted quartzite bed @ 40°.					
		48.77 24cm pale gray-green fine grained quartzite bed.					
		Slip contacts @ 40°.					
		52.42 7cm pale grey-green quartzite bed @ 55°.					
		54.86 81cm gray-green fine granular quartzite bed.					
		Series of slips @ 50°.					
		61.57 17cm beige fine granular quartzite bed.					
		Bedding and slips @ 50°.					
		65.53 20cm fine granular beige quartzite bed.					
		Bedding @ 45°.					
		70.4 2cm granular pyrite seam @ 20°.					
72.24	102.41	QUARTZITE Breccia Pink arkosic					
		Mineralized Zone					
		Salmon pink arkosic granular vaguely bedded quartzite. Random fragments of milk white quartz-carbonate, patchy angular granular pyrite clusters with black and pale green earthy chlorite, and random disseminated patches of granular pyrite.					
		3% milk white quartz-carbonate fragments.					
		2%+ random patchy granular pyrite.					
		1%± fragments of angular granular pyrite clusters with black and earthy green chlorite.					
		73.61 13cm fragment with angular clusters of granular pyrite. Cemented by massive black chlorite. Vuggy, decomposed.					
		Carbonate solution cavaties.					
		60% pyrite.					

REGISTERED PROFESSIONAL ENGINEER MINING F. P. FALLSCHEER PROVINCE OF ONTARIO

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
2.24	102.41	QUARTZITE Breccia Pink arkosic cont'd					
		Followed by:					
		35±cm zone of earthy, porous, kaolinitic quartzite.					
		75.74 5cm fragment of pale green earthy chlorite with minor angular clusters of granular pyrite.					
		76.20 16cm bed of pale green fine granular quartzite. Bedding @ 35°.					
		78.49 30cm pale beige fine granular quartzite bed @ 50°.					
		79.10 5cm fragment of milk white quartz and granular pyrite.					
		82.75 8cm irregular fragment as above.					
		Vuggy. Limonitic coated vugs.					
		83.06 50cm fragmented beige quartzite bed or fragment containing 4cm± angular fragments of granular pyrite and earthy pale green chlorite.					
		Random seams of pyrite and 1/8"± quartz-carbonate stringers.					
		83.82±-102.41 Random irregular patches of granular pyrite, some associated with milk white quartz-carbonate fragments, distributed throughout.					
		5%± pyrite.					
		3%± quartz-carbonate.					
		Slip fractures throughout - most with limonitic staining.					
		Principal fractures from 45-50°.					
		Minor chlorite in some quartz-carbonate.					
		Solution cavaties (Vugs) in most of the quartz-carbonate fragments.					
2.41	106.07	QUARTZITE Pink Massive					
		Salmon pink granular arkosic quartzite.					
		Disseminated kaolinitic spots throughout.					
		Vaguely bedded @ 60°.					
		104.24 45cm pale beige fine bedded fine granular quartzite bed.					
		Bedding @ 40°.					
6.07	124.05	QUARTZITE Lorrain?					
		Alternating bands of pale pink, and pinkish gray granular quartzite.					
		Local bedding features suggest 55°± bedding.					



FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
106.07	124.05	QUARTZITE Lorrain? cont'd					
		106.07-109.9 Liberally disseminated kaolinitic flakes in pale pink granular quartzite.					
		Local bands of weakly hematitic alteration.					
	124.05	END OF HOLE					
	(407')	Casing in hole.					

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE NO.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY Au					ft.
		SAMPLING AND ASSAYING										
			A8313-1	3.05	5.79	2.74	.004					9.0
			-2		8.84	3.05	.002					10.0
			-3	69.95	72.85	2.90	.002					9.5
			-4		74.07	1.22	.014					4.0
			-5		76.96	2.89	.004					9.5
			-6		80.01	3.05	.002					10.0
			-7		82.91	2.99	.030					9.5
			-8		85.80	2.89	.131					9.5
			-9		88.70	2.90	.034					9.5
			-10		91.59	2.89	.108					9.5
			-11		94.49	2.99	.074					9.5
			-12		97.38	2.89	.034					9.5
			-13		100.28	2.90	.054					9.5
			-14		103.17	2.89	.008					9.5
			-15		106.07	2.90	.006					9.5

900

OM 82-8-JV-188

THIS SUBMITTAL CONSISTED OF VARIOUS REPORTS, SOME OF WHICH HAVE BEEN CULLED FROM THIS FILE. THE CULLED MATERIAL HAD BEEN PREVIOUSLY SUBMITTED UNDER THE FOLLOWING RECORD SERIES (THE DOCUMENTS CAN BE VIEWED IN THESE SERIES):

THESE REPORTS HAVE BEEN PREVIOUSLY SUBMITTED:

1. DRILL HOLES: A83-5 TO A83-11, WL83-1 TO WL83-12, WL83-16, WL83-18, WL83-20, WL83-23, WL83-24, WL83-25, WL83-28 → SEE: DDR 13, MACKELCAN TWP MACKELCAN 0020

2. DRILL HOLES: A83-2, A83-3, A83-16, A83-19, A83-21, A83-22, A83-23, A83-24, A81-83-9, WL83-13, WL83-15, WL83-17, WL83-19, WL83-21, WL83-22, WL83-26, WL83-27, WL83-29, WL83-32 TO WL83-35, WL83-38 → SEE: DDR 14, MACKELCAN TWP. MACKELCAN 0021

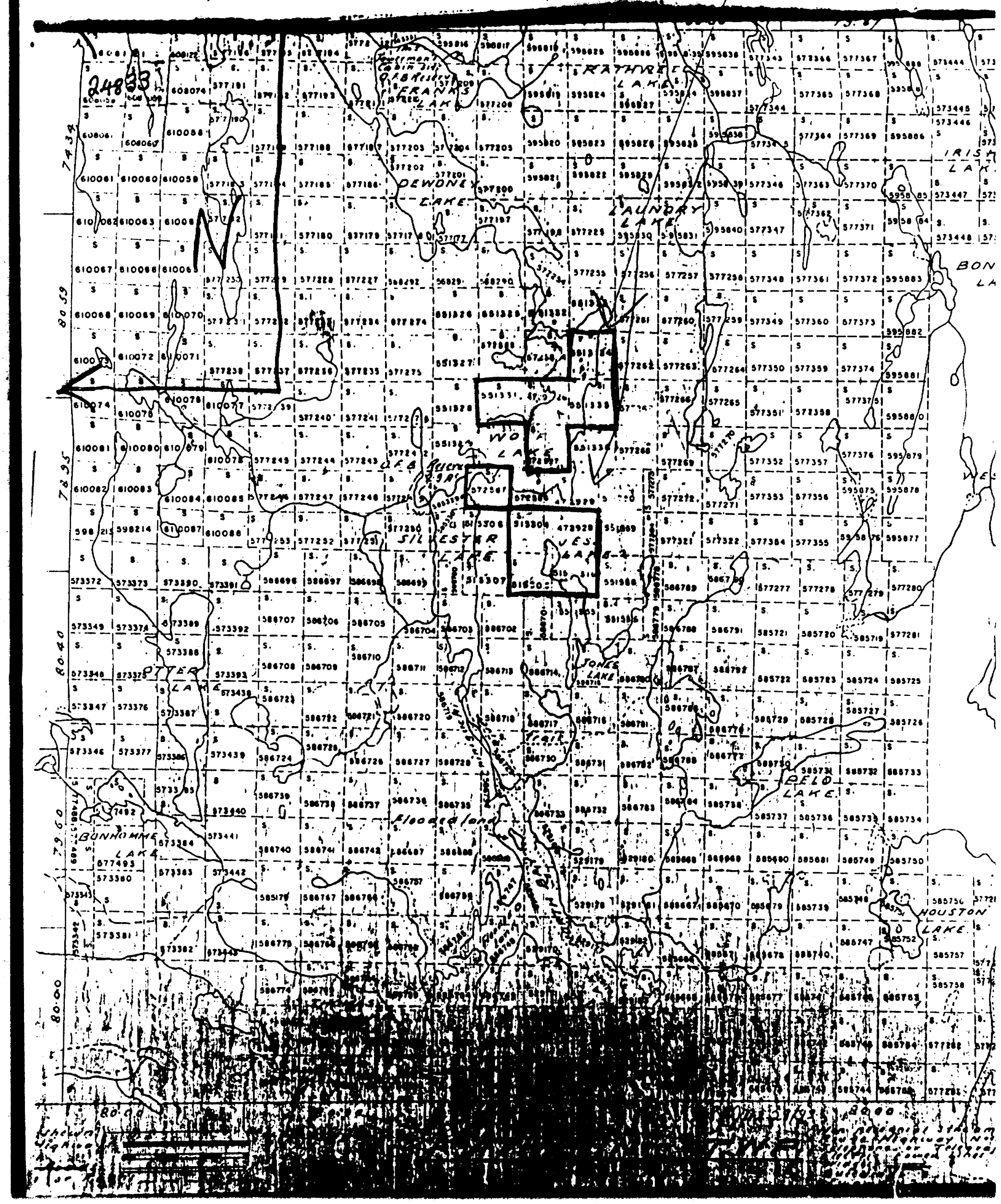
OM 88-8-JV-188

THIS SUBMITTAL CONSISTED OF VARIOUS REPORTS, SOME OF WHICH HAVE BEEN CULLED FROM THIS FILE. THE CULLED MATERIAL HAD BEEN PREVIOUSLY SUBMITTED UNDER THE FOLLOWING RECORD SERIES (THE DOCUMENTS CAN BE VIEWED IN THESE SERIES):

3 DRILL HOLES: A83-13, A83-14, A83-15, A83-16, WL83-30, WL83-31, WL83-36, WL83-37 → SEE: DDR 15, MACKELCAN TWP. MACKELCAN 0023

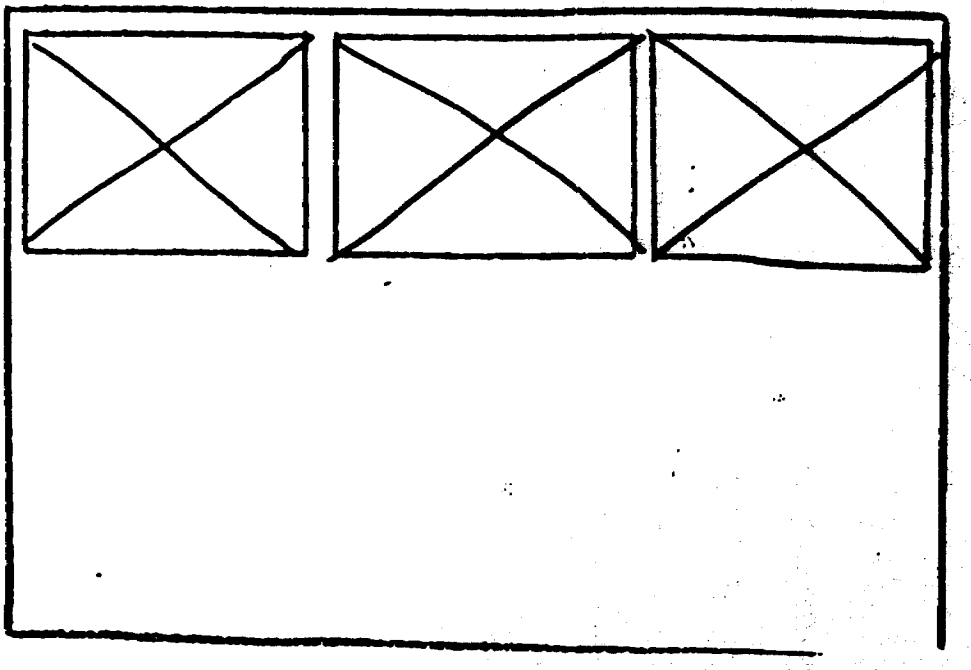
MACKELCAN TWP.

OM 82-8-JV-188



SEE ACCOMPANYING MAP(S) IDENTIFIED AS MACKELCAN-0024, #1-3

LOCATED IN THE MAP CHANNEL IN THE FOLLOWING SEQUENCE (X)



FOR ADDITIONAL INFORMATION SEE MAPS:

MACKELCON-0024 FIG 4-12

MACKELCAN-0024, #3

ONTARIO

MINISTRY OF NATURAL RESOURCES

SURVEYS AND MAPPING BRANCH

PLAN OF MACKELCAN

M.840

FLAG RESOURCES LIMITED

Wolf Lake Joint Venture
Mackelcan & Rathbun Townships Properties
Sudbury Area
Ontario

CLAIM PLAN

SCALE: 1"=2640'
DATE: January 1984

FPT

FIGURE NO 3

SUDBURY MINING DIVISION.
DISTRICT OF SUDBURY.

Scale 40 chains to an inch.

NOTE
100' Surface Rights Reservation
around all Lakes and Rivers.

McCONNELL T'WP.

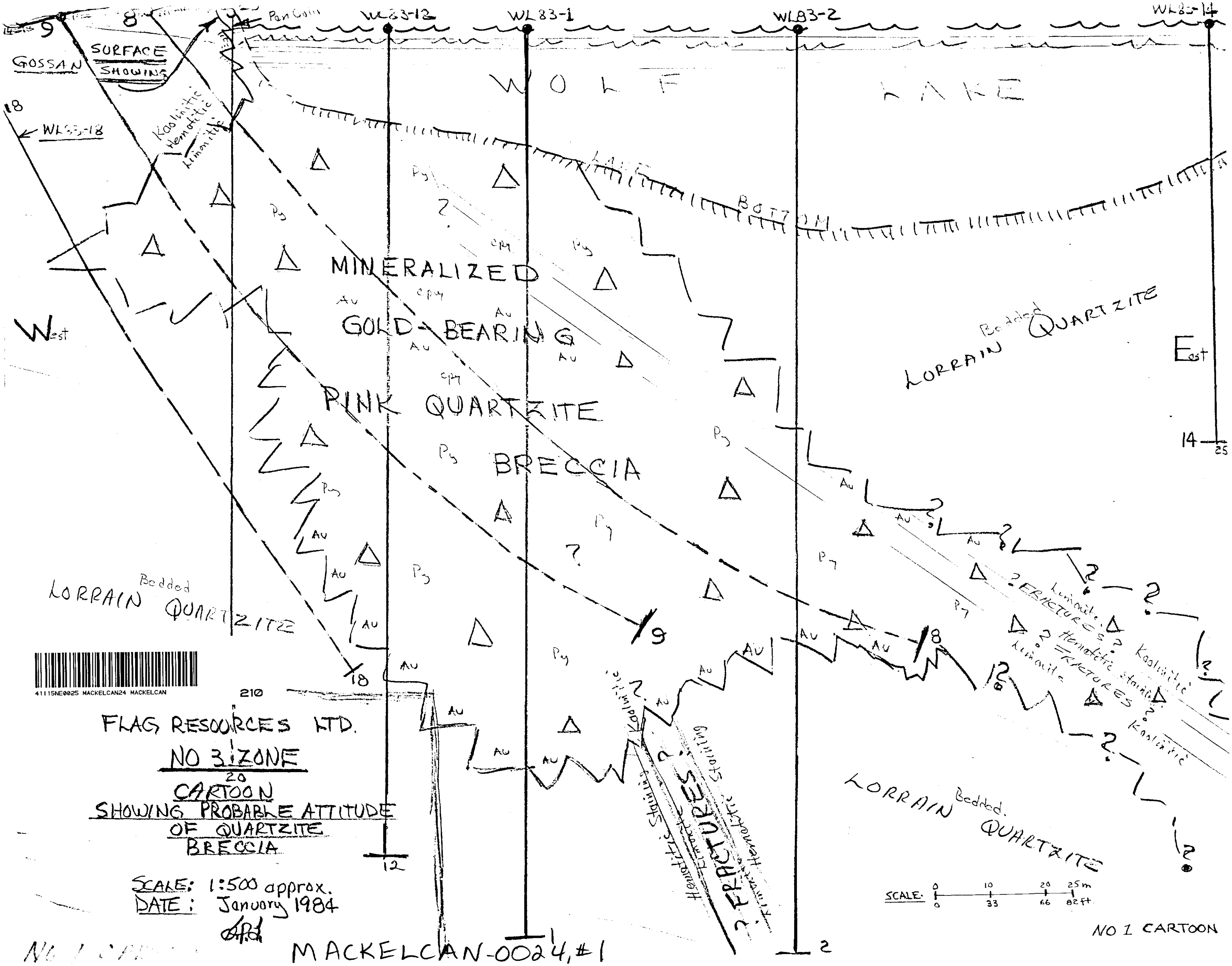
AYLMER T'WP.

MATTAGAMI T'WP.

72.04 80.63 78.70 80.36 79.87 80.20 5.10

74.34 80.59 78.95 80.40 79.60 80.00 80.12

RATHBURN LAKE
IRISH LAKE
LAUNDRY LAKE
BONE SETTER LAKE
BIGWIN LAKE
DEWONEY LAKE
WOLF LAKE
FRANKS LAKE
SILVESTAR LAKE
WESSEL LAKE
JONES LAKE
OTTER LAKE
BONHOMME LAKE
DELO LAKE
HOUSTON LAKE
MATAGAMI LAKE
Flooded Land
Trail
O.F.B. Reserve
FLAG RESOURCES CLAIM GROUP LIMITED
L.D. 6948
L.O. 6950
L.O. 6951
L.O. 6949
L.O. 6952


WL83-12
WL83-1
WL83-2
WL83-14
Pan Coin
9
8
18
GOSSAN
SURFACE SHOWING
WL83-18
Kaolinitic Hematitic Limonitic
WOLF LAKE
LAKE BOTTOM
MINERALIZED GOLD-BEARING PINK QUARTZITE BRECCIA
West
East
LORRAIN Bedded QUARTZITE
LORRAIN Bedded QUARTZITE
LORRAIN Bedded. QUARTZITE
Py
cpy
Au
?
14
25
12
1
2
Hematitic Staining
Limonitic
? FRACTURES ?
Hematitic Staining
Kaolinitic
? FRACTURES ?
Limonitic
Hematitic staining
Kaolinitic
SCALE 0 10 20 25m
0 33 66 82ft

FLAG RESOURCES LTD.

NO 3 ZONE

CARTOON

SHOWING PROBABLE ATTITUDE OF QUARTZITE BRECCIA

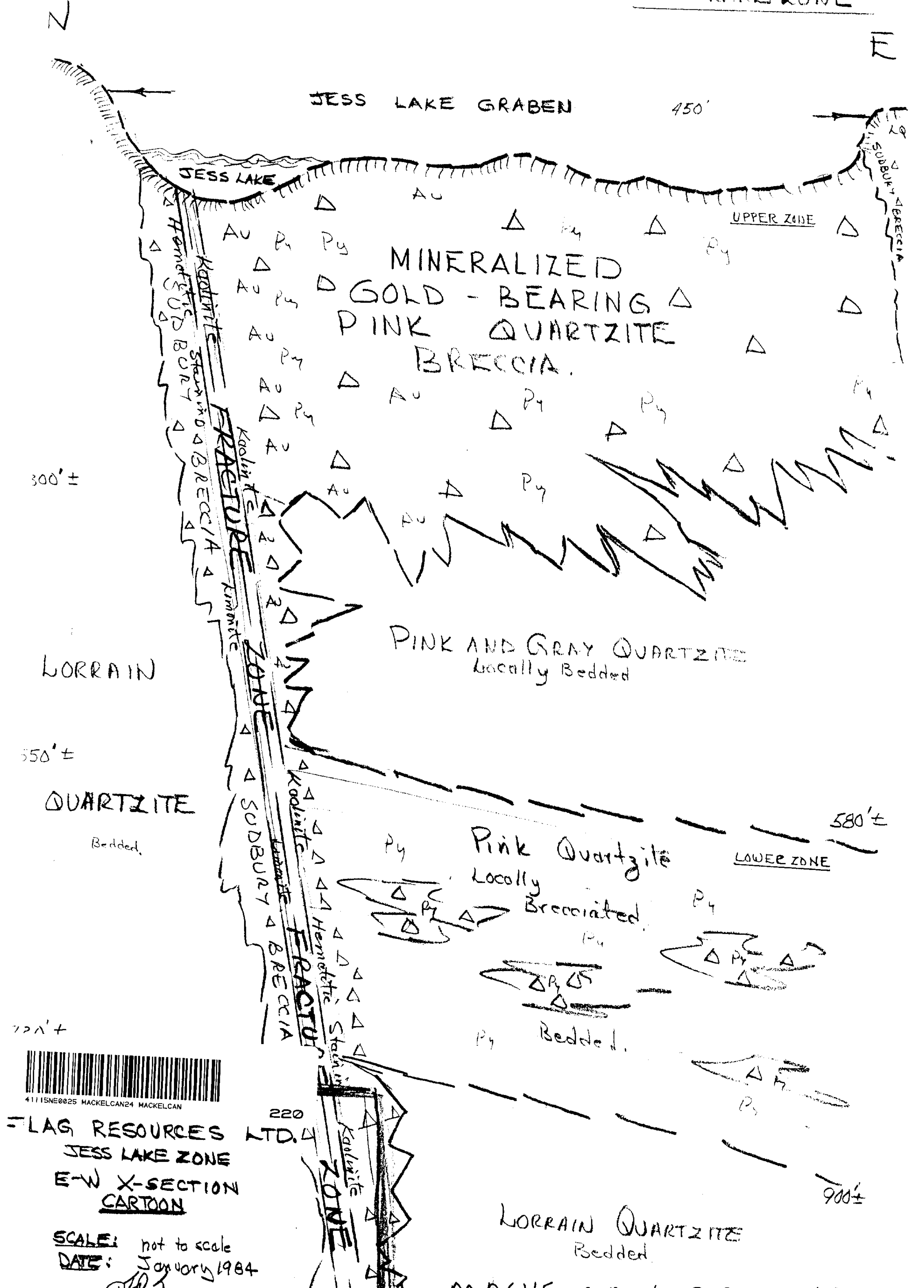
SCALE: 1:500 approx.

DATE: January 1984

NO 1 CARTOON

MACKELCAN-0024,#1

IDEALIZED X-SECTION JESS LAKE ZONE



MACKELCAN-0024, #2

NO 2 CARTOON

Joins 41-1/16

50'

Dewdney Lake

McCONNELL TP
MACKELCAN TP

SHEPPARD TP
McCARTHY TP

FLAG RESOURCES LIMITED CLAIM GROUP

Wolf Lake

Jess Lake

Jones Lake

MACKELCAN TP
RATHBUN TP

McCARTHY TP
KELLY TP

Matagamasi Lake

Kukagami Lake

Lake Wanapitei

35'

46°45
80°30'

41I15NE0025 MACKELCAN24 MACKELCAN

230

Communities within cities and towns are named in red.

Some names on this map are not yet official. Corrections or additions are invited by the Surveys and Mapping Branch

CONTOUR INTERVAL 50 FEET
Elevations in Feet above Mean Sea Level
North American Datum 1927
Transverse Mercator Projection

Les communautés à l'intérieur des cités et villes sont désignées en rouge.

Certains noms inscrits sur cette carte ne sont pas encore officiels. La Direction des levés et de la cartographie saurait gré au public de lui signaler corrections et additions.

ÉQUIDISTANCE DES COURBES 50 PIEDS
Élévations en pieds au-dessus du niveau moyen de la mer
Système de référence géodésique nord-américain, 1927
Projection transverse de Mercator

3 Miles
4000 Mètres

FLAG RESOURCES LIMITED

Wolf Lake Joint Venture
Mackelcan & Rathbun Townships Properties
Sudbury Area
Ontario

TOPOGRAPHIC PLAN

SCALE: 1" + 50,000
DATE: January 1984
FPT

Part of Topographic Map 41-1/15, MILNET

MACKELCAN-0024,#4

FIGURE NO 4

McCONNELL TP.

Rathwell Lake

Franks L.

Dewdney Lake

Laundry Lake

LAUNDRY LAKE FAULT

FLAG RESOURCES LIMITED - EAST BOUNDARY - Mackelcan Township

Chiniguchi

Silvester Lake

Wolf Lake

Jones Lake

gossan

NO2 ZONE

NO3 ZONE

NO1 ZONE

SHAFT AZONE

CAISSON Z

LAKE STRUCTURE

SW STRUCTURE

JASP LAKE ZONE

JONES LAKE ZONE

QUESS

Bx

5-795288

240

41115NE0025 MACKELCAN24 MACKELCAN

Part of Ontario Geological Survey Preliminary Map P.2227

LEGEND

PHANEROZOIC
CENOZOIC
QUATERNARY
PLEISTOCENE AND RECENT

5 — 5 Gravel, sand, silt, swamps

UNCONFORMITY

PRECAMBRIAN
LATE PRECAMBRIAN
MAFIC INTRUSIVE ROCKS

4 — 4 Olivine diabase

INTRUSIVE CONTACT

MIDDLE PRECAMBRIAN
MAFIC INTRUSIVE ROCKS
Nipissing Type Gabbro

3 — 3 Medium-grained gabbro

INTRUSIVE CONTACT

HURONIAN SUPERGROUP
COBALT GROUP
Lorrain Formation

2 — 2a Arkose
2b Quartz arenite

Gowganda Formation

1 — 1a Feldspathic wacke, mudstones
1b Laminated wacke
1c Orthoconglomerate
1d Quartz arenite, arkose

SYMBOLS

- Glacial striae.
- Small rock outcrop.
- Boundary of outcrop area.
- Geological boundary (defined; assumed).
- Contact of Pleistocene and Recent rocks.
- Bedding (inclined, horizontal).
- Fault (defined, assumed).
- Lineament.
- Syncline, anticline.
- Breccia.
- Pseudotachylite.
- qv — Quartz vein.

PINK QUARTZITE
bedded
massive
brecciated

SUDBURY BRECCIA

Lineaments
topographic
projected

FLAG RESOURCES LIMITED

Wolf Lake Joint Venture
Mackelcan & Rathbun Townships Properties
Sudbury Area
Ontario

LOCAL GEOLOGY MAP

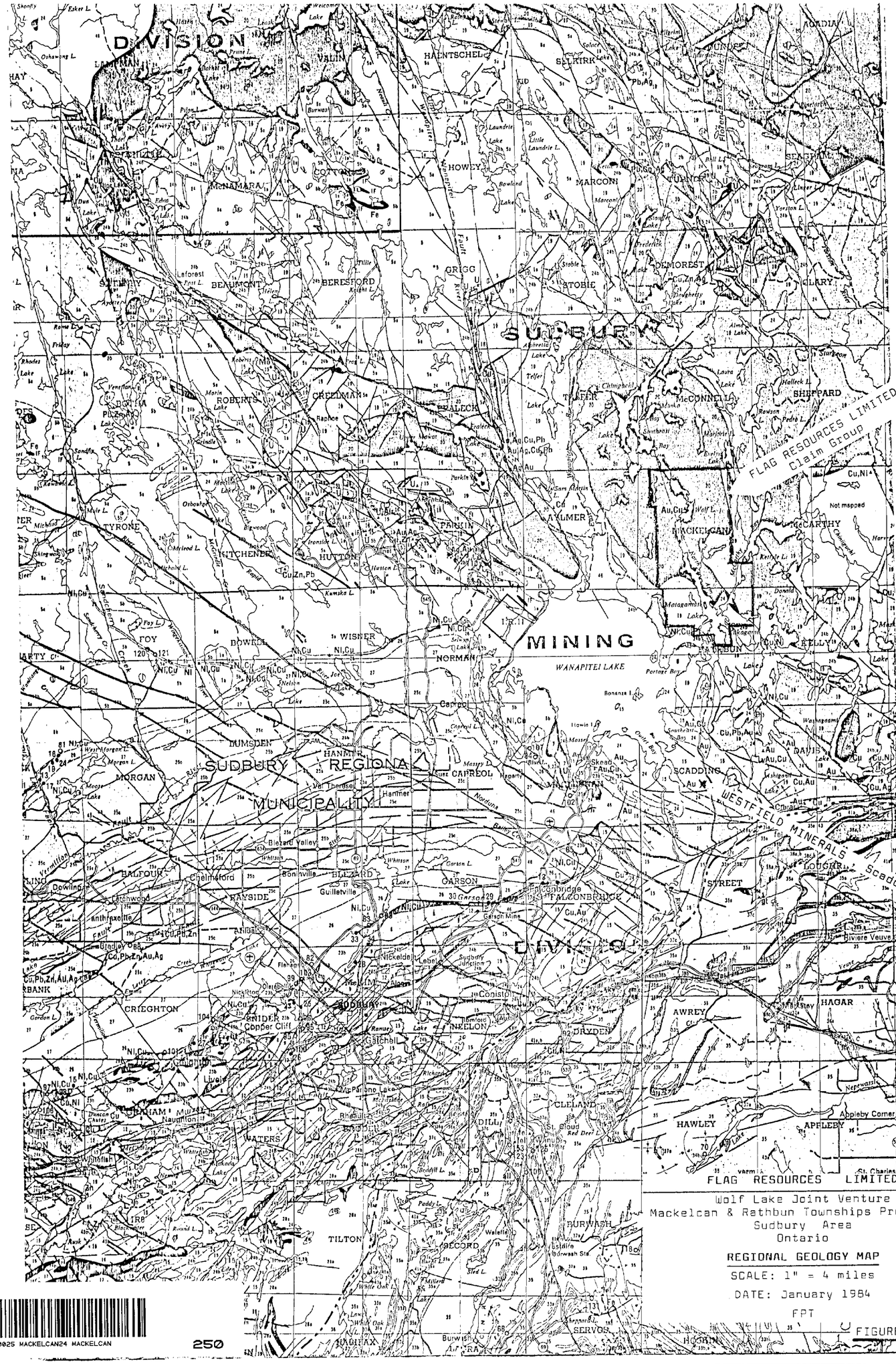
SCALE: 1" = 1320'
DATE: January 1984

FPT

FIGURE NO 5

MACKELCAN-0024, #5

Legend for FIGURE NO 5



Wolf Lake Joint Venture
Mackelcan & Rathbun Townships Properties
Sudbury Area
Ontario

REGIONAL GEOLOGY MAP

SCALE: 1" = 4 miles

DATE: January 1984

FPT

FIGURE NO 6

LEGEND

PHANEROZOIC

CENOZOIC*

QUATERNARY

PLEISTOCENE AND RECENT

Q — 48 Sand, gravel, clay, boulder till, swamp deposits.

UNCONFORMITY

PALEOZOIC

ORDOVICIAN-SILURIAN

OS — 45 Limestone, dolostone, shale, sandstone, conglomerate.

CAMBRIAN

ALKALIC ROCK-CARBONATITE COMPLEXES

46 — 46 Carbonatite, nepheline and alkalic syenites, associated mafic and ultramafic rocks, lamprophyre dikes, and fenite.

UNCONFORMITY, INTRUSIVE CONTACT

SUPERIOR, SOUTHERN AND GRENVILLE PROVINCES

PRECAMBRIAN

LATE PRECAMBRIAN

MAFIC INTRUSIVE ROCKS[a]

43 — 43 Undubdivided.
43a Diabase, quartz diabase dikes.
43b Olivine diabase dikes.
43c Gabbro, norite, pyroxenite, peridotite stocks.
43d Partly serpentinized peridotite and minor olivine gabbro stocks.

ALKALIC ROCK-CARBONATITE COMPLEXES[a]

42 — 42a Carbonatite
42b Nepheline and alkalic syenites and associated mafic and ultramafic rocks.
42c Fenite.

INTRUSIVE CONTACT

GRENVILLE PROVINCE

HIGH RANK REGIONAL METAMORPHISM

METAMORPHOSED MAFIC INTRUSIVE ROCKS

41 — 41 Undubdivided.
41a Metamorphosed diabase and gabbro.
41b Metamorphosed ultramafic rocks.

METAMORPHOSED ALKALIC INTRUSIVE ROCKS

40 — 40a Gneissic alkalic syenite.
40b Gneissic nepheline syenite.

FELSIC INTRUSIVE ROCKS

39 — 39 Quartz monzonite, minor granodiorite and derived gneisses.

ANORTHOSITE SUITE INTRUSIVE ROCKS[a]

38 — 38a Anorthosite, gabbroic anorthosite and derived gneisses.
38b Gabbro, anorthosite, anorthositic gabbro, minor gabbro, diorite, and ultramafic rocks and derived gneisses.
38c Tonalite, diorite, and derived gneisses.
38d Pink and green monzonitic rocks, sodic and alkalic syenites, quartz syenite, minor quartz monzonite, and derived gneisses.
38e Quartz monzonite, minor quartz syenite, and derived gneisses

MIDDLE AND LATE PRECAMBRIAN

MAFIC AND ULTRAMAFIC INTRUSIVE ROCKS[a]

37 — 37 Undubdivided.
37a Gneissic gabbro, diorite, and amphibolite.
37b Metamorphosed ultramafic intrusive rocks.
37c Gneissic metagabbro—probably equivalent to Nipissing Diabase of the Southern Province.

MIDDLE PRECAMBRIAN

FELSIC INTRUSIVE ROCKS[a]

36 — 36 Undubdivided, in part gneissic equivalent of unit 39.
36a Gneissic quartz monzonite and minor granodiorites and granite.
36b Gneissic trondhjemite and granodiorite.

INTRUSIVE CONTACT

METASEDIMENTS[a]

35 — 35 Biotite gneiss derived from greywacke, siltstone, immature sandstone and minor calcareous siltstone and sandstone.
35a Biotite gneiss containing numerous thin beds of feldspathic gneiss (22b), muscovitic and quartzose gneiss (23a) and beds and dikes of gneissic gabbro (37c).

34 — 34a Calcitic and dolomitic marble with minor interlayered calc-silicate gneiss.
34b Calc-silicate gneiss derived from calcareous sandstone and siltstone.

33 — 33 Undubdivided quartz-feldspathic gneiss.
33a Muscovitic and quartzose gneiss derived from orthoquartzite, subarkose, and aluminous claystone.
33b Feldspathic gneiss derived from arkose, subarkose, and ferruginous arkose with minor interlayered calc-silicate gneiss (34b) and immature metasediments.

32 — 32 Gneissic coarse clastic metasediments derived from possibly to boulder-coarse grained greywacke, immature sandstone, arkose, and minor conglomerate.

EARLY PRECAMBRIAN

FELSIC INTRUSIVE ROCKS

31 — 31a Gneissic quartz monzonite and minor gneissic granodiorite.
31b Gneissic trondhjemite, granodiorite, and minor quartz monzonite.

METASEDIMENTS

30 — 30 Gneissic equivalent of unit 2.

FAULT CONTACT

SUPERIOR AND SOUTHERN PROVINCES

MIDDLE PRECAMBRIAN

LATE MAFIC INTRUSIVE ROCKS

29 — 29 Undubdivided.
29a Metagabbro, trap, lamprophyre.
29b Peridotite, pyroxenite, and amphibolite with minor diabase and lamprophyre.

LATE FELSIC INTRUSIVE ROCKS[a]

28 — 28 Undubdivided.
28a Quartz monzonite with minor granite, granodiorite and trondhjemite.
28b Trondhjemite, granodiorite, and quartz diorite with minor diorite and gabbro.

INTRUSIVE CONTACT

SUDBURY NICKEL IRRUPTIVE

27 — 27 Granophyre.

26 — 26 Felsic gabbro, quartz norite, quartz gabbro and transition, subacid, and felsic rocks.

INTRUSIVE CONTACT

WHITEWATER GROUP

CHELMSFORD FORMATION

25a — 25a Greywacke, minor siltstone.

ONWATIN FORMATION

25b — 25b Carbonaceous slate.

ONAPING FORMATION

25c — 25c Lapilli tuff, breccia, felsic flows and intrusions, and minor carbonate and cherty rocks.

NIPISSING DIABASE

24 — 24 Undubdivided.
24a Pyroxene gabbro, minor pyroxenite.
24b Hornblende gabbro, metagabbro, amphibolite.
24c Granophyre.

FELSIC INTRUSIVE ROCKS

23 — 23a Albite granite, syenite, and granophyre.
23b Porphyritic quartz monzonite and granite.

INTRUSIVE CONTACT

HURONIAN SUPERGROUP[a]

COBALT GROUP

BAR RIVER FORMATION

22 — 22 Quartz sandstone, ferruginous siltstone, and sandstone

GORDON LAKE FORMATION

21 — 21 Siltstone, argillite, sandstone.

LORRAIN FORMATION

20 — 20 Quartz sandstone, micaceous and aluminous quartz sandstone, quartz-feldspar sandstone, and minor conglomerate, and siltstone

GOWGANDA FORMATION

19 — 19 Conglomerate, sandstone, siltstone, and argillite.

QUIRKE LAKE GROUP

SERPENT FORMATION

18 — 18 Quartz-feldspar sandstone with minor siltstone, calcareous siltstone, and conglomerate.

ESPANOLA FORMATION

17 — 17 Limestone, dolostone, siltstone, and sandstone.

BRUCE FORMATION

16 — 16 Conglomerate with minor sandstone and siltstone.

HOUGH LAKE GROUP

MISSISSAGI FORMATION

15 — 15 Quartz-feldspar sandstone with minor siltstone, argillite, and conglomerate.

PECORS FORMATION

14 — 14 Siltstone, argillite, and greywacke with minor quartz-feldspar sandstone.

RAMSAY LAKE FORMATION

13 — 13 Conglomerate with minor sandstone and siltstone.

ELLIOT LAKE GROUP

MCKIM FORMATION

12 — 12 Siltstone, greywacke, and argillite with minor quartz-feldspar sandstone.

MATINENDA FORMATION

11 — 11 Quartz-feldspar sandstone with minor conglomerate and siltstone.

VOLCANIC ROCKS[f]

SAUMAT LAKE FORMATION

10 — 10 Mafic metavolcanics with minor intermediate and felsic metavolcanics, mafic intrusions and interrelated metasediments.

COPPER CLIFF FORMATION

9 — 9 Felsic to intermediate metavolcanics with minor intercalated metasediments and felsic pyroclastics.

STOBIE FORMATION

8 — 8 Mafic metavolcanics and intrusions with abundant intercalated metasediments including greywacke, siltstone, pyrrotite metasediments and quartz-feldspar sandstone.

FELSIC MOUNT LYELL FORMATION

7 — 7 Mafic metavolcanics and intrusions with minor intercalated metasediments and felsic pyroclastics and felsic intrusions.

MAFIC INTRUSIVE ROCKS

6 — 6 Undubdivided.
6a Gabbro, anorthositic gabbro, gabbroic anorthosite and metamorphosed equivalents.
6b Metagabbro and porphyritic metagabbro. [f]

UNCONFORMITY, INTRUSIVE CONTACT

EARLY PRECAMBRIAN

FELSIC INTRUSIVE AND METAMORPHIC ROCKS

5 — 5 Undubdivided granitic and migmatitic rocks.
5a Quartz monzonite, granite, granodiorite, trondhjemite, syenite and minor pegmatite and aplite.
5b Predominantly migmatitic metasediments and metasedimentary rocks.
5c Trondhjemite, granodiorite, and minor quartz monzonite and quartz diorite.
5d Felsite, quartz and feldspar porphyry, trondhjemite, granodiorite.

INTRUSIVE CONTACT

MAFIC AND ULTRAMAFIC INTRUSIVE ROCKS

4 — 4 Undubdivided.
4a Quartz diorite, diorite, gabbro.
4b Peridotite, pyroxenite, dunite, serpentinite.
4c Lamprophyre, carbonatite dikes and intrusive breccias.

INTRUSIVE CONTACT

METASEDIMENTS

3 — 3 Greywacke, siltstone, chert, and arkose with minor metavolcanic rocks, and derived migmatites.

METAVOLCANICS

FELSIC TO INTERMEDIATE METAVOLCANICS

2 — 2 Undubdivided.
2a Rhyolite, dacite flows with minor felsic intrusions and felsic pyroclastics.
2b Felsic to intermediate tuff, breccia, lapilli tuff, and agglomerate with minor flows, metasediments and intrusive rocks, and derived migmatites.

MAFIC TO INTERMEDIATE METAVOLCANICS

1 — 1 Undubdivided.
1a Basalt and andesite flows with minor mafic pyroclastics and mafic intrusions.
1b Interflow metasediments and mafic pyroclastics.

U — U Iron formation and ferruginous chert (associated with units 2, 22, 33, 34, 35)

*Only the thickest, most extensive Cenozoic deposits in which bedrock outcrops are absent or scarce are shown as coded, uncoloured areas.

[a]Some may be of Phanerozoic age.

[b]Multiple ages represented. Minor amounts of anorthosite suite rocks occur in the Southern Province.

[c]Some of these rocks near the Grenville front boundary fault in Rutherford, Killarney, Carlyle, Coucher, Sale, and Raven Townships are of Late Precambrian age.

[d]Probably approximately equivalent in age to the Huronian Supergroup.

[e]Probably equivalent in age to Nipissing Diabase.

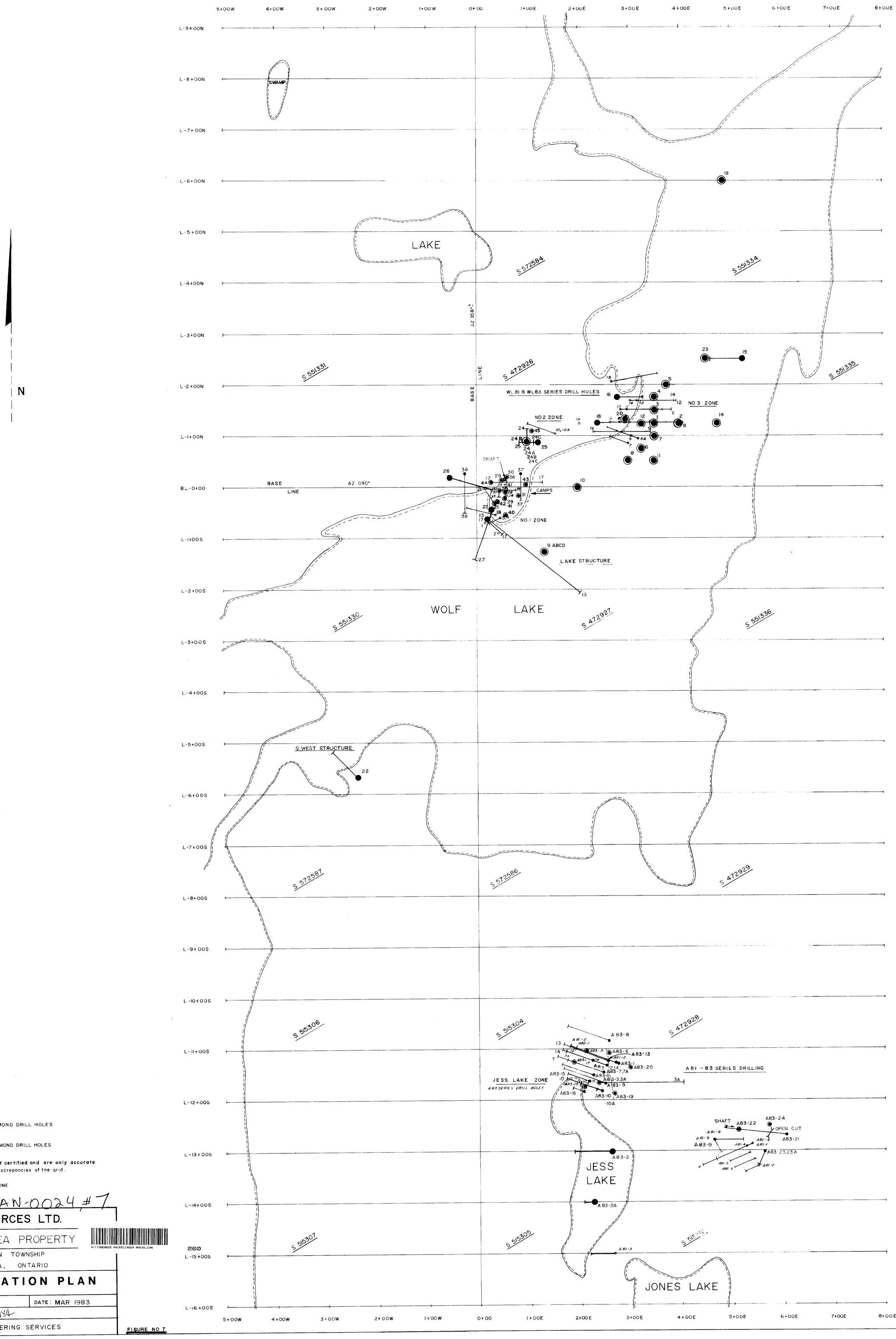
[f]Creighton and Murray plutons.

[g]The Huronian rocks are weakly to moderately metamorphosed, but as original lithological characteristics are generally well preserved, sedimentary rock designations are used.

[h]The volcanic formations are time stratigraphically equivalent to parts of the Matinenda and McKim formations and in part to each other.

[i]Too small to be shown at map scale.

Legend for FIGURE NO 6



LEGEND

- VERTICAL HOLE
- ANGLE HOLE
- 1983 SERIES DIAMOND DRILL HOLES
- 1981 SERIES DIAMOND DRILL HOLES

NOTE: Exact locations are not certified and are only accurate within the inherent discrepancies of the grid.

CLAIM CORNER AND LINE

MACKELCAN-0024 #7

FLAG RESOURCES LTD.

WOLF LAKE AREA PROPERTY

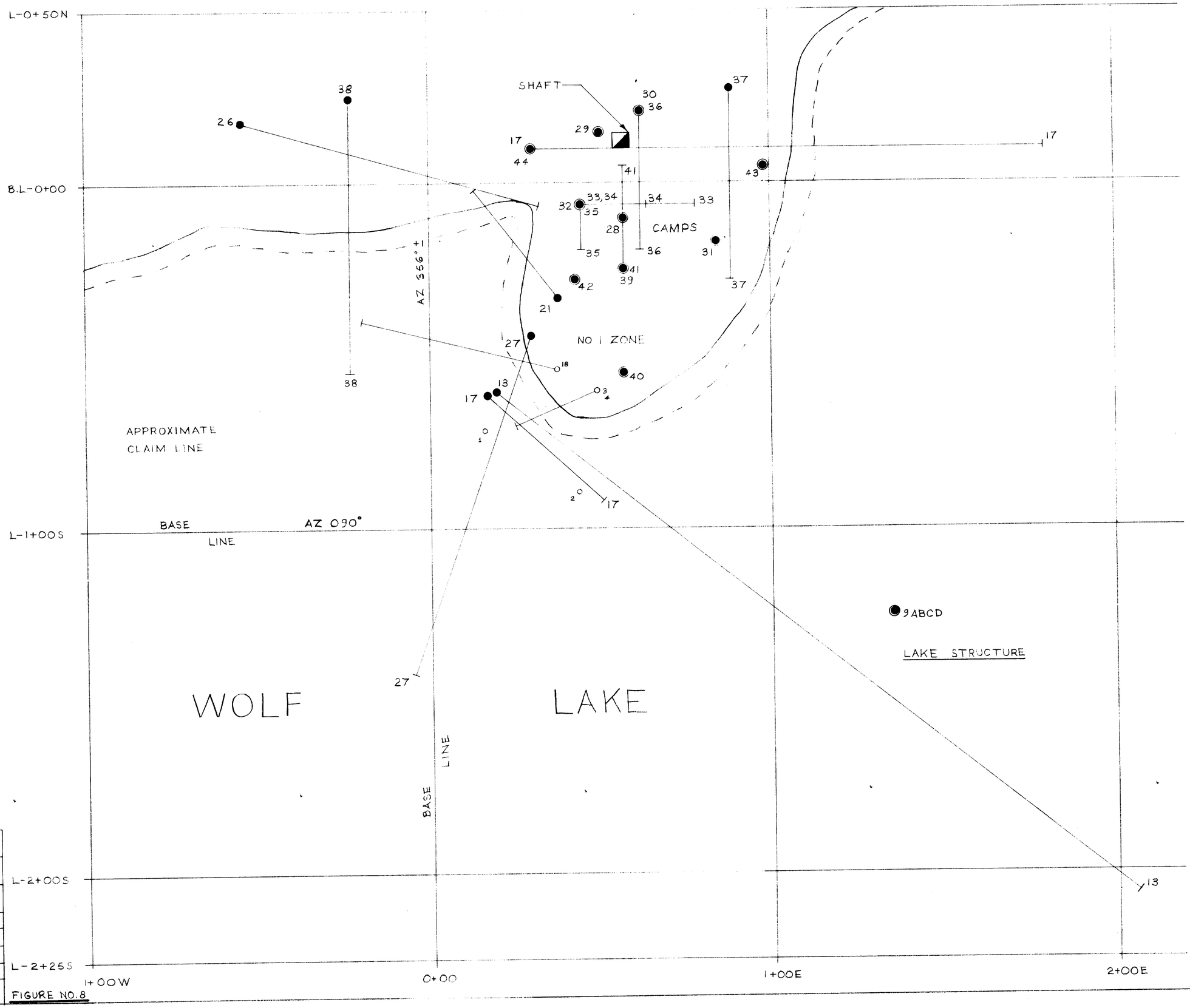
MACKELCAN TOWNSHIP

SUDBURY AREA, ONTARIO

DDH LOCATION PLAN

SCALE: 1/2500	DATE: MAR 1983
REVISIONS: Jan 1984	
GEOLOGICAL ENGINEERING SERVICES	

FIGURE NO 7



270

LEGEND

- ANGLE HOLE - 1983
- VERTICAL HOLE - 1983
- ANGLE HOLE - 1981
- VERTICAL HOLE - 1981

MACKELCAN-0024, #8

FLAG RESOURCES LTD.
WOLF LAKE AREA PROPERTY
MACKELCAN TOWNSHIP SUDBURY AREA, ONTARIO
DDH LOCATION PLAN
WOLF LAKE
SCALE: 1/500 | DATE: JAN. 17/84
REVISIONS: Jan 1984
GEOLOGICAL ENGINEERING SERVICES

FIGURE NO. 8

SCALE
0 10 20 30 40 50 meters
0 32.8 65.6 98.4 131.2 164 FEET

JESS LAKE DRILL AREA
A83 Series Drill Holes

FLAG RESOURCES LTD.

Jess Lake Project
Mackelcan Township - Sudbury Area
Ontario

DIAMOND DRILL HOLE PLAN
(preliminary)

SCALE: 1:500

DATE: June 1983

FPT

Revised January 1984

FIGURE NO 9

MACKELCAN-0024, #9

JESS LAKE

DDH LEGEND

vertical drill holes

A81-2 Discovery Hole
A83-1

Approximate claim line

Tie Line

2+50E
3+00E
2400E
11+00S
11+25S
11+50S
11+75S
12+00S (actual)
12+00S

Precise location of drill holes subject to grid discrepancies and compass tolerances.

REVISED:

FIGURE NO 9

GEOLOGICAL ENGINEERING SERVICES
29 BEAVER CRESCENT
NORTH BAY, ONTARIO P1A 3N1

MACKELCAN-0024, #10

FLAG RESOURCES LIMITED

Wolf Lake Joint Venture
Mackelcan & Rathbun Townships Properties
Sudbury Area
Ontario

DIAMOND DRILL HOLE LOCATION PLAN

Jess and Jones Lakes

SCALE: 1:2500m

DATE: January 1984

FPT

FIGURE NO 10

JESS LAKE DRILL AREA · 1983

A81-2 -45° Az 290° 138.7m (455') Discovery Drill Hole

A83-1 -60° Az 280° 135.48m (444.5')

A83-3 -90° 279.5 (917') A83-3A - 50° Az 090° 243.83m (799')

(Drill hole locations Approximate only)

A81-8 -50° Az 90° 90.8m (298')

S 515304

S 515305

S 472928

S 515316

A83-2 -50° Az 270° 114.91 (377')

A81-9 -80° Az 145° 118.5m (398')

A83-9 867

A81-1 -50° Az 248° ± 107.3m (352')

A81-4 -50° Az 248° ± 170.3 m (559')

DDH# A83-21 -60° Az 275° 244.14 m (801')

A81-5 -60° Az 248° 71.6m (235')

A81-6 -50° Az 248° ± 69.5 m (228')

A81-7 -60° Az 248° ± 57.6 m (189')

SHAFT

OPEN CUT

JESS LAKE

A83-2A ± 50° (Abandoned)

A81-3 -60° Az 270° ± 98.4m 323'

JONES LAKE

DDH LEGEND

1983 Drill Holes

1983 Vertical Drill Holes

L-12+00S

L-13+00S

L-14+00S

L-15+00S

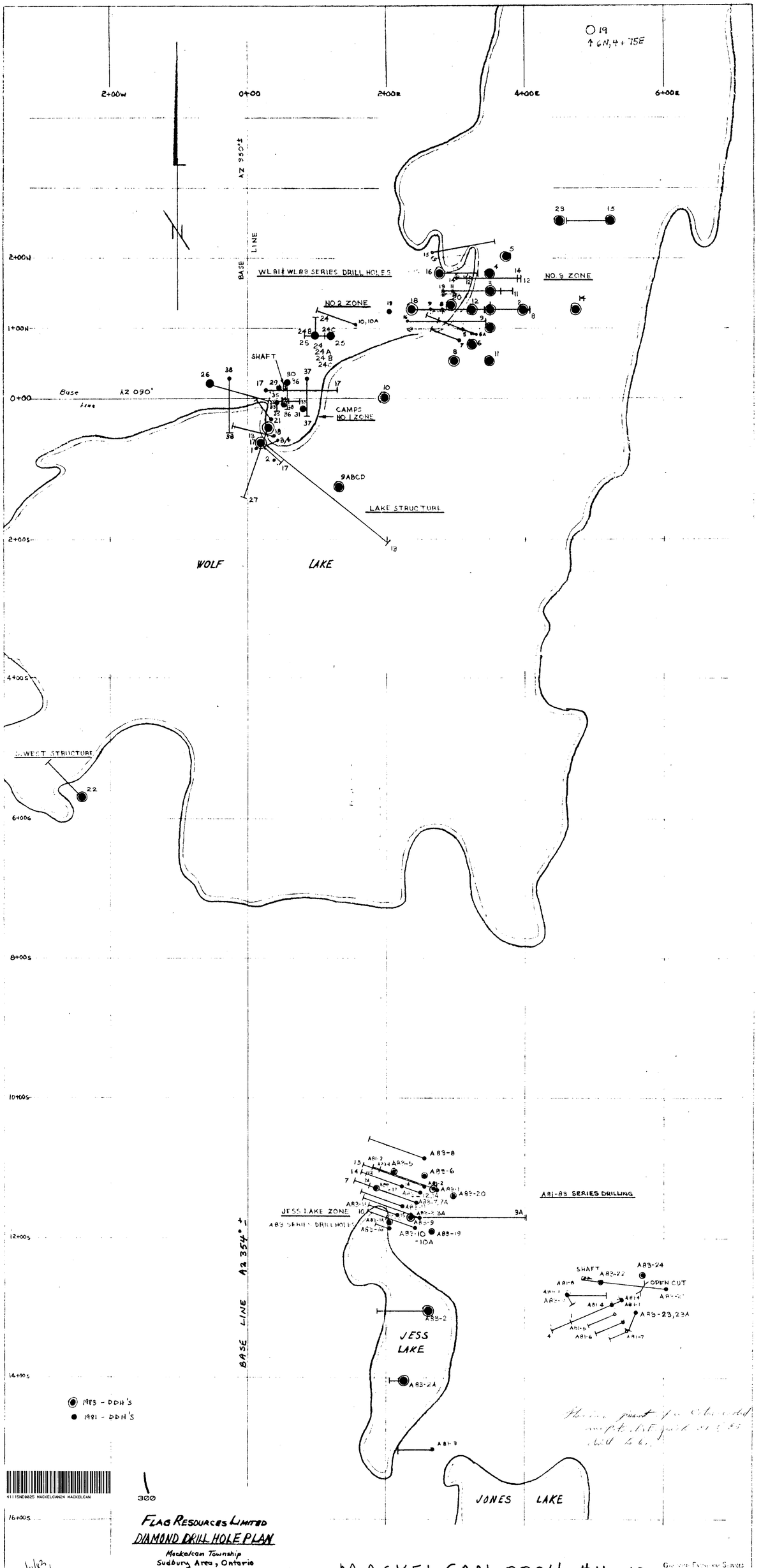
L-16+00S

2+00E 3+00E 4+00E 5+00E 6+00E 7+00E 8+00E

RESISTIVITY PROFILES
CHARGEABILITY CONTOURS.

SCALE: 1/2500 metric

Revised: April 1983, September 1983, November 1984


O 19
↑ 6N, 4+75E
2+00W
0+00
2+00E
4+00E
6+00E
AZ 350°±
BASE LINE
2+00N
1+00N
0+00
2+00S
4+00S
6+00S
8+00S
10+00S
12+00S
14+00S
16+00S
WL-81 & WL-83 SERIES DRILL HOLES
NO.2 ZONE
NO.3 ZONE
SHAFT
Base Line
AZ 090°
CAMP 2
NO.1 ZONE
9ABCD
LAKE STRUCTURE
WOLF LAKE
SW EXT. STRUCTURE
JESS LAKE ZONE
AB3 SERIES DRILL HOLES
AB1-83 SERIES DRILLING
SHAFT
OPEN CUT
JESS LAKE
JONES LAKE
BASE LINE AZ 354°±
1983 - DDH'S
1981 - DDH'S
300
FLAG RESOURCES LIMITED
DIAMOND DRILL HOLE PLAN
Mackelcan Township
Sudbury Area, Ontario
SCALE: 1:2500 metric
DATE: JAN. 1983
FFT.
MACKELCAN-0024, #11 & 12