Report on

Petrography, Lithogeochemistry

and

Diamond Drill Core Logging

REID TOWNSHIP PROPERTY

Porcupine Mining Division, Ontario

July, 1992

Timmins, Ontario

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Qual. 2.3899

Summary of Work

Reid Township Property

During the period July 6-7, 1987, selected diamond drill holes from the Reid Township property areas, stored at the Ministry of Northern Development and Mines drill core library, were relogged and sampled. At this time, a total of 30 gold assays, 13 arsenic assays, 13 copper assays and 13 zinc assays were analyzed at Swastika Laboratories Ltd. in Swastika, Ont. Re-logging and sampling of drill core and outcrops were carried out equally by D.R. Pyke and K.M. Cunnison, whose addresses are given below.

During the period August 1 - September 30, 1989, approximately 5000 feet of diamond drill core was relogged and sampled from holes originally put down on the property. This core is also currently stored and registered at the Ministry core library. In addition, two minor outcrop areas (one located by the hydroelectric dam in Mahaffy Township and one in the southeast corner of the property) were examined and sampled. All drill hole locations and outcrop locations are given on the enclosed map at the back of the report. A detailed list of sample numbers, claim locations and work done as to be applied here for assessment purposes is presented in Table 11 immediately preceding the appendices.

During the 1989 program, 38 drill core and outcrop samples were submitted to X-Ray Assay Laboratories, Don Mills, Ontario and analyzed for major, trace and rare-earth elements (within the Multi-element Exploration Package or MEEP). Only 10 of the MEEP samples are to be applied for current assessment credits. At this time, 27 gold assays, and two copper and zinc assays were also run.

In June of 1992, D.R. Pyke examined sixteen thin sections (abbreviated as PTSA in Table 2) cut from drill core and outcrop samples obtained in 1989).

Names and addresses of salaried workers

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Nine photographs contained in report.

Geological Map and Claim Map enclosed in two back pockets.

Comstate Resources Ltd.
Reid Township Property

Introduction

The assessment credit for this report is directed to five claims, P997441, P981685, P981686, P981687, P981688, located in northeastern Reid Township approximately 35 km north of Timmins in the Porcupine Mining District (Figure 1). The claims form part of a much larger property of 196 contiguous claims, held by Comstate Resources Ltd., in Reid-Mahaffy-Carnegie Townships.

Previous Work

Previous work on the properties is largely excerpted from Londry (1989 a and b). Recorded work on the properties dates back to 1964, immediately following the discovery of the Kidd Creek Mine, situated in Kidd Township, 8-10 miles southeast of the Reid property.

A summary of assessment work recorded for the Reid Township property is presented in Table 1.

In 1964, Black Bay Uranium Limited drilled seven holes totalling 2,568 feet to test four Turam electromagnetic anomalies. None of the conductors were satisfactorily explained with the possible exception of B-4 which intersected a shear zone.

In 1964, Texmore Mines Limited carried out magnetic and vertical loop (VLEM) surveys over 20 claims between the power line and Jocko Creek in Reid Township. A number of drill holes were recommended to test conductive zones; however, no drill results were filed. In the same year, Canadian Javelin Limited also ran magnetic and VLEM surveys between the power line and the Mattagami River, as a follow-up to an airborne EM survey. Hole H-1/1 was drilled just to the west of the present grid, on strike with conductor 'C'; it intersected a number of pyritic graphite zones.

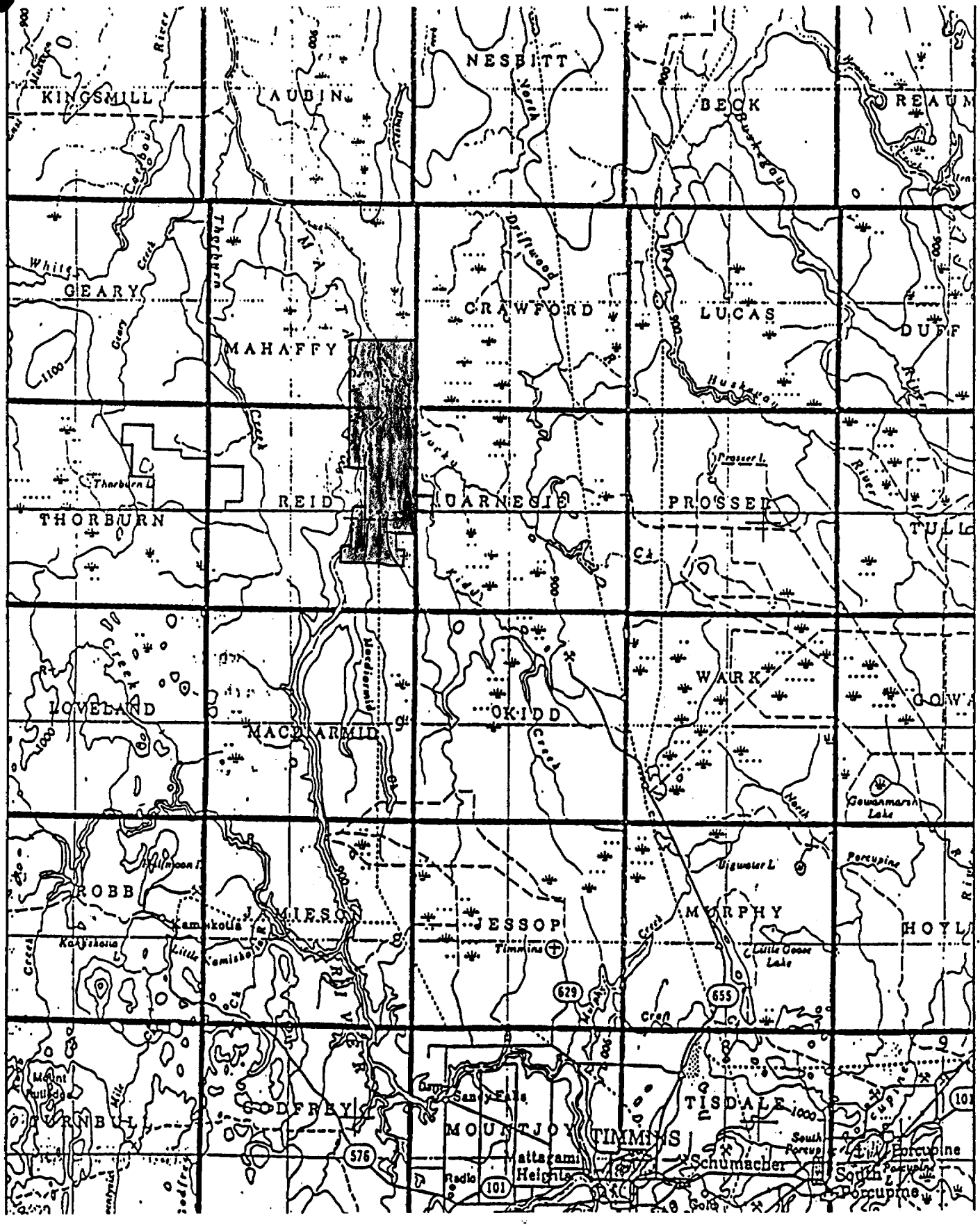


FIGURE 1: Location of Comstate Resource's Reid Township Property

YEAR	COMPANY	GEOPHYSICS	DRILL HOLES	ASSESSMENT FILE
1980	ROSSARIO RESOURCES CANADA LTD.	MAG,HLEM		T-2336
1980	UTAH,ROSSARIO,AQUITAINE J.V.	IP		T-1841
1979	GULF MINERALS CANADA LTD.	MAG	R-80-D-1 TO 13 R-80-C-18,2	T-1923
1978	GREAT PLAINS DEVELOPMENT CO. LTD.	MAG,HLEM		T-1914
1977	ROSSARIO RESOURCES CANADA LTD.	MAG,HLEM	RH-1	T-1841
1975	PHELPS DODGE CORP. OF CANADA	MAG,HLEM	152-4,5	T-1676
1974	NEWMONT MINING CORP.	MAG,IP	R-75-8	T-40
1972	MATTAGAMI LAKE MINES LIMITED	AEM,MAG	T-A2-72-1 TO 3	T-470
1967	INTERNATIONAL NICKEL CO. OF CAN. LTD.	NONE FILED	32J11,32J12	T-1350
1966	KIDD COPPER MINES LTD.	MAG,HLEM		T-919
1965	TERRA NOVA EXPLORATIONS LTD.	MAG,HLEM,VLEM		T-1216
1964	UNITED PORCUPINE MINES LTD.	MAG,VLEM	P 1-4	T-1293
1964	CANADIAN JAVELIN LIMITED	MAG,VLEM	H-1/1	T-935
1964	TEXORE MINES LIMITED	MAG,VLEM		T-1011
1964	B. ABEL	MAG,JEM		T-1098

TABLE 1: summary of previous work 1964-1980. Reid Twp. Property

United Porcupine Mines Limited held 20 claims along the north boundary of Reid Township in 1964. Magnetic and VLEM surveys were carried out and four holes were drilled to test isolated EM anomalies; no conductors were intersected.

In 1965, Terra Nova Explorations Ltd. carried out horizontal loop (HLEM), VLEM and magnetic surveys on ten claims in Reid Township between Jocko Creek and the Mattagami River.

In 1966, Kidd Copper Mines Limited ran magnetic and HLEM surveys over ten claims in Reid Township. It was recommended that two weak northwest striking EM anomalies be tested by diamond drilling; however, no holes were filed for assessment.

International Nickel Co. of Canada Ltd, drilled two holes on the property in 1967. Hole 32912 intersected graphite within acidic volcanics and Hole 32911 intersected graphite within intermediate volcanics. The exact location of these holes is difficult to determine; however, from the distance between them, it appears as though they tested conductors 'A' and 'B' respectively.

Mattagami Lake Mines Limited filed an airborne INPUT survey flown by Questor in 1970 and also three holes drilled in 1972. Holes A2-72-1 and A2-72-3 were both drilled to test conductor 'C' and intersected graphitic sediments with up to 3 percent pyrite. Hole A2-72-2, drilled to test conductor 'B' intersected graphitic sediments with narrow bands of massive pyrite and pyrrhotite.

In 1974, Newmont Mining Corp. carried out magnetic and Induced Polarization (IP) surveys; a gradient array was used in the IP survey. An east-west striking resistivity and chargeabiliy anomaly coincides with EM anomalies 'B' and 'C'. Hole R-75-8, drilled to the east of the present property to test this anomaly, intersected peridotite.

Phelps Dodge Corporation of Canada Ltd, cut five small grids in 1975 to cover airborne EM anomalies. Magnetic and HLEM surveys were carried out on all of the grids.

Anomalies 'I' and 'J' were detected in this work; however, they were not tested by diamond drilling. Hole 152-5 was drilled to test anomaly 'L'; over 100 feet of graphite and graphitic sediments were intersected. Hole 152-4, drilled to test anomaly 'M', intersected a number of graphite bands.

In 1974, Rosario Resources Canada Limited carried out an extensive exploration program centered along the Reid-Mahaffy Township line. Only the eastern edge of the present Comstate property was covered in this work.. An HLEM survey covered anomaly 'G', and Hole RM-1 drilled to test this anomaly, ended in graphite. In 1980, in a joint venture with Rosario, Utah Mines Ltd. carried out an IP survey over anomaly 'G' and an HLEM survey over anomaly 'M'; no further drilling was reported.

In 1978, Great Plains Development Co. Ltd. ran HLEM and magnetic surveys over four claims between Jocko Creek and the Mattagami River in Reid Township.. An east-west striking quadrature EM anomaly was interpreted as a fault zone.

In 1979 and 1980, Gulf Minerals Ltd. carried out an exploration program in the area which included overburden drilling, an airborne magnetic and EM survey, ground magnetic and EM surveys and diamond drilling. Three holes, R-80-D-3, R-80-D-4, and R-80-D-6, were drilled to test conductor 'A'. Hole R-80-D-11 was drilled to test conductor 'B', R-80-D-12 tested conductor 'D' and R-80-D-13 tested conductor 'E'. Further south, six holes were drilled on that part of the property for which no ground geophysics was completed during the current survey (R-80-C-2, C-3, C-4, C-5, C-6A, C-7).

In 1980, Rosario carried out magnetic and HLEM surveys over the four claims in Carnegie Township. Recommendations were made to test two west-northwest striking conductors which coincide with conductors 'D' and 'E'.

Comstate acquired the property in 1987-88 and by 1989 had completed ground geophysics (HLEM, Magnetic) for all but the south quarter of the claim group. In 1990 the property

was optioned to Lucky Eagle Mines Ltd., who drilled six diamond drill holes. The property was subsequently returned to Comstate.

Present Survey

This report largely deals with the general geology, petrographic descriptions and lithogeochemistry of a number of drill core and outcrop samples from the claim group. In an effort to better understand the geology of the property, all the drill core stored at the Ministry Drill Core Library for the claim group was relogged; approximately 5000 feet in total. Outcrop is sparse and confined to an area at the Sturgeon Falls dam site in Mahaffy Township and two small outcrop areas near the south boundary of the property in Reid Township.

Sixteen thin sections were examined from the property; 13 drill core samples and 3 outcrop samples. Thirty-eight samples were analyzed geochemically, only ten of which are to be applied for the current assessment.

Property Geology

Central Rhyolites:

The oldest rocks on the property are interpreted to be a sequence of rhyolitic volcanics confined to the axial portion of a northwest trending anticlinal structure in the central part of the property (Map 1). The rhyolites consist mainly of tuff, lapilli tuff and crystal lapilli tuff, and are light to dark grey - greenish grey in colour, fine grained, weakly to moderately foliated, commonly quartz porphyritic (5-10%) and generally display weak pervasive sericitization and ankeritization; silicification is minor. Some of the tuffs have a reworked or epiclastic appearance and may be in part volcaniclastic in origin. Cyclical layering occurs in four lahar-type breccia units in Hole R-80-D-5, proximal to the southern contact of the Central

rhyolites and overlying andesites. Coarse lapilli to block size, weakly quartz porphyritic rhyolite fragments display a decrease in fragment size downhole, in conjunction with an increase in the proportion of fine felsic (ash?) matrix material. Centimeter-scale graded bedding at the downhole contact of each lahar cycle indicates southerly facing directions. Hole R-80-D-8, drilled near the proposed anticlinal axis, displays moderate to strong foliation and locally strong sericitization. Five percent narrow ankerite veinlets occur throughout, some of which contain minor chalcopyrite. Chlorite occurs as fine-grained fracture fillings and less commonly as irregular patches and bands. Hole R-80-D-10, drilled near the northern contact of the Central rhyolites, also displays strong sericitization and foliation.

Four thin sections were examined from the central rhyolites (5530, 5534, 5537, 5547) and largely consist of varying proportions of quartz and feldspar crystals set in a very fine (0.01 mm) mosaic of quartz and feldspar, laced with fine foliated sericite. The larger quartz grains are angular to rounded and generally vary from 0.2-1.0 mm in size. Recrystallization at the margins of the quartz grains and along fractures is common, as is the development of pressure fringes and shadows. Feldspar crystals tend to be somewhat larger than the quartz, are semi-equant and vary from 1-4 mm in size; albite twinning is common. In one thin section (5537) saussuritized plagioclase grains show extreme development of silica albite overgrowths and replacement at the margins and along fractures (Photo 1). The envelope of recrystallization around the grains form marked pressure fringes.

Southern Basalts

To the south of, and stratigraphically overlying the Central rhyolites, is a lower unit of mafic and minor intercalated ultramafic volcanics and an upper unit of

(Field of view 9.6 mm X 6.4 mm)

Photograph #1 (sample 5537)

Quartz-feldspar porphyry. Sausseritized and fractured feldspar grains with silica-albite overgrowths as replacement at margins (pressure fringes) and along fractures.

felsic volcanics, here termed the Southern basalts and the Upper rhyolites, respectively. The basalts near the base of the lower unit generally comprise pillowed sequences with overlying highly bleached, silicified hyaloclastite bearing flow tops up to 80 feet thick. The pillowed sequences contain up to 15 percent pyrrhotite with minor chalcopyrite; pyrrhotite is especially prevalent within the more permeable and silicified flow tops. Previous drilling of the conductive argillites. Hole R-80-D-4 intersected conductor 'A', consisting of 15 feet of graphitic argillite. In this drill hole, the pillowed basalts within 50 feet uphole of the graphitic argillite contact display pronounced in situ brecciation fracturing and moderate siliceous-carbonaceous alteration, as black, fine grained, siliceous material filling both fractures and amygdules. Accompanying this is a pervasive alteration as the core becomes distinctly grey in colour. Holes R-80-D-3 and D-6, although collared to intersect conductor 'A', stopped short of the objective. The bottom most 50 feet of each drill hole, however, displays in situ fracture brecciation and carbonaceous alteration similar to that observed near the graphitic argillite contact in Hole R-80-D-4.

In Hole R-80-D-6, from 390-406 feet, a moderately ankeritized and sericitized zone bearing anomalous gold and arsenic values occurs within the pillowed andesites 15 feet above the contact with the underlying Central rhyolites. Within this zone, a well developed late F2 foliation trends at 10-15 degrees to the core axis. Fine disseminated pyrite is common on the F2 foliation planes and several quartz-ankerite veins up to 6 inches in width occur in this interval. Trace to ten percent, extremely fine grained, disseminated acicular arsenopyrite crystals occur from 402-406 feet. Two, 2 foot assay samples from this interval returned values of 410 and 1320 ppb gold, respectively. Drill core footages 406-454 are missing from the drill core library. From 454 to 460 feet, the pillowed andesites still

display moderate ankeritization and sericitization, 20 percent quartz-carbonate stringers, 1 percent pyrite and traces of pyrrhotite and arsenopyrite.

Spinifex bearing komatiitic volcanics (Holes R-80-D-9 and D-11) occur between graphitic conductors 'B' and 'C'. Intensity of carbonatization of the ultramafic flows generally appears to increase from west to east, being much more pervasive in Hole D-11 than in Hole D-9. However, komatiites within the last 50 feet of Hole D-9 display intense ankeritic alteration and moderate development of sericite-fuchsite; the hole bottomed in 5 feet of highly ankeritized and fractured basalt. Continuity of this komatiitic zone to the east is given in Hole R-80-D-12, the mafic volcanics in the upper half of the hole are extremely blocky, kaolinitized and intensely fractured, followed by 50 feet of highly fractured graphitic shist displaying common seams of fault gouge and several 5-10 foot sections of missing and ground core. This is interpreted as part of a major structure - the South Jocko Creek Fault Zone.

Although Hole R-80-D-13 does not provide a continuous section with Hole R-80-D-12, it does provide insight into interpretation considered pertinent to the property. The upper part of the hole encountered even grained, magnetic, very dark green, locally hematized leucoxene-bearing gabbro (from 165-242 feet). Six feet of intensely sheared, ankeritized and sericitized basalt-andesite, locally bearing 10 percent hemitized fractures and 1 percent fine disseminated pyrite, is preserved from 292-298 feet. The nature of the gabbro-basalt contact is not known, however, as 50 feet of core is missing in the interval. The remainder of the hole comprises massive and pillowed basalt-andesite. These andesitic units display moderate to locally strong in situ fracture brecciation and accompanying pervasive carbonaceous -siliceous alteration. Pillow selvages, amygdules and irregular fractures are filled with dark grey to black siliceous pyrrhotite-bearing material,

and the drill core commonly displays a medium greyish hue. Localized zones, one to seven feet in width, are intensely fracture-brecciated, dark grey to black in colour and bear 20-40 percent pyrrhotite-pyrite as 1-3 cm wide fine grained diffuse patches and bands.

The gabbro in Hole R-80-D-13 is interpreted as having been emplaced along the South Jocko Creek Fault Zone. Shearing and intense ankeritization-sericitization of the mafics near the contact with the gabbro may indicate subsequent movement and associated hydrothermal activity associated with this fault zone. Similar continuous to semi-continuous and even isolated magnetic highs on the property are interpreted as being at least in part composed of high iron, strongly leucoxene-bearing gabbroic sills. Most, if not all of these gabbros appear to be confined to the mafic volcanic sequences, and may in fact be feeders to these flows. The semi-continuous expression of these magnetic highs may be a function of the mode of emplacement and/or an indication of the degree or extent of alteration.

Three thin sections (5521, 5523, 5543) of the southern basalts were examined and consist of a fine grained assemblage of clinozosite and lesser saussurite, epidote, and minor albitic plagioclase, quartz, calcite, chlorite and leucoxene (Photo 2). One thin section (5523) from a pillow margin consists mainly of fine (0.1-0.2 mm) laths of plagioclase in a dull brown low birefringent mat, suggestive of recrystallized glass, which in turn is speckled with clinozoisite and epidote.

Upper Rhyolites

Overlying the mafic volcanics to the south is an upper unit of felsic volcanics with a minimum thickness of 4000 feet. Gulf diamond drill holes R-80-D-5, C-6A and C-7 and Black Bay Uranium drill holes Nos. 1, 2, 5, 6 and 7 were drilled wholly within this felsic sequence.

Lithologically, the sequence is composed mainly of fine

Field of view 9.6 mm X 6.4 mm.

2a.

2b.

Photograph #2 (sample 5521)

Massive pale green basalt-andesite. The light coloured areas are largely clinozoisite, lesser epidote, carbonate and albite. Dark areas are semi-saussuritized plagioclase. a-plane light b-polarized.

grained, aphanitic, weakly to locally moderately quartz and lesser feldspar prophyritic rhyolite. Gulf diamond drill hole R-80-C-5, drilled in proximity to the north-northwest trending diabase dike, commonly displays moderate to very strong sericitization and ankeritization; several 40-60 foot wide zones are intensely altered and strongly foliated to locally sheared. A strong, pervasive F2 foliation, as defined by abundant pale yellow-green sericite slips and tight fracture cleavage planes, trends at 10-35 degrees to the core axis and offsets a less pronounced 65-70 degree F1 foliation. An intermittent quartz-ankerite-tourmaline vein zone within highly ankeritized rhyolite occurs from 415-437 feet; vein margins and wall rock are highly sericitized and bear 2 percent fine disseminated pyrite. Several tectonic breccia zones, 0.5-3.5 feet in width, occur throughout the tourmaline vein zone. Fragments are 1 mm to 3.5 cm in size, vary from very angular to sub-rounded in outline, and are generally not elongate parallel to the foliation. The central cores of many of the larger fragments bear 2-5 percent extremely fine disseminated pyrite as replacement material.

Lithologies encountered in drill hole R-80-C-7 consist largely of intercalated fine grained, quartz porphyritic rhyolite and quartz-feldspar porphyritic rhylotite. Foliation is generally weak to moderate. The presence of occasional diffuse, relatively feldspar rich zones within the quartz-feldspar porphyritic units may indicated that these lithologies represent, at least in part, fine grained crystal ash tuffs.

Several very massive, siliceous, quartz porphyritic dikes, ranging in width from 0.3-10.0 feet, were observed in this diamond drill hole. The dikes display relatively sharp contacts, with well developed spherulitic structures occurring towards their outer margins. A seven foot wide spherulitic dike, occurring at 479 feet, appears to fill an intensely chloritized and sericitized earlier fault or hydrothermal zone within the rhyolite.

A zone of moderate to locally strong silicification, in situ brecciation and chloritization is present from 334.5-347.5 feet. A section from 401.0-407.3 feet bears 2 percent quartz-ankerite-tourmaline veinlets, 5 percent combined chalcopyrite and pyrite, and is highly fracture brecciated and silicified.

Two small outcrop areas occur near the south end of the property; they consist of massive, white weathering rhyolite with 5-10 percent quartz eyes from 1-3 mm in size.

The Upper rhyolites may represent a sequence of fine ash tuffs and crystal tuffs or, alternatively, massive, quartz porphritic flows intercalated with minor units of diffuse, more feldspar-rich crystal tuffs. No bedding, grading of flow structures were observed in either the drill core or outcrops. The presence of spherulitic rhyolite dikes in drill hole R-80-C-7 does indicate, however, a fairly proximal source of felsic magma.

Within the upper rhyolites a number of narrow (10-20 feet) leucoxene bearing gabbroic dikes were encountered by Black Bay Uranium in drill holes B-1, 2, 5 and 6. Contacts with the enclosing rhyolites are reported as chilled, gradational or faulted.

Five thin sections (5501, 5504, 5507, 5509, 5511) were examined from the upper rhyolite sequence, and all are invariably quartz phyric and in most cases quartz-feldspar phyric. The quartz phenocrysts (fragments?) are subhedral to rounded in shape and set in a matrix of very fine (0.01-0.02 mm) quartz and sericite. The quartz crystals range from 3.0 to 0.3 mm, average approximately 1 mm, form 8-10 percent by volume of the rock and rarely display fine recrystallized margins and fracture fillings of fine (0.01 mm) quartz and sericite. Some elongated fine quartz-sericite zones, cored by irregular quartz granules (Photo 3,) may represent welded fragments. Feldspar phenocrysts commonly have a shreddy-jagged outline and are recrystallized to a fine mosaic of albite and sericite.

3a.

Field of view is 9.6 mm X 6.4 mm

3b.

Photograph #3 (sample 5507)

Quartz phyric rhyolitic tuff, containing possible welded fragments. Extension fractures in large quartz grains filled with chlorite. Pressure fringes outline some of the quartz grains. Matrix is strongly foliated, anastomozing sericitic bands.

a-plane light b-polarized light

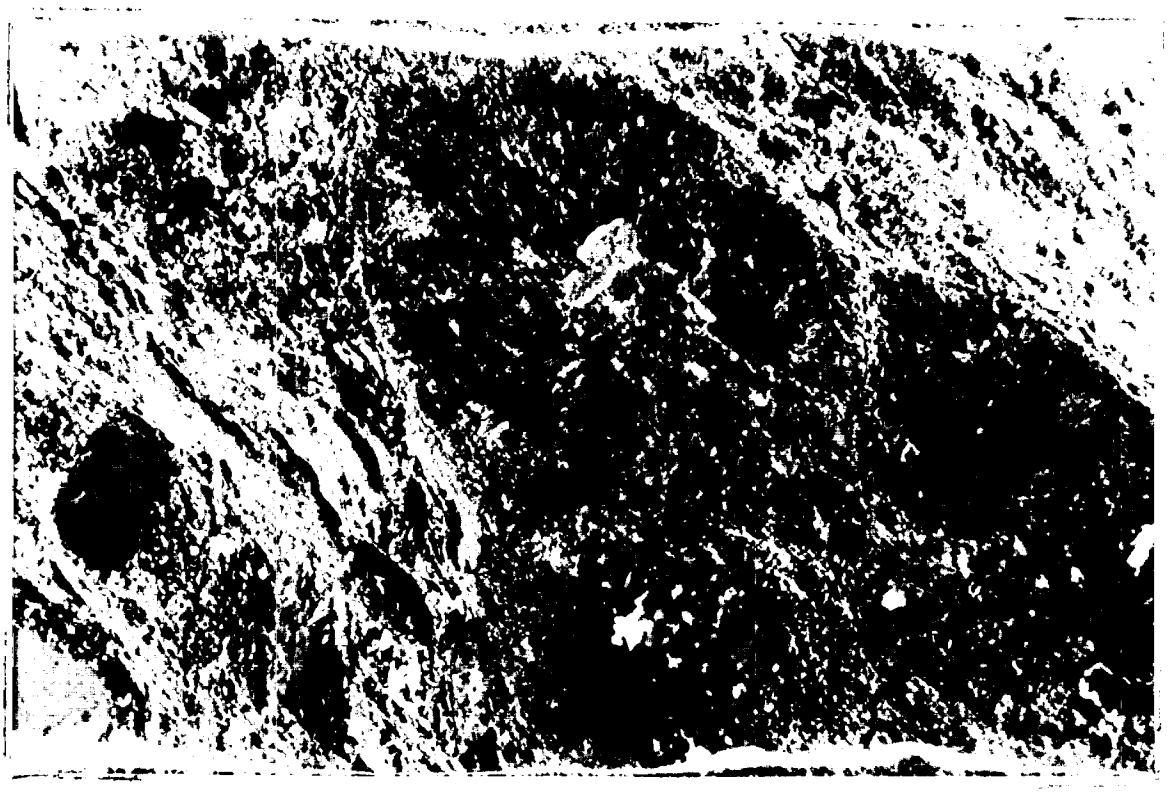
Some large (2x4 mm) crystals appear to have a skeletal habit. Fine anastomizing sericitic-rich zones impart a strong foliation.

Minor spherulitic dikes were noted in hole R-80-C-7 in the southeast corner of the property. The spherules form up to 50 percent of the rhyolitic dikes, range from 0.5-5.0 mm in diameter and display a fine radiating texture of plagioclase crystals (Photos 4 and 5). The matrix is a fine sericitic-rich mat with the occasional quartz phenocryst.

Northern Basalts

The mafic volcanic rocks underlying the northern part of the property consist of pillowed and massive tholeiitic basalt-andesite. Stratigraphically, they correlate with the pillowed basalt-andesite volcanics (Southern basalts) underlying the south-central part of the property, occurring between the Central and Upper rhyolites. The Northern basalts face north, strike east-northeast, dip steeply to the north, and have a minimum thickness of approximately 8,000 feet. Minor basaltic komatiitic flows (or intensely chloritized mafics?) occur at the top of Rosario diamond drill hole RM-1, approximately 3,000 feet southwest of the Lower Sturgeon Falls Dam, in Mahaffy Township. The last 40 feet of the hole intersected a quartz-carbonate stockwork, interpreted to be a fault zone by Rosario Mines; the hole bottomed in a one foot thick pyritic graphitic horizon. This possible fault structure, here termed the Sturgeon Falls Fault, is interpreted to extend eastward through the area of conductors 'H' and 'I'. In addition, the nearby presence of gabbroic sills suggests a wider zone of faulting, with related emplacement of high level gabbroic sills, somewhat similar to that interpreted for the previously discussed South Jocko Creek Fault Zone, occurring within the Southern basalts.

A large, well exposed outcrop at the Lower Sturgeon



Photograph #4 (sample 5509)

Spherulitic rhyolite dike. Elliptical spherules with radiating feldspar plates and laths. Many have a narrow sericitic cocona, most obvious in plane light.

5a.

Field of view is 9.6 mm X 6.4 mm

5b.

Photograph #5 (sample 5509)

Spherulitic Rhyolite dike. Elliptical spherules with radiating feldspar plates and laths. Many have a narrow sericitic corona, most obvious in plane light. a-plane light b-plarized.

Falls Dam consists of east-southeast striking pillowed, amygdaloidal basaltic-andesitic flows intruded by narrow sills of quartz-feldspar porphyry. A north trending diabase dike (150+ feet) cuts through the outcrop area. Pillow shapes and flow morphology indicate stratigraphic tops facing north. The mafic flows are fine grained, dark grey to medium green in colour and weather dark grey to locally very rusty due to the presence of 2-5 percent fine pyrrhotite and pyrite. Silicification at flow contacts, pillow rims and margins of amygdules and gas cavities is a common feature and imparts a very mottled, bleached appearance to the fresh surface of the rocks. In some intensely silicified areas, notably on the western shore of the river, the rock is easily mistaken for a felsic volcanic. White weathering, silicified zones, 0.5-5.0 feet in width and up to 200 feet in length generally cross cut stratigraphy at a low angle or are conformable with the trend of the flows. Several of these linear silicified zones exhibit a very platy structure internally, in a direction parallel to their strike. Most of the silicified zones contain 1-5 percent combined disseminated pyrite+pyrrhotite.

Three thin sections (P-70, P-77, P-78) from the outcrop area at the Sturgeon Falls Dam were examined. One section of "unaltered" (non-silicified) basalt (P-77) contains 60-65 percent plagioclase which imparts a doleritic texture consisting of 0.3-0.5 mm laths now largely altered to clinozoisite and epidote. Pale green shreddy actinolitic hornblende and minor chlorite form 30 percent of the rock, the remainder being leucoxene, opaques, and amygdule fillings of quartz, albite and pyrite.

Two thin sections (P-70, P-78) of silicified basalt were examined. One (P-70) from a somewhat bleached appearing pillowed portion of a flow consists of approximately 30 percent quartz as irregular patches and stringers that gives the appearance of permeating the rock.

The remaining basalt is fine recrystallized albitic plagioclase and 15-20 percent fine clinozoisite and epidote. The only mafic mineral is minor chlorite. A second sample (P-78) from a massive, very irregular blotchy light green grey bleached area at the base of a flow is seen to consist of upwards to 50 percent clinozoisite-epidote, suggesting that albitization may also have been an important alteration process.

Structure and Stratigraphy

The felsic volcanic rocks in the central portion of the property (ie. the Central rhyolites), are interpreted to lie along a northwest trending anticlinal axis. This is largely based on a few scattered top determinations. The basaltic flows at the Sturgeon Falls Dam in Mahaffy Township face north. Graded bedding within lahar-type sequences in drill hole R-80-D-5, and basaltic flow morphology in drill hole R-80-D-6, both indicate facing directions to the south. In addition, the general symmetry, as imparted by the northern and southern basalts and associated gabbroic sills which flank the central rhyolites, is suggestive of an intervening fold axis.

The faults as shown are primarily interpreted from lineaments and offsets in the ground and airborne magnetic data and faulting/shearing intersected in diamond drilling. The North Jocko Creek Fault, as proposed by Londry (1989a), would coincide with the central rhyolite-northern basalt volcanic contact in the north half of the property. The South Jocko Creek Fault, near conductors 'D' and 'C', was intersected in diamond drill holes R-80-D-12 and R-80-D-13. Delineation of the fault zone across the property is based on the apparent continuity of the graphitic INPUT conductors and the proposed fault controlled emplacement of the proximal gabbroic sills. The nearby South Reid Fault displaces the diabase dikes and in part coincides with an area of general low magnetics. The west trending Sturgeon

Falls Fault in Mahaffy Township is tentatively proposed from faulting reported in Rosario Mines drill hole RM-1, and the possible correlation of conductors 'G', 'H' and 'I' with this fault structure. In addition, the proximal gabbroic sills suggest emplacement within a possible related sub-parallel fault regime.

Diamond drill holes R-80-C-5, R-80-D-6 and R-80-D-9 were drilled in close proximity to north trending diabase dikes. These drill holes display a moderate to strong F2 foliation trending at 0-25 degrees to the core axis as well as unusually pronounced sericite-ankerite alteration. This suggest that the diabase dikes may occupy early, hydrothermally altered fault zones.

Conclusions and Recommendations

The thick rhyolitic sequences in the central and southern parts of the property that locally show intense sericitization, silicification and chloritization are considered viable exploration targets for further base metal exploration.

Local intense ankeritization and sericitization in the southern basalts and komatiites suggests a favourable environment for gold deposition. Areas of magnetic lows outlined by the ground geophysical surveys (Londry 1989 a,b) deserve closer scrutiny as potential centres of alteration and associated hydrothermal activity.

D. R. Lyke

REFERENCES

Londry D.

1989a: Report on Geophysical Work on Reid Property for Comstate Resources Ltd. Unpublished Report, 25p.

1989b: Report on Geophysical work on Thorburn Township for Comstate Resources Ltd.; Unpublished report 16p.

TABLE II

Sample nos., Claim Location and

Work Done

for Assessment Purposes

in this report.

Sample #	MNDM DDH#	Original DDH#	Footage	Claim location	Work Done
P-41-87	Ti 0139	R-80-D-11	249.0-254.0	p.952129	Au
42	Ti 0139	R-80-D-11	254.0-258.5	"	Au
43	Ti 0139	R-80-D-11	258.5-261.5	"	Au
44	Ti 0139	R-80-D-11	261.5-265.0	"	Au
45	Ti 0139	R-80-D-11	389.0-394.0	"	Au
46	Ti 0141	R-80-D-13	325.0-329.0	P.952100	Au
47	Ti 0141	R-80-D-13	343.0-347.0	"	Au
48	Ti 0141	R-80-D-13	350.0-355.0	"	Au
49	Ti 0141	R-80-D-13	497.0-500.0	"	Au
50	Ti 0137	R-80-D-9	433.0-434.4	P.952138	Au
51	Ti 0137	R-80-D-9	470.0-471.3	"	Au
52	Ti 0137	R-80-D-9	471.3-483.5	"	Au
53	Ti 0137	R-80-D-9	488.0-491.0	"	Au
54	Ti 0134	R-80-D-6	383.0-387.0	P.952136	Au, Cu, Zn, As
55	Ti 0134	R-80-D-6	387.0-390.0	"	Au, Cu, Zn, As
56	Ti 0134	R-80-D-6	390.0-393.1	"	Au, Cu, Zn, As
57	Ti 0134	R-80-D-6	393.1-396.1	"	Au, Cu, Zn, As
58	Ti 0134	R-80-D-6	396.1-399.1	"	Au, Cu, Zn, As
59	Ti 0134	R-80-D-6	399.1-401.1	"	Au, Cu, Zn, As
60	Ti 0134	R-80-D-6	401.1-403.1	"	Au, Cu, Zn, As
61	Ti 0134	R-80-D-6	403.1-405.1	"	Au, Cu, Zn, As
62	Ti 0134	R-80-D-6	558.8-561.2	"	Au, Cu, Zn, As
63	Ti 0134	R-80-D-6	260.0-265.5	"	Au, Cu, Zn, As
64	Ti 0134	R-80-D-6	462.0-465.5	"	Au, Cu, Zn, As
65	Ti 0134	R-80-D-6	777.0-787.0	"	Au, Cu, Zn, As
66	Ti 0134	R-80-D-6	763.0-765.4	"	Au, Cu, Zn, As

(cont.)

Sample #	MNDM DDH#	Original DDH#	Footage	Claim Location	Work Done
P-62-89	-	-	-	S. Reid Outcrop Area	PTSA P1181273
63	-	-	-	S. Reid Outcrop Area	PTSA
70	-	-	-	Mahaffy Dam Area	PTSA P1029118
77	-	-	-	Mahaffy Dam Area	PTSA "
78	-	-	-	Mahaffy Dam Area	PTSA P1029147
93	-	-	-	Mahaffy Dam Area	PTSA "
5501	Ti 0131	R-80-C-7	227.5	P.1181276	PTSA
5504	Ti 0131	R-80-C-7	402.5	"	PTSA
5505	Ti 0131	R-80-C-7	406.4-407.3	"	Au, Cu, Zn
5507	Ti 0131	R-80-C-7	476.5	"	PTSA
5509	Ti 0131	R-80-C-7	484.4	"	PTSA
5510	Ti 2730	R-80-C-5	185.4-185.9	P.1181274	Au
5511	Ti 2730	R-80-C-5	244.0	"	PTSA
5513	Ti 2730	R-80-C-5	323.3-327.0	"	Au
5514	Ti 2730	R-80-C-5	353.0-356.0	"	Au
5515	Ti 2730	R-80-C-5	419.7-421.0	"	Au
5516	Ti 2730	R-80-C-5	421.0-423.7	"	Au
5517	Ti 2730	R-80-C-5	426.7	"	Au
5518	Ti 2730	R-80-C-5	430.8-434.4	"	Au, Cu, Zn
5519	Ti 2730	R-80-C-5	357.1-359.8	"	Au
5521	Ti 0141	R-80-D-13	575.0	P.952100	MEEP, PTSA
5522	Ti 0134	R-80-D-6	153.0	P.952136	MEEP
5523	Ti 0134	R-80-D-6	509.5	"	MEEP, PTSA
5524	Ti 0134	R-80-D-6	679.5	"	MEEP, PTSA
5525	Ti 0134	R-80-D-6	700.0-702.4	"	Au
5530	Ti 0136	R-80-D-8	452.5	P.1177367	PTSA

(cont.)

Sample #	MNDM DDH#	Original DDH#	Footage	Claim Location	Work Done
5531	Ti 0135	R-80-D-7	378.0	P.981688	MEEP
5534	Ti 0135	R-80-D-7	256.5	"	MEEP, PTSA
5537	Ti 0138	R-80-D-10	312.0	P.1170296	PTSA
5541	Ti 0132	R-80-D-4	268.0	P.981685	MEEP
5543	Ti 0132	R-80-D-4	346.5	"	MEEP, PTSA
5546	Ti 0133	R-80-D-5	186.0	P.1027149	MEEP
5547	Ti 0133	R-80-D-5	233.0	"	MEEP, PTSA
5551	Ti 0133	R-80-D-5	347.8	"	Au

APPENDIX A

Hand Specimen Descriptions

Reid Township Property

HAND SPECIMEN DESCRIPTIONS FOR WHOLE ROCK GEOCHEMISTRY SAMPLES, REID, MAHAFFY AND THORBURN TOWNSHIPS

DDH R-80-C-7 (Gulf Minerals)

#5501 (227.5') Quartz-Feldspar Porphyritic Felsic

Moderately foliated, with a pale tan-grey aphanitic groundmass bearing 10% grey, subrounded quartz eyes to 2 mm. and 2% subhedral feldspar crystals from 1.5 - 4.0 mm. in diameter. Occassional three inch zones in drill core display higher percentages (tO 7%) of feldspar, possibly indicating a tuffaceous origin.

Weak to moderate chloritic alteration occurs as irregular to subrounded patches displaying diffuse to sharp outlines. Chloritic patches are 0.5 - 1.5 inches in diameter and impart a mottled texture to core. Later stage sericitic alteration is moderate, occuring as fine slips parallel to foliation.

#5502 (303.8') Quartz Porphyritic Felsic

Medium to dark grey in colour, fine grained, massive to weakly foliated. 10 - 15% quartz eyes from 0.5 to 3 mm. in diameter. Trace to 1% feldspar crystals. Weak pervasive patchy chloritic alteration. Weak later pervasive carbonatization.

#5504 (402.5') Chloritized, Silicified Quartz-Porphyritic Felsic. Crystal Tuff?

Least altered zones in section are medium tan-grey in colour, aphanitic, and bear 5 -10% quartz eyes. Moderate to locally strong silicification occurs as aphanitic to finely mottled and fractured irregular bands and patches from less than 2mm. to greater than 4 cm. in diameter. Silicified areas comprise 5 - 35% of core by volume. Margins of silicified zones vary from very sharp to diffuse. More diffuse zones bear 2 - 5%, 1 - 3 mm. sized subhedral feldspar crystals displaying well developed silicified rims.

Weak to moderate chloritic alteration postdates the silicification and occurs as 5 - 10%, thin web-like chlorite filled fractures. Weak pervasive ankerite alteration and weak to moderate sericitization postdate chlorite alteration.

DDH R-80-C-7 (Gulf Minerals) cont.

#5507 (476.5') Highly Chloritized and Sericitized Felsic

Strongly foliated, fine grained, dark blue-grey in colour. Highly chloritized with abundant later fine sericite slips parallel to foliation. This chloritic rock may represent fault zone material into which a felsic dyke (#5508) was subsequently intruded.

#5508 (480.0') Siliceous, Massive, Spherulitic Felsic

Very siliceous in appearance, aphanitic, pale cream in colour. Very massive and bears 10%, 1 - 2 mm. sized quartz eyes. 10% fine irregular bleached fractures occur throughout. Downhole margin of unit is sharp and bears abundant spherules. This siliceous rock may be a felsic dyke intruded into a chloritized, foliated to sheared fault zone.

DDH R-80-C-5 (Gulf Minerals)

#5511 (244.0') Highly Carbonatized and Sericitized Felsic

Strongly foliated to locally sheared. Pale cream-tan in colour with abundant (15 - 25%) pale yellow-green sericite slips parallel to foliation. Strongly carbonatized (ankeritized), as intense pervasive alteration and as fine, irregular veinlets.

25 - 30% very siliceous, pale white to gray, augen shaped "fragments" to one inch in width occur throughout and are strongly elongate parallel to foliation. "Fragments" are likely remanents of the original siliceous felsic rock.

#5512 (299.5') Siliceous, Weakly Porphyritic Felsic

Pale grey-white in colour; aphanitic with less than 2% combined very fine feldspar and quartz crystals throughout. Generally very siliceous in appearance. Moderately foliated with common 5 - 10% pale yellow green sericite slips parallel to foliation. Weak to moderate pervasive ankeritic carbonate alteration.

#5520 (451.0') Massive, Aphanitic Rhyolite

Pale tan in colour; massive; aphanitic; weakly sericitized and weakly carbonatized. Moderately fracture brecciated - fractures filled with dark green chlorite.

DDH R-80-D-13 (Gulf Minerals)

#5521 (575.0') Pillowed, Amygdaloidal Andesite

Pillowed andesite is fine grained, medium grey-green in colour, weakly foliated to massive. Bears to 10% amygdules filled with calcite and/or a black, siliceous material. Pillow selvages are chloritic and contain minor pyrite and pyrrhotite.

DDH R-80-D-6 (Gulf Minerals)

#5522 (153.0') Dacitic-Rhyolitic Lapilli Tuff

Fine lapilli to coarse ash tuff; dacitic to rhyolitic in composition. Medium grey in colour, bears 40% white to pale grey fragments up to 1.0 cm. Fragments vary in shape from angular to sub-rounded and are moderately elongate parallel to foliation. Minor (less than 5%) dark green-brown lithic fragments occur throughout. Matrix to unit is medium grey, fine grained, and bears 10% fine feldspar crystals to 1.5 mm. in size. Weakly to moderately sericitized; weakly chloritized.

#5523 (509.5') Pillowed, Amygdaloidal Andesite

Pillowed andesite is fine grained, medium grey-green in colour. Diffuse, pale grey siliceous patches to 3.0 cm. in width commonly occur near pillow margins. Pillow selvages are chloritic and bear trace to 3% pyrrhotite.

#5524 (679.5') Moderately Silicified, Hyaloclastite-Bearing Flow Top Breccia

Pale green in colour, very fine grained, with 10% relict chloritic hyaloclastite-bearing patches to 2.0 cm in size. Moderately to weakly bleached/silicified. Not dissimilar in appearance to the V10B variolitic hyaloclastite. Sample from same flow as #5523.

DDH R-80-D-8 (Gulf Minerals)

#5530 (452.5') Quartz Porphyritic Rhyolite

Rhyolite is very fine grained, medium grey, weakly foliated and bears 10% sub-rounded quartz-eyes to 2.0 mm. in size. Weak pervasive ankeritization and sericitization.

#5532 (370.5') Weakly Silicified Rhyolite

Rhyolite is pale tan in colour, aphanitic and moderately foliated. Very minor fine quartz eyes occur throughout. Unit displays weak to locally moderate silicification and moderate late pervasive ankeritization.

#5533 (168.5') Quartz Porphyritic Rhyolite

Rhyolite is pale grey in colour, fine grained and bears 5 - 10% quartz eyes from o.5 - 3.0 mm. in size. Unit is very uniform in appearance and displays weak pervasive ankeritization and from 1 - 5% quartz-ankerite veinlets.

DDH R-80-D-7 (Gulf Minerals)

#5531 (378.0') Quartz Porphyritic Rhyolite

Rhyolite is fine grained, medium to pale grey in colour, weakly foliated and bears 5 - 10% medium grey quartz eyes to 3.0 mm. in size. Unit displays minor silicification and sericitization.

#5534 (256.5') Quartz Porphyritic Rhyolite

Rhyolite is very similar in appearance to #5531, but is less strongly foliated and less strongly sericitized.

DDH R-80-D-10 (Gulf Minerals)

#5536 (293.5') Felsic Lithic Lapilli Crystal Tuff

Medium to dark grey in colour. Bears 30 - 50% pale grey, medium gray and lesser medium grey-green lithic fragments to 1 cm. in size. Unit is strongly foliated and highly sericitized and fragments are elongate and augen-shaped. Groundmass bears 10 - 15% euhedral feldspar phenocrysts to 2mm in size and 5% dark grey quartz eyes.

DDH R-80-D-10 (Gulf Minerals) cont.

#5537 (312.0') Felsic Lithic Lapilli Crystal Tuff

Sample is very similar in lithology and type of alteration to # 5536. Most of fragments are very pale grey, siliceous and quartz porphyritic. Sample matrix is very fine grained and highly sericitized.

DDH R-80-D-4 (Gulf Minerals)

#5541 (268.0') Siliceous Rhyolitic Tuff or Chert

Interflow felsic tuff or bedded chert. Aphanitic, weakly bedded appearance. Beds occur as alternating 0.2 - 2.0 cm. wide diffuse bands of pale to medium grey and pale buff white siliceous material. Unit displays the very planar fracture style often observed in bedded cherts.

#5543 (346.5') Pillowed, Amygdaloidal Andesite-Basalt

Pillowed andesite-basalt is medium grey-green, fine grained and weakly carbonatized. Amygdules are calcite filled and pillow selvages are chloritic and calcite-bearing.

DDH R-80-D-5 (Gulf Minerals)

#5546 (186.0') Dark Grey Felsic With Coarse Ash Sized Fragments. Matrix to Lahar Deposit?

Dark grey, massive, medium to fine grained felsic fragmental . Bears 60% coarse ash sized fragments of pale buff, aphanitic, siliceous material and lesser chloritic material. Matrix is fine grained, very dark grey and siliceous, with a fine clastic texture.

#5547 (233.0') Large Block of Quartz Porphyritic Rhyolite in Lahar Deposit?

Rhyolite is very pale grey, aphanitic and bears 10% medium grey quartz eyes. Displays very strong in situ fracture brecciation - fractures filled with black, siliceous material.

DDH U.P.-3 (United Porcupine)

#5550 (Unspecified footage) Dacite Fragmental Crystal Tuff?

Pale green fragmental, strongly quartz porphyritic, 1 - 2% feldspar crystals to 3.0 mm. in size; moderately to weakly foliated and sericitized.

DDH B.B.U. # 4 (Black Bay Uranium)

#5552 (348.1') Quartz Porphyritic Felsic

Felsic is aphanitic, pale creamy buff in colour, weakly foliated and bears 10% quartz eyes. Moderately sericitized and weakly carbonatized.

DDH LT - 13 (Mespi Mines - Thorburn Township)

#5553 (304.1') Ankeritized, Sericitized Basalt

Basalt; pale buff in colour, strongly foliated; highly sericitized and ankeritized. 1% very fine disseminated pyrite. Initially logged as a felsic rock.

#5554 (401.0') Ankeritized, Sericitized Basalt

Basalt, very pale buff grey in colour, strongly foliated to sheared; highly sericitized and ankeritized; moderately silicified; bears 3% very fine disseminated pyrite. Initially logged as a felsic rock.

#5555 (283.1') Ankeritized, Sericitized Basalt

Basalt; pale buff in colour, strongly foliated; highly sericitized and ankeritized. 1% very fine disseminated pyrite. Initially logged as a felsic rock.

DDH UR-80-5 (Utah Mines/Rosario Resources) Mahaffey Twp.

#5556 (405.1') Quartz Porphyritic Rhyolite

Rhyolite is aphanitic, massive and bears 10 - 15% fine to medium grained subrounded quartz eyes. Weakly feldspar porphyritic. Crystal tuff?

DDH LT - 11 (Mespi Mines) (Thorburn Township)

#5557 (425') Ankeritized, Sericitized Basalt

Basalt is pale buff in colour, fine grained and moderately foliated. Displays strong ankerite and sericite alteration. Initially logged as a felsic rock.

#5558 (337.0') Ankeritized, Sericitized Basalt

Similar in lithology and alteration style to sample #5557.

DDH B.B.U. - #5 (Black Bay Uranium)

#5559 (74.1') Quartz Porphyritic Felsic

Quartz porphyritic felsic;aphanitic; pale yellow-tan in colour; moderately foliated and sericitized. Bears 10% medium grey quartz eyes. Weak pervasive calcitic carbonatization.

DDH R-1 (Chance Mining)

#5560 (380.0') Quartz Porphyritic Felsic

Felsic is aphanitic to fine grained, grey-buff in colour and bears 10% quartz eyes, 5% fine, euhedral feldspar crystals. Sample is weakly foliated, weakly sericitized and carbonatized.

Outcrop Samples from South Reid Township

P-62-89 Massive, Quartz Porphyritic Rhyolite

Rhyolite is massive, fine grained, pale to medium grey, white weathering and bears 3 - 5% quartz eyes from 1 - 3 mm. in size. Trace of fine pyrite.

P-63-89 Massive, Quartz Porphyritic Rhyolite

Rhyolite is massive, aphanitic, pale grey in colour, white weathering and bears 1 - 3 % quartz eyes to 2 mm. in size.

Outcrop Samples from Hydro Dam Area, Mahaffey Township

P-77-89 Pillowed, Amygdaloidal Basalt

Pillowed, amygdaloidal basalt is fine grained, dark grey and bears 0.5 - 1.0% pyrrhotite in pillow selvages

P-88-89 Weakly Silicified Pillowed, Amygdaloidal Andesite

Pillowed, amygdaloidal andesite/basalt is fine grained, medium to pale grey in colour, and displays blotchy, diffuse silicification patches within pillow interiors.

P-93-89 Intensely Silicified Basalt

Sample is pale grey in colour, and very siliceous, massive and aphanitic. Sample is from a 5.0 by 2.5' silicified zone occurring parallel to the foliation of the rock units.

APPENDIX B

Condensed Diamond Drill Hole Logs

Reid Township Property

Summary Diamond Drill Hole Log

DDH. R-80-C-5

0 - 124.0' - Casing in Overburden

124.0' - 197.0' - MASSIVE RHYOLITE; STRONGLY HEMATIZED AND FRACTURED

Unit is aphanitic and highly fractured; core is very blocky. Colour varies from a pale rose-pink to limonitic orange-red in more fractured zones. Minor grey quartz eyes, rimmed by calcite, occur throughout.

60% of unit is heavily pitted with abundant limonite coated fractures bearing to 1% fine disseminated specular hematite grains.

Intensity of ankeritic carbonatization and sericitization increase gradationaly from weak to moderate downhole.

-@ 185.8' - 6" broken quartz-calcite vein; immediate vein margins highly sericitized and bear 3% fine disseminated pyrite. *Assay #5510*

197.0' - 250.4' - RHYOLITE: SHEARED, ANKERITIZED AND HIGHLY SERICITIZED

Unit is pale tan in colour, strongly foliated to locally sheared, with abundant pale yellow-green sericitic slips occupying late fracture and foliation planes. Ankeritization, as pervasive alteration and fine veinlets, occurs throughout.

25 - 30% siliceous, pale white to gray, augen shaped fragments to one inch in width occur throughout and are highly elongate parallel to foliation. The uniform composition of the fragments and the occasional occurrence of zones bearing angular fragments not elongate parallel to the foliation suggests that the fragmental nature of this unit is tectonic in origin.

A strong, pervasive F2 foliation, as defined by abundant sericite slips and tight fracture cleavage planes, trends at 10 - 35° to the core axis and offsets siliceous veinlets and a less prounounced F1 foliation occurring at 65 - 70° to core axis.

Generally less than 0.5% fine disseminated pyrite cubes - occupying fractures.

250.4' - 323.4' - FINE GRAINED RHYOLITE. WEAKLY QUARTZ-FELDSPAR PORPHYRITIC.

Pale tan-white in colour; aphanitic, with less than one percent very fine quartz and feldspar grains. Moderately to

DDH. R-80-C-5 (cont.)

locally strongly foliated; moderately sericitized, with common pale yellow-green sericitic slip surfaces. Weak to moderate pervasive ankeritization (not as strong as in preceding interval).

1 - 3% chloritic fractures, may bear minor fine acicular black tourmaline needles. Minor fine, granular textured pyrite grains as fine disseminations and occupying fractures.

Downhole contact appears sharp at 50° to core axis.

291.5' - 293.0' - rubbly sericite-kaolinite-quartz vein rich Fault Gouge. No sulphides.

323.4' - 327.0' - MASSIVE, FINE GRAINED FELSIC

Pale tan in colour; very fine grained with a granular texture. Weak pervasive calcite alteration. 5% very fine, black chloritic fractures at 30° to core axis. Fractures also bear minor very fine radiating tourmaline needles. 1-2% very fine granular pyrite within more heavily tourmalinized fractures.

323.3' - 327.0' - assay sample #5513

327.0' - 376.0' - RHYOLITE: HIGHLY FOLIATED, ANKERITIZED AND SERICITIZED.

Very similar in appearance to section from 197.0' - 250.4'. Pronounced sericite-bearing foliation planes at 10-20° to core axis. Minor tourmaline in fractures. Less than one percent fine to medium grained diss. pyrite.

10% of unit occurs as 1-2' wide zones exhibiting a fragmental texture. Fragments vary in size from 1 - 8 mm and are elongate parallel to foliation. 80% of fragments consist of grey, granular quartz (?) - carbonate material within a sericitized matrix. Carbonatization is more intense within such fragmental zones.

Downhole contact is arbitrary.

353.0' - 356.0' - abundant brecciated, irregular, ankerite-calcite veinlets to 1"wide; 5%, 2-15 mm. black, accicular tourmaline veinlets within foliation planes. Minor pyrite.

376.0' - 457.0' - INTERCALATED MASSIVE, APHANITIC RHYOLITE AND FINE TO MEDIUM GRAINED LAPILLI-SIZED "BRECCIA" OF SAME MATERIAL.

DDH. R-80-C-5 (cont.)

80% of unit is aphanitic, pale tan massive rhyolite; variably fracture brecciated; moderately to strongly ankeritized; minor calcitic amygdules (?) to 0.5 cm. in diameter. Moderate intensity of sericitized fractures.

20% of unit consists of brecciated fragments of a similar material. Fragments vary in size from 0.5 mm. - 3.0 cms., and vary from very angular to subrounded in outline. Fragments generally not elongate parallel to the foliation, and are very "loosely packed". Matrix is a very pale yellowish cream coloured, more strongly ankeritized material.

Breccia zones are of variable width (5" to 3.5'), and commonly have very sharp contacts with more massive material. Contacts trend at 25-30° to core axis.

Occassional zones (eg. at 432') - cores of larger fragments bear 5-7% extremely fine disseminated pyrite as replacement material. Cores comprise from 10-80% of clasts.

QUARTZ-ANKERITE-TOURMALINE VEIN ZONE

419.7 - 421.0' - quartz-ankerite-tourmaline vein zone. 70% veining; veins irregular to trend sub parallel to core axis. Margins bear abundant orange sericite. 5% pyrite, 1-3 mm. euhedral crystals. (Assay 5515)

421.0 - 423.7' - highly sericitized and silicified. 30% veins sub-parallel to core axis. 2% disseminated pyrite. (Assay 5516)

@426.7' - 3" quartz-tourmaline vein. 2% pyrite in sericitized margins. (Assay 5517)

430.8 - 434.4' - silicified breccia zone. 10-15% black, acicular tourmaline between fragments. Core of fragments are diffuse, bear to 7 % extremely fine disseminated pyrite. (Assay 5518)

427.0' End of Hole

Descriptive Log

DDH. R-80-C-7

Lithologies encountered in the drill hole consist largely of intercalated fine grained, quartz porphyritic felsics and quartz-feldspar porphyritic felsics. Units are generally fine grained and weakly to moderately foliated. The presence of diffuse, relatively feldspar-rich zones within the quartz-feldspar porphyritic units may indicate that these lithologies represent fine grained crystal tuffs.

Several very massive, siliceous, quartz porphyritic units, ranging in width from 0.3 - 7.0 feet, were encountered in the drill hole. These units display relatively sharp contacts, with well developed spherulitic structures occurring towards their outer margins. At 475.0', a 2.5' wide zone of highly foliated and chloritized felsic rock was found adjacent to the uphole contact of one of the more prominent spherulitic rhyolite units. This highly chloritized rock may represent synvolcanic (?) fault zone material into which a felsic dyke was subsequently intruded.

A zone of moderate to locally strong silicification, in situ brecciation and chloritization is present from 334.5 - 475.0 feet.One 1.3' assay sample (#5505) from the more highly silicified and chloritized portion of this zone returned an assay value of 890 ppm Cu and 160 ppm Zn.

Summary Diamond Drill Hole Log

DDH. R-80-C-7

0 - 160.0' - Casing in Overburden

160.0' - 170.3' - SILICEOUS, WEAKLY PORPHYRITIC RHYOLITE

Unit is massive, siliceous, aphanitic, pale grey-tan in colour and bears 1% very fine feldspar crystals and 2 -3% rounded, dark grey quartz eyes less than 2 mm. in size. 5% irregular, fine siliceous-chloritic in situ brecciation fractures occur throughout. Fractures are leached and oxidized and bear traces of fine pyrite.

Downhole contact is strongly foliated at 35° to core axis. Five inch contact zone bears 70% elongate spherule-like structures in a soft, greenish yellow matrix of sericite-chlorite-kaolinite (?). Down hole contact is leached and broken.

170.3' - 281.1' - QUARTZ - FELDSPAR PORPHYRITIC FELSIC

Moderately foliated, with a pale tan-grey aphanitic matrix bearing 10% grey subrounded quartz eyes to 2 mm. and 2 - 4% subhedral feldspar crystals from 1.5 - 4.0 mm. in diameter.

Occassional 3 - 5 inch diffuse zones in drill core contain 4 - 7% feldspar crystals and 20% fine lapilli sized feldspar porphyritic fragments (?) in a more heavily chloritized matrix. May possibly be tuffaceous material.

Weak to moderate chloritic alteration occurs as irregular to subrounded patches displaying diffuse to sharp outlines. Chloritic patches are 0.5 - 1.5 inches in diameter and impart a mottled texture to core. Later stage sericitic alteration is moderate, occurring as fine slips parallel to foliation.

170.3'-204.0'; 218.0'-220.0' - orange brown oxidized and leached zones; moderately kaolinitized. Minor pitted quartz stringers.

238.0 - 271.5' - zone of strong bleaching and kaolinitization. Pale cream colour, very vuggy and soft; strongly foliated at 35° to core axis. Locally highly fractured. FAULT ZONE?

281.1 - 281.4 - FELSIC DYKE?

Pale grey; aphanitic; 15% grey quartz eyes to 4mm diameter. Upper and lower contacts sharp and very irregular.

281.4 - 334.5 - QUARTZ PORPHYRITIC FELSIC

Very fine grained to aphanitic; medium grey in colour; massive to weakly foliated; 15% quartz eyes from 0.5 to 3.0 mm. in diameter; less than 1% feldspar crystals to 2 mm. Weak pervasive patchy chlorite alteration (as above). Weak later pervasive calcitic alteration.

334.5 - 475.0 - SILICIFIED, CHLORITIZED QUARTZ-FELDSPAR PORPHYRITIC FELSIC

Least altered zones in section are medium tan-grey in colour, aphanitic, moderately foliated and bear 5 - 10% quartz eyes to 4 mm. and 2 - 3% feldspar crystals to 3mm in size.

Moderate to locally strong silicification occurs as aphanitic to finely mottled and fractured irregular bands and patches from less than 2mm. to greater than 4 cm. in diameter. Silicified areas comprise 5 - 40% of core by volume. Margins of silicified zones vary from very sharp to diffuse. More diffuse zones bear 2 - 5%, 1 - 3 mm. sized subhedral feldspar crystals displaying well developed silicified rims.

Weak to moderate chloritic alteration postdates the silicification and occurs as 5-10%, thin web-like chlorite filled fractures and lesser patchy alteration zones. Weak pervasive ankerite alteration and weak to moderate sericitization postdate chlorite alteration.

Trace to less than 1% anhedral to subhedral disseminated pyrite cubes.

367.0'-368.5' - 10% irregular quartz-ankerite-chlorite
381.0-383.5 veinlets

Intensely silicified zones:

380.7' - 383.0' - 2% coarse disseminated pyrite; strongly sericitized.

401.0' - 407.3' - 2% quartz-ankerite-tourmaline veinlets; 5% coarse anhedral cpy & py from 406.4-407.3 *Assay sample 5505*

-@ 455.7 2" quartz-calcite-axinite vein

475.0' - 477.5' - FOLIATED, CHLORITIZED, SERICITIZED FELSIC

Strongly foliated; fine grained, dark blue-grey in colour. Highly chloritized with abundant later fine sericite slips parallel to foliation. Trace pyrite. This chloritic rock may represent early fault zone material into which a felsic dyke was subsequently intruded.

477.5' - 484.6' - SILICEOUS, MASSIVE SPHERULITIC FELSIC (DYKE?)

Very siliceous in appearance, aphanitic, pale cream in colour. Very massive and bears 10%, 1-2 mm. sized grey quartz eyes. 10% fine irregular bleached fractures occur throughout. 1% coarse, subhedral pyrite cubes in fractures. Uphole contact is sharp over one inch and bears 3% very fine, disseminated granular pyrite. Downhole contact (last 5") displays a very well developed spherulitic texture. Spherules are foliated at 70° to core axis.

486.4' - 500.5' - QUARTZ PORPHYRITIC FELSIC

Similar to section from 281.4' - 334.5'

500.5' - 513.0' - QUARTZ - FELDSPAR PORPHYRITIC FELSIC

Aphanitic; weakly foliated; tannish grey in colour due to weak pervasive carbonatization. 10% grey quartz eyes; 2 to locally 5% feldspar crystals to 4 mm. Weakly sericitized, with minor calcite and quartz filled fractures. Very minor mottled silicification bands and patches to 1 cm. in width.

513.0 End of Hole

Summary Diamond Drill Hole Log

DDH. R-80-D-4

0 - 30.0' - Casing in overburden

30.0' - 236.0' - Core missing

236.0' - 260.0' - AMYGDALOIDAL ANDESITE.
Weakly carbonatized.

260.0' - 271.2' - BEDDED FELSIC TUFF OR CHERT
Bedding at 40-45 degrees to core axis. Sample 5541.

271.2' - 312.0' - BASALT - ANDESITE
Medium green-grey, fine grained, sparsely amygdaloidal.

312.0' - 325.0' - GRAPHITIC ARGILLITE

325.0' - 327.0' - SILICIFIED FRAGMENTAL
Likely andesitic flow breccia.

327.0' - 437.0' - PILLOWED AMYGDALOIDAL ANDESITE
Very weakly carbonatized; minor chloritic fractures. Sample 5543

437.0' End of Hole

DESCRIPTIVE LOG (DDH. R-80-D-4)

Massive, amygdaloidal and pillowed andesite/basalt with intercalated interflow chert and graphitic argillite conductor.

Descriptive Log

DDH. R-80-D-5

Intercalated zones of coarse lapilli to block sized rhyolite fragmental material and fine grained, dark grey, ash-to fine lapilli sized massive mareriel with 5% quartz eyes.

Rhyolite fragmental material (zones) consistently displays decrease in fragment size and increase in matrix percent downhole.

Hole may represent volcaniclastic - lahar type deposits; 4 "pulses" preserved.

Summary Diamond Drill Hole Log

DDH R-80-D-5

0 - 105' - Casing in overburden

105' - 173' - Coarse lithic lapilli-sized to block sized fragmental (likely volcaniclastic origin). Fragment types are variable but most are quartz porphyritic rhyolite. Unit characterized by 5-20' wide zones of coarser rhyolite fragmental intercalated with zones (40%), of finer, dark grey lapilli and finer sized material.

173' - 176' - Rhyolite fragmental, dark grey matrix. Size of fragments decreases and percent matrix increases downhole, Downhole contact displays gradded bedding. *Tops downhole.

176' - 187' - Fine grained, dark grey felsic volcaniclastic? of coarse ash size. Sample 5546.

187' - 192' - Rhyolite fragmental (as per 173'-176'). Size of fragments decreases and percent of matrix increases downhole.

192' - 224' - Fine grained, dark grey felsic (volcaniclastic?). 10% quartz phenocrysts, massive.

224' - 274' - Largely fine grained quartz porphyritic felsic. 5% 1mm sized round quartz grains. May be very large blocks of felsic material silicified and intensely fracture -brecciated 239'-257'. Sample 5547.

274' - 322' - Footage missing

322' - 346' - Fine grained, dark grey volcaniclastic? 5% quartz eyes

346' - 352.5' - Rhyolitic fragmental (as per 173'-176').

R-80-D-5 (cont.)

352.5' - 370' - Fine grained, dark grey volcaniclastic (as per 322'-346').

370' - 437' - Footage missing

437' - End of Hole

Descriptive Diamond Drill Hole Log

DDH. R-80-D-6

Rhyolitic to dacitic lithic lapilli tuff in top of hole to 384.5'.

Remainder of hole is pillowed, amygdaloidal andesite and associated hyaloclastite-bearing flow breccia.

Two flow-breccia zones (634.8'-714.3', 740.0'-750.3') are highly bleached/silicified with 1-5 % pyrrhotite.

The distribution of pillowed and flow brecciated units and contacts observed possibly indicate tops down hole.

Major Point of Interest

Zone from 390'-406', within pillowed andesite, is moderately ankeritized and sericitized. Displays strong F2 foliation at 10-15 degrees to core axis.
From 402.3'-406' - one to 10% disseminated acicular arsenopyrite. Assay samples P-60-87, P-61-87.
Footage missing from 406'-454'
Ankerite alteration and sericitization persists in next box from 454'-460'. Bears 20% quartz-carbonate veinlets, 1% pyrite, trace pyrrhotite and arsenopyrite.

Summary Diamond Drill Hole Log

DDH. R-80-D-6

0 - 117.0' - Casing in overburden

117.0' - 141.0' - Footage missing

141.0 - 165.0 - DACITE-RHYOLITE, COARSE ASH TO FINE LAPILLI CRYSTAL TUFF

40 - 70 percent fragments (white, cream coloured, pale grey, green brown). Vary from angular to sub-rounded. Moderate elongation parallel to foliation. Fragments generally contain 5-10% fine feldspar phenocrysts. Matrix is medium grey, very fine grained with some quartz, sericite and chlorite. Sample 5522.

165' - 265' - Boxes missing

265' - 272' - FELSIC LITHIC LAPILLI TUFF

Variety of felsic fragment types(70-80% fragments). Angular to subrounded. Moderate elongation parallel to foliation. Matrix is sericitized, pale brown and moderately foliated.

272.0' - 274.2' - FINELY BEDDED ASH TUFF

272.4' - 285.0' - FELSIC LITHIC LAPILLI TUFF

As per interval 261' - 272'. Graded beds at 275' indicate tops uphole?

285.0' - 382.0' - Footage missing

382.0' - 384.5' - INTERMEDIATE, FOLIATED LITHIC LAPILLI TUFF

60% matrix, strongly foliated and sericitized

384.5' - 406.0' - PILLOWED AMYGDALOIDAL ANDESITE

Fine grained, medium to pale green grey, weak to locally moderately carbonatized. Pillow rims are very thin and display chlorite and calcite

alteration. Moderately foliated at 40 degrees to core axis.

**390' - 406' - moderately ankeritized, weakly sericitized along F2 foliation at 10-15 degrees to core axis. Fine pyrite common on these foliation planes. 10% pale silver grey, diffuse "silicified" patches from 1.5" - 7.0" in diameter occur throughout and most commonly at pillow selvages Several white, weakly fractured quartz veins, 3"-6" in width. Vein margins are weakly sericitized.

***402.3' - 406.0' - trace to 10% very fine grained disseminated, acicular arsenopyrite crystals. *Assay samples P-60-87, P-61-87.

406.0' - 454.0' - Footage missing

454.0' - 634.8' - PILLOWED AMYGDALOIDAL ANDESITE

As described above. 1% fine pyrrhotite - fills amygdules and as fine dissemfinated patches.

**From 454' - 460' - moderately ankeritized and sericitized, 20% quartz-carbonate stringers, 1% pyrite, trace pyrrhotite and arsenopyrite. Sample 5523.

634.8' - 714.3' - HYALOCLASTITE-BEARING ANDESITE FLOW BRECCIA

*Intensly bleached/silicified. Minor disseminated pyrrhotite throughtout. Downhole contact very chloritic for 3 inches; contact sharp. Tops downhole? Sample 5524.

714.3' - 740.0' - PILLOWED AMYGDALOIDAL ANDESITE

Minor silicification - as diffuse bands and along fractures. Downhole contact gradational over 5 feet.

740.0' - 750.3' - BLEACHED/SILICIFIED FLOW BRECCIA, ANDESITIC

As per 634.8' - 714.3'. 3-5% disseminated pyrrhotite - also as fracture fillings and rimming silicified fragments. Downhole contact is sharp.

750.3' - 839.0' - MASSIVE ANDESITE, LOCALLY AMYGDALOIDAL

Fine grained, medium grey-green, weakly foliated. Locally strongly fractured - fractures are silicified.

777' - 787' - highly foliated zone, 15% pyrrhotite, moderately ankeritized,locally sericitized. Minor highly silicified zones to 6". Assay sample 5525

787' - 812' - moderately foliated, weakly chloritic, moderately ankeritized. 20% bleached fractures and later calcite veinlets. 3 - 5% pyrrhotite

@ 832' - core begins to display a moderate intensity of irregular, very dark grey, siliceous - carbonaceous insitu brecciation fractures. Core takes on a darker grey hue.
Downhole contact gradational.

839.0' - 863.0' - MAFIC- INTERMEDIATE FRAGMENTAL
Likely a flow breccia - dark grey, carbonaceous and moderately to strongly chloritic

863.0' - 894.0' - MAFIC - INTERMEDIATE FRAGMENTAL
Likely a flow breccia - moderately carbonatized, medium tan colour, weakly sericitized. Chlorite-calcite fracture filling veinlets.

894.0' End of Hole

Summary Diamond Drill Hole Log

DDH. R-80-D-7

*Note - Only 3 boxes of core for this hole stored at core library.

0 - 105' - Casing in overburden

129' - 152 - Fine grained, grey, quartz porphyritic rhyolite. Very similar to rhyolite in hole R-80-D-8. Weakly sericitized.

250' - 274' - As above, less altered. Sample 5534.

371' - 395' - As above. Moderately foliated, 10% sericite; moderate intensity of chlorite alteration bands. Weak calcite veining. Sample 5531.

447' - End of Hole

Summary Diamond Drill Hole Log

DDH. R-80-D-7

*Note - Only 3 boxes of core for this hole stored at core library.

0 - 105' - Casing in overburden

129' - 152 - Fine grained, grey, quartz porphyritic rhyolite. Very similar to rhyolite in hole R-80-D-8. Weakly sericitized.

250' - 274' - As above, less altered. Sample 5534.

371' - 395' - As above. Moderately foliated, 10% sericite; moderate intensity of chlorite alteration bands. Weak calcite veining. Sample 5531.

447' - End of Hole

Summary Diamond Drill Hole Log

DDH. R-80-D-8

0 - 108' - Casing in overburden

Throughout hole - average 5% quartz-ankerite veinlets. Also, common is fine pervasive Fe-carbonate fractures (5%).
Veins and fractures for first 250' are commonly vuggy.
Foliation and carbonate fracture veinlets at 60-70 degrees to core axis.
F2 foliation and associated planar fractures at 25-30 degrees to core axis cross-cuts ankerite veins.

108.0' - 506.0' - RHYOLITE

Grey, fine grained to aphanitic, weakly foliated, 10% <1mm quartz phenocrysts. Some zones to 10' wide are are moderately fractured-brecciated and iron stained.

@168.5' - Sample 5533 - fine grained quartz porphyritic rhyolite.

@ 209' - 5% fine acicular black tourmaline in a 15' quartz-ankerite vein.

@343' - 4" irregular quartz-ankerite vein. Minor chalcopyrite in vein quartz; trace pyrite at margins.

@345' - core becomes moderately to strongly foliated @ 45 degress to core axis. Moderately sericitized. Becomes progressively more ankeritized downhole to 368'.

365' - 384' - highly ankeritized and silicified, 10% quartz-ankerite veins to 2". Moderately sericitized. Strong superimposed chloritic alteration 376'-386' - as fractures (15%) both parallel to and cross-cutting foliation. Sample 5532.

384' - 409' - moderately foliated, ankerite and sericite alteration continue, but progressively diminish downhole.

409' - 498.5' - fine grained, quartz porphyritic rhyolite. Medium grey colour, 10-15% rounded quartz phenocrysts to 2mm diameter. Strong (20%) patchy, banded chlorite alteration. Sample 5530.

506' - End of Hole

Summary Diamond Drill Hole Log

DDH R-80-D-9

0 - 158' - Casing in overburden

158' - 486' - KOMATIITIC VOLCANIC, ULTRAMAFIC

Now serpentine-chlorite-talc rock

Well developed coarse bladed spinifex at 327' - 330'

At 417' core begins to take on buff brown colour, due to carbonatization

From 437' on,, rock is highly ankeritized, locally fuchsitic.

486' - 491' - HIGHLY ANKERITIZED MAFIC VOLCANIC

Deep buff-tan in colour, moderately foliated, 20% quartz veining. Wall rock margins to veins are weakly sericitized and bear 1% pyrite.

491' - End of Hole

Summary diamond Drill Hole Log

DDH R-80-D-10

0 - 250' - Casing in overburden

250' - 453' - Lapilli crystal tuff - likely andesitic to dacitic in composition. 50-70% fragments of fine to coarse lapilli size. Fragments of variable type, but largely pale green-brown, with 10-15% feldspar phenocrysts to 2mm - often cored by chlorite. 5% grey quartz phenocrysts.

Matrix is darker green to green brown, fine grained, weakly feldspar porphyritic. Commonly highly sericitized and moderately chloritic.

Moderately to strongly foliated and generally highly sericitized. Fragments are elongate (3-5:1). Smaller fragments and coarse phenocrysts are often augen- shaped with calcite/chlorite quartz pressure shadows.

Samples 5536 and 5537.

453' - End of Hole

Summary Diamond Drill Hole Log

DDH. R-80-D-11

0 - 222.0' - Casing in Overburden

222.0' - 237.0' - GRAPHITIC ARGILLITE

Fine grained; dark grey to black in colour with abundant iron carbonate-bearing fractures; locally schistose and chloritic; moderately ankeritized. One to locally three percent medium grained, anhedral granular pyrite. Down hole contact is broken.

Foliation and bedding trend at 30° to core axis. Second foliation runs sub-parallel to core axis.

237.0' - 471.0' - CARBONATIZED ULTRAMAFIC ROCK

Fine to medium crystalline; medium brown-grey in colour; moderately to strongly carbonatized (ankeritic). Common chlorite and serpentine slips and diffuse patches form irregular matrix to carbonate crystals. Moderately foliated at 30° to the core axis.

5-10% pale grey, irregular iron-carbonate veinlets. Minor white quartz veins to 3" in width. Veins cut the foliation at irregular and varying angles. Minor fine, anhedral, disseminated pyrite.

237' - 254' - abundant dark grey insitu brecciation fractures. Moderate to strong pervasive carbon and carbonate alteration. 5% quartz veinlets. 3-5% anhedral disseminated pyrite.

253' - 254' - rubbly fault gouge

258' - 260' - very dark grey; massive; intensely carbonatized and carbon altered. Abundant fine, grey ankerite veinlets. 3-5% very fine to locally medium grained disseminated pyrite.

254' - 258' - massive white quartz vein with carbonaceous inclusions. Minor fine pyrite on carbonaceous fracture surfaces.

- coarse bladed spinifex(?) textured rock @ 311.5' and 416.5'.

Intensity of carbonate alteration and foliation weaken downhole. Section from 261- - 320' is talcose and serpentinized.

471.0' End of Hole

Summary Diamond Drill Hole Log

DDH. R-80-D-12

0' - 248' - Casing In Overburden

248' - 257' - BLOCKY MAFIC VOLCANIC

Fine grained; medium to dark green; moderately chloritic and weakly kaolinitized; weakly foliated but core is extremely blocky and pitted. Trace fine pyrite.
3.5' of lost core.

256' - ? - FAULT ZONE

Lost core from 258'-296'.

296' - 322' - KAOLINITIZED MAFIC?

Pale buff-cream in colour; extremely soft and kaolinitized; intensely fracture brecciated - fractures are rusty and pitted. Trace pitted pyrite.
18' lost core in interval.

322' - 328' - LOST CORE

328' - 383' - GRAPHITIC ARGILLITE / SCHIST

Graphitic argillite with common graphitic schist intervals. Very fine grained; black to silver grey in schisted zones. 5% pyrite - largely as granular, subrounded nodules to 1cm. in diameter with talc and/or crysotile asbestos pressure shadows in foliation planes.

347.0' - 348.0'- fault gouge

357.0' - 365.0' - 5-10% buff-yellow crysotile asbestos veinlets - fracture filling. Veinlets are within a graphitic schist. Core is very blocky. 10% locally very coarse nodular pyrite.

@ 366'; 386' - 20% blue-green talc? occurring with 10% fine grained pinkish coloured pyrite. Fills fine irregular fractures.

386.0' - 397.0' - CORE MISSING AND GROUND

Only 2.0' of graphitic schist stored for this interval.

397' - 544' - TALC-CHLORITE-SERPENTINE-CARBONATE SCHIST: LOCALLY SPINIFEX BEARING

Medium to dark green-grey with extensive white to creamy buff mottling throughout. Very soft. Very coarse mottled texture due to intense talc-iron carbonate veining and coarse pervasive alteration (30% pervasive alteration is common).

Foliation and first generation of talc-carbonate veinlets trend at 45° to core axis - but may vary from 20° to 70°. Second generation of talc-carbonate veins trends at 80° to core axis. Minor disseminated pyrite.

Core is weakly kaolinitized and very rubbly and blocky until 421'.

At 467', intensity of mottling and carbonate alteration increases to very strong downhole and core becomes very schistose. Pervasive ankeritization and veining is intense for last 3o'. Minor disseminated pyrite.

-@ 418.0'- hematized fault gouge

-@ 437.0; 443.5' - minor fine fracture filling pyrite stringers.

544.0' End of Hole

Summary Diamond Drill Hole Log

DDH. R-80-D-13

0' - 165.0' - Casing in Overburden

165.0' - 242.0' - MASSIVE MAFIC: INTRUSIVE?

Medium grey-green in colour; medium grained; 1-3% fine disseminated leucoxene; very massive with minor calcite-chlorite-epidote flat fracture veinlets trending at 30-40° to the core axis. Weak spotted chloritic alteration is developed locally. Very weak sugary white pervasive calcitic alteration throughout.

Trace pyrrhotite, pyrite and chalcopyrite in fractures. 1% very fine disseminated pyrite common in vein margins.

-@195.0' - one foot massive quartz-calcite-chlorite-brown carbonate vein. 1% pyrrhotite-pyrite-chalcopyrite at vein margins and in vein fractures.

242.0' - 292.0' - BOXES MISSING

292.0' - 298.0' - BASALT-ANDESITE; HIGHLY SERICITIZED; STRONGLY FOLIATED TO SHEARED

Pale yellow-buff in colour; very strongly foliated to schistose and sheared at 35° to core axis. Schistosity defined by abundant sericite and lesser chloritic slips. Moderately carbonatized - as pervasive ankeritic alteration. Minor carbonaceous material and pyrrhotite on shear surfaces; also, very well developed lineation found on these surfaces.

All core in interval was split and appears somewhat disordered.

296.0' - 298.0' - bears 10% hematized fractures.

298.0' - 298.4' - INTERFLOW GRAPHITIC ARGILLITE

Black graphitic argillite; strongly foliated on thin shear/slip surfaces. Abundant calcitic fracture veinlets. Bedding and foliation trend at 35° to the core axis.

Unit displays moderate pervasive ankerite alteration. 5% pyrite and 0.5% pyrrhotite as fine fracture filling veinlets.

298.4 - 307.0' - BRECCIATED ANDESITE; CARBONACEOUS; STRONGLY FOLIATED.

Green-grey in colour; fine grained; chloritic and moderately sericitized. Strongly foliated at 30-35° to the core axis. Displays moderate intensity of pervasive ankeritic alteration. Fine grained, black carbonaceous material occurs commonly along foliation planes and also as "matrix" to more strongly brecciated zones.

30% of unit appears fragmental/brecciated. Fragments are buff brown in colour, 3mm. to 1cm. in width and are highly elongate (3-5:1) parallel to the foliation. "Matrix" to fragments occurs as fine anastomosing chlorite-carbonaceous foliated slips.

2-5% combined pyrrhotite and pyrite - as fine disseminations on foliation planes and as coarser grained fracture fillings. 5% irregular calcite veinlets with minor pyrite and pyrrhotite at vein margins.

307.0' - 325.0' - BASALT-ANDESITE; SPARSELY AMYGDALOIDAL

Medium grey in colour; fine grained; 3-5% very fine disseminated white leucoxene. Weakly foliated with very localized zones displaying stronger foliation at vein margins. Weak pervasive carbonatization. Very sparse calcite-filled amygdules - subspherical in outline and to 4 mm. in diameter.

Common hematized planar fractures, bearing chlorite and 1-3% very fine disseminated pyrite and pyrrhotite on surfaces. Many hematized surfaces display sheared textures and also have well developed lineations.

Minor quartz and calcite filled fracture veinlets bearing fine disseminated pyrite at vein margins.

325.0' - 329.0' - GRAPHITIC ARGILLITE

Fine grained and finely bedded at 30° to the core axis. Bedding is gently contorted. Moderately foliated with minor graphitic shear plane surfaces developed.

5% irregular to bedding parallel quartz and quartz-calcite veinlets. 2% to locally 5% pyrite - occurs as fine fracture fillings and diffuse patches of fine, euhedral, disseminated crystals. Trace fracture filling pyrrhotite.

329.0' - 342.5' - MASSIVE BASALT - ANDESITE

Medium grey in colour; fine grained; weakly foliated; minor sparse amygdules (?). Very weak hematitic fracturing. 3% dark grey, carbonaceous-calcite veinlets with sheared contacts trend at 0-15% to core axis. Fine pyrite-pyrrhotite seams at vein margins.

Downhole contact is moderately sharp at 15-20° to the core axis.

DDH. R-80-D-13 (cont.)

342.5' - 602.0' - ANDESITE; PILLOWED; AMYGDALOIDAL; CARBONACEOUS FRACTURE BEARING AND PYRRHOTITE BEARING.

Fine grained; medium grey-green to medium-dark grey in more pervasively carbon altered zones. Generally massive to weakly foliated. Unit is characterized by common to locally highly abundant, irregular, siliceous, pyrrhotite-bearing black fracture filling veinlets. Fractures appear to be tectonic in origin - in situ fracture brecciation.

Amygdules are very common (locally to 10%), and are variably filled with fine granular white calcite or by a black, siliceous material. Amygdules are very commonly rimmed by very fine pyrrhotite.

Most intensely fracture brecciated and carbonaceous-silicified zones have a fragmental appearance. Fragments are angular to subrounded in shape and vary in size from 3 mm. to 5 cm., and comprise 50% to 90% of these zones. Matrix to fragments consists of very dark grey siliceous-carbonaceous material with chlorite and minor calcite.

Pillow selvages are commonly 2-10 cm. wide, carbon-silica altered and bear 2-10% pyrrhotite and pyrite. Minor quartz veins to 3" throughout.

342.5'-344.3' - intensely carbonatized; flooded with white calcite veinlets. 2% pyrite in fractures.

343.0-348.2' - strongly foliated to schistose and fractured at 0-10° to core axis. 20% coarse, anhedral pyrite and pyrrhotite masses.

Major carbonaceous, brecciated intervals (pyrite-pyrrhotite-trace chalcopyrite bearing):

359.5-361.0' - 40%, 1-2 cm. wide patches and bands of very fine grained pyrrhotite-pyrite.

465.0-471.0' - 10-15% fine grained, massive pyrrhotite-pyrite. Occurs as dense patches and bands to 1.5 cm. in width, within matrix of black siliceous-carbonaceous material.

480.0-480.7' - 20-40% fine pyrrhotite-pyrite in matrix of black, siliceous material.

-@ 553.0' - intensity of fracturing, carbonaceous alteration and silicification decrease. Core takes on a more green hue. Intensity of black, siliceous fractures decreases to low. Pillow selvages become thin and chloritic, with only a trace of sulphides.

602.0 End of Hole

APPENDIX C

Geochemical Results

Reid Township Property

XRAL
X-RAY ASSAY LABORATORIES
A DIVISION OF SGS SUPERVISION SERVICES INC.
1885 LESLIE STREET • DON MILLS, ONTARIO M3B 3J4 • CANADA
TEL: (416)445-5755 TELEX: 06-986947 FAX: (416)445-4152

CERTIFICATE OF ANALYSIS

REPORT 10229

TO: D.R. PYKE & ASSOCIATES
ATTN: D.R. PYKE
31 DELAIR CRESCENT
THORNHILL, ONTARIO
L3T 2M3

CUSTOMER No. 754

DATE SUBMITTED
28-Sep-89

REF. FILE 5898-R5

Total Pages 6

33 S.CORES, 5 ROCKS

	METHOD	DETECTION LIMIT
AU PPB	NA	5.
BE PPM	DCP	1.
B PPM	DCP	10.
WRMAJ %	WR	0.01
SC PPM	NA	0.5
V PPM	DCP	2.
CR PPM	NA	2.
MN PPM	DCP	2.
CO PPM	NA	1.
NI PPM	DCP	1.
CU PPM	DCP	0.5
ZN PPM	DCP	0.5
GE PPM	DCP	10.
AS PPM	NA	2.
SE PPM	NA	3.
BR PPM	NA	1.
WRMIN PPM	WR	10.
MO PPM	NA	5.
AG PPM	DCP	0.5

	METHOD	DETECTION LIMIT
CD PPM	DCP	1.
SB PPM	NA	0.2
CS PPM	NA	1.
LA PPM	NA	0.5
CE PPM	NA	3.
ND PPM	NA	5.
SM PPM	NA	0.1
EU PPM	NA	0.2
TB PPM	NA	0.5
YB PPM	NA	0.2
LU PPM	NA	0.05
HF PPM	NA	1.
TA PPM	NA	1.
W PPM	NA	3.
IR PPB	NA	20.
PB PPM	DCP	2.
TH PPM	NA	0.5
U PPM	NA	0.5

*** UNLESS INSTRUCTED OTHERWISE WE WILL DISCARD PULPS 180 DAYS ***
AND REJECTS 30 DAYS FROM DATE OF THIS REPORT

Radioactive Pulps will be
DISCARDED ON Dec. 17

DATE 17-NOV-89

CERTIFIED BY

Jean H.L. Opdebeeck, Vice President Operations

SAMPLE	AU PPB	BE PPM	B PPM	SC PPM	V PPM	CR PPM	MN PPM	CO PPM	NI PPM
5501	<5	4	40	5.2	6	160	160	<1	5
5502	<5	3	20	4.8	8	140	190	2	5
5504	<5	2	30	4.5	2	130	150	<1	5
5507	<5	6	50	9.0	8	73	220	3	3
5508	<5	1	10	3.9	10	230	40	<1	5
5511	8	3	50	7.8	6	80	--	<1	4
5512	17	3	60	0.7	6	110	160	1	4
5520	7	3	50	6.3	8	120	280	<1	5
5521	<5	3	20	36.0	180	210	--	39	76
5522	10	3	30	1.9	8	140	--	1	5
5523	<5	3	20	49.3	250	240	--	57	52
5524	6	4	10	19.4	52	130	--	17	9
5530	7	3	40	7.5	8	77	200	1	5
5531	<5	4	50	7.1	8	120	--	<1	4
5532	12	2	20	5.0	8	240	--	<1	6
5533	<5	3	40	4.5	6	190	--	<1	4
5534	9	3	40	7.5	4	89	58	<1	5
5536	<5	3	50	6.1	6	130	170	2	6
5537	<5	3	70	5.6	6	110	250	2	4
5541	<5	2	20	1.3	6	230	210	2	6
5543	<5	3	<10	64.4	340	200	--	56	62
5546	5	2	<10	4.5	8	290	200	2	7
5547	<5	2	20	3.4	10	230	170	<1	7
5550	<5	2	30	6.8	8	73	--	1	4
5552	<5	2	40	2.7	4	220	90	<1	6
5553	<5	2	40	36.0	200	100	--	36	46
5554	<5	2	50	17.6	44	110	--	15	16
5555	<5	2	70	40.1	250	110	--	22	28
5556	<5	1	<10	3.0	4	270	200	2	7
5557	7	3	20	29.4	150	170	--	36	89
5558	6	3	70	31.6	180	190	--	22	69
5559	<5	4	60	5.0	8	160	300	1	6
5560	7	2	110	8.3	6	130	160	1	4
P-62-89	6	3	30	5.6	6	180	210	1	4
P-63-89	12	4	<10	4.7	6	110	64	3	7
P-77-89	<6	4	<10	43.2	340	140	--	33	14
P-88-89	6	3	20	27.7	94	110	--	10	4
P-93-89	<5	2	30	6.7	14	130	92	2	5

SAMPLE	CU PPM	ZN PPM	GE PPM	AS PPM	SE PPM	BR PPM	MO PPM	AG PPM	CD PPM
5501	10.0	67.0	<10	<2	13	<1	<5	<0.5	<1
5502	6.5	76.0	<10	<2	9	<1	<5	<0.5	<1
5504	3.0	70.0	<10	<2	6	<1	<5	<0.5	<1
5507	1.0	57.0	10	<2	7	<1	<5	<0.5	<1
5508	3.5	13.0	<10	<2	12	<1	<5	<0.5	<1
5511	7.5	210.	<10	<2	16	<1	<5	<0.5	<1
5512	4.0	170.	10	<2	9	<1	<5	<0.5	<1
5520	3.5	52.0	<10	<2	17	<1	<5	<0.5	<1
5521	67.0	90.0	<10	<2	3	<1	<5	<0.5	<1
5522	19.0	210.	<10	18	13	<1	<5	<0.5	<1
5523	51.0	110.	10	58	<3	<1	<5	<0.5	<1
5524	20.0	120.	30	11	8	<1	<5	<0.5	<1
5530	9.0	110.	<10	<2	9	<1	<5	<0.5	<1
5531	8.0	110.	<10	<2	11	<1	<5	<0.5	<1
5532	7.5	98.0	<10	<2	<3	<1	<5	<0.5	<1
5533	8.5	33.0	10	<2	12	<1	<5	<0.5	<1
5534	10.0	81.0	<10	<2	12	<1	<5	<0.5	<1
5536	6.0	58.0	<10	<2	9	<1	<5	<0.5	<1
5537	7.5	110.	<10	<2	7	<1	<5	<0.5	<1
5541	17.0	26.0	<10	<2	<3	<1	<5	<0.5	<1
5543	91.0	99.0	20	2	<3	<1	<5	<0.5	<1
5546	17.0	48.0	<10	<2	5	<1	<5	<0.5	<1
5547	10.0	53.0	<10	<2	10	1	<5	<0.5	<1
5550	14.0	85.0	<10	10	6	<1	<5	<0.5	<1
5552	6.5	32.0	<10	<2	14	<1	<5	<0.5	<1
5553	30.0	140.	<10	27	<3	1	<5	<0.5	<1
5554	23.0	180.	20	12	3	1	<5	<0.5	1
5555	20.0	80.0	20	26	4	<1	<5	<0.5	<1
5556	9.5	18.0	<10	<2	3	<1	<5	<0.5	<1
5557	5.5	71.0	<10	<2	<4	<1	<5	<0.5	<1
5558	43.0	100.	<10	<2	<3	<1	<5	<0.5	<1
5559	15.0	80.0	<10	<2	10	<1	<5	<0.5	<1
5560	4.0	76.0	<10	<2	6	1	<5	<0.5	<1
P-62-89	4.0	33.0	<10	<2	13	<1	<5	<0.5	<1
P-63-89	3.5	28.0	<10	<2	12	<1	<5	<0.5	<1
P-77-89	16.0	120.	<10	7	<5	2	<5	<0.5	<1
P-88-89	2.5	90.0	<10	6	<3	<1	<5	<0.5	<1
P-93-89	3.5	17.0	<10	<2	<3	<1	<5	<0.5	<1

SAMPLE	SB PPM	CS PPM	LA PPM	CE PPM	ND PPM	SM PPM	EU PPM	TB PPM	YB PPM
5501	<0.2	3	65.0	140	68	14.9	0.9	3.0	10.9
5502	<0.2	3	60.7	131	62	14.6	1.1	2.9	10.1
5504	0.2	4	51.1	118	49	10.6	0.6	2.1	9.5
5507	0.2	11	84.1	190	82	18.7	1.0	3.1	11.1
5508	<0.2	2	47.1	107	46	12.5	1.4	2.3	7.5
5511	0.2	4	55.9	181	65	17.8	3.1	4.0	15.7
5512	0.2	6	34.2	110	57	18.6	1.6	4.4	20.4
5520	0.2	4	69.6	164	65	16.8	1.5	3.1	13.4
5521	1.1	1	17.1	37	16	4.0	1.5	<0.5	3.0
5522	0.5	4	88.1	193	83	19.5	2.6	3.5	19.4
5523	0.9	3	9.3	28	15	4.1	1.2	0.7	4.4
5524	0.4	1	20.6	44	21	4.9	1.3	<0.5	3.8
5530	0.2	6	70.3	150	64	13.4	1.3	2.0	6.1
5531	<0.2	3	63.6	122	54	11.8	1.6	1.5	9.2
5532	0.3	2	41.9	90	36	8.2	1.9	0.6	5.8
5533	0.3	2	52.0	111	55	9.8	1.5	1.3	6.7
5534	0.2	6	57.5	118	47	11.4	1.8	1.4	4.3
5536	0.2	4	44.3	103	40	9.4	1.1	1.9	9.8
5537	<0.2	5	45.5	101	44	8.6	1.2	1.5	7.3
5541	0.4	1	10.8	29	9	1.8	<0.4	<0.5	1.3
5543	0.2	<1	7.4	19	13	3.3	0.9	0.6	3.4
5546	0.2	<1	41.1	91	35	7.7	1.3	1.4	7.2
5547	0.2	1	47.2	96	38	8.7	1.2	1.3	5.0
5550	0.5	4	61.6	138	54	11.0	1.5	2.0	8.1
5552	0.4	3	56.8	128	58	12.4	0.7	2.2	7.1
5553	1.1	2	16.4	38	16	4.4	1.1	0.5	3.1
5554	1.4	2	28.8	63	31	5.6	1.1	1.1	5.2
5555	0.4	4	17.0	45	21	4.7	1.2	0.8	3.3
5556	0.2	1	32.6	69	32	6.4	1.2	1.2	5.5
5557	0.7	3	16.8	37	16	3.7	1.1	0.5	2.6
5558	0.2	6	12.8	36	16	3.5	0.6	<0.5	2.4
5559	0.3	3	63.4	147	63	14.7	1.1	3.1	12.9
5560	0.7	6	50.7	136	50	8.9	0.7	1.4	7.7
P-62-89	<0.2	2	72.6	164	69	16.6	1.4	3.2	13.6
P-63-89	<0.2	<1	46.3	97	59	14.1	1.8	2.6	9.8
P-77-89	0.4	3	18.0	43	20	4.6	1.4	0.9	2.7
P-88-89	0.4	2	40.7	83	40	8.8	2.1	0.7	4.2
P-93-89	<0.2	1	27.0	53	24	4.5	0.9	<0.5	2.6

SAMPLE	LU PPM	HF PPM	TA PPM	W PPM	IR PPB	PB PPM	TH PPM	U PPM
5501	1.68	10	1	<3	<20	4	7.1	1.4
5502	1.50	9	2	<3	<20	3	6.4	1.7
5504	1.45	9	1	<3	<20	<2	6.1	1.3
5507	1.65	18	3	<3	<20	<2	13.0	3.2
5508	1.13	8	2	<3	<20	<2	6.8	1.2
5511	2.46	21	1	<3	<20	<2	4.2	1.2
5512	3.02	12	1	<3	<20	<2	7.6	2.4
5520	1.98	12	1	<3	<20	<2	7.8	1.3
5521	0.45	4	1	<3	<20	<2	1.3	0.7
5522	2.96	10	1	<3	<20	<2	8.9	2.0
5523	0.71	2	<1	<3	<20	<2	<0.5	<0.5
5524	0.55	5	<1	<3	<20	<2	1.1	<0.5
5530	0.97	12	<1	<3	<20	<2	9.8	2.1
5531	1.42	10	1	<3	<20	<2	8.1	2.0
5532	0.90	6	<1	<3	<20	<2	5.0	1.2
5533	1.07	9	<1	<3	<20	<2	7.1	1.7
5534	0.68	12	2	<3	<20	<2	9.2	3.0
5536	1.56	10	1	<3	<20	<2	8.4	1.6
5537	1.18	9	1	<3	<20	<2	7.3	1.4
5541	0.23	3	<1	<3	<20	<2	1.7	0.9
5543	0.51	2	1	<3	<20	<2	0.6	<0.5
5546	1.11	6	<1	<3	<20	<2	5.4	1.7
5547	0.84	8	<1	<3	<20	5	6.3	1.6
5550	1.25	11	1	<3	<20	2	8.7	2.3
5552	1.00	8	1	<3	<20	<2	6.9	0.5
5553	0.47	3	<1	<3	<20	<2	0.7	<0.5
5554	0.87	5	<1	<3	<20	<2	2.9	0.6
5555	0.50	4	<1	<3	<20	<2	1.4	0.5
5556	0.83	5	<1	<3	<20	<2	4.4	1.2
5557	0.40	3	1	<3	<20	<2	1.3	<0.5
5558	0.36	3	<1	4	<20	<2	1.4	<0.5
5559	1.98	10	1	<3	<20	<2	7.3	1.2
5560	1.21	10	1	<3	<20	<2	6.2	1.3
P-62-89	2.07	11	2	<3	<20	<2	7.6	2.5
P-63-89	1.72	5	<2	3	<20	<2	6.5	0.9
P-77-89	0.38	2	<1	<3	<20	<2	1.7	0.5
P-88-89	0.67	5	<1	<3	<20	<2	3.4	0.9
P-93-89	0.48	6	<1	<3	<20	<2	4.1	1.3

SAMPLE \ %	SIO2	AL2O3	CAO	MGO	NA2O	K2O	FE2O3	MNO	TIO2	P2O5	LOI	SUM
5501	79.0	10.2	0.83	0.88	2.16	2.46	1.73	---	0.15	0.02	1.77	99.3
5502	79.0	11.0	0.35	0.78	3.70	2.06	1.56	---	0.14	0.02	1.39	100.1
5504	81.9	8.78	0.76	1.50	0.42	2.93	1.45	---	0.13	0.02	2.31	100.3
5507	62.3	17.5	0.09	3.65	0.30	6.45	5.69	---	0.23	0.02	3.70	100.2
5508	83.5	9.27	0.26	0.24	4.80	0.89	0.52	---	0.14	0.02	0.77	100.5
5511	65.1	10.8	4.02	1.34	0.83	2.77	6.40	0.26	0.33	0.05	7.85	99.9
5512	79.2	11.8	0.69	0.51	0.35	3.16	1.10	---	0.09	0.01	2.93	100.0
5520	76.3	12.4	1.13	0.58	1.64	2.72	1.53	---	0.16	0.03	3.39	100.0
5521	54.7	15.8	9.58	3.38	2.34	0.24	8.72	0.17	0.84	0.14	4.23	100.2
5522	74.9	12.9	0.82	0.45	3.29	3.70	2.46	0.08	0.15	0.02	1.16	100.1
5523	58.2	13.7	7.17	1.86	4.06	1.14	6.47	0.14	1.32	0.22	5.62	100.0
5524	61.3	16.5	4.33	1.61	5.80	0.13	7.19	0.12	0.92	0.24	1.77	100.0
5530	70.9	14.9	0.71	1.29	3.20	3.38	2.79	---	0.19	0.03	2.85	100.4
5531	73.9	13.6	0.60	0.91	4.33	1.89	2.74	0.06	0.17	0.03	1.85	100.2
5532	77.1	8.70	2.63	1.17	4.78	0.47	1.59	0.06	0.12	0.02	3.77	100.5
5533	77.1	12.0	0.45	0.27	3.45	3.71	1.41	0.08	0.15	0.02	1.47	100.2
5534	72.5	15.3	0.48	0.83	4.13	3.16	1.36	---	0.19	0.03	2.00	100.2
5536	77.0	12.7	0.27	0.22	2.89	3.63	1.85	---	0.16	0.02	1.39	100.3
5537	76.4	12.6	0.78	0.16	2.34	3.83	1.91	---	0.16	0.02	1.85	100.2
5541	81.3	9.74	1.42	0.31	4.42	0.65	0.89	---	0.12	0.05	1.16	100.1
5543	50.4	15.0	7.40	5.61	3.72	0.06	10.6	0.30	1.32	0.12	4.70	99.3
5546	82.4	9.26	1.15	0.17	5.05	0.41	0.85	---	0.13	0.02	0.47	100.0
5547	80.0	10.8	1.07	0.14	5.09	0.98	1.08	---	0.15	0.02	0.77	100.2
5550	74.6	13.3	0.59	2.19	1.01	2.53	2.66	0.06	0.21	0.03	2.85	100.1
5552	79.2	9.92	1.55	0.57	0.17	4.72	1.01	---	0.14	0.02	2.77	100.2
5553 T	43.4	15.4	8.98	2.01	3.11	1.07	10.2	0.21	1.17	0.17	14.7	100.5
5554 T	68.7	13.0	2.00	1.41	1.14	2.14	5.13	0.15	0.49	0.13	6.08	100.5
5555 T	45.9	17.5	5.76	1.93	1.92	3.63	10.1	0.23	1.32	0.19	11.8	100.4
5556	85.4	7.05	0.67	0.31	3.52	0.62	0.84	---	0.11	0.02	1.31	99.9
5557 T	51.1	15.3	4.24	5.15	3.55	1.11	8.09	0.09	0.74	0.13	9.70	99.3
5558 T	49.7	16.7	5.60	2.56	1.61	2.55	8.57	0.14	0.80	0.13	12.2	100.7
5559	80.5	9.99	1.09	0.42	0.71	2.75	1.73	---	0.14	0.02	2.77	100.2
5560	78.7	12.4	0.62	0.22	1.08	3.80	0.93	---	0.20	0.03	2.00	100.1
P-62-89	77.6	11.7	0.52	0.37	3.70	2.75	1.73	---	0.16	0.02	1.39	100.1
P-63-89	78.3	12.0	0.25	0.68	6.44	0.90	0.73	---	0.17	0.02	0.70	100.3
P-77-89	58.7	14.0	7.32	3.59	3.29	0.89	9.92	0.19	1.20	0.21	0.85	100.2
P-88-89	59.2	16.2	7.81	2.47	1.37	1.62	7.43	0.14	1.11	0.43	2.23	100.1
P-93-89	79.2	11.8	1.07	0.25	4.12	1.67	0.62	---	0.42	0.09	0.77	100.1

XRF W.R.A. SUMS INCLUDE ALL ELEMENTS DETERMINED. FOR SUMMATION, ELEMENTS ARE CALCULATED AS OXIDES

SAMPLE \ PPM	RB	SR	Y	ZR	NB	BA
5501	97	36	95	227	21	386
5502	82	45	101	226	36	489
5504	105	15	77	174	22	541
5507	223	<10	88	401	43	1570
5508	37	23	59	210	27	474
5511	83	102	113	697	50	545
5512	101	72	141	166	30	464
5520	77	55	102	290	47	769
5521	15	266	17	107	11	231
5522	115	105	169	260	29	1010
5523	43	93	33	93	23	237
5524	<10	159	14	166	19	145
5530	115	58	40	321	22	831
5531	78	73	69	303	16	581
5532	23	160	45	153	22	170
5533	90	28	36	226	11	747
5534	101	77	30	300	20	969
5536	144	66	65	267	28	602
5537	150	74	40	267	21	606
5541	30	84	13	94	18	334
5543	<10	127	24	84	20	75
5546	12	135	45	203	<10	201
5547	34	140	42	234	26	785
5550	143	39	54	244	<10	517
5552	107	62	49	163	21	563
5553	38	215	18	100	31	223
5554	61	184	33	195	13	836
5555	88	162	35	121	<10	473
5556	29	77	25	148	<10	235
5557	50	163	<10	87	16	216
5558	77	259	16	107	23	361
5559	99	58	96	186	11	445
5560	69	75	57	260	<10	848
P-62-89	94	36	110	274	26	553
P-63-89	11	36	137	263	24	161
P-77-89	43	377	12	105	<10	163
P-88-89	58	452	46	178	19	422
P-93-89	62	101	<10	250	23	732

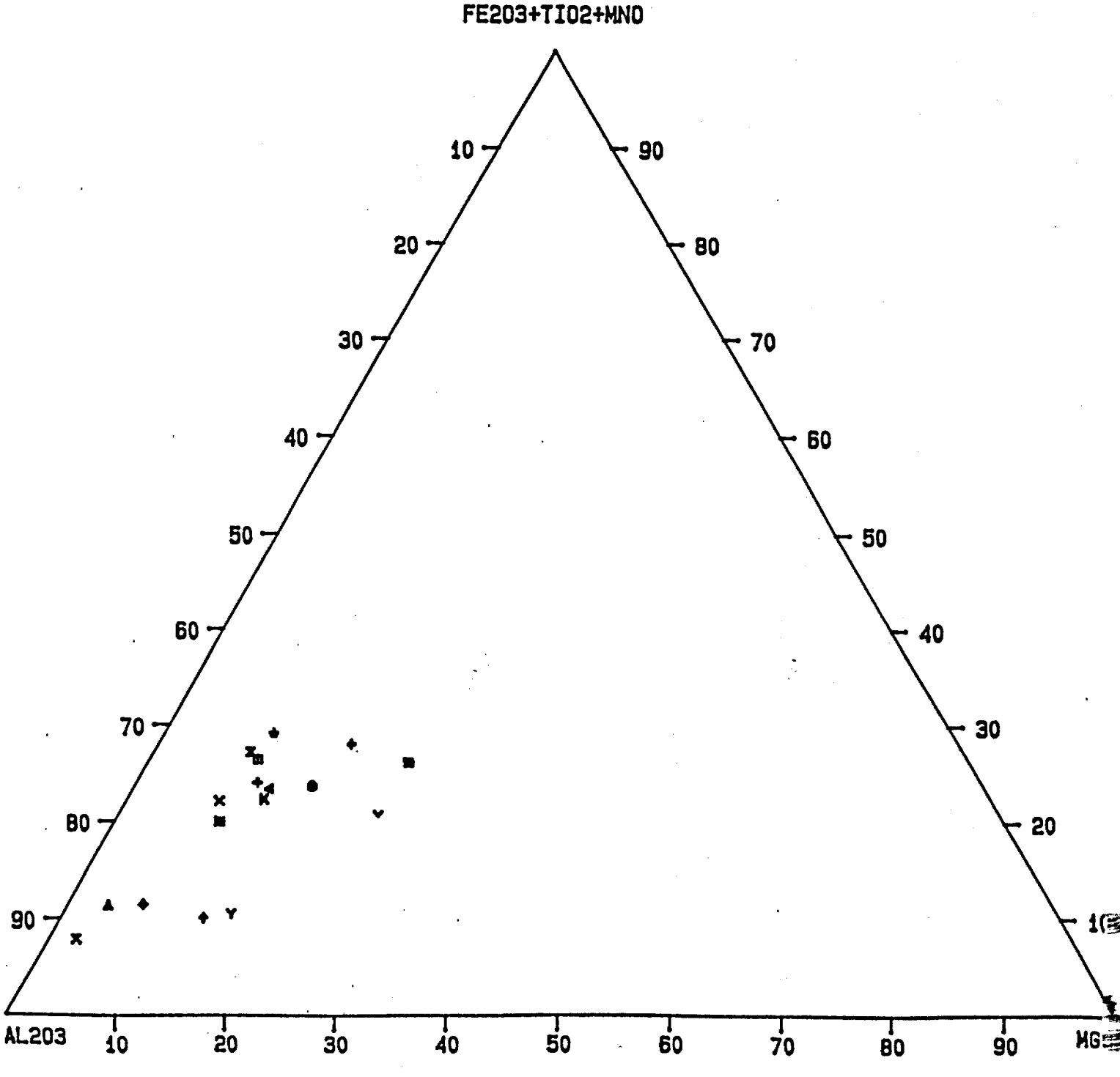
X-RAY ASSAY LABORATORIES

SYMBOL TABLE

CODE	SYMBOL	CODE	SYMBOL
1	▫	14	▾
2	●	15	◂
3	▲	16	✦
4	+	17	✖
5	×	18	➢
6	◆	19	✦
7	✦	20	✖
8	✖	21	✦
9	■	22	✖
10	Y	23	⅄
11	✦	24	✦
12	✖	25	✖
13	✖	26	≺

X-RAY ASSAY LABORATORIES 20-NOV-89
JENSEN CATION PLOT GRAPH 1

D.R. PYKE AND ASSOCIATES (REF 5898)



X-RAY ASSAY LABORATORIES 20-NOV-89
JENSEN CATION PLOT WITH GRUNSKY MODIFICATION GRAPH 1
D.R. PYKE AND ASSOCIATES (REF 5898)

SAMPLE	SYMBOL	CODE	AL203	MGO	FE203+MNO+TIO2
5511	1	DT	63.61	9.98	26.41
5521	2	AC	60.08	16.25	23.67
5522	3	RC	84.91	3.75	11.35
5523	4	DT	64.85	11.13	24.02
5524	5	DT	69.39	8.56	22.12
5531	6	RC	81.67	6.91	11.42
5532	7	DC	76.89	13.08	10.03
5533	8	RC	89.59	2.55	7.86
5543	9	BT	50.13	23.71	26.16
5550	10	DC	74.11	15.43	10.45
5553	11	DT	60.74	10.03	29.23
5554	12	DC	70.35	9.65	20.00
5555	13	DT	63.88	8.91	27.22
5557	14	BC	55.61	23.67	20.72
5558	15	DT	64.18	12.44	23.38
P-77-89	16	BC	54.31	17.61	28.07
P-88-89	17	AC	65.12	12.56	22.32

CODE REFERENCE - JENSEN CATION PLOT

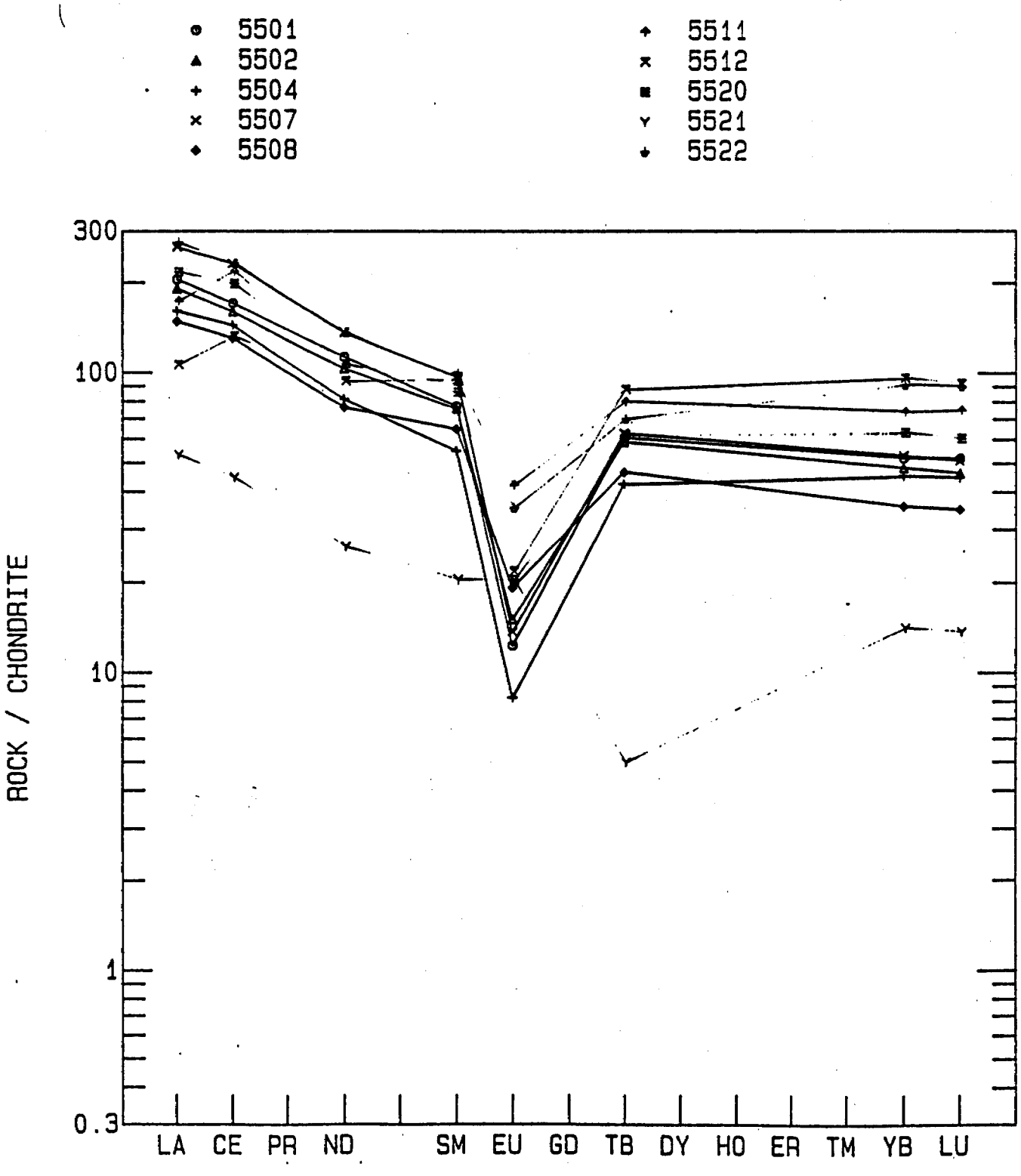
UK - ULTRAMAFIC KOMATIITE	BK - BASALTIC KOMATIITE
FT - IRON RICH BASALT	MT - HIGH MAGNESIUM BASALT
AT - THOLEIITIC ANDESITE	DT - THOLEIITIC DACITE
RT - THOLEIITIC RHYOLITE	BT - THOLEIITIC BASALT
AC - CALC-ALKALINE ANDESITE	BC - CALC-ALKALINE BASALT
RC - CALC-ALKALINE RHYOLITE	DC - CALC-ALKALINE DACITE
** - NOT DEFINED	

L. S. JENSEN (1976): A NEW CATION PLOT FOR CLASSIFYING SUBALKALIC VOLCANIC ROCKS. ONTARIO DIVISION OF MINES, MISC. PAPER 66.

E. C. GRUNSKY (1981): NO. 16 AN ALGORITHM FOR THE CLASSIFICATION OF SUBALKALIC VOLCANIC ROCKS USING THE JENSEN CATION PLOT. SUMMARY OF FIELD WORK. ONTARIO DIV. OF MINES, MISC. PAPER 100.

X-RAY ASSAY LABORATORIES 20-NOV-89
RARE EARTH CHONDRITE PLOTS

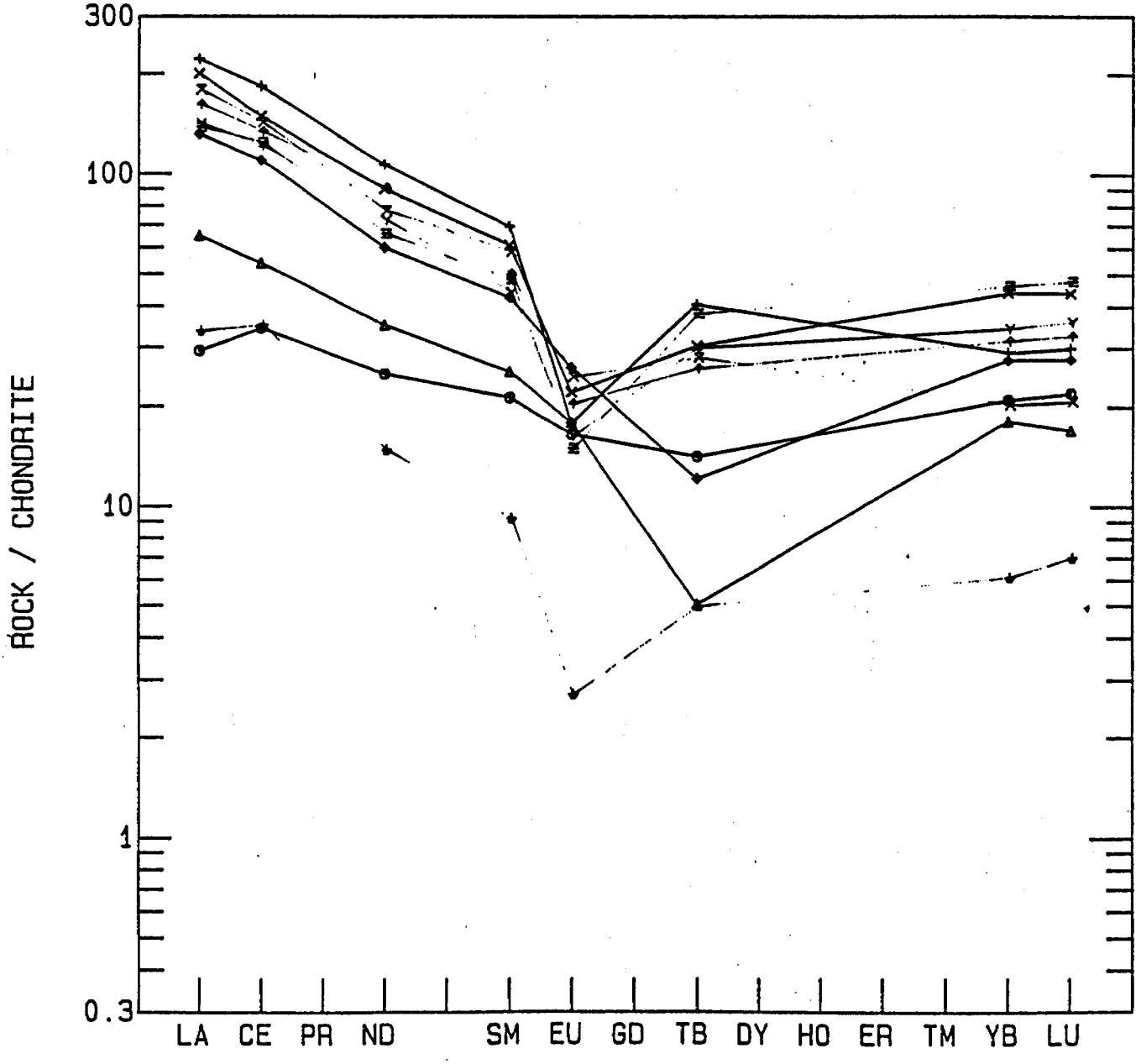
D.R. PYKE AND ASSOCIATES (REF 5898)



X-RAY ASSAY LABORATORIES 20-NOV-89
RARE EARTH CHONDRITE PLOTS

D.R. PYKE AND ASSOCIATES (REF 5898)

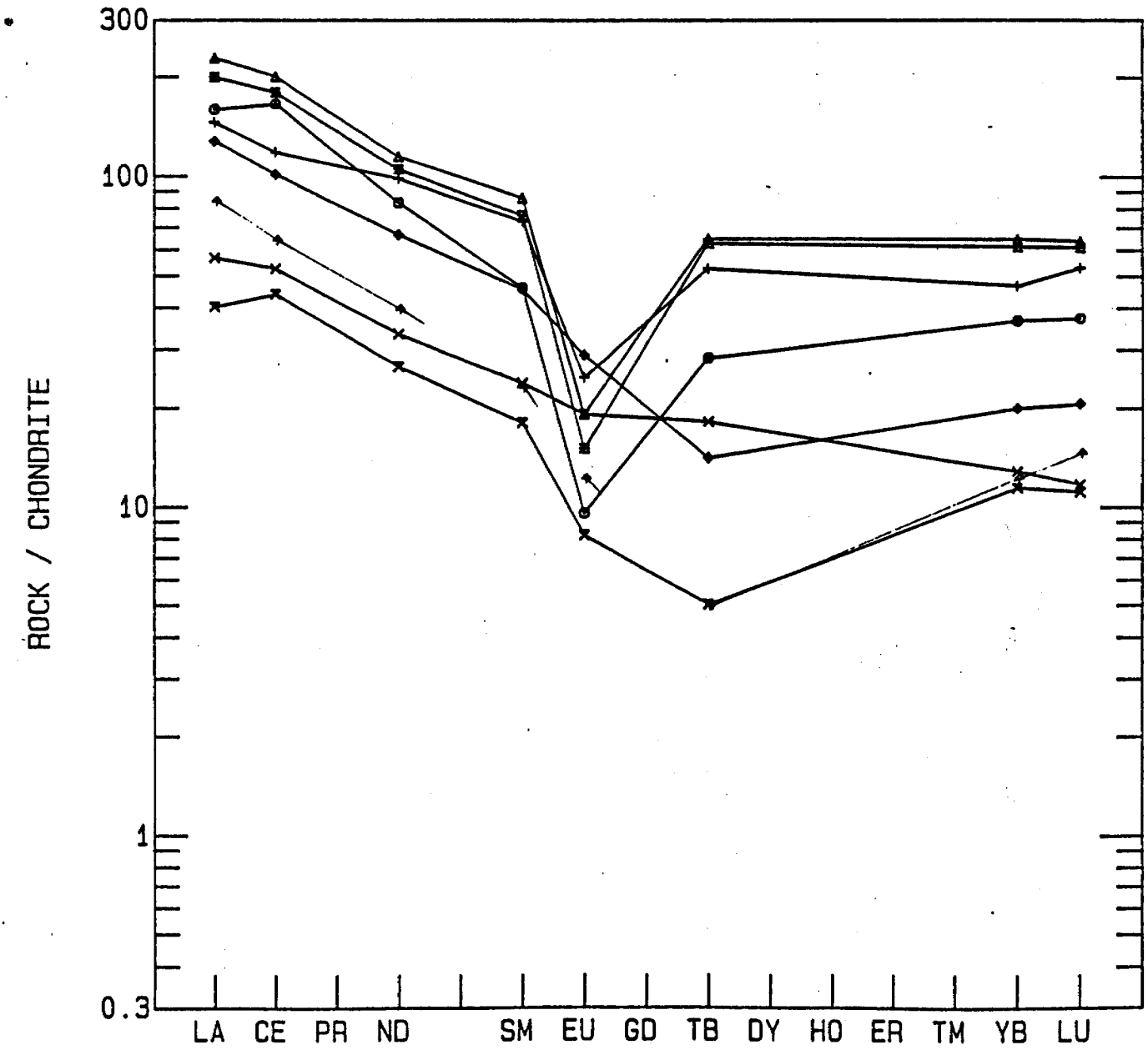
5523	5533
5524	5534
5530	5536
5531	5537
5532	5541



X-RAY ASSAY LABORATORIES 20-NOV-89
RARE EARTH CHONDRITE PLOTS

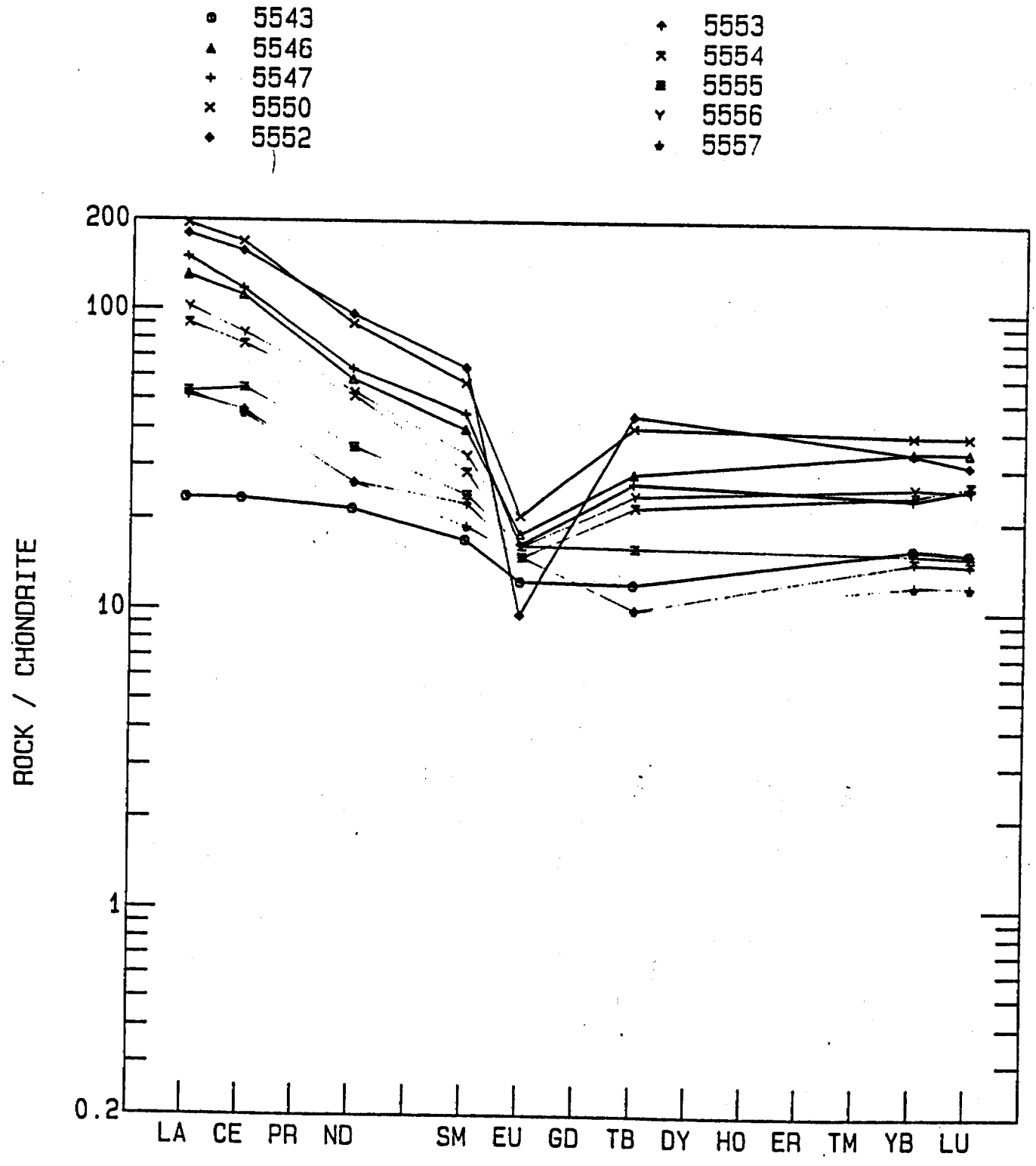
D.R. PYKE AND ASSOCIATES (REF 5898)

- 5560
- P-62-89
- P-63-89
- P-77-89
- P-88-89
- P-93-89
- 5558
- 5559



X-RAY ASSAY LABORATORIES 20-NOV-89
RARE EARTH CHONDRITE PLOTS

D.R. PYKE AND ASSOCIATES (REF 5898)



X-RAY ASSAY LABORATORIES 20-NOV-89 D.R. PYKE AND ASSOCIATES (REF 5898) CHONDRITE NORMALIZED VALUES

SAMPLE	LA	CE	PR	ND	SM	EU	GD	TB	DY	HO	ER	TM	YB	LU
5501	206.3	172.2	0.0	113.9	77.6	12.5	0.0	61.2	0.0	0.0	0.0	0.0	52.2	52.0
5502	192.7	161.1	0.0	103.9	76.0	15.2	0.0	59.2	0.0	0.0	0.0	0.0	48.3	46.4
5504	162.2	145.1	0.0	82.1	55.2	8.3	0.0	42.9	0.0	0.0	0.0	0.0	45.5	44.9
5507	267.0	233.7	0.0	137.4	97.4	13.9	0.0	63.3	0.0	0.0	0.0	0.0	53.1	51.1
5508	149.5	131.6	0.0	77.1	65.1	19.4	0.0	46.9	0.0	0.0	0.0	0.0	35.9	35.0
5511	177.5	222.6	0.0	108.9	92.7	42.9	0.0	81.6	0.0	0.0	0.0	0.0	75.1	76.2
5512	108.6	135.3	0.0	95.5	96.9	22.2	0.0	89.8	0.0	0.0	0.0	0.0	97.6	93.5
5520	221.0	201.7	0.0	108.9	87.5	20.8	0.0	63.3	0.0	0.0	0.0	0.0	64.1	61.3
5521	54.3	45.5	0.0	26.8	20.8	20.8	0.0	5.1	0.0	0.0	0.0	0.0	14.4	13.9
5522	279.7	237.4	0.0	139.0	101.6	36.0	0.0	71.4	0.0	0.0	0.0	0.0	92.8	91.6

C 'RITE RARE EARTH ELEMENT FACTORS USED TO NORMALIZE THE SAMPLE DATA:

LA .315 CE .813 PR .100 ND .597 SM .192 EU .0722 GD .259
TB .049 DY .325 HO .072 ER .213 TM .032 YB .209 LU .0323

(-RAY ASSAY LABORATORIES 20-NOV-89 D.R. PYKE AND ASSOCIATES (REF 5898) CHONDRITE NORMALIZED VALUES

SAMPLE	LA	CE	PR	ND	SM	EU	GD	TB	DY	HO	ER	TM	YB	LU
3523	29.5	34.4	0.0	25.1	21.4	16.6	0.0	14.3	0.0	0.0	0.0	0.0	21.1	22.0
3524	65.4	54.1	0.0	35.2	25.5	18.0	0.0	5.1	0.0	0.0	0.0	0.0	18.2	17.0
3530	223.2	184.5	0.0	107.2	69.8	18.0	0.0	40.8	0.0	0.0	0.0	0.0	29.2	30.0
3531	201.9	150.1	0.0	90.5	61.5	22.2	0.0	30.6	0.0	0.0	0.0	0.0	44.0	44.0
3532	133.0	110.7	0.0	60.3	42.7	20.3	0.0	12.2	0.0	0.0	0.0	0.0	27.8	27.9
3533	165.1	136.5	0.0	92.1	51.0	20.8	0.0	26.5	0.0	0.0	0.0	0.0	32.1	33.1
3534	182.5	145.1	0.0	78.7	59.4	24.9	0.0	28.6	0.0	0.0	0.0	0.0	20.6	21.1
3536	140.6	126.7	0.0	67.0	49.0	15.2	0.0	38.8	0.0	0.0	0.0	0.0	46.9	48.3
3537	144.4	124.2	0.0	73.7	44.8	16.6	0.0	30.6	0.0	0.0	0.0	0.0	34.9	36.5
3541	34.3	35.7	0.0	15.1	9.4	2.8	0.0	5.1	0.0	0.0	0.0	0.0	6.2	7.1

CHONDRITE RARE EARTH ELEMENT FACTORS USED TO NORMALIZE THE SAMPLE DATA:

LA .315 CE .813 PR .100 ND .597 SM .192 EU .0722 GD .259
TB .049 DY .325 HO .072 ER .213 TM .032 YB .209 LU .0323

X-RAY ASSAY LABORATORIES 20-NOV-89 D.R. PYKE AND ASSOCIATES (REF 5898) CHONDRITE NORMALIZED VALUES

SAMPLE	LA	CE	PR	ND	SM	EU	GD	TB	DY	HO	ER	TM	YB	LU
5543	23.5	23.4	0.0	21.8	17.2	12.5	0.0	12.2	0.0	0.0	0.0	0.0	16.3	15.8
5546	130.5	111.9	0.0	58.6	40.1	18.0	0.0	28.6	0.0	0.0	0.0	0.0	34.4	34.4
5547	149.8	118.1	0.0	63.7	45.3	16.6	0.0	26.5	0.0	0.0	0.0	0.0	23.9	26.0
5550	195.6	169.7	0.0	90.5	57.3	20.8	0.0	40.8	0.0	0.0	0.0	0.0	38.8	38.7
5552	180.3	157.4	0.0	97.2	64.6	9.7	0.0	44.9	0.0	0.0	0.0	0.0	34.0	31.0
5553	52.1	46.7	0.0	26.8	22.9	15.2	0.0	10.2	0.0	0.0	0.0	0.0	14.8	14.6
5554	91.4	77.5	0.0	51.9	29.2	15.2	0.0	22.4	0.0	0.0	0.0	0.0	24.9	26.9
5555	54.0	55.4	0.0	35.2	24.5	16.6	0.0	16.3	0.0	0.0	0.0	0.0	15.8	15.5
5556	103.5	84.9	0.0	53.6	33.3	16.6	0.0	24.5	0.0	0.0	0.0	0.0	26.3	25.7
5557	53.3	45.5	0.0	26.8	19.3	15.2	0.0	10.2	0.0	0.0	0.0	0.0	12.4	12.4

THE RARE EARTH ELEMENT FACTORS USED TO NORMALIZE THE SAMPLE DATA:

LA .315 CE .813 PR .100 ND .597 SM .192 EU .0722 GD .259
TB .049 DY .325 HO .072 ER .213 TM .032 YB .209 LU .0323

X-RAY ASSAY LABORATORIES 20-NOV-89 D.R. PYKE AND ASSOCIATES (REF 5898) CHONDRITE NORMALIZED VALUES

SAMPLE	LA	CE	PR	ND	SM	EU	GD	TB	DY	HO	ER	TM	YB	LU
5558	40.6	44.3	0.0	26.8	18.2	8.3	0.0	5.1	0.0	0.0	0.0	0.0	11.5	11.1
5559	201.3	180.8	0.0	105.5	76.6	15.2	0.0	63.3	0.0	0.0	0.0	0.0	61.7	61.3
5560	161.0	167.3	0.0	83.8	46.4	9.7	0.0	28.6	0.0	0.0	0.0	0.0	36.8	37.5
P-62-89	230.5	201.7	0.0	115.6	86.5	19.4	0.0	65.3	0.0	0.0	0.0	0.0	65.1	64.1
P-63-89	147.0	119.3	0.0	98.8	73.4	24.9	0.0	53.1	0.0	0.0	0.0	0.0	46.9	53.3
P-77-89	57.1	52.9	0.0	33.5	24.0	19.4	0.0	18.4	0.0	0.0	0.0	0.0	12.9	11.8
P-88-89	129.2	102.1	0.0	67.0	45.8	29.1	0.0	14.3	0.0	0.0	0.0	0.0	20.1	20.7
P-93-89	85.7	65.2	0.0	40.2	23.4	12.5	0.0	5.1	0.0	0.0	0.0	0.0	12.4	14.9

CHONDRITE RARE EARTH ELEMENT FACTORS USED TO NORMALIZE THE SAMPLE DATA:

LA .315 CE .813 PR .100 ND .597 SM .192 EU .0722 GD .259
TB .049 DY .325 HO .072 ER .213 TM .032 YB .209 LU .0323

XRAL

X-RAY ASSAY LABORATORIES
A DIVISION OF SGS SUPERVISION SERVICES INC.
1885 LESLIE STREET • DON MILLS, ONTARIO M3B 3J4 • CANADA
TEL: (416)445-5755 TELEX: 06-986947 FAX: (416)445-4152

CERTIFICATE OF ANALYSIS

REPORT 9751

TO: D.R. PYKE & ASSOCIATES
ATTN: D.R. PYKE
31 DELAIR CRESCENT
THORNHILL, ONTARIO
L3T 2M3

CUSTOMER No. 754

DATE SUBMITTED
28-Sep-89

REF. FILE 5899-S5

Total Pages 1

11 S.CORES, 11 ROCKS

	METHOD	DETECTION LIMIT
AU PPB	FADCP	1.
CU PPM	DCP	0.5
ZN PPM	DCP	0.5

*** UNLESS INSTRUCTED OTHERWISE WE WILL DISCARD PULPS 180 DAYS ***
AND REJECTS 30 DAYS FROM DATE OF THIS REPORT

DATE 06-OCT-89

CERTIFIED BY ....
Jean H.L. Opdebeeck, Vice President Operations

SAMPLE	AU PPB	CU PPM	ZN PPM
5510	3	--	--
5513	2	--	--
5514	6	--	--
5515	32	--	--
5516	<1	--	--
5517	8	--	--
5519	4	--	--
5525	<1	--	--
5551	14	--	--
P-67-89	24	--	--
P-68-89	26	--	--
P-71-89	81	--	--
P-72-89	52	--	--
P-73-89	<1	--	--
P-82-89	19	--	--
P-84-89	12	--	--
P-85-89	7	--	--
P-86-89	17	--	--
P-90-89	13	--	--
P-91-89	8	--	--
5505	<1	890.	160.
5518	<1	7.5	51.0

SWASTIKA LABORATORIES LIMITED

P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244
ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS

Certificate of Analysis

Certificate No. 67057 Date: July 7, 1987

Received June 27, 1987 30 Samples of Split Core

Submitted by D. R. Pyke & Associates Inc., Timmins, Ontario.

SAMPLE NO.	GOLD PPB	COPPER PPM	ZINC PPM	SAMPLE NO.	GOLD PPB	COPPER PPM	ZINC PPM
P-41-87	10	---	---	P-59-87	Nil	52	142
42-87	Nil	---	---	60-87	410/370	72	148
43-87	20	---	---	61-87	1320/1300	80	118
44-87	10	---	---	62-87	10	34	106
45-87	50/160	---	---	63-87	10	71	202
46-87	10	---	---	64-87	10	23	130
47-87	10	---	---	65-87	10	128	267
48-87	10	---	---	66-87	Nil	58	169
49-87	10	---	---	67-87	40	---	---
50-87	10	---	---	68-87	10	---	---
51-87	Nil	---	---	69-87	Nil	---	---
52-87	10	---	---	70-87	10	---	---
53-87	20	---	---				
54-87	10	51	124				
55-87	10	62	137				
56-87	10	56	131				
57-87	130	89	161				
58-87	30	87	167				

NOTE: Arsenic results to follow.

Per G. Lebel - Manager

ESTABLISHED 1928

SWASTIKA LABORATORIES LIMITED
P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0
TELEPHONE: (705) 642-3244
ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS

Certificate of Analysis

Certificate No. 67057 - A Date: July 17, 1987

Received June 27, 1987 13 Samples of Split Core

Submitted by D. R. Pyke & Associates Inc., Timmins, Ontario.

SAMPLE NO.	ARSENIC PPM
54-87	<1
55-87	<1
56-87	4
57-87	<1
58-87	40
59-87	<1
60-87	178
61-87	199
62-87	<1
63-87	38
64-87	1
65-87	<1
66-87	<1

Per G. Lebel
G. Lebel - Manager

APPENDIX D

Invoices for Geochemistry

Reid Township Property

XRAL

X-RAY ASSAY LABORATORIES

A DIVISION OF SGS SUPERVISION SERVICES INC.

1885 LESLIE STREET • DON MILLS, ONTARIO M3B 3J4 • CANADA
TEL: (416) 445-5755 TELEX: 06-986947 FAX: (416) 445-4152

COPY TO:

OICE TO: D.R. [redacted] & ASSOCIATES
ATTN: D.R. PYKE
31 DELAIR CRESCENT
THORNHILL, ONTARIO
L3T 2M3

CUSTOMER NO. 754

:MITTED TO:

D.R. PYKE & ASSOCIATES
ATTN: D.R. PYKE
31 DELAIR CRESCENT
THORNHILL, ONTARIO
L3T 2M3

INVOICE NO.	INVOICE DATE	WORK ORDER NO.	DATE SUBMIT
10229	17-Nov-89	5898	28-Sep-89

TERMS

TERMS NET 30 DAYS
1.5% PER MONTH INTEREST ON ACCOUNT OVER 30 DAYS

NTS P.O. NO.	CLIENT PROJECT NO.		TYPE OF SAMPLES SUBMITTED
			ROCK SPLIT CORE

OF PKGS	SHIPPED VIA	WAY BILL NO	SHIPPED FROM
1	SELF		THORNHILL

QUANTITY	DESCRIPTION METHOD	CODE NUMBER	UNIT COST	AMOUNT
1. 38	MULTI-ELE,EXPL PKG	7, 6,20, 0, 0, 0, 0, 0	52.50	1995.00
2. 38	CRUSHING & MILLING	1, 0, 0, 0, 0, 0, 0, 0	3.75	142.50
			SUB-TOTAL	$ 2137.50

	SHIPPING CHARGES	CUSTOM BROKERAGE	TELEX	[illegible] CHARGES	
MISC CHARGES	OTHER			SURCHARGE HIGH SERVICE	

[redacted] CDN FUNDS $ 2137.50

[redacted]
ATTN: D.R. PYKE
31 DELAIR CRESCENT
THORNHILL, ONTARIO
L3T 2N3

CUSTOMER NO. 754

BMITTED TO:

D.R. PYKE & ASSOCIATES
ATTN: D.R. PYKE
31 DELAIR CRESCENT
THORNHILL, ONTARIO
L3T 2N3

INVOICE NO.	INVOICE DATE	WORK ORDER NO.	DATE SUBMITTED
9751	06-Oct-89	5899	29-Sep-89

TERMS

TERMS NET 30 DAYS
1.5% PER MONTH INTEREST ON ACCOUNT OVER 30 DAYS

ENTS P.O. NO.	CLIENT PROJECT NO.		TYPE OF SAMPLES SUBMITTED
			ROCK SPLIT CORE

OF PKGS	SHIPPED VIA	WAY BILL NO.	SHIPPED FROM
1	SELF		THORNHILL, ONT.

	QUANTITY	DESCRIPTION METHODE	CODE NUMBER	UNIT COST	AMOUNT
1.	2	CU,ZN,MIXED ACID DIGESTION	1, 7, 0, 0, 0, 0	3.85	7.70
2.	22	AU,PPB	2,10, 7, 0, 0, 0	8.25	181.50
3.	11	SPLIT CORE, CRUSHING & MILLING (CHROME STEEL MILL)	99, 1, 0, 0, 0, 0	3.75	41.25
4.	11	ROCK, CRUSHING & MILLING (CHROME STEEL MILL)	99, 1, 0, 0, 0, 0	3.75	41.25
				SUB-TOTAL	$ 271.70

MISC.	SHIPPING CHARGES	CUSTOM BROKERAGE	TELEX	MINIMUM CHARGES	

15450

SWASTIKA LABORATORIES LIMITED

P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0 TELEPHONE: (705) 642-3244

DATE: JOUR/DAY 8 | MOIS/MONTH July | ANNÉE/YEAR 1987

TRANSPORTEUR / SHIPPED VIA

VENDU À / SOLD TO

D.R. Pyke & Associates Limited
BOx 1142
Timmins, Ontario
P4N 7H9

1.5% LATE CHARGE OVER 30 DAYS (ANNUAL RATE 18%)

NO. D'EXEMPT. DE TAXE FÉD. / FED. LICENCE NO	NO. D'EXEMPT. DE TAXE PROV. / PROV. LICENCE NO	VOTRE NO. DE COMMANDE / YOUR ORDER NO	NOTRE NO DE COMMANDE / OUR ORDER NO	CONDITIONS / TERMS	REP. DES VENTES / SALES REP
				NET 30 DAYS	

QUANTITÉ / QUANTITY	DESCRIPTION	PRIX UNITAIRE / UNIT PRICE	MONTANT / AMOUNT
30	Au assays	$ 8.75	$ 262.50
13	Cu Zn PPM	8.40	109.20
30	Sample Handling	3.00	90.00
	Cert.#67057 July 7, 1987		

SWASTIKA LABORATORIES LTD.
AUG 24/87
WITH THANKS
PER D. Gardner

TOTAL.....$ 461.70

FACTURE/INVOICE

ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS
ESTABLISHED 1928

TM ©

SWASTIKA LABORATORIES LIMITED

P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0 TELEPHONE: (705) 642-3244

DATE: JOUR/DAY 24 | MOIS/MONTH July | ANNÉE/YEAR 1987

TRANSPORTEUR

SHIPPED VIA

VENDU A / SOLD TO

D.R. Pyke & Associates Inc.
Box 1142
Timmins, Ontario
P4N 7H9

1.5% LATE CHARGE OVER 30 DAYS (ANNUAL RATE 18%)

NO. D'EXEMPT. DE TAXE FÉD. / FED. LICENCE NO	NO. D'EXEMPT. DE TAXE PROV. / PROV. LICENCE NO	VOTRE NO. DE COMMANDE / YOUR ORDER NO	NOTRE NO DE COMMANDE / OUR ORDER NO	CONDITIONS / TERMS	REP. DES VENTES / SALES REP
				NET 30 DAYS	

QUANTITÉ / QUANTITY	DESCRIPTION	PRIX UNITAIRE / UNIT PRICE	MONTANT / AMOUNT
13	As PPM Cert.#67057A July 17, 1987	$ 6.30	$ 81.90

SWASTIKA LABORATORIES

AUG 24/87

WITH THANKS

PER

TOTAL..... $ 81.90

FACTURE/INVOICE

ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS

ESTABLISHED 1928

TM ©

Ministry of Northern Development and Mines
Ontario

Report of Work Conducted After Recording Claim

Mining Act

Transaction Number
W9260.00077

MNG LANDS

ersonal information collectr
is collection should be dir
udbury, Ontario, P3E 6A5,

will be used for correspondence. Questions about
nent and Mines, Fourth Floor, 159 Cedar Street,

42A14SW0229 2.14670 REID

900 14670

Instructions:
- Pleas
- Refer
Recorder.

...assessment work or consult the Mining

- A separate copy of this form must be completed for each Work Group.
- Technical reports and maps must accompany this form in duplicate.
- A sketch, showing the claims the work is assigned to, must accompany this form.

Recorded Holder(s)		Client No.
Comstate Resources Ltd.		120065
Address		**Telephone No.**
Suite 901, 1015 4th St. S.W., Calgary, Alberta T2R 1J4		403-265-6973
Mining Division	**Township/Area**	**M or G Plan No.**
Porcupine	Reid and Mahaffy Twps.	
Dates Work Performed From:	July 5-11 1987 and August 1-September 30, 1989	

Work Performed (Check One Work Group Only)

	Work Group	Type
	Geotechnical Survey	
	Physical Work, Including Drilling	
	Rehabilitation	
	Other Authorized Work	
	Assays	Multi-element exploration analyses(MEEP); gold;copper-zinc;
	Assignment from Reserve	aresnic-on selected drill core and outcrop samples

RECORDED
JUL - 7 1992
Receipt

Total Assessment Work Claimed on the Attached Statement of Costs $ 3,604.80/2 -- $ 1,802.40

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address
D.R. Pyke	31 Delair Cres, Thornhill, Ont. L3T 2M3
K.M. Cunnison	Apt. #2, 17 Deane St. London, Ontario N6C 3L1

RECEIVED
JUL 2 9 1992
MINING LANDS BRANCH

attach a schedule if necessary)

Certification of Beneficial Interest * See Note No. 1 on reverse side

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.

Date: July 2/92

Recorded Holder or Agent (Signature): D R Pyke

Certification of Work Report

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying: D.R. Pyke, 31 Delair Cres. Thornhill, Ont.
Summer address: P.O. Box 1142 Timmins, Ont. P4N 7H9

Telephone No.: 416-731-1913

Date: July 2/92

Certified By (Signature): D R Pyke

For Office Use Only

Total Value of Work Recorded	Date Recorded	Mining Recorder	Received Stamp
1,585.00	July 7/92	S White	RECEIVED Counter JUL 7 1992 420
	Deemed Approval Date: Oct. 5/92	Date Approved	
	Date Notice for Amendments Sent		

241 (03/91)

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units	Value of Assessment Work Done on this Claim	Value Applied to this Claim	Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
	P 952100	1	$131	$ 0	$ 0	$131
	P 952129	1	$ 109	0	0	$109
	P 952136	1	$ 591	0	0	$591
	P 952138	1	$ 103	0	0	$103
	P 981685	1	$ 215	0	0	$215
	P 981688	1	$ 215	0	0	$215
	P 10277149	1	$ 221	0	0	$221
*	~~P 1181244~~	~~1~~	~~$ 130~~	0	0	~~$130~~
*	~~P 1181276~~	~~1~~	~~$ 87~~	0	0	~~$87~~
*	CLAIM NOT RECORDED AT TIME WORK WAS PERFORMED - NOT ALLOWED.					
			$1585			$1585
	9		~~$1,802~~	$0	$0	~~$1,802~~
	Total Number of Claims		Total Value Work Done	Total Value Work Applied	Total Assigned From	Total Reserve

RECEIVED
JUL 29 1992
MINING LANDS BRANCH

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to priorize the deletion of credits. Please mark (✓) one of the following:

1. ☐ Credits are to be cut back starting with the claim listed last, working backwards.
2. ☑ Credits are to be cut back equally over all claims contained in this report of work.
3. ☐ Credits are to be cut back as priorized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.

Signature

Date

0241 (03/91)

Ministry of Northern Development and Mines

Ontario

[redacted]ère du Développement du Nord et des mines

Statement of Costs for Assessment Credit

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction: W9260.00077

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la Loi sur les mines et serviront à tenir à jour un registre des concessions minières. Adresser toute quesiton sur la collece de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre	$2250.00	
	Field Supervision Supervision sur le terrain		$2250.00
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type		
Supplies Used Fournitures utilisées	Type Geochemical assays/analys.	$1210.80	
			$1210.80
Equipment Rental Location de matériel	Type		
	Total Direct Costs Total des coûts directs		$3,460.80

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JUL 29 1992
MINING LANDS BRANCH

2. Indirect Costs/Coûts indirects

** **Note:** When claiming Rehabilitation work indirect costs are not allowable as assessment work.
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type Truck	$144.00	
			$144.00
Food and Lodging Nourriture et hébergement			
Mobilization and Demobilization Mobilisation et démobilisation			
	Sub Total of Indirect Costs Total partiel des coûts indirects		$144.00
	Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)		$144.00
	Total Value of Assessment Credit (Total of Direct and Allowable Indirect costs) / **Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles)**		$3,604.80

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit		Total Assessment Claimed
$3,604.80	× 0.50 =	$ 1,802.40

Remises pour dépôt

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.
2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation		Évaluation totale demandée
	× 0,50 =	

RECORDED
JUL - 7 1992
Receipt

Certification Verifying Statement of Costs

I hereby certify:
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as Agent (Recorded Holder, Agent, Position in Company) I am authorized to make this certification

Attestation de l'état des coûts

J'atteste par la présente :
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de _____ (titulaire enregistré, représentant, poste occupé dans la compagnie) je suis autorisé à faire cette attestation.

Signature	Date
W R Lytle	July 2/92

0212 (04/91)

Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé au sens neutre.

Ministry of Northern Development and Mines
Ontario

Report of Work Conducted After Recording Claim

Mining Act

Transaction Number
W9260.00076

MNG LANDS

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 159 Cedar Street, Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

2.14670

Instructions:
- Please type or print and submit in duplicate.
- Refer to the Mining Act and Regulations for requirements of filing assessment work or consult the Mining Recorder.
- A separate copy of this form must be completed for each Work Group.
- Technical reports and maps must accompany this form in duplicate.
- A sketch, showing the claims the work is assigned to, must accompany this form.

Recorded Holder(s)		Client No.
Comstake Resources Ltd.		120065
Address		**Telephone No.**
Suite 901, 1015 4th St. S.W., Calgary, Alberta T2R 1J4		403-265-6973
Mining Division	**Township/Area**	**M or G Plan No.**
Porcupine	Reid and Mahaffy Twps.	
Dates Work Performed	From: June 1, 1992	To: June 30, 1992

Work Performed (Check One Work Group Only)

	Work Group	Type
	Geotechnical Survey	
	Physical Work, Including Drilling	
	Rehabilitation	
	Other Authorized Work	Petrographic analysis of thin sections and geological interpretation of the Reid Township Property.(Includes interpretation of previous geochemical data)
	Assays	
	Assignment from Reserve	

RECORDED
JUL - 7 1992
Receipt

Total Assessment Work Claimed on the Attached Statement of Costs $ 2,548.00

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address
D.R. Pyke	31 Delair Cres., Thornhill, Ont. L3T 2M3
K.M. Cunnison	#2-17 Deane St., London, Ont. N6C 3L1

RECEIVED
JUL 29 1992
MINING LANDS BRANCH

(attach a schedule if necessary)

Certification of Beneficial Interest * See Note No. 1 on reverse side

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Date	Recorded Holder or Agent (Signature)
	July 2/92	D R Pyke

Certification of Work Report

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying
D.R. Pyke, 31 Delair Cres., Thornhill, Ont L3T 2M3

Telepone No.	Date	Certified By (Signature)
416-731-1913	July 2/92.	D R Pyke.

For Office Use Only

Total Value Cr. Recorded	Date Recorded	Mining Recorder
$2,548.00	JULY 7/92	S White
	Deemed Approval Date	**Date Approved**
	OCT. 5/92	
	Date Notice for Amendments Sent	

PORCUPINE MINING DIVISION
RECEIVED
Recorded Stamp
Counter
JUL 7 1992
42 PK

0241 (03/91)

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units	Value of Assessment Work Done on this Claim	Value Applied to this Claim	Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
	P 952100 -	1	$134	$ 0	$134	
	P 952136 -	1	$268	$ 0	$268	
	P 981685 -	1	$134	$ 240	~~$134~~	
	P 981688 -	1	$134	$ 240	~~$134~~	
	P 1027149 -	1	$134	$ 0	$134	
	P 1029118 -	1	$268	$ 0	$268	
Made off	P 1029147 -	1	$268	$ 0	~~$134~~ Fixed $62	$206
	P 1170296 -	1	$134	$ 0	0	$134
	P 1177367 -	1	$134	$ 0	0	$134
	P 1181273	1	$268	$ 0	0	$268
	P 1181274 -	1	$134	$ 0	0	$134
	P 1181276 -	1	$538	$ 0	0	$538
	P981696	1	0	$240		
	P981697	1	0	$240		
	P Fixed 97441	1	0	$174		
					866	
	12		$2,548	$1,134	$1,134	$1,414
	Total Number of Claims		Total Value Work Done	Total Value Work Applied	Total Assigned From	Total Reserve

RECEIVED
JUL 29 1992
MINING LANDS BRANCH

Credits you are claiming in this report may be cut back, in order to minimize the adverse effects of such deletions, please indicate from which claims you wish to priorize the deletion of credits. Please mark (✓) one of the following:

1. ☐ Credits are to be cut back starting with the claim listed last, working backwards.
2. ☐ Credits are to be cut back equally over all claims contained in this report of work.
3. ☒ Credits are to be cut back as priorized on the attached appendix. (Since attached July 7, 1992 Mineral Titles)

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.

Signature

Date

0241 (03/91)

Ontario

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des mines

Statement of Costs for Assessment Credit

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction: W9260.00076

Personal information collected on this form is obtained under the authority of the **Mining Act**. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la Loi sur les mines et serviront à tenir à jour un registre des concessions minières. Adresser toute question sur la collecte de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre		
	Field Supervision Supervision sur le terrain		
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type: Geological	$2,400.00	
			$2,400.00
Supplies Used Fournitures utilisées	Type: Thin Section Preparation	$148.40	
			$148.40
Equipment Rental Location de matériel	Type		
	Total Direct Costs Total des coûts directs		$2,548.80

RECEIVED
JUL 29 1992
MINING LANDS BRANCH

2. Indirect Costs/Coûts indirects

** **Note:** When claiming Rehabilitation work indirect costs are not allowable as assessment work.
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type		
Food and Lodging Nourriture et hébergement			
Mobilization and Demobilization Mobilisation et démobilisation			
	Sub Total of Indirect Costs Total partiel des coûts indirects		Nil
	Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)		Nil
	Total Value of Assessment Credit (Total of Direct and Allowable Indirect costs) / **Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles)**		$2,548.80

RECORDED
JUL - 7 1992
Receipt

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
× 0.50 =	

Remises pour dépôt

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.
2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Évaluation totale demandée
× 0,50 =	

Certification Verifying Statement of Costs

I hereby certify:
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as agent (Recorded Holder, Agent, Position in Company) I am authorized

to make this certification

Attestation de l'état des coûts

J'atteste par la présente :
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de _____ (titulaire enregistré, représentant, poste occupé dans la compagnie) je suis autorisé

à faire cette attestation.

Signature: [signature] Date: July 21/92

0212 (04/91)

Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé au sens neutre.

Ontario

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des Mines

Mining Lands Branch
Geoscience Approvals Section
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

Telephone: (705) 670-5853
Fax: (705) 670-5863

October 6, 1992

Our File: 2.14670
Transaction #W9260.076
W9260.077

Mining Recorder
Ministry of Northern Development
and Mines
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir/Madam:

Subject: APPROVAL OF ASSESSMENT WORK CREDITS ON MINING CLAIMS P952100 ET AL. IN REID AND MAHAFFY TOWNSHIPS

The assessment work credits for Assays and Other Authorized Work filed under sections 17 and 18 of the Mining Act Regulations have been approved as originally filed.

The approval date is October 5, 1992.

Please indicate this approval on your claim record sheets.

Yours sincerely,

Ron C. Gashinski
Senior Manager, Mining Lands Branch
Mines and Minerals Division

LJ/jl
Enclosures:

cc: Resident Geologist
Timmins, Ontario

Toronto Assessment Files
Toronto, Ontario

W9260.00076

Detailed Breakdown of Direct Costs

Geology and Petrography of Reid Property Samples

(Listed as "other authorized work" on Report of Work)

SALARIES

June 1992

Thin section examination, report writing and drafting *

8.0 days @ $300/day	$ 2,400.00

SUPPLIES USED

Thin Section Preparation

Vancouver Petrographics Ltd.
P.O. Box 39, 8080 Glover Road
Fort Langley, B.C. Vo6 1J0

16 thin sections @ $9.30 per section	148.80
(paid by cheque #1306, D.R. Pyke, Dec. 30/91)	
TOTAL DIRECT COSTS	$2,548.80

Mining Lands Section, Sudbury, Ont. July 7, 1992

To Whom it May Concern:

Re: Prioritization of credits for claims on "Report of Work Conducted After Recording Claim" form.

On the above form, regarding work for petrographic analysis of thin sections, and dated July 2, 1992, and signed by D.R. Pyke, acting agent for Comstake Resources, I would like the deletion of assessment to be carried out in the following manner:

Credit are to be cut back, if deletions do occur, from mining claims in the following order:

1. P. 1181276
2. P. 1181273
3. P. 1181274
4. P. 1029147
5. P. 1029118

Thank you for your attention to this matter.

Sincerely,

Kimberly M. Cunneen,
Acting Agent for Comstake Resources.

Breakdown of Direct Costs

Reid Property Logging and Sampling Program

1987 and 1989

SALARIES	$ 2,250.00
GEOCHEMICAL ANALYSES	1,210.80
TOTAL DIRECT COSTS	$ 3,460.80

Breakdown of Indirect Costs

Reid Property Logging and Sampling Program

1987 and 1989

TRAVEL	$ 144.00
TOTAL INDIRECT COSTS	$ 144.00

Detailed Breakdown of Direct Costs

Reid Property Logging and Sampling Program

SALARIES

1987 Period (see report)

Drill core sampling and relogging.
1.5 days @ $300/day . . . . . $ 450.00

1989 Period (see report)

Drill core sampling and relogging.
6.0 days @ $300/day . . . . . $ 1,800.00

TOTAL SALARIES $2,250.00

GEOCHEMICAL ANALYSES

1987 (Swastika Laboratories Ltd.) (Certificate # 67057)

Au assays	26 samples @ $8.75 each	$ 227.50
Cu-Zn assays	13 assays @ $8.40 each	109.20
As assays	13 assays @ $6.30 each	81.90
Sample prep.	30 samples @ $3.00 each	90.00
	1987 GEOCHEMICAL ANALYSES TOTAL	$ 508.60

1989 (X-Ray Assay Laboratories)
(Invoice Nos. 9751 and 10229, Sept. 1989)

Multi-Element Exploration Package

10 analyses	@ $52.50 each	$ 525.00
10 sample prep	@ $3.75 each	37.50

(cont....)

Detailed Breakdown of Direct Costs (cont.)

Reid Property Logging and Sampling Program

GEOCHEMICAL ANALYSES (cont.)

1989 (X-Ray Assay Laboratories) (cont)

11 Au assays @ $8.25 each	$ 90.75
2 Cu,Zn assays @ $3.85 each	7.70
11 sample prep. @ $3.75 each	41.25
1989 GEOCHEMICAL ANALYSES TOTAL	$ 702.20

TOTAL COST OF GEOCHEMICAL ANALYSES FOR 1987 and 1989 $1210.80

Detailed Breakdown of Indirect Costs

Reid Property Logging and Sampling Program

TRAVEL

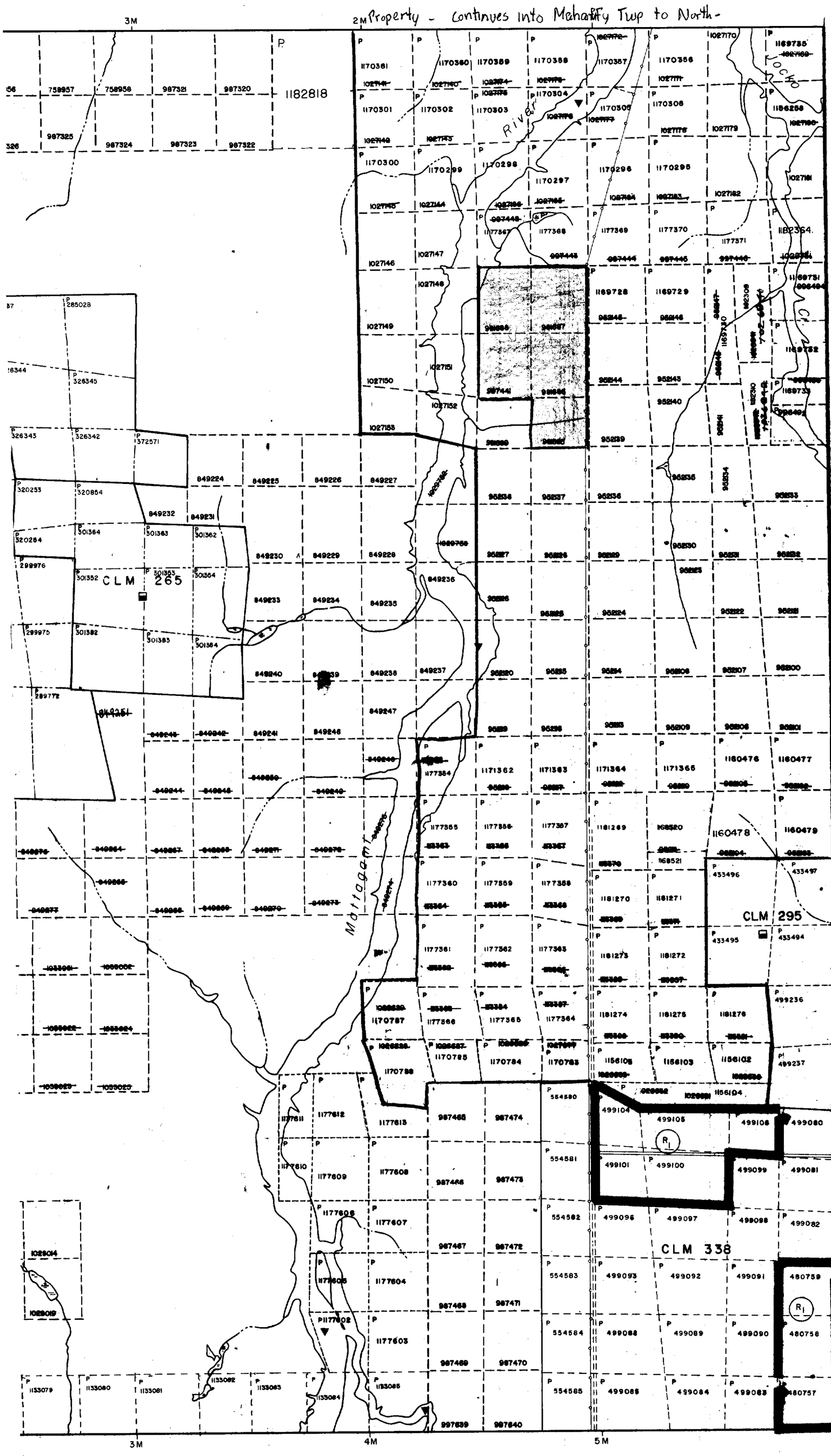
1987 Period

120 kms @ 30¢/km	$ 36.00

1989 Period

360 kms @ 30¢/km	$ 108.00
TOTAL TRAVEL	$ 144.00

MAHAFFY TOWNSHIP



MACDIARMID TOWNSHIP

LEGEND

- HIGHWAY AND ROUTE No
- OTHER ROADS
- TRAILS
- SURVEYED LINES
  - TOWNSHIPS, BASE LINES, ETC
  - LOTS, MINING CLAIMS, PARCELS, ETC
- UNSURVEYED LINES
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS ETC
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" , SURFACE RIGHTS ONLY	●
" , MINING RIGHTS ONLY	●
LEASE, SURFACE & MINING RIGHTS	■
" , SURFACE RIGHTS ONLY	■
" , MINING RIGHTS ONLY	■
LICENCE OF OCCUPATION	▼
ORDER IN COUNCIL	OC
RESERVATION	◐
CANCELLED	◐
SAND & GRAVEL	◐

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC. 1.

500 0 1000 Metres
10 0 10 20 30 40 50 60 70 Chains
500 0 1000 2000 3000 4000 5000 Feet

SCALE 1:20 000

COMSTATE RESOURCES LTD

REID TOWNSHIP PROPERTY

(See also Mahaffy claim map for continuation of property to North)

PROPERTY OUTLINE - CLAIMS HELD IN REID TOWNSHIP

CLAIMS TO WHICH ASSESSMENT COSTS ARE TO BE APPLIED

TOWNSHIP

REID

M.N.R. ADMINISTRATIVE DISTRICT

TIMMINS

MINING DIVISION

PORCUPINE 2.14670

LAND TITLES / REGISTRY DIVISION

COCHRANE

Ontario Ministry of Natural Resources | Ministry of Northern Development and Mines

Date SEPTEMBER, 1986

PLACED IN ACTIVE FILE MAY 84/86 D.E.

CHECKED BY:

Number G-3966

CARNEGIE TOWNSHIP

G-3966

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. – MINING RIGHTS ONLY
S.R.O. – SURFACE RIGHTS ONLY
M.+ S. – MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File
(P)	MINING AND SURFACE RIGHTS WITHDRAWN FROM PROSPECTING, STAKING, SALE OR LEASE, SECTION 36 THE MINING ACT RSO 1980			
	ORDER NO. W-88/86 NR DATED 86-OCT-30.			
(RI)	MINING AND SURFACE RIGHTS RE-OPENED TO PROSPECTING, STAKING OUT, SALE OR LEASE UNDER SECTION 35 OF THE MINING ACT R.S.O. 1990 ORDER NO. O-P 29/92 DATED 92-NOV-02 AT 7:00 A.M. E.S.T. (CLAIM NOS. P-480757 TO P-480758 INCL., P-499004 TO P-499067 INCL., P-499080 TO P-499085 INCL., P-499088 TO P-499093 INCL., P-499096 TO P-499101 INCL. AND P-499104 TO P-499106 INCL.			

NOTES

TOWNSHIP SUBDIVISION ANNULLED AUGUST 19, 1953.

FLOODING ON MATTAGAMI RIVER L.O. 7085.

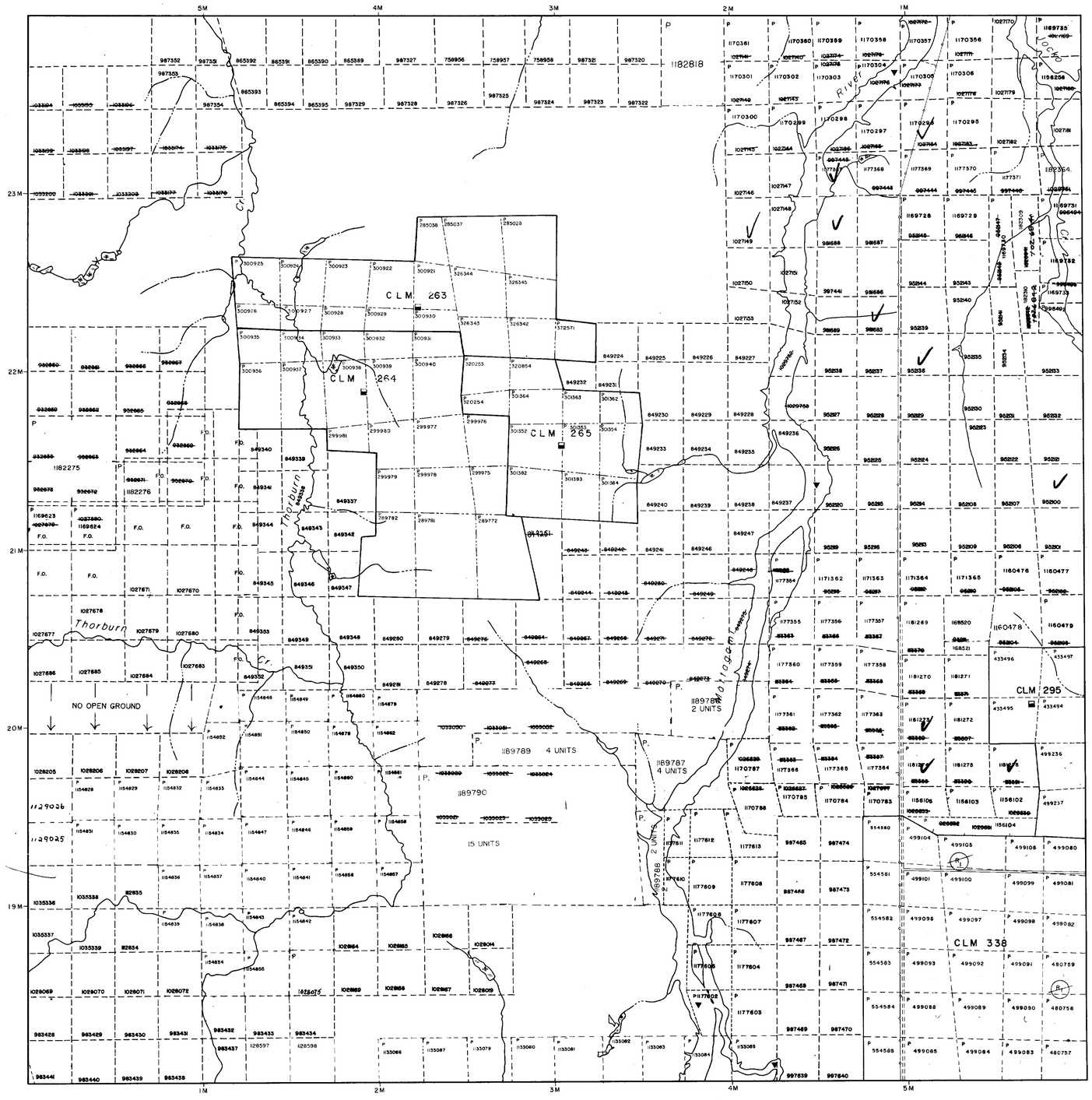
THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

MAHAFFY TOWNSHIP

THORBURN TOWNSHIP

CARNEGIE TOWNSHIP

MACDIARMID TOWNSHIP



LEGEND

- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES
  - TOWNSHIPS, BASE LINES, ETC.
  - LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" , SURFACE RIGHTS ONLY	◒
" , MINING RIGHTS ONLY	◒
LEASE, SURFACE & MINING RIGHTS	■
" , SURFACE RIGHTS ONLY	◨
" , MINING RIGHTS ONLY	◧
LICENCE OF OCCUPATION	▼
ORDER IN COUNCIL	OC
RESERVATION	(R)
CANCELLED	⊗
SAND & GRAVEL	(S)

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC. 1.

Metres 500 0 1000 Metres
Chains 10 0 10 20 30 40 50 60 70 Chains
Feet 500 0 1000 2000 3000 4000 5000 Feet

SCALE 1:20 000

TOWNSHIP

REID

M.N.R. ADMINISTRATIVE DISTRICT
TIMMINS
MINING DIVISION
PORCUPINE
LAND TITLES / REGISTRY DIVISION
COCHRANE

MINING LANDS BRANCH

Ontario Ministry of Natural Resources
Ministry of Northern Development and Mines

Date: SEPTEMBER, 1986
PLACED IN ACTIVE FILE: MAY 24/89 D.C.
CHECKED BY:

Number: G-3966

G-3966

REID 1MB

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

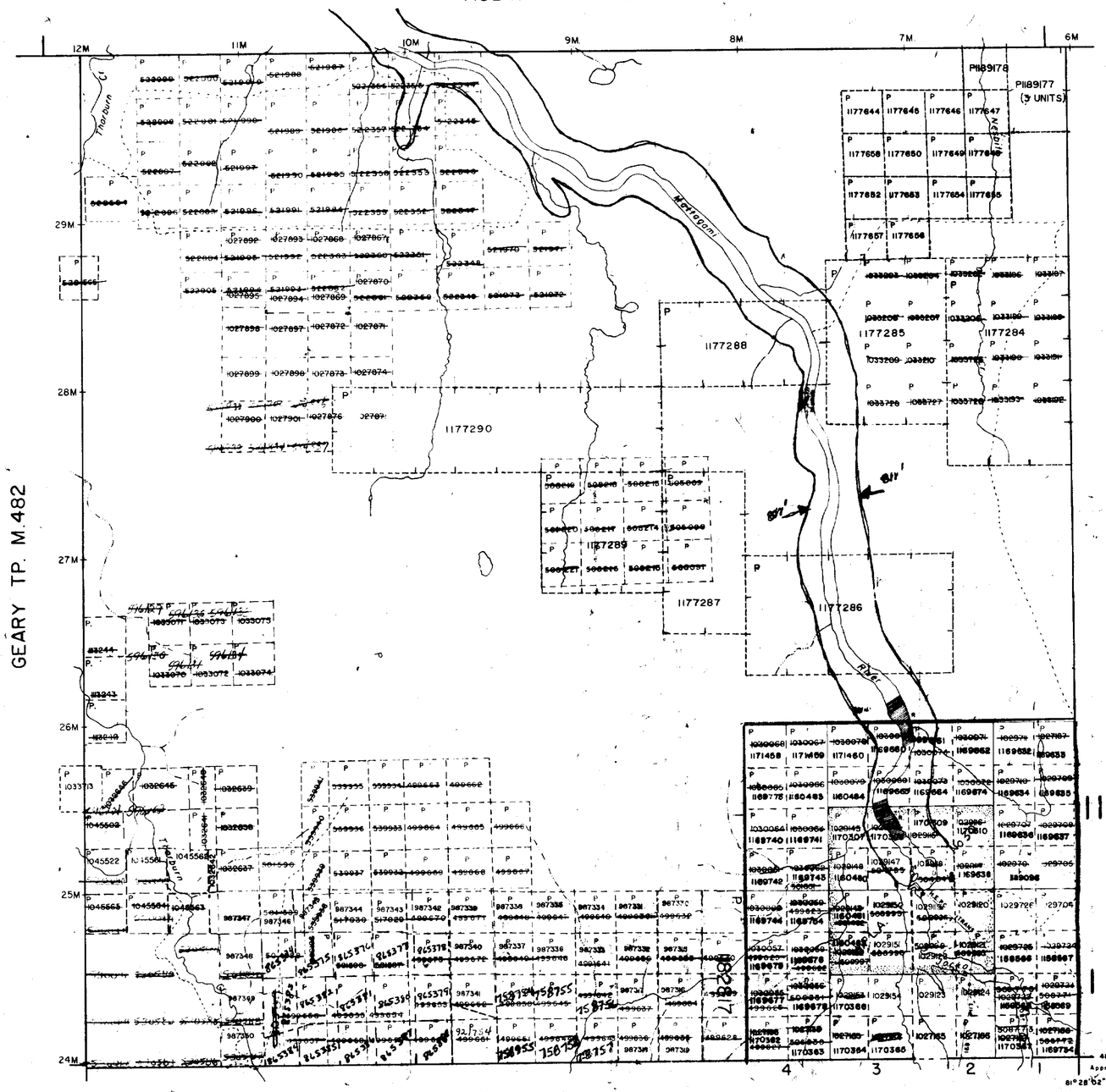
Subdivision of this township into lots and consessions is partially annulled July 2, 63.

L.O. 7085 - Flooding Rights in lots 1, 2 and 3, Con I to H.E.P.C.

FLOODING RESERVATION TO ELEVATION 811 FT ON MAHAFFY RIVER. RESERVATION TO ONTARIO HYDRO

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES. AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

AUBIN TP. M.407



LEGEND

- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES
  - TOWNSHIPS, BASE LINES, ETC.
  - LOTS, MINING CLAIMS, PARCELS, ETC
- UNSURVEYED LINES
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS ETC
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT		SYMBOL
PATENT	SURFACE & MINING RIGHTS	●
	SURFACE RIGHTS ONLY	◐
	MINING RIGHTS ONLY	◑
LEASE	SURFACE & MINING RIGHTS	■
	SURFACE RIGHTS ONLY	◧
	MINING RIGHTS ONLY	◨
LICENCE OF OCCUPATION		▼
CROWN LAND SALE		CS
ORDER-IN-COUNCIL		OC
RESERVATION		⊛
CANCELLED		Ⓒ
SAND & GRAVEL		Ⓖ
• L.U.P.		

SCALE : 1 INCH 40 CHAINS

FEET 0 500 1000 2000 4000 6000 8000
METRES 0 200 400 600 800 1KM 2KM

ACRES	HECTARES
40	16

2.14670

TOWNSHIP

MAHAFFY

DISTRICT

COCHRANE

MINING DIVISION

PORCUPINE

Ministry of Natural Resources
Ontario Surveys and Mapping Branch
Date MAY 3, 1973
Whitney Block, Queen's Park, Toronto
Plan No. M.540

NOTES

400' surface rights reservation along the shores of all lakes and rivers

Subdivision of this township into lots and consessions is partially annulled July 2, 63.

L.O. 7085 - Flooding Rights in lots 1, 2 and 3, Con 1 to H.E.P.C.

Flooding Reserve [illegible] Elevation 811 ft. cl. Mattagami River Reservoir [illegible] Ontario Hydro

AUBIN TP. M.407

GEARY TP. M.482

CRAWFORD TP M.457

REID TP. M.575

12M 11M 10M 9M 8M 7M 6M

29M 28M 27M 26M 25M 24M

Mattagami R.

811'

811'

48° 47' 52" approx

81° 28' 02"

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42A14SW0229 2.14670 REID

230

LEGEND

- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES:
  - TOWNSHIPS, BASE LINES, ETC.
  - LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES:
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS, ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
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DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT: SURFACE & MINING RIGHTS	●
SURFACE RIGHTS ONLY	◒
MINING RIGHTS ONLY	◓
LEASE: SURFACE & MINING RIGHTS	■
SURFACE RIGHTS ONLY	◨
MINING RIGHTS ONLY	◧
LICENCE OF OCCUPATION	▼
CROWN LAND SALE	CS
ORDER-IN-COUNCIL	OC
RESERVATION	R
CANCELLED	C
SAND & GRAVEL	G

• L.U.P.

SCALE: 1 INCH 40 CHAINS

ACRES 40 HECTARES 16

RECEIVED OCT 28 1992

RECEIVED OCT 28 1992

MINING LANDS BRANCH

TOWNSHIP

MAHAFFY

DISTRICT

COCHRANE

MINING DIVISION

PORCUPINE

Received May 6/80

Ministry of Natural Resources

Ontario Surveys and Mapping Branch

Date MAY 3, 1973 Plan No. M.540

L 1600W | L 1200W | L 800W | L 400W | L 00 | L 400E | L 800E | L 1200E | L 1600E

6000N
5000N
4000N
3000N
2000N
1000N
BASE LINE
1000S
2000S
3000S
4000S

STURGEON FALLS FAULT

Lower Sturgeon Dam

NORTHERN BASALTS

CENTRAL RHYOLITE

SOUTHERN BASALTS

UPPER RHYOLITE

NORTH JOCKO CREEK FAULT

SOUTH JOCKO CREEK FAULT ZONE

MAHAFFY TP.

REID TP.

CRAWFORD TP.

CARNEGIE TP.

BASE LINE

N

LEGEND

ARCHEAN

- Diabase
- 4 — Metamorphosed mafic intrusive rocks
- 3 — Felsic metavolcanics: Rhyolitic-dacitic flows, pyroclastics, volcaniclastics
- 2 — Mafic metavolcanics: Tholeiitic andesites-basalts
- 1 — Komatiitic metavolcanics: Peridotitic and basaltic

0 500 1000 meters

SYMBOLS

- Lava flow top from pillow shape
- Lava flow top from flow morphology
- Debris flow top from graded bedding
- Outcrop area
- Geological boundary
- Fault
- Diamond drill hole RBO-D-4
- Anticlinal axis
- MAX-Min conductor A → M

2.14670

COMSTATE RESOURCES LTD

REID PROPERTY

GEOLOGICAL MAP

Scale 1:20,000 | JULY, 1992