

**TECHNICAL REPORT**  
**ON THE**  
**COATES LAKE COPPER DEPOSIT**  
**NAHANNI MINING DISTRICT**  
**WESTERN NORTHWEST TERRITORIES**  
**FOR**  
**LUMINA RESOURCES CORP.**

**By**

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Vancouver, B.C.

August 15, 2005

## SUMMARY

The Coates Lake Property, Northwest Territories, covers a significant copper resource. Exploration drilling during the 1960's and 1970's identified stratabound "red-bed" mineralization that displays remarkable uniformity in both grade and thickness for at least 6,000 metres of strike and 2,400 metres down-dip.

In 1978, Shell Canada Resources Ltd. estimated a "geologic reserve" of 33.6 million tonnes (37 million tons) grading 3.92% copper and 9 g/t silver over a width of 1 metre. Diluted to a 1.8 metre mining width, the "reserve" becomes 61.7 million tonnes (68 million tons) grading 2.13% copper. Shell personnel believed that the "Tonnage" could be "conservatively be doubled and the geologic possibility exists for an order of magnitude increase." (Hildebrand, 1978).

The author directed the drilling and logged drill core at a similar mineral occurrence approximately 160 kilometres to the north, and reviewed the drill core at Coates Lake on an ongoing basis during the 1977 drill program of Shell Canada Resources Ltd. The author considers the "geological reserve" of 33.6 million tonnes grading 3.92% copper and 9 g/t silver, as calculated by Shell, to conform with an Inferred Resource as defined by National Instrument 43-101.

In 1989 Redstone Resources Inc. commissioned Kilborn Engineering to prepare an economic assessment of the resource. The economics of the deposit are particularly sensitive to the thickness of the deposit, and a thicker core tonnage would provide a more acceptable DCF-ROR by enabling a quicker payback of capital costs. The Coates Lake deposit has not been fully defined and there is an excellent exploration potential to significantly expand the resource size and to increase the grade. The drilling completed has established the potential for the Coates Lake Property to host an significant copper deposit.

The Coates Lake Property has not been fully explored. A three-phased exploration program is recommended that would consist of detailed geological mapping, and structural interpretation designed to locate areas of thickening of the known mineralized copper-bearing horizon within the property. In addition, the trend of the redbed horizon does continue off the property and it is highly recommended that the company complete some regional exploration including prospecting, mapping and sampling on outside targets. Phase IA should also consist of two test geophysical programs, a 3-D seismic survey and a preliminary IP survey. At the successful completion of the test surveys, it is anticipated that a full geophysical survey will be completed in the winter, costs for such a program cannot be finalized until the Phase IB program is completed although a provisional budget of \$700,000 is expected. The Phase I program is estimated to cost \$400,000.

Two targets within the property justify further exploration based on previous drilling as part of as Phase II program. In the southern part of the property several drill holes from the 1960's returned good copper grades over thicknesses in excess of 10 metres, suggesting that the potential for thicker zones exists. Additional drilling is warranted in the Triangle Zone as proposed by the author in 1990. The deposit also remains open along strike to the north of the existing drilling, and down-dip towards the centre of the basin, where grades

increase. Drilling to the north of Tea Lake is warranted to confirm the grade and extent of the B1 bed, east of the Coates Creek Fault. A minimum seven hole drill program, costing an estimated \$983,000 is recommended to test for thicker zones within the Triangle Zone and the northern extensions of the B1 bed. The final selection of drill holes will be completed at the conclusion of Phase IA and IB where additional drill holes may be recommended both within the existing property and also on nearby targets outside the property.

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## **INTRODUCTION AND TERMS OF REFERENCE**

This Independent Technical Report on the Coates Lake property has been prepared at the request of Lumina Resources Corp. in support of its restructuring which was described in an information circular as follows;

*“On February 2, 2005 and March 23, 2005, Lumina Copper Corp. (Lumina) announced its intention to proceed with a reorganization of Lumina which will have the result of dividing its present mineral resource assets between four separate public companies: Lumina, Northern Peru Copper Corp. (“Norco”), Global Copper Corp. (“Global”) and Lumina Resources Corp. (“Lumco”). Upon implementation of the corporate restructuring, Lumina will continue to hold the Regalito Option, Norco will hold the Galeno, Molino and Pashpap Properties, Global will hold the Relincho, Vizcachitas, Taca Taca and San Jorge Properties, and Lumco will hold the Canadian resource assets being the Hushamu, Redstone, Casino and Apple Bay Properties.”*

There were no limitations put on the author in preparation of this report with respect to the available information. This report is based on a review of the available data concerning the Coates Lake Property listed in the Reference section of this report and the author's personal familiarity with the project based on field work in 1977, and a data review and exploration proposal prepared in 1990.

All reference to currency in this report is in Canadian dollars unless otherwise stated. Much of the historical and current work on the project utilized imperial units of measurement which is retained herein unless otherwise indicated. The historic reports commonly refer to the term “ore”, in most cases the term “ore” has been replaced but in certain circumstances such as within a historical context as it was used at that time, it has been retained.

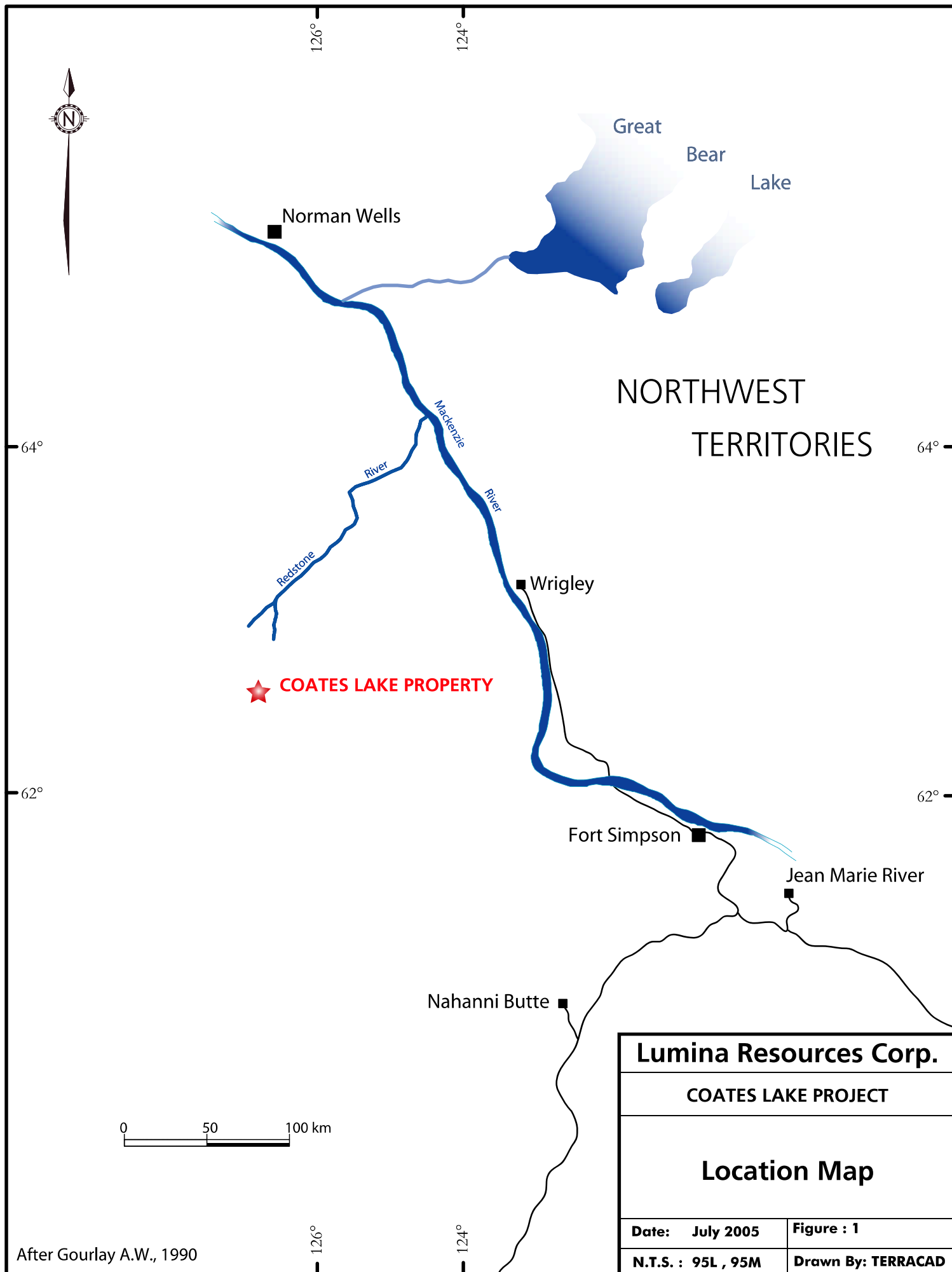
## **DISCLAIMER**

The author has prepared this report based upon information believed to be accurate at the time of writing. Although the author has no reason to question the accuracy of the information, the accuracy cannot be guaranteed. The principle sources of information for the content of this report are archived reports from Lumina Resources Corp. In writing this technical paper the author has relied on the truth and accuracy presented to him from the sources listed in the Reference section of this report.

Claim information has been confirmed by Lumina Resources Corp. in a letter received June 10, 2005, which states that the expiry dates listed are valid and that all the claims and leases are in good standing. The author has not completed an independent title search of the leases. Lumina Resources Corp. assumes responsibility for the title.

## **PROPERTY DESCRIPTION AND LOCATION**

The Coates Lake (Redstone) Property is located in the Nahanni Mining District, Northwest Territories (Figure 1). The property comprises five Mining Leases totaling 5,661.75 hectares (13,990 acres) currently registered to CRS Copper Resources Corp. (CRC). The Redstone Property consists of five, surveyed mining leases located in the Nahanni Mining District in the Northwest Territories, 290 kilometres south of Norman Wells,



Northwest Territories, and 300 kilometres north of Watson Lake, Yukon Territory. The leases are more particularly described as follows:

**Table 1: Lease Information**

<b>Lease Name</b>	<b>Lease Number</b>	<b>Expiry Date</b>	<b>Acres</b>	<b>Owner</b>
North Redstone	2505	July 23, 2013	451	CRC
Hidden Valley	2506	July 23, 2013	604	CRC
Coates Lake	2684	November 29, 2015	11,700	CRC
South Redstone	2416	October 19, 2012	820	CRC
South Redstone	2417	October 19, 2012	415	CRC
	5 leases		13,990	

The annual rent is \$27,980 (\$2.00 per acre). The actual Coates Lake copper deposit is located in Lease 2684 which lease is in good standing to November 29, 2015. The five leases, grouped in four blocks, are stretched out over approximately 100 kilometres in a northwest southeast orientation (Figure 2). The four blocks, from north to south are: North Redstone, Hidden Valley, Coates Lake, and South Redstone (or McBean lease). Only the two South Redstone leases are contiguous.

In May 2003, Copper Resources Corp. (CRC) was acquired pursuant to a reverse takeover by First Trimark Ventures Inc. and is subject to a net smelter royalty payable to the original Coates Lake property vendors, Redstone Resources Inc. On May 28, 2003 First Trimark Ventures Inc. changed its name to Lumina Copper Corp. On May 18, 2005 ownership of CRC was transferred from Lumina Copper Corp. to Lumina Resources Corp. pursuant to a corporate restructuring. Lumina Resources Corp. has 100% interest in the Coates Lakes leases described in Table 1 subject to the Net Smelter Return (NSR) payable to Redstone Resources as listed in Table 2 as follows:

**Table 2: Net Smelter Return Summary**

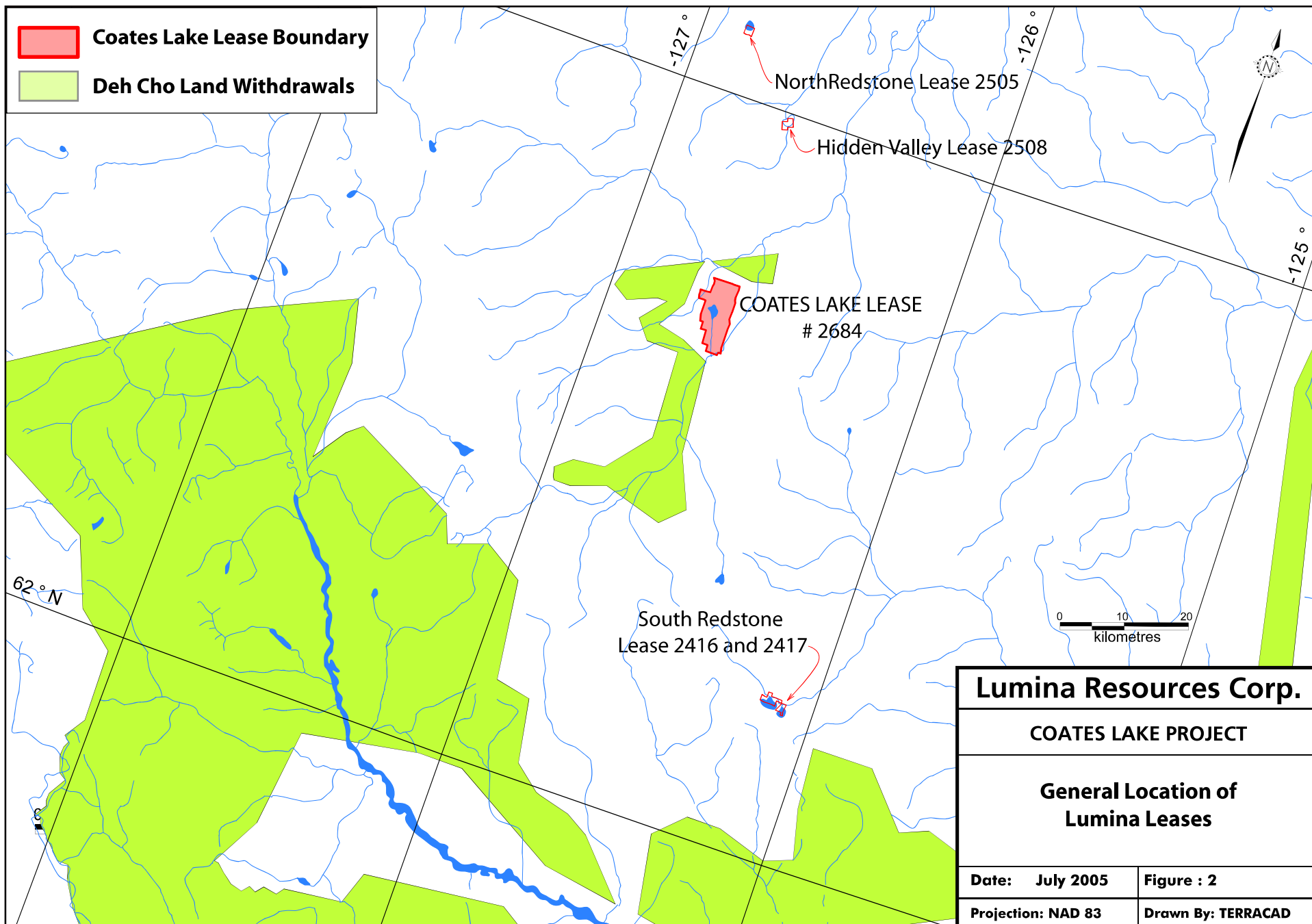
<b>Net Smelter Return %</b>	<b>Average Price of Copper <sup>(1)</sup></b>
3%	If less than or equal to US\$0.75 per pound
3.5%	If greater than \$0.75 but less than US\$1.00 per pound
4%	If greater than US\$ 1.00 per pound

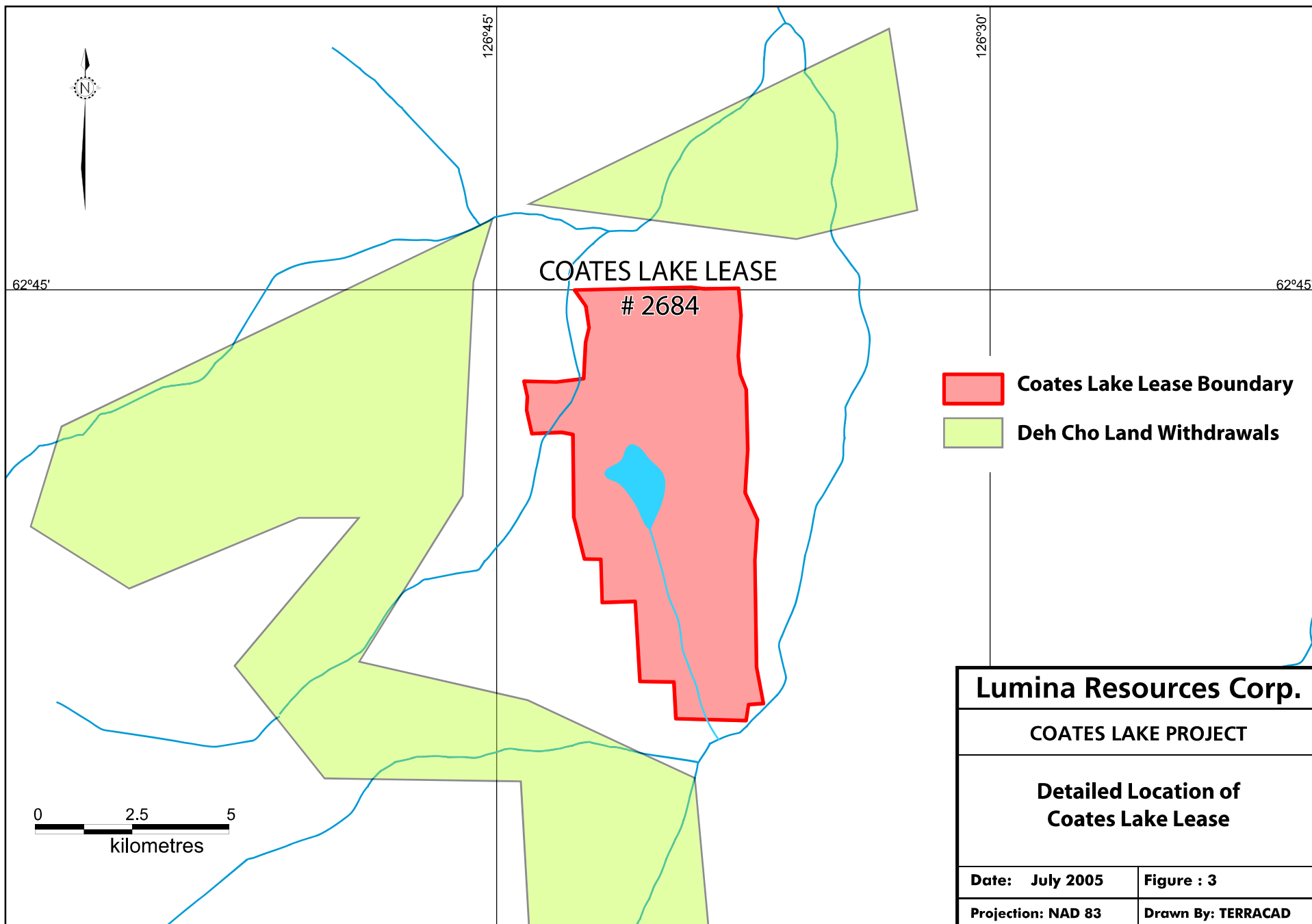
(1) The average of the New York Commodities Exchange final daily spot Prices for Copper reported for the calendar month of production.

Lumina Resources, in the letter dated June 10, 2005 related to the leases that make up the Coates Lake Property, warrants to the best of their knowledge that:

- a) each of the Coates Lake leases is in good standing and is free and clear of all liens, charges, encumbrances and rights of others;
- b) there are no outstanding agreements or options to acquire or purchase the Coates Lake leases or any part or parts thereof or any interest therein and no person has any royalty or other interest whatsoever in the lease except for the previously disclosed NSR.







Lumina Copper. warrants that there are no known environmental liabilities on the Coates Lake leases that the company is aware of.

On May 23, 2001, after many years of negotiation, the Deh Cho First Nations (DCFN) and the Government of the Northwest Territories (GNWT) signed the “Deh Cho Framework Agreement and the Deh Cho Interim Measures Agreement”. This agreement covers a large portion of the southwest section of the NWT and includes ground that partially surrounds the Coates Lake Property to the north, south and west. The agreement is called "interim" as measures will eventually be replaced by a final agreement. Some of the measures include:

- *“the creation of a Land Use Planning Committee and Land Use Plan that will describe how the land, water and other resources in the Deh Cho territory are to be protected and how they can be used and developed;*
- *a process to temporarily withdraw lands from new surface and/or subsurface development activities during the negotiations;*
- *DCFN participation in the Mackenzie Valley Resource Management process, through participation on the Mackenzie Valley Environmental Impact Review Board and creation of a Deh Cho land and water panel under the Mackenzie Valley Land and Water Board;*
- *requirement for additional consultation and community support for certain land and resource activities in the Deh Cho region;*
- *commitment to negotiate an interim resource development agreement that will help encourage economic development in the Deh Cho territory in a way that benefits the Deh Cho people now and in the future.”*

"Interim land withdrawals" is the process that will ensure that certain lands, surface and or subsurface, are protected during the course of negotiation of a final agreement. The Interim Measures Agreement has set out four key guidelines to determine what lands would be considered for withdrawal:

- “(a) lands harvested for food and medicinal purposes;*
- (b) culturally and spiritually significant areas;*
- (c) lands which are ecologically sensitive; and*
- (d) watershed protection.”*

The lands will be temporarily set aside by a federal Order in Council for five years or until May 23, 2006 at the earliest. From that point on, the Deh Cho people will be assured that no new mining claims can be registered or land leases issued on withdrawn lands during that time. Existing interests, such as mining claims that are already registered, will not be affected. The Coates Lake Property is a pre-existing registered lease so will not be affected by any final agreements. Existing environmental protection and land use legislation currently in place, will also continue to apply throughout the Deh Cho territory during the negotiation period.

Some lands will be withdrawn from surface and sub-surface development, which means no development will be allowed, the Coates Lake Property will not be directly affected by this withdrawal as it has a legitimately registered lease. Other lands will be withdrawn

from sub-surface development only, which means activities on the surface, like forestry, could be allowed, but not underground activities, like mining. Again, the current Lumina property is not affected by this clause. Land that is withdrawn is not totally "off limits". It can still be used and crossed by people and vehicles which indicates that if Lumina needs to build a road through the Deh Cho lands, permission will likely be granted as long as Lumina follows the proper procedures and existing environmental legislation covering roads. To date, the Coates Lake Property is not directly affected by these measures and is not expected to be affected by the final agreement.

The current Coates Lake lease (Lease #2684) which hosts the defined mineral deposit, covers a large area with plenty of space for the building of infrastructure for any advanced exploration or development including potential tailings storage areas, potential waste disposal areas, heap leach pad areas and potential processing plant sites. Final determination of site requirements cannot be completed at this time, if future work determines that site development requires an expansion of the present lease boundaries, there are certain directions the company could expand its holdings that would not encroach on the Deh Cho land settlement. The other leases cover small areas of known mineralization and do not have sufficient space for future development. The other four remote leases (in three separate areas) are not affected by the Deh Cho settlement and at this time have no third party mineral claims or leases within many kilometres of the Lumina leases so if the company is encouraged by the results of the 2005 exploration, additional claims could be acquired.

## **ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY**

The Coates Lake Property is located at the lake of the same name, in western Northwest Territories. The property is 290 kilometres south of Norman Wells, Northwest Territories, and 300 kilometres north of Watson Lake, Yukon Territory. See Figure 1. Norman Wells has a population of about 800. Canada North Airlines operates scheduled daily service to Norman Wells from Calgary, Edmonton, Yellowknife and Inuvik. In addition to major oil and gas production facilities, there are a wide variety of other businesses, including tourism related businesses. Freight can be shipped to Norman Wells via barge during the summer and by truck via ice road during the winter. Although several land routes have been proposed, the only reasonable access for exploration will continue to be via float or ski equipped airplane to Coates Lake. Access to the property is by chartered aircraft from Fort Simpson, Wrigley, Norman Wells or Watson Lake. Travel within the property is by helicopter or on foot.

Relief on the property is about 1,000 metres from Thundercloud Creek (1,000m a.s.l.) to the peak (2,009m) of Coppercap Mountain. The property covers a broad plateau of gentle relief which drops gently to Silverberry River. The plateau is a nearly flat-bottomed, north-south trending valley, approximately 2,400 metres wide and 7,250 metres long. Drainage within the property is southerly except for the northeast corner.

Alpine vegetation covers most of the lease except the south-central area, where there are thin stands of stunted evergreen trees. The climate is severe. The mean annual temperature

is -5°C, although the plateau is permafrost free. Annual precipitation is low (20 - 40 centimetres) however the data available is limited.

## HISTORY

The copper occurrences, which now constitute the Coates Lake Property, were discovered by regional prospecting by the Nahanni Sixty Syndicate during 1961. The Coates Lake Property (formerly the “Redstone Group”), and a number of other claims, were staked at that time. During 1962 the Syndicate carried out reconnaissance geological mapping and sampling along the exposed strike length of copper mineralization on what later became the Coates Lake deposit. In 1961-62, Redstone Mines Limited (now Redstone Resources Inc.) completed preliminary exploration of the three “outside” lease areas, North Redstone, Hidden Valley, and South Redstone, in addition to the Coates Lake Property. Exploration has predominately consisted of prospecting, mapping, sampling and minor hand trenching on all leases, and some drilling on the South Redstone lease only.

The North Redstone lease primarily contains a 6' wide quartz vein containing chalcopyrite and bornite hosted in the limestone unit immediately below the Rapitan Formation, which may be equivalent to the Coates Lake Group of marine sediments. There are other noted occurrences of disseminated chalcopyrite ± bornite in this unit as well. There does not appear to be any further work completed on this lease since 1962 so further work will be recommended to determine if the similar geology and setting hosting the Coates Lake deposit (40 km to the south) can be located on the North Redstone lease.

The Hidden Valley lease, located 26 km to the north of the Coates Lake deposit, contains tetrathedrite and chalcopyrite and pyrite ± bornite and galena hosted in a breccia at the base of the Rapitan Formation in the underlying limestone units, which may be equivalent to the Coates Lake Group of marine sediments.

The South Redstone lease consist of two contiguous leases (53 km south of the Coates Lake deposit) that area also referred to as the McBean leases in the historical literature. This property contains abundant galena, sphalerite and pyrite mineralization (copper minerals are rarely noted) hosted in limestones and dolomites capped by a prominent gossan. Workers at the time felt that the deposit model for this mineralization was the Mississippi Valley Pb-Zn type not the redbed type occurrence documented at Coates Lake. In 1962, Redstone drilled 17 AX drillholes, (2,800 ft). Fourteen of the holes were less that 150' in depth, the other three holes ranged from 233'-356' in length., All holes encountered the capping gossan, none of the holes hit sulphides. No further work has been recorded on those leases since 1962.

In 1963 the Syndicate's properties and equipment were sold to Redstone Mines Limited. In 1963 Redstone Mines Limited (Redstone) completed detailed geological mapping and a drill program totaling 1,619 metres (5,312 ft.) in 18 diamond drill holes at the Coates Lake Property. The core recovered in this program was “A” sized and recovery was reported to be not very good. In 1964 Redstone conducted a further drill program consisting of twenty seven drill holes totaling 5,283 metres (17,332 ft.) this time using “BX” size. This brought the drilling to a total of 6,902 metres (22,644 ft.) in 45 diamond drill holes. Drill logs indicate

that core was sampled in intervals ranging from 2.0 feet (0.61m) to 10 feet (3.05m), with the majority of samples being 5.0 feet (1.52m) in length.

At that time the importance of these “red-bed copper” deposits and their similarity to the Rhodesian Copper Belt were recognized by the late Dr. J.A. Coates. Redstone carried out further geological mapping, limited soil and silt sampling in addition to the diamond drilling in 1964. Work in 1968, again by Redstone, consisted of geological mapping and an investigation of the applicability of geophysical and geochemical exploration methods. Although all the data from these surveys was lost in an aircraft crash that took the lives of Dr. Coates and the geophysicist, it was established that Induced Polarization was an effective geophysical tool but EM, magnetics, gravity and self potential were not. A limited geochemical drainage survey over an area west of Crowberry Ridge identified a relatively strong anomaly.

In 1970 the Coates Lake Property was optioned to Cerro Mining Company of Canada Limited, which carried out reconnaissance geological mapping and geochemical surveys. During 1971 Cerro drilled three diamond drill holes totaling 1,375 metres (4,512 ft.). Two of the drill holes failed to reach the copper beds due to down-faulting, however a hole drilled in the northern portion of the property intersected a 1.13 metre thick copper bed grading 3.9% copper. Extensive soil sampling was completed over the western half of the property and Cerro elected to drop the option.

Shell optioned the property and completed exploration programs. Shell completed a seismic survey which according to certain documentation appears to have been successful but full documentation of the results is not available. Shell’s drill programs in 1976 and 1977 comprised 7,225 metres (25,795 ft.) in eight diamond drill holes. These holes were started as HQ but most were reduced to NQ and some to BQ before they finished at depths of nearly 1,000 meters. Drill logs indicate that core was sampled in intervals ranging from 0.08 feet (0.02m) to 6.5 feet (1.98m). No description of sampling method and analytical procedures are given. The analytical laboratory or laboratories is stated as Loring Labs in Calgary on the drill logs.

**Table 3: 76/77 Shell Drill Hole summary**

Hole ID	From –To (feet)	True Width	Cu %	Ag oz/ton
71-3	721-725	3.70	3.90	n.a.
3698Y-1	1636.5-1641.5	4.53	2.96	0.30
3698Y-2	2334-2337	2.95	3.52	0.60
3698Y-3	2545-2548	2.82	4.01	0.54
3698Y-4	3378.2-3383.1	4.6	3.04	0.24
3698Y-5	1269-1272.5	3.03	3.4	0.04
3798Y-2	2791-2793.7	2.21	6.28	0.28
3798Y-3	4882.5-4885	2.43	5.15	0.40

The Shell program proved the continuity of the Redstone beds to substantial depth. The grade and thickness remained similar to that encountered in earlier programs prompting a

resource estimate by Hildebrand in 1978. Hildebrand estimated a resource of 37 million tons at a grade of 3.92% copper and 0.33 opt silver over a mining thickness of 3.27 feet. Within this resource he estimated that 20.5 million tons grades 4.23% copper and 0.27 opt silver over a 3.23 foot thickness based only on 3 holes, 3798Y-2, 3798Y-3, and 3698Y-4. These resource estimates do not follow the required disclosure for reserves and resources outlined in NI 43-101 as they were made prior to the inception of NI 43-101. These resource estimates were not created using the standards outlined in NI 43-101, however the resource estimates have been obtained from reliable sources and are relevant. A further discussion of the resource estimate can be found in the MINERAL RESOURCE ESTIMATES section of the report.

Continuity has been maintained by a number of key personnel continuing to be involved in the project. The author of this report was first involved as a member of the Shell team in 1977, and one of the Shell managers had first been involved in the project as a geologist and core logger during Redstone's 1964 drill program, and later with Cerro.

In 1990 the author, as part of a MineQuest Exploration Associates Ltd. team under contract to Redstone Mines Limited, carried out a complete data review, confirmation mapping, identification of drill targets and location of potential drill sites. Redstone Mines Limited, now Redstone Resources Inc. continued to hold the property by making the annual lease payments, and renewed the lease for a second twenty-one year term in 1994. There has been no work completed on the property since that time.

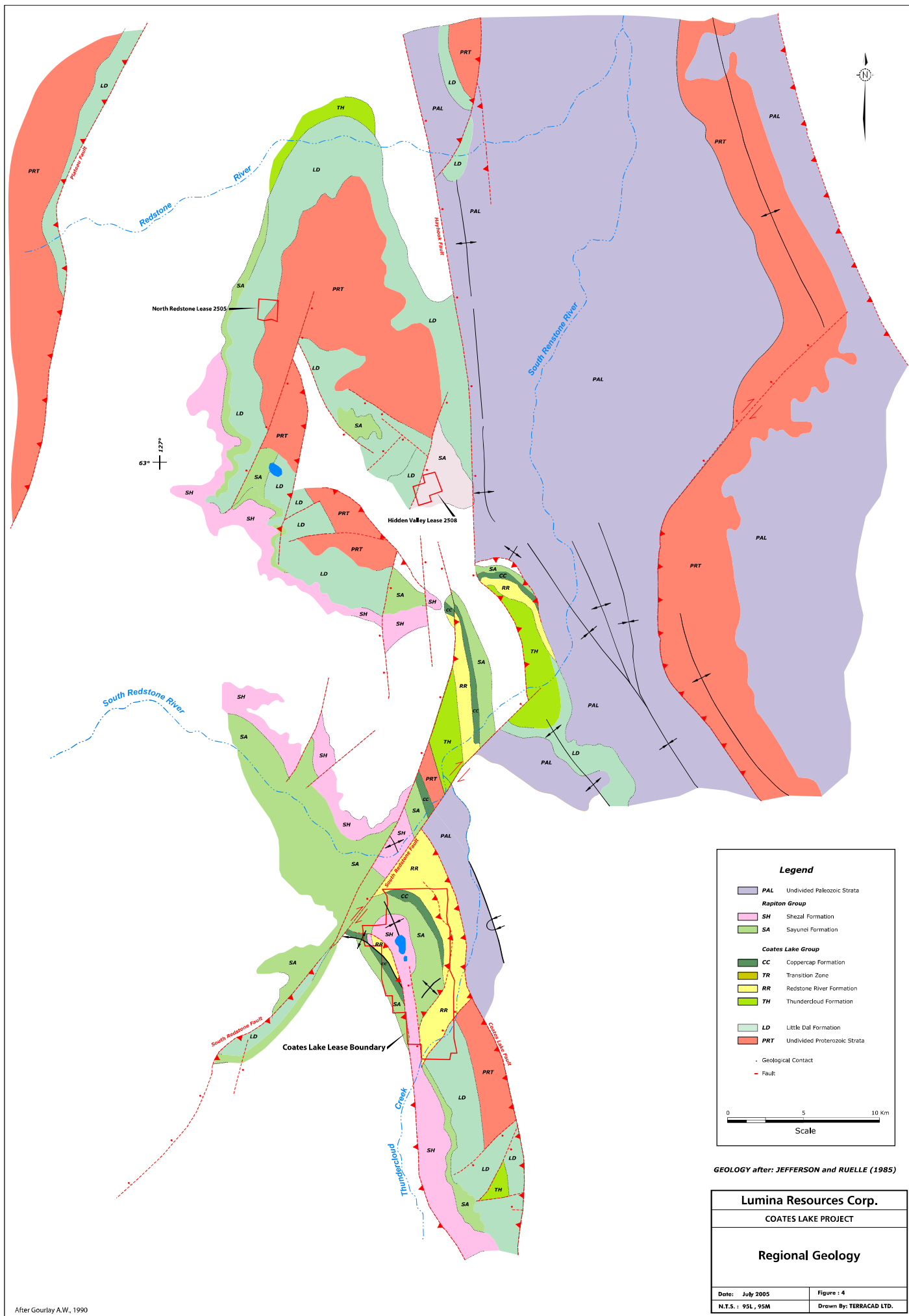
## **GEOLOGICAL SETTING**

Figure 4 illustrates the regional setting of the Coates Lake Property, as mapped by Jefferson and Ruelle (1985). The property covers Late Proterozoic strata of the Mackenzie Mountains Supergroup (Young et al, 1979), that has been thrust eastwards over Paleozoic carbonate rocks and shales. The Redstone Copper Belt is an essentially unmetamorphosed succession that is locally well exposed in an arcuate belt less than 15 kilometres wide and about 300 kilometres long. The stratigraphic nomenclature has revised several times since exploration of the area began.

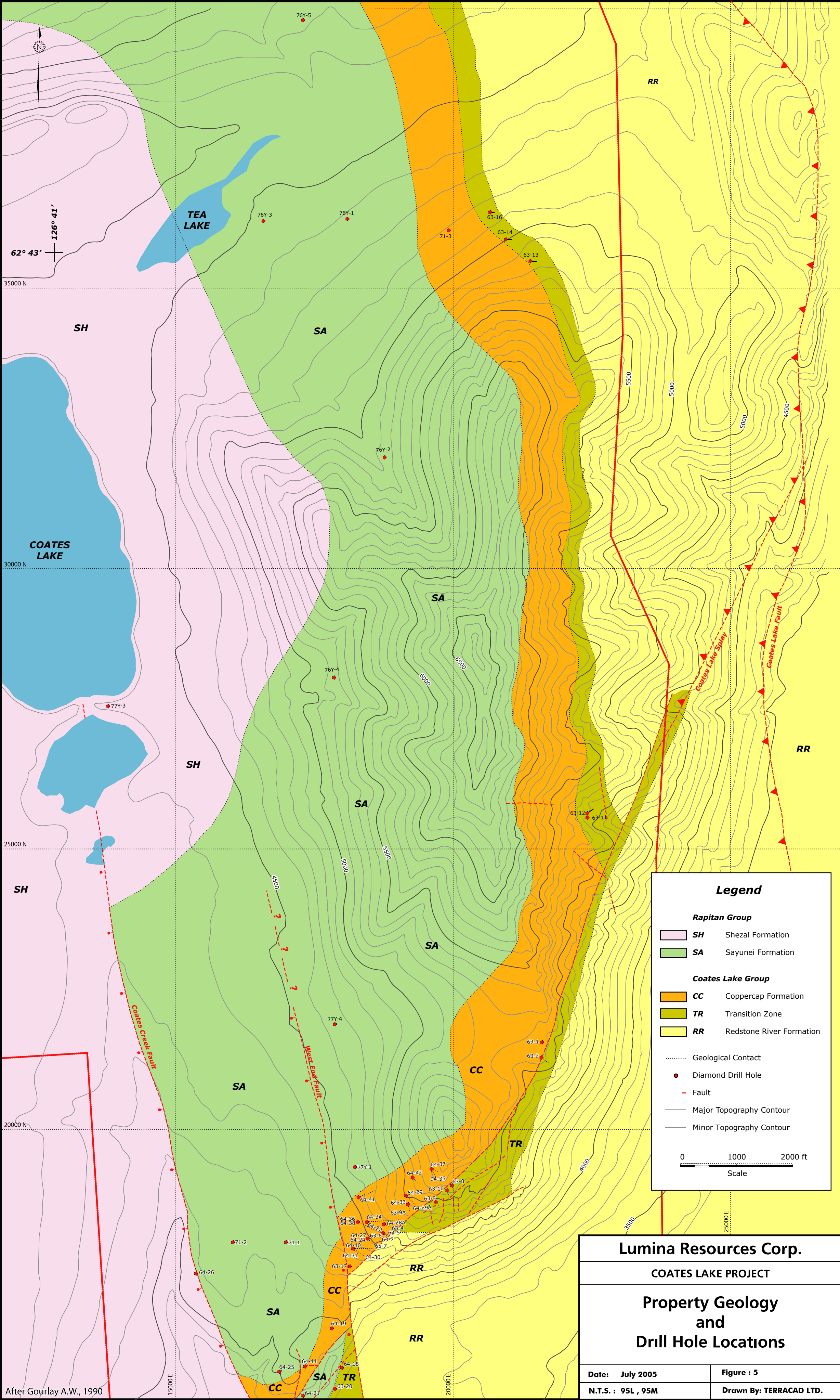
The copper-bearing beds are hosted by the Transition Zone of the Coates Lake Group (Jefferson and Ruelle, 1985). The Coates Lake Group unconformably overlies the Little Dal Group, a sequence of continental clastics and carbonates. The Rapitan Group, a marine succession of siltstones, debris flows and tillites, unconformably to conformably onlaps the Coates Lake and Little Dal Groups.

## **Property Geology**

The Coates Lake Property covers a broad syncline which has been thrust eastward along the Coates Lake Fault, placing the Coates Lake Group over Paleozoic strata (Figure 5). At the southern most edge of the property the Coates Lake Group is in fault contact with the Little Dal Group.







## **Coates Lake Group**

The Coates Lake Group has been subdivided into four units, the Thundercloud Formation, Redstone River Formation, Transition Zone and Coppercap formation, by Jefferson and Ruelle (1985).

The Thundercloud Formation, the lowermost unit, is 0 to 300 metres thick and is a succession of interbedded dolostones, mudstones and sandstones. Contact with the underlying Little Dal Formation is marked by pillowed basaltic lava, or sandstone, dolomite, siltstone, and mudstone with local gypsum and conglomerate. Where basaltic lava is present the contact is conformable but the sedimentary units mark a distinct unconformity.

The lowermost Thundercloud Fm. is comprised of basal volcanoclastics, alluvial fanglomerates, tidal arenites and paralic mudstones. These are overlain by rhythmically interbedded carbonate and dolostone locally containing evaporites, followed by cyclically interbedded sandstone and shale. The top of the Thundercloud Fm. is marked by evaporitic algal dolostones.

The Redstone River Formation gradationally overlies the Thundercloud Fm. and varies from 0 to 1,220 metres in thickness. A Lower Evaporite unit is composed of bedded and brecciated gypsum-anhydrite, which thins at basin margins and reaches thicknesses of over 215 metres at basin centres. An Upper Redbed subunit is dominated by maroon mudstones with thin marginal fanglomerates.

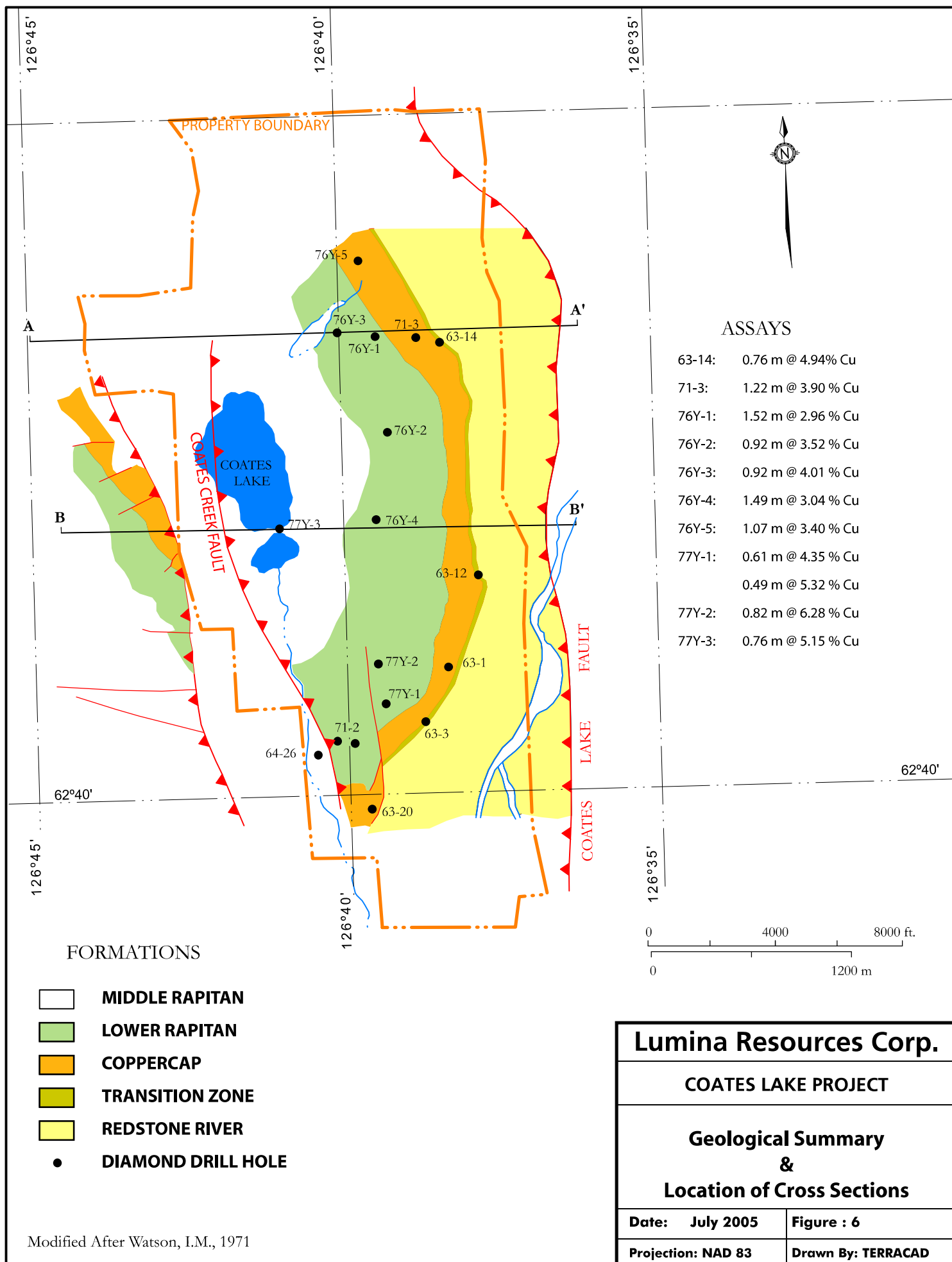
The Transition Zone marks the transition between the Redstone River and Coppercap Formations, and consists of a series of red, green, and tan coloured near shore coastal deposits. The Transition Zone varies from 40 to over 110 metres in thickness. The copper occurrences are hosted by up to eight fining-upwards, carbonate-evaporite beds, each composed of dolosiltite, dololutite, dolostone, gypsum, anhydrite and capped by a crypt-algal laminated carbonate bed (Figure 6).

Above the Redstone River Fm lies the Coppercap Formation, a sequence of tan to dark weathering, grey detrital limestones and dolostones. These carbonates contain laminated to massive, rhythmically graded bedded fetid shaley limestone interbeds. The Coppercap Formation varies from 0 to 300 metres in thickness.

The Rapitan Group consists of turbiditic, siliceous red siltstones, maroon and green debris flows and tillites, which lie with regional unconformity on the Coates Lake and Little Dal Groups. Detailed descriptions of the regional and property geology may be found in Eisbacher (1978), Aitken (1981), Ruelle (1983), and Jefferson and Ruelle (1985).

## **Structure**

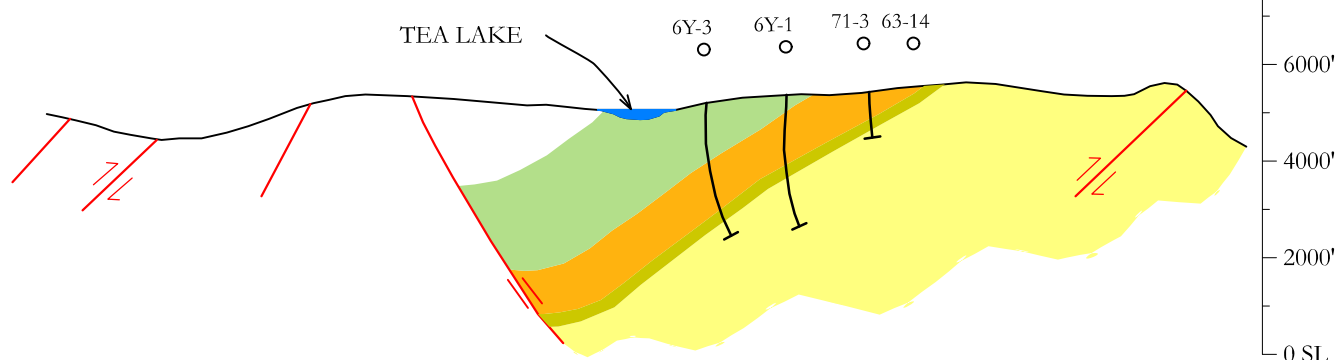
The Coates Lake Fault has thrust the Coates Lake Group eastward over an over-turned Middle Devonian carbonate succession (Figure 7). A splay of the Coates Lake Fault repeats Redstone River and Coppercap Formations on the east face of Coppercap Mountain. The Coates Lake basin forms a broad syncline that is cut off to the west by the West Range Fault. Redstone River Fm. is brought to the surface on the east side of Crowberry Ridge by the West Range Fault. The syncline is cut by two east dipping faults, the Coates Creek and West End



Modified After Watson, I.M., 1971

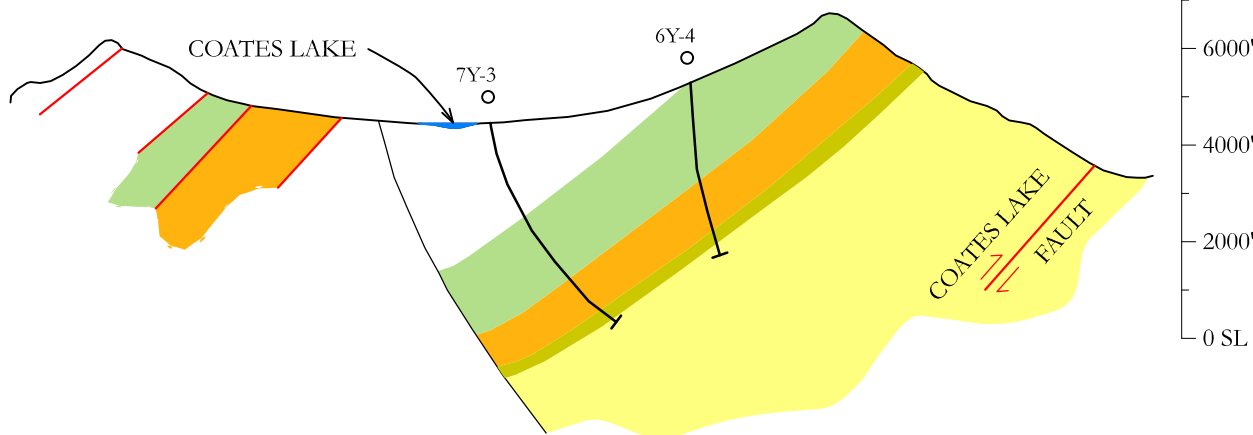
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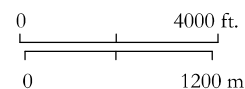
WEST  
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#### FORMATIONS

- MIDDLE RAPITAN
- LOWER RAPITAN
- COPPERCAP
- TRANSITION ZONE
- REDSTONE RIVER
- DIAMOND DRILL HOLE



**Lumina Resources Corp.**

**COATES LAKE PROJECT**

**Representative Cross Sections**

**Date: July 2005**

**Figure : 7**

**Projection: NAD 83**

**Drawn By: TERRACAD**

After Hildebrand, A. R., 1977

Faults, that converge with the Ridge Zone Faults at the South Zone to produce frequent deformations and dislocations. The Coates Creek Fault has a westdown displacement, estimated at 670 metres (Hildebrand, 1978). Bedding attitudes of the B1 bed reach  $60^{\circ}$  near the Ridge Zone Faults and average  $45^{\circ}$  -  $55^{\circ}$  along the east side of the Triangle Zone (Gourlay, 1990).

Of importance is the location of the West End Fault, the position of which limits the area of the Triangle Zone that is free of structural complication (Figure 6). A reconnaissance VLF-EM survey suggested that the trace of the West End Fault may be further west than previously mapped. The repetition of the B1 bed in Hole 7Y-1 identifies the location of the fault at the south end of the Triangle Zone. The West End Fault was not encountered in Hole 7Y-2, additional evidence that the fault is further to the west than previously thought. To the north of Coates Lake the B1 bed remains open along strike and down-dip to the Coates Creek Fault. The location of the Coates Creek Fault is not well defined in the northern portion of the property and there appears to be in excess of 1,200 metres of unexplored down-dip extension of the B1 bed, west of the northwestern-most drill hole (Hole 6Y-5). Although the drilling is widely spaced in the central and northern portions of the property there appears to be significantly less structural disruption in these areas.

## DEPOSIT TYPES

Sediment-hosted stratiform copper deposits (SCD's) or "diagenetic sedimentary" copper deposits include some of the richest and largest copper deposits in the world. Important by-products include silver (central Africa Copperbelt of Zambia) and cobalt (Zaire). Kirkham (1989) summarizes that:

*“Analysis of many deposits and districts indicates that most Sediment-hosted stratiform copper deposits formed during diagenesis in sediments deposited in low-latitude arid and semi-arid areas. A variety of processes were involved in different districts but metals were characteristically deposited at redox boundaries where oxic, evaporite-derived brines containing metals extracted from redbed aquifers encountered reducing conditions. The reducing environments were fundamentally of two types: 1) those with stratigraphically-controlled fixed reductants (Kupferschiefer and some redbed-type deposits), and 2) those with mobile reductants, such as H<sub>2</sub>S-bearing waters and hydrocarbons (Dzhezkazgan-type). Outward and upward away from the oxidized zone is the complete or partial following sequence of minerals: hematite, native copper, chalcocite, bornite, chalcopyrite, galena, sphalerite and pyrite. Recent studies also support the concept that similar ore-forming processes continue into higher temperature metamorphic environments and were aided by regional tectonic processes. “*

Other classic examples of SCD's include; Kupferschiefer in Poland, White Pine in Michigan, the Dzhezkazgan area in Kazakhstan, the Lisbon Valley, Utah, the Graviisk area of Russia and possibly the Revett Formation of the Belt Supergroup in western Montana and Idaho.



## **MINERALIZATION**

Copper mineralization is disseminated throughout the Coates Lake Group and Rapitan Formation, but the most economically significant occurrences are found in the eight copper-bearing beds of the Transition Zone. The lowermost bed (B1) has the highest grades although the third bed (B3) has the greatest thickness. The B1 bed has the most economic potential, with a demonstrated strike length in excess of 6,000 metres and down-dip extension of at least 2,400 metres. The mineralized beds display distinct zonation: copper content decreases up-section, both across each mineralized bed and across the Transition Zone. There is also a lateral copper-iron zonation, with the iron-rich zones closer to the margins of the basin. Mineralization of the B1 bed is dominated by chalcopyrite at the south and east areas, and by an increasing chalcocite-bornite content further to the northwest, towards the centre of the basin. The sulphides are fine-grained and the mineralogy appears to be simple. A single, preliminary metallurgical test has been completed and a clean concentrate is expected. The petrology of the mineralized beds has been studied in detail by Chartrand (1981) and Brown and Chartrand (1983). Ruelle (1982) and Jefferson and Ruelle (1985) give thorough descriptions of the lithologies in the Transition Zone.

There are several regional targets that may contain the same copper bearing horizon and need to be investigated in the next phase of work. One of these areas lies on the North Redstone lease (40 km to the north), previously discussed in the HISTORY section of this report. The second area lies between the Coates Lake and North Redstone lease and is shown on certain maps as the “extension bedded copper deposit” located in an area not covered by any claims or company leases. Further work will be recommended in this area to determine if the similar geology and setting hosting the Coates Lake deposit.

## **EXPLORATION**

The company has not conducted any exploration on the property, all of the work done on the property is considered historic and is discussed in the History section of this report.

## **DRILLING**

The company has not conducted any drilling on the property, all of the drilling done on the property is considered historic and is discussed in the History section of this report.

## **SAMPLING METHOD, APPROACH AND SECURITY**

The Coates Lake Property was explored in the 1960's yet some stream sediment and soil geochemistry was used to define drill targets. Some surface sampling is evidenced on plans but the number of sample sites seems low considering the extent of the outcrop. This may be due to steep terrain or perceived oxidation and subsequent depletion or enrichment.

Most of the samples of the mineralized beds are from drilling which is in general widely spaced. Early programs reported difficulties with recovery particularly in fault zones but later programs achieved good core recoveries using larger diameter cores. No record of the sample treatment is in any of the reports and the author assumes that a wheel splitter was used on site to split core for transport to the laboratory for analysis. Only in the 1976-77 programs is the Loring laboratory mentioned on the drill logs.

## **SAMPLING PREPARATION AND ANALYSIS**

The Coates Lake Property has been explored by several different companies between 1962 and 1977, however only very limited information is available concerning sampling and analytical procedures.

The author believes that all geological logging and sampling of drill core was carried out professionally. Individual assay sheets are not available but the author believes that qualified, quality analytical laboratories were used in all exploration programs.

## **DATA VERIFICATION**

The author last worked on the Coates Lake Property in August 1990 as part of a field review of drill data and the generation of an exploration proposal for Redstone Resources Inc. At that time the majority of the drill core was still stored on the property and was in fair to good condition. During a recent site visit in July 2005, the core storage area was visited and it was noted that the core boxes have deteriorated and an undetermined amount of core has been lost (G.Cavey P.Geo., personal communication 2005). No exploration has been done on the property since the 1977 drill program by Shell Canada Resources Limited. A limited amount of representative core from the Transition Zone is available in the Core Library in Yellowknife.

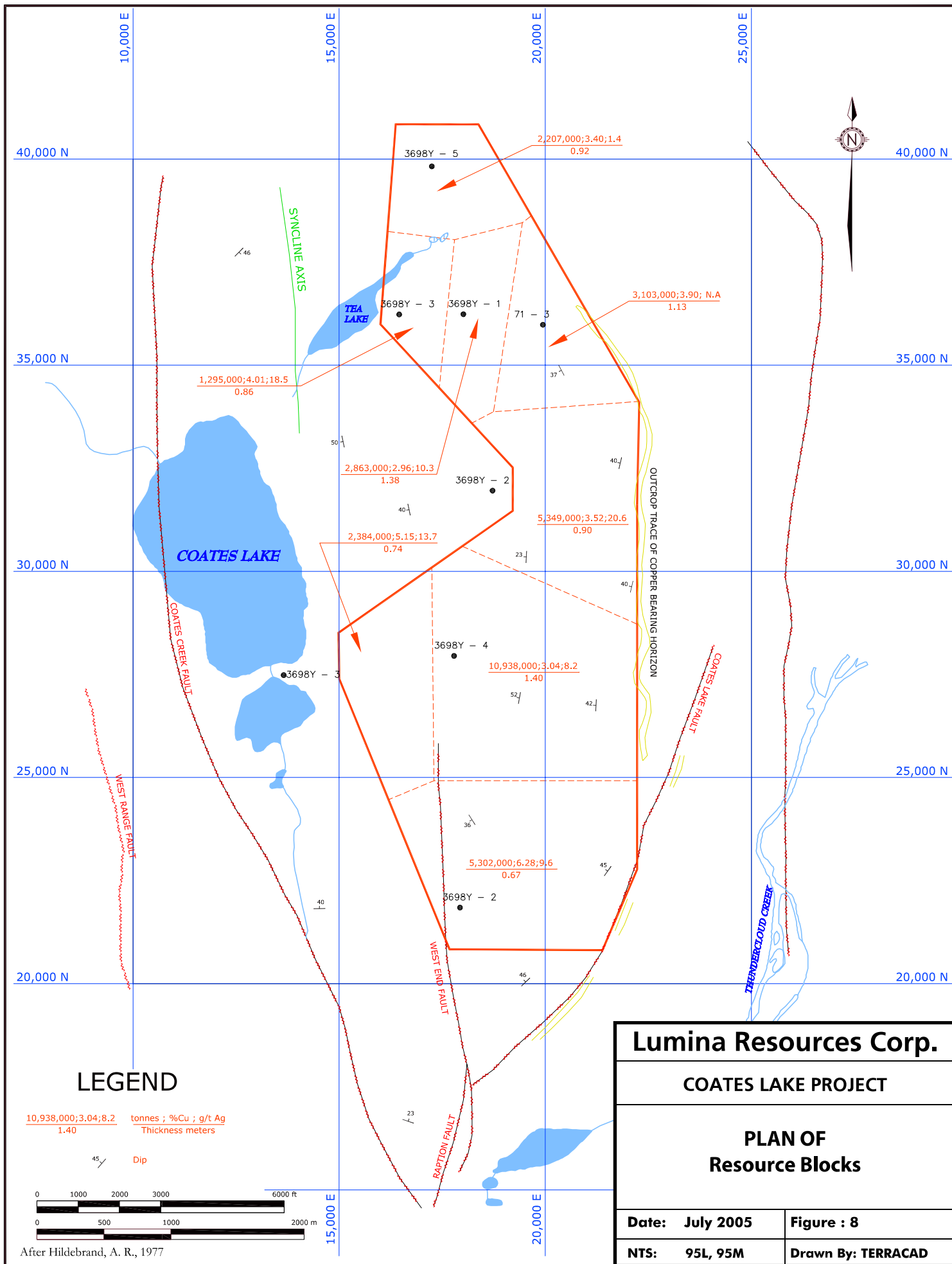
Independent verification of the Coates Lake Property was not necessary due to the author's prior involvement with the project and personal familiarity with the property.

## **MINERAL RESOURCE ESTIMATES**

The following excerpt describing the resource calculation is taken from Redstone Project, Progress report March 1978, Drill Results as of August 1977 and recommendations for the 1978 Field Season, by A.R. Hildebrand (March 9, 1978). The drilled off tonnage of the mineralized B1 bed was calculated using a weighted average. Assay data from eight different drill hole intersections of the B1 Bed was used (see Table 4). To calculate the weighting factors each intersection was assigned an area of the B1 bed which it was taken to represent (Figure 8). In selecting the areas the bed was assumed to extend one thousand feet in the untested directions from the B1 intersection. The areas of the bed for each block, projected to the horizontal, were measured graphically. The true areas of the bed in each block, correcting for the dip of the bed, were then calculated after assigning the dip angles. Finally, the relative weights for each intersection were calculated from the true areas.

The tonnage of the mineralized B1 bed in each block was then considered. Tonnages were calculated using the true thickness of each intersection (Table 4) and the true areas (Table 5). A tonnage factor of  $11.2 \text{ ft}^3 / \text{ton}$  was used. This tonnage factor was calculated from an average specific gravity obtained by McCarthy (1977) for the mineralized bed.

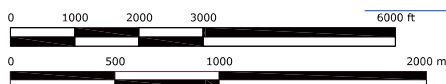
A total tonnage for the entire deposit and an average grade and thickness for the B1 bed were then calculated from the data for the individual blocks. Table 5 shows a total tonnage of 36,870,914 tons of 3.92% Cu and 0.33 oz/ton Ag in a bed averaging 3.27 feet in thickness. A tonnage, grade and thickness were also calculated for a higher grade area, consisting of the three southern tonnage blocks. Table 5 shows a tonnage of 20,534,383 tons



## LEGEND

10,938,000;3.04;8.2  
1.40 tonnes ; %Cu ; g/t Ag  
Thickness meters

45° Dip



After Hildebrand, A. R., 1977

**Lumina Resources Corp.**

**COATES LAKE PROJECT**

## PLAN OF Resource Blocks

**Date:** July 2005

**Figure :** 8

**NTS:** 95L, 95M

**Drawn By:** TERRACAD



of 4.23% Cu and 0.27 oz/ton g in a bed averaging 3.23 feet in thickness in the higher grade area.”

The author directed the drilling and logged diamond drill core at a similar mineral occurrence at Keele River, approximately 160 kilometres to the north, and reviewed the drilling at Coates Lake on an ongoing basis during the 1977 drill program of Shell Canada Resources Ltd., and considers the “geologic reserve” calculated by Shell to conform with an Inferred Resource as defined by National Instrument 43-101.

**Table 4 - Assay and Intersection Data for Resource Estimation** (Modified after Hildebrand, A.R., 1978)

Hole Number	Average Dip of B1 Bed	Factor	Plan Area	True Area
3798Y-2	45	1.414	20,952,600	29,626,976
3798Y-3	42	1.346	9,001,200	12,115,615
3698Y-4	35	1.221	24,048,100	29,362,730
3698Y-2	45	1.414	15,834,150	22,389,488
71-3	34	1.206	8,587,600	10,356,645
3698Y-1	34	1.206	6,471,250	7,804,328
3698Y-3	34	1.206	4,701,700	5,670,250
3698Y-5	34	1.206	7,459,100	8,995,675
		Total True Area (ft <sup>2</sup> ) =		126,321,707

**TABLE 5 – Individual Block’s Estimated Resources**

Hole Number	True Thickness	Area	Volume	Tonnage Tons	Cu%	Ag oz/ton
3798Y-2*	2.21'	29,626,976	65,475,616	5,846,037	6.28	0.28
3798Y-3*	2.43'	12,115,615	29,440,944	2,628,656	5.15	0.40
3698Y-4*	4.60'	29,362,730	135,068,550	12,059,690	3.04	0.24
3698Y-2	2.95'	22,389,488	66,048,989	5,897,230	3.52	0.60
71-3	3.70'	10,356,645	38,319,586	3,421,391	3.90	N/A
3698Y-1	4.53'	7,804,328	35,353,605	3,156,571	2.96	0.30
3698Y-3	2.82'	5,670,250	15,990,105	1,427,688	4.01	0.54
3698Y-5	3.03'	8,995,675	27,256,895	2,433,651	3.40	0.04
Entire Deposit Totals		126,321,707	412,954,290	36,870,914		
Average Width = $V/A = 3.27'$						
Average Grade = tons x Cu%/tons = 3.92% Cu, 0.33 oz/ton Ag						
Higher Grade Area Totals    71,105,321    229,985,110    20,534,383 (* Used in Higher Grade Area Calculation)						
Average Width = 3.23'						
Average Grade = 4.23% Cu, 0.27 oz/ton Ag						

\*

“Reserves” as used by Hildebrand does not conform to the definition of reserves as defined by National Instrument 43-101. The “reserve” estimated does conform with an Inferred Resource as defined by National Instrument 43-101.

## MINERAL PROCESSING AND METALLURGICAL TESTING

A single bench scale test has been performed on Coates Lake material. The test recovered 94.8% of the copper from a sample assaying 2.87% copper into a rougher concentrate grading 11.0% copper. Although mentioned in the reference material supplied by Lumina no report was found that actually stated when, where and by whom the test was performed. Further testing is needed to determine metallurgical properties.

## ADJACENT PROPERTIES

There are no companies working claims in the vicinity of the Lumina property.

## OTHER RELEVANT DATA

There is no additional relevant data that would contribute to the technical report.

## INTERPRETATION AND CONCLUSIONS

It is widely recognized that the Coates Lake Property hosts a large copper resource that has been only partially tested. The early drilling demonstrated the continuity of the

mineralized beds down-dip from the surface exposures. Drilling during the 1970's confirmed the lateral extent of the mineralization and established the potential for significant tonnages.

The red-bed mineralization at Coates Lake displays remarkable continuity in both grade and width over at least 6,000 metres of strike length and 2,400 meters of down-dip extension.

Within this mineralized area there are several intersections of significant width at the H.C. and Ridge Zones, [e.g. Holes 64-28 (3.18% Cu over 32.4 ft.), 64-29A (1.08% Cu over 23 ft.) and 64-36 (2.17% Cu over 15 ft.)]. The drill logs suggest that these intersections are close to true widths, although near surface structural disruption at the H.C. and Ridge Zones make continuity suspect in one area. The intersections also suggest that there may be zones or areas within the mineralized beds where thicknesses are significantly greater than the indicated average for the entire deposit. At Keele River, some 160 kilometres to the northwest, an intersection at the June Creek deposit returned 52m at a grade of 2.3% copper. Ruelle (1982) postulated that the deposits at Keele River were deposited in playa lakes controlled by minor topography, and form sinuous pods in the same Transition Zone sequence as at Coates Lake. The thicker intersections recorded at the south end of the Coates Lake Property suggest that similar occurrences may be present.

The copper-iron zonation implies that the more basinward portions of the deposit may be more copper-rich, or may have the potential for more copper-bearing beds, or for thicker beds. Hole 7Y-2 intersected a thin mineralized bed (B1A) 20 cm. above the B1 bed that is similar lithologically and mineralogically to the B1 bed, suggesting that another copper-bearing bed is present further into the basin. A plan of isopachs of the B1 - B3 thickness places this intersection near the centre of the northeast trending Coates Lake Basin (Hildebrand, 1978). This intersection has not been followed up. To the north the mineralization remains open along strike and down-dip. The north-most hole, 6Y-5, intersected 3.5 feet (1.07m) grading 3.40% copper in the B1 bed. The deepest hole, 7Y-3, intersected 2.5 feet (0.76m) grading 5.15% copper, suggesting that grade may increase further into the basin.

Although the early drilling was concentrated along the Ridge and H.C. Zones, a significant number of holes directed at following up the thicker intersections failed to reach target depths. The Cerro and Shell drilling was wide spaced and was targeted at establishing the potential for a large deposit. Follow up drilling of the thicker intersections and the B1A bed has not been attempted, nor has the northern strike and down-dip extensions been defined.

The exploration completed to date has identified an Inferred Resource of 33.6 million tonnes grading 3.92% copper and 9 g/t silver, as defined by National Instrument 43-101. Additional drilling is warranted, and recommended, to increase the resource and/or the grade of the Coates Lake deposit, which will enhance the economic viability of the property. The potential for additional mineralization along strike, down-dip and in zones of thicker mineralization remains an attractive and untested target. Further work is recommended not only on the established targets with the property but also on regional targets outside the known areas of mineralization.

## RECOMMENDATIONS

The Coates Lake Property has not been fully explored and additional exploration is warranted. A three-phased exploration program is recommended that would consist of detailed geological mapping, and structural interpretation designed to locate areas of thickening of the known mineralized copper-bearing horizon within the property. In addition, the trend of the redbed horizon does continue off the property and it is highly recommended that the company complete some regional exploration including prospecting, mapping and sampling on outside targets. Phase IA should also consist of two test geophysical programs, a 3-D seismic survey and a preliminary IP survey. A seismic survey completed in the 1970's by Shell appears to have been successful but full documentation of the results is not available. IP done in the 60's, was reported to be successful but all data was lost in the plane crash that killed Dr. Coates.. Therefore, it is recommended that two test surveys be completed to determine the effectiveness of modern IP and seismic instrumentation. At the successful completion of the test surveys, it is anticipated that a full geophysical survey will be completed in the winter, costs for such a program cannot be finalized until the Phase IA program is completed although a provisional Phase 1B budget of \$700,000 is expected. The Phase IA program is estimated to cost \$400,000.

Should areas of interest be located outside the existing property, the company should stake claims to cover any mineralization. There are currently no other mining claims anywhere nearby but some prospective areas may be covered by the Deh Cho native land claim so the company will have to negotiate directly with the native group prior to completing any exploration. Areas outside the Deh Cho lands can be acquired by staking.

Work done in the past has indicated that further drilling is warranted to define the grade and thickness of the B1 bed along strike to the north and down-dip of Tea Lake, and to define the thicker sections intersected in the southern portion of the deposit. This drilling is not recommended until after the completion of Phase IA and Phase IB. The drilling recommended could significantly increase the size and/or the grade of the Coates Lake deposit, and will further confirm the potential for a large deposit. An increase in tonnage and grade will improve the economic viability of the Coates Lake deposit. It is recommended that a minimum of three holes be drilled to test for the down-dip and northern extensions of the B1 bed, west and north of Tea Lake. The author previously recommended (1990) that one hole should be drilled approximately 1,000m north of hole 6Y-5 to test the strike extension. A second hole should be drilled approximately 1,000m west of the first hole to test the down-dip extension. A third hole should be drilled approximately 1,000m west of Hole 6Y-3 to test the down-dip extension. Subject to encouragement in the first three holes, additional drilling will be required to define the northern and western limits of the mineralized B1 bed. It is also recommended that the four holes recommended by the author (1990) be drilled to test for extensions to the thicker intersections returned in Holes 64-28 and 64-29A, and to follow up the B1 and B1A bed mineralization intersected in Hole 7Y-2 (which may represent a thicker, basinward extension of the mineralized beds intersected nearer to surface). The final selection of drill holes will be completed at the conclusion of Phase IA and IB where additional drill holes may be recommended both within the existing property and also on nearby targets outside the property.

A drill program of approximately 3,000 metres would be recommended for the seven holes with a contingent of two holes to either test additional outside targets or to test further targets within the existing property. While drilling costs have not been estimated in detail, it is believed that a \$983,000 program, based on an all-inclusive cost of approximately \$150 per metre, would provide an adequate first test.

Dated in Vancouver, B.C. this 15<sup>th</sup> day of August, 2005.

“Andrew W. Gourlay”

Andrew W. Gourlay, P.Geol.

**BUDGET ESTIMATES**

<b>Phase IA</b>	<b>CDN\$</b>
Mob Demob	
Fuel Purchase and delivery to Wrigley	\$32,000
Personnel to Fort Simpson	\$7,500
Twin Otter	\$46,000
Truck equipment to Fort Simpson	\$6,000
Two demob flights to Fort Simpson	\$10,000
Wages	
Geologists- 2@ \$550/day/geologist x 14 Days	\$15,400
Geophysicist- \$600/day x 21 Days	\$12,600
Geophysical Technicians -2@ \$200/day/tech x 21 Days	\$8,400
Cook- \$425/day x 21 Days	\$8,925
Labourer- \$330/day/labourer x 21 Days	\$27,700
Geophysical Survey	
Instrument Preparation	\$2,500
Seismic System- \$1,200/day x 15 days	\$18,000
IP System- \$700/day x 10 days	\$7,000
Camp construction	\$5,800
Camp; wood, tents, stoves, heaters etc	\$20,500
Food	\$7,000
Expediting	\$9,000
Sample assays and shipment -	\$1,000
Helicopter - 17 days @ 5hr/day x \$1000/hr	\$85,000
Food flight - X 2 from Fort Simpson	\$10,000
Miscellaneous –communication etc.	\$3,200
Management	\$8,000
Report	\$12,000
Contingencies @10%	\$36,353
<b>Total</b>	<b>\$399,878</b>
<b>Total Phase IA (Say)</b>	<b>\$400,000</b>

<b>Phase IB</b>	<b>CDN\$</b>
Mob demob	\$70,000
Geophysical Surveys	
Seismic Survey (all inclusive)	\$200,000
IP Survey (all inclusive)	\$100,000
Camp	\$50,000
Helicopter - 30 days @ 5hr/day x \$1000/hr	\$150,000
Support costs	\$60,000
Management	\$8,000
Contingencies @10%	\$63,800
<b>Total</b>	<b>\$701,800</b>
<b>Total Phase IB (Say)</b>	<b>\$700,000</b>

<b>Phase II</b>	<b>CDN\$</b>
Mob Demob	\$15,000
Wages	\$65,000
Diamond Drilling 3,000m @ 150/m	\$450,000
Camp supplies	\$12,000
Camp Rental	\$20,000
Food	\$4,000
Geological supplies	\$2,500
Sample assays and shipment -	\$45,000
Helicopter 100hrs @ 1500/hr	\$150,000
Trucking gear from YK and back -	\$12,000
Miscellaneous -	\$20,000
Food flights	\$20,000
Resource Estimate	\$35,000
Management	\$20,000
Report	\$25,000
Contingencies @10%	\$87,050
<b>Total</b>	<b>\$982,550</b>
<b>Total Phase II (Say)</b>	<b>\$983,000</b>

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**Certificate of Author**

I, Andrew W. Gourlay, P. Geol., of RR#1, Q-59 Bowen Island, B.C do hereby certify that:

1. I am currently employed as an independent Consulting Geologist.
2. I graduated with a Bachelor of Science (Honours) degree from the University of British Columbia in 1977.
3. I am a Professional Geologist registered with The Association of Professional Engineers Geologists and Geophysicists of Alberta.
4. I have worked as a geologist for over 27 years since my graduation from university.
5. I have read the definition of “qualified person” set out in National Instrument 43- 101 (“NI 43-101”) and certify that by reason of my education and affiliation with a professional association. I have worked as an exploration geologist since graduation on projects in North and South America and in Southeast Asia. I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
6. I am responsible for the preparation of the entire technical report titled “*Independent Technical Review of the Coates Lake Copper Property, Nahanni Mining District, Western Northwest Territories for Lumina Copper Corp.*” dated Aug 15, 2005 relating to the Coates Lake Property. I have visited the Coates Lake Property on a regular basis between June and September 1977, worked on the Coates Lake Property from late June to mid-August 1990, and have spent approximately 30 days on the Coates Lake Property. I have had prior involvement with the Coates Lake Property that is the subject of the Technical Report. The nature of my prior involvement is as a Geologist directing the drilling and logged diamond drill core at a similar mineral occurrences at Keele River, approximately 160 kilometres to the north, and reviewed the drill core Coates Lake on an ongoing basis during the 1977 drill program of Shell Canada Resources Ltd. As Senior Geologist, MineQuest Exploration Associates Ltd. I reviewed all available data, led a mapping program at Coates Lake, and prepared a exploration proposal for Redstone Resources Inc. in 1990.
7. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
8. I am independent of the issuer applying all of the tests in section 1.5 of National Instrument 43-101.
9. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
10. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible to the public, of the Technical Report.

Dated in Vancouver, B.C. this 15<sup>th</sup> day of August, 2005.

“Andrew W. Gourlay”

Andrew W. Gourlay, P.Geol.

**APPENDIX I - DIAMOND DRILL RESULTS**

64-18	178.5	182.0	3.5	0.81	N/A
	182.0	187.0	5.0	2.63	N/A
	187.0	190.0	3.0	0.06	N/A
inc	178.5	187.0	8.5	1.88	N/A
64-19	Collared in Rapitan Fm., too high in section.				
64-20	Failed to reach target depth.				
64-21	559.5	562.5	3.0	1.25	N/A
64-22	607.4	610.4	3.0	0.65	N/A
	610.4	614.4	4.0	1.09	N/A
	614.4	617.2	2.8	2.23	N/A
	617.2	620.0	2.8	0.33	N/A
inc	607.4	617.2	9.8	1.28	N/A
64-23	65.0	67.0	2.0	0.56	N/A
	67.0	72.0	5.0	0.56	N/A
	72.0	75.0	3.0	0.06	N/A
	75.0	78.0	3.0	1.64	N/A
64-24	290.0	295.0	5.0	0.30	N/A
	323.5	328.5	5.0	0.96	N/A
	328.5	333.5	5.0	1.38	N/A
	333.5	338.5	5.0	1.41	N/A
	338.5	343.5	5.0	2.01	N/A
	343.5	348.5	5.0	0.58	N/A
inc	323.5	343.5	20.0	1.44	N/A
64-25	342.0	345.0	3.0	0.17	N/A
	374.0	377.0	3.0	0.38	N/A
64-26	Collared in Rapitan Fm., too high in section.				
64-27	318.0	323.0	5.0	0.05	N/A
	435.0	438.0	3.0	0.41	N/A
	438.0	443.0	5.0	2.04	N/A
	443.0	448.0	5.0	2.83	N/A
	448.0	451.0	3.0	3.89	N/A
inc	438.0	451.0	13.0	2.77	N/A
64-28	462.5	467.5	5.0	0.81	N/A
	467.5	472.5	5.0	0.92	N/A
	472.5	475.5	3.0	0.46	N/A
	528.2	533.5	5.3	1.11	N/A
	533.5	538.5	5.0	2.24	N/A
	538.5	540.5	2.0	0.29	N/A
	570.8	573.8	3.0	0.09	N/A
	573.8	578.8	5.0	1.19	N/A
	578.8	583.8	5.0	1.61	N/A
	583.8	588.8	5.0	3.49	N/A

	588.8	593.8	5.0	4.51	N/A
	593.8	596.2	2.4	4.66	N/A
	596.2	601.2	5.0	3.31	N/A
	601.2	606.2	5.0	4.24	N/A
	606.2	609.2	3.0	0.08	N/A
inc	462.5	475.5	13.0	0.80	N/A
	528.2	540.5	12.3	1.44	N/A
	573.8	606.2	32.4	3.18	N/A
64-29	Abandoned due to ground conditions.				
64-29A	650.0	655.0	5.0	0.22	N/A
	655.0	660.0	5.0	0.82	N/A
	660.0	665.0	5.0	0.44	N/A
	665.0	670.0	5.0	0.19	N/A
	670.0	675.0	5.0	0.06	N/A
	675.0	680.0	5.0	0.18	N/A
	680.0	683.0	3.0	0.87	N/A
	683.0	686.0	3.0	0.03	N/A
	740.0	745.0	5.0	1.24	N/A
	745.0	750.0	5.0	2.00	N/A
	750.0	755.0	5.0	0.13	N/A
	755.0	760.0	5.0	1.29	N/A
	760.0	763.0	3.0	0.51	N/A
	797.5	801.7	4.2	1.79	N/A
inc	655.0	665.0	10.0	0.63	N/A
	680.0	683.0	3.0	0.87	N/A
	740.0	763.0	23.0	1.08	N/A
	797.5	801.7	4.2	1.79	N/A
64-30	296.0	299.0	3.0	0.09	N/A
	299.0	304.0	5.0	1.05	N/A
	304.0	309.0	5.0	0.23	N/A
	309.0	314.0	5.0	0.16	N/A
	314.0	319.0	5.0	0.86	N/A
	319.0	324.0	5.0	0.23	N/A
	324.0	329.0	5.0	0.10	N/A
	329.0	334.0	5.0	0.10	N/A
	334.0	339.0	5.0	0.23	N/A
	339.0	342.5	3.5	1.46	N/A
	342.5	345.5	3.0	0.13	N/A
	355.0	358.0	3.0	0.05	N/A
	358.0	363.0	5.0	0.68	N/A
	363.0	366.5	3.5	1.06	N/A
	366.5	370.0	3.5	2.67	N/A

	370.0	373.0	3.0	0.50	N/A
inc	299.0	342.5	43.5	0.46	N/A
	358.0	370.0	12.0	1.37	N/A
64-31	Abandoned due to ground conditions.				
64-32	365.0	369.5	4.5	0.19	N/A
	369.5	372.5	3.0	0.87	N/A
	372.5	377.5	5.0	0.49	N/A
	401.0	404.0	3.0	0.67	N/A
	404.0	408.0	4.0	1.94	N/A
	408.0	412.0	4.0	0.06	N/A
	412.0	416.0	4.0	0.09	N/A
	416.0	418.5	2.5	1.36	N/A
	418.5	421.0	2.5	0.06	N/A
inc	369.5	377.5	8.0	0.63	N/A
	401.0	418.5	17.5	0.79	N/A
64-33	591.5	596.5	5.0	0.22	N/A
	596.5	601.0	4.5	0.28	N/A
	601.0	605.0	4.0	0.23	N/A
	609.0	614.0	5.0	0.85	N/A
	614.0	619.0	5.0	0.26	N/A
	619.0	623.0	4.0	0.24	N/A
	648.5	652.0	3.5	0.60	N/A
	652.0	657.0	5.0	1.26	N/A
	657.0	662.0	5.0	1.52	N/A
	662.0	667.0	5.0	0.84	N/A
	667.0	670.0	3.0	0.40	N/A
inc	591.5	605.0	13.5	0.24	N/A
	609.0	623.0	14.0	0.47	N/A
	648.5	670.0	21.5	1.00	N/A
64-34	705.0	710.0	5.0	0.68	N/A
	710.0	713.5	3.5	2.15	N/A
	713.5	716.5	3.0	1.50	N/A
inc	705.0	716.5	11.5	1.34	N/A
64-35	Abandoned due to ground conditions.				
64-36	587.0	592.0	5.0	0.09	N/A
	608.0	610.0	2.0	0.35	N/A
	640.5	644.0	3.5	0.28	N/A
	679.0	683.0	4.0	0.91	N/A
	703.0	708.0	5.0	0.04	N/A
	708.0	713.0	5.0	0.38	N/A
	713.0	716.5	3.5	0.30	N/A
	716.5	721.5	5.0	0.69	N/A

	721.5	726.0	4.5	1.20	N/A
	726.0	729.0	3.0	4.70	N/A
	729.0	731.5	2.5	3.05	N/A
	731.5	735.5	4.0	0.10	N/A
inc	716.5	731.5	15.0	2.17	N/A
64-37	Abandoned due to ground conditions.				
64-38	Abandoned due to ground conditions.				
64-39	1338.0	1346.0	8.0	0.49	N/A
	1346.0	1352.0	6.0	0.03	N/A
	1352.0	1355.0	3.0	1.75	N/A
64-40	Collared in Coppercap Fm., too high in section.				
64-41	Abandoned due to ground conditions.				
64-42	Abandoned due to ground conditions.				
64-43	Abandoned due to ground conditions.				
64-44	488.0	493.0	5.0	0.15	N/A
	539.0	541.0	2.0	1.04	N/A
	541.0	543.5	2.5	2.63	N/A
	543.5	546.5	3.0	0.10	N/A
	559.0	563.0	4.0	1.68	N/A
	563.0	567.0	4.0	0.04	N/A
inc	539.0	543.5	4.5	1.92	N/A
71-1	Failed to reach target depth, target down-faulted on west side of Coates Creek Fault.				
71-2	Failed to reach target depth, target down-faulted on west side of Coates Creek Fault.				
71-3	Interval not given		0.7	0.23	Tr.
	Interval not given		1.0	0.13	Tr.
	Interval not given		0.18	0.36	0.6
	Interval not given		1.5	0.17	0.1
	Interval not given		0.8	1.55	Tr.
	Interval not given		1.5	0.06	Tr.
	721.0	725.0	4.0	3.90	N/A
76Y-1	Interval not given		4.53	2.96	0.30
76Y-2	Interval not given		1.9	1.25	0.26
	2334.0	2337.0	3.0	3.52	0.60
76Y-3	2545.0	2548.0	3.0	4.01	0.54
76Y-4	Interval not given		3.8	1.18	Tr.
	Interval not given		0.5	5.5	1.98
	Interval not given		0.5	2.79	0.04
	3378.2	3383.1	4.9	3.04	0.24
76Y-5	1269.0	1272.5	3.5	3.40	0.04
77Y-1	1187	Not Given	2.0	0.03	Tr.
	1315.5	1322	6.5	0.04	0.06
	1322	1327.0	5.0	0.03	Tr.

	1327.0	1329.8	2.8	0.19	0.06
	1329.8	1330.8	1.0	0.05	Tr.
	1330.8	1333.0	2.2	0.59	0.28
	1333.0	1338.0	5.0	0.5	Tr.
	1391.5	1393.5	2.0	0.02	Tr.
	1452.5	1453.8	1.3	0.02	Tr.
	1453.8	1455.8	2.0	4.35	0.28
	1455.8	1457.5	1.7	0.02	Tr.
	1955	1960	5.0	0.03	Tr.
	1960	1962	2.0	0.20	Tr.
	1962	1967	5.0	0.78	Tr.
	1967	1972	5.0	0.20	Tr.
	2065.4	2069.4	5.0	0.02	Tr.
	2065.2	2065.45	0.25	8.45	0.54
	2065.45	2066.5	1.0	0.02	Tr.
	2119	2121.8	2.8	0.02	Tr.
	2121.8	2123.4	1.6	5.32	0.28
	2123.4	2126	2.6	0.02	Tr.
77Y-2	2652.6	2656.7	4.1	1.55	0.46
	2740	2740.5	0.5	5.92	0.44
	2791.0	2793.7	2.7	6.28	0.28
77Y-3	4665	4666.25	1.25	0.13	0.72
	4704	4705	1.0	0.08	0.58
	4761	4764	3.0	0.02	1.40
	4764	4765.83	1.83	0.04	0.16
	4765.83	4770	4.17	1.32	0.14
	4770	4772	2.0	0.66	0.24
	4772	4774	2.0	0.19	0.90
	4836.08	4836.58	0.5	0.01	0.22
	4836.58	4837.58	1.0	0.01	0.18
	4837.58	4837.96	0.38	10.80	1.22
	4837.96	4838.96	1.0	0.19	0.20
	4868	4868.08	0.8	0.03	0.48
	4879.5	4881.5	2.0	0.03	0.24
	4881.5	4882.5	1.0	0.01	0.05
	4882.5	4885	2.5	5.15	0.40
	4885	4886	1.0	0.10	0.08
	4886	4887	1.0	0.02	0.06
	4891.5	4891.58	0.8	0.04	0.12