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Technical Report

On The

Cogburn Magnesium Project

New Westminster Mining Division
British Columbia

For

NORTH PACIFIC ALLOYS LIMITED

A wholly owned subsidiary of Leader Mining International Inc.
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Table of Contents

Table of Figures

Table of Tables

1. Executive Summary

North Pacific Alloys Limited (NPA) is a wholly owned subsidiary of Leader Mining International Inc. NPA is developing the Cogburn Magnesium Project near Hope, British Columbia.

The Cogburn Magnesium Project consists of a magnesium deposit (Emory Zone) and mineral processing plant connected by a 26-kilometer road. The Emory Zone is a high-grade magnesium (> 24 % wt Mg) dunite (magnesium silicate) within a slice of ultramafic rocks within a sequence of metavolcanic and metasedimentary rocks

In 2001 and 2002 the Emory Zone was drilled on a 50-meter square grid pattern. Thirty eight (38) diamond drill holes consistently intersected high-grade magnesium silicate. The drilled portion of the Emory Zone is approximately 350 by 250 meters.

A NI 43-101 mineral resource estimate has been completed on these drill results. The Emory Zone has a Measured Mineral Resource of approximately **25.5 million metric tonnes** grading **24.57 % magnesium** using an SG of 2.85.

The author has been an independent geological consultant with the project since 2000 and has visited the property on numerous occasions. He has no ownership in the claims and has no interest in NPA or Leader Mining International Inc.

2. Introduction

The Cogburn Magnesium Project consists of a magnesium deposit and mineral processing plant located near the town of Hope, British Columbia (see Figure 1). The project incorporates a quarry near the headwaters of Talc and Garnet Creeks (Emory Zone) and a processing facility near Ruby Creek along the Fraser River, which are connected by a 26 kilometre forest road. This report documents the mineral resource estimate of the Emory Zone drilling.

The Emory Zone is located along the southeastern end of a large (10-kilometer long by 2-kilometer wide) ultramafic body lying in the Talc Creek drainage basin near Hope, British Columbia. Definition core drilling was conducted on 50-meter hole centers over an area of 300 meters by 300 meters, at the northwest corner of the 1,500 meter by 700 meter Emory Zone. Numerous surface samples and 38 vertical core holes have tested the magnesium silicate body in programs conducted in late 2001 and early 2002 under the direction of Crest Geological Consultants Ltd. (Payne et al, February 8, 2002, July 2002).

2.1. Terms of Reference

This report was prepared by David K. Makepeace, M.Eng., P.Eng., an Independent Qualified Person, on behalf of North Pacific Alloys Limited (NPA) a junior resource company based in Vancouver, British Columbia. NPA is a wholly-owned subsidiary of Leader Mining International Incorporated. The sole asset of NPA is the Cogburn Magnesium Project near Hope, British Columbia.

The purpose of this technical report is to independently examine the Emory Zone and complete a mineral resource estimate in compliance with National Instrument 43-101 for filing with the TSX Venture Exchange.

The author of this report has been involved with the entire exploration program and property development as an independent consultant. He has visited the property numerous times between 2001 to present and has no interest in the property or NPA.

2.2. Disclaimer

Geospectrum Engineering has compiled this report with all due care and reviewed all available reports. It is believed that the information contained within this report is accurate and reliable. The referenced reports were undertaken by Qualified People as defined under NI 43-101.

3. Property Description

3.1. Location

The Cogburn property is located at 49° 29’ 49” N latitude and 121° 39’ 28” W longitude, on NTS map sheets 092H05E and 092H12E in southwestern British Columbia, approximately 120 kilometres east of Vancouver. The claims are centered near the junction of Talc Creek and Daioff Creek, eight kilometres due east of Harrison Lake (see Figure 1).

3.2. Accessibility

The claims can be accessed by logging road from either:

- **Harrison Hot Springs**: North along the east side of Harrison Lake to Bear Creek Landing (35 kilometers); northeast on the Cogburn Creek Forest Road and then southeast along the Talc Creek Main Forest Road, a total of 42 road kilometers, or
- **Ruby Creek**: North from Provincial Highway 7 on the Garnet Creek Forest Service Road to the Talc-Garnet Creek divide connector road, then northeast along the Talc Creek Main Forest Road, a total of 28 kilometers.

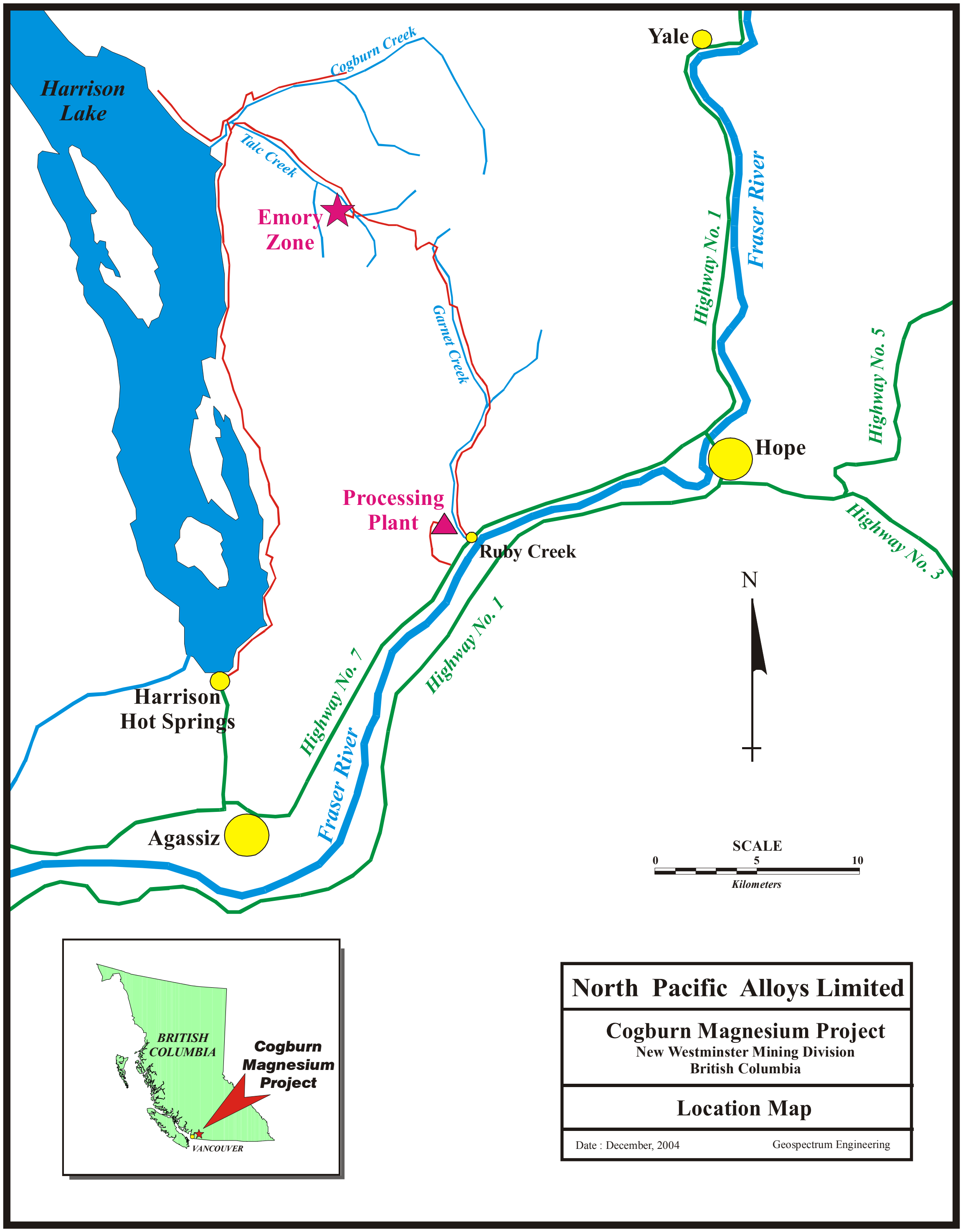
The Cogburn Magnesium Project has been developed to quarry the magnesium rock from the Emory Zone and truck it to a processing facility near Ruby Creek. The Talc - Garnet Creek Road network will be upgraded to industrial grade to handle the anticipated traffic.

3.3. Infrastructure

The magnesium deposit is attractive partially due to the high grade and high purity of the Emory Zone but also because of its proximity to outstanding infrastructure at the plant site (approximately 26 kilometers south of the Emory Zone near the Fraser River valley.

The Fraser River is a major transportation corridor with road (Trans Canada Highway No. 1 and Provincial Highway 7), rail (CPR main line and the CNR main line), gas (Duke Energy main line) and oil pipelines (Terasen Gas) and power transmission lines (three 500 KV BC Hydro lines). In addition, barge access to Ruby Creek is a possibility. Studies are now in place for dredging of a barge channel to Harrison River that could accommodate up to 4,000 tonne payloads. Catherwood Towing Ltd. has indicated that there is further potential to extend the barge channel east to Ruby Creek for barges with payloads to 2,000 tonnes.

The town of Hope is 13 kilometers to the east of Ruby Creek while the town of Agassiz is 17 kilometers to the southwest. The majority of labour and equipment to operate the quarry and associated plant site would come from these two towns.



3.4. Physiology

The Cogburn claims are in moderately rugged, glaciated, mountainous terrain, with elevations ranging from 800 meters to over 1,500 meters above sea level. Much of the area has been logged in recent years and active logging and construction of new logging road access continues.

Climate in the region of the Cogburn property is typical of southwest British Columbia with cool summers and mild winters. Annual precipitation is approximately 300 centimeters. Snow pack can reach up to 400 centimeters and normally remains on north slopes until April or May and on south slopes until June. Temperatures range from an average of -1 °C in winter to +15 °C in the summer.

The Cogburn Magnesium Project area is in an active logging region. Balsam, Hemlock and Yellow Cedar are the main trees covering the area. The quality of the trees in the Emory Zone area for forest company products is nominal to poor.

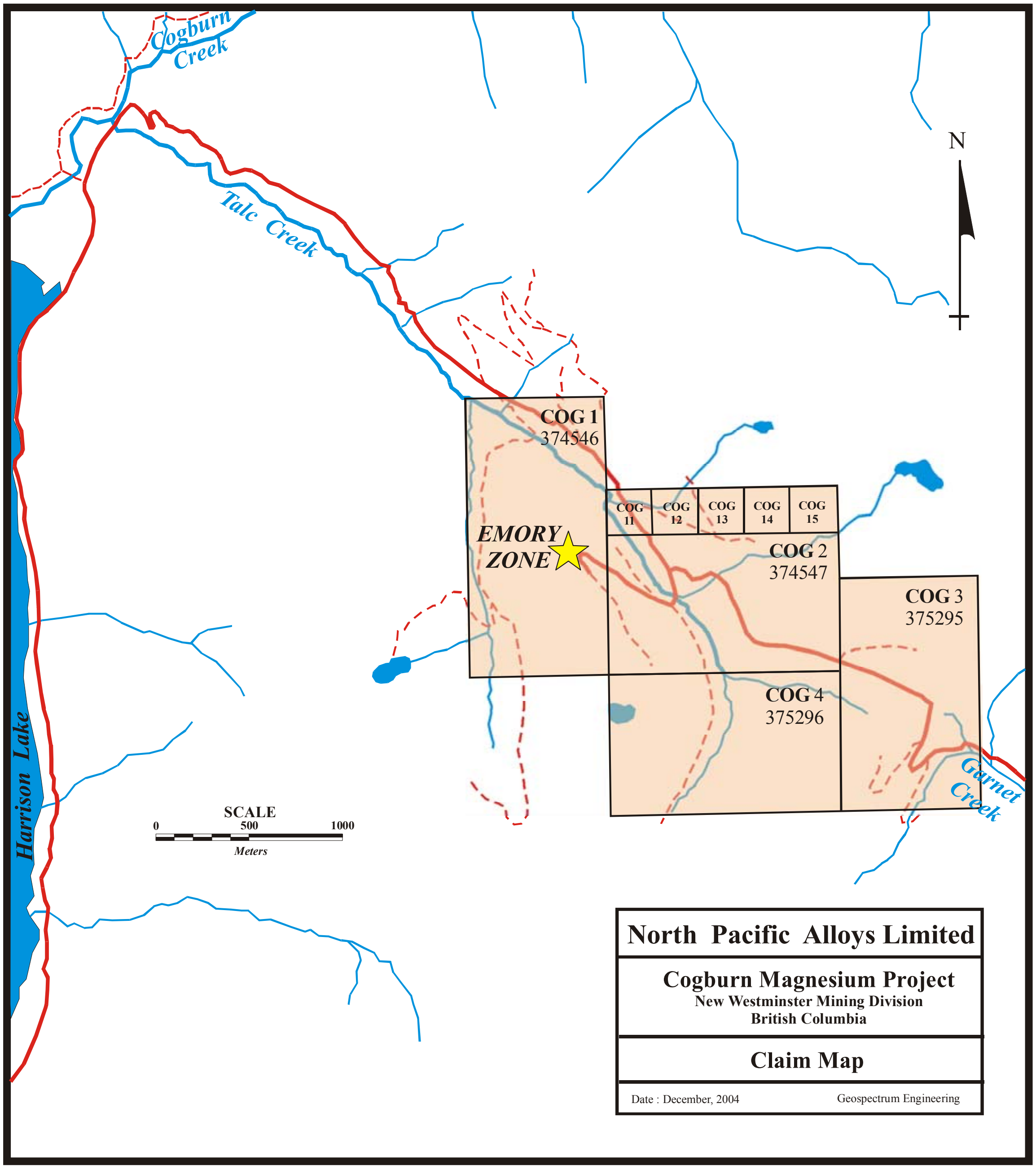
3.5. Claims

The Cogburn Magnesium Project claims consist of 68 units or 1,700 hectares as shown in Figure 2. The Cog 1 to 4 and Cog 11 to 15 claims are owned by Mr. J. A. Chapman of Surrey, B.C. (50 %) and Mr. G. G. Carlson of West Vancouver, B.C. (50 %). Table 1 lists the claims that surround the Emory Zone and Figure 2 illustrates their location.

Table 1
Cogburn Mineral Claims

Claim Name	*Tenure No.*	*Claim Type*	*Expires*	*No. Units*	*Hectares*
COG 1	374546	MGS block claim	30/09/06	18	450
COG 2	374547	MGS block claim	30/09/06	15	375
COG 3	375295	MGS block claim	30/09/06	15	375
COG 4	375296	MGS block claim	30/09/06	15	375
COG 11	375290	2P claim	30/09/06	1	25
COG 12	375291	2P claim	30/09/06	1	25
COG 13	375292	2P claim	30/09/06	1	25
COG 14	375293	2P claim	30/09/06	1	25
COG 15	375294	2P claim	30/09/06	1	25

Leader Mining International Inc., and now North Pacific Alloys Limited, have an option agreement with the owners to obtain 100 % of the property for $395,000 cash; a cumulative exploration expenditure of $1,515,000; share purchase of 100,000 warrants at $1.00 on completion of a positive production feasibility study; an advance minimum royalty ($25,000 effective October 2005, increasing to $50,000 by October 2007, adjusted by CPI against a December 2004 CPI base) and a 3 % NSR. North Pacific Alloys Limited has the right to 2 % of the NSR for $1,000,000.



4. History

In 1971, Giant Explorations Ltd. (a subsidiary of Giant Mascot Mines Ltd.) discovered a nickel deposit in the Talc Creek area while conducting a wide area airborne geophysical and stream silt geochemistry program (MINFILE No. 092HSW081). The survey area identified a number of ultramafic intrusions covering a 12 kilometre wide swath from the Giant Mascot nickel-copper-cobalt mine north of Hope to Harrison Lake to the northwest. This preliminary work was followed by grid surveys over the present Cogburn deposit area including soil geochemistry, magnetics and rock chip sampling and then core drilling between 1971 and 1975. No further work was carried out due to the low grade of the nickel deposit.

The area was staked by Mr. J. A. Chapman and KGE Management Ltd. (Mr. G. G. Carlson) in 2000 in the hope that platinum group elements (PGE) were present within the ultramafic rocks encompassed by the claims. Leader Mining International Inc. signed an option agreement with Mr. Chapman and KGE Management Ltd. to explore and develop the Cogburn Magnesium Project. It was subsequently discovered that the ultramafic rocks contained a very high-grade magnesium content.

Initial drilling in 2001 identified a high-grade and high purity magnesium area within the ultramafic rocks which was subsequently named the Emory Zone (MINFILE No. 092HNE307). The drilled portion of the Emory Zone is approximately 350 metres by 250 metres at an elevation of 1000 metres.

Hatch Limited, the world's leading light metals consulting engineering firm completed a Scoping Study in October 2001, culminating in a Feasibility Study in May 2003. The results of the test work and engineering studies indicated that "the Cogburn Project is technically feasible and economically viable."

5. Geology

5.1. Regional Geology

The regional geology of the Cogburn area is subdivided into three north to northwest-trending tectonic and stratigraphic packages. These packages (Slollicum Schist, the Cogburn Group and the Settler Schist) are intruded by mid-Cretaceous age intrusive stocks of Coast Plutonic Complex. These units are separated from each other by faulted, layer-parallel contacts and are distinguished by age, lithological associations and metamorphic grade.

This area is significant because these units mark the boundary between Jurassic / Cretacteous island arc rocks to the west and Palaeozoic oceanic rocks to the east. The Slollicum Schist-Cogburn Group contact has also been suggested to be a remnant of the main suture between the Alexander/Wrangellia terraine and North America (McGroder, 1991; Journey and Friedman, 1993).

The Slollicum schist is described as a mid-Jurassic to early Cretaceous age, greenschist facies volcanic-sedimentary succession of meta-phyllite, psammite and schists of mafic to felsic volcanic origin (Troost, 1999). Age dates from the unit include 102 Ma (Bennett, 1989) and 146 Ma (Parish and Monger, 1992).

The Cogburn Group, which lies structurally above and to the northeast of the Slollicum schist, is an ophiolitic mixture comprised of Triassic or older, chlorite-amphibole schist (mafic volcanic), grey meta-phyllite and metamorphosed ribboned chert. The Baird metadiorite is sometimes included in Cogburn Group (Gabites, 1985 and Bennett ,1989). The upper age limit of the Cogburn Group is constrained by a 225 Ma orthogneiss (Monger, 1989) which intrudes the package. Metamorphism ranges from upper greenschist to amphibolite grade.

Mapping indicates that the ultramafic rocks which comprise the Cogburn Magnesium Project (Emory Zone) should be included with the Baird metadiorite in the Cogburn Group, and not with the Cretaceous Slollicum intrusive suite (Payne, 2001).

The Settler Schist is a pellitic unit lying east and structurally above the Cogburn Group. Metamorphism is amphibolite facies and locally up to sillimanite grade. The age of the Settler Schist is unknown.

5.2. Property Geology

The ultramafic body that encompasses the Emory Zone is approximately two (2) kilometers wide and ten (10) kilometers long trending along the Talc Creek drainage basin (Payne, 2001). It extends from the divide between Talc creek and Garnet Creek northwest to the junction of Talc Creek with Cogburn Creek. It sits structurally on top of a highly deformed, metamorphosed mafic volcanic and gabbroic rock assemblage. A second ultramafic slice parallels Settler Creek valley to the north but is off the Cogburn claims.

The contact of the ultramafic body is very complex and indicates a series of stages of deformation. The package is folded along a north to northwest trending axis which follows the regional structural grain. Contacts are further modified by late, high angle faulting and late stage intrusions.

5.2.1. Ultramafics

Ultramafic rocks occur in a northwest-trending body that sits within the Talc Creek valley. These rocks are primarily dunite having recognizable cumulate olivine in less than 1% of available outcrops. This unit weathers tan-brown to orange and is fine to medium grained. Serpentine and associated talc are variable in the unit. Fresh surfaces vary from green to mottled green-black depending on the amount of serpentinization. The ultramafic rocks typically contain 1% to 5% magnetite (after chromite) and may contain trace to a few percent pyrrhotite and locally, trace chalcopyrite/malachite.

Petrographic detail of the various fresh and weathered ultramafic rocks are available in the Cogburn Summary Report (Payne, 2001).

5.2.2. Metasediments

A panel of metasediments is exposed in a southwest tributary of Talc Creek which drains Old Settler Peak. The metasedimentary rocks consist of banded chert, grey to black amphibolite phyllite, staurolite-muscovite-quartz schist and more rarely, thickly bedded quartzite.

These rocks are strongly foliated. Cherty layers are boudinaged and bedding is rotated into the foliation. All indications are that these rocks have undergone tight isoclinal folding and now sit as steeply inclined panels along the margins of the ultramafic bodies.

5.2.3. Metavolcanics

Metavolcanic rocks are exposed along the north and western margins of the ultramafic body but have also been mapped in places along the southern and eastern margins. In outcrop the metavolcanic rocks commonly have a grey to green weathering and are chlorite-amphibole rich phyllitic schists. There are some locally thin boudins of chert. Less common are massive outcrops with a blocky fracture. Occassionally, in the less deformed outcrops, fine to medium grained gabbroic dykes (1 m to 2 m wide) are visible in the metavolcanic rocks.

The metavolcanic rocks are variably foliated, often with a strong lineation or crenulation cleavage on the foliation surfaces. Foliation orientation in this unit parallels the contact with the main ultramafic body and in most cases, dips beneath the ultramafic.

5.2.4. Metagabbro

Metamorphosed gabbroic (metagabbro) rocks outcrop on the eastern and northeastern margins of the ultramafic body. This unit comprises highly strained, mylonitic, fine to medium grained hornblende-plagioclase metagabbros and microgabbros. There are occasionally coarse grained to pegmatitic phases of the metagabbro unit with anorthositic bands that are from 0.5 cm to one metre thick.

The metagabbro unit is variably foliated and appears to have rapid textural transitions. Foliation in the metagabbro unit follows the contact with the ultramafic rocks and in most cases dips beneath the ultramafic rocks.

5.2.5. Late Stage Intrusives

Stocks and plugs of intermediate composition intrude the earlier lithology. These intrusions are believed to be post-mid Cretaceous intrusions. (Troost, 1999). These are non to weakly foliated, medium grained, quartz-bearing, hornblende-biotite diorite and tonalite and occur in two areas on the southwest facing slope of Talc Creek. A quartz-feldspar porphyry which intrudes the ultramafic and metagabbro contact along the southern margin of the ultramafic body may be related to this intrusive suite. The margins of two of these intrusions are marked by locally intense silicification and biotite hornfels, sulphide disseminations and in places, sulphide-rich quartz veins.

5.3. Structure

The ultramafic body occurs in the upper part of the Cogburn Group. It is underlain to the south and downslope by first the metagabbroic rocks followed by metavolcanic and metasediments rocks.

The ultramafic body sits in a northwest-trending orientation. Foliation in the meta-igneous and meta-sedimentary rocks dip under the ultramafic body on its northern and southern margins. The southern contacts are steeply dipping to the north while the northern contacts are moderately to shallowly south dipping. Stretching lineation and small-scale fold axis in foliated rocks near the contacts plunge beneath the ultramafic body on all sides indicating that the ultramafic body sits in a northwest-trending doubly plunging syncline.

Payne has proposed the structural history of this area as follows:

1. Imbrication of the upper crustal metasedimentary, metavolcanic and metagabbroic package and stacking of the deep crustal ultramafic cumulate rocks along a northwest-southeast trending axis.

2. Counterclockwise rotation of the package along right-lateral shears and fractures. High strain zones are developed along the margins of the main ultramafic body.

3. Development of gently plunging, north-south-trending open to closed folds which further modify the rocks, possibly related to right-lateral shearing (Payne, 2001).

5.4. Mineralization

5.4.1. Magnesium

Whole rock lithogeochemistry has shown consistent magnesium values throughout the ultramafic body. Ultramafic rocks are characterized by relatively high magnesium (Mg) weight percent (wt %) (Payne, 2001). Magnesium values range from 17.55 wt % to 31.44 wt % Mg or 29.1 wt % MgO to 52.1 wt % MgO. The average magnesium grade is 25.8 wt %. Base metal values are low including nickel which has a value ranging from 1,000 parts per million (ppm) to 2,500 ppm. Iron (Fe) has a range of 6 wt % to 8 wt %.

The area around the Emory Zone has an above average grade of magnesium (> 24 wt % Mg) and hence this area was targeted for definition drilling and subsequent mineral resource estimate. Much of the Emory Zone is underlain by weakly to moderately serpentinized dunite. The zone has approximately 1 to 2 % pyroxene with minor disseminated or stringer-type chromite.

5.4.2. Sulphides

The majority of the sulphides are in the form of pyrite (FeS_2) and are predominantly in the metavolcanic and metagabbro units in the area (Payne, 2001). Finely disseminated pyrite up to 2 % are found in small discontinuous lenses in these units. Trace disseminated pyrrhotite occurs in some ultramafic rocks. In general, most rocks in the project area lack appreciable sulphides.

6. Emory Zone Drilling

6.1. Introduction

Diamond drilling in 2001 under the supervision of Crest Geological identified an area on the south side of Talc Creek that had consistently higher grade (>24 % wt) magnesium assays. This area became known as the Emory Zone.

The purpose of the 2002 definition drill program of the Emory Zone was to define sufficient magnesium bearing silicate to supply a processing plant for 10 to 15 years. The Emory Zone was targeted for definition drilling based on a positive scoping study completed by Hatch Associates in October, 2001 and on recommendations from Leader Mining's Senior Advisory Group in early 2002.

The drill plan was designed by Mr. D. Makepeace, M.Eng., P.Eng. and Mr. J. Chapman, P.Eng. It called for five northeast trending fences of five drill holes defining a 50-meter (maximum spacing) square drill pattern, using four 2001 drill holes as guides. Eleven extra holes were bored to the north and east in the area of the Emory Zone increasing the number of section lines to eight. The section lines were orientated (037°-217°) and were 45 to 50 m apart, defining an area approximately 350 m by 250 m (see Figure 3).

The holes were vertical (i.e. dip = -90°). The total drilling in the Emory Zone was 2,202.62 m (2001 - 298.40 and 2002 - 1904.22 m). The total depth of each hole ranged from 35.3 to 150.6 m, with the majority of the holes being 50 to 60 m in length.

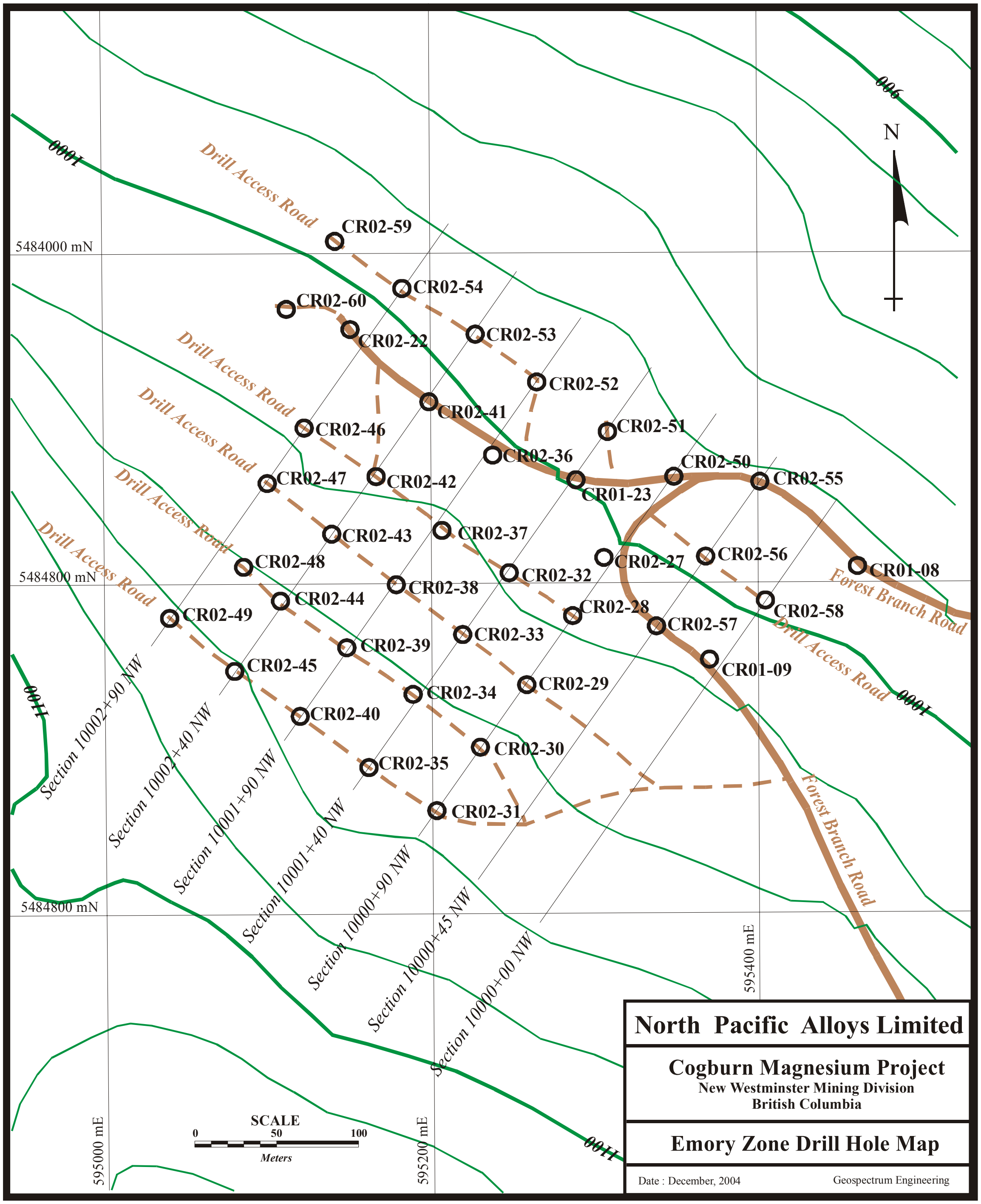
6.2. Procedures

Drill collars were located using GPS and also tight chained along slope corrected lines to confirm location. The holes were surveyed into UTM NAD83 coordinates using Tunbridge and Tunbridge Land Surveyors from Chilliwack, British Columbia, after the 2002 drilling (see Table 2).

Drilling was conducted with two 12-hour shifts per day, with a Longyear 38 drill using thin wall NQ core. Drill core was placed in marked boxes and transported to the logging/sampling facility in Hope, British Columbia where it is presently being stored.

Table 2
Emory Zone Drill Collar Data

Hole No.	*Easting (m E)*	*Northing (m N)*	*Elevation (m)*	*Total Depth (m)*	*Az / Dip (°/°)*
CR01-08	595455	5483801	990.0	150.57	00/-90
CR02-58	595408	5483790	1009.0	50.60	00/-90
CR01-09	595370	5483753	1018.0	46.63	00/-90
CR02-55	595399	5483849	994.0	50.60	00/-90
CR02-56	595366	5483812	1005.0	50.60	00/-90
CR02-57	595335	5483775	1018.0	50.60	00/-90
CR02-50	595350	5483865	995.9	50.60	00/-90
CR02-27	595306	5483815	1007.4	50.29	00/-90
CR02-28	595286	5483780	1026.8	50.60	00/-90
CR02-29	595259	5483738	1034.8	53.64	00/-90
CR02-30	595229	5483701	1049.8	62.79	00/-90
CR02-31	595202	5483662	1060.6	74.98	00/-90
CR02-51	595307	5483894	995.0	50.60	00/-90
CR01-23	595288	5483863	998.0	50.60	00/-90
CR02-32	595247	5483806	1025.0	50.60	00/-90
CR02-33	595219	5483769	1036.6	50.60	00/-90
CR02-34	595188	5483732	1051.0	56.69	00/-90
CR02-35	595161	5483689	1065.3	74.98	00/-90
CR02-52	595269	5483924	996.0	50.29	00/-90
CR02-36	595238	5483878	1001.6	50.29	00/-90
CR02-37	595206	5483831	1026.1	50.60	00/-90
CR02-38	595179	5483799	1040.4	50.29	00/-90
CR02-39	595147	5483761	1053.3	59.74	00/-90
CR02-40	595119	5483720	1062.0	51.00	00/-90
CR02-53	595229	5483952	995.0	50.60	00/-90
CR02-41	595199	5483910	1006.4	50.29	00/-90
CR02-42	595166	5483864	1024.2	50.60	00/-90
CR02-43	595140	5483830	1036.2	50.60	00/-90
CR02-44	595106	5483790	1050.4	59.74	00/-90
CR02-45	595080	5483748	1064.8	80.77	00/-90
CR02-54	595186	5483978	995.0	50.60	00/-90
CR01-22	595151	5483954	1005.0	50.60	00/-90
CR02-46	595123	5483895	1023.4	50.60	00/-90
CR02-47	595100	5483860	1033.1	50.60	00/-90
CR02-48	595085	5483810	1048.7	36.27	00/-90
CR02-49	595040	5483780	1070.6	80.77	00/-90
CR02-59	595147	5484007	991.0	50.60	00/-90
CR02-60	595122	5483969	1003.0	50.60	00/-90
2001 Total Emory Zone Drilling				298.40	
2002 Total Emory Zone Drilling				1,904.22	
Total Emory Zone Drilling				**2,202.62**	



6.3. Samples

6.3.1. Method / Approach

The core was brought to a secure facility (fenced and locked building) in Hope. The facility has light, power and heat. A drill core storage rack was constructed within the building. A long slanted logging table was constructed to log and measure the core. A diamond saw cutting room was also constructed to split the core for sampling.

At the core facility, the drill core was re-orientated for best fit, measured and marked off at one-meter intervals for logging purposes. Each core box was clearly labeled (i.e. hole number, core box number and core meter interval) with an aluminum tag attached to the end of the box. During the visual logging of the core, an RQD measurement and hardness test was completed for each lithologic section. After all measurements were recorded sample intervals were marked off. The core was then photographed, 3 boxes at a time.

6.3.2. Sample Preparation, Analysis and Security

The section of the core was split in half longitudinally in 3-meter or less intervals using a diamond saw. Half the core was placed in a heavy plastic bag and given a unique sample number. The other half of the core was placed back in its appropriate position within the core box. The core box was then placed in the constructed core racks within the building for permanent storage.

The plastic sample bags were then put into heavy mesh sacks. The sacks were personally shipped by Mr. Craig Payne, MSc., P.Geo. to Assayers Canada Ltd., Vancouver, B.C. (2001) and Acme Analytical Labs in Vancouver, British Columbia (2001 and 2002). A 30 element ICP analysis was run on all samples.

A total of 35 samples or one sample from every hole were sent to ALS/Chemex Analytical Service Labs Ltd., North Vancouver, British Columbia for whole rock and trace element analyses. A "standard internal field sample" was also submitted to Acme Labs with every drill hole as an internal check.

Two specific gravity determinations were randomly made in each drill hole in the field. Acme Analytical Labs completed a third specific gravity measurement on each hole as a check.

6.3.3. Data Verification

All drill logs, analysis and assay certificates are well documented in the "*Summary Report on the Cogburn Property*" (Payne, 2001) and "*2002 Core Drilling Report on the Cogburn Magnesium Project*" (Payne, 2002).

6.4. Drill Results

The drill results are summarized in Table 3 with detailed documentation in "*2002 Core Drilling Report on the Cogburn Magnesium Project*" (Payne, 2002).

Table 3
Emory Zone Average Drill Assay Results

Hole No.	*Core Length (m)*	*Mg (%)*
CR01-08	144.47	26.10
CR01-09	45.43	26.10
CR01-22	47.55	25.45
CR01-23	46.03	24.91
CR02-27	47.85	25.08
CR02-28	49.99	25.37
CR02-29	46.94	25.23
CR02-30	61.27	26.24
CR02-31	71.93	22.17
CR02-32	49.08	24.36
CR02-33	49.08	25.80
CR02-34	55.17	25.68
CR02-35	71.63	22.86
CR02-36	47.99	24.91
CR02-37	48.47	26.12
CR02-38	48.16	26.05
CR02-39	57.61	25.09
CR02-40	47.95	20.23
CR02-41	47.85	24.86
CR02-42	49.08	24.87
CR02-43	48.47	23.05
CR02-44	54.86	22.84
CR02-45	79.25	24.33
CR02-46	48.47	23.42
CR02-47	48.47	24.75
CR02-48	34.75	22.09
CR02-49	79.25	22.29
CR02-50	49.38	25.42
CR02-51	48.77	25.10
CR02-52	49.68	23.70
CR02-53	49.99	24.32
CR02-54	49.99	22.14
CR02-55	48.77	26.10
CR02-56	49.99	24.75
CR02-57	48.77	26.19
CR02-58	48.77	26.81
CR02-59	48.77	24.29
CR02-60	49.45	25.38

Note : Core Length is from the overburden contact to the bottom of the hole

Twenty two (22) of the drill holes through the central and northern part of the Emory Zone contained an average magnesium grade ranging from 24.29 to 25.80 % wt Mg. This included three holes that had an average magnesium grade ranging from 26.05 to 26.24 % wt Mg.

Five (5) holes located in the southeast corner of the Emory Zone contained an average magnesium grade over the entire length of the drill hole ranging from 26.10 to 26.81 % wt Mg.

The southern and southwestern part of the area drilled intersected significant intervals of listwanite and variably altered dunite which appears to have negatively affected the average magnesium grade of the holes in this area. The ranges of the grade were from 20.23 to 23.42 % wt Mg. One hole in this lower grade area (CR02-45) contained 29.47 % wt Mg over 18 meters (9.0 to 27.0 m). This was the highest grade magnesium intersection from the Emory Zone.

There appears to be no deleterious elements (i.e. Fe, Ca, total sulphur and boron) contained in the ultramafic rocks (Payne, 2002). Samples that contained listwanite fault/fracture zones had elevated nickel in the range of 3,068 to 3,343 ppm. Samples containing listwanite-altered open breccia or gouge zones normally had anomalous zinc values ranging from 1,023 to 4,852 ppm Zn.

The average field specific gravity measurement was 2.80 while the Acme average was 2.85.

Table 4 lists the drill hole assay statistics in the Emory Zone and illustrates the relative homogeneity of the deposit

.

Table 4

Emory Zone Drill Assay Statistics

Statistics	***Grade***
Number of Values	38
Minimum	20.23
Maximum	26.76
Range	6.53
Mean	24.57
Median	24.90
95 % Confidence Interval	0.50
99 % Confidence Interval	0.67
Variance	2.32
Standard Deviation	1.52
Coefficient of Variation	0.06
Skew	-1.02
Kurtosis	0.60

Payne concludes his 2002 report by stating "*Results of the Emory Zone drilling indicates a relatively consistent magnesium grade with low levels of deleterious elements.*"

7. Mineral Resource

7.1. Methodology

It can be assumed that the ultramafic body in this area is essentially homogeneous in lithology and mineralization, due to the detailed geological and mineralogical work that has been completed to-date. Due to the consistent high grade (18 to 30 % Mg) no cut-off grade was assigned. Therefore the composite value of each of the holes was the weighted average of the entire hole.

Golden Software Inc.'s SURFER (32) V7.0 was utilized for developing the grid, geostatistics, volume calculations and mapping of the data.

Within the program, each drill hole was assigned a "Thickness" value (composite interval [meters]) and a "Thickness Grade" value (composite interval x composite grade [meters x % Mg]). The data used for the estimation is shown in Table 5 and illustrated in Figure 4 (Thickness) and Figure 5 (Thickness x Grade).

Areas of influence (grid intersection values) were calculated by interpolating the area between the drill holes with respect to the search radius. A minimum equi-distant horizontal search radius of 40 meters was established so that all internal grid points had values (i.e. no null values). An extra 25 meters was added to the "Thickness" value of each hole to simulate the search radius in the third dimension (see Table 5). The data for the entire drill hole CR01-08 (145 meters) was taken into account as part of this mineral resource estimate. This hole illustrates the continuity of the grade of the Emory Zone and confirms the validity of the 25-meter extrapolation of each of the holes in this area.

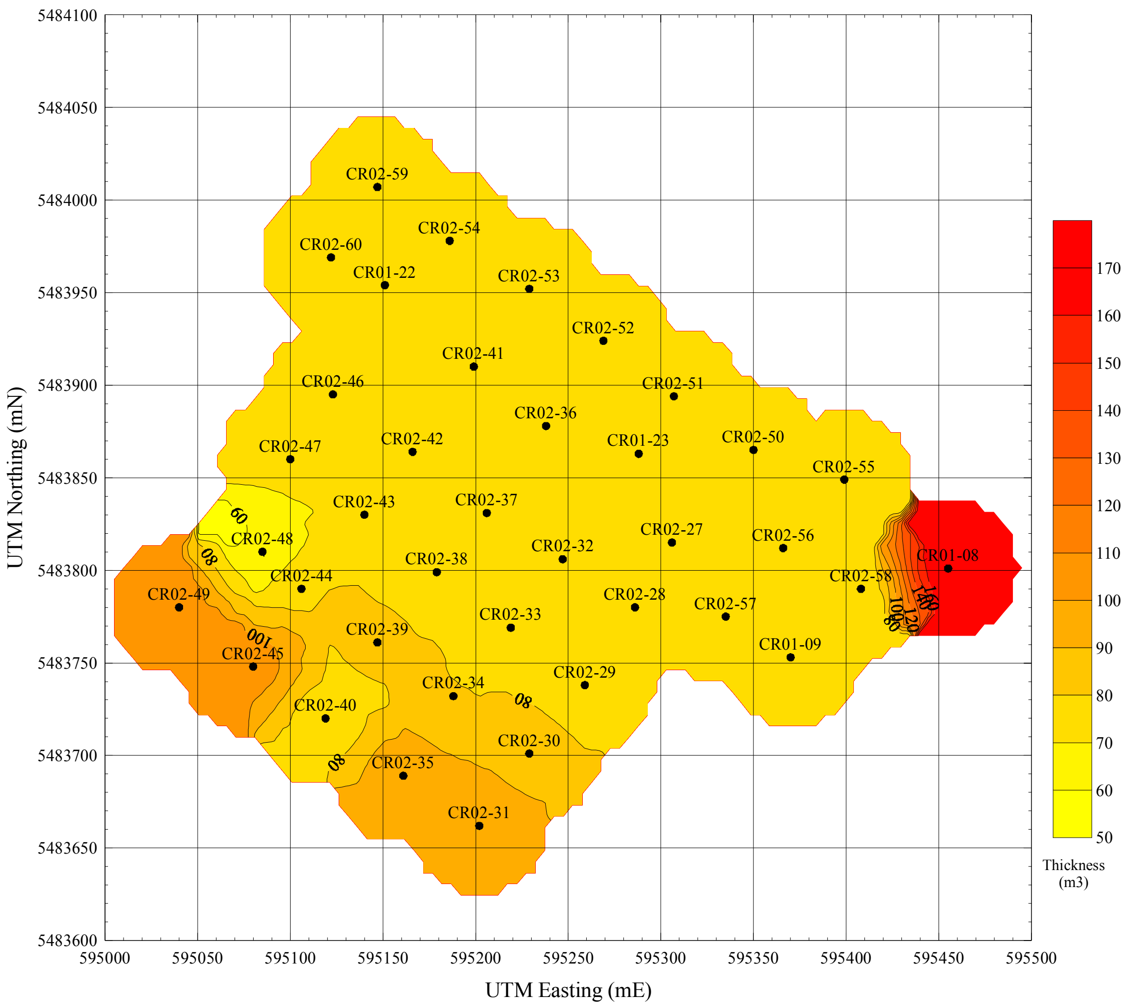
The interpolation method used was Inverse Distance squared using no anisotropy. Volumes were calculated between two surfaces (Z = 0 and Z = "thickness" or Z = composite interval x composite grade) by SURFER for each grid intersection. Three different methods are used to calculate the volume between the surfaces (Trapezoidal Rule, Simpson's Rule and Simpson's 3/8 Rule). An average of these methods is used for the grade and tonnage calculations.

The grade for the deposit [% Mg] was derived by dividing the volume of the "Thickness Grade" value (composite interval x composite grade [m^3 %*Mg]) by the volume of "Thickness" value (composite interval [m^3]).

The tonnage of the deposit [tonnes] was derived by multiplying the volume of the "Thickness" value (composite interval [m^3]) by the tonnage factor [tonnes/m^3](2.85 – communication with Mr. J. A. Chapman).

Table 5
Emory Zone SURFER Data

Hole No.	*Composite Length*		*Magnesium*	
	Core Length (m)	*Core Length + 25 m (m)*	*Grade (%)*	*Thickness x Grade (m%*
CR01-08	144.47	169.47	26.10	4423.17
CR01-09	45.43	70.43	26.10	1838.14
CR01-22	47.55	72.55	25.45	1846.25
CR01-23	46.03	71.03	24.91	1769.23
CR02-27	47.85	72.85	25.16	1832.97
CR02-28	49.99	74.99	25.35	1900.96
CR02-29	46.94	71.94	25.26	1817.46
CR02-30	61.27	86.27	26.21	2260.97
CR02-31	71.93	96.93	22.17	2148.71
CR02-32	49.08	74.08	24.32	1801.97
CR02-33	49.08	74.08	25.86	1915.34
CR02-34	55.17	80.17	25.68	2058.41
CR02-35	71.63	96.63	22.87	2209.79
CR02-36	47.99	72.99	24.89	1816.38
CR02-37	48.47	73.47	26.23	1927.06
CR02-38	48.16	73.16	26.04	1905.24
CR02-39	57.61	82.61	25.13	2075.60
CR02-40	47.95	72.95	20.23	1475.62
CR02-41	47.85	72.85	24.79	1805.61
CR02-42	49.08	74.08	24.86	1841.94
CR02-43	48.47	73.47	23.15	1701.05
CR02-44	54.86	79.86	22.76	1817.70
CR02-45	79.25	104.25	24.26	2528.97
CR02-46	48.47	73.47	23.55	1730.34
CR02-47	48.47	73.47	24.66	1811.50
CR02-48	34.75	59.75	21.39	1278.29
CR02-49	79.25	104.25	22.27	2321.83
CR02-50	49.38	74.38	25.34	1884.63
CR02-51	48.77	73.77	25.07	1849.18
CR02-52	49.68	74.68	23.75	1773.34
CR02-53	49.99	74.99	24.31	1823.38
CR02-54	49.99	74.99	22.10	1657.18
CR02-55	48.77	73.77	26.16	1930.08
CR02-56	49.99	74.99	24.76	1856.75
CR02-57	48.77	73.77	26.19	1932.01
CR02-58	48.77	73.77	26.76	1974.02
CR02-59	48.77	73.77	24.25	1788.62
CR02-60	49.45	74.45	25.40	1891.21



Search Radius : 40 meters horizontally
25 meters below the TD of each hole
Inverse Distance Squared
CR01-08 - total depth 145 meters

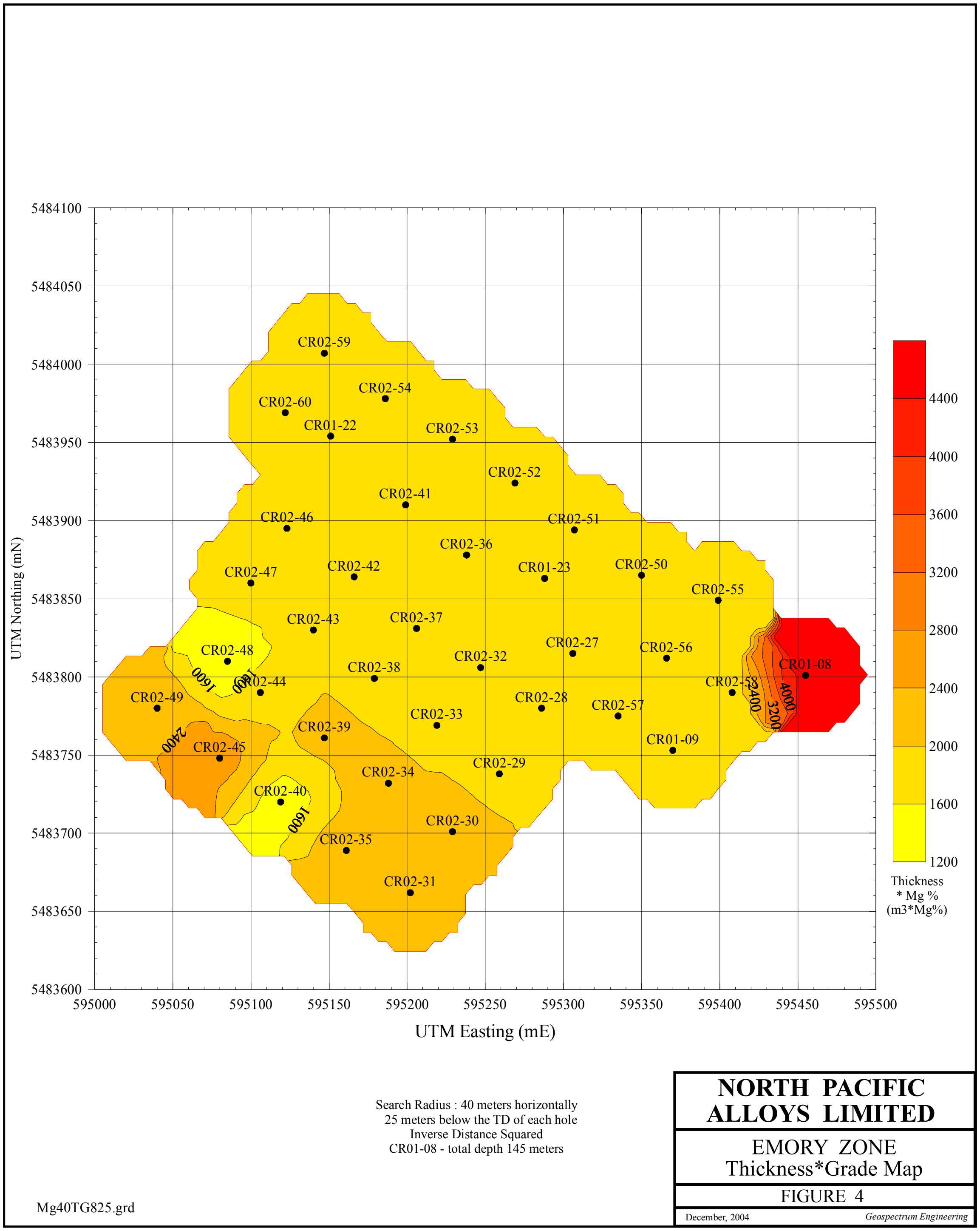
Mg40T825.grd

NORTH PACIFIC ALLOYS LIMITED

EMORY ZONE
Thickness Map

FIGURE 4

December, 2004 — *Geospectrum Engineering*



7.2. Results

Figure 6 illustrates the "Thickness" volume while Figure 5 illustrates the "Thickness Grade" volume of the Emory Zone. The final grade and tonnage of the Emory Zone is shown in Table 5.

The volume between the upper surface are as follows:

Table 6
Emory Zone Tonnage/Grade Volume Calculations

Method	***"Thickness"*** (m^3)	***"Thickness*Grade"*** (m^3*%Mg)
Trapezoidal Rule	8,953,822	220,016,413
Simpson's Rule	8,975,441	220,616,455
Simpson's 3/8 Rule	8,947,219	219,832,712
Average	8,958,828	220,155,193

Therefore the grade of the drilled Emory Zone is the "Thickness*Grade" volume (220,155,193 m^3*%Mg) divided by the "Thickness" volume (8,958,828 m^3) or 24.57 %Mg. The tonnage of the drilled portion of the Emory Zone is the "Thickness" volume (8,958,828 m^3) multiplied by the specific gravity (2.85) or 25.5 million tonnes.

7.3. Discussion

A new classification of mineral resources has been enacted in Canada. National Instrument 43-101 and its companion policy 43-101CP and technical report requirements 43-101F1 were put in place as of February 1, 2001. The mineral resource definitions are based on the Canadian Institute of Mining, Metallurgy and Petroleum's (CIM) definitions, which were adopted on August 20, 2000 and revised on November 14, 2004.

Under these definitions:

> A *Mineral Resource* is a concentration or occurrence of natural, solid, inorganic or fossilized organic material in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a *Mineral Resource* are known, estimated or interpreted from specific geological evidence and knowledge.

National Instrument 43-101 and CIM definition for a Measured Mineral Resource is:

> A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity and grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.

8. Conclusions

The Emory Zone has been drilled off at a 50-meter square spacing and is uniform enough in grade and geology to comply with the above definition. Therefore, the Emory Zone has a **Measured Mineral Resource** of approximately **25.5 million metric tonnes** grading **24.57 % magnesium** using an SG of 2.85.

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10. Certification of Author

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I, David Makepeace, M.Eng., P.Eng., do hereby certify that:

1. I am principal of:
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2. I graduated with a Bachelor of Applied Science degree in Geological Engineering from Queen's University at Kingston, Ontario in 1976. In addition, I have obtained a Master of Engineering degree in Environmental Engineering from the University of Alberta in 1994.

3. I am a member of the:
   - Association of Professional Engineers and Geoscientists of British Columbia
   - Association of Professional Engineers, Geologists and Geophysicists of Alberta.

4. I have worked as a geological engineer for a total of 28 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, affiliation with professional associations (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

6. I am responsible for this technical report titled "Technical Report on the Cogburn Magnesium Project, New Westminster Mining Division, British Columbia" and dated December 15, 2004 (the "Technical Report").

7. I have visited the Cogburn Magnesium Project on many occasions since 2000.

8. I have been an independent geological consultant with this property which is the subject of this Technical Report.

9. 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 of which to disclose makes the Technical Report misleading.

10. I am independent of the issuer applying all the tests in section 1.5 of NI 43-101. I have no ownership in the claims or interest in North Pacific Alloys Limited or Leader Mining International Inc.

11. I have read NI 43-101 and Form 43-101FI, and the Technical Report has been prepared in compliance with that instrument and form.

12. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated at 15 Day of December 2004.

David K. Makepeace, M.Eng., P.Eng.

Professional Engineering Stamp