Aley Corporation
802 1315 Cardero St.
Vancouver, B.C.
V6G 2J2

December 27, 2005

Ministry of Energy Mines
Mineral Titles Branch
Office of the Gold Commissioner

Dear Sir

Please find attached our report, Trenching, Sampling, Metallurgical Testing & Evaluation on the Aley Carbonatite Property at Ospika River, BC (Omineca mining district). Between October 5, 2004 and October 4, 2005 we have carried out approximately $139, 865 in work on the assessment of the Aley property.

We request that this full amount be applied to maintain the property tenure in good standing for Aley Corporation. Any excess costs are requested to be applied to a Portable Assessment Credit (PAC) account to be opened in favour of Aley Corporation.

Thank you for your assistance.
sincerely

Bryan Nethery, P.Eng
President
Aley Corporation

REPORT OF TECHNICAL EXPLORATION AND DEVELOPMENT

TRENCHING, SAMPLING, METALLURGICAL TESTING & EVALUATION

on the

ALEY CARBONATITE PROPERTY
OSPIKA RIVER, BC
(OMINECA MINING DISTRICT)

Claims 520172, 513258, 516635, 520261, 520262, 520263, 520264, 520265

At NTS 94B/05E & 5W

Located at Map Center 123° 47’ 48” W 56° 26’ 47” N

for

ALEY CORPORATION, Owner of the Claims

Prepared by

Michel Robert, Eng., Process Research Associates Limited
Edward M. Lyons, PGeo, Tekhne Research Inc.
Jenna L Hardy, PGeo, Nimbus Management Inc.
Bryan T. Nethery, P. Eng., Dialectic Consulting

December 22, 2005

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3 Summary

The Aley property consists of nine contiguous claim blocks that cover 4,935 hectares. The property is located in the Omineca Mining District in northeastern BC, centered at 56°27’N and 123°13’W. Aley Corporation optioned the property from Teck-Cominco Metals Ltd., as agent for Teck-Cominco Worldwide Holdings Ltd. Aley Corporation has exercised its option and is now the registered owner of the claims. Aley has the earned a 100% interest in the property, subject to a 2% net smelter return royalty to Teck-Cominco .

The property lies 20 km northeast of the Ospika Arm of Williston Lake. Logging roads lead from Mackenzie, BC along the west shore of Williston Lake around its head, and own the east side to the Ospika Camp of Canfor. Helicopter access is from the airstrip at Ospika Camp approximately 30 km from the Claims. Float and wheel mounted small planes can also land at Ospika camp. Barge service is also available from MacKenzie about 90 km south on Williston Lake to the Ospika Camp for movement of heavy equipment. Logging roads and an old 1985 cat trail provide rough surface access.

The Aley carbonatite complex is an approximately 4-km diameter ovoid. It intruded the Cambro-Ordovician sedimentary rocks of the Kechika and Skoki Formations in mid-Mississippian time. Two major units, the outer quartz-albite syenite ring and the inner carbonatite core, define the complex. The syenite annulus includes both massive and coarse diatreme-like breccias. The latter have clasts of both syenite and quartzite from deeper formations. A strong sodic and ferric metasomatism developed late amphibole overgrowths. The carbonatite has two phases: dolomite and calcite carbonatites. Dolomite carbonatite covers over 75% of the known outcrops. Calcite carbonatite appears as local massive zones and metre-scale interlayering within the dolomite. The origin of the mixed carbonatites is unclear.

Niobium is the principal economic target. It occurs as pyrochlore crystals precipitated from the carbonatite magma(s). It has undergone alteration to fersmite, a Nb-oxide, and columbite, an Fe-bearing Nb-Ta oxide. Pyrochlore concentrated in bands and segregations of heavy minerals, including apatite, magnetite, pyrite, and richterite in turbulent, liquid carbonate magma. The bands are subvertical to moderately inclined and probably parallel the edges of the magma chamber. Intrusion into the sedimentary rocks probably elongated the planes of the mineral layers. The alteration of pyrochlore to columbite appears, on limited data, to be strongest in the central part of the carbonatite intrusion. Fersmite appears, on available information, to be the dominant Nb mineral replacing much of the pyrochlore, especially in the calcite and calcite-dolomite mixed carbonatite.

Cominco identified six zones from surface exploration: Saddle, Saddle West, Bear, Bear Extension, Central, East, and Goat Zones. The best results to date have come from the Saddle, Saddle West, and Central Zones. The Saddle and Saddle West Zones appear to be fersmite/pyrochlore-rich, while in the Central Zone Nb occurs mainly as columbite associated with magnetite. Cominco drilled 20 holes in 1985-86 programs for a total of 3,058 metres; 16 of the holes were in the three zones. The Saddle West Zone appears to be an offshoot of the Saddle Zone, separated by an apophysis of syenite.

The present program of metallurgical testing focused on surface samples blasted from the Saddle and Central Zone trenches. Approximately 1200 kg of sample was removed from the site. Trench samples were taken from three locations, two in the Central Zone and one in the Saddle Zone.

The samples were transported to the Laboratory of Process Research Associates Ltd. (PRA) in Vancouver for assaying and metallurgical testing. The samples were crushed and composited to provide feed for the bench scale testwork. The composite used for the scoping test program was prepared from eight fresh samples collected in October 2004 by trenching from the Central Zone that had been previously outlined by Cominco.

The assaying and testwork program was carried out in 2005 on the samples acquired in October 2004, and was based on the flowsheets developed for Niobec Mining Corp. in Quebec. This flowsheet consists of 18 process operations. At this writing, the laboratory unit processes investigated in the PRA testwork are: desliming, magnetic separation, carbonate rougher flotation, niobium rougher and scavenger flotation, and the first and second niobium cleaner flotation stages. Sufficient work has been performed to establish bench mark reagent usage and operating conditions for these unit processes. The results obtained to date compare favorably to the operating results at Niobec. Recoveries on the order of 65% are considered likely to be achieved on a commercial scale.

Also in 2005, geological review and site investigations were carried out by Ed Lyons of Tekhne Research, for the purposes of evaluating the mineralization and planning the 2006 field program. Work carried out in 2006 also included surveying and evaluation of the requirements for site road construction to conform to the current BC Forest practices code. This work was primarily carried out by AllNorth Consultants of Prince George.

4 Introduction and Terms of Reference

In September 2005, Aley Corporation (hereafter Aley) contracted Nimbus Management Ltd (Nimbus), an arm's length company to carry out a geological and environmental review of the project. Process Research Associates Ltd (PRA), an arm's length company were contracted to evaluate past metallurgical work and conduct metallurgical testing. Sampling and sample selection were conducted under the field supervision of Ken R. Pride, P.Geo of Lions Geological Consulting, Jenna Hardy, P. Geo of Nimbus, and Michel Robert, Eng., of PRA. Samples were selected during a site visit that took place September 26-29, 2005. On 10 January 2005, Aley contracted Tekhne Research Inc (TRI) of Victoria, BC, an arms-length company, to review previous exploration work, evaluate the map base, and make recommendations for future exploration work. AllNorth Consultants, an arms length company, was contracted to carry out survey work on the site roads

This technical report details the results of these projects, conducted between 16 September 2004 and 31 August 2005. Besides the data generated by these works, the report cites published geological maps and reports, private reports from Cominco (now Teck-Cominco Ltd.), and assessment reports publicly available from the BC Ministry of Energy & Mines.

Michel Robert, director of Process Research Associates Ltd., supervised the sample collection and metallurgical testing reported herein.

Andrew McIntosh, of McElhanney Consulting Services Ltd., digitized Cominco maps and prepared baseline maps for the property.

Jenna Hardy, PGeo, principal of Nimbus Management Inc., reviewed the geology on the property, evaluated previous works, supervised the geology compilation, and overviewed the environmental and permitting issues associated with the property.

Edward Lyons, PGeo, as principal of Tekhne Research Inc., reviewed the geological reports in detail, compiled the maps into a GIS database, and made recommendations for future exploration.

Ken MacDonald, P.Eng. of AllNorth Consultants supervised the survey work on the site roads and access.

5 Disclaimer

Information on the registered claims described in *Items 6 (c)* and *(d)* was derived from the *mtonline.gov.bc.ca* website of the Ministry of Energy & Mines. To the best of the authors' knowledge and experience that these data are correct. However, we jointly and severally disclaim responsibility for such information.

The authors relied on documents and information provided by Aley Corporation, as to the terms and conditions of the property agreement described under *Item 6(g)*. No independent legal opinion was sought to verify the legal status of the claim ownership, status or the underlying option agreement. We jointly and severally disclaim responsibility for the accuracy of such information.

Information on existing environmental liabilities and work permits described under *Items 6 (h)* and *(I)* respectively was derived from information given to J. Hardy by phone calls to government agencies and discussions with the vendor. She believes these to be accurate based on her experience in the area. However, the authors jointly and severally disclaim responsibility for the validity of such information.

E. Lyons derived information about historical ownership and work described in *Item 8* from the assessment archives of the BC government available on the Minister of Energy &Mines website. However, we jointly and severally disclaim responsibility for the accuracy of such information.

6 Property Description and Location

6.1 Property Area

The property covers a total of 3,300.0 ha in 132 units.

6.2 Location

The Aley claims are located in the Omineca Mining District in northeastern BC (see Fig. 1 Section 26). It is centered at 56°27'N and 123°13'W. The property is named for Aley Creek, a prominent valley located northeast of the claims. No other named topographic features on NTS topographic sheet 94B/05 (1:50,000 scale) occurs on the property.

6.3 Claims Details

The property consists of 9 claims, 513258, 513261, 516635, 520172, 520261 520262, 520263, 520264, and 520265, or 4,935 Ha. The 100% owner of record is Aley Corporation.

Table 6.1 lists the details of the registered claims, based on information from the Minister of Energy & Mines mtonline.gov.bc.ca website on 2 October 2005. Fig. 2 shows the location of individual claims within the registered claim group and is derived from the same source. All the claims are in good standing until 5 October 2005.

Table 6.1 Record of Registered Claims

Tenure Number	Owner	Map Number	Good To Date	Status	Mining Division	Area	Tag Number
513258	200960 (100%)	094B	2007/MAY/24	GOOD		411.56	
513261	200960 (100%)	094B	2006/MAY/25	GOOD		143.22	
516635	200960 (100%)	094B	2006/OCT/05	GOOD		750.58	
520172	200960 (100%)	094B	2007/SEP/19	GOOD		339.85	
520261	200960 (100%)	094B	2006/OCT/05	GOOD		697.37	
520262	200960 (100%)	094B	2006/OCT/05	GOOD		1,072.95	
520263	200960 (100%)	094B	2006/OCT/05	GOOD		1,161.98	
520264	200960 (100%)	094B	2006/OCT/05	GOOD		178.72	
520265	200960 (100%)	094B	2006/OCT/05	GOOD		178.89	

						4,935.11	

6.4 Issuers Interest

At the time of this report, Aley Corporation has a 100% interest in the property, subject to the terms described in section 6(g) below.

6.5 Legal Survey

The claims have not had any legal surveys.

6.6 Location of Mineralization

The reader is referred to the discussion on Property Geology (Item 9 (b)) and Mineralization (Item 11) for details concerning mineralization on the property. Fig. 3 in Section 26 shows the claim group with relation to general geology and mineralization. The zones of active niobium exploration are located on claims Aley 1 through Aley 4 in the central part of the claim block, shown on fig. 4 in Section 26.

6.7 Property Agreement

The Aley carbonatite property was acquired under an Option Agreement signed on 23 April 2004 between Teck Cominco Metals Ltd., as agent for Cominco Mining Worldwide Holdings Inc. (herein “TC”) as vendor and Aley Corporation) herein “Aley”) as optionor.

The significant items under this agreement are:

- Aley has a 100% interest in the Property, subject to the Net Smelter Return Royalty (NSR) reserved to TC.
- The NSR is 2%. Aley has the option to buy out the NSR interest for $1,500,000 anytime up to one year after the commencement of commercial production. TC can convert the NSR to an equity interest in the public company (PubCo) as described below.

Other obligations and rights include:

- If Aley sells or conveys the Property to a public company (PubCo), TC has the right to convert its NSR interest to shares in PubCo at the rate of 2.5% of PubCo’s issued shares for each 0.5% increment of the NSR; this option can be elected once at any time prior to the commencement of commercial production at TC’s sole discretion.
- PubCo grants TC the preferential right to participate in all future financings conducted in the term of the agreement to the limit of 20% of any financing or to allow TC to increase or maintain its ownership to a maximum of 20% of PubCo’s shares.
- At the Earn-In Date, Aley assumed all existing and future environmental and reclamation liabilities and obligations associated with the Property.

6.8 Environmental Liabilities

The property is not subject to any known environmental liabilities related to past exploration activities to the best of our knowledge. No mining activity has occurred in this area. However, we disclaim responsibility for the completeness of such information.

6.9 Work Permits

The Ministry of Energy & Mines requires a work permit for any fieldwork that involves surface disturbance, such as trenching and drilling. A permit was obtained for the 2004 field work, but no permit is in place at this time for 2006. Cominco has maintained a Special Use Permit (SUP) for construction of the access road to the property. The use of this permit to connect the Cominco access road network on the property to the Canfor logging roads and on to the Ospika Arm camp does not appear viable due to the numerous stream crossings required and an alternative route has been identified on Aley claims.

The future work program will require a Notice of Work before commencing new field work.

7 Physiography, Accessibility, Infrastructure, and Climate

7.1 Physiography

Elevations range from 1,300 m in the creek valleys to the west and south to 2,233 m on the ridge east of the Saddle Zone. The topography is mainly steeply mountainous with V-shaped glacial valleys. Small creeks drain from the several peaks in the centre of the property in all directions. Flows are seasonal depending on snow meltwater, rain, and winter freezing.

Boreal forest covers the area below the tree line (~1600-m). Much of the central part of the claims lies above the tree line with shrubs and grasses dominant. The higher elevations are commonly covered with sparse grass, broken scree, and outcrop.

7.2 Access

The property lies some 20 km northeast of the head of the Ospika Arm of Williston Lake. Logging roads lead from Mackenzie, along the west shore of Williston Lake around its head and down the lake to the Ospika Camp of Canfor. Helicopter access is from the airstrip at Ospika Camp some 30 km from the site. Barge service is also available from MacKenzie along Williston Lake to the Ospika Camp for movement of heavy equipment.

Recently constructed logging roads under the jurisdiction of Canfor extend some 20 km toward the property. The logging roads are close to the Cominco cat road which could be readily reopened. This would connect the Ospika Camp to the road access previously made on the property.

AllNorth Consultants conducted a helicopter supported survey of the access to the Aley Claims from the existing Canfor logging roads and has identified and surveyed a route on Aley claim blocks that connects from the Canfor logging roads to the Aley cat trail developed by Cominco in 1984. This road is substantially modified from the previous cat trail and is expected to readily comply with the current Forest Practices Code of British Columbia, and the Forest Road Engineering Guide, for road construction. This work is detailed in an AllNorth Report entitled Aley Property Exploration Road Survey dated 06 September 2005 and prepared by Ken MacDonald, P.Geo.

7.3 Infrastructure

The property is located near the northern shore of Williston Lake. The W.A.C. Bennett hydroelectric dam is about 120 km east-southeast of the centre of the property at Hudson's Hope. The BC Railway lies approximately 160 km to the east-northeast.

While logging operations in the past four years have improved access into the area, there will be need for improved road construction in the future if the property advances in its development.

7.4 Climate

The northern boreal forest region receives an extreme range of weather conditions throughout the year. Summers are short, from June to late September with variably dry to wet with local storms, which may give heavy rainfall or even snow at any time. Humidity ranges from very dry to humid. Autumn is quite short with the rapid onset of snowstorms and heavy rains starting in late September. This effectively ends the field season. Snow stays on the ground from October through early June and may remain all year in patches on the peaks on the property. Thus, exploration is limited to the period from June to late September only.

8 History

Cominco Ltd. acquired the property after following up on regional base metals anomalies in 1980 north of the property. No other claims existed in the region. K.R. Pride followed the stratigraphy southeast from the anomalies and encountered the carbonatite complex. The samples showed evidence of carbonatite including the presence of pyrochlore. In 1982, PC LeCouteur of Cominco visited the property to collect samples and assess the scale of the carbonatite. In October 1982, the claims Aley 1 through Aley 4 (80 units total) were staked to cover the carbonatite complex. Additional staking in 1986 added the claims Aley 5 through Aley 7 (32 units) and the final claim Aley 8 was added in March 1986 (20 units).

Field work started in 1983 and continued regularly through the 1986 field season. Metallurgical work followed in 1983-85. No exploration has been done since September 1986 prior to the current studies. While there is no written record of why Cominco did not continue with work on the property, it is believed that the work was terminated due primarily to the takeover of control of Cominco by Teck who owned 50% of the Niobec Operation. Cominco's inability to achieve acceptable metallurgical recovery is also thought to be a contributing factor.

The work, which was accomplished in 10 months of field work, included

- Roads: 20-km bulldozer access trail from Ospika barge landing to the Aley camp (1984). This is now partially superseded by the recent logging roads and Ospika Camp of Canfor. Renovation of the bulldozer tail is expected to require a new permit
- Trails: Cat trails accessible with a 4x4 Land Cruiser from the Aley camp onto the active zones on the property total ~28 km.
- Orthophoto (1983) and derived base maps.
- Geophysical surveys: magnetometer surveys at several scales from reconnaissance to detailed local grids (17 line-kilometres) ; scintillometer reconnaissance surveys initially.
- Geological mapping at 1:5,000 over the claims Aley 1-7 and 1:2,500 scale locally plus mapping of trenches at 1:500 scale.
- Soil sampling on contour lines and along road banks.
- Rock chip sampling of outcrops, talus, road cuts with outcrop/subcrop, and all trenches (5-m contiguous samples).
- Diamond drilling in two campaigns totaled 3,046.36m in 19 holes. NQ was drilled in 1985 and BQ in 1986. Core was stored on site.
- Environmental baseline study conducted over the 1985 and 86 field seasons by Norelco.
- Metallurgical testing using gravity separation on a 4 ton bulk sample 1983-84. Some flotation testwork was carried out until 1991 with limited success.
- Mineralogical studies conducted on samples throughout programs.
- Sample preparation for rock and core samples was done in the field.

Cominco compiled reports for each field season outlining the work carried out and the results achieved. The principle data of interest outlined by Cominco is as follows.

Cominco provided preliminary estimates for the resource based on in house analysis, indicating 15 million tonnes in the Saddle zone and 15 to 20 million tonnes in the Central Zone. The details of these estimates and the grade assumed have not been recovered from the Cominco files. The average grade of the intersections of interest are approximately 0.75% Nb_2O_5.

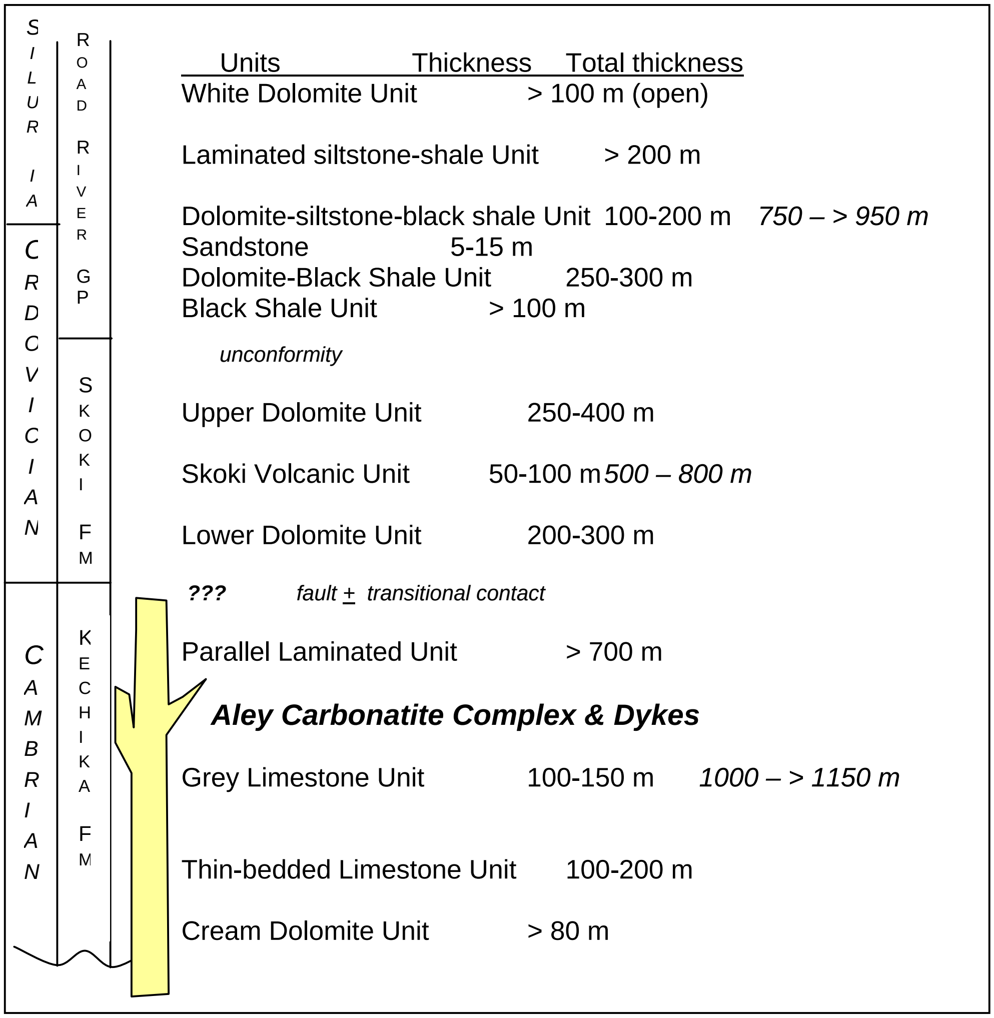
9 Geological Setting

9.1 Regional Geology

The Aley Carbonatite complex intrudes the Cambrio-Ordovician sediments of the northern Rocky Mountain fold and thrust belt. Details about its geology are discussed in Section 9(b) below, since the entire complex underlies the property.

The host of the intrusive is an assemblage of continental shelf sediments with lesser associated volcanics. The following descriptions are derived from the field work and synthesis done by U.K. Mäder (Mäder, 1986g). Some of the units may exist only near the carbonatite, but this may also be due to the artifact of more detailed work near the complex, compared with the regional mapping cited by Mäder. Table 2 summarises the stratigraphic section. The base is not exposed near the property and the top may be truncated by a major thrust fault.

Figure 9.1 Stratigraphic Column



Ages of the units are somewhat constrained by fossils. Mäder (Mäder, 1986g) notes that the locally mapped units are correlative with the established formation names used by Thompson (1986) to define the stratigraphy of the Halfway River map area (94B). Mäder notes that, due to folding and faulting, no single type section exists. The thickness of the units is based on measurements of the units locally and should be considered a minimum value. The thickness of shaley units should be considered as minimum values, due to tectonic thinning.

The formations, from oldest to youngest are described below. The units within the formations are modified from Mäder (1986g).

Kechika Formation (Cambrian)

Four units comprise the 1000 - > 1150 m of stratigraphy. The oldest, with no exposed base, is the *Cream Dolomite* unit. It occurs only within the contact aureole of the carbonatite intrusive in the mapped area as recrystallised dolomite marble with minor calcite marble with marly beds. Although Mäder suggest that this a contact aureole effect, he notes that the upper contact is sedimentary, not a chemical overprint. The overlying unit is the *Thin-bedded Limestone* unit with regular alternating beds of limestone and dark grey marls. Contact metamorphism recrystallises the marls into more durable rocks relative to the limestone. The *Grey Limestone* unit is an interbedded mixture of grey limestone and orange-brown siltstone and shale beds. The uppermost unit is the *Parallel Laminated* unit with buff-brown and grey thin laminated limestone bed intercalated with shaley and silty beds.

The contact is usually a fault contact in the area, but appears transitional elsewhere.

Skoki Formation (Ordovician)

The Skoki Fm is characterised by cliff-forming dolomite beds with several volcanic sequences in the middle. The *Lower Dolomite* unit forms medium to thick-bedded and massive dark grey dolomite with rare fossils. It may include beds of volcaniclastic tuffs and ash to 20-m thick locally. The *Skoki Volcanic* unit forms the middle of the formation. It generally is volcaniclastic at the base with more flows and pillow flows above. Mäder notes that where the source of volcaniclastics stops activity, the regular Skoki dolomite continue to be deposited. Mäder's sections show significant variability within the unit even within the map area around the carbonatite. Hence, the volcanic unit represents sporadic but persistent volcanism during the deposition of the dolomite. The *Upper Dolomite* unit is more massively bedded than the Lower Dolomite with the addition of minor black chert increasing towards the top. As in the Lower Dolomite, tuffs occur sporadically in the dolomite.

The top of the Skoki Fm is marked by a rapid transition into the overlying black shale. The thickness is between 500 and 800 m.

Road River Group (Ordovician-Silurian)

Only the lower part of the unit was mapped near the carbonatite. The basal 750-m section is a package of mixed black shale, clastics and dolomite interbedded and can be divided into five units. The oldest is *Black Shale* unit with graptolitic black calcareous shales. The overlying unit is the *Dolomite-Black Shale* unit with well-bedded dolomite beds interlayered with laminated calcareous and/or dolomitic shale. Fossils are common in the dolomite beds. The *Sandstone* marker unit denotes an abrupt change with mature, well-sorted and graded sandstone with sharp upper and lower contacts. This unit is only 5-15 metres thick. The *Dolomite-Siltstone-Black Shale* unit, called by Mäder the Upper Dolomite-Black Shale unit, is similar to the unit below the sandstone, except that it consistently has more clastics and less dolomite than the lower unit. Ordovician graptolites occur in the black shale. It is in gradational contact with the *Laminated Siltstone* unit, which is dominated by thin-bedded fine clastics with minor dolomite beds. Silurian graptolites occur in this unit. The top contact is sharp.

The uppermost unit of the Road River Group in the map area is the *White Dolomite* unit, which weather a light grey colour. Mäder did not map the top of this unit.

The Aley carbonatite was emplaced between 330 and 360 Ma (middle to late Mississippian) in the sedimentary assemblage. This carbonatite and several others occurring along the Rocky Mountain Front are believed to be associated with deep structures along the margin of the North American Plate during the time of accretion. Mäder (Mäder, 1986g) demonstrates that the carbonatite was intruded in a regime of a ductile shear zone that gave rise to metasomatism and ductile folding within the zone. The carbonatite penetrated the Cambrian Kechika Fm only. Later faulting may have truncated and displaced parts of the intrusive, but this has not been demonstrated.

The major period of structural deformation that formed the Rocky Mountains affected the sedimentary stratigraphy more than the carbonatite. The folding and thrusting within the imbricate Burden Thrust sheet folded the Paleozoic sediments into tight overturned folds with a steep westerly dip. Tectonic thinning and thrust faulting eliminated or reduced some stratigraphic elements, so that parts of the stratigraphic sequence are missing locally. The carbonatite suffered some minor shearing along the planes of mineral bands (see Section 11 Mineralization), and the dips of the mineral bands follow the enclosing rocks steeply to the west-southwest. However, it remains relatively unaffected internally by the younger folding event. Mäder notes that the orientation of several brittle shear zones dipping moderately to the west-southwest suggest that the intrusive may be cut by later thrust faults. These projections would not affect the elevations of the mineralised zones of interest for the proposed exploration.

9.2 Property Geology (see fig. 3)

The stratigraphy discussed above crosses the property. The dominant feature is the Aley carbonatite intrusion. It is ovoid in plan with the slightly longer axis aligned to the northeast. The intrusion has two distinct parts: an outer ring of "amphibolite" or metasomatised quartz syenite surrounding a carbonate core. The carbonate core is predominantly dolomite carbonatite with lesser amount of calcite carbonatite principally on the northwest margin. The contact between the two units is reported by all workers to be sharp, but convoluted locally. Niobium mineralization occurs only in the carbonatites.

The "syenite" (Mäder, 1986g) or "amphibolite" (Pride, 1984) forms an almost complete ring around the carbonatite core, excepting a small contact area on the east side where carbonatite is mapped in contact with sedimentary rocks and the fault displacement along the southwest margin. Initial work by Cominco (Mawer, 1983b) described the rock as "amphibolite" since the rock is dominated by 5-40% (mode) Na-amphiboles (aegirine, arfvedsonite). Non-amphiboles make up the majority of the rock dominated by albite (30-60% mode) and quartz (5-50% mode) (Mäder, 1986g).

It occurs in two phases. One is the massive amphibole-rich rock. The second is a coarse breccia dominated by rounded amphibole-rich quartz syenite mixed with rounded clasts of amphibole-metasomatised Paleozoic sedimentary rocks, particularly pure early Cambrian quartzite that occurs some 1-km below the present surface.

Pride (Pride, 1984) proposed that the amphibolite resulted from Mg and Fe metasomatisation that overprinted breccias of sedimentary rocks associated with the emplacement of the carbonatite, producing "fenitisation". He believed that the amphibolite was not an intrusive rock.

Mäder observed that the rock had syenitic textures with original Na-amphiboles and the unusual petrochemistry that lead to quartz and albite dominance. This he called quartz-albite syenite to distinguish it from the more common nepheline syenite normally associated with carbonatites. This rock has undergone extensive metasomatism that overprinted much of the original magmatic textures. The original rock was quartz-albite-arfvedsonite. The metasomatism replaced albite and some arfvedsonite with aegirine. Quartz increased and sometimes recrystallised to form larger grains while residual albite reformed into finer grained albite aggregates.

The breccia is composed of up to 30% xenoliths of quartzite and igneous rocks such as micro-syenite and albitite. Reaction rims caused by metasomatism rim the sedimentary clastics showing pervasive adsorption and formation of recrystallised quart, albite, and secondary aegirine. Micro-syenite clasts are much less common. They, too, show reaction rims with similar mineralogy observed in the massive metasomatised syenite and in the sedimentary clasts.

Mäder concludes that the syenite was intruded with concurrent brecciation. The metasomatism affected all its phases. Both writers note that the contacts between the carbonatites and the syenite are sharp, even though the geometry can be quite complex locally with veins and shoots of carbonate in to the syenite and large apophyses of syenite remaining in the carbonatite.

The carbonatite is composed of dolomitic and calcitic phases. Dolomite carbonatite has 87-97% dolomite, 1-10% apatite and the balance as other minerals including fersmite with minor to rare pyrochlore remnants as the Nb minerals, pyrite, quartz, and albite. Calcite carbonatite is more variable in its mineral modes and typically contains calcite (40-95%), magnetite (0-40%), apatite (2-10%), pyrochlore (0-2%), biotite (1-10%), amphibole (0-5%), and pyrite (0-0.5%). The heterogeneity is due to the strong development of mineral banding.

The field relationship between the two carbonate phases is ambiguous. The dolomite carbonatite is spatially the most prominent occupying the centre and most of the margin of the exposures, probably on the order of 70% of the total carbonate area (Mäder, 1986g). Calcite carbonatite is restricted to the northwest margin and as interlayers (dykes?) and apophyses in the dolomite carbonatite near the centre. The contacts are described as being sharp, if intimate. Interlayering has been recorded in drill core logs in the central area on the scale of several metres.

The contact aureole shows limited effect in the host rocks. Most of the changes are visible only within several tens of metres of the contact, but subtle colour and very weak mineral effects can be observed up to 500 m away. The principal effect is metamorphism of the carbonate sediments to weak marblisation with potassium feldspar and phlogopite. Minor elements are concentrated within 50 metres of the contact for Nb, REE, Th, and F (Mäder, 1986g). The metamorphosed rock tends to have brown surface weathering colour. No calc-silicates or talc occur anywhere in or around the intrusion. The heterogeneity of the host rocks precludes a major element transfer calculation.

Mäder specifically elected not to use the term “fenite” to describe the alkali metasomatism. He felt that the degree of metasomatism was so subtle and the major element components so little changed that using the term in the traditional sense would be misleading.

Two types of carbonatite dykes containing rare-earth minerals (REE dykes) occur near the intrusive body: the barium-rich, siliceous dykes on the northwest ridge and the barium-poor, silica-deficient dykes on the north ridge. They host a large part of the unusual minerals found on the property including a wide range of carbonates species. They are elevated in ferrous iron, sulfur, and manganese, but have low phosphate. Strontium, barium, and light rare earth elements may reach major proportion. Niobium and tantalum are depleted.

The Ospika diatreme dyke occurs about 250 metres west of the main intrusive near its centre. It lies in another thrust fault block that pushes the diatreme adjacent the carbonatite. It is 20 x 50 m with at least five breccia and massive phases. It intrudes the Skoki Fm. Contacts between phases may be sharp or gradational. The breccia clasts , which comprise up to 25% of the rock, are mainly sedimentary rock clasts ranging from 5 – 50-cm diameter.

The matrix is igneous-magmatic. The macro-minerals are phlogopite and augite with minor olivine in fine-grained calcite and dolomite with felted phlogopite, chlorite, amphibole, and pyrite. Fluorite occurs near the margins of the pipe.

Several smaller breccia dykes to 50-cm wide occur on ridges 0.5-1 km away. Although they appear similar, they are probably are not physically connected with the diatreme. There are no contact relations with the main carbonatite-syenite intrusion. Pell (Pell, 1987) classifies the diatreme and associated dykes as ultramafic lamprophyre and notes they are relatively common near carbonatites.

Pell gives a Rb-Sr date on biotite at 334 $\pm$7 Ma and a K-Ar date on the same material as 323 $\pm$10 Ma, a bit older than the dates for the Aley carbonatite.

Two models have been proposed to explain the patterns observed at the Aley complex.

Pride (1984) proposes that the intrusion started with the brecciation of the country rocks as part of the initial doming associated with the onset of the carbonatite intrusion. The calcite carbonatite intruded and was shortly followed by Mg, Na, and Fe metasomatism. This metasomatism altered the contact including the breccias to form the amphibole rock and the weak “fenitisation” of the host rocks. The Mg-metasomatism lead to the dolomitisation of the central part of the calcite carbonatite, forming the dolomite carbonatite. One result was the alteration of primary pyrochlore to dominantly fersmite and later columbite. The REE dykes and the Ospika diatreme and associated lamprophyres were emplaced in the waning stages of the intrusion.

Mäder (Mäder,1986g) proposes another model. He shows that the amphibole-rich rock is original quartz-albite-Na-amphibole syenite intruded the country rocks with associated brecciation that included xenoliths of country rock from depths to 1-km. The carbonatite intruded in two phases. The earlier one was the dolomite carbonatite, which probably was almost coeval with the syenite. The calcite carbonatite intruded the dolomitic phase and along the contact between the older carbonate and silicate rocks, leaving complexly interfingering contacts. It is possible that some of the calcite carbonatite resulted from metasomatism, too, but Mäder shows the geochemistry does not make these the carbonate equivalent of pegmatite (late-stage events). The known carbonatite processes cannot readily explain genesis of the two carbonate magmas. They do not support a parent-daughter relationship, as the calcite phase would be the parent and the dolomite the daughter, which is not supported by field relations. He concludes that they had a common magma source but followed different and unknown “paths of diversification”.

The metasomatism that affected the syenite was associated with the later carbonate intrusions. The metasomatic minerals in the syenite showed increases in Fe, Na, and Ti, but moderate to very strong depletions of Mg, Ca, K, Mn, and F. The latter may be deposited in the alteration of the adjacent country rocks. Mäder explains the different textures of mineral bands between the two carbonatites as a function of magma chamber fluid dynamics.

He, too, believes the emplacement of the REE dykes, and Ospika diatreme breccia occurred in the final stages of contraction of the intrusion.

Mäder's model is developed well with arguments covering a range of processes. The one feature not explained is the persistent association of relatively unaltered pyrochlore with the calcite carbonatite and the altered pyrochlore (to fersmite and columbite) strongly associated with the dolomite carbonatite. It may be that the carbonatite magma was enriched in Nb and both phases contained original pyrochlore. Unknown factors in the chemistry of the dolomite carbonatite encouraged pyrochlore alteration, while these factors were not active in the calcite carbonatite magma.

10 Deposit Type

In the Aley deposit, niobium occurs in pyrochlore that formed as early-stage mineral precipitates in the original magma. Alteration by unknown factors in the dolomite carbonatite created the Nb-bearing alteration minerals fersmite and columbite that changed the original pyrochlore. The changes occurred in situ, so there has been no significant transport or concentration of Nb by secondary processes. The type of deposit is termed *magmatic segregation*.

Fluid dynamics in the liquid magma provided the primary influence on Nb distribution. Magmatic carbonate differs from silicate magmas by not having the polymerisation of the latter and thus remaining more liquid until the initial stages of solidification. Fluid flow within the magma chamber is relatively rapid and turbulent. Mäder (Mäder, 1986g) notes that apatite and pyrochlore precipitated early in the dolomite carbonate magma, and pyrochlore, apatite, magnetite, richterite, and biotite precipitated early in the calcite carbonate magma. These heavier minerals are lifted on thermal convection currents within the lighter, high carbonate magmas, only to congregate and settle in counterflow currents. These currents concentrate the minerals into subvertical bands or sheets that have significant vertical and lateral continuity, even though they may be less than several metres wide. The rapid convection means that the heavy minerals will not settle into subhorizontal layers, as occurs in silicate magmas, such as immiscible sulphides in ultramafic magmas. The bands were congealed in place during solidus. Some streaming and attenuation likely occurred during emplacement of the Aley carbonatite in its sub-solidus (crystal mush) state. The mineral bands were already steeply dipping, so little change in band geometry likely occurred during intrusion.

The control of location of the mineral bands will lie mainly in the shape of the magma chamber and the form of the intrusion. With no evidence of post-emplacement remobilisation or concentration of Nb, the inherited geometry of the bands provides the final control of Nb emplacement. The Aley intrusion is roughly ovoid. Measurements of the mineral bands show that they are subparallel with the intrusive contacts in concentric, arcuate bands (Mäder, 1986g). Traditional exploration for Nb involves identifying the richest bands and following them with surface and drill testing.

11 Mineralization

As discussed above, the Nb minerals concentrate in bands with other dense minerals such as apatite, magnetite, richterite, pyrite, and biotite in carbonate matrix. (see figure 4)

The Nb minerals at Aley are pyrochlore with alteration Nb minerals fersmite and columbite, which follows a strict sequence of pyrochlore altering to fersmite then fersmite altering to columbite. The chemistry of the alteration minerals will most likely be inherited from the parent mineral. At Aley, no significant Ta has been noted in pyrochlore and the alteration minerals do not contain it. Likewise, the reduction of solid solution capacity in the minerals reduces in the alteration sequence. Fe increases in atomic proportion towards columbite.

The term *Pyrochlore* is a bit confusing since the name given to a broad group of minerals, one of three subgroups and one mineral in a subgroup of the same name (Hogarth, 1977). Generic mineral *pyrochlore* has a wide range of elements filling structural spaces under the generic formula: $A_{2\text{-}m}B_2O_6(O,OH,F)_{1\text{-}n}\ .pH_2O$, where A = (**Na, Ca**, K, Sn, Ba, REE, Pb, Bi, U) and B = (NB, Ta, Ti). (Bold = essential element; italics = low/rare elements). Pyrochlore forms euhedral to subhedral octahedral crystals 0.2 to 4-mm. It is concentrated in the heavy mineral bands as discussed above.

Fersmite is a relatively rare Nb oxide mineral found in carbonatites and certain pegmatites. It has been recorded in less than 15 places globally. As a rare mineral, it hasn’t received the full attention of the mineralogical community that pyrochlore has. It has the generic formula $AB_2(O,OH,F)_6$, where A = (**Ca**,Na,Ce) and B = (**Nb**,Ti,*Fe,Ta*). Fe is a potential but not essential element. There appears to be a range of solid solution that may accommodate Ta, but it isn’t an essential element. It forms as fine granular anhedral, subhedral, and rarely euhedral crystals growing within the boundaries of pyrochlore octahedra with lesser amounts of primary fersmite growing as sprays and single crystals in carbonate.

Columbite is an end-member of the columbite-tantalite series with the formula $(Fe, Mn)(Nb, Ta)_2O_6$. The Nb-rich member is columbite. Fe is an essential element. Columbite can be ferroan or manganoan, depending on the dominance in the elements in the A-sites. It occurs at Aley only as an alteration of fersmite. Limited data suggests it occurs more persistently, perhaps as a majority Nb-mineral, in the Central Zone in dolomite carbonatite (McLeod, 1986d).

Cominco geologists and specialists have consistently noted the three Nb minerals in their reports. But their data does not give a clear sense of how representative their samples are (location, number of samples, etc.). The question of what proportions of each mineral occurs in the several zones and how pervasive is the Nb mineral alteration remains unresolved.

Work by Cominco (1983-86) defined several zones of high Nb values that were tested by geochemistry, trenching, and drilling. They are: Saddle, Ridge, Bear, Bear Extension, Central east, and Goat Zones. Drill-testing showed the economically important zones were the Saddle, Saddle West and Central Zones. The Saddle and Saddle West zones were drilled in 1985 and again in 1986. The Central Zone, discovered in 1985 by trenching, was drilled in 1986.

The *Saddle Zone* occupies the northwest cusp of the carbonatite. The zone is oriented ~070º with a moderate to steep NW dip of mineral bands. Six drill holes (A85-1, A85-2, A85-3, A86-17, A86-19, A86-20) tested the zone to 85 vertical metres. Pride (1987) reports that fersmite was the dominant Nb mineral occurring in interbanded calcite and dolomite carbonates. Mineralisation was intersected near the ends of several holes that were stopped due to drilling problems. The inference is that additional intervals may occur below. The best intervals were:

DDH	*% Nb_2O_5*	*Length (m)*
A85-1	0.95%	18.0
A85-2	0.60%	29.0
&	0.61%	30.0
A85-3	0.62%	195.0
A86-17	0.76%	11.0
A86-19	0.59%	70.4
A89-20	0.55%	54.8

The *Saddle West Zone*, which lies ~150 metres northwest of the Saddle Zone, appears to be a section of the Saddle Zone, separated by an apophysis of the syenite ring. The orientation of the mineral bands is similar in the two zones. Pride (1987) estimates the true width of the Saddle Zone West to be ~80 metres containing 0.65% Nb_2O_5. Mineralisation is similar to the Saddle Zone. The best intersections were:

DDH	*% Nb_2O_5*	*Length (m)*
A85-4	0.70%	58.0
A85-5	0.61%	80.25
A86-18	0.67%	14.26

The Central Zone occurs about 600 metres southeast of the Saddle Zone in the west-central part of the carbonatite. The mineralisation is a mix of fersmite/pyrochlore (A86-16) and columbite-magnetite, which occurs in distinct mineral bands. Pride (1987) believes that the columbite-magnetite zone can be traced in several drill holes to surface trenches over a vertical distance of ~200 metres, similar to the scale of ore shoots at Niobec. The columbite is contains more Nb than pyrochlore or fersmite. The best intervals reported by Pride are:

DDH	*% Nb_2O_5*	*Length (m)*
A86-11	1.01%	9.2 (col-mt)
A86-12	0.86%	20.0
A86-13	0.73%	43.2
A86-14	0.98%	10.4 (col-mt)
A86-15	0.73%	14.8
&	0.77%	51.7
A86-16	1.08%	29.0
&	0.77%	55.0

It is clear from Pride's reports that the carbonatite geology in detail is more complex than the general geological model. Interlayering of the two carbonatites occurs on the <5-m scale. The presence of several types of minerals bands may provide local scale exploration guides.

12 Exploration

During the September 2004 field program the exploration efforts were concentrated on trench sampling for metallurgical sample, and confirmation of previous geology and drill hole collar locations. Trenches were opened by drilling and blasting near the site of the previous Cominco trenches cut in 1985 and 1986. The purpose of these trenches was twofold, firstly to acquire samples suitable for metallurgical testwork, and secondly to confirm the grades estimated by Cominco from their work.

The samples were cut from trenches in the Central Zone near to the location of CZ-85-6, CZ-85-6A and CZ-85-8, and in the Saddle Zone at SZ-84-4. In total, 912 kg of sample were taken from the Aley site.

During the same period, all of the major zones identified by Cominco in their previous work were visited and drill holes locations identified and logged using GPS. This work was carried out to validate the previous mapping and survey work that was done using conventional survey compass mapping, as compared to current GPS technology to identify any systematic errors in the mapping developed by Cominco.

The total cost of the field work, professional services, and metallurgical testwork to date is $194,387, details are provided in the cost report in section 24.

13 Drilling

Not applicable.

14 Sampling Method and Approach

The general intent of the sampling program was to collect sufficient sample from previously identified areas where the niobium grade corresponded to the average grades of the thicker and more consistent intersections demonstrated by Cominco in their work in 1984-1986. This corresponded to a target grade of approximately 0.75 % Nb_2O_5.

Sample locations had to be adjusted somewhat due to slumping and snow accumulation at the Aley site. Trench samples were taken from the Cominco sites CZ-85-6, (in two separate locations designated CZ-85-6A and CZ-85-6) for a total of 62 meters, CZ-85-8 for 25 meters all in the Central Zone and from SZ-84-4 for 30 meters in the Saddle Zone. Locations were identified based on the Cominco drawings.

Trench samples were acquired by first blasting to clear the slumped material and snow from the selected areas. The exposed rock was then drilled and blasted to expose clean fresh rock surfaces along the length of the trench. Sample was then broken from the exposed rock surface using steel and hammers as required. The sample was collected in standard plastic sample buckets, filling approximately one bucket per 5 – 8 meters of trench depending on the length of the trench. Samples and buckets were tagged, labeled and closed as collected. Additional grab samples were taken and packed separately for geology and mineralogy.

Sample of selected intervals of drill core were also taken to assist in characterizing the Saddle Zone and to potentially evaluate differences at depth. In total, 28 samples were prepared, 11 drill core and 17 trench samples for a total weight of 880 kg.

15 Sample Preparation, Analyses and Security

Twenty eight (28) samples for metallurgical testing and a few hand samples for geological records were received at PRA on October 4 and October 13, 2004. Samples reception log sheets were prepared on arrival, stating the identification, state and weight of each sample. The Sample Reception Log Sheets are available for inspection.

The geological samples were stored for future use by Aley Corporation.

Each of the 28 metallurgical samples was individually crushed to ¾". The crushed material was then homogenized by triple riffling. A 500 to 1800 gram riffled portion was taken out for apparent specific gravity determination. Variation in weight of this portion was due to the weight of the initial sample.

The rest of the material for each sample was then crushed to 6 mesh in a jaw crusher, triple riffled and a 500 grams sub-sample taken out by riffling for chemical analysis. This aliquot was pulverized to 200 mesh Tyler, rolled and split by riffling in 4 fractions. One set of aliquots was kept for the archives and the other three sets sent to chemical laboratories for determination.

For each samples the material crushed to 6 mesh was then bagged in two (2) kilograms test charges and stored for future use in 20 liters plastic pails.

16 Data Verification

16.1 Chemical analysis.

Sets of the 28 aliquots were sent for chemical determination to *Global Discovery Labs, International Plasma Laboratory Ltd*, both in Vancouver and *COREM* in Quebec City.

Global Discovery Labs is a business unit of Teck-Cominco, International Plasma is an independent commercial laboratory and COREM is the now privatized mineral processing and metallurgical laboratory of the Ministry of Natural Resources of Quebec. The latter has carried out most of the outside laboratory work for Niobec, since the original bench scale and pilot plant work in 1971.

The analytical methods used for niobium determination by each laboratory were as follows:

GDL – X-Ray Frequency Dispersive Spectrometry on fused borax button.
IPL – Induction Coupled Plasma Spectrometry on multi-acids dissolution.
COREM – X-Ray Frequency Dispersive Spectrometry on fused borax button.

Each laboratory used its own QAQC system. IPL is certified ISO9001:2000 for mineral processing samples. The other laboratories are not.

A comparison of the results from each laboratory is given in Table 16.2, with the statistical analysis (regressions) summarized in Table 16.1. COREM has the best precision (repeatability), while COREM and IPL have the best exactitude. In other words GDL seems to have a systematic error.

Table 16.1 Statistical Comparison of the Chemical Determinations

	GDL	**COREM**	**IPL**
Average	0.676	0.698	0.693
Regression Alpha Beta R^2	X=GDL, Y=COREM 1.0366 - 0.0026 0.9928	X = COREM, Y = IPL 0.9920 +0.0134 0.9798	X = GDL, Y = IPL 1.0349 - 0.0064 0.9852
Deviation of Average	**-1.9%**	**+1.3%**	**+0.6%**

Samples	% Nb_2O_5		
	GDL	COREM	iPL
ALEY 01	0.63	0.66	0.66
ALEY 02	0.68	0.71	0.72
ALEY 03	0.72	0.74	0.74
ALEY 04	0.71	0.74	0.74
ALEY 05	0.74	0.75	0.76
ALEY 06	0.62	0.64	0.63
ALEY 07	0.59	0.59	0.63
ALEY 08	0.69	0.70	0.69
ALEY 09	0.65	0.65	0.66
ALEY 10	0.45	0.49	0.49
ALEY 11	0.62	0.64	0.62
ALEY 12	0.51	0.56	0.50
ALEY 13	0.47	0.49	0.47
ALEY 14	1.19	1.23	1.26
ALEY 15	0.81	0.84	0.83
ALEY 16	0.86	0.87	0.89
ALEY 17	0.46	0.46	0.46
ALEY 18	0.64	0.68	0.66
ALEY 19	1.03	1.08	1.03
ALEY 20	0.46	0.48	0.46
ALEY 21	0.59	0.59	0.63
ALEY 22	0.55	0.56	0.57
ALEY 23	0.36	0.38	0.37
ALEY 24	0.82	0.85	0.76
ALEY 25	0.74	0.72	0.73
ALEY 26	0.77	0.79	0.83
ALEY 27	0.49	0.51	0.51
ALEY 28	1.08	1.15	1.13
Average	**0.676**	**0.698**	**0.693**

Table 16.0.2 Chemical Determinations from the Three Laboratories

16.2 Current Sampling Compared to Cominco Work

The assaying of the 1985 drill core was compared to the reported Cominco values for the same intervals. These were found to vary by about 10% for most samples, and up to 30% for some. Interestingly, the average for all the samples is within 2% of the original Cominco results. This would indicate that sample variability is modest, but that the original Cominco work compares favourably with the Corem results ($p=0.95$ for the statistical test of equality of the two groups using a paired t-test).

The trench samples display higher variability from interval to interval when compared with the original Cominco values. The extremely high variability, (over 50% for some intervals) would indicate that the sample locations were probably not close enough to the original Cominco sample sites. A five meter error in location can easily occur given the nature of the drawings, topography, and potential errors in the original plotting. The variability along intersections is such that relatively minor spatial errors can translate into rather large differences in intervals values. The average grade of the 2004 sampling of the interval of CZ-85-6 targeted for the metallurgical testwork is about 10% lower than that indicated by Cominco in their 1985 work. Insufficient data has been developed to determine if this difference is significant, but this is not considered likely given the variability in the drill hole data and the likely errors in spatial location of the trench (95 paired data point would be required to test significance given the variance and differences seen in this data).

17 Adjacent Properties

A review of the BC Mineral Titles Online on 18 April 2005 shows no mineral claims located within seven (7) kilometres of the Aley property.

18 Mineral Processing and Metallurgical Testing

18.1 Introduction

The metallurgical testing program on samples from the Aley carbonatite was initiated in November 2004 at Process Research Associates Ltd, Vancouver BC, under the direction of Michel Robert. The program is still in progress as of this date.

The program was based on applying and testing the same mineral processing schema used commercially at Niobec since 1976. This system consists of a sequence of eighteen unit processes. This metallurgical process for Niobec was developed through a major test program and is considerably more complex than processes applied to sulphide minerals. The surface chemistry controlling niobium flotation processes are themselves highly influenced by the rheological and general chemical conditions of the pulp media. Metallurgical investigation thus needs to explore more operating criteria and more elaborate protocol than for sulphide minerals as in many instances chains of processes have to be tested after having investigated individually each unit process.

The composite used for the scoping test program was prepared from eight fresh samples collected in October 2004 by trenching from the Central Zone that had been previously outlined by Cominco.

At this writing, the laboratory unit processes investigated are desliming, magnetic separation, carbonate rougher flotation, niobium rougher and scavenger flotation, and the first and second niobium cleaner flotation stages. Sufficient work has been performed to establish a bench mark for these unit processes and establish operating criteria. The results obtained to date compare favorably to the operating results at Niobec.

The process steps still under investigation at this writing are; the third to sixth cleaner flotation stages for niobium, flotation of pyrite from the niobium concentrate, leaching of the niobium concentrate and two stage cleaning of the carbonate concentrate. The niobium cleaning cannot be properly investigated until a sufficiently large sample of second stage cleaner concentrate is produced, thus final recovery and grade cannot be determined at this time.

The Niobec flowsheet is reproduced below in figure 18.1, as prepared by G.Goyette, presently mill superintendent at Niobec. A full process description by Niobec personnel is given in Appendix 2. Table 18.1 gives the main operating criteria of the Niobec concentrator, compared to the bench mark test (F39) carried out by Process Research Associates Ltd on the Central Zone Composite from Aley.

Conditions	**NIOBEC**	**ALEY**
Head Grade (%Nb_2O_5)	0.62	0.74
Grind Size (P80)	130 microns	110 microns
Weight of slimes rejected, (% of feed)	18%	13%
Nb_2O_5 lost with slimes	15%	10%
d50 of slimes	8 microns	9 microns
Recovery of 20 microns material	100%	100%
Weight of carbonate rejected, (% of feed)	28%	36%
Grade of Nb_2O_5 in carbonate rejected	0.10%	0.22%
Nb_2O_5 lost with carbonate	5%	11%
Weight of Magnetite separated, (% of feed)	3%	6%
Grade of Nb_2O_5 in magnetite separated	0.2%	0.2%
Nb_2O_5 lost with magnetite	>2%	>2%
Niobium in feed to flotation (% of Nb in feed)	78% - 80%	77%
Stage Recovery of Niobium (%)	80% - 85%	90%
Rougher Tails (% Nb_2O_5)	0.18% - 0.25%	0.15%
Rougher concentrate grade (% Nb_2O_5)	~ 2%	6%
Overall Recovery to Ro. Concentrate (%)	65% - 70%	70%
First Cleaner Stage Recovery (%)	95%	95%
Concentration Ratio	1.9	1.4
Concentrate grade (% Nb_2O_5)	~ 4%	8.5%
Overall Recovery to 1st Cl. Concentrate (%)	64%	66.5%
Second Cleaner Stage Recovery (%)	95%	97%
Concentration Ratio	1.9	1.2
Concentrate grade (% Nb_2O_5)	~8%	10%
Overall Recovery to 2nd Concentrate (%)	60% - 62%	64.5%

Table 18.1 Results of Niobec (2004-5) and Aley Benchmark Test F39

The benchmark test is open cycle, without any recirculation of middlings, while the Niobec results include recirculation. Hence the benchmark test results should be regarded as minima and assume no recovery from the various recycle loops, such as cleaner tails and carbonate cleaners products. If used for estimation purpose at this time they should be regarded as very conservative.

Figure 18.1 Simplified Niobec Flowsheet

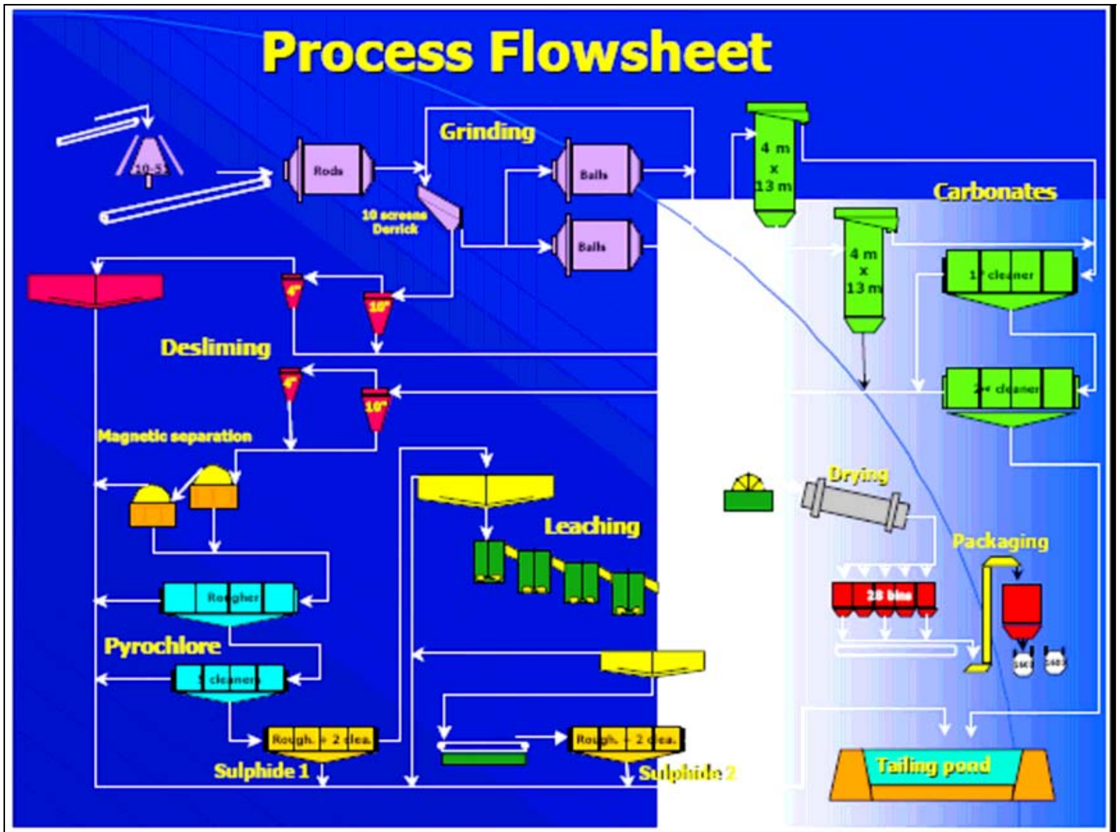


Figure 1: Simplified flowsheet of Niobec process.

18.2 Summary of Testing Program

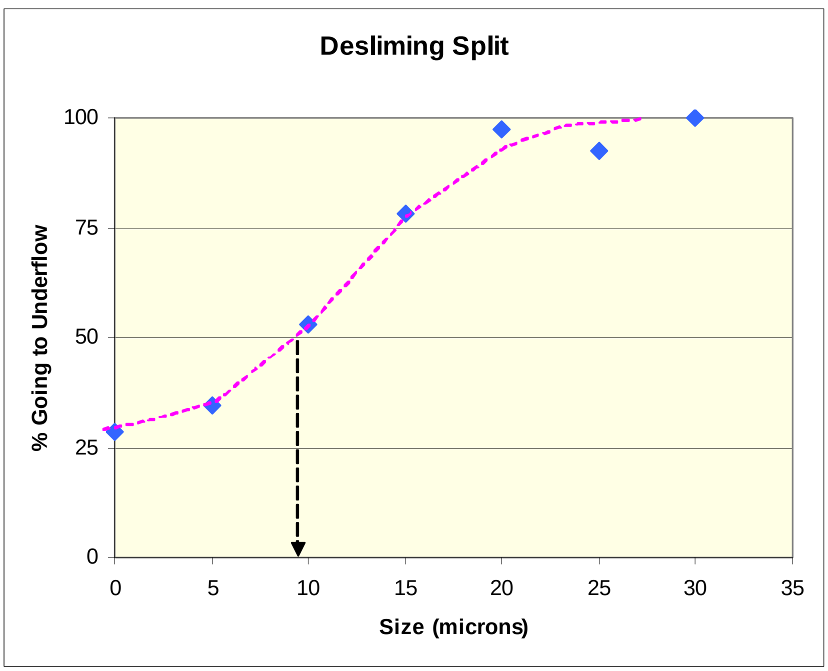
Grinding.

Grinding tests were limited to standard lab mill calibration. Information obtained from previous mineralogical examination had indicated that the material would be fully liberated at a grind size of 80% passing 110 microns; hence no additional testing for liberation was performed at this time. After having performed 39 flotation tests on the composite from Central Zone, it is anticipated that the required primary grind size will be appreciably coarser, thus limiting the amount of slimes produced and thus diminishing the loss of niobium in slimes. The achievement of nearly 80% niobium recovery on some later tests (F35) in rougher flotation would indicate that the selected grind size produces good liberation.

Desliming

Desliming was carried out using a new laboratory unit. This unit was set up with a continuous pumping and cycloning system using a commercial one inch diameter cyclone fitted with a 1/8" apex. A series of tests were performed to commission the equipment and develop a testing protocol. Upon testing it was determined that operation at 22 psig operating pressure, a flow rate of 12 litres per minute and a slurry density of 6% solids were sufficient to deslime the material for adequate carbonate flotation. The pressure and slurry density are the same as what is used industrially at Niobec. The desliming was checked satisfactorily against results obtained by elutriation. Figure 2 shows the separation curve for the desliming. Operation of the desliming unit is very stable.

Figure 18.2 Operation of Desliming Hydrocyclone



A single test on the slimes removed was performed using a Falcon gravity concentrator. 40% of the niobium present in the slimes was recovered in a rougher concentrate assaying 0.82 % Nb_2O_5 in a single pass. Given how the concentrator operates, it is expected that the concentrate, representing 26% of the total weight of slimes, would mostly contain material coarser than 5 microns, thus which could be subjected to flotation. This will be investigated further in the future as it may contribute an additional one to three percent of the overall niobium recovery.

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Magnetic Separation

A standard Sala countercurrent low intensity separator was used to recover the magnetite. Initially two stages of separation, rougher and scavenger were tested. This was eventually dropped and most tests used only one stage of separation without any cleaning. The recovery of magnetite is essentially 100%, and the rougher concentrate produced assays +68% iron (by titration). Pure magnetite contains 72% iron. The iron recovered in this product represents 44% of the total iron content in the Central Zone composite (8.93% Fe). The weight of magnetite concentrate produced is equivalent to 5.7 tonnes per 100 tonnes milled.

No further test was performed to upgrade this unit process as the loss of niobium in this stream is low at about 1.5%. The procedure has been used for all flotation tests carried out on the Central Zone composite, with identical results.

Carbonate Flotation

Thirty nine (39) flotation tests were performed for carbonate flotation. At Niobec the flotation is carried out at natural pH (8.0 to 8.5). 350 g/t of purified fatty acid is used for collector and 300 g/t sodium silicate for water softening due to the brackish nature of the local water. The same procedure was initially tested for Aley, but low recovery of carbonate (5% to 15% by weight) resulted, with losses of about 10% of the niobium. The low weight of carbonate removed prevented the subsequent proper flotation of niobium.

Variation of the procedures resulted in a better separation using a higher pH (9.8 to 10.0) modified with sodium carbonate. Cleaning of the carbonate rougher concentrate also resulted in recovery of additional niobium in the carbonate cleaner tails to be eventually fed to the niobium circuit. This recirculation has been tried in only two tests so far and has shown no deleterious effect. Table 3 shows some typical results obtained in carbonate cleaning and indicating the possibility of reduced niobium losses, from 11% for the bench mark test to perhaps 5%. This part of the process still needs to be studied for further improvement.

Test 33			
	Weight %	Nb2O5 %	Nb Distribution %
Cleaner # 2 -Concentrate	**19.4**	**0.11**	**2.7**
Cleaner #2 - Tails	2.5	0.52	1.7
Cleaner #1 - Concentrate	21.9	0.15	4.3
Cleaner #1 - Tails	3.1	0.85	3.3
Rougher - Concentrate	25.0	0.24	7.7
Rougher - Tails	**56.3**	**1.12**	**82.0**
Total Tails	61.9	1.08	87.1
Difference			5.1

Test 34			
	Weight %	Nb2O5 %	Nb Distribution %
Cleaner # 2 -Concentrate	**34.6**	**0.18**	**8.9**
Cleaner #2 - Tails	2.5	0.85	3.0
Cleaner #1 - Concentrate	37.1	0.219288	11.6
Cleaner #1 - Tails	5.9	0.62	5.2
Rougher - Concentrate	43.0	0.27	16.6
Rougher - Tails	**38.3**	**1.34**	**72.2**
Total Tails	46.7	1.22	80.4
Difference			8.2

Test 38			
	Weight %	Nb2O5 %	Nb Distribution %
Cleaner # 2 -Concentrate	**28.3**	**0.13**	**5.2**
Cleaner #2 - Tails	1.6	0.63	1.5
Cleaner #1 - Concentrate	29.9	0.15	6.3
Cleaner #1 - Tails	3.5	0.63	3.1
Rougher - Concentrate	33.4	0.2	9.4
Rougher - Tails	**47.9**	**1.21**	**79.7**
Total Tails	53.0	1.15	84.2
Difference	5.14		4.5

Table 18.2 Typical results of Open Cycle Carbonate Cleaning

Niobium Rougher Flotation

Twenty seven (27) flotation tests out of a total of 39 tests were used to scope the niobium rougher flotation stage. For the other twelve tests niobium flotation was only used as a measure of the efficiency of carbonate removal.

The collector of choice for rougher flotation of niobium mineral is a mild tallow based diamine acetate. This reagent will precipitate and form a hydrophobic salt on the surface of most minerals with an electropositive surface charge; this includes most minerals containing oxygen, such as niobates, silicates, iron oxides, phosphates and carbonates. Selectivity is achieved by adjusting the pH as the surface charge of each mineral is dependent on pH. Selectivity can be further modified by adding ions which can change the nature of a given mineral on its surface and make it behave as a different compound.

In the case of calcium niobate minerals (pyrochlore series, including fersmite), the normal range for best collection is at a pH of 3 to 7. Unfortunately, this overlaps partly the optimum range of collection for most silicates and especially carbonates (pH +5.5). It is believed, although not fully understood yet, that the presence of fluoride ions or carboxylic ions in solutions may also promote the collection of calcium niobates by precipitating on surface thus forming the equivalent of fluorspar (CaF2) or calcium carboxylate, which will form strong bond with the hydrophobic diamine acetate. The same ions are also known to replace oxygen at surface sites of many silicates, thus changing their surface charge and reducing their floatability.

The Niobec operating procedure was used for Aley, with slight variations of the amount of collector used, and acid used to control the pH. At Niobec, a combination of 50% oxalic acid and 50% fluorosilicic acid is used. At St-Lawrence Columbium, straight hydrofluoric acid was used, while CBMM uses a combination of hydrofluoric acid and sodium fluoride. All use a pH range of 6.0 to 7.0 for rougher flotation. It is obvious that the quantity of acid necessary to adjust the pH will be proportional to the amount of highly soluble carbonates present in the feed to the carbonate flotation; hence the importance of removing as much calcite as possible in the previous flotation stage.

At Niobec, the typical recovery was 95% in the rougher concentrate, with a concentration ratio of 1.5 to 2, while the rougher tails assayed about 0.15% Nb_2O_5. These operating parameters led to a final recovery, after cleaning of about 62% of the niobium in the final concentrate (grading a minimum of 60% Nb_2O_5). Table 4 shows some typical results obtained for the niobium rougher stage on Aley Central Zone composite. The results compare favorably to Niobec, particularly the grade of concentrate obtained, which are mostly 2 to 4 times higher than at Niobec.

		F04	F38	F23	F28	F21	**F39**	F15	F32	F13	F35
Feed To Niobium Flotation (as % of niobium in mill feed)		85.6	83.9	64.1	63.8	85.7	78.2	77.3	78.6	78	82.9
Rougher Niobium Concentrate Recovery (%)		6.7	66.9	91.9	97.8	80.4	89.6	90.8	93.9	95.8	95.5
Net Recovery (% of mill feed)		**5.7**	**56.1**	**58.9**	**62.4**	**68.9**	**70.1**	**70.2**	**73.8**	**74.7**	**79.2**
Rougher Niobium Concentrate Grade (%Nb_2O_5)		1.05%	8.09%	6.98%	4.55%	1.94%	6.01%	4.52%	3.63%	1.95%	2.86%
Rougher Tails Grade (%Nb_2O_5)		0.86%	0.42%	0.06%	0.05%	0.28%	0.15%	0.15%	0.09%	0.12%	0.08%
Note:		bad carb. flotation	too much Na_2SiO_3	bad carb. flotation	bad carb. flotation		Bench Mark				
Conditions	pH	6.5	6.2 to 5.8	6.2	6.2 to 5.8	6.3	6.2 to 5.8	5.5	6.2 to 5.8	6.3	6.2 to 5.8
	Acid	Oxalic	H_2SiF_6	H_2SiF_6	H_2SiF_6	HF	H_2SiF_6	HF	H_2SiF_6	HF	H_2SiF_6
	NaF	No	No	Yes	No	Yes	No	Yes	No	Yes	No

Table 18.3 Typical Results for Niobium Rougher Flotation

Results are also shown for tests where the carbonate pre-flotation stage was not effective to illustrate its negative effect on niobium flotation. The bench mark test F39 is also shown for reference.

More detailed testing is continuing on rougher flotation in combination with fine adjustment of the carbonate flotation, with a view at maintaining a recovery of at least 80% in the rougher concentrate. This is likely the most influential stage of the overall metallurgical performance.

First and Second Niobium Cleaner Flotation

Investigation of the niobium cleaner flotation is still in the scoping stage. Fifteen (15) tests have been performed so far with cleaning, out of 39 tests.

The principle of cleaning is to modify the chemical conditions of the aqueous medium gradually to drop out the impurities initially floated with the niobium minerals in the rougher stage and still float the niobium minerals. The main parameter is the pH of the solution. As it is reduced, the first minerals to be dropped out are the carbonates which also are the main constituents by weight within the rougher concentrate. At gradually lower pH, the apatite, iron oxides, aluminosilicates and finally silicates will drop out. Pyrite will remain with the niobium minerals to the end. The second parameter of importance is the concentration of tallow diamine acetate in solution. This latter parameter is difficult to control in a batch laboratory cell as opposed to a continuous operation, since solution is constantly removed throughout the test.

At this writing, only the first two stages of cleaning have been studied. The behaviour of the constituents have also been measured for the further cleaning stages although no firm recoveries or final grades can be derived for the niobium minerals yet. This will be done once the testing proceeds with larger unit batches, due to the high concentration ratio involved.

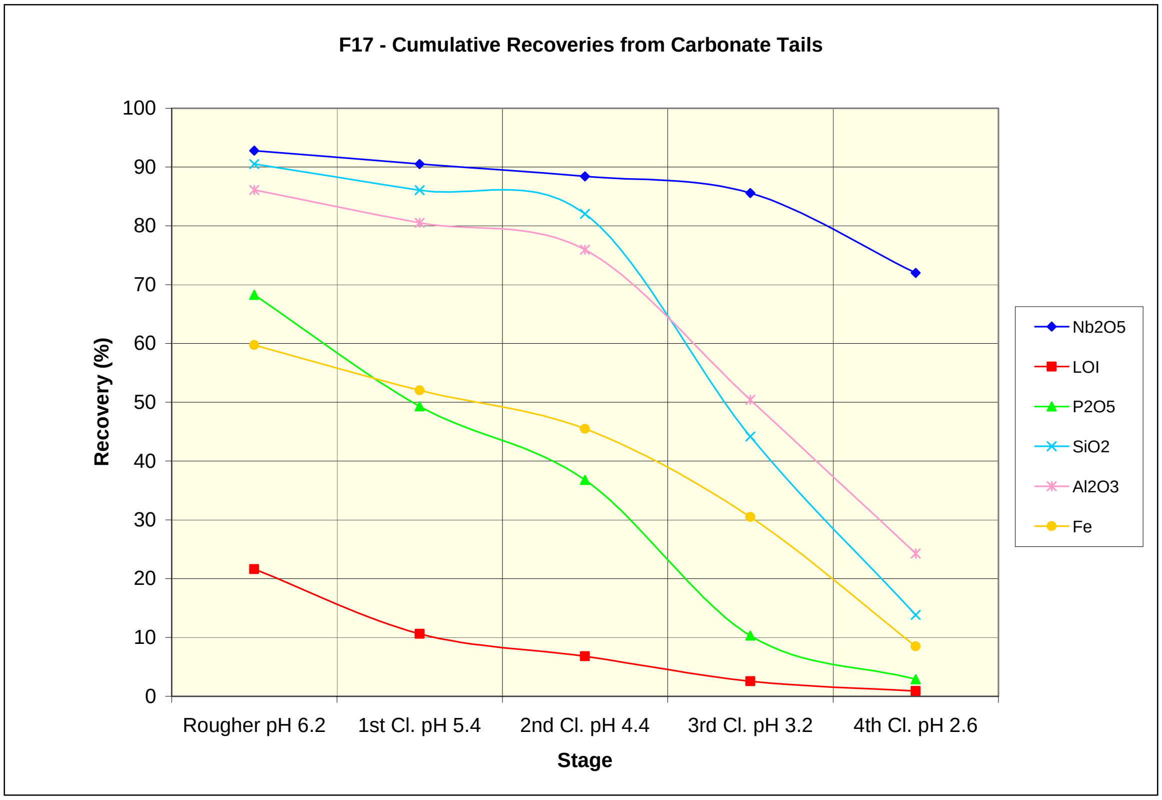
Table 5 summarizes the most significant results to date. The results for test F34 onward are similar to Niobec, although the stage recoveries are appreciably higher.

Figure 3 shows the behaviour of the mineral constituents through the cleaning stages. The carbonate minerals are the first to start dropping out in the first and second cleaners, while the iron compounds are the most difficult to depress.

	F17	F28	F29	F30	F32	F34	F35	F39
2nd Cleaner Stage								
Grade of concentrate (%Nb_2O_5)	5.97%	19.13%	12.28%	15.14%	12.85%	7.96%	8.68%	10.10%
Recovery to concentrate (% of mill feed)	67.6	33.2	34.4	37.6	58.3	61.7	74.1	64.5
Stage recovery (%)	**97.7**	77.1	89.1	81.1	**93.9**	**97.5**	**98.7**	**97.2**
Concentration Ratio	1.3	1.7	1.5	2.0	1.5	1.6	1.2	1.2
1st Cleaner Stage								
Grade of concentrate (%Nb_2O_5)	4.75%	11.28%	8.15%	7.68%	8.35%	5.11%	7.25%	8.44%
Recovery to concentrate (% of mill feed)	69.2	43.0	38.6	46.4	62.1	63.3	75.0	66.4
Stage recovery (%)	**97.6**	70.7	**97.4**	**94.7**	84.1	**99.1**	**99.0**	**94.6**
Concentration Ratio	1.5	1.7	1.3	1.3	2.3	1.9	1.4	1.4

Table 18.4 Summary of 1st and 2nd Niobium Cleaner Testing

Figure 18.3 Test F17 - Typical Distribution of Constituents in cleaning.



18.3 Conclusions

The minerals from the composite of the Aley Central Zone behave similarly to the ore of Niobec, using the same process.

In some aspects, it behaves better than Niobec, in particular the lower amount of niobium rejected with the slimes, and generally better stage recoveries in the niobium rougher, first and second cleaners.

The main niobium mineral is believed to be fersmite, understood to be an alteration by replacement of pyrochlore, substantial pyrochlore and columbite are also present. Fersmite has the same niobium content as pyrochlore (68% niobium pentoxide) as shown by X ray diffraction performed on products from testing. The fersmite appears to behave the same as pyrochlore in flotation. It is not known if the crystal structure of fersmite would also provide additional benefit by producing less slimes than pyrochlore (either harder or less crystal cracks). As seen so far from the test work it does produce less slimes.

It is worth noting that the iron minerals (pyrite and oxides after pyrite) in the niobium cleaner concentrates produced so far contribute about as much weight (30% in third cleaners) as the niobium minerals. These are normally removed by mild leaching of the niobium concentrate after flotation and reverse flotation of the remaining pyrite. These unit processes are rather simple in comparison to niobium minerals flotation.

The presence of a large amount of iron also masks the fact that the niobium cleaning may not need five stages of cleaning as at Niobec but may be complete after only three or four stages. This could improve recovery further.

An interesting discovery is that the columbite mineral present in small quantity in the composite tested is also floating with the fersmite/pyrochlore, according to the mineralogical investigation. At Niobec, the columbite is not quantitatively recovered, nor is the ferrous pyrochlore. This may be due to less or different alteration of the mineralization at Aley when compared to Niobec.

The current test program will include: completion of fine tuning of the combined carbonate cleaning with the niobium rougher flotation and in parallel, improved definition of the niobium cleaning stages.

The metallurgical investigations required for this type of material are significantly more extensive and intensive than for sulphide minerals. It is expected to require an additional 100 unit tests at the bench scale level to fully establish the operating criteria, including at least 10 locked cycle tests. Subsequently, a full continuous pilot plant run will be required to support a “bankable” feasibility study.

19 Mineral Resource and Mineral Reserve Estimates

Not applicable.

20 Other Relevant Data and Information

At the request of Aley Corp., E. Lyons reviewed the Cominco maps to assess the quality of the map base for future work (Lyons, 2005). The maps presently exist only in paper form. These were scanned and compiled in MapInfo on a common UTM base with correction data provided to Aley by McElhanney Land Surveys Ltd. The original maps were derived from orthophotos flown in 1983 for Cominco. Mylar base maps were made from the topographic survey. The topographic controls used are unknown at present.

For the Cominco maps, Lyons concluded that the precision for the horizontal direction was $\pm$ ~10 metres with no estimation on the vertical axis. The principal errors were mainly due to factors such as manual copying errors from original mylars and digitising from old paper copies.

In September, 2004, K.R. Pride took a series of GPS measurements on unique points with a handheld GPS unit. His coordinates were generally $\pm$ 12 metres from the points on the scanned images.

Lyons concluded that the original maps would be adequate to initiate new field work, but that new topography needs to be done to use for future studies.

21 Interpretation and Conclusions

Geology

The niobium occurs in pyrochlore, fersmite, and columbite that occur in the carbonatite core of the 4-km diametre Aley Carbonatite Complex. The niobium bearing minerals are concentrated in heavy mineral bands in magmatic carbonate and were formed from the primary processes of carbonatite magma formation. The magma was emplaced as a plastic crystal mush; the mineral bands are aligned subparallel with the flow patterns in the intrusive. Later tectonic compression that formed the Rocky Mountains probably modified the bands only slightly.

Exploration work by Cominco between 1982-86 delimited six niobium-bearing zones with economic grades of Nb_2O_5 over widths from 15 to 80 metres. The 20 diamond drill holes done in 1985-86 confirmed the grades and widths. The widespread location of the holes serves to outline two major zones, the Saddle-Saddle West and the Central Zones. The geology appears to support the potential for substantial volumes of Nb-bearing rock.

Definition of the zones and their orientation will be the priority of the proposed field work in 2006. It is recommended that the program include the following works. Trenching (4,000 m) with an excavator should cross the alignment of the mineral bands, Diamond drilling with HQ core should test the two major zones. The design should include some detailed drilling to test the potential for elongation of the bands and to test the dimensions of the mineralised zones described by Cominco. Road construction (~7 km) will be necessary to access the mineralized zones from recent Canfor logging roads. Rejects from the trench and drill samples can be utilized for metallurgical testing.

Metallurgy

Using similar processes of froth flotation, the minerals from the composite of the Aley Central Zone behave similarly to the ore of Niobec. In two aspects, the Aley composite behaves better than Niobec, firstly, in the lower amount of niobium rejected with the slimes, and secondly, the stage recoveries in the niobium rougher, first and second cleaners are better than Niobec.

The main niobium mineral is fersmite, understood to be an alteration by replacement of pyrochlore, substantial pyrochlore and columbite are also present. Fersmite has the same niobium content as pyrochlore (68% niobium pentoxide) as shown by X ray diffraction performed on products from testing. The fersmite appears to behave the same as pyrochlore in flotation. It is not known if the crystal structure of fersmite would also provide additional benefit by producing less slimes than pyrochlore (either harder or less crystal cracks). As seen so far from the test work it does produce less slimes.

The iron minerals (pyrite and oxides after pyrite) in the niobium cleaner concentrates contribute about as much weight (30% in third cleaners) as the niobium minerals. These are normally removed by mild leaching of the niobium concentrate after flotation and reverse flotation of the remaining pyrite. These unit processes are rather simple in comparison to the flotation of niobium minerals and will need to be demonstrated when sufficient concentrate is produced.

The presence of a large amount of iron masks the fact that the niobium cleaning for Aley may not require five stages of cleaning as at Niobec. This may be complete after only three or four stages and could result in improved recovery.

An interesting discovery from the mineralogical investigation is that the columbite, which is present in small quantities in the composite tested, is also floating with the fersmite/pyrochlore. At Niobec, the columbite is not quantitatively recovered, nor is the ferrous pyrochlore. This may be due to less or different alteration of the niobium minerals at Aley as compared to Niobec.

The current test program will include: completion of fine tuning of the combined carbonate cleaning with the niobium rougher flotation and in parallel, improved definition of the niobium cleaning stages.

The metallurgical results obtained to date compare favorably to the operating results at Niobec. Recoveries on the order of 65% are considered likely to be achieved on a commercial scale.

22 Summary and Recommendations

It is planned that the development work for the Aley Project be carried out in a number of phases, the first two of which are as follows.

Phase 1 Additional Metallurgy and Resource Definition

The next phase should consist of additional metallurgical testing and the summer trenching and drilling exploration and definition program.

The metallurgical testwork carried out on the Central Zone composite sample has so far shown good results, i.e. similar or better than Niobec. It is believed that Aley should be able to achieve niobium recoveries and grades similar to Niobec. Substantial further work is required to definitively demonstrate commercial recoveries and grades. The work required includes; production of sufficient 2nd Cleaner concentrate to complete the remaining cleaner stage testwork, test leaching and pyrite removal and to consequently demonstrate final recovery and grade of the niobium concentrate. Confirmatory testwork is also required on the Saddle Zone to ascertain if this material behaves in the same manner as the Central Zone.

The metallurgical investigations required for this type of material are significantly more extensive and intensive than for sulphide minerals. It is expected to require an additional 100 unit tests at the bench scale level to fully establish the operating criteria, including at least 10 locked cycle tests.

The 2006 summer program should include trenching and drilling, exploration, environmental field studies, and limited geotechnical work. Trenching would be carried out using a backhoe to define the surface extent and geometry of intersections already defined by Cominco in their work in the 1980's. Following the initial trenching, drilling would be carried out to define the geometry at depth of these surface expressions and define the resource. Trenching would continue in parallel as required.

Data analysis would include; preparation of a geological block model, geostatistical analysis, pit slope stability analysis, and preliminary mine modeling. This Phase 1 work should be sufficient to support a Pre-Feasibility Level Study.

Additional studies and work required for a Pre-Feasibility Study would include: geotechnical assessments for waste dumps, tailings dam, and mill facilities. Also required is an access study, including costs of barge and truck transport, upgrading of the access road to site, and product transport to market. In addition a power supply study for a powerline from Hudson's Hope to the Aley site.

Marketing studies and discussions with potential offtakers and traders are needed to establish project economics.

Phase 2 Feasibility Study

Assuming that the Phase 1 work demonstrated similar tonnages and grades as have been indicated by Cominco, the second phase in the development of the Aley Project would include; additional trenching and drilling, exploration, geotechnical work, environmental studies, marketing studies, metallurgical testwork, mini-pilot plant testwork, and various engineering studies. This would be a major program to be carried out in 2007 leading to a Feasibility Study in early 2008.

The 2007 summer program should include additional trenching and drilling, to fully define sufficient resources to allow definition of an economic mineable reserve under the requirements of MI 43-101. This 2007 program would also include additional exploration, environmental field studies, and geotechnical work. Trenching would again be carried out using a backhoe to define the surface extent and geometry of intersections. Following the trenching, drilling would be carried out to define the geometry at depth of these surface expressions and define the resource. Trenching would continue in parallel as required. Sufficient sample would be collected to carry out a mini-pilot plant test program to support feasibility level design.

Studies would be performed to define waste dump location and tailing dam location and construction materials. This data would be used to finalize the geological block model, define the resource and develop a feasibility level mine model.

Metallurgical testwork would be consist of bench scale testwork to finalize the flowsheet and demonstrate recovery on the Saddle Zone as well as the Central Zone and such other areas as may be defined. Locked cycle testing would be carried out to determine the final operation parameters and expected metallurgical performance. This data would be used to design and set up the mini-pilot plant to establish the final design criteria and metallurgical performance. This continuous pilot plant run will be required to support a "bankable" feasibility study.

Other studies and work required for the Feasibility Study would include: final geotechnical assessments for waste dumps, tailings dam, and mill facilities. Definition of roads and other site infrastructure requirements such as; water supply, waste management, power distribution, communications, etc. Definition of support facilities such as Mine Shop and Warehouse, Administration, Assay Laboratory, and Fuel Storage and Handling. This would also include final definition of site access and transport using barge and truck transport, cost for upgrading of the access road to site, and product transport to market and design for the powerline from Hudson's Hope to the Aley site. The marketing concepts should also be finalized and agreements put in place with offtakers and traders to support the evaluation of project economics.

The final development plan, budget, and associated schedule will be determined by the available funding and the actual progress of the work.

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24 Statement of Costs Expended

Vendor / Contractor	Date	Account	Amount		Eligible Expenses	
Allnorth Consultants Ltd					**2004**	**2005**
	15/06/2005	6215 · Exploration field services				6,500.00
	11/07/2005	6215 · Exploration field services	2,290.00			2,290.00
	31/08/2005	6215 · Exploration field services	16,881.00			16,881.00
Total Allnorth Consultants Ltd			25,671.00			
Canadian Tire						
	01/10/2004	6275 · Supplies	270.37			
	01/10/2004	6275 · Supplies	21.36			
	01/10/2004	6275 · Supplies	292.60			
Total Canadian Tire			584.33		584.33	
Canfor						
	05/10/2004	6280 · Expl. Travel	2,848.00			
	19/11/2004	6280 · Expl. Travel	890.40			
Total Canfor			3,738.40		3,738.40	
Carmel Motor Inn						
	01/10/2004	6280 · Expl. Travel	232.91			
Total Carmel Motor Inn			232.91		232.91	
Javorsky Prospecting						
	06/10/2004	6215 · Exploration field services	4,050.00			
	06/10/2004	6280 · Expl. Travel	973.50			
Total Javorsky Prospecting			5,023.50		5,023.50	
Lions Geological Consulting Inc						
	31/07/2004	6225 · Geological consulting	1,500.00			
	31/07/2004	6280 · Expl. Travel	562.27			
	31/08/2004	6225 · Geological consulting	500.00			
	30/09/2004	6225 · Geological consulting	4,500.00			
	30/09/2004	6280 · Expl. Travel	1,349.46			
Total Lions Geological Consulting Inc						
McElhanney						
	26/07/2004	6225 · Geological consulting	644.00			
	08/09/2004	6225 · Geological consulting	1,125.00			

Total McElhanney			1,769.00		1,769.00	
Micron Geological						
	16/04/2005	6250 · Metallugical testing	603.40			
Total Micron Geological			603.40			603.40
Mountain Equipment Coop						
	23/09/2004	6275 · Supplies	439.78			
Total Mountain Equipment Coop			439.78		439.78	
Nimbus Management Ltd						
	01/10/2004	6225 · Geological consulting	2,700.00		2,700.00	
	01/10/2004	6280 · Expl. Travel	680.92		680.92	
	19/11/2004	6225 · Geological consulting	1,000.00		1,000.00	
	19/11/2004	6280 · Expl. Travel	620.75		620.75	
	05/12/2004	6225 · Geological consulting	3,200.00		3,200.00	
	05/12/2004	6280 · Expl. Travel	659.17		659.17	
	21/12/2004	6225 · Geological consulting	300.00		300.00	
	21/12/2004	6280 · Expl. Travel	52.00			52.00
	31/01/2005	6225 · Geological consulting	2,400.00			2,400.00
	31/01/2005	6280 · Expl. Travel	103.70			103.70
	15/03/2005	6225 · Geological consulting	900.00			900.00
	15/04/2005	6225 · Geological consulting	700.00			700.00
	15/04/2005	6225 · Geological consulting	42.96			42.96
	15/05/2005	6225 · Geological consulting	1,100.00			1,100.00
	01/07/2005	6225 · Geological consulting	650.00			650.00
Total Nimbus Management Ltd			15,109.50			
Orica Canada						
	07/10/2004	6275 · Supplies	1,098.68		1,098.68	
Total Orica Canada			1,098.68			
Ospika Camp						
	26/09/2004	6275 · Supplies	15.00		15.00	
Total Ospika Camp			15.00			
Pemberton Insurance						
	01/09/2004	6192 · COL Insurance	2,600.00		2,600.00	
Total Pemberton Insurance			2,600.00			
Prime Truck Rentals						
	01/10/2004	6280 · Expl. Travel	1,090.10		1,090.10	
Total Prime Truck Rentals			1,090.10			
Process Research Associates Ltd						
	30/09/2004	6250 · Metallugical testing	4,517.28		4,517.28	
	21/02/2005	6250 · Metallugical testing	31,931.96			31,931.96
	23/03/2005	6250 · Metallugical testing	27,866.25			27,866.25
Total Process Research Associates Ltd						

Tekhne Research Inc						
	29/01/2005	6225 · Geological consulting	6,900.00			6,900.00
	29/01/2005	6225 · Geological consulting	595.52			595.52
	02/05/2005	6225 · Geological consulting	8,115.00			8,115.00
	24/06/2005	6215 · Exploration field services	8,425.00			8,425.00
	24/06/2005	6200 · Exploration Expense	694.33			694.33
	28/06/2005	6215 · Exploration field services	30.00			30.00
Total Tekhne Research Inc			24,759.85			
Williston Lake Air Services						
	01/10/2004	6280 · Expl. Travel	692.04		692.04	
Total Williston Lake Air Services			692.04			
Yellowhead Helicopters Ltd						
	30/09/2004	6228 · Helicopter services	15,148.10		15,148.10	
	20/06/2005	6228 · Helicopter services	2,590.98			2,590.98
	31/08/2005	6228 · Helicopter services	20,493.50			20,493.50
Total Yellowhead Helicopters Ltd						
TOTAL			**194,387.29**		**54,521.69**	**139,865.60**

The eligible costs incurred in the period from October 5 2004 to October 4, 2005 are a total of $139,865.60.

26 Illustrations

Fig. 1 Location of Property

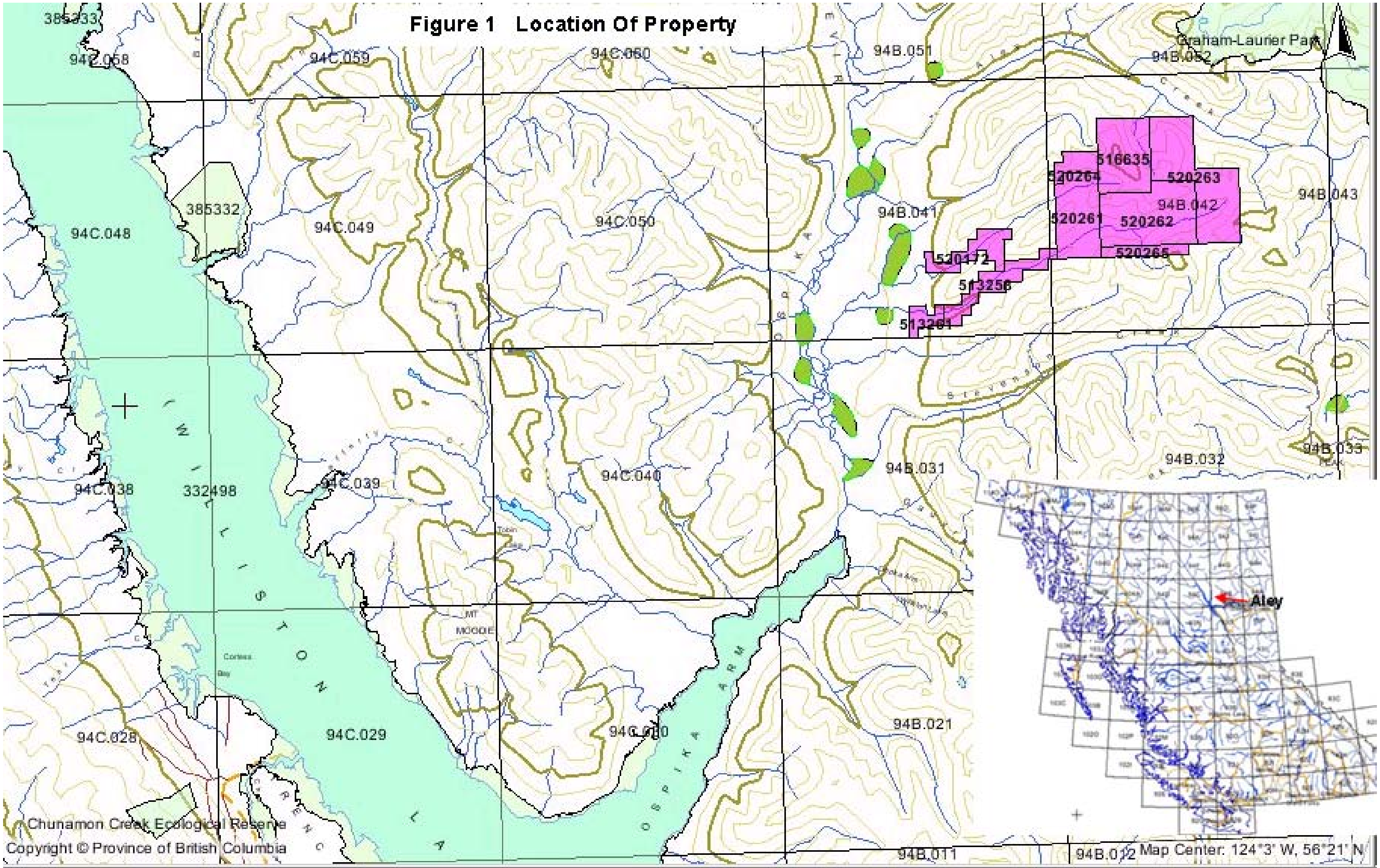


Figure 1 Location Of Property
Graham-Laurier Park
94C.058
94C.059
94C.060
94B.051
94B.052
516635
520264
520263
94B.042
94B.043
385332
94C.048
94C.049
94C.050
94B.041
520261
520262
520265
520172
513256
513261
94C.038
332498
94C.039
94C.040
94B.031
94B.032
94B.033
Aley
MT MOODIE
94C.028
94C.029
94C.030
94B.021
OSPIKA ARM
Chunamon Creek Ecological Reserve
Copyright © Province of British Columbia
94B.011
94B.012
Map Center: 124°3' W, 56°21' N

Figure 2 Location of Aley Claims

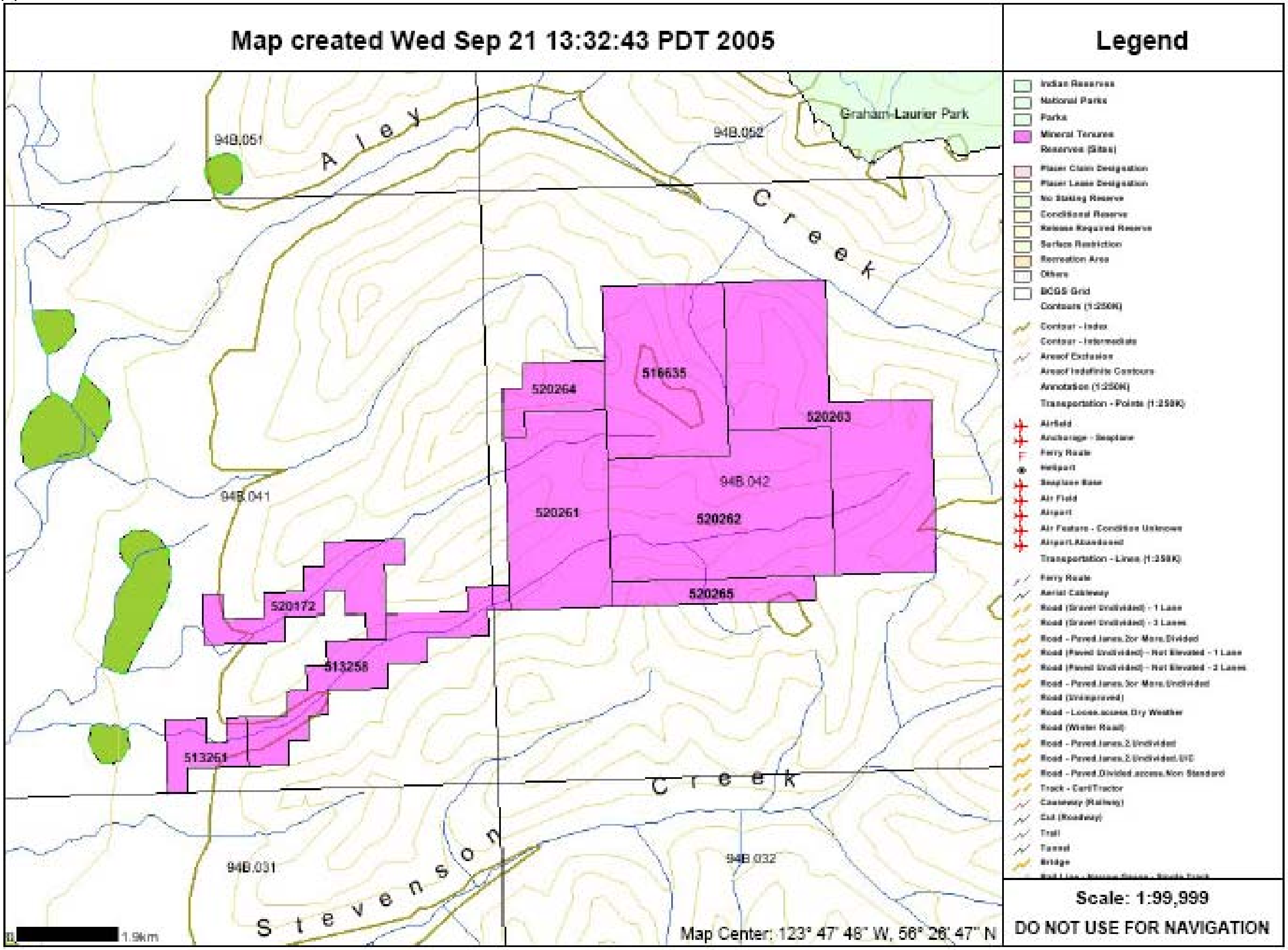
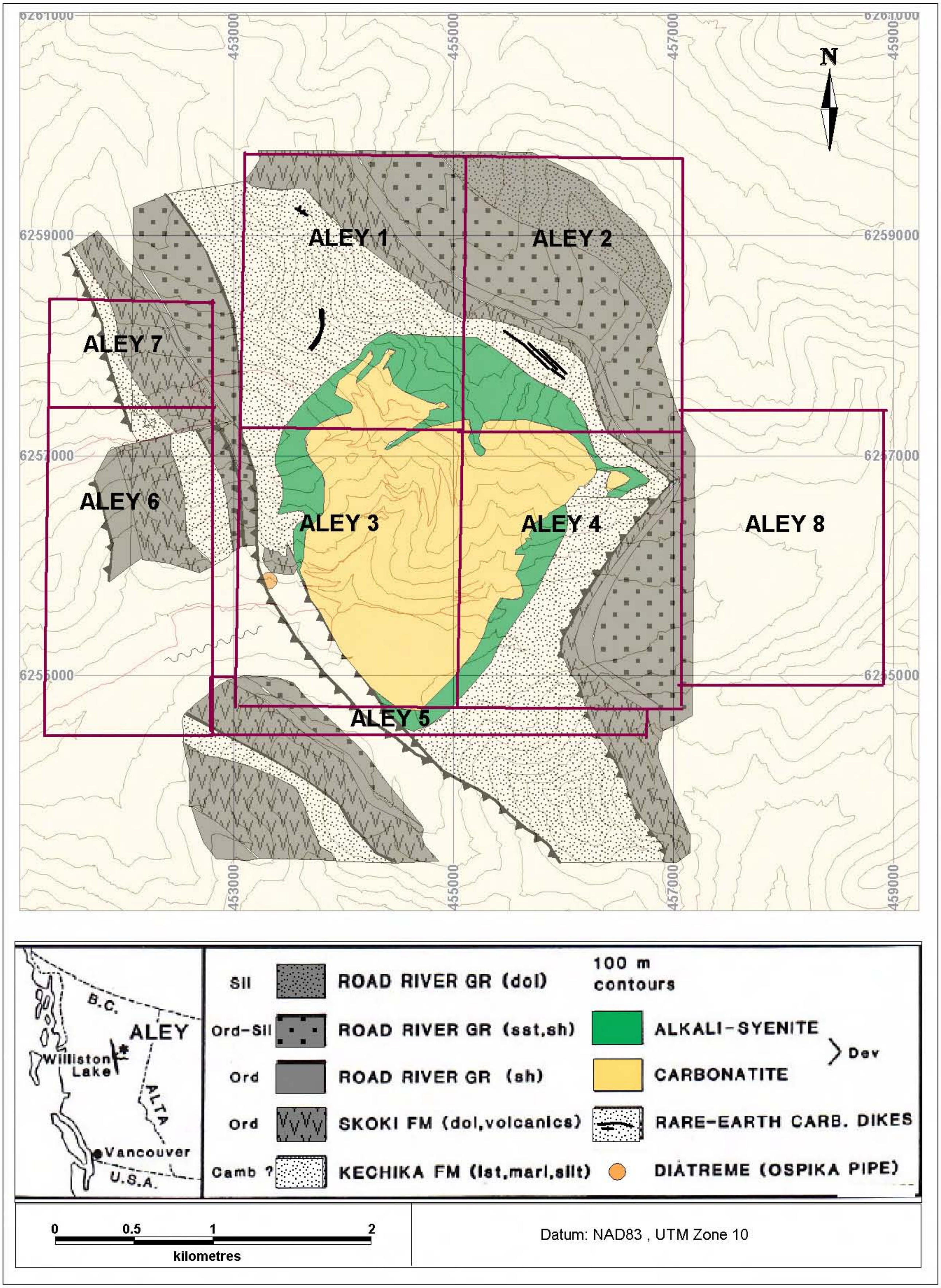


Fig. 3 Property Geology



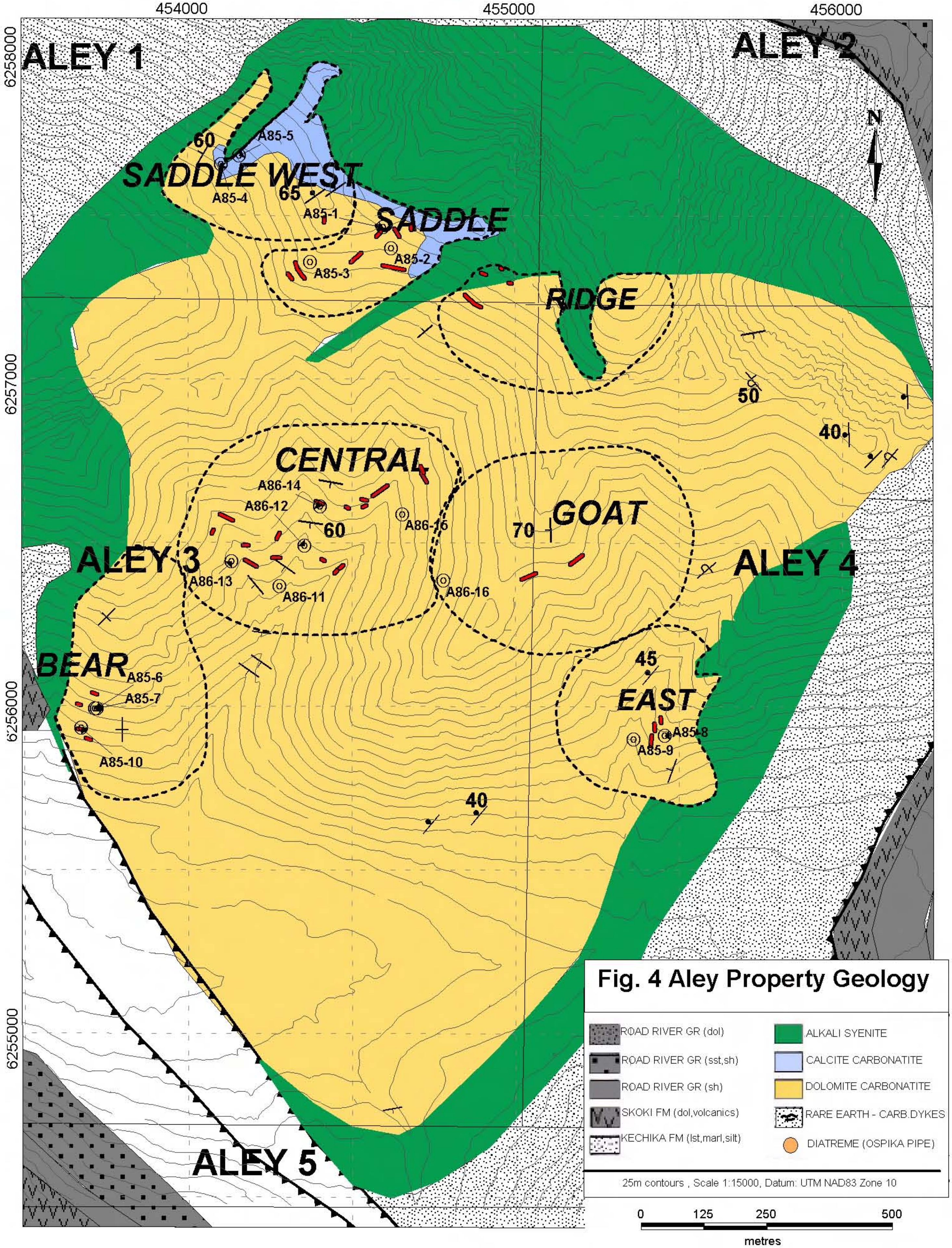


Fig. 4 Aley Property Geology

27 Appendices

Appendix 1 Certificates of the Authors

Jenna Hardy, P. Geo, M.Sc., M.B.A.

535 East Tenth St
North Vancouver, BC, V7L 2E7

(604) 986-8578
email: jennahardy@shaw.ca

CERTIFICATE of AUTHOR

I, Jenna L. Hardy, P.Geo. hereby certify that:

1. I currently am a Principal of Nimbus Management Ltd, with an office at 535 East Tenth St, North Vancouver, BC, V7L2E7.

2. I graduated with a Bachelor of Science degree in Geology from the University of Toronto in 1974 and a Master of Science Degree in Exploration Geology from the University of Toronto in 1978.

3. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia (#19443) and the Canadian Institute of Mining & Metallurgy.

4. I have worked as an exploration geologist since graduation from university, and specifically in the environmental and regulatory area since 1995.

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 a professional association as defined in NI 43-101 and past relevant work experience, I fulfil the requirements to be a "qualified person" for the purposes of NI 43-101.

6. I visited the Aley property September 26-29, 2005 to carry out a geological and environmental field review. During this time, samples were collected under the supervision of myself, Ken Pride, P.Geo and Michel Robert, Eng. Subsequent to that I reviewed past geological and environmental data available in historic Cominco files.

7. I have not had prior involvement with the property that is subject to the Technical Report since becoming a Qualified Person for the project

8. 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.

9. I am independent of the issuer applying all the tests in section 1.5 of the National Instrument 43-101.

10. 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.

11. 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 this 28th of April 2005

S "Jenna Hardy"

Jenna Hardy, P. Geo.

CERTIFICATE OF AUTHOR

Michel Robert
Vice-President
Aley Corporation
Th#8 – 1182 Quebec Street
Vancouver, BC
Tel: (604) 633-9484
Email address of mrobert9@telus.net

I, Michel Robert, am a member of the Order of Engineers of Quebec. I graduated from the École Polytechnique, Université de Montréal, with a Bachelor of Arts, a Bachelor of Applied Sciences and Engineering (Summa cum Laude) and a Master of Applied Sciences and Engineering (Summa cum Laude) degree in mining engineering in 1970 and I have practiced my profession continuously since 1969.

Since 1969 I have been involved in: mining engineering and metallurgical engineering for niobium, base metals, precious metals and industrial minerals in Canada, South America, Africa, United States, Mexico and Asia.

I have over 40 years of experience in various aspects of engineering and operations including management of numerous mineral processing facilities, research and development, design and construction. As a result of my experience and qualification, I am a Qualified Person as defined in NP 43-101.

I am not aware of any material fact or material change with respect to the subject matter of this technical report, which is not reflected in this report, the omission to disclose which would make this report misleading.

I am not independent from Aley Corporation in accordance with the application of Section 1.5 of National Instrument 43-101.

I have read National Instrument 43-101, Form 43-101FI and this report has been prepared in compliance with NI 43-101 and Form 43-101FI.

Dated at Vancouver, British Columbia, April 25, 2005.

Michel Robert

Qualified Person

EDWARD LYONS PGeo.

P.O Box 8520
Victoria, BC V8W 3S1

Tel (250) 479-8030
Fax (250) 744-5046
email: edlyons@telus.net

CERTIFICATE of AUTHOR

I, Edward Lyons, PGeo. do hereby certify that:

1. I am currently employed as a Geological Consultant and Director of Tekhne Research Inc. with the office at 1067 Portage Road, Victoria, BC V8Z 1L1.

2. I graduated with a Bachelor of Science degree in Geology from the University of Missouri at Rolla, Missouri (USA) in 1970.

3. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia (#21126) and Ordre des géologues du Québec (# 701).

4. I have worked as a geologist for a total of 35 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 a professional association as defined in NI 43-101 and past relevant work experience, I fulfil the requirements to be a "qualified person" for the purposes of NI 43-101.

6. I am responsible for the preparation of sections 4 through 11, 13, 17, 20, 23 and 25 of the report titled "43-101 Technical Report: Metallurgical Testing & Evaluation on the Aley Carbonatite Property, Ospika River, British Columbia (Omineca Mining District) (NTS 94B/5)" dated 27 April 2005 (the "Technical Report") relating to the Aley property.

7. I have not had prior involvement with the property that is subject to the Technical Report since becoming the Qualified Person for the project

8. 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.

9. I am independent of the issuer applying all the tests in section 1.5 of the National Instrument 43-101.

10. 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.

11. 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 this 27th of April 2005

Edward Lyons PGeo

Bryan T. Nethery, P.Eng., B.A.Sc., , M.B.A.

802 – 1315 Cardero St.
Vancouver, BC, V6G 2J2

(604) 731 7570
email: bnethery@dialectic.com

CERTIFICATE of AUTHOR

I, Bryan Nethery, hereby certify that:

1. I currently am a Principal of Dialectic Consulting Inc, with an office at 802 – 1315 Cardero St., Vancouver, BC, V6G 2J2

2. I graduated with a Bachelor of Applied Science degree in Metallurgical Engineering from the University of British Columbia in 1971.

3. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia (#12,277) and the Canadian Institute of Mining & Metallurgy.

4. I have worked as a metallurgical engineer, mainly in the mining industry, for over 30 years, and have been responsible for the production of pre-feasibility studies, feasibility studies, and the design and construction of numerous mining projects.

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 a professional association as defined in NI 43-101 and past relevant work experience, I fulfil the requirements to be a "qualified person" for the purposes of NI 43-101.

6. I visited the Aley property September 26-29, 2004 to carry out a field review of the Aley site and to direct the work. During this time, samples were collected under the supervision of myself, Jenna Hardy P. Geo., Ken Pride, P.Geo and Michel Robert, Eng.

7. I have had prior involvement with the property that is the subject of this Technical Report.

8. 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.

9. I am not independent of the Aley Corporation applying all the tests in section 1.5 of the National Instrument 43-101.

10. 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.

11. 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 this 30th of September2005

Bryan T Nethery, P. Eng

Appendix 2 Assay Certificates

CORE M

RAPPORT D'ANALYSE version 1

Votre référence ...: 4634
Date de réception : 2004-11-17
Certificat émis le .: 2004-11-23

100316 Process Research Associates Ltd.

Michel Robert

Numéro COREM :	9506- 1	9506- 2	9506- 3	9506- 4	9506- 5	9506- 6
Nature :	SOLIDES	SOLIDES	SOLIDES	SOLIDES	SOLIDES	SOLIDES
Désignation :	Aley 01 Head	Aley 02 Head	Aley 03 Head	Aley 04 Head	Aley 05 Head	Aley 06 Head
A21- 1 SiO2	2.66 %	3.28 % ✓	4.53 %	3.42 %	3.13 %	4.52 %
A21- 1 Al2O3	0.43 %	0.23 %	0.24 %	0.10 %	0.080 %	0.45 %
A21- 1 Fe2O3	4.32 %	5.22 %	4.30 %	4.57 %	4.57 %	6.79 %
A21- 1 MgO	15.3 %	15.3 %	15.1 %	13.6 %	4.95 %	14.7 %
A21- 1 CaO	32.4 %	31.9 %	31.8 %	33.8 %	44.5 %	30.5 %
A21- 1 Na2O	0.070 %	< 0.030 %	< 0.030 %	0.040 %	0.23 %	0.070 %
A21- 1 K2O	0.09 %	0.04 %	0.03 %	0.03 %	0.10 %	0.25 %
A21- 1 TiO2	0.09 %	0.18 %	0.17 %	0.14 %	0.12 %	0.18 %
A21- 1 MnO	0.37 %	0.29 %	0.28 %	0.40 %	0.42 %	0.42 %
A21- 1 P2O5	3.51 %	3.58 %	3.81 %	3.22 %	3.42 %	3.70 %
A21- 1 Nb2O5	0.66 %	0.71 %	0.74 %	0.74 %	0.75 %	0.64 %
A21- 1 ZrO2	0.05 %	0.03 %	< 0.03 %	0.04 %	0.04 %	0.04 %
A21- 1 Ta2O5	< 0.01 %	< 0.01 %	0.01 %	< 0.01 %	< 0.01 %	0.01 %
A21- 1 BaO	< 0.060 %	< 0.060 %	< 0.060 %	< 0.060 %	< 0.060 %	< 0.060 %
A21- 1 Y2O3	< 0.01 %	0.01 %	0.01 %	0.01 %	0.01 %	0.01 %
A21- 1 SrO	0.15 %	< 0.080 %	< 0.080 %	0.18 %	0.62 %	0.15 %
A21- 1 ThO2	0.03 %	0.04 %	0.05 %	0.03 %	0.02 %	0.04 %
A21- 1 Ce2O3	0.10 %	0.10 %	0.10 %	0.11 %	0.11 %	0.11 %
A21- 1 La2O3	0.05 %	0.04 %	0.05 %	0.05 %	0.05 %	0.05 %
A21- 1 Nd2O3	0.04 %	0.03 %	0.04 %	0.04 %	0.04 %	0.04 %
A21- 1 PAF	39.2 %	39.1 %	38.5 %	39.4 %	35.7 %	37.2 %

Numéro COREM :	9506- 7	9506- 8	9506- 9	9506- 10	9506- 11	9506- 12
Nature :	SOLIDES	SOLIDES	SOLIDES	SOLIDES	SOLIDES	SOLIDES
Désignation :	Aley 07 Head	Aley 08 Head	Aley 09 Head	Aley 10 Head	Aley 11 Head	Aley 12 Head
A21- 1 SiO2	2.66 %	2.58 %	2.03 %	1.91 %	4.79 %	2.36 %
A21- 1 Al2O3	0.12 %	0.13 %	0.34 %	0.24 %	0.46 %	0.40 %
A21- 1 Fe2O3	4.84 %	4.70 %	10.2 %	7.10 %	5.99 %	5.07 %
A21- 1 MgO	9.90 %	13.5 %	12.6 %	14.7 %	13.6 %	15.5 %

COREM
1180, rue de la Minéralogie, Québec (Québec) Canada G1N 1X7
Téléphone : (418) 527-8211 Télécopieur : (418) 527-4818

COREM

RAPPORT D'ANALYSE version 1

Votre référence ...: 4634
Date de réception : 2004-11-17
Certificat émis le .: 2004-11-23

100316 Process Research Associates Ltd.

Michel Robert

Numéro COREM :	9506- 7	9506- 8	9506- 9	9506- 10	9506- 11	9506- 12
Nature :	SOLIDES	SOLIDES	SOLIDES	SOLIDES	SOLIDES	SOLIDES
Désignation :	Aley 07 Head	Aley 08 Head	Aley 09 Head	Aley 10 Head	Aley 11 Head	Aley 12 Head
A21- 1 CaO	38.4 %	34.4 %	32.5 %	31.8 %	32.0 %	31.7 %
A21- 1 Na2O	0.10 %	0.050 %	0.070 %	0.060 %	0.060 %	0.060 %
A21- 1 K2O	0.08 %	0.03 %	0.07 %	0.06 %	0.13 %	0.11 %
A21- 1 TiO2	0.15 %	0.12 %	0.15 %	0.14 %	0.29 %	0.14 %
A21- 1 MnO	0.35 %	0.47 %	0.44 %	0.48 %	0.38 %	0.40 %
A21- 1 P2O5	2.85 %	4.04 %	6.50 %	5.14 %	5.52 %	5.21 %
A21- 1 Nb2O5	0.59 %	0.70 %	0.65 %	0.49 %	0.64 %	0.56 %
A21- 1 ZrO2	0.04 %	0.04 %	0.08 %	0.05 %	0.06 %	0.06 %
A21- 1 Ta2O5	< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %
A21- 1 BaO	< 0.060 %	< 0.060 %	< 0.060 %	< 0.060 %	< 0.060 %	< 0.060 %
A21- 1 Y2O3	< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %
A21- 1 SrO	0.31 %	0.18 %	0.22 %	0.27 %	0.16 %	0.16 %
A21- 1 ThO2	0.03 %	0.04 %	0.03 %	0.03 %	0.03 %	0.03 %
A21- 1 Ce2O3	0.10 %	0.10 %	0.12 %	0.09 %	0.11 %	0.10 %
A21- 1 La2O3	0.05 %	0.05 %	0.06 %	0.05 %	0.06 %	0.06 %
A21- 1 Nd2O3	0.05 %	0.04 %	0.05 %	0.03 %	0.05 %	0.05 %
A21- 1 PAF	38.0 %	38.6 %	33.8 %	36.7 %	35.5 %	37.8 %

Numéro COREM :	9506- 13	9506- 14	9506- 15	9506- 16	9506- 17	9506- 18
Nature :	SOLIDES	SOLIDES	SOLIDES	SOLIDES	SOLIDES	SOLIDES
Désignation :	Aley 13 Head	Aley 14 Head	Aley 15 Head	Aley 16 Head	Aley 17 Head	Aley 18 Head
A21- 1 SiO2	1.08 %	2.79 %	3.29 %	1.89 %	0.91 %	1.02 %
A21- 1 Al2O3	0.19 %	0.42 %	0.50 %	0.37 %	0.17 %	0.25 %
A21- 1 Fe2O3	5.01 %	6.12 %	24.1 %	16.8 %	5.93 %	10.7 %
A21- 1 MgO	16.2 %	14.7 %	10.8 %	12.2 %	15.3 %	12.5 %
A21- 1 CaO	31.5 %	31.3 %	24.9 %	27.6 %	31.7 %	31.9 %
A21- 1 Na2O	< 0.030 %	0.040 %	0.12 %	0.040 %	< 0.030 %	0.050 %
A21- 1 K2O	0.03 %	0.09 %	0.16 %	0.15 %	0.03 %	0.07 %
A21- 1 TiO2	0.09 %	0.16 %	0.70 %	1.17 %	0.15 %	0.34 %

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Téléphone : (418) 527-8211 Télécopieur : (418) 527-4818

COREM

RAPPORT D'ANALYSE version 1

Votre référence ...: 4634
Date de réception : 2004-11-17
Certificat émis le .: 2004-11-23

100316 Process Research Associates Ltd.

Michel Robert

Numéro COREM :	9506- 13	9506- 14	9506- 15	9506- 16	9506- 17	9506- 18
Nature :	SOLIDES	SOLIDES	SOLIDES	SOLIDES	SOLIDES	SOLIDES
Désignation :	Aley 13 Head	Aley 14 Head	Aley 15 Head	Aley 16 Head	Aley 17 Head	Aley 18 Head
A21- 1 MnO	0.46 %	0.41 %	0.42 %	0.57 %	0.50 %	0.43 %
A21- 1 P2O5	3.54 %	5.41 %	3.56 %	3.70 %	4.28 %	6.79 %
A21- 1 Nb2O5	0.49 %	1.23 %	0.84 %	0.87 %	0.46 %	0.68 %
A21- 1 ZrO2	0.06 %	0.10 %	0.07 %	0.06 %	0.05 %	0.09 %
A21- 1 Ta2O5	< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %
A21- 1 BaO	< 0.060 %	< 0.060 %	< 0.060 %	< 0.060 %	< 0.060 %	< 0.060 %
A21- 1 Y2O3	< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %	0.02 %
A21- 1 SrO	0.21 %	0.20 %	0.11 %	0.20 %	0.20 %	0.20 %
A21- 1 ThO2	0.02 %	0.03 %	0.01 %	< 0.01 %	0.02 %	0.03 %
A21- 1 Ce2O3	0.08 %	0.13 %	0.10 %	0.08 %	0.08 %	0.10 %
A21- 1 La2O3	0.04 %	0.07 %	0.03 %	0.04 %	0.04 %	0.05 %
A21- 1 Nd2O3	0.03 %	0.05 %	< 0.03 %	0.04 %	0.04 %	0.04 %
A21- 1 PAF	39.7 %	35.5 %	29.3 %	32.8 %	38.9 %	33.6 %

Numéro COREM :	9506- 19	9506- 20	9506- 21	9506- 22	9506- 23	9506- 24
Nature :	SOLIDES	SOLIDES	SOLIDES	SOLIDES	SOLIDES	SOLIDES
Désignation :	Aley 19 Head	Aley 20 Head	Aley 21 Head	Aley 22 Head	Aley 23 Head	Aley 24 Head
A21- 1 SiO2	2.23 %	0.63 %	2.94 %	4.64 %	4.12 %	2.32 %
A21- 1 Al2O3	0.66 %	0.19 %	0.38 %	0.25 %	0.32 %	0.43 %
A21- 1 Fe2O3	23.0 %	6.17 %	4.50 %	4.69 %	3.84 %	15.7 %
A21- 1 MgO	9.52 %	15.5 %	16.2 %	15.8 %	16.3 %	12.5 %
A21- 1 CaO	28.0 %	31.9 %	31.4 %	31.1 %	31.5 %	28.3 %
A21- 1 Na2O	0.10 %	< 0.030 %	< 0.030 %	0.23 %	0.13 %	0.040 %
A21- 1 K2O	0.09 %	0.04 %	0.05 %	0.06 %	0.07 %	0.07 %
A21- 1 TiO2	0.56 %	0.17 %	0.08 %	0.11 %	0.08 %	0.45 %
A21- 1 MnO	0.40 %	0.48 %	0.28 %	0.33 %	0.33 %	0.48 %
A21- 1 P2O5	7.93 %	3.76 %	4.13 %	3.60 %	2.56 %	5.54 %
A21- 1 Nb2O5	1.08 %	0.48 %	0.59 %	0.56 %	0.38 %	0.85 %
A21- 1 ZrO2	0.25 %	0.06 %	0.04 %	0.03 %	< 0.03 %	0.08 %

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Votre référence ..: 4634
Date de réception : 2004-11-17
Certificat émis le .: 2004-11-23

COREM

100316 Process Research Associates Ltd.

Michel Robert

Numéro COREM :	9506- 19	9506- 20	9506- 21	9506- 22	9506- 23	9506- 24
Nature :	SOLIDES	SOLIDES	SOLIDES	SOLIDES	SOLIDES	SOLIDES
Désignation :	Aley 19 Head	Aley 20 Head	Aley 21 Head	Aley 22 Head	Aley 23 Head	Aley 24 Head
A21- 1 Ta2O5	< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %	< 0.01 %
A21- 1 BaO	< 0.060 %	< 0.060 %	< 0.060 %	< 0.060 %	< 0.060 %	< 0.060 %
A21- 1 Y2O3	< 0.01 %	0.01 %	0.01 %	< 0.01 %	< 0.01 %	< 0.01 %
A21- 1 SrO	0.24 %	0.18 %	0.080 %	0.12 %	0.12 %	0.22 %
A21- 1 ThO2	0.02 %	0.05 %	0.06 %	0.04 %	0.03 %	0.04 %
A21- 1 Ce2O3	0.10 %	0.12 %	0.09 %	0.08 %	0.08 %	0.09 %
A21- 1 La2O3	0.04 %	0.07 %	0.04 %	0.04 %	0.04 %	0.04 %
A21- 1 Nd2O3	0.05 %	0.05 %	0.04 %	0.03 %	0.03 %	0.03 %
A21- 1 PAF	25.0 %	40.1 %	38.9 %	38.4 %	40.3 %	32.6 %

Numéro COREM :	9506- 25	9506- 26	9506- 27	9506- 28
Nature :	SOLIDES	SOLIDES	SOLIDES	SOLIDES
Désignation :	Aley 25 Head	Aley 26 Head	Aley 27 Head	Aley 28 Head
A21- 1 SiO2	2.64 %	2.10 %	0.85 %	14.4 %
A21- 1 Al2O3	0.30 %	0.61 %	0.39 %	2.69 %
A21- 1 Fe2O3	8.00 %	4.53 %	4.74 %	12.3 %
A21- 1 MgO	14.3 %	17.0 %	17.0 %	4.84 %
A21- 1 CaO	30.6 %	30.6 %	31.3 %	30.3 %
A21- 1 Na2O	0.040 %	0.040 %	0.030 %	0.59 %
A21- 1 K2O	0.04 %	0.02 %	0.01 %	0.65 %
A21- 1 TiO2	0.19 %	0.06 %	0.05 %	0.36 %
A21- 1 MnO	0.41 %	0.22 %	0.23 %	1.40 %
A21- 1 P2O5	4.43 %	4.80 %	3.82 %	9.08 %
A21- 1 Nb2O5	0.72 %	0.79 %	0.51 %	1.15 %
A21- 1 ZrO2	0.06 %	0.04 %	0.04 %	0.09 %
A21- 1 Ta2O5	< 0.01 %	< 0.01 %	< 0.01 %	0.01 %
A21- 1 BaO	< 0.060 %	< 0.060 %	< 0.060 %	0.12 %
A21- 1 Y2O3	< 0.01 %	< 0.01 %	< 0.01 %	0.03 %
A21- 1 SrO	0.16 %	< 0.080 %	< 0.080 %	0.20 %

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100316 Process Research Associates Ltd.

Michel Robert

Numéro COREM :		9506- 25	9506- 26	9506- 27	9506- 28
Nature :		SOLIDES	SOLIDES	SOLIDES	SOLIDES
Désignation :		Aley 25 Head	Aley 26 Head	Aley 27 Head	Aley 28 Head
A21- 1	ThO2	0.02 %	0.10 %	0.05 %	0.05 %
A21- 1	Ce2O3	0.10 %	0.10 %	0.10 %	0.44 %
A21- 1	La2O3	0.05 %	0.05 %	0.04 %	0.26 %
A21- 1	Nd2O3	0.04 %	0.04 %	0.04 %	0.16 %
A21- 1	PAF	36.9 %	38.0 %	40.0 %	20.3 %

Responsable : Bernard Montminy, chimiste, M.Sc.

Ce rapport contient des renseignements protégés et confidentiels à l'intention du destinataire. Les résultats ne se rapportent qu'aux échantillons soumis à l'analyse. Cette version remplace et annule toute version antérieure, le cas échéant. * Analyse faite par un sous-traitant.

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