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## GEOCHEMICAL REPORT OF THE LAREDO PROPERTY

ARISTAZABAL ISLAND, B.C. Skeena Mining Division 103 A/11E

> Coordinates: 52°42' North Latitude 129°04' West Longitude

## OWNER AND OPERATOR OF CLAIMS

NORTH PACIFIC STONE LTD. #800 - 885 West Georgia Street Vancouver, B.C. V6C 3H1

#### CONSULTANT

DOLMAGE CAMPBELL LTD. #1970 - 1055 West Hastings Street Vancouver, B.C. V6E 2E9

> Robert S. Adamson, P.Eng. Ronald F. McIntyre, B.Sc.

SUB-RECORDER
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VANCOUVER. B.C.

December 1, 1994

# GEOLOGICAL BRANCH ASSESSMENT REPORT

DOLMAGE CAMPBELL LTD.

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1. SUMMARY

<u>The Laredo limestone deposit</u> is located on the east side of Aristazabal Island immediately offshore of the mainland of B.C., east of the south tip of the Queen Charlotte Islands.

<u>Substantial cumulative work has been done on the property</u> since initial quarrying of limestone was begun in 1899. The present owner, North Pacific Stone Ltd., wishes to evaluate the work done to date and to possibly initiate new production from the earlier indicated, very high purity, zones in the deposit.

The 1994 resampling program, completed in October, was directed to zones of purest limestone, as indicated from the analyses of 12 segments of old drill cores obtained from selected areas on the property. Encouraging results from these preliminary analyses led to the decision to proceed with a more intensive surface rock sampling program of the best regions suggested by the drill core analyses. This sampling program for sources of high grade (pure) limestone was completed in October, 1994, and the results of the analyses were obtained in November.

<u>The analytical results clearly indicate</u> that high grade (+97% CaCO<sub>3</sub>) to very high grade (+98.5% CaCO<sub>3</sub>) limestone occurs at all three of the locations sampled. Substantial blocks of mineable high grade limestone are delineated. More than half of the samples taken grade 97% CaCO<sub>3</sub> or higher.

On the basis of these very positive results, it is recommended that additional work be carried out on the property in 1995. The recommended work should include:

- (i) <u>Drilling of the known (1994) high grade zones</u> to determine depth continuity of grades for quarrying.
- (ii) Extension of surface sampling throughout the limestone body on the property.
- (iii) <u>Construction of a wharf</u> to permit boat docking, and a prefab camp for crews.

## 2. INTRODUCTION

#### 2.1 <u>GENERAL</u>

This report presents the results of the geochemical sampling program undertaken in October, 1994, on the Laredo property, owned and operated by North Pacific Stone Ltd., #800 - 885 West Georgia Street, Vancouver, B.C. The program was directed by R.S. Adamson, P.Eng., and work was supervised and executed by R.F. McIntyre, Geologist.

Three grids were established on three separate target areas that had been identified by earlier sampling to be potentially high purity (+95%) limestone. These three grids were then more closely sampled in 1994 in order to determine if the areas may be underlain by very high purity marble (+98%), which would provide a product for the fine paper industry.

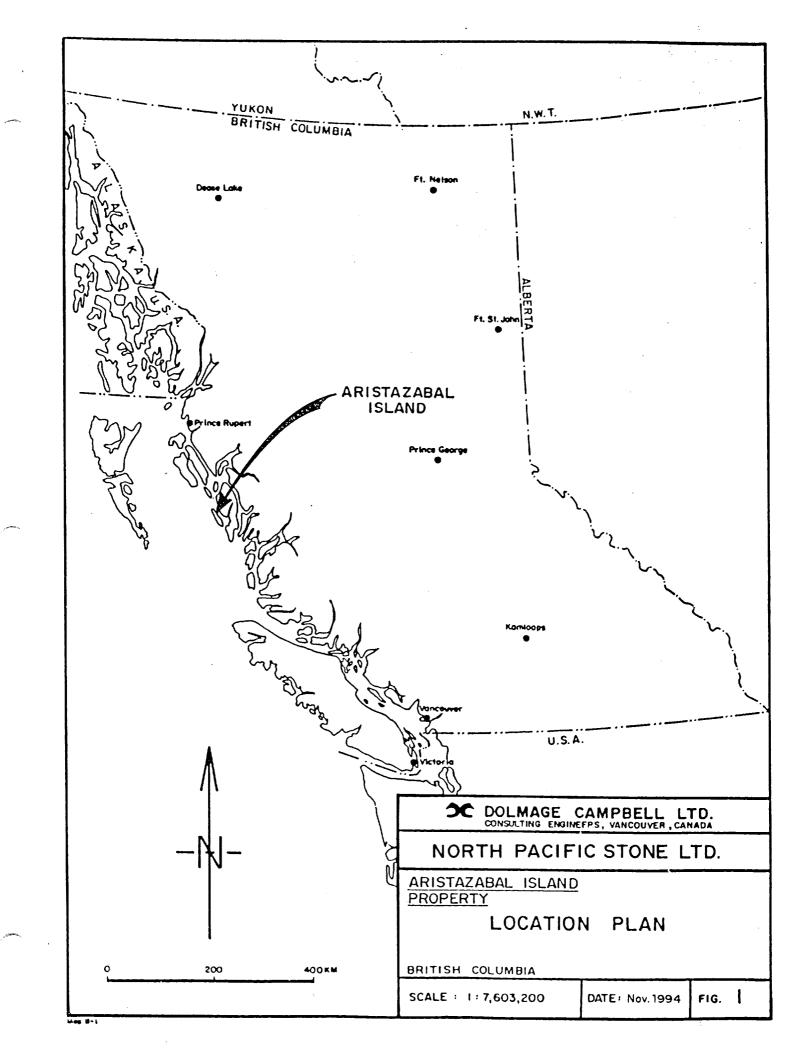
#### 2.2 LOCATION AND ACCESS

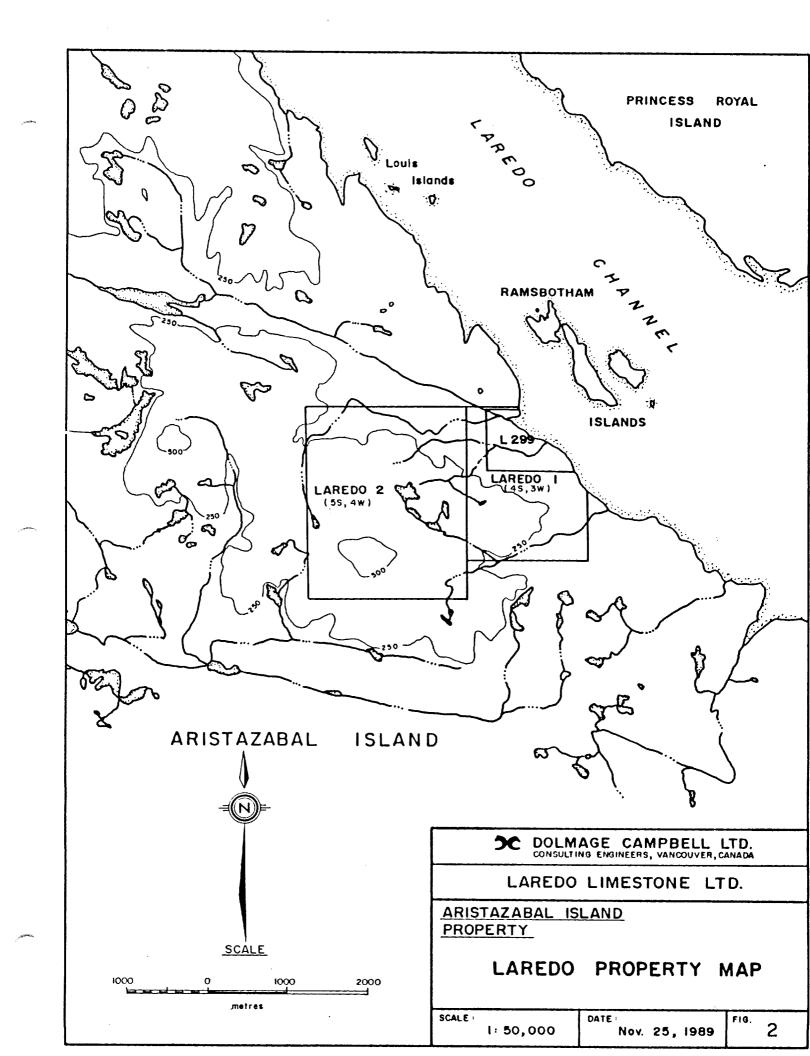
The Laredo property is within the Skeena Mining Division, at Latitude 52°42' North and Longitude 129°04' West. The property is located on the east shore of Aristazabal Island, close to the mainland coast and approximately 90 kilometers northwest of the nearest town, Bella Bella, B.C. (Figure 1). Access to the property is either by boat or by float-plane from Bella Bella or Port Hardy, B.C.

## 2.3 <u>PROPERTY AND HISTORY</u>

The property is comprised of five mineral claims, (Laredo 1, 2, 4, 5 and 6), totalling 35 contiguous units, (Figure 2).

Quarrying was initially undertaken on Aristazabal Island in 1899 and continued for a few years; however, more intensive quarrying occurred after WW II, when two modest sized quarries





were developed along the shoreline. Records indicate that about 12,000 tons of high purity limestone were shipped in 1954. No further work was done until 1962 when the property was mapped and examined, and in 1969 when five x-ray holes were drilled into the deposit

Substantial mapping and sampling was done in 1989-1990 by Dolmage Campbell Ltd. on behalf of Laredo Limestone Inc., which had staked the present mineral claims. One of the authors of the present report, Ron McIntyre, was the field geologist on the property during the 1989-1990 investigations. The work at that time included the taking of 70 surface chip samples as well as the drilling of 12 AX diamond drill holes to depths as much as 100 feet. The drill cores from these widely-spaced holes indicated the possible existence of reserves of approximately 37 million tonnes of high calcium limestone, (+95% CaCO<sup>3</sup>). (Ref. Rotzien 1989 and 1992.)

The present owner of the property commissioned the 1994 sampling program in order to better define specific areas of very high calcium limestone (+98% CaCO<sub>3</sub>).

#### 2.4 1994 SAMPLING PROGRAM

The investigations carried out in 1994 comprised two phases:

- (i) In August, twelve core samples from the 1989 drilling were analyzed by wholerock fusion for 12 elements, as well as Loss On Ignition and graphite.
- (ii) On the basis of the above analyses, three areas of the property were selected for more intense sampling. This resulted in the collection of a total of 304 limestone samples from all of the grids, taken by heavy hammers at depth ensured to be below surficial contaminants.

The three sampled grids are located at:

- (i) South of the 1954 limestone quarry and adjacent to it;
- (ii) The head of Quarry Bay;

and (iii) The area encompassing drill holes L-89-1 and L-89-2.

These three sample grids were designated A, B and C (Figure 3), and totalled 4.35 kilometers of marked lines. Grids A and B are located entirely on Laredo No. 1 Claim, whereas Grid C is located on both Laredo No. 1 and No. 2 claims.

#### 3. <u>GEOLOGY</u>

Aristazabal Island is underlain by a sequence of gneissic rocks that are intrusive into metasedimentary rocks, a common geological occurrence along the western margin of the Coast Plutonic Complex. The metasedimentary rocks on Aristazabal are primarily Late Paleozoic to Early Mesozoic in age. The dominant structural trend is northwest-southeast, parallel to Laredo Channel, and is expressed on the property by tension faults along which small scale horst and graben topography has developed.

The property is underlain by a two kilometer square body of white to light grey coloured limestone which has been largely recrystallized to marble. Bedding, or parallel compositional banding, is exposed southeast of the 1954 quarry, generally striking east-west and dipping about 45° to the south.

The areas of greatest economic interest are those of white marble, which generally is relatively coarsely crystalline and homogeneous, with no visible banding. This type of marble represents about half of the surface exposures of limestone body on the property.

The other exposures display significant bands and lenses of light-grey dolomitic limestone, occasionally containing small amounts of pyrite. Infrequent mafic dikes, belonging to two sets, intrude the marble, commonly subparallel to the bedding. The dikes rarely exceed five meters in thickness and, from the drill results, seem to comprise less than five percent of the total rock volumes. Surrounding the limestone is foliated hornblende granodiorite of the Coast Plutonic Complex, which is the dominant rock underlying the island.

Soils are thin to non-existent on the property. They are almost entirely organic in composition, with little insoluble mineral matter. Low purity limestones are typically identified by the presence of developed soils.

The high purity CaCO<sub>3</sub> areas are characterized by the existence of extensive solution erosion along jointing, which produces a very rough and abrupt karst-type micro-topography with

a high proportion of bare outcrop. The three areas that were sampled in the 1994 program are located where this type of terrain predominates, and where, in some cases, earlier surface chip samples graded 97%  $CaCO_3$  or better.

#### 4. <u>1994 FIELDWORK</u>

#### 4.1 PREPARATORY SAMPLING

In August 15-29, 1994, preparatory sampling and analyses of cores from the 1989-90 work done by Dolmage Campbell Ltd. was done as rough a guide to the fieldwork. Twelve core segments were selected from separate drill holes that were drilled in 1989. These core samples were sent for analysis to Chemex Labs Ltd. in North Vancouver, B.C. The samples were analyzed by whole rock fusion for 12 elements and ignition loss (Appendices I and II). Also, assays for graphite were made. In previous work at Aristazabal no analyses had been done for graphite; however, because it is a critically deleterious element in paper whitening, which is a desired potential market, it was deemed important to make these analyses. The analyses of the selected cores returned less than 0.4% graphite in six of the twelve samples. Other impurities were as expected and not critical.

The twelve newly sampled cores had been retained by Dolmage Campbell Ltd. as lithological specimens; therefore, they represent a range of all the limestone rock types on the property. Only one sample, L-1-1, is from one of the areas targeted in the 1994 sampling for high grade, and it assayed 98.15% CaCO<sub>3</sub>, the highest purity of the twelve.

The principal contaminant in all samples is MgO, which does not directly correlate with darker coloured stone. For example, samples L-5-6 and L-5-7 returned high MgO values (20%) from <u>white</u> stone. Thus, some high Mg stone may in fact be suitable for products requiring a white colour, regardless of the chemical components of the limestone (Table 1).

#### TABLE 1

## CORES ANALYZED, AUGUST 1994

SAMPLE NO.	HOLE	DEPTH	DESCRIPTION	<u>CaO%</u>	MgO%	GRAPHITE%
L-1-1	89-1	4.5-4.8	White Limestone	55.41	0.95	0.38
L-1-2	89-2	74.1-74.3	White Ls w/py band	52.28	3.26	0.22
L-3-1	89-3	17.9-18.2	Pale grey Ls	53.62	2.11	0.37
L-3-3	89-3	32.1-32.3	Grey & brown Ls	52.87	2.54	0.29
L-5-1	89-5	27.2-27.4	Fine white Ls	52.50	2.78	0.33
L-5-6	89-5	61.4-61.6	White Limestone	33.49	19.47	0.68
L-5-7	89-5	78.3-78.6	White Ls w/pyrrh band	33.59	19.39	0.76
L-6-3	89-6	23.4-23.5	Pale grey Ls	52.84	3.37	0.54
L-7-3	89-7	82.9-83.1	White Limestone	52.71	1.28	0.43
L-9-1	89-9	98.0-98.3	Calc. dolomite	31.67	20.50	0.41
L-9-3??	89-9	??????????	White Ls w/joint coating	52.09	2.21	0.61
Х	????	???????????	White Limestone	53.92	0.51	0.72

#### 4.2 <u>1994 SAMPLING</u>

The 1994 site sampling on the Aristazabal property was begun on October 12 and completed on October 25. For each of the three target areas a flagged baseline was established by compass and tape on an azimuth of 302°, the bearing of the 1989 drilling baseline. Stations were established at 50 meter intervals along the baselines and flagged. (The lines were not cut because of the limited time available.) Flagged cross lines were run from each 50 m station, at right angles to the baselines in both directions (032°/212°). Samples were taken at baseline stations and every 10 meters on cross lines.

Each sample was obtained by means of a rock hammer, and from the limestone exposure closest to the flagged station. Where a sample location was within two meters of the station no

location adjustment was noted; however, any offset greater than two meters was noted, and the location of the sample so plotted on the grid maps (Figures 4, 5 and 6). Where bogs, overburden or quarry rubble were encountered no samples were taken.

Intrusive dikes occasionally encountered at a sampling point were, of course, not sampled, but the closest exposure of limestone was sampled, with the offset treated as above.

The 1994 samples comprise only limestone bedrock. The rock is of such high purity that very small amounts of soil, or resistant minerals concentrated on weathered surfaces, or other weathering products, could potentially bias a sample to the low side; therefore, care was taken in the sampling to include only fresh, unweathered limestone. Soils, weathered rock surfaces and near-surface fracture filling, etc. were excluded from the samples. As much as possible each sample was derived from a single spot location; thus, these samples are neither grab nor chip samples but are bedrock samples taken from specific locations.

## 4.3 LOCATION OF SAMPLING GRIDS (Figure 3)

<u>Grid A</u> - This grid originates at a small promontory, about 70 meters beyond the southeast end of the 1954 quarry, just above high-tide level. The baseline was run 300 meters to the northwest on a bearing of 302°. Baseline stations were designated "north" of origin, and cross line stations were designated "east" (toward the shore) or "west" (inland) of the baseline. Easterly lines were run to the shore at the high tide line, whereas westerly lines were terminated 150 meters from the baseline. One crossline, (L. 50 m South), was established by traversing 50 meters, at Bearing 122°, from Station L.000/150 m West, to station L.50 m S/150 m West, then traversing Bearing 032° to the shoreline.

The baseline diverges from the shoreline, runs above the headwall of the quarry and terminates at B.L. 300 m N, 50 meters above the quarry access road and about 50 meters beyond the northwest end of the quarry.

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<u>Grid B</u> - This sampling grid originates from a point on the quarry access road about 50 meters southeast of the end of an old quarry located at the head of a small, shallow bay, roughly one kilometer northwest of the 1954 quarry. This bay, ("Quarry Bay"), lies at the mouth of a fairly large creek. The baseline runs Brg.  $302^{\circ}$  and terminates 250 m northwest of the origin, on a cliff just above a smaller creek.

To distinguish these lines from Grid A the baseline stations were designated "west" and the crosslines are designated "north" (toward shore) and "south" (inland). South crosslines terminated 140 meters "south" of the baseline, whereas northerly crosslines were run to the high tide mark. Line 250 m West was run to the south only. Where the crosslines extended over the quarry headwall cliff they were re-established at the quarry floor and continued to the shore.

<u>Grid C</u> - This grid originates at the collar of drill hole L-89-1. The sampling baseline runs along the old drill baseline 200 meters to drill hole L-89-2. Baseline stations were termed "east" of origin. Crosslines were run 80 meters "north" (toward shore) and "south" (inland) from each baseline station.

Pertinent features of the sampling grids are summarized in Table 2.

## TABLE 2 GRID LOCATIONS AND SIZES

<u>Grid</u>	<u>Location</u>	No. of Samples	Grid Size	Line Lengths	Area (Hectares)
А	1954 Quarry	140	350 x 250 m	2035 m	8.75
В	Quarry Bay	102	250 x 220 m	1477 m	5.50
С	Drill Holes 89-1 &	2 <u>62</u>	200 x 160 m	<u>840 m</u>	3.20
		304 samples		4352 m	17.45 ha

## 4.4 SAMPLE ANALYSES

A total of 304 limestone samples were delivered to Bondar-Clegg Ltd. (North Vancouver, B.C.) on November 1, 1994. They have been analyzed by whole rock fusion for 12 elements, plus loss on ignition (Appendices I and II). Values of calcium, as  $CaCO_3$ , were calculated from these analyses by Bondar-Clegg, and are used in that form throughout this report.

Sample rejects will be kept at Bondar-Clegg until January 1, 1995, after which they will be discarded. If additional tests are contemplated some provision for further storage must be arranged.

## 5. <u>RESULTS</u>

#### 5.1 <u>METHODOLOGY</u>

The field work was undertaken at the very end of the 1994 "usable" field season. Rapid mobilization managed to avoid weather delays and the work was completed expeditiously with no need for re-supply (by air). The weather remained mild but wet (12 days of rain out of 14), and no "days off" were taken. The average rate of sampling was somewhat lower than originally estimated, due to the wet conditions and the unsuspected presence of logging slash, as well as the dense second growth on much of Grid A.

Demobilization took place with only one day of delay, due to high winds preventing flying of the float plane from Bella Bella. The day after the departure of the crew heralded the first of the winter gales that pound the Pacific Coast of British Columbia. It is strongly suggested that future work should be scheduled for "Late Spring - Summer - and Early Fall", when serious weather problems are less of a threat.

The sampling technique adopted was practical, effective, reasonably quick, and repeatable in the future. The originally considered method that involved a small gasoline-powered percussion drill ("plugger") would not be as efficient because of the difficulty of moving it through logging slash and rough terrain. The sample spacing of 10 meters was the most practical because of the pockets of overburden scattered throughout the area; however, closer line spacing can easily be accomplished, where a higher sample density is desired.

## 5.2 GRADES OF THREE SAMPLED AREAS

High purity limestone is found in all three of the sampled areas. In the maps accompanying this report (Figures 4, 5 and 6), the limestone values are contoured at 90%, 95%, 97% and 98% CaCO<sub>3</sub>. Discrete areas of substantial quarry size are delineated by these contours,

indicating that blocks of high grade limestone (+98%) should be readily extracted by means of normal quarry mining. A cut-off grade of 97%  $CaCO_3$  could probably delineate the boundaries of the chosen quarries, with the inclusion of little waste rock.

The number of samples and their grades are presented in Table 3 - Summary Sample Results and Grades accompanying this report.

Table 3														
(% CaCO <sub>3</sub> )	<90%	90-95	95-96	96-97	97-98	98-98.5	+98.5	Total						
Grid A - Number of Samples - Percentage of Samples	14 10	27 19.3	9 6.4	18 12.9	41 29.3	22 15.7	9 6.4	140						
Grid B - Number of Samples - Percentage of Samples	12 11.8	12 11.8	4 3.9	15 14.7	24 23.5	16 15.7	19 18.6	102						
Grid C - Number of Samples - Percentage of Samples	3 5.1	17 29.3	6 10.3	12 20.7	4 6.9	5 8.6	11 19	58						
Combined - Number of Samples - Percentage of Samples	29 9.7	56 18.7	19 6.3	45 15	69 23	43 14.3	39 13	300						

<u>Grid A</u>: The high grade zones in Grid A comprise a large block of potential quarry material along the north-northwest side of the grid, separable from the bulk of the low grade rock along a fairly straight boundary from the upper right to the lower left. This high grade zone is open to the northwest and represents a most promising target for a large high-grade limestone quarry.

An appreciable number of samples exceed 98.5% CaCO<sub>3</sub>; however, there are generally scattered and do not comprise discrete mineable blocks.

<u>Grid B</u>: This sample grid returns the highest grades as well as the most extensive high grade areas delineated by the sampling. Most of Grid B, with the exception of the southwest

corner, is high to very high grade. Two areas within this grid display an appreciable continuity of grade higher than 98.5%. The zone is open to the east.

<u>Grid C</u>: This area contains high to very high grades that appear to indicate a continuous zone extending to the east and northeast; however, because of the limited size of the grid its potential remains to be determined.

In conclusion: The results strongly indicate that further sampling within and beyond the three grid areas is highly promising for extension of the zones. Throughout the three areas sampled in 1994: 50.3% of the samples exceed 97% CaCO<sub>3</sub> in grade; 27.3% exceeded 98%; and 13% exceeded 98.5% CaCO<sub>3</sub>.

## 5.3 TONNAGE POTENTIAL OF SAMPLED AREAS

Surface samples alone cannot conclusively prove tonnages; therefore, diamond drilling is necessary to provide the third dimension required for reserve estimates. The limited 1989-90 drilling established the continuity of limestone to 30 meters depth over a wide area. The 1969 drilling indicated continuity of limestone to 40 feet at Grid A (DDH 4) and 300 feet at Grid B (DDH 5). It is not unreasonable to assume that ore blocks in these areas have continuity to a depth of at least about 30 meters or so. This suggests potential appreciable tonnages of +98% limestone available from surface quarries.

The next phase of exploration should therefore comprise closely spaced core drilling in order to establish the tonnages of the high grade zones that are delineated by the 1994 surface sampling.

## 6. <u>CONCLUSIONS</u>

The results from the 1994 sample program are gratifyingly positive. High to very high grade limestone was established in quantity in all of the areas sampled.

<u>The sampling delineated a number of high grade zones</u> with good surface continuity and size. Therefore, quarry extraction of high and/or very high grade limestone appears practical. The identified zones are all open, suggesting the probability of even larger blocks of mineable stone.

The 1994 surface sampling has not exhausted the number of high grade targets nor has it defined the full extent of those targets that were sampled.

<u>Areas of unsampled limestone</u> on the property hold promise, but require mapping, surface sampling and (possibly) drilling to determine their quantity and quality.

## 7. <u>RECOMMENDATIONS</u>

Dolmage Campbell recommends follow-up exploratory surface mapping and sampling of the remaining (unsampled) Laredo property. Such work could be undertaken in the spring of 1995. It should include:

- (i) Detailed surface sampling within and adjacent to the areas sampled in 1994;
- (ii) Wider spaced surface sampling of limestone should be done over the entire property in order to detect possible additional high grade zones;
- and (iii) A series of closely spaced diamond drill holes should be drilled in the areas of highest grade surface samples in order to confirm the indicated continuity and determine grade and tonnage at depth.

In addition, it is recommended that proper infrastructure (dock, camp, radio, etc.) be installed on the site in order to facilitate effective and efficient work and reduce costs.

Respectfully submitted,

DOLMAGE CAMPBELL LTD.

R.S. Adamson, P.Eng.

19/12/94

McIntvre.

Geologist

R. S. ADAMO BRITISH COLUMB

## 8. <u>REFERENCES</u>

Baer, A.J. (1972), Bella Coola - Laredo Sound Map Areas, British Columbia; Geological Survey of Canada, Memoir 372.

Campbell, D.D. (1962), Report on Aristazabal Island Limestone, Hecate Straight, B.C.

- Campbell, D.D. and Rotzien, J.L. (1989), Aristazabal Island Limestone Deposit, Report to Laredo Limestone Ltd.
- Rotzien, J.L. (1989), Drilling and Sampling Report on the 1989 Exploration of the Laredo Claims, Skeena M.D., British Columbia.

Rotzien, J.L. (1989), Aristazabal Island Limestone Deposit, Report to Laredo Limestone Ltd.

Rotzien, J.L. (1992), Drilling and Sampling Report on the 1990 Exploration of the Laredo Claims, Skeena M.D., British Columbia.

## 9. <u>CERTIFICATES</u>

I, Robert S. Adamson, with business and residential addresses in Vancouver and North Vancouver, British Columbia, Canada, respectively, do hereby certify that:

- 1. I am a consulting geological engineer.
- 2. I am a graduate of the University of British Columbia (B.A.Sc. in Geological Engineering, 1957).
- 3. I am a registered Professional Engineer of the Province of British Columbia.
- 4. From 1957 to 1967, I was engaged in mineral exploration in Canada for a number of companies. Positions included Senior Geologist, Chief Geologist, and Vice-President, Exploration. Since 1967, I have been practising as a consulting geological engineer and, in this capacity, have examined and reported on numerous mineral properties in Africa, Europe, the South Pacific, and North and South America.
- 5. I have not visited the Laredo Property.
- 6. I directed the work described herein.
- 7. I have not received, directly or indirectly, nor do I expect to receive, any interest, direct or indirect, in the properties of North Pacific Stone Ltd. or any affiliate thereof, nor do I beneficially own, directly or indirectly, any securities of North Pacific Stone Ltd. or any affiliate thereof.

Dated this 1st day of December, 1994.



Respectfully submitted,

I Jama

Robert S. Adamson, B.A.Sc., P.Eng.

Vancouver, Canada

# CERTIFICATE

I, Ronald F. McIntyre, of Vancouver, B.C., hereby certify that:

1. I received a Bachelor of Science degree in Geology from the University of British Columbia in 1977.

2. I have practised my profession as a Geologist since 1978.

- 3. I personally supervised and executed the the field work and was field geologist for the drilling programs of 1989 and 1990.
- 4. I neither have, nor expect to receive, any interest, direct or indirect, in the Laredo property nor in North Pacific Stone Ltd.

Dated this 1st day of December, 1994.

Ronald F. McIntyre,

# APPENDIX I

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# ASSAY CERTIFICATES



# **Chemex Labs Ltd.**

Analytical Chemists " Geochemists " Registered Assayers

212 Brooksbank Ave., North Vancouver British Columbia, Canada V7J 2C1 PHONE: 604-984-0221 ) DOLMAGE CAMPBELL LTD.

1970 - 1055 W. HASTINGS ST. VANCOUVER, BC V6E 2E9 Page Nt : 1 Total Pages : 1 Certificate Date: 27-AUG-94 Invoice No. : 19424008 P.O. Number : Account : AA

hlen

Project : Comments: ATTN: J. L. ROTZIEN

		CERTIFICATE OF ANALYSIS A9424008													
SAMPLE	PREP CODE	Graphit %	A1203 %	Ca0 %	Cr203 %	Fe2O3 %	R20 %	NgO %	MnO %	Na20 %	P205 %	5i02 %	Tio2	LOI	TOTAL
L-1-1 L-1-2 L-3-1 L-3-3 L-5-1	268 266 268 266 268 266 268 266 268 266 268 266	0.22 0.37 0.29	0.07 0.08 0.11 0.31 0.21	55.41 52.28 53.62 52.87 52.50	< 0.01 < 0.01 < 0.01 < 0.01 < 0.01	0.13 0.17 0.24 0.17 0.23	0.01 0.02 0.03 0.15 0.04	0.95 3.26 2.11 2.54 2.78	< 0.01 0.01 < 0.01 < 0.01 < 0.01 < 0.01	0.10 0.09 0.14 0.13 0.13	< 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01	0.18 0.63 0.34 0.90 0.56	< 0.01 < 0.01 < 0.01 < 0.01 0.01 0.01	42.74 42.99 43.34 43.27 43.25	99.59 99.53 99.92 100.35 99.71
L-5-6 L-5-7 L-6-3 L-7-3 L-9-1	268 266 268 266 268 266 268 200 268 266	0.76 0.54 0.43 0.40	0.21 0.19 0.11 0.11 0.09	33.49 33.59 52.84 52.71 31.67	< 0.01 < 0.01 < 0.01 < 0.01 < 0.01 < 0.01	0.36 0.64 0.22 0.18 0.19	0.06 0.03 0.02 0.02 0.02	19.47 19.39 3.37 1.28 20.50	0.02 0.02 0.01 0.01 0.01	0.09 0.12 0.15 0.99 0.02	< 0.01 < 0.01 < 0.01 < 0.01 < 0.01	0.39 0.46 0.46 0.68 0.53	0.01 0.01 < 0.01 < 0.01 < 0.01 < 0.01	45.44 45.83 43.56 43.58 45.22	99.54 100.30 100.75 98.65 98.25
L-9-377 X	268 266 268 200	0.61 0.72	0.09 0.04	52.09 53.92	< 0.01 < 0.01	0.13 0.05	0.03 0.02	2.21 0.51	< 0.01 < 0.01	0.02 0.01	< 0.01 < 0.01	0.28 0.17	< 0.01 < 0.01	42.75 42.86	97.60 97.58
e.							ľ		، و <sub>م</sub>						

CERTIFICATION:



#### CLIENT: DOLMAGE CAMPBELL & ASSOCIATES

PROJECT: NONE GIVEN

	ELEI	MENT	NUMBER OI ANALYSES		EXTRACTION	METHOD	
	0:00	Silica (SiO2)	76	0.01 PCT	BORATE FUSI	ON INDUC. COUP	
	SiO2 TiO2	Titanium (TiO2)	76	0.01 PCT	BORATE FUSI		
		Alumina (Al203)	76	0.01 PCT	BORATE FUSI		
-		Total Iron (Fe203)		0.01 PCT	BORATE FUSI		
5		Manganese (MnO)	76	0.01 PCT	BORATE FUSI		
6	MaO	Magnesium (MgO)	76	0.01 PCT	BORATE FUSI		
0	ngo	nughes rain (rigo)					
7	CaO	Calcium (CaO)	76	0.01 PCT	BORATE FUSI	ON INDUC. COUP	PLASMA
8	Na20	Sodium (Na2O)	76	0.01 PCT	BORATE FUSI	ON INDUC. COUP	PLASMA
	K20	Potassium (K2O)	76	0.05 PCT	BORATE FUSI		
	P205	Phosphorous (P205)	. –	0.03 PCT	BORATE FUSI	ON INDUC. COUP	. PLASMA
	LOI	Loss on Ignition	76	0.05 PCT	Ignition 10	00 Deg. C GRAVIMETRIC	:
	Total	Whole Rock Total	76	0.01 PCT	-		
13	BaO	Barium Oxide	76	0.001 PCT	BORATE FUSI	ON INDUC. COUP	PLASMA
14	Cr203	Chromium Oxide	76	0.01 PCT	BORATE FUSI	ON INDUC. COUP	PLASMA
15	S Tot	Sulphur (Total)	76	0.02 PCT		LECO	
16	CaCO3	TOT Ca AS CaCO3 CA	L. 76	PCT		CALCULATION	I 🕴
SA	MPLE TY	PES NUMB	ER SIZE	FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R	ROCK	7	62	- 150	76	CRUSH/SPLIT <2 KG PULVERIZATION	76 76
						PULVERIZATION	/0
RE	Port Co	PIES TO: 1970 - 105	5 WEST HAS	STINGS	INVOICE T	0: 1970 - 1055 WEST H	IASTINGS
							:

#### REFERENCE:

SUBMITTED BY: UNKNOWN

#### DATE PRINTED: 29-NOV-94

Lab

Report

Ge hemical

Bondar-Clegg & Company Ltd., 130 Pemberton Avenue, North Vancouver, B.C., V7P 2R5, (604) 985-0681



Ge hemical Lab Report

PAGE 1

DATE PRINTED: 29-NOV-94

PROJECT: NONE GIVEN

SAMPLE ELEME					MgO		Na2O			LOI	Total			S Tot	
NUMBER UNI	S PCT PC	T PCT	PCT	PCT	PCT	PUT	PCT	PCT	PUI	PCT	PCT	PCT	PCT	PCT	PCT
L000 BL000 <b>F W</b>	0.26 <.0	1 0.09	0.05	<.01	0.66	55.01	0.03	0.07	<.03	42.99	99.16	0.001	<0.01	<0.02	98.18
L000 20N	0.58 <.0	1 0.17	0.05	<.01	0.47	54.76	0.22	0.08	<.03	43.09	99.43	0.001	<0.01	<0.02	97.74
L000 10W	0.37 <.0	1 0.10	0.02	<.01	3.96	51.64	0.13	0.10	<.03	43.20	99.52	0.001	<0.01	<0.02	92.17
L000 20W	0.51 <.0	1. 0.14	0.03	<.01	2.92	52.63	0.17	0.06	<.03	43.04	99.50	0.001	<0.01	<0.02	93.93
L000 30W	0.54 <.0	0.16	0.05	0.01	6.83	48.50	0.06	0.09	0.05	43.51	99.80	0.001	<0.01	<0.02	86.56
L000 40W	0.27 <.0	1 0.06	0.01	0.01	2.42	52.93	0.04	0.06	0.03	43.18	99.01	0.001	<0.01	<0.02	94.47
L000 50W	0.28 <.0	1 0.08	0.02	0.01	3.34	52.54	0.03	0.09	<.03	42.99	99.38	0.001	<0.01	<0.02	93.77
1000 60 <b># N</b>	0.62 <.0	0.16	0.03	<.01	3.62	52.12	0.03	0.12	<.03	42.95	99.65	0.001	<0.01	<0.02	93.02
L000 70W	0.11 <.0	1 0.05	0.01	0.01	1.02	54.97	0.05	0.10	<.03	42.79	99.11	<.001	<0.01	<0.02	98.11
L000 90W	0.11 <.0	0.04	0.07	0.02	0.63	54.88	0.02	0.05	0.06	43.21	99.09	<.001	<0.01	0.07	97.95
L000 100W	0.26 <.0	0.05	0.21	0.02	17.62	36.30	0.04	0.05	0.04	45.35	99.95	<.001	<0.01	0.06	64.79
L000 110W	0.18 <.0	1 0.07	0.01	0.03	0.75	54.86	0.04	0.09	<.03	42.79	98.81	0.001	<0.01	<0.02	97.91
L000 120W	0.33 <.0	0.05	0.13	0.03	4.82	50.30	0.12	0.06	0.04	43.30	99.19	0.001	<0.01	0.02	89.78
L000 130W	0.29 <.0	0.08		0.03						43.13				<0.02	
L000 140W	0.11 < 0	0.04	0.01	<.01	0.49	55.41	0.03	0.05	<.03	42.58	98.72	<.001	<0.01	<0.02	98.90
L000 150W	0.06 <.0	0.02	0.01	<.01	1.10	54.77	0.02	<.05	0.06	42.70	98.74	0.001	<0.01	<0.02	97.75
L000 BL000 N	0.34 <.0	0.06	0.11	0.02	0.55	53.96	0.02	0.07	<.03	43.50	98.63	<.001	<0.01	<0.02	96.31
L000 10E	0.15 <.0	0.04	0.04	0.01							99.11				
L000W 30N	0.11 <.0	0.02	<0.01	<.01							98.47				
L000W 40N	0.54 <.0	0.09	0.02	<.01	0.61	54.81	0.06	0.06	<.03	42.55	98.74	<.001	<0.01	<0.02	97.83
L000W 50N	0.13 <.0	0.02	<0.01	<.01	0.37	55.55	0.10	0.05	<.03	42.52	98.74	<.001	<0.01	<0.02	99.15
L000W 10S	0.72 <.0	0.14	0.06	<.01							100.25				
L000W 20S	0.07 <.0	0.02	<0.01	<.01	0.98	55.42	0.06	0.06	<.03	42.61	99.22	<.001	<0.01	<0.02	98.91
L000W 30S	0.22 <.0	0.05	0,11	0.02	0.43	54.95	0.09	0.07	<.03	43.51	99.45	<.001	<0.01	<0.02	98.08
L000W 40S	0.36 < 0	0.07	0.01	<.01	2.15	53.85	0.07	0.08	0.04	42.52	99.14	<.001	<0.01	<0.02	96.11
L000W 50S	0.15 <.0	0.03	<0.01	<.01	0.82	54.93	0.07	<.05	0.05	42.43	98.48	<.001	<0.01	<0.02	98.04
L000W 60S	0.19 <.0	0.08	<0.01	0.01	0.53	55.48	0.03	<.05	<.03	42.37	98.69	0.001	<0.01	<0.02	99.02
L000W 70S	0.11 <.0	0.03	<0.01	<.01	0.65	55.33	0.12	<.05	<.03	42.41	98.65	<.001	<0.01	<0.02	98.75
L000W 80S	0.13 <.0	0.02								42.50				<0.02	
L000W 90S	0.07 <.0	0.01	<0.01	<.01	0.89	55.61	0.09	<.05	0.06	42.43	99.17	<.001	<0.01	<0.02	99.25



SAMPLE	ELEMENT	si02	T i 02	AL203	Fe203*	MnO	MgO	CaO	Na20	K20	P205	LOI	Total	BaO	Cr203	S Tot	CaCO3
NUMBER	UNITS	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT
L000W 100S		0.44	<.01	0.11	0.03	<.01						42.39					
150N 10E		0.24	<.01	0.08	0.03	<.01						42.58					
L50N 20E		0.35	<.01	0.04	0.02	<.01					1110	43.01	1.0126			<0.02	
L50N 30E		0.12	<.01	0.01	<0.01	<.01						42.53	1.			<0.02	
L50N BL50N		0.17	<.01	0.03	0.03	<.01	2.06	53.78	0.08	0.08	<.03	43.37	99.59	<.001	<0.01	<0.02	95.99
												: 	11.11				
L50N 10W		0.02	<.01	<0.01								43.22				<0.02	
L50N 20W		0.06	<.01	<0.01		<.01						43.44					97.59
L50N 30W		0.43	<.01	0.06		<.01						43.54				<0.02	
L50N 40W		0.30	<.01	0.08		<.01						43.21				<0.02	
150N 50W		68.90	0.22	14.04	1.04	0.02	0.66	5.67	2.96	3.82	0.04	0.86	98.34	0,106	<0.01	<0.02	10.12
												·				·	
L50N 60W		0.74	0.02	0.20								43.31				0.03	
L50N 70W		0.49	<.01	0.12								43.39		-		<0.02	
L50N 80W		0.61	<.01	0.09								43.46				<0.02	22 12
L50N 90W		0.37	<.01	0.11					1.1.1.1.1.1.1			44.29				<0.02	
L50N 100W		0.16	<.01	0.09	0.07	<.01	1.15	54.50	0.11	0.15	<.03	43.38	99.61	<.001	<0.01	<0.02	97.27
L50N 110W		51.75	0.84	16.75								1.43				0.03	
L50N 120W		0.05	<.01	0.08	0.07	0.01						43.40			1.11	<0.02	
L50N 130W		0.22	<.01	0.08		<.01			1.1			43.03				<0.02	
L50N 140W				0.03		<.01						43.00				<0.02	
L50N 150W		0.12	<.01	0.03	0.01	<.01	1.09	54.36	0.04	<.05	<.03	43.25	98.90	<.001	<0.01	<0.02	97.02
																· 	
4505 BL50	W	0.01	<.01	0.03	<0.01	<.01	1.1.1.1.1.1.1					42.95				<0.02	12102
L50E 10S		<0.01	<.01	<0.01	<0.01							42.95	-11 T.S.I			<0.02	
L50E 20S				<0.01								42.94				<0.02	1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -
L50E 30S		0.36	0.02	0.16	1997 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 -							43.35	667.03			<0.02	
L50E 40S		0.36	<.01	0.07	0.02	0.02	0.64	53.71	0.11	0.11	0.06	42.97	98.07	0.004	<0.01	<0.02	95.86
L50E 50S		0.57	<.01	0.06								43.13				<0.02	
L50E 60S		0.14	<.01	0.02	<0.01	<.01	1.71	54.05	<.01	<.05	0.03	43.12				<0.02	who have a
L50E 70S		0.13	<.01	0.01	<0.01	<.01						42.89	101 102			<0.02	
L50E 80S		0.12	<.01	0.01								43.01				<0.02	
L505 80W		0.24	<.01	0.04	0.22	0.02	2.41	52.00	0.10	0.09	<.03	43.55	98.68	<.001	<0.01	0.13	92.81

Ge )hemical Lab Report



SAMPLE	ELEMENT	SiO2 TiO2 PCT PCT		Fe203* PCT	Mn0 PCT	Mg0 PCT		Na2O PCT	к20 Рст	P205 PCT	LOI PCT	Total PCT	BaO PCT	Cr203 PCT		CaCO3 PCT
L50S 130W		0.28 <.01	0.05	0.08	<.01	3.86	50.43	0.06	0.11	<.03	43.61	98.48	<.001	<0.01	0.03	90.01
L50S 140W		0.13 <.01	0.03	<0.01	<.01	0.40	54.62	0.10	0.14	0.03	42.83	98.28	<.001	<0.01	<0.02	97.49
L50S 150W		0.10 <.01	0.09	<0.01	<.01	0.43	54.24	0.09	0.14	0.09	43.05	98.23 ·	<.001	<0.01	<0.02	96.81
L50W 10S		0.82 0.01	0.23	0.04	<.01	1.71	52.81	0.13	0.10	0.05	42.63	98.54	<.001	<0.01	<0.02	94.26
L50W 20S		0.31 <.01	0.04	<0.01	<.01	0.56	54.04	0.11	<.05	0.03	42.84	97.93	<.001	<0.01	<0.02	96.45
L50W 30S		0.16 <.01	0.02	<0.01	<.01	0.50	54.58	0.09	0.08	<.03	42.99	98.41	<.001	<0.01	<0.02	97.41
L50W 40S		0.35 <.01	0.08	0.01	<.01	0.59	54.88	0.02	0.09	0.10	42.91	99.04	<.001	<0.01	<0.02	97.95
L50W 50S		0.12 <.01	<0.01	<0.01	<.01	0.47	55.01	0.03	0.13	0.11	42.74	98.62	<.001	<0.01	<0.02	98.18
L50W 60S		0.22 <.01	0.02	<0.01	<.01	0.42	54.71	0.07	0.17	<.03	42.72	98.32	<.001	<0.01	<0.02	97.65
L50W 70S		0.57 <.01	0.09	0.02	<.01	1.39	53.52	0.03	0.13	<.03	42.96	98.71	<.001	<0.01	<0.02	95.52
L50W 80S		0.15 <.01	<0.01													
L50W 90S		0.21 <.01	0.03							5.0		98.56				
L50W 100S		0.19 <.01	0.02										<.001	<0.01	<0.02	97.58
L50W 110S		0.15 <.01	0.02								42.86					1 A A A A A A A A A A A A A A A A A A A
L50W 120S		0.53 <.01	0.08	0.02	<.01	0.89	54.32	0.06	0.09	0.03	42.91	98.93	<.001	<0.01	<0.02	96.95
BL60E		0.16 <.01	0.03	<0.01	<.01	1.51	54.06	0.11	<.05	0.05	42.95	98.87	<.001	<0.01	<0.02	96.49

# Ge hemical Lab Report



#### CLIENT: DOLMAGE CAMPBELL & ASSOCIATES

#### PROJECT: NONE GIVEN

	ELE	MENT	NUMBER ANALYS		EXTRACTION	METHOD	
1	20000	TOT Ca AS CaCO3 CA	I. 108	PCT		CALCULATION	-
		Silica (SiO2)	108	0.01 PCT	BORATE FUSIO	N INDUC. COUP. PL	ASMA
3	Ti02	Titanium (TiO2)			BORATE FUSIO	N INDUC. COUP. PL	ASMA
4	AL203	Alumina (Al203)	108	0.01 PCT	BORATE FUSIO	N INDUC. COUP. PL	ASMA
5	Fe203*	Alumina (Al2O3) Total Iron (Fe2O3)	108	0.01 PCT	BORATE FUSIO	N INDUC. COUP. PL	ASMA
6	MnO	Manganese (MnO)	108	0.01 PCT	BORATE FUSIO	N INDUC. COUP. PL	ASMA
7	MgO	Magnesium (MgO)	108	0.01 PCT	BORATE FUSIO	N INDUC. COUP. PL	
8	CaO	Calcium (CaO)	108			N INDUC. COUP. PL	
9	Na2O	Sodium (Na2O)	108	0.01 PCT	BORATE FUSIO	N INDUC, COUP, PL	
10	K20	Potassium (K2O)	108	0.05 PCT			
11	P205	Phosphorous (P205)		0.03 PCT 0.05 PCT	BORATE FUSIO		ASMA
12	LOI	Loss on Ignition	108	0.05 PCT	Ignition 100	0 Deg. C GRAVIMETRIC	
13	Total	Whole Rock Total	108	0.01 PCT			
14	BaO	Barium Oxide	108	0.001 PCT	BORATE FUSIO	N INDUC. COUP. PL	ASMA
15	Cr203	Chromium Oxide	108	0.01 PCT	BORATE FUSIO	N INDUC. COUP. PL	ASMA
		Sulphur (Total)		0.02 PCT		LECO	
SA	MPLE TY	PES NUME	SER SI	ZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS NUM	BER
	MPLE TY ROCK			ZE FRACTIONS -150	108	CRUSH/SPLIT <2 KG 1	BER 08 08
R	ROCK		)8 2	-150	108	CRUSH/SPLIT <2 KG 1	08 08
R	ROCK	10	)8 2	-150	108	CRUSH/SPLIT <2 KG 1 PULVERIZATION 1	08 08
R	ROCK	10	)8 2	-150	108	CRUSH/SPLIT <2 KG 1 PULVERIZATION 1	08 08
R	ROCK	10	)8 2	-150	108	CRUSH/SPLIT <2 KG 1 PULVERIZATION 1	08 08
R	ROCK	10	)8 2	-150	108	CRUSH/SPLIT <2 KG 1 PULVERIZATION 1	08 08
R	ROCK	10	)8 2	-150	108	CRUSH/SPLIT <2 KG 1 PULVERIZATION 1	08 08
R	ROCK	10	)8 2	-150	108	CRUSH/SPLIT <2 KG 1 PULVERIZATION 1	08 08
R	ROCK	10	)8 2	-150	108	CRUSH/SPLIT <2 KG 1 PULVERIZATION 1	08 08
R	ROCK	10	)8 2	-150	108	CRUSH/SPLIT <2 KG 1 PULVERIZATION 1	08 08

#### **REFERENCE:**

#### SUBMITTED BY: UNKNOWN

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Report

Ge hemical



CaO Na20 K20 P205 LOI Total BaO Cr2O3 S Tot ELEMENT CaCO3 SiO2 TiO2 AL2O3 Fe2O3\* MnO MgO SAMPLE PCT NUMBER UNITS PCT 0.03 <.01 0.84 54.38 0.14 0.15 0.04 43.13 99.04 <.001 <0.01 <0.02 97.06 0.23 <.01 0.10 L100N 10E 96.18 0.52 <.01 0.13 0.04 < 01 1.21 53.89 0.09 0.08 0.09 43.07 99.12 0.001 <0.01 <0.02 BL100W 0.07 <.01 2.15 51.50 0.14 0.23 0.05 43.17 98.18 0.003 <0.01 0.08 91.92 0.72 <.01 0.16 L100N 10W 93.10 0.21 <.01 0.07 0.03 < 01 2.35 52.16 0.08 0.14 0.09 43.46 98.59 < 001 < 0.01 < 0.02 L100N 20W 0.03 <.01 1.91 52.93 0.07 0.12 0.08 43.07 99.12 0.001 <0.01 <0.02 94.47 0.82 <.01 0.10 L100N 30W 0.01 < 01 1.18 53.47 0.09 < 05 < 03 43.21 98.06 < 001 < 0.01 < 0.02 95.43 0.07 <.01 0.03 L100N 40W 0.02 0.01 1.10 53.52 0.05 0.12 0.04 43.40 98.50 <.001 <0.01 <0.02 L100N 50W 95.52 0.18 <.01 0.05 0.06 <.01 2.70 50.59 0.10 0.20 <.03 43.34 97.96 0.002 <0.01 0.02 L100N 60W 90.29 0.80 < .01 0.18 0.01 <.01 0.80 54.49 0.03 0.10 0.03 43.16 98.89 <.001 <0.01 <0.02 97.25 0.20 <.01 0.06 L100N 70W 0.08 0.01 10.86 43.45 0.04 0.14 <.03 44.64 99.58 0.002 <0.01 <0.02 77.55 0.26 <.01 0.10 L100N 90W 0.04 <.01 3.41 51.27 0.03 0.07 0.06 43.53 98.63 0.001 <0.01 <0.02 91.51 0.13 <.01 0.08 L100N 100W 0.02 < 01 0.99 54.16 0.07 0.08 0.08 43.19 98.89 < 001 < 0.01 < 0.02 96.67 0.22 <.01 0.09 L100N 110W 94.72 0.21 <.01 0.19 0.02 <.01 1.34 53.07 0.04 0.09 <.03 43.27 98.24 <.001 <0.01 <0.02 L100N 120W 0.03 <.01 0.59 54.62 0.09 0.08 0.05 43.23 98.79 <.001 <0.01 <0.02 97.49 0.06 <.01 0.05 L100N 130W 0.02 <.01 1.27 53.60 0.04 <.05 0.06 43.23 98.53 <.001 <0.01 <0.02 L100N 140W 95.67 0.26 <.01 0.06 0.01 <.01 2.19 52.24 0.13 0.14 0.05 43.34 98.43 <.001 <0.01 <0.02 93.24 0.23 <.01 0.10 L100N 150W 0.07 <.01 8.64 45.10 0.05 0.08 0.05 44.05 98.52 <.001 <0.01 0.04 80.49 0.35 <.01 0.13 L100E BL100E 0.01 <.01 2.90 51.34 0.05 0.18 <.03 43.43 98.28 0.003 <0.01 <0.02 91.63 0.29 <.01 0.09 L100E 10# N 0.02 <.01 0.45 54.23 0.02 0.09 <.03 43.05 97.91 <.001 <0.01 <0.02 96.79 0.02 <.01 L100E 20# N 0.03 0.03 <.01 0.81 53.01 0.16 <.05 <.03 43.27 97.57 0.002 <0.01 <0.02 94.61 0.22 <.01 L100E 30E N 0.07 0.04 <.01 0.46 54.17 0.12 <.05 0.08 43.29 98.37 0.002 <0.01 <0.02 96.68 0.15 < .01 0.05 L100E 40# N 0.11 <.01 1.54 52.38 0.11 <.05 0.04 43.12 98.54 0.003 <0.01 <0.02 L100E 50 93.49 1.04 0.01 0.19 0.06 <.01 1.55 52.75 0.06 <.05 <.03 43.29 98.05 0.002 <0.01 0.02 94.15 0.26 <.01 L100E 60T N 0.06 0.02 <.01 0.52 54.22 0.15 <.05 <.03 43.06 98.50 0.003 <0.01 <0.02 L100E 70E N 96.77 0.45 < 01 0.08 0.03 <.01 1.04 52.99 0.07 0.05 0.07 43.19 97.58 0.002 <0.01 <0.02 94.58 0.09 <.01 0.05 L100E 808 N 0.02 <.01 3.31 51.34 0.05 0.05 0.08 43.32 98.49 0.003 <0.01 <0.02 0.08 L100E 20S 91.63 0.24 <.01 0.04 <.01 5.37 49.13 0.04 0.05 <.03 43.60 98.57 0.003 <0.01 <0.02 L100E 30S 87.69 0.27 <.01 0.07 0.04 < 01 2.52 51.21 0.07 < 05 0.03 43.31 97.50 0.002 < 0.01 0.02 91.40 0.23 <.01 0.10 L100E 40S 0.05 <.01 1.33 54.31 0.02 <.05 0.07 43.29 99.36 0.001 <0.01 <0.02 L100E 50S 96.93 0.19 <.01 0.10 0.05 <.01 2.00 53.90 0.08 0.11 0.09 43.21 99.68 0.001 <0.01 <0.02 96.20 0.17 < .01 0.07 L100E 60S

# Ge hemical Lab Report



SAMPLE	ELEMENT	CaCO3	\$i02	T i 02	AL 203	Fe203*	MnO	MgO	CaO	Na20	K20	P205	LOI	Total	BaO	Cr203	S Tot
NUMBER	UNITS	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT
L100E 70S		92.45	0.07	<.01	0.03	0.04	<.01	3.56	51.80	<.01	0.20	0.06	43.51	99.27	0.001	<0.01	<0.02
L100E 80S		94.35	0.15	<.01	0.05	0.02	<.01	2.90	52.86	<.01	0.08	<.03	43.33	99.39	0.001	<0.01	<0.02
LARN BL100N	I	97.43	0.45	<.01	0.13	0.04	<.01	0,90	54.59	0.03	0.15	0.08	42.99	99.36	0.001	<0.01	<0.02
L100W 10N		98.77	0.13	<.01	0.05	0.02	<.01	0.51	55.34	0.03	0.12	0.08	43.00	99.27	<.001	<0.01	<0.02
L100W 20N		98.41	0.24	<.01	0.06	0.01	<.01	0.89	55.14	0.08	0.10	<.03	42.81	99.34	<.001	<0.01	<0.02
															n de la composition de la comp		
L100W 30N		96.47	0.31	<.01	0.06	0.03	<.01	1.03	54.05	<.01	0.15	0.04	42.86	98.52	<.001	<0.01	<0.02
L100W 40N		97.56	0.20	<.01	0.05	0.01	<.01	0.65	54.66	0.10	0.06	<.03	42.95	98.67	0.001	<0.01	<0.02
L100W 50N		92.26	0.44	<.01	0.13	0.04	<.01	3.00	51.69	0.01	0.18	0.09	43.13	98.71	0.001	<0.01	<0.02
L100W 10S		94.90	0.38	<.01	0.07		<.01						43.05			<0.01	
L100W 20S		96.95	0.17	<.01	0.03	0.01	<.01	0.45	54.32	0.04	0.12	<.03	42.84	97.98	<.001	<0.01	<0.02
L100W 30S		96.63	0.12	<.01	0.05								43.03				
L100W 40S		96.93	0.39	<.01	0.04	<0.01	<.01						42.93				a staat in
L100W 50S		96.83	0.04	<.01	0.01	<0.01	<.01						42.96				
L100W 60S		97.45	0.05	<.01	0.01	<0.01							42.92				
L100W 70S		98.18	0.03	<.01	0.03	<0.01	<.01	0.43	55.01	<.01	0.07	<.03	42.83	98.41	<.001	<0.01	<0.02
L100W 80S		96.83	0.15	<.01	0.10	0.01	<.01		1.1.1				42.80				
L100W 90S		96.97	0.10	<.01	0.08	<0.01	<.01				1.11		42.77				
L100W 100S		96.00	0.21	<.01	0.05	0.02	<.01						42.81				
L100W 110S		97.24	0.07	<.01	0.02	<0.01	< 01	0.62	54.48	<.01	0.07	0.05	42.78	98.09	<.001	<0.01	<0.02
L100W 120S		93.35	0.35	<.01	0.07	0.02	<.01	1.66	52.30	0.12	0.13	0.04	42.79	97.48	<.001	<0.01	<0.02
																	s in the
L100W 130S		92.15	0.27	<.01	0.16								42.97				
L100W 140S		81.76	0.66	0.01	0.22	0.45	0.01						42.62				
BL150E	E	95.51	0.03	<.01	0.02	0.01	<.01						42.82				1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
L150N 8E		95.88	0.16	<.01	0.05		<.01						43.04				
L150N 20E		97.50	0.08	<.01	0.04	0.02	<.01	0.83	54.63	0.02	0.08	0.06	42.75	98.50	0.001	<0.01	<0.02
1.150N 20/18 V	V	98.25	0.13	<.01	0.04								42.72				
L150N 30E		99.13	0.16	<.01	0.05								42.95		1 A 192		
L150N 130	1	97.33	0.18	<.01	0.06		- Y. C. Y.						42.73		1. A.		
HOW BL/50	W	97.77	0.20	<.01	0.06								42.71				
L150N 10W		<b>97.</b> 02	0.34	<.01	0.12	0.04	<.01	0.75	54.36	0.05	0.07	<.03	43.00	98.72	0.002	<0.01	0.03
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# Ge hemical Lab Report



SAMPLE	ELEMENT CaCO3	SIO2 TIO	2 AL203	Fe203*	MnO	MgO	CaO	Na20	K20	P205	LOI	Total	BaO	Cr203	S Tot
NUMBER	UNITS PCT	PCT PC	r PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT
L150N 30W	97.36	0.47 <.0	0.07	0.02	<.01	1.40	54.55	0.06	0.18	<.03	42.76	99.51	0.001	<0.01	<0.02
L150N 40W	98.04	0.14 <.0	0.06	0.02	<.01	0.91	54.93	0.07	0.07	0.05	42.79	99.03	0.001	<0.01	<0.02
L150N 50W	94.83	0.21 <.0	0.05	0.02	<.01	1.87	53.13	0.03	0.07	0.10	42.86	98.34	0.005	<0.01	<0.02
L150N 60W	85.17	0.54 < 0	0.18	0.05	0.01	8.03	47.72	0.01	0.08	0.06	43.48	100.18	0.002	<0.01	<0.02
L150N 70W	94.88	0.24 <.0	0.05	0.02	<.01	1.98	53.16	<.01	0.06	<.03	42.67	98.19	0.001	<0.01	<0.02
															a Sa Maria
L150N 80W	97.36	0.31 <.0	0.07	0.02	<.01	1.78	54.55	0.06	0.09	0.10	42.71	99.69	<.001	<0.01	<0.02
L150N 90W	88.26	0.31 <.0	0.10	0.03	<.01	6.03	49.45	0.05	0.08	0.07	43.14	99.27	0.001	<0.01	<0.02
L150N 100W	98.38	0.17 <.0	0.08	0.01	<.01	1.42	55.12	0.11	0.06	0.05	42.86	99.87	<.001	<0.01	<0.02
L150N 100AW	95.95	0.11 <.0	0.04	0.03	<.01	2.21	53.76	<.01	0.17	0.09	42.89	99.29	<.001	<0.01	<0.02
L150N 110W	97.22	0.09 <.0	0.05	0.04	<.01	1.17	54.47	0.05	0.13	0.09	42.84	98.93	<.001	<0.01	<0.02
L150N 120W	94.97	0.09 <.0	0.06	0.04	<.01	0.91	53.21	0.03	0.16	0.10	42.97	97.58	0.001	<0.01	<0.02
L150N 140W	96.70	0.27 <.0	0.04	<0.01	<.01	1.11	54,18	0.08	0.10	<.03	42.84	98.63	<.001	<0.01	<0.02
L150N 150W	96.49	0.10 <.0	0.03	<0.01	<.01	0.75	54.06	0.18	0.12	0.06	42.64	97.94	0.001	<0.01	<0.02
L150E 10N	95.83	0.11 <.0	0.03	<0.01	<.01	1.79	53.69	0.11	0.06	<.03	42.75	98.54	<.001	<0.01	<0.02
L150E 20N	98.59	0.14 <.0	0.01	0.01	<.01	0.68	55.24	0.07	0.09	<.03	42.63	98.88	<.001	<0.01	<0.02
L150E 30N	94.22	0.12 <.0	0.03	0.01	<.01	2.80	52.79	0.11	0.07	0.09	42.79	98.81	<.001	<0.01	<0.02
L150E 40N	90.60	0.25 <.0	0.10	0.11	<.01	3.44	50.76	0.07	0.09	<.03	43.24	98.06	<.001	<0.01	0.06
L150E 50N	96.81	0.09 <.0	0.04	0.02	<.01	0.65	54.24	0.05	<.05	<.03	42.86	97.95	<.001	<0.01	<0.02
L150E 60N	85.03	0.30 <.0	0.12	0.10	<.01	7.08	47.64	0.10	0.11	<.03	43.77	99.23	0.002	<0.01	<0.02
L150E 70N	96.86	0.08 <.0	0.02	0.02	<.01	1.33	54.27	0.03	0.12	<.03	42.93	98.81	0.001	<0.01	<0.02
L150E 80N	97.66	0.05 <.0	0.05	0.02	<.01	1.02	54.72	<.01	0.07	<.03	42.83	98.76	<.001	<0.01	<0.02
L150E 20S	95.09	0.09 <.0	0.02	<0.01	<.01	2.98	53.28	0.06	0.08	<.03	42.88	99.38	<.001	<0.01	<0.02
L150E 30S	91.95	0.18 <.0	0.13	0.02	<.01	3.89	51.52	0.06	0.08	<.03	43.05	98.93	<.001	<0.01	<0.02
L150E 40S	98.06	0.21 <.0	0.04	0.02	<.01	0.66	54.94	0.09	0.09	<.03	42.86	98.92	0.001	<0.01	<0.02
L150E 50S	99.16	0.12 <.0	<0.01	<0.01	<.01	1.59	55.56	0.02	0.09	<.03	42.58	99.96	<.001	<0.01	<0.02
												-			an a
L150E 60S	99.57	0.18 <.0	0.03	0.02	<.01	0.75	55.79	0.08	0.09	0.04	42.67	99.65	<.001	<0.01	<0.02
L150E 70S	98.66	0.05 <.0	<0.01	<0.01	<.01	1.23	55.28	0.11	<.05	<.03	42.66	99.32	<.001	<0.01	<0.02
L150E 80S	96.88	0.11 <.0	0.01	0.01	<.01	2.50	54.28	0.02	0.06	<.03	42.87	99.86	<.001	<0.01	<0.02
L150W BL150	<b>v 98.</b> 00	0.14 <.0	0.04	<0.01	<.01	0.68	54.91	0.06	<.05	<.03	42.68	98.51	<.001	<0.01	<0.02
L150W 10N	99.93	0.38 <.0	0.06	<0.01	<.01	0.47	55.99	0.10	0.11	<.03	42.63	99.74	<.001	<0.01	<0.02

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SAMPLE	ELEMENT CaCO3	SIO2 TIO2 AL2	03 Fe203* MnO	) MgO CaO Na2O	K20 P205 LOI	Total BaO Cr2O3 S Tot
NUMBER	UNITS PCT	PCT PCT F	T PCT PCT	PCT PCT PCT	РСТ РСТ РСТ	PCT PCT PCT PCT
L150W 20N	98.90	0.07 <.01 <0.	01 <0.01 <.01	0.41 55.41 0.05	0.11 <.03 42.60	98.65 <.001 <0.01 <0.02
L150W 30N	97.81	0.15 <.01 0.	0.03 <.01	1.41 54.80 0.03	0.06 <.03 42.91	99.43 0.001 <0.01 <0.02
L150W 35N	98.34	0.21 <.01 0.	04 <0.01 <.01	0.42 55.10 0.09	<.05 <.03 42.55	98.42 <.001 <0.01 <0.02
L150W 40N	99.29	0.16 <.01 0.	01 <0.01 <.01	0.49 55.63 0.06	<.05 <.03 42.58	98.93 <.001 <0.01 <0.02
L150W 10S	99.54	0.08 <.01 0.	01 <0.01 <.01	0.30 55.77 0.12	0.13 0.06 42.57	99.04 <.001 <0.01 <0.02
1						
L150W 20S	98.61	0.15 <.01 0.				98.30 0.001 <0.01 <0.02
L150W 30S	98.45	0.10 <.01 0.			and the second	98.16 <.001 <0.01 <0.02
L150W 40S	96.56	0.31 <.01 0.				98.08 <.001 <0.01 <0.02
L150W 50S	99.20	0.15 <.01 0.				98.93 <.001 <0.01 <0.02
L150W 60S	98.13	0.05 <.01 <0.	01 <0.01 <.01	0.47 54.98 0.05	0.07 <.03 42.50	98.12 <.001 <0.01 <0.02
L150W 70S	97.70	0.24 <.01 0				98.32 <.001 <0.01 <0.02
L150W 80S	98.45	0.19 <.01 0.	06 <0.01 <.01	0.79 55.16 0.13	0.08 <.03 42.37	98.79 <.001 <0.01 <0.02
L150W 90S	97.13	0.30 <.01 0	••• ••••	1 1.04 54.42 0.08		
L150W 100S	93.42	0.18 <.01 0	· · · · · · · · · · · · · · · · · · ·		a gul l'ann an tha anns	98.48 <.001 <0.01 <0.02
L150W 110S	85.72	0.42 <.01 0	16 0.34 0.01	1 6.17 48.03 0.10	0.12 0.09 43.04	98.47 0.002 < 0.01 0.20
L150W 120S	92.95	0.10 <.01 0		Provide a second se		98.60 <.001 <0.01 <0.02
L150W 130S	90.69	0.18 <.01 0	••			99.43 0.003 <0.01 0.36
L150W 140S	90.49	0.20 <.01 0	09 0.07 0.01	4.73 50.70 0.06	0.07 0.06 43.25	99.23 0.001 <0.01 0.05
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#### CLIENT: DOLMAGE CAMPBELL & ASSOCIATES

#### PROJECT: NONE GIVEN

ELEMENT	NUMBER OF ANALYSES		EXTRACTION	METHOD
1 CaCO3 TOT Ca AS CaCO3 C/ 2 SiO2 Silica (SiO2) 3 TiO2 Titanium (TiO2) 4 Al2O3 Alumina (Al2O3) 5 Fe2O3* Total Iron (Fe2O3 6 MnO Manganese (MnO)	116 116 116	PCT 0.01 PCT 0.01 PCT 0.01 PCT 0.01 PCT 0.01 PCT	BORATE FUSION BORATE FUSION BORATE FUSION BORATE FUSION BORATE FUSION	CALCULATION INDUC. COUP. PLASMA INDUC. COUP. PLASMA INDUC. COUP. PLASMA INDUC. COUP. PLASMA INDUC. COUP. PLASMA
7 MgO Magnesium (MgO) 8 CaO Calcium (CaO) 9 Na2O Sodium (Na2O) 10 K2O Potassium (K2O) 11 P2O5 Phosphorous (P2O5 12 LOI Loss on Ignition	116 116 116 116 116 116 116	0.01 PCT 0.01 PCT 0.01 PCT 0.05 PCT 0.03 PCT 0.05 PCT	BORATE FUSION BORATE FUSION BORATE FUSION BORATE FUSION BORATE FUSION Ignition 1000 Deg	INDUC. COUP. PLASMA INDUC. COUP. PLASMA INDUC. COUP. PLASMA INDUC. COUP. PLASMA INDUC. COUP. PLASMA INDUC. COUP. PLASMA . C GRAVIMETRIC
13 Total Whole Rock Total 14 BaO Barium Oxide 15 Cr2O3 Chromium Oxide 16 S Tot Sulphur (Total)	116 116	0.01 PCT 0.001 PCT 0.01 PCT 0.02 PCT	BORATE FUSION BORATE FUSION	INDUC. COUP. PLASMA INDUC. COUP. PLASMA LECO
SAMPLE TYPES NUM				E PREPARATIONS NUMBER
r rock 1	16 2 -	150		/SPLIT <2 KG 116 RIZATION 116
REPORT COPIES TO: 1970 - 10	55 West has	TINGS	INVOICE TO: 197	10 - 1055 WEST HASTINGS

#### REFERENCE:

#### SUBMITTED BY: UNKNOWN

#### DATE PRINTED: 29-NOV-94

Lab

Report

Ge hemical

Bondar-Clegg & Company Ltd., 130 Pemberton Avenue, North Vancouver, B.C., V7P 2R5, (604) 985-0681



SAMPLE	ELEME	NT CaCO3	si02	TiO2	AL203	Fe203*	MnO	MgO	CaO	Na2O	<b>K2</b> 0	P205	LOI	Total	BaO	Cr203	S Tot
NUMBER		TS PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT
-	BL200E	96.72	0.15	<.01	0.07	0.05	<.01	1.17	54.19	0.05	0.08	0.05	42.60	98.41	<.001	<0.01	<0.02
L200N	10E	98.20	0.02	<.01	0.02	<0.01	<.01	0.41	55.02	<.01	<.05	0.09	42.69	<b>98.</b> 25	<.001	<0.01	<0.02
L200N	20E	95.58	0.17	<.01	0.06	0.02	<.01	1.76	53.55	0.08	0.16	0.04	42.34	98.18	<.001	<0.01	<0.02
L200N	26E	98.09	<0.01	<.01	0.02	<0.01	<.01	0.39	54.96	0.03	0.09	0.04	42.03	97.56	<.001	<0.01	<0.02
L200N	115E	93.11	1.10	<.01	0.29	0.03	<.01	1.97	52.17	0.06	0.22	0.04	42.32	98.21	0.001	<0.01	0.02
L200N	125E	93.86	0.66	<.01	0.19	0.03	<.01						42.13			<0.01	
	BL200 ₩	97.36	<0.01	<.01	<0.01	<0.01	<.01	0.81	54.55	0.07	0.06	<.03	42.14				1.11.11.11.1
L200N	10W	97.38	0.17	0.02	0.12	0.05	0.01		54.56							<0.01	
L200N	20W	97.65	0.13	<.01	0.06	0.02	<.01		54.71							<0.01	
L200N	30W	98.38	0.15	<.01	0.08	0.02	<.01	0.36	55.12	0.05	<.05	0.03	42.84	98.65	<.001	<0.01	<0.02
									1997 1997 - 1997	· 							
L200N	40W	96.77		<.01			0.02		54.22								<0.02
L200N	50w	99.00		<.01			<.01						42.14				<0.02
L200N	60W	98.61		<.01			<.01						42.02			<0.01	
L200N	70W	97.02		<.01			<.01						42.76				<0.02
L200N	80W	97.52	0.12	<.01	0.07	0.09	0.02	0.95	54.04	0.05	0.07	<.05	43.36	YY.3(	<.001	<0.01	<0.02
							04		E0 17	0.1/	4 OE	~ 07	42.29	00.20	< 001	-0 01	<0.02
L200N			0.13		- 11 - L								42.08				<0.02
L200N			0.14		a that y		<.01						42.00				<0.02
L200N		92.81		<.01	1.1		<.01 <.01						42.39				i wi wileyo ta
L200N			0.17		L L		<.01						43.03		1.2.212		i an atar
L200N	1.50W	96.81	0.15	<.01	0.08	0.04		1.44	34.24	0.07	0.00	0.05	43.03	77.14		-0.01	<b>U.U</b>
	4400	04 17	0.10	- 01	0.10	0.02	<.01	1 37	57 86	0 04	< 05	0.03	42.28	97.88	< 001	<0.01	<0.02
L200N			0.18	<.01	11 - L	·	<.01				- 19 - 19 <sup>1</sup>		42.33				
L200N		98.34 96.70		<.01	1.00		<.01						42.46				1912
	BL200N	98.91		<.01			<.01		- 1 - C		1121		42.72				- Carlottan
L200E			0.12			· · · · _	<.01						42.11				
LZUUE	ZUN	73.22	U. (2		0.04	0.00											
L200E	201	06 79	0.15	່ < በ1	0.07	0_04	0.01	1.84	54.00	0.02	0.05	<.03	42.25	98.42	<.001	<0.01	<0.02
L200E			0.07				<.01						42.09			<b>.</b>	12 22
		98.79		) <.01	- 6 C. 1		<.01		1.41.1				42.00				
L200E		98.63		) <.01			<.01						42.98				
L200E		98.75		<.01			<.01						42.73			·	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.
L200E		70.73	0.1		0.05												

## Ge hemical Lab Report



SAMPLE	E		CaCO3	\$i02	Ti02	A1203	Fe203*	MnO	MgO	CaO	Na2O	K20	P205	LOI	Total	BaO	Cr203	S Tot
NUMBER		UNITS	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT
L200E	80N		98.66	0.11	<.01	0.10		0.01							99.48			
L200E	10S		97.36	0.14	<.01	0.06		<.01							98.78			
L200E	20S		94.67	0.65	<.01	0.10		<.01							100.21			
L200E	30S		98.40	0.08	<.01	0.07		<.01		2 A A A					99.21			
L200E	40\$		98.50	0.10	<.01	0.06	0.02	<.01	0.85	55.19	0.03	0.08	0.03	42.45	98.80	<.001	<0.01	<0.02
								· · ·		21 22		~~				001		-0.07
L200E	50S		98.02	0.14	<.01	0.05									98.59			
L200E	60S		93.68	0.29	<.01	0.04		<.01							97.90			
L200E	70S		94.97	0.86	<.01	0.02		<.01						42.00				<0.02
L200E	80S		90.26	0.34	<.01	0.03		<.01						42.60		<.001		
L200W	10N		89.26	0.68	0.01	0.29	0.09	<.01	5.08	50.01	0.01	0.08	0.05	42.55	98.85	<.001	<0.01	0.03
															07 F (			
L200W	20N		96.99	0.03	<.01	0.02									97.56			
L200W	30N		97.75	0.10	<.01	0.05	0.01	<.01							97.91			
L200W	40N		98.08	0.13	<.01	0.08	0.02	<.01							98.14			
L200W	50N		98.72	0.09	<.01	0.05	<0.01	<.01							98.49			
L200W	10S		98.15	0.04	<.01	0.04	<0.01	<.01	0.44	54.99	0.11	0.07	<.03	42.32	98.00	<.001	<0.01	<0.02
																		0.07
L200W	20S		97.18	0.06	<.01	0.04									97.58			
L200W	30S		98.50	0.06	<.01	0.03	<0.01	<.01							97.94			
L200W	40S		98.79	<0.01	<.01	0.02	<0.01	<.01							98.52			
L200W	60S		97.81	0.09	<.01	0.05		<.01							99.77			
L200W	70S		98.11	0.13	<.01	0.08	0.02	<.01	0.48	54.97	<.01	<.05	0.07	42.25	98.00	<.001	<0.01	<0.02
																i ja La ser		
L200W	80S		80.14	0.17	' <.01	0.09								1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	98.75			
L200W	90s		80.92	4.01	0.03	0.34				1 B 1 B 1				38.40		<.001		
L200W	100s		98.43	<0.01	<.01	0.04	0.04	<.01						42.01		<.001		
L200W	110S		85.12	0.14	<.01	0.07		<.01						42.27		<.001		
L200W	120S		94.20	0.35	<.01	0.12	0.08	3 <.01	1.92	52.78	0.04	<.05	0.09	42.24	97.62	<.001	<0.01	0.06
																	s.	1997 (M2)
L200W	130s		84.92	0.20	.01	0.09	0.07	<b>* &lt;.</b> 01						42.89		<.001		
L200W			97.13	0.12	2 <.01	0.03	5 0.08	3 <.01							99.71	1. St		
L250N	BL250N		98.25	0.18	3 <.0'	0.04	<0.01	<.01						42.88				<0.02
L250N	10E		96.81	0.20	) <.0'	0.05	0.02	2 <.01							98.12			
L250N			90.79	0.73	5 <.0	0.20	0.0	5 <.01	5.30	50.87	0.04	<.05	0.04	42.10	99.35	i <.001	<0.01	0.04

# Ge hemical Lab Report



SAMPLE	ELEMENT	CaCO3	si02	T i 02	AL203	Fe203*	MnO	MgO	CaO	Na20	K20	P205	LOI	Total	BaO	Cr203	S Tot
NUMBER	UNITS	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT
L250N 30E		92.49	0.40	<.01	0.11	0.04	<.01	4.71	51.82	0.09	0.10	0.05	42.37	99.69	0.002	<0.01	0.02
L250N 110E		94.17	1.22	0.01	0.27	0.06	<.01	3.00	52.76	0.08	0.11	<.03	42.13	99.65	0.001	<0.01	0.02
L250N 120E		86.58	2.37	0.03	0.59	0.11	<.01	4.78	48.51	0.05	0.39	0.03	42.80	99.66	0.003	<0.01	0.04
L250N 130E		97.36	0.29	<.01	0.09	0.02	<.01	1.07	54.55	0.08	<.05	0.07	42.66	98.83	<.001	<0.01	<0.02
##### BL250	W	97.11	0.50	<.01	0.08	0.03	<.01	0.73	54.41	<.01	<.05	<.03	42.40	98.15	<.001	<0.01	<0.02
L250N 20W		97.33	0.14	<.01	0.04	<0.01	<.01	0.44	54.53	0.02	<.05	0.04	42.58	97.79	<.001	<0.01	<0.02
L250N 30W		95.76	0.14	<.01	0.04	0.02	<.01	0.47	53.65	0.02	<.05	<.03	42.71	97.05	<.001	<0.01	<0.02
L250N 40W		98.24	0.17	<.01	0.03	<0.01	<.01	0.38	55.04	0.02	<.05	0.07	42.88	98.59	<.001	<0.01	0.02
L250N 50W		98.02	0.22	<.01	0.06	0.01	<.01	0.81	54.92	0.03	<.05	0.07	42.62	98.75	<.001	<0.01	<0.02
L250N 70W		98.22	0.17	<.01	0.04	0.01	<.01	0.67	55.03	0.02	<.05	<.03	42.29	98.23	<.001	<0.01	<0.02
L250N 80W		98.38	0.55	<.01	0.03	<0.01	<.01	0.49	55.12	0.04	<.05	0.05	42.43	98.71	<.001	<0.01	<0.02
L250N 90W		97.65	0.10	<.01	0.08	0.01	<.01	0.94	54.71	0.03	<.05	0.03	42.88	98.78	<.001	<0.01	<0.02
L250N 100W		98.31	0.10	<.01	0.05	<0.01	<.01						42.53		<.001		
L250N 110W		94.43	0.55	<.01	0.11	0.03	<.01						42.29				
L250N 120W		98.16	0.12	<.01	0.05	<0.01	<.01	0.67	55.00	0.02	<.05	<.03	42.66	98.52	<.001	<0.01	<0.02
L250N 130W		97.22	0.42	<.01	0.11	0.01	<.01						42.85				
L250N 140W		95.36	0.21	<.01	0.06	0.01	<.01						42.83				
L250N 150W		84.17	0.24	<.01	0.08	0.04	0.01						43.32				
L250W 10S		98.25	0.05	<.01	<0.01	<0.01							42.37				
L250W 20S		98.00	0.08	<.01	<0.01	<0.01	<.01	0.65	54.91	0.02	<.05	0.07	42.59	98.32	<.001	<0.01	<0.02
																	1
L250W 30S		95.93	0.27	<.01	0.04	<0.01	<.01						42.09				
L250W 40S		96.24	0.09	<.01	0.02	<0.01	<.01						42.93				
L250W 60S		85.67	1.64	<.01	0.32		0.03						42.54				
L250W 70S		82.94	0.40	<.01	0.16								43.67				
L250W 80S		79.32	2.17	0.04	0.59	1.61	0.01	9.69	44.44	0.02	0.09	0.05	39.92	98.63	<.001	<0.01	0.91
L250W 90S		74.94	0.47	0.01	0.16								41.66				
L250W 100S		96.11	0.31	<.01	0.04								42.76		<.001		
L250W 110S		95.68	0.15	<.01	0.04		<.01		1 - C - C - C - C - C - C - C - C - C -				42.54		<.001		
L250W 120S		97.41	0.08	<.01	0.01		<.01						42.53				<0.02
L250W 130S		97.52	0.11	<.01	0.02	0.02	<.01	1.27	54.64	0.08	0.09	<.03	42.50	98.73	0.001	<0.01	<0.02

# Ge hemical Lab Report



SAMPLE		ELEMENT	CaCO3	\$i02	т і 02	AL203	Fe20 <b>3*</b>	MnO	MgO	CaO	Na2O	K20	P205	LOI	Total	8a0	Cr203	S Tot
NUMBER		UNITS	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	PCT	РСТ	PCT	PCT	PCT	PCT	PCT
L250W	140S		93.85	0.28	<.01	0.06	0.06	0.01	2.52	52.58	0.04	0.14	<.03	43.44	99.13	<.001	<0.01	0.05
L300N	BL300N		97.58	0.77	<.01	0.04	0.04	0.01	0.56	54.67	0.07	<.05	0.08	42.56	98.80	<.001	<0.01	<0.02
L300N	10E		96.88	0.12	<.01	0.02	0.01	<.01	0.77	54.28	0.07	<.05	0.04	42.94	98.25	<.001	<0.01	<0.02
L300N	20E		97.09	0.33	<.01	0.13	0.03	<.01		1				42.72			<0.01	
L300N	30E		97.72	0.07	<.01	0.03	<0.01	<.01	0.75	54.75	0.07	<.05	<.03	42.00	97.67	<.001	<0.01	<0.02
L300N	40E		98.65	0.13	<.01	0.03	<0.01	<.01				1.11		42.22				
L300N	50E		97.38	0.29	<.01	0.04	0.04	<.01						43.10				
1.300N	90E		98.33	0.14	<.01	0.05	0.01	<.01						42.54				
L300N	100E		97.61	0.25	<.01	0.03	0.01	<.01						42.41				
L300N	110E		93.65	1.16	0.01	0.23	0.05	< <b>.</b> 01	2.96	52.47	0.06	0.15	<.03	42.86	99.96	0.002	<0.01	0.03
L300N	120E		97.66	0.07	<.01	<0.01	<0.01	<.01						42.76				
L300N	130E		98.95	0.11	<.01	0.02		<.01						42.13				
L300N	10W		98.47	0.20	<.01	0.09	0.01	<.01						42.49				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
L300N	20W		98.38	0.04	<.01	0.02	0.02	<.01						42.94				
L300N	30W		<b>98.</b> 70	0.17	<.01	0.03	0.02	<.01	0.51	55.30	0.05	<.05	0.03	42.40	98.51	<.001	<0.01	<0.02
																an di san An		
L300N	50W		97.00	0.30	<.01	0.05	0.09	<.01						42.66				
L300N	60W		98.50	0.09	<.01	0.01	0.01	<.01						42.34				
L300N	70W		98.09	0.10	<.01	0.02	0.01	<.01						42.33				
L300N	80W		97.79	0.16	<.01	0.02	0.01	<.01						42.36			<0.01	
L300N	90W		96.79	0.21	<.01	0.05	0.03	<.01	2.11	54.23	0.05	<.05	0.03	42.43	99.14	<.001	<0.01	<0.02
L300N	100W		97.75	0.33	<.01	0.15	0.02	<.01						42.33			<0.01	
L300N	110W		97.50	0.15	<.01	0.04	<0.01	<.01						42.31			<0.01	
L300N	120W		97.25	0.08	<.01	0.05	0.01	<.01		- T. 17 - 19	· ·			42.56		1.1.1.1.1.1.1	<0.01	
L300N	130W		97.45	0.06	<.01	0.02	<0.01	<.01		1.117.0				42.22			<0.01	
L300N	140W		98.38	0.08	<.01	0.02	<0.01	<.01	0.55	55.12	0.05	<.05	<.03	42.36	98.18	<.001	<0.01	<0.02
L300N	150W		97.63	0.11	<.01	0.03	<0.01	<.01	1.01	54.70	0.11	<.05	0.04	42.37	98.37	<.001	<0.01	<0.02
										1997 - 1997 -								

## Ge hemical Lab Report

# APPENDIX II

# ANALYTICAL TECHNIQUE

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#### ANALYTICAL TECHNIQUE

#### A. <u>CHEMEX LABS LTD., NORTH VANCOUVER, B.C.</u>

Special Prep

Chemex Code: 266 Instructions from J.L. Rotzien

Samples L-7-3 and "X" are to be analyzed in their entirety but each of the other samples should be cut in half lengthwise with one of the halves cut in half again, allowing analysis of one quarter of each sample. The remaining quarter and half of each sample should be shipped back to Dolmage Campbell Ltd. as soon as possible.

#### Ring Grinding

Chemex Code: 268

A sample is ground using a ring mill pulverizer with a chrome steel ring set. The Chemex specification for this procedure is that greater than 90% of the ground material passes a 150 mesh screen. Grinding with chrome steel will impart trace amounts of iron and chromium to a sample.

#### Graphite

Chemex Code: 864

A prepared sample (0.2 gram) is leached with dilute nitric acid and taken to dryness. The sample is heated in a furnace at 470°C to ash volatile carbon. The residue is combusted in an induction furnace and the carbon measured by an infrared detector. The carbon measured is the amount of graphite present.

Detection Limit: 0.01% Upper Limit: 100%

#### WHOLE ROCK ANALYSIS

A 0.1 g sample is added to 0.7 g of lithium metaborate flux, mixed well and fused in a furnace at 1050 degrees C. The bead is dissolved in 100 ml of 4% HNO3 and this solution is analyzed by inductively coupled plasma-atomic emission spectroscopy (ICP-AES).

#### METHOD FOR LOSS ON IGNITION

A porcelain crucible is cleaned and dried in an oven at 105 degrees C. The crucible is cooled and the weight recorded. A 1.0 g sample is weighed into the crucible and the weight recorded.

The sample is ashed for one hour in a furnace at 1000 degrees C and then placed into a desiccator and cooled. The ashed sample is weighed and loss on ignition calculated.

#### B. BONDAR-CLEGG AND COMPANY, LTD., NORTH VANCOUVER, B.C.

#### Rock Sample Preparation

- Entire sample is crushed to -10 mesh through a jaw crusher.
- a 150-gm split is taken using a riffle splitter.
- The 150-gm split is pulverized in a ring and puck pulverized to -150 mesh.
- This pulverized sample is used for analysis.

#### Whole Rock Analysis by ICP-Atomic Emission

- Determination of major oxides:

Pulverized (to -150 mesh) rock pulp is fused with a mixture of lithium metaborate and lithium tetra-borate in a graphite crucible at 950°C for 20 minutes. The fusion bead is poured and dissolved in dilute nitric acid. The concentrations of major oxides are measured by ICP-Atomic Emission Spectrometer. Barium, strontium and chromium may be measured at the same time.

- Calculation of calcium in rock as calcium carbonate:

The total calcium determinated by above-mentioned method as calcium oxide can be calculated as calcium carbonate by multiplying a factor of 1.7848 on the value of calcium oxide. However, this calculated value may not be the true content of calcium carbonate in the rock.

- Determination of Loss On Ignition:

The pulp of the rock sample is weighed in a porcelain crucible and ignited in muffle furnace at 1,000°C for one hour. The ash is cooled and weighed. The Loss on Ignition is calculated as follows:

LOI% = ([Initial Weight - Final Weight]/Initial Weight) x 100

# APPENDIX III

# STATEMENT OF COSTS

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## STATEMENT OF COSTS

## A. <u>GEOLOGY AND SUPERVISION</u>

Aug. 19-25, 1994: J.L. Rotzien - 12 hrs. @ \$60.00/hr. Sample retrieval, delivery, interpretation, letter report, etc.	\$ 720.00
Sept. 26 - Oct. 11: R.F. McIntyre - 11 days @ \$200.00/day Program planning and preparation, purchasing, coordination	2,200.00
Oct. 12-25: R.F. McIntyre - 14 days @ \$400.00/day Supervision and sampling, 2 days travel	5,600.00
Nov. 1-6: R.F. McIntyre - 5 days @ \$400.00/day Report and map preparation	2,000.00
Report Costs: Drafting, typing, reproduction	1,000.00
	\$ 11,520.00

## B. <u>GEOCHEMICAL SURVEY</u>

Preparatory Assaying, Chemex Labs. Inc., North Vancouver, B.C. 12 samples @ \$57.96 per sample	\$	695.50
Field Assistant - Kevin Cochrane, Rock Sampling Oct. 12-25, 1994: 14 days @ \$200.00/day		2,800.00
Sample Assays, Bondar-Clegg and Company Ltd., North Vancouver, B.C. 304 samples @ \$21.40 /sample	_0	6 <u>,505.60</u>
	\$ 10	0,001.10

## C. TRANSPORTATION

Airfares: Vancouver to Bella Bella and Return - 2 @ \$400.00	\$	800.00
Float plane (Otter) Charter to Aristazabal Island - Oct. 12, 1994		699.78
Float plane (Beaver) Charter to Bella Bella - Oct. 25, 1994		507.18
Air Freight, Equipment to Bella Bella, Samples to Vancouver		603.39
Miscellaneous transport, taxi, etc.	_	101.42

\$ 2,711.77

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## D. <u>ROOM AND BOARD</u>

Camp Equipment	\$ 846.07
Food	500.47
Heating Oil	136.61
Miscellaneous Meals	
	\$ 1,501.40
FIELD EQUIPMENT AND SUPPLIES	
Tools, Chain, Flagging, Chainsaw Rental, etc.	\$ 1,255.06
COMMUNICATIONS	
Autotel Rental	\$ 216.60
Radio Cleanup and Repair	114.00
B.C. Tel Charges	139.36
Power Supply	62.34
	\$ 532.30
TOTAL EXPENSES	\$ <u>27,521.63</u>

E.

F.

\***A**\*\* - 2.55 (1997) - 1997 - 1997 - 1997

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