

GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORTS

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**ECOWASTE INDUSTRIES LTD.**

**1994 MAGNETOMETER SURVEY, SAMPLING,  
AND  
DIAMOND DRILLING ON THE PAT CLAIMS**

**GISCOME, BRITISH COLUMBIA**

**CLAIMS PAT 1 TO 5**

**Geographic Coordinates**

54° 03' N  
122° 17' W

NTS Sheet 93 J/1

24,071

GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORTS

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## 1.

## INTRODUCTION

Ecowaste Industries Ltd. holds five claims totalling 27 units in the Giscome area of east-central British Columbia near Prince George. The claims were staked to cover limestone which outcrops along logging roads and skidder trails within cut block 59/12 of Rustad Bros. & Co. Ltd.; this cut block is about 1.3 km southeast of the Kode-Jarrat limestone quarry. This report includes information on two limestone samples chipped from outcrops, 310 limestone samples split from diamond-drill core, and 1180 line-metres of a magnetometer survey.

As a previous assessment report (Faragher and Halferdahl, 1994) includes descriptions of the geographic setting, history and previous investigations, most of that information is not repeated here.

### 1.1 LOCATION AND ACCESS

The Pat claims are in the Cariboo Mountains of the Interior Plateau of east-central British Columbia. The claims are about 5 km southeast of Giscome, which is a small village, about 40 km east of Prince George, a major centre in central British Columbia.

From Prince George, the Pat claims may be reached by driving east on Highway 16 for about 18 km, north 15 km on a secondary highway to Willow River, east 7 km to Giscome, and thence about 6 km southeast on the Bateman Creek forestry service road to the 5900 logging road. About 1½ km up the 5900 road a secondary logging road branches to the north which leads to cut block 59/12, the part of the Pat claims drilled and sampled in 1994. The 5900 road is a winter logging road and requires a 4x4 vehicle during the summer, particularly when wet. Alternate access to the Pat claims is by turning east on the Beaver forestry service road about 8 km south of Willow Creek. About 15 km east along the Beaver Road is a Y junction; 2 km north from this junction is the 5900 logging road.

### 1.2 PROPERTY

The Pat claims consist of five contiguous claims totalling 27 units covering 6.75 km<sup>2</sup> within the Cariboo Mining Division, NTS Map Sheet 93 J/1 (Fig. 1.2). Claims Pat 1-4 are four-post claims and claim Pat 5 is a two-post claim. These claims are registered in the name of Ecowaste Industries Ltd.

**TABLE 1.1** **LIST OF PAT MINERAL CLAIMS**

<b>Claim Name</b>	<b>Tenure Number</b>	<b>Units / Claim</b>	<b>Record Date</b>	<b>Expected Expiry Date</b>
Pat 1	319247	6	1993 07 11	2005 07 11
Pat 2	319248	8	1993 07 11	2005 07 11
Pat 3	319249	8	1993 07 11	2005 07 11
Pat 4	319250	4	1993 07 13	2005 07 13
Pat 5	321875	<u>1</u>	1993 10 11	2005 10 11
		27		

### **1.3 PURPOSE OF WORK DONE**

The work described in this report was undertaken to provide additional information on the limestone in the Pat Claims.

### **1.4 SUMMARY OF WORK DONE**

A few outcrops on cut block 59/12 were mapped and sampled. Total field magnetic readings were taken at 104 stations on a grid totalling 1180 m. Four holes totalling 494 m were diamond drilled beside a logging road which crosses cut block 59/12.

## **2. REGIONAL GEOLOGY**

The Pat claims are in the southeast corner of the McLeod Lake sheet (93J), where glacial deposits are widespread and bedrock exposures sparse. Glacial deposits may reach depths of 100 m or more in major valleys, but thin at higher elevations. These thick glacial deposits have hindered bedrock mapping.

The regional mapping by the Geological Survey of Canada (Muller and Tipper, 1969) at a scale of 1 inch to 4 miles covering the area north and east of Prince George has been superseded by that of Struik (1994). Details on some features of the regional geology have also been described by Struik and Fuller (1988), Deville and Struik (1989), Struik (1989), and Struik, Fuller, and Lynch (1990). The northwesterly trending McLeod Lake fault, a major regional feature which separates the Rocky Mountain geologic sequence from the Cariboo Mountains sequence, lies about 12 km northeast of the Pat Claims; the Pat claims are in the Cariboo Mountains Sequence.

In the Barkerville area some 120 km south of the Pat claims, Struik (1988) recognized four terranes separated from each other by major thrust faults: Cariboo, Barkerville, Slide Mountain, and Quesnel. Those pertinent to the Pat Claims are the Cariboo and Slide Mountain Terranes, with a fault-bounded band of the Quesnel Terrane a few kilometres southwest, southwest of Bateman Creek. On Struik's (1994) map, the Pat claims are shown to be within the volcanic and sedimentary rocks of the Carboniferous and Permian Slide Mountain Group, which here comprises the Slide Mountain Terrane. The most prominent unit of the Slide Mountain Group is the Antler Formation, which consists of pillow basalts, volcanic breccias, pyroclastics, and intercalated ribbon chert, argillite, and fine lithic sandstone (Campbell et al, 1973). According to Struik, Fuller, and Lynch (1990) the Cariboo Terrane is exposed within 25 km southeasterly of the Pat claims in windows through the Slide Mountain Terrane and the Pundata Thrust which separates these two terranes. There the Cariboo Terrane consists of Middle and Upper Triassic limestones and slate, and Cambrian limestone and slate, very different from the Cariboo Terrane near Barkerville, whose upper part is shown in Table 2.1. Hence, it seems likely that the limestones underlying the Pat claims and perhaps those at the Kode-Jerrat quarry adjoining to the northwest, are either Triassic or Cambrian. A Triassic age is supported by a few fossils noted in the drill logs (Appendix 3). Further a cursory paleontological examination of short sections of drill core from the Pat claims by Tim Tozer of the Geological Survey of Canada (Struik, 1995, pers. comm.) suggested pelecypods of Upper Triassic age. If correct, this age assignment differs from that of a previous assessment report (Faragher and Halferdahl, 1994), who thought that these limestones might be of Carboniferous age belonging to one or the other of the Greenberry Formation, the Alex Allan Formation, or an unnamed formation above the Alex Allan. Outcrops of limestone on the Pat claims are here interpreted as being in an erosional window through the Slide Mountain Terrane to the Cariboo Terrane below.

Not far north of the Pat claims, the Slide Mountain or Cariboo Terrane or both are in fault contact with rocks of the Wolverine Complex, including the Eaglet Pluton. The Wolverine Complex consists of Precambrian to Cambrian metasedimentary rocks intruded by Precambrian and later igneous rocks, some as young as Tertiary.

**TABLE 2.1 CARBONIFEROUS AND DEVONIAN STRATIGRAPHIC UNITS  
IN THE CARIBOO TERRANE (after Struik, 1988)**

System	Group	Formation	Lithology
Pennsylvanian	-	unnamed	grey crinoidal, fusulinid limestone
		Disconformity	
Middle Pennsylvanian	-	Alex Allan	dark-grey micritic limestone, minor slate
		Disconformity	
Lower Mississippian	Black Stuart	Greenberry	grey crinoidal limestone
		Conformity	
Lower Mississippian and Upper Devonian	Black Stuart	Guyet	conglomerate, orthoquartzite, greywacke
		Disconformity (?)	
Upper or Middle Devonian	Black Stuart	Waverly	agglomerate, pyroclastics, pillow basalt, minor chloritic siltstone

### 3. FIELD WORK

#### 3.1 SURFACE SAMPLING AND MAPPING

In September 1994, two samples of limestone were collected in the western part of cut block 59/12 (Fig. 4.1, Appendix 1). Other outcrops of limestone within cut block 59/12 were examined and pertinent structural information recorded (Fig. 4.1).

#### 3.2 MAGNETOMETER SURVEY

In September 1994, a two-man crew staked and flagged a total of 1180 m in a grid south and west of drillhole 93-1 (Fig. 2.2) for control of a magnetometer survey. This survey was used to trace the southwestern boundary of the peridotite intersected in drillhole 93-1.

##### 3.2.1 Equipment and Procedure

A Scintrex MP-2 proton magnetometer was used. Stations were chained by topofil and marked at 10-m intervals along a baseline and three offset lines. At each station at least three readings mostly within 10 nT were recorded with the median or mean selected as appropriate for the reading at that station. The lines were tied into an east-west base line just south of drillhole 93-1. Repeated readings at stations along the baseline established values for these stations. These values were

used to correct for diurnal variations along the offset lines.

### 3.2.2 Results

The results (Appendix 2) are plotted in Fig. 2.1. In order to interpret geologic contacts, the results are also plotted as cumulative frequency versus total field magnetic intensity on arithmetic probability paper (Fig 2.2). Perusal of Fig. 2.2 shows that the magnetometer readings are divisible into four distinct populations as follows:

<b>Class</b>	<b>Average (nT)</b>	<b>Standard Deviation</b>	<b>-2<math>\sigma</math></b>	<b>+2<math>\sigma</math></b>
1	58542	33.15	58475	58608
2	58878	139.61	58601	59155
3	59403	186.97	59029	59777
4	59806	43.46	59719	59892

Classes 1 and 2 are interpreted to be limestone and limestone with thick overburden, respectively. Classes 3 and 4 are interpreted to be peridotite and peridotite with thick overburden, respectively. The contact between the limestone and the peridotite is the difference between two standard deviations above the mean magnetic intensity of class 2 and two standard deviations below the mean magnetic intensity of class 3 (Fig. 2.3) and is within the range 59029 to 59155 nT.

### 3.3 DIAMOND DRILLING

The diamond drilling was under reclamation permit MX-11-102, obtained in 1993. Four NQ holes totalling 494 m were diamond drilled between September 14 and 23, 1994. The drillholes are within cut block 59/12 with holes 94-2 to 94-4 spotted near limestone outcrops to avoid excessive overburden. Drillhole collars were surveyed by topofilling relative to logging roads and claim posts. Elevations of the drillholes were surveyed with a level and related to a selected topographic point as a datum.

The diamond drilling was contracted to Tex Drilling Ltd. of Kamloops, B.C. The diamond drill was a track-mounted Longyear 38. Other equipment included a water truck and four-wheel-drive vehicles. Access to the drill sites was along an existing logging road. Water for drilling was obtained from a creek about 1½ km southeast of the drill holes and trucked to them. All holes were drilled vertically. The limestone is competent resulting in core recoveries of 98.9 to 99.6 per cent.

About half of the core was logged and split on the property with the other half trucked to Edmonton for logging and splitting. After logging (Appendix 3), the core was split with half of the core replaced in the core box and the remaining half split into quarters. The quarters were bagged and numbered and one-quarter sent for analyses by ICP techniques: that logged and split on the property to Acme Analytical Laboratories Ltd. in Vancouver (Appendix 4A), and that logged and split in Edmonton to the Central Analytical Laboratory of Continental Lime Inc. in Salt Lake City (Appendix 4B). The remaining quarters were retained for future use. The boxed portions of split core and the retained samples were transported later to the plant of Continental Lime Ltd. at Pavilion, B.C. for storage.

The dominant rock units in diamond drillholes 94-1 to 94-4 consist of cryptocrystalline limestones, which range in color from light- to dark-grey and black. Sparse fossiliferous sections with crinoid stems, brachiopods, and less common molluscs are present in all the 1994 drillholes. Other lithologies include flaky black carbonaceous material, rare intervals of pink-tan dolomitic limestone, unknown relict minerals as corroded and irregular pink-tan crystal masses, and breccias. White to milky-white calcite blebs, stringers, and veins are common throughout. Light-brown-grey mottles, some slightly dolomitic, are present locally. Stylolites are relatively abundant, some with black carbonaceous material, others with hematitic-red material. Some fracture surfaces are coated with rusty material or stained rusty.

### 3.3.1 Drillhole 94-1

Drillhole 94-1 (Fig. 4.1) was drilled to a depth of 196.90 m with 22.24 m of glacial overburden and 174.66 m of limestone. It was spotted with the hope of learning what strata overlie the limestone. More than half of the limestone penetrated contained more than 54.5 per cent CaO\*, less than 1.0 per cent SiO<sub>2</sub>, and less than 0.5 per cent MgO. Carbonaceous limestone is present from 71.93 to 76.88 m. Further details are in Appendix 3.

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\* After adjustment of determined percentages as explained in Section 5.2

### 3.3.2 Drillhole 94-2

Drillhole 94-2 (Fig. 4.1) was spotted along a linear topographic high which crosses cut block 59/12 and drilled to a depth of 137.16 m. It intersected several types of limestone including fossiliferous and carbonaceous, with about half containing more than 54.5 per cent CaO\*, less than 0.2 per cent SiO<sub>2</sub>, and less than 0.3 per cent MgO. Minor calcareous shale is present from 75.08 to 137.16 m, with other details in Appendix 3.

### 3.3.3 Drillhole 94-3

Drillhole 94-3 (Fig. 4.1) was spotted about 75 m north of 94-2 along a second linear topographic high which crosses cut block 59/12 and was drilled to 71.93 m. It intersected limestone, fossiliferous limestone, mottled limestone, carbonaceous layers, and shale near the bottom. It intersected much less limestone with more than 54.5 per cent CaO\*, less than 0.5 per cent SiO<sub>2</sub>, and less than 0.5 per cent MgO than drillholes 94-1 and 94-2.

### 3.3.4 Drillhole 94-4

Drillhole 94-4 (Fig. 4.1) was spotted between drillholes 94-1 and 94-2 and was drilled to a depth of 85.04 m. It intersected limestone, carbonaceous limestone, mottled limestone, and fossiliferous limestone near the base with about 68 m containing more than 54.5 per cent CaO\*, less than 0.3 per cent SiO<sub>2</sub>, and less than 0.5 per cent MgO.

## 4.

## PROPERTY GEOLOGY

### 4.1 STRATIGRAPHY

As previously suggested (Section 2), the limestones penetrated in the 1994 drillholes are believed to be Upper Triassic and are in the Cariboo Terrane, which is exposed in an erosional window through the Slide Mountain Terrane. Basic volcanic rocks probably of the Antler Formation form hills in the eastern part of claim Pat 2, and the northeastern part of claim Pat 3.

The dominant rock units in diamond drillholes 94-1 to 94-4 consist of cryptocrystalline limestones which range in color from light- to dark-grey and black. Sparse fossiliferous intersections with crinoid stems, brachiopods, and less common molluscs are present in all the 1994 drillholes. Other lithological variations include flaky black carbonaceous material, rare intervals of pink-tan dolomitic limestone, and minor shale.

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\* After adjustment of determined percentages as explained in Section 5.2

Sparse pink-tan, pinkish-red, and pinkish-orange granular crystal masses, varying in size from  $\frac{1}{4}$  to  $7\frac{1}{2}$  cm, in drillholes 94-1, 94-2, and 94-3 and are generally anhedral, corroded, irregular, subangular, and a few relict. The crystal masses are generally associated with slightly dolomitic intervals: they may be dolomite. Some intervals with the pink-tan crystal masses were analysed for sulfur (Appendix 4A). All samples contained less than 0.02 per cent sulfur, thus eliminating the possibility that the mineral in question is anhydrite.

Recrystallization of much of the limestone intersected in the drillholes and the scarcity or absence of recognizable bedding in both the core and in surface outcrops has hindered correlations. The interbedded carbonaceous shales and limestones near the bottoms of drillholes 93-3, 94-2, and 94-3 appear to be correlatable. Although further work is needed for precise correlations it is tentatively suggested that the strata intersected in hole 94-1 lie not far stratigraphically above those in drillhole 94-4, which in turn are stratigraphically above those in drillhole 94-2. The strata in drillhole 94-3 may correlate with those in the lower part of drillhole 94-2.

#### 4.2 STRUCTURE

Correlations of the interbedded carbonaceous shales and limestones near the bottom of drillhole 93-3, 94-2, and 94-3 suggest a bedding attitude of  $81^\circ/31^\circ$  S. However, the following tabulation of limestone-shale contacts in drillholes 94-2 and 94-3 suggests somewhat steeper dips and a fair range of variation, the latter perhaps related to variable truncation surfaces during deposition.

94-2		94-3	
Depth (m)	Dip	Depth (m)	Dip
43.25	52°	46.37 - 46.48	48°
110.85 - 112.67	45°	56.96	51°
122.31	48°	57.03	45°
123.60	49°	58.31	47°
124.36	43°	58.60	57°
126.62	51°	58.93	59°
128.25	54°	59.10	47°
129.93	61°	59.20	47°
133.26	58°	60.21	66°
135.98	53°	60.57	58°
136.49	55°	60.58	60°
Average:	52°	60.65	59°
		60.73	54°
		60.96	59°
		61.57	55°
		61.81	59°
		62.00	55°
		62.37	59°
		64.63	54°
		66.32	47°
		66.37	44°
		Average:	54°

Other features from which dips can be determined are the observed angles to the core axis (CA) of color banding or layering, compositional layering, and laminations, but some lithological changes are gradational. Perhaps less useful are grain orientations and stylolites. Stylolitic surfaces generally form along bedding planes during early diagenesis (Blatt, 1982; Davis, 1984). However, post-diagenetic pressure solution may result in the formation of stylolitic features along pre-existing joints or discontinuities. This is confirmed by a stylolite cutting and offsetting a calcite vein at 134.36 m in hole 94-1. The considerable variation in dips suggested by these features (Appendix 3) may be interpreted as indicating considerable flexures in the strata drilled, but the strata mostly strike easterly and dip southerly. Other strikes and dips (Fig. 4.1) may be doubtful.

In the lower part of drillhole 94-1, abundant brecciation, fracturing, and limestone rubble probably indicate a fault zone.

#### 4.3 PERIDOTITIE

A magnetometer survey (Section 3.2) was employed to trace the southwestern boundary of the peridotite intersected in drillhole 93-1 (Faragher and Halfordahl, 1994). The contact between the peridotite and the limestone strikes about 135° (Fig. 4.1). Extension of this contact southeasterly may mark the eastern limit of high-quality limestones observed within cut block 59/12.

### 5. QUALITY OF LIMESTONE

#### 5.1 ANALYTICAL PROCEDURES

The 312 surface and drill core samples collected in 1994 were analyzed in two laboratories: 151 by Acme Analytical Laboratories Ltd. (Appendix 4A) and 161 samples by the Central Laboratory of Continental Lime Inc., Salt Lake City, Utah (Appendix 4B) according to inductively coupled plasma techniques (ICP) in both laboratories. The analyses of 22 of the 1994 samples by the Central Laboratory were checked by Acme, and the analyses of 40 samples by Acme were checked by the Central Laboratory: 20 of the 1993 samples and 20 of the 1994 samples. For the Acme ICP analyses the samples were crushed, ground, and pulverized with 0.2 g fused with LiBO<sub>2</sub> and then dissolved in 100 ml 5% HNO<sub>3</sub>.

## 5.2 ADJUSTMENTS TO REPORTED ANALYSES

Examination of the Acme analytical reports in Appendix 4A indicate that some of the analytical determinations for CaO and LOI are not accurate. Of the 180 analyses of split drill core including the check analyses, 39 determinations of CaO equal or exceed 56 per cent, the maximum possible CaO content for pure  $\text{CaCO}_3$ . Further, LOI values are too low for some of the high quality limestone samples analyzed. These low LOI determinations probably arise from the fact that the decomposition temperature of  $\text{CaCO}_3$  is about  $894^\circ\text{C}$ , not much below the usual ignition temperature of  $1000^\circ\text{C}$  which may not be reached by all the limestone samples in the furnace, if the temperature calibration of the furnace is not accurate, or if temperature gradients in the furnace are significant.

Chemical analyses of limestone can be checked by subtracting the carbon dioxide equivalent to CaO plus that equivalent to MgO (total carbon dioxide equivalents are indicated  $\text{CO}_2$  EQ) from the determined LOI (Appendix 5), for analyses in which LOI has been determined. If  $\text{P}_2\text{O}_5$  has been determined, the percentage of CaO to use in this calculation is the determined CaO minus 1.31693  $\text{P}_2\text{O}_5$ . LOI should exceed  $\text{CO}_2$  EQ by a small amount to allow for moisture, oxidation of any pyrite, and other factors. Of the 180 analyses by Acme, LOI minus  $\text{CO}_2$  EQ is positive or zero in 55. An additional 5 analyses show sufficient MgO,  $\text{SiO}_2$ , or both so that the determined CaO values are less than 52.50 per cent: a quality too low for further consideration.

For all the Acme analyses, adjustments to determined values of CaO and LOI have been calculated by two methods: LOI-based and impurity-based (Appendix 5). The LOI-based method involves lowering the determined CaO in analyses with high CaO determinations and concomitantly raising the determined LOI so that with the adjusted values of CaO and LOI, LOI minus  $\text{CO}_2$  EQ equals 0.2. The equations for LOI-based adjustments follow:

$$\text{CaO}_F = \frac{99.80 - 0.21522 \text{ CaO} - 2.09175 \text{ MgO} - \text{SiO}_2 - \text{R}_2\text{O}_3 - \text{others} + 0.983 \text{ P}_2\text{O}_5}{1.56956}$$

$$\text{LOI}_F = \frac{1}{2} ( 100.20 - 0.21522 \text{ CaO} + 0.09175 \text{ MgO} - \text{SiO}_2 - \text{R}_2\text{O}_5 - \text{others} - 0.983 \text{ P}_2\text{O}_5 )$$

where the subscript  $F$  refers to the adjusted or calculated percentage (final) of CaO or LOI;  $\text{R}_2\text{O}_3$  is the sum of  $\text{Al}_2\text{O}_3 + \text{Fe}_2\text{O}_3 + \text{TiO}_2 + \text{P}_2\text{O}_5 + \text{MnO} + \text{Cr}_2\text{O}_3$  as determined with any determinations less than the detection limit set at one-half the detection limit; and others is the sum of the rest of the constituents as determined in the analytical reports (Appendix 4A) not already appearing in the equations, with any determinations less than the detection limit set at one-half the detection limit.

The impurity-based method involves subtracting the sum of all the determined impurities from 100.00

per cent, assigning the remainder to  $\text{CaCO}_3$ , and calculating adjusted values for CaO and LOI based on this remainder. The equations for impurity-based adjustments follow:

$$\text{CaO}_F = \frac{99.80 - 2.09175 \text{MgO} - \text{SiO}_2 - \text{R}_2\text{O}_3 - \text{others} + 0.983 \text{P}_2\text{O}_5}{1.78478}$$

$$\text{LOI}_F = \frac{100.2548 + 0.39115 \text{MgO} - 1.2526 \text{P}_2\text{O}_5 - \text{SiO}_2 - \text{R}_2\text{O}_3 - \text{others}}{2.2742}$$

where the subscript  $F$ ,  $\text{R}_2\text{O}_3$ , and *others* have the same meanings as for the previous two equations.

Review of the 87 analyses adjusted to obtain preferred values for CaO and LOI (Code 5, Appendix 5) indicates that the CaO and LOI values adjusted by either method are very close, the CaO values adjusted by the LOI method being equal to or less than those adjusted by the impurity-based method. These small differences between the values adjusted by the two methods and the acceptable sums of the constituents provide confidence that the adjusted values are satisfactory.

### **5.3 DIFFERENCES BETWEEN ANALYSES BY ACME ANALYTICAL LABORATORIES LTD. AND THE CENTRAL LABORATORY OF CONTINENTAL LIME INC.**

Appropriate tests for comparing analyses of individual samples (Appendix 7) by Acme Analytical Laboratories Ltd. (ACME) and by the Central Laboratory of Continental Lime Inc. (CONT) are the test of differences (Snedecor, 1957), the sign test (Mendenhall et.al., 1990), and the test of confidence intervals (Koch and Link, 1970). For the test of differences and the test of confidence intervals, determinations for each constituent in each sample for each of the two laboratories are paired; their differences comprise the sample data for the 62 pairs of samples: 42 pairs for the 1994 samples and 20 pairs for the 1993 samples. In addition the adjusted values for CaO for the Acme determinations (Section 5.2) and the CaO determinations by Continental comprise other constituents for which the differences can be tested. For the sign test of confidence intervals, determinations for each constituent in each sample for each of the two laboratories are paired with the sign of the difference comprising the sample data. As for the previous tests, the adjusted values for CaO for the Acme determinations (Section 5.2) and the CaO determinations by Continental comprise another constituent for which the signs can be tested.

The results in Appendix 7 are summarized in Table 5.3. For  $\text{P}_2\text{O}_5$  and Sr the differences between Acme and Continental analyses are statistically significant for all tests and for the other

**TABLE 5.3: SUMMARY OF TWO-TAILED STUDENTS  $t$ -TESTS FOR DIFFERENCES, SIGN TESTS,  
AND TESTS OF CONFIDENCE INTERVALS FOR IDENTIFYING DIFFERENCES  
IN CONSTITUENT DETERMINATIONS BETWEEN ACME ANALYTICAL LABORATORIES LTD.  
AND THE CENTRAL ANALYTICAL LABORATORY OF CONTINENTAL LIME INC.**

For the tests of differences and confidence interval  $H_0: P(\text{Constituent Determination}_{\text{CONT}} - \text{Constituent Determination}_{\text{ACME}}) = 0$ , versus  
 $H_a: P(\text{Constituent Determination}_{\text{CONT}} - \text{Constituent Determination}_{\text{ACME}}) \neq 0$ ,

For the sign test:  
 $H_0: P(\text{Constituent Determination}_{\text{CONT}} > \text{Constituent Determination}_{\text{ACME}}) = \frac{1}{2}$ , versus  
 $H_a: P(\text{Constituent Determination}_{\text{CONT}} > \text{Constituent Determination}_{\text{ACME}}) \neq \frac{1}{2}$ ,

CONSTITUENT	SUMMARY STATISTICS			TEST OF DIFFERENCES						SIGN TEST						TEST OF CONFIDENCE INTERVALS							
	n	Range	Mean	$t$	$t_{\alpha = 0.025}$			$t_{\alpha = 0.050}$			$t_{\alpha = 0.100}$			$\alpha$	$t(s / n^{\frac{1}{2}})_{\alpha = 0.025}$			$t(s / n^{\frac{1}{2}})_{\alpha = 0.050}$			$t(s / n^{\frac{1}{2}})_{\alpha = 0.100}$		
					M	0.043	0.0769	0.1299	$\mu_L$	$\mu_U$	$\mu_L$	$\mu_U$	$\mu_L$	$\mu_U$	$\mu_L$	$\mu_U$	$\mu_L$	$\mu_U$	$\mu_L$	$\mu_U$			
CaO	63	-1.41 to 1.28	-0.3994	-4.871	Reject	Reject	Reject	Reject	15	Reject	Reject	Reject	-0.59	-0.21	Reject	-0.56	-0.24	Reject	-0.54	-0.26	Reject		
Adjusted CaO	63	-0.76 to 1.28	0.0961	2.033	Accept	Reject	Reject	Reject	36	Accept	Accept	Accept	-0.01	0.20	Accept	0.00	0.19	Reject	0.02	0.18	Reject		
MgO	63	-1.00 to 0.72	0.0570	2.019	Accept	Reject	Reject	Reject	53	Reject	Reject	Reject	-0.01	0.12	Accept	0.00	0.11	Reject	0.01	0.10	Reject		
SiO <sub>2</sub>	63	-6.41 to 0.25	-0.1182	-1.085	Accept	Accept	Accept	Accept	42	Reject	Reject	Reject	-0.37	0.13	Accept	-0.34	0.10	Accept	-0.30	0.06	Accept		
Al <sub>2</sub> O <sub>3</sub>	63	-4.48 to 0.04	-0.1664	-2.232	Accept	Reject	Reject	Reject	17	Reject	Reject	Reject	-0.34	0.01	Accept	-0.32	-0.02	Reject	-0.29	-0.04	Reject		
Fe <sub>2</sub> O <sub>3</sub>	63	-0.57 to 0.06	-0.0189	-1.876	Accept	Accept	Reject	Reject	22	Reject	Reject	Reject	-0.04	0.00	Accept	-0.04	0.00	Accept	-0.04	0.00	Reject		
P <sub>2</sub> O <sub>5</sub>	63	-0.01 to 0.40	0.0724	6.561	Reject	Reject	Reject	Reject	61	Reject	Reject	Reject	0.05	0.10	Reject	0.05	0.09	Reject	0.05	0.09	Reject		
Sr	63	-7 to 107	29.2000	9.214	Reject	Reject	Reject	Reject	59	Reject	Reject	Reject	21.91	36.49	Reject	22.86	35.54	Reject	23.91	34.50	Reject		

✓

constituents the differences are significant for at least one of the tests. For the sign test the null hypothesis is rejected for all constituents, except adjusted CaO values. Test results confirm overestimation of CaO by Acme in some of the unadjusted determinations (Section 5.2). Comparison of adjusted CaO determinations by Acme to CaO determinations by Continental show Continental determinations as 0.76 per cent lower to 1.28 per cent higher, with a mean difference of 0.096 per cent higher. This range of differences suggests that ICP determinations of CaO in high-calcium limestones are probably plus or minus 1 per cent. Similar comments apply to the other constituents. For SiO<sub>2</sub> determinations three samples have differences in excess of  $\pm 0.30$ : 9009, 9841, and 9842. For sample 9009 a difference of 0.95 per cent suggests an inaccurate determination by one of the two laboratories, which reported SiO<sub>2</sub> concentrations of 0.17 and 1.12 per cent. Samples 9841 and 9842 both contain more than 10 per cent SiO<sub>2</sub>, too low a quality for further consideration.

In summary, Continental may overestimate CaO when compared to the adjusted Acme determinations, may overestimate MgO, P<sub>2</sub>O<sub>5</sub>, Sr, and may underestimate SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, and Fe<sub>2</sub>O<sub>3</sub>, with the magnitude of differences varying between samples. Continental reports constituent concentrations for Al<sub>2</sub>O<sub>3</sub> and Fe<sub>2</sub>O<sub>3</sub> to three significant digits, so results may not be directly comparable to those of Acme. For MnO, the Continental results have not been compared to Acme because most of the Acme results are at or near their detection limit. From the foregoing, it appears that the Continental results are somewhat to slightly more conservative for most of the important constituents than those of Acme. Further, no Continental determinations for CaO require adjustment as none exceed 56.00 per cent.

#### 5.4 SIGNIFICANT INTERVALS OF LIMESTONE IN THE 1994 DRILLHOLES

Significant intervals of limestone in the 1994 drillholes are listed in Table 5.4. Correlations of the intervals of high-quality limestone in these drillholes require further work.

**TABLE 5.4 SIGNIFICANT LIMESTONE IN DRILLHOLES 94-1 TO 94-4  
ON CLAIM PAT 2**

Interval (m)		Length of Intersection (m)	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> %	Sr ppm
<b>94-1</b>									
21.95	-	69.20	47.25	55.16	0.17	<0.24	0.23	<0.08	0.06
69.54	-	71.93	2.39	55.26	0.29	0.10	0.19	<0.05	0.03
72.81	-	117.73	44.92	54.81	0.41	<0.12	0.22	<0.07	<0.07
119.26	-	120.71	1.45	54.70	0.18	<0.05	0.23	<0.05	0.11
122.39	-	133.50	11.11	53.57	1.02	<0.08	0.22	<0.05	0.06
135.50	-	196.90	61.40	54.24	0.81	<0.45	0.26	<0.10	0.06
21.95	-	196.90	174.95	54.29	0.81	<0.26	0.24	<0.08	0.06
<b>94-2</b>									
1.52	-	18.22	16.70	54.81	0.27	<0.22	0.25	<0.07	0.06
18.78	-	19.83	1.05	54.56	0.40	0.11	0.19	<0.05	0.02
20.08	-	21.76	1.68	53.87	0.72	0.18	0.26	<0.05	0.05
22.48	-	83.45	60.97	55.15	0.39	<0.13	0.15	<0.06	0.09
83.62	-	87.62	4.00	54.63	0.91	0.27	0.061	0.045	0.076
89.75	-	91.75	2.00	54.70	0.76	0.31	0.056	0.053	0.117
93.14	-	99.36	6.22	53.77	1.68	0.24	0.059	0.036	0.166
116.67	-	117.59	0.92	53.61	1.61	0.42	0.173	0.110	0.178
1.52	-	99.36	97.84	54.12	1.03	0.29	0.220	0.082	0.121
<b>94-3</b>									
1.83	-	31.15	29.32	54.78	0.75	0.27	0.073	0.078	0.053
32.71	-	41.01	8.30	54.58	0.61	0.85	0.142	0.070	0.177
41.60	-	46.37	4.77	53.24	1.29	1.59	0.331	0.136	0.860
46.80	-	50.98	4.18	53.79	1.31	0.78	0.133	0.062	0.142
52.43	-	56.96	4.53	53.63	1.33	1.07	0.148	0.071	0.298
57.37	-	58.31	0.94	53.59	1.18	1.22	0.116	0.060	0.567
67.94	-	71.93	3.99	54.76	0.62	0.54	0.187	0.106	0.693
1.83	-	58.31	56.48	53.75	0.94	1.28	0.256	0.136	0.252
<b>94-4</b>									
3.05	-	53.01	49.96	55.05	0.46	0.27	0.101	0.083	0.101
55.01	-	85.04	30.03	54.83	0.45	0.42	0.162	0.130	0.182
3.05	-	85.04	81.99	54.91	0.49	0.34	0.130	0.104	0.132

J.R. Dahrouge, B.Sc., P.Geol.



L.B. Halferdahl, P.Eng

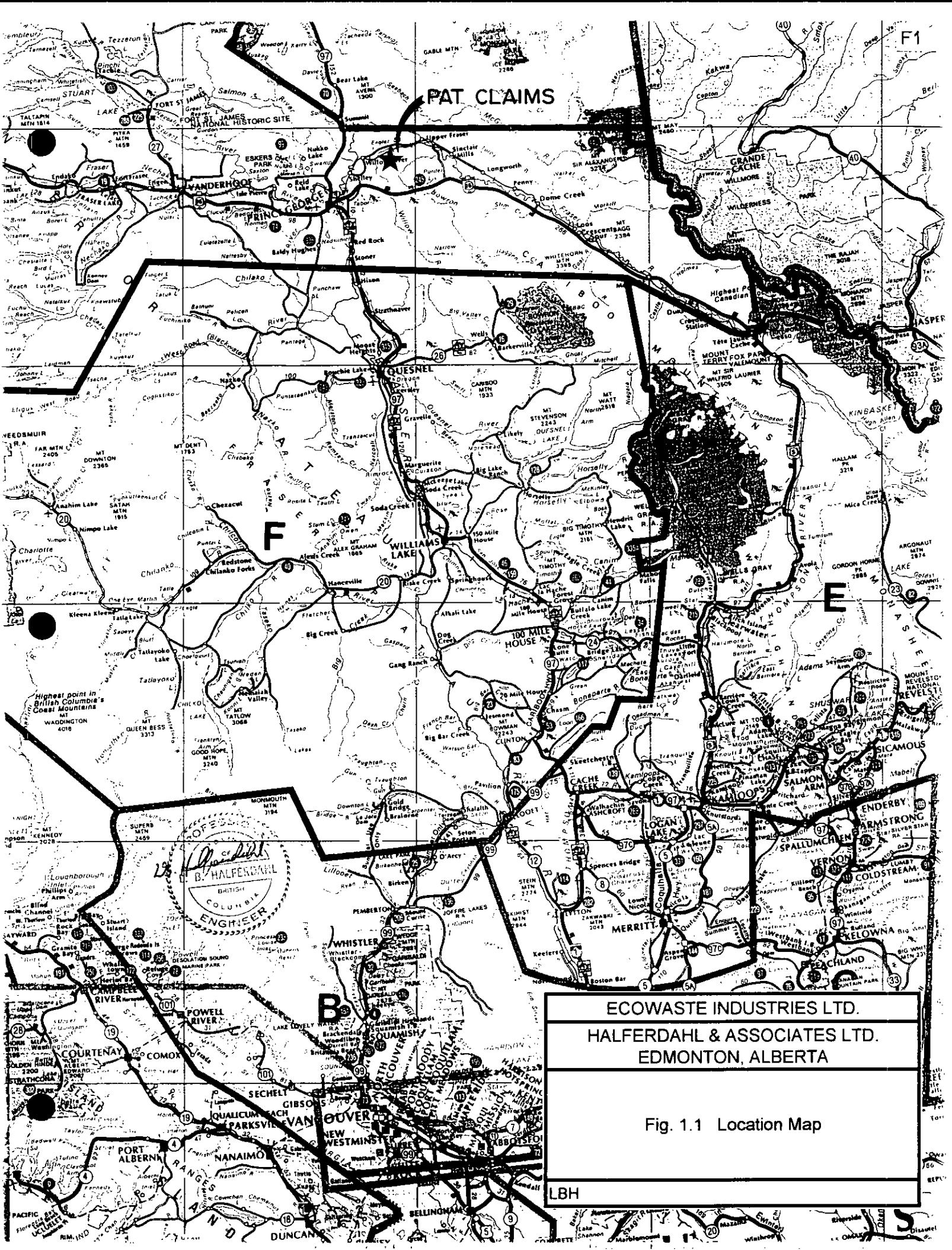
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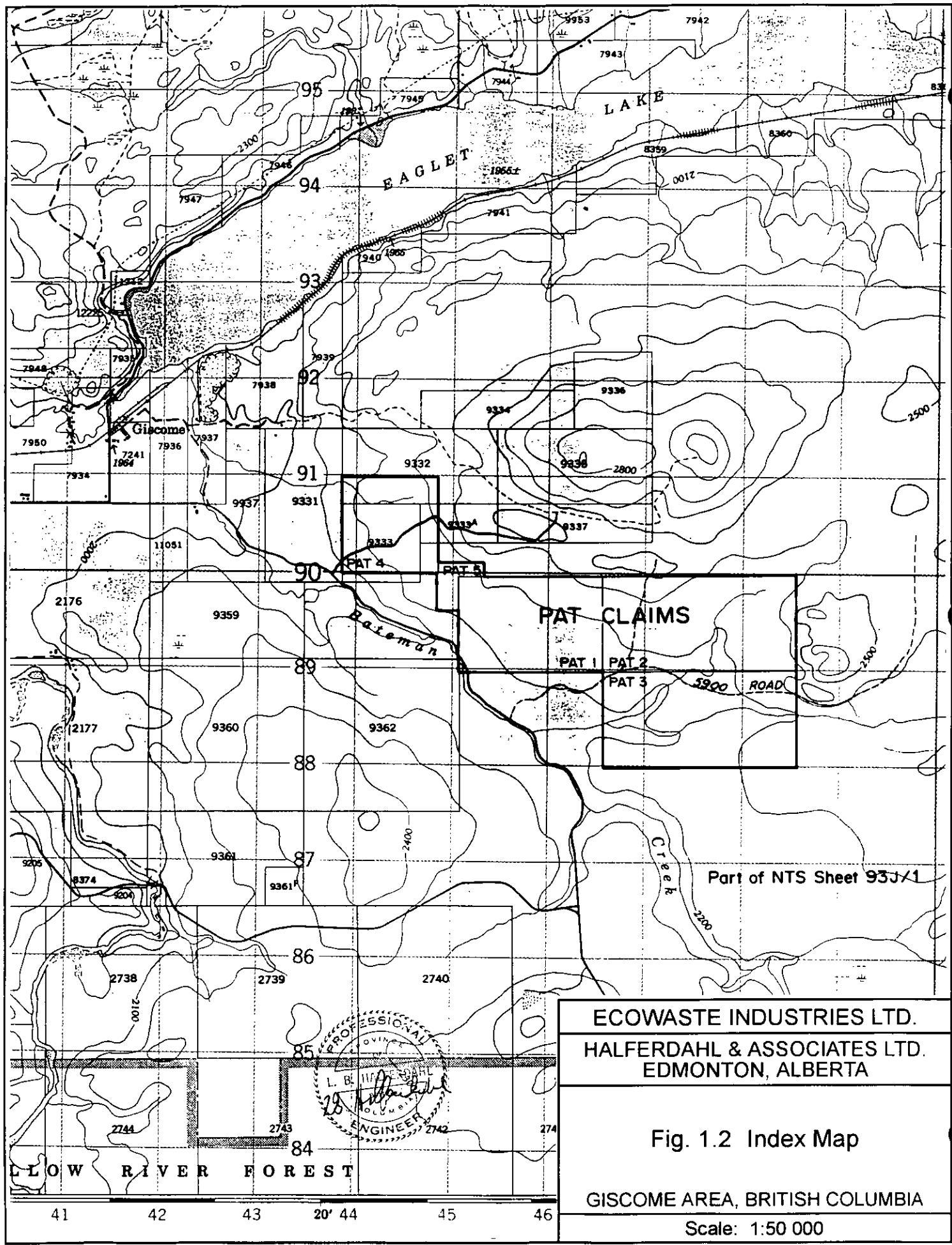
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## 6.

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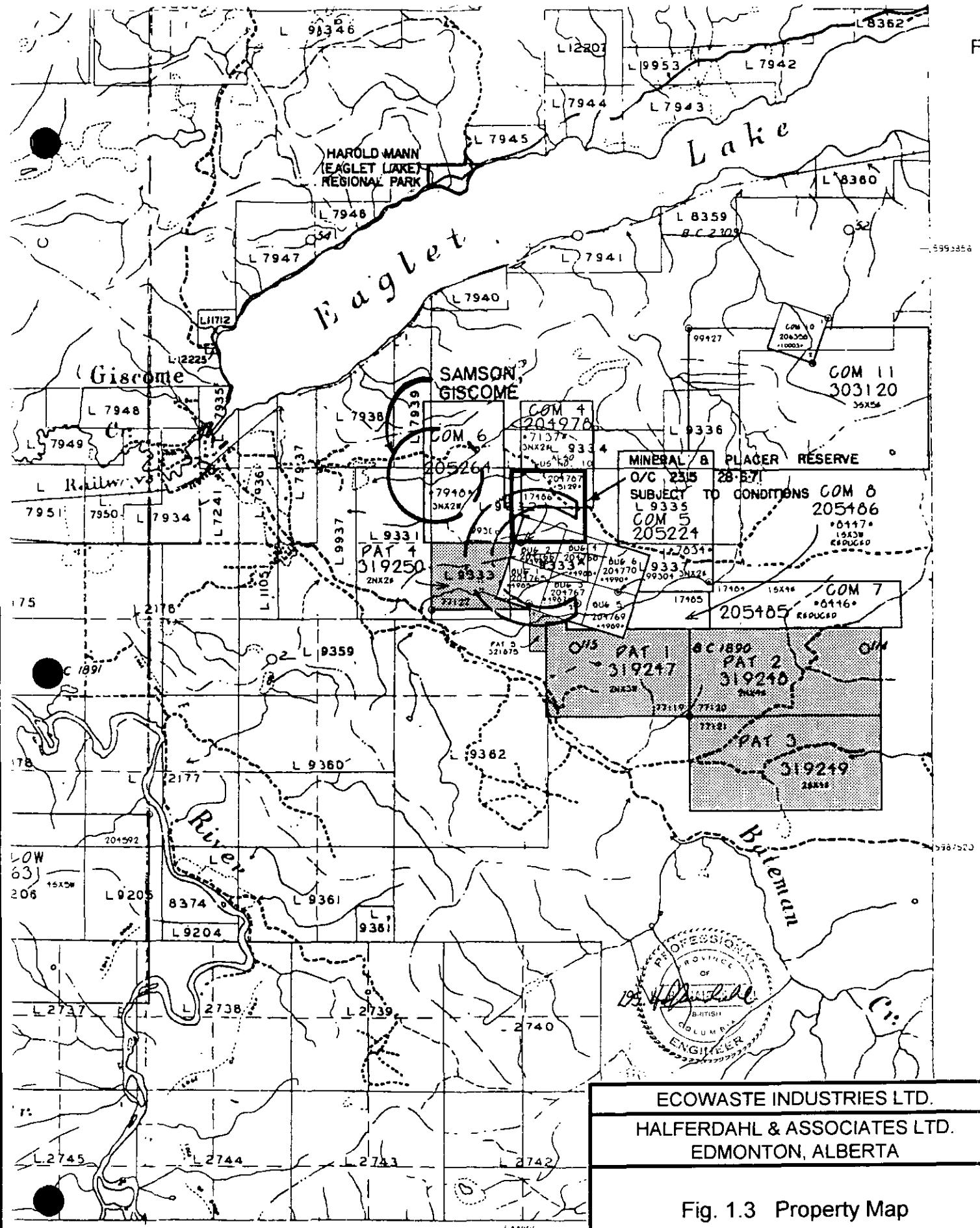
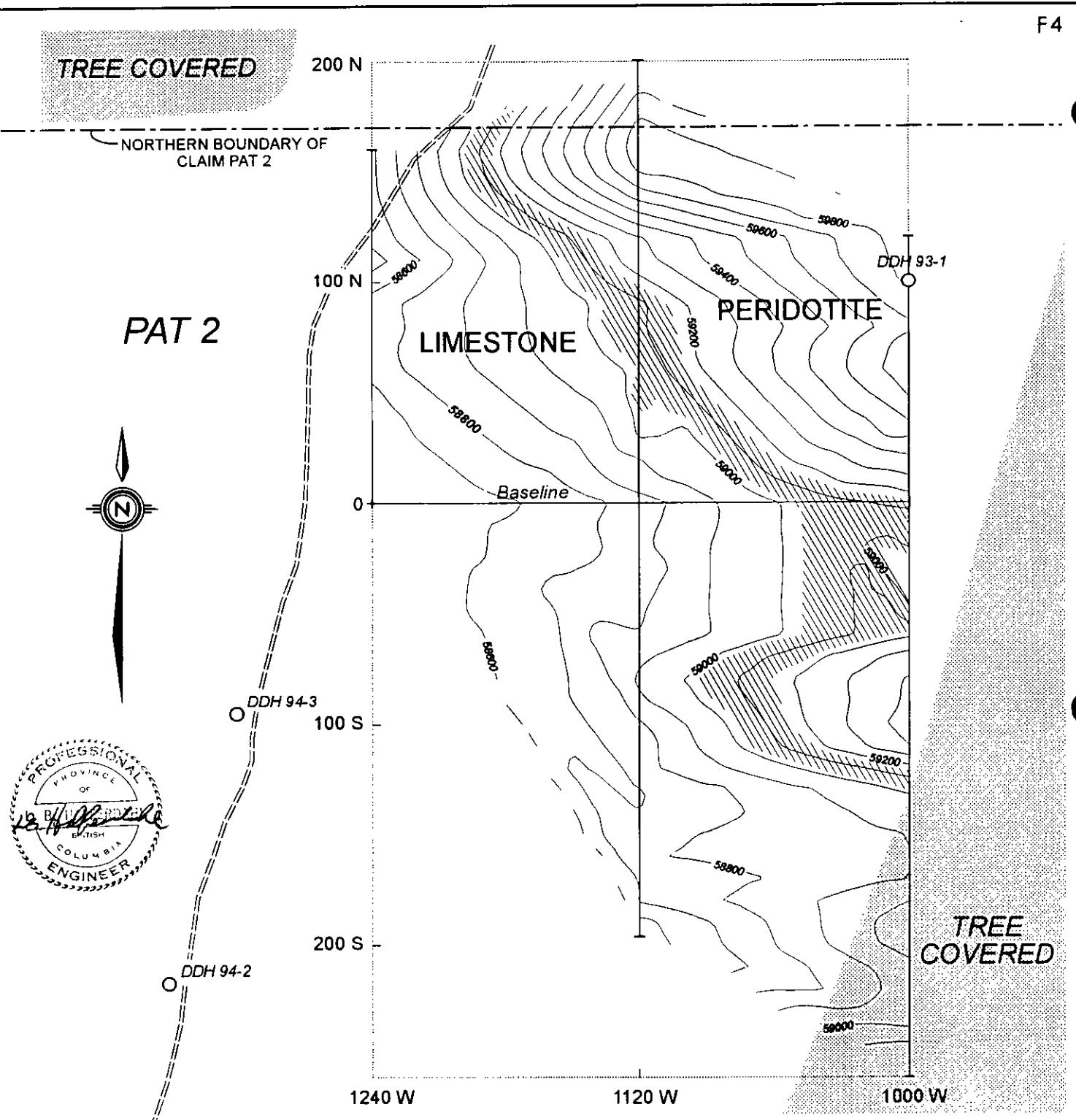


Fig. 1.3 Property Map

## GISCOME AREA, BRITISH COLUMBIA

LBH



**ECOWASTE INDUSTRIES LTD.**

**HALFERDAHL & ASSOCIATES LTD.  
EDMONTON, ALBERTA**

**Fig. 2.1 Total Field Magnetic Intensities  
for Part of Claim Pat 2**

**GISCOME AREA, B.C.**

JD

Scale: 1 : 2 500

1995.10

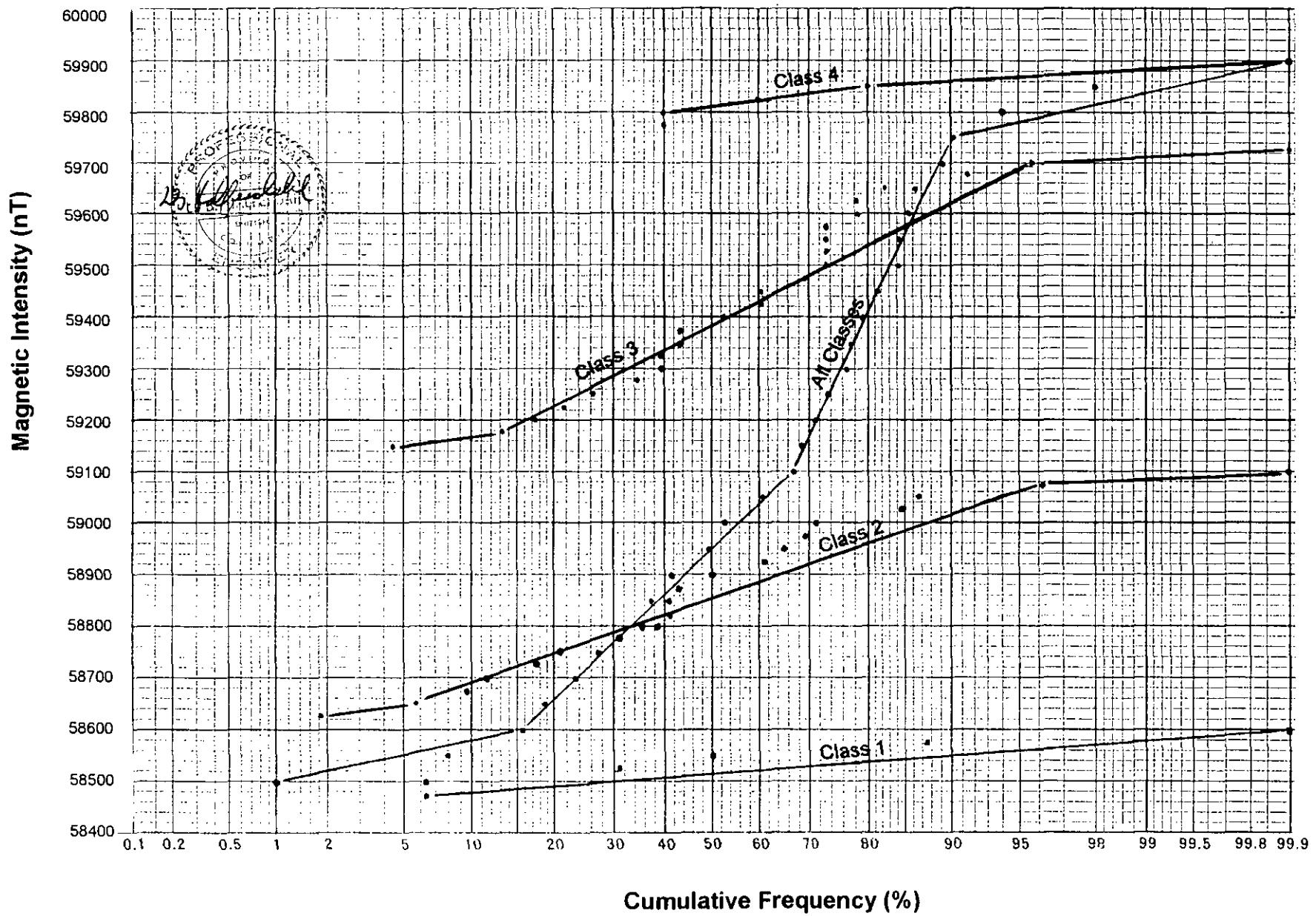


Fig 2.2 Cumulative Frequencies versus Total Field Magnetic Intensity Readings from Claim Pat 2, near Giscome, B.C.

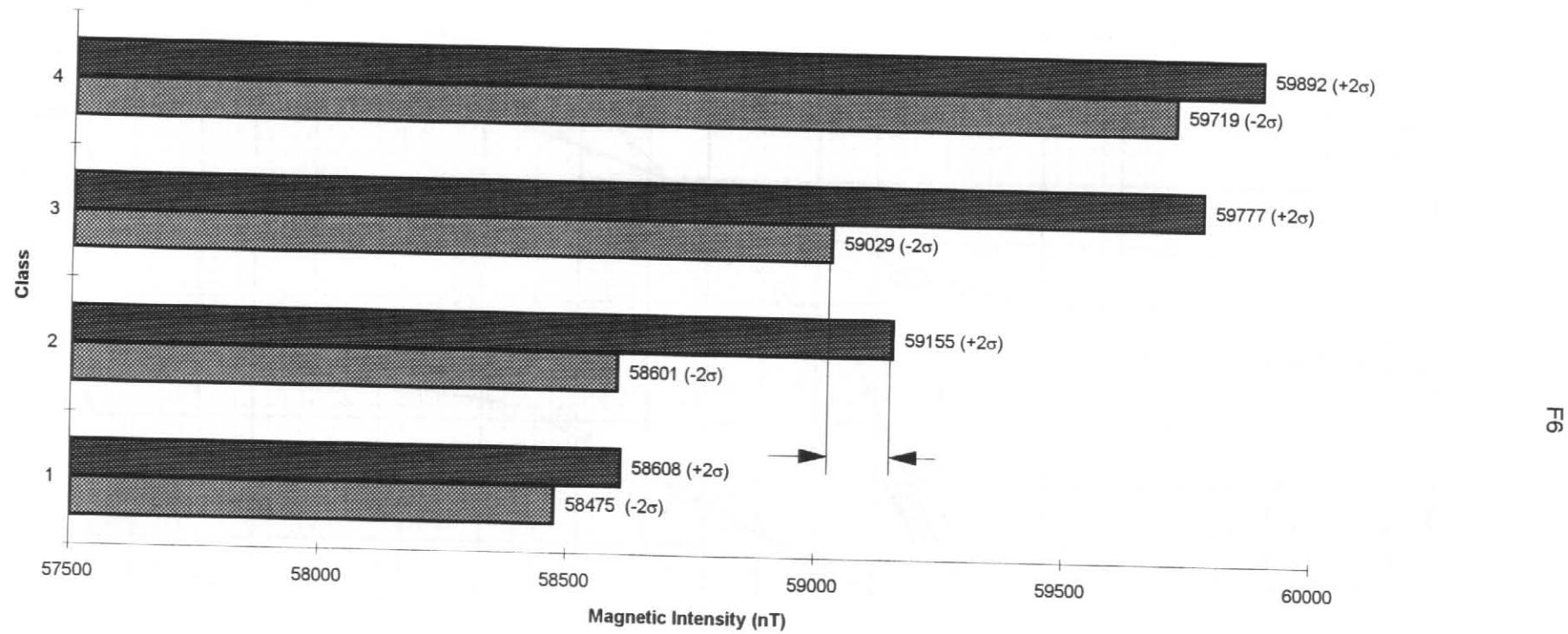
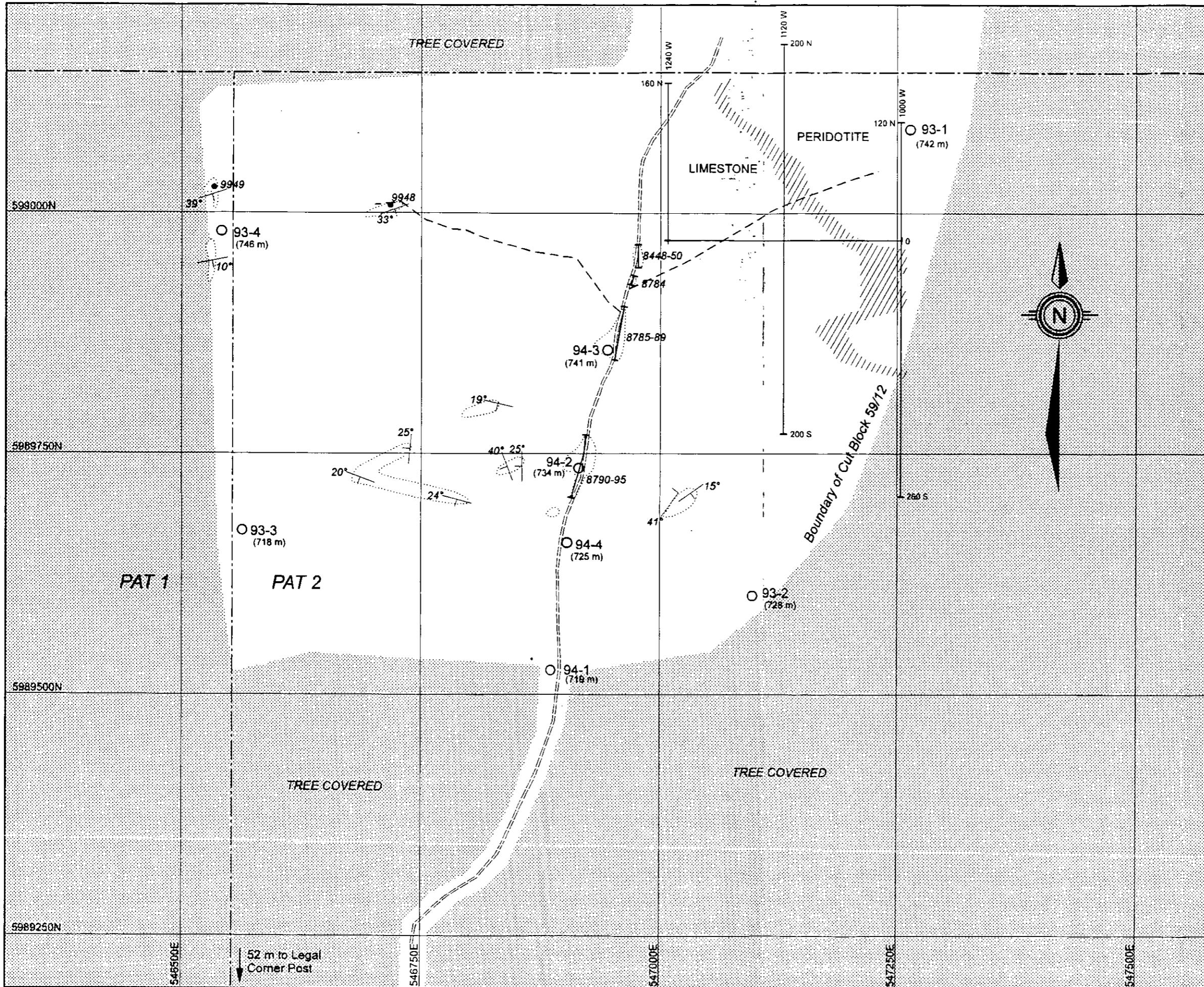
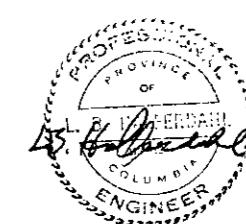


Fig. 2.3 Classes of Frequency Distributions for Magnetometer Readings From Claim Pat 2, near Giscome, B.C.

**SYMBOLS**

- Area of geological contact
- Strike and dip of bedding
- Strike and dip of jointing
- Area of limestone outcrop
- Four-wheel-drive trail
- Isolated sample with number
- Sample section with number
- Diamond drillhole with number and (elevation)
- Claim boundary with name
- Magnetometry grid line



Samples collected and holes drilled in 1993 are shown  
(see Faragher and Halferdahl, 1994.)

**ECOWASTE INDUSTRIES LTD.**  
**HALFERDAHL & ASSOCIATES LTD.**  
**EDMONTON, ALBERTA**

**Fig. 4.1 Geology, Drillhole and Sample Locations.**

**GISCOME AREA, B.C.**

**JD**

**1995.10**

## A1

**APPENDIX 1: DESCRIPTIONS OF THE 1994 SAMPLES FROM CLAIMS PAT 1 AND PAT 2**

Samples consist of chips at intervals of 33 cm. See Fig. 4.1 for locations.

Sample	Stratigraphic Thickness (m)	Description
-	-	Covered
9949	2½	<u>Limestone</u> , light-grey weathered, medium-grey with black mottles fresh, cryptocrystalline, calcite-flooded, trace rusty-brown material on broken surfaces, attitude of planar feature (bedding?) 072°/39° SE
9948	2	<u>Limestone</u> , light-grey to light-buff weathered, light-grey with black mottles fresh, cryptocrystalline, abundant calcite stringers and veins, trace rusty-brown material on broken surfaces, attitude of bedding 070°/33° SE, attitude of planar feature (joint?) 072°/53° NW

**APPENDIX 2: MAGNETOMETER READINGS FROM CLAIM PAT 2, NEAR GISCOME, B.C.**  
**(see Fig. 2.1)**

Station	nT	Station	nT	Station	nT	Station	nT
<b>Baseline at 0N</b>							
1000 W	59134	1080 W	58924	1160 W	58624	1240 W	58505
1040 W	59062	1120 W	58745	1200 W	58551		
<b>Line 1000W</b>							
120 N	59858	20 N	59383	80 S	59410	180 S	58996
110 N	59848	10 N	59274	90 S	59420	190 S	59063
100 N	59821	0 N	59134	100 S	59456	200 S	59055
90 N	59763	10 S	59021	110 S	59400	210 S	58970
80 N	59676	20 S	59004	120 S	59167	220 S	58949
70 N	59752	30 S	58921	130 S	59012	230 S	58920
60 N	59772	40 S	58938	140 S	58956	240 S	59026
50 N	59714	50 S	59022	150 S	58904	250 S	59203
40 N	59645	60 S	59178	160 S	58899	260 S	59247
30 N	59498	70 S	59345	170 S	58902		
<b>Line 1120W</b>							
200 N	59598	90 N	59082	20 S	58770	130 S	58696
190 N	59663	80 N	59084	30 S	58788	140 S	58701
180 N	59751	70 N	59058	40 S	58731	150 S	58771
170 N	59832	60 N	59021	50 S	58789	160 S	58788
160 N	59857	50 N	59075	60 S	58805	170 S	58715
150 N	59803	40 N	59022	70 S	58878	180 S	58713
140 N	59660	30 N	59001	80 S	58921	190 S	58570
130 N	59475	20 N	58900	90 S	58879	200 S	58543
120 N	59293	10 N	58867	100 S	58787		
110 N	59258	0 N	58745	110 S	58764		
100 N	59171	10 S	58765	120 S	58768		
<b>Line 1240W</b>							
160 N	58583	110 N	58454	60 N	58654	10 N	58524
150 N	58581	100 N	58558	50 N	58560	0 N	58505
140 N	58575	90 N	58650	40 N	58520		
130 N	58554	80 N	58645	30 N	58517		
120 N	58534	70 N	58661	20 N	58536		

## APPENDIX 3: LITHOLOGICAL LOGS FOR DRILLHOLES 94-1 TO 94-4

<u>Drillhole</u>	<u>Page</u>
94-1	A4
94-2	A34
94-3	A52
94-4	A63

Samples from drillholes 94-1 to 94-4 were analyzed in two laboratories as follows:

Acme Analytical Laboratories Ltd. 94-1, 94-2 top of hole to 53.58 m  
Samples 9302 - 9325  
9376 - 9395  
9601 - 9650  
9007 - 9025  
9676 - 9700  
9776 - 9788

**Central Analytical Laboratory,  
Continental Lime Inc., Salt Lake City**      **94-2 53.58 to 137.16 m, 93-3, 93-4  
Samples      9789 - 9949**

As indicated in Section 5.1, a representative number of the Acme analyses were checked by Continental and the reverse. Where appropriate the Acme determinations of CaO have been adjusted downwards (Section 5.2).

## A4

Owner: Ecowaste Industries Ltd.  
 Drillhole: 94-1  
 Inclination: -90°  
 Depth: 196.90 m  
 Core Recovered: 173.03 m; 98.9%  
 Core Size: NQ  
 Downhole Logs: None

Property: Pat Claims, near Giscome, B.C.  
 Location: Pat 2  
 UTM: 546881E 5989535N  
 Elevation: 719 m  
 Dates Drilled: 1994 09 14 to 18  
 Drilled by Tex Drilling Ltd., Kamloops B.C.  
 Logged by L.B.Halferdahl, J. Dahrouge

Metrage	Interval	Description
0.00 - 21.95	21.95	Overburden      unconsolidated surficial material; casing (not cored)
21.95 - 22.24	0.29	Overburden      limestone boulder(?) medium-grey, cryptocrystalline, with irregular white calcite stringers 2 mm wide and other white calcite masses to 1 cm in size
22.24 - 24.63	2.39	Limestone      medium- to light-grey, cryptocrystalline, with 25 - 30% irregular and regular white calcite stringers, and irregular blebs and masses up to 10 cm long, white calcite decreasing downhole
	22.24 - 22.37	<u>rubble</u> with pieces <1 to 6 - 8 cm in size, probably weathered material at top of bedrock
	22.74	white <u>calcite</u> stringer 3 mm thick at 45° CA
	22.90 - 22.98	0.08 m lost core
	23.05	<u>calcite</u> stringer and vein 2 - 8 mm wide at 45° CA
	23.95 - 24.01	irregular <u>hematitic-red</u> lines to ½ mm wide resembling stylolites with more along contacts of white calcite masses and stringers/veinlets not ~parallel to stratification
	24.01	prominent joint along white <u>calcite</u> veinlet 2 - 5 mm thick at 67° CA
	24.34 - 24.42	very thin, very irregular <u>hematitic-red</u> line outlining mass of slightly darker-grey limestone
24.63 - 35.36	10.73	Limestone      medium- to light-grey, micritic, with 10 - 20% irregular and regular white calcite stringers, and irregular blebs and masses up to 10 cm long
	24.68	white <u>calcite</u> stringer 2 - 4 mm wide at 58° CA

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9302	21.95 - 22.24	0.29	0.29	53.17	0.22	3.63	0.49	0.14	0.10	203
9303	22.24 - 24.63	2.39	2.31	55.39	0.17	0.12	0.20	<0.05	0.07	203
9304	24.63 - 27.14	2.51	2.42	54.66	0.15	<0.05	0.13	<0.05	0.07	186

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-1

Property: Pat Claims, near Giscome, B.C.  
Page 2

Metrage	Interval	Description
	24.83	layer of <u>limy mud</u> 2 cm thick at 60° CA with small fossils enveloping angular fragments of light-grey micritic limestone to 3 cm in size
	24.92	white <u>calcite veinlet</u> ~4 mm thick at 35° CA
	24.98 - 25.78	up to 40% white <u>calcite masses</u> to 3 cm in size, mottling of lighter and slightly darker-grey
	25.38	whitish <u>veinlet</u> at 20° CA with very thin irregular hematitic-red material at contact
	26.02 - 26.08	up to 30% white <u>calcite</u> in irregular masses
	26.19 - 26.27	20 - 25% whitish <u>calcite</u> masses 1 - 3 cm in size
	26.55	prominent <u>joint</u> at 63° CA along white calcite veinlet 2 mm thick
	26.63 - 27.34	irregular lighter- and darker-grey <u>mottles</u> , some white <u>calcite masses</u> perhaps from recrystallization of corals
	26.99 - 27.08	0.09 m lost core
	28.09 - 28.14	one side of core regularly marked with rows of whitish <u>calcite masses</u> ~6 mm in diameter and 1 cm apart
	28.75	<u>stylolite</u> with hematitic-red material at ~45° CA
	28.77 - 28.82	<u>hematitic-red mass</u> on one side of core perhaps filling vug
	28.82 - 28.89	irregular <u>hematitic-red stringers</u> to 1 mm thick
	28.96 - 29.11	regular and irregular white <u>calcite stringers</u>
	28.98	prominent <u>joint</u> at 43° CA
	29.11	prominent <u>fracture</u> along calcite veinlet 1cm thick at 30° CA
	29.30	irregular <u>vug</u> 2 cm in size
	29.34	fine hematitic-red material along very irregular <u>stylolite</u> at ~70° CA
	29.43 - 29.61	up to 30% irregular white <u>calcite masses</u> and <u>stringers</u>
	29.46	irregular <u>vug</u> 1 cm in size
	29.65 - 29.77	irregular longitudinal <u>fracture</u> at ~11° CA with ~1% stained hematitic-red
	29.87	irregular <u>fracture</u> along white calcite veinlet 5 mm thick at 55° CA
	29.91 - 32.91	up to 20% prominent irregular masses of white <u>calcite</u> 2 - 4 cm in size, some elongated to 5 or 6 cm x 1 cm
	30.46 - 30.56	minor <u>hematitic-red stain</u> on fracture surfaces
	30.51 - 30.69	longitudinal <u>fracture</u> at 5° CA
	30.67 - 30.84	few irregular <u>stylolite-like features</u> with very thin hematitic-red stains

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9305	27.14 - 28.51	1.37	1.37	55.47	0.16	0.08	0.18	<0.05	0.05	186
9306	28.51 - 28.70	0.19	0.19	54.84	0.16	0.17	0.23	0.21	0.17	178
9307	28.70 - 30.77	2.07	2.07	54.79	0.18	<0.05	0.32	<0.05	0.07	200

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Metrage	Interval	Description
	30.77 - 33.00	<u>light-grey mottles</u>
	31.00	fairly smooth <u>joint</u> at 30° CA with minor hematitic-red material on surface
	31.59 - 31.80	0.21 m lost core
	31.80 - 32.00	fairly regular pattern of white <u>calcite masses</u> and <u>elongations</u>
	31.94	prominent <u>joint</u> at 60° CA with minor hematitic-red material on surface
	32.05	smooth <u>joint</u> at 67° CA with minor hematitic-red material on surface
	32.43 - 32.67	few small <u>yugs</u>
	32.81 - 32.84	<u>yug</u> 3 cm long
	33.00	irregular lighter- and darker-grey <u>layering</u> at 55° CA
	33.00 - 35.07	10% irregular white <u>calcite masses</u> to 4 cm x 1 cm, ~20% light-grey <u>mottles</u>
	33.60	prominent white <u>calcite veinlet</u> 1 - 5 mm thick at 30° CA
	33.74	prominent white <u>calcite veinlet</u> 2 - 5 mm thick at 36° CA
	34.97 - 35.24	less white <u>calcite</u> and <u>mottling</u>
	35.00	irregular <u>contact</u> between lighter-grey above and darker-grey below at ~45° CA
	35.34	minor <u>hematitic-red material</u> on fracture surface
	35.24 - 35.36	up to 10% white <u>calcite</u>
35.36 - 47.55	12.19	Limestone  medium- to light-grey, cryptocrystalline, with 10 - 30% irregular white calcite stringers and masses to 4 cm or more, 10% or more lighter-grey mottles to 4 - 6 cm long
	35.98	calcite-coated <u>fracture</u> at 60° CA
	36.06	fine-grained <u>orange-brown material</u> to ½ mm thick but spotty along irregular fracture at ~48° CA
	36.10	fine-grained <u>orange-brown material</u> ½ - 2 mm thick along fracture at ~43° CA

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9308	30.77 - 33.23	2.46	2.25	55.48	0.17	0.06	0.18	<0.05	0.08	197
9309	33.23 - 35.36	2.13	2.13	55.51	0.16	<0.05	0.19	<0.05	0.11	191
9310	35.36 - 37.07	1.71	1.71	55.46	0.15	0.07	0.20	<0.05	0.10	192

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Metrage	Interval	Description
	36.13	orange-brown material along very fine fracture
	36.67	orange-brown material along stylolite ~¼ mm thick at 60° CA
	36.75	prominent undulating white calcite vein 5 - 10 mm thick at ~30° CA
	36.79 - 36.84	grey limestone partly replaced by white calcite leaving angular chunks of grey to few millimetres in size
	36.84	smooth fracture at 70° CA
	36.84 - 37.19	up to 40% irregular white calcite in branching veins and masses
	36.87	irregular fracture at 80° CA partly coated with fine-grained orange-brown material
	36.96 - 36.98	few intersecting fractures (one at 75° CA) partly coated with fine-grained orange-brown material
	37.22	irregular fracture at 70° CA partly coated with fine-grained orange-brown material
	37.47	undulating fracture at ~20° CA with fairly abundant orange-brown material
	37.51	smooth fracture at 50° CA
	37.60 - 37.69	very irregular fracture at ~20° CA partly coated with very thin orange-brown material
	37.40 - 38.40	much less white calcite, some outlines of recrystallized shell fragments
	37.40 - 37.54	contact between lighter- and darker-grey ~parallel CA
	37.73	smooth fracture at 60° CA
	37.94	fairly smooth calcite-coated fracture at ~25° CA
	38.18 - 38.46	undulating fracture at ~20° CA with ~½ cm of orange-brown material
	38.65	smooth fracture at 32° CA
	38.77	smooth fracture at 30° CA
	38.98 - 39.14	fracture with brown material
	39.20	white calcite veinlet 2 - 4 mm thick at 47° CA

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9311	37.07 - 37.98	0.91	0.91	55.39	0.19	0.10	0.21	<0.05	0.10	203
9312	37.98 - 39.61	1.63	1.63	55.39	0.18	0.08	0.19	<0.05	0.07	198

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Metrage	Interval	Description
39.63		fairly smooth <u>fracture</u> at 65° CA
39.71		fairly smooth <u>fracture</u> at 60° CA
39.94 - 40.14		few very thin stylolite-like features marked by reddish material
40.63		smooth <u>fracture</u> at 48° CA
40.73		smooth <u>fracture</u> at 47° CA
40.95		part of stylolite at 30° CA
41.10		<u>fracture</u> at 44° CA
41.45 - 44.50		medium-grey, few very irregular stylolitic features with very thin hematitic-red material not parallel to bedding, outlines of recrystallized fossil shells
41.58 - 41.69		irregular <u>fracture</u> at 18° CA partly coated with orange-brown material
41.78 - 41.85		0.07 m lost core
42.21		smooth <u>fracture</u> at 45° CA
42.51		smooth <u>fracture</u> with trace hematitic-red material on surface at 60° CA
42.61		smooth <u>fracture</u> at 60° CA
43.68		lighter-grey layer ~1 cm thick at 35° CA
44.05		smooth <u>fracture</u> at 50° CA
44.12		thin <u>stylolite</u> marked by hematitic-red material at 25° CA
44.29		<u>stylolite</u> marked by hematitic-red material at 35° CA
44.50 - 44.62		regular whitish-grey <u>blotches</u> to 1 - 2 cm in size (corals?)
44.50 - 47.55		up to 20% whitish <u>mottles</u> up to 2 - 3 cm in size, some light-grey intervals
44.58 - 45.23		irregular longitudinal <u>fracture</u> at 10° CA
46.35		layer of fine-grained white <u>calcite</u> 1 - 1½ cm thick at 60° CA
46.35 - 46.92		discontinuous color <u>layering</u> at 32° CA
46.91		smooth <u>fracture</u> at 62° CA
47.24		<u>contact</u> at 34° CA with lighter-grey below
47.44		smooth <u>fracture</u> at 55° CA
47.48		smooth <u>fracture</u> at 60° CA

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9313	39.61 - 41.45	1.84	1.84	55.32	0.20	0.07	0.19	<0.05	0.06	194
9314	41.45 - 43.39	1.94	1.87	55.37	0.19	0.07	0.19	<0.05	0.05	194
9315	43.39 - 45.46	2.07	2.07	55.38	0.20	0.08	0.18	<0.05	0.09	201
9316	45.46 - 47.55	2.09	2.09	55.42	0.17	<0.05	0.17	<0.05	0.07	192

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Metrage	Interval	Description
47.55 - 69.20	21.65      Limestone	medium- to light-grey, cryptocrystalline, few per cent regular and irregular white calcite stringers and masses, little or no mottling, stylolites and stylolite-like features
	47.84	smooth <u>fracture</u> at 60° CA
	48.43	<u>stylolite</u> at ~60° CA
	49.01	smooth <u>fracture</u> at 49° CA
	49.25	smooth <u>fracture</u> at 62° CA
	49.84	smooth <u>fracture</u> at 45° CA
	49.98	smooth <u>fracture</u> at 46° CA
	50.18	smooth <u>fracture</u> at 62° CA
	50.18 - 50.45	longitudinal <u>fracture</u> ~parallel CA
	50.58	smooth <u>fracture</u> at 53° CA
	50.60 - 53.64	light- to medium-grey, few irregular <u>stylolite-like features</u> with ~1 mm of whitish calcite, few other masses of whitish calcite
	51.06	smooth <u>fracture</u> at 55° CA
	51.18	smooth <u>fracture</u> at 70° CA
	51.30	smooth <u>fracture</u> at 53° CA
	51.48	smooth <u>fracture</u> at 55° CA
	51.60	smooth <u>fracture</u> at 53° CA
	51.65 - 51.77	irregular <u>fracture</u> with fine-grained orange-brown material at 13° CA
	51.79	smooth <u>fracture</u> at 55° CA
	51.82	irregular <u>fracture</u> with >½ mm orange-brown material at ~25° CA
	51.86	fairly smooth <u>fracture</u> at 60° CA partly coated with thin layer of orange-brown material

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9317	47.55 - 49.71	2.16	2.16	55.50	0.14	<0.05	0.17	<0.05	0.02	149
9318	49.71 - 51.89	2.18	2.18	55.49	0.13	0.06	0.15	<0.05	0.02	148

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Metrage	Interval	Description
51.98		fairly smooth <u>fracture</u> at 60° CA
52.13		smooth <u>fracture</u> at 72° CA
52.22		smooth <u>fracture</u> at 45° CA partly coated with orange-brown material
52.31		fairly smooth <u>fracture</u> at 66° CA
52.31 - 52.69		up to 10% white <u>calcite stringers</u> 1 - 3 cm thick mostly at 60° CA, other irregular white calcite masses with less below
52.66		smooth <u>fracture</u> at 50° CA
52.89		smooth <u>fracture</u> at 46° CA
53.08		<u>stylolite</u> at 35° CA with hematitic-red material to ½ mm thick
53.13		smooth <u>fracture</u> at 40° CA
53.42		smooth <u>fracture</u> partly coated with orange-brown material along white calcite veinlet 2 - 3 mm thick at 35° CA
53.57 - 53.64		0.07 m lost core
53.64 - 53.70		smooth <u>fracture</u> at 16° CA with minor orange-brown material
54.15		irregular curved <u>stylolitic feature</u> at average of 55° CA with calcite crystals to 1 - 2 mm in size partly coated with hematitic-red material
54.34		smooth <u>fracture</u> at 49° CA
54.43		smooth <u>fracture</u> at 46° CA
54.63		smooth <u>fracture</u> at 50° CA
55.00		smooth <u>fracture</u> at 50° CA
55.19 - 57.61		odd coarse <u>calcite crystal</u> to 1 cm in size
55.58		smooth <u>fracture</u> at 50° CA
55.89		smooth <u>fracture</u> at 30° CA
56.05		smooth <u>fracture</u> at 44° CA
56.27		smooth <u>fracture</u> at 60° CA
56.33		smooth <u>fracture</u> at 45° CA
56.43		smooth <u>fracture</u> at 62° CA
56.47		smooth <u>fracture</u> at 62° CA
56.63		rough <u>fracture</u> at 22° CA with minor orange-brown material
56.68 - 56.69		0.01 m lost core
56.73		smooth <u>fracture</u> at 64° CA
56.92		smooth <u>fracture</u> at 57° CA

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9319	51.89 - 53.64	1.75	1.68	55.48	0.14	<0.05	0.17	<0.05	0.02	156
9320	53.64 - 55.19	1.55	1.55	55.57	0.14	<0.05	0.13	<0.05	0.04	147
9321	55.19 - 57.61	2.42	2.41	55.47	0.13	<0.05	0.19	<0.05	0.02	144

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Metrage	Interval	Description
57.02		smooth <u>fracture</u> at 60° CA
57.18		smooth <u>fracture</u> at 59° CA
57.24		smooth <u>fracture</u> at 62° CA
57.30		smooth <u>fracture</u> at 65° CA
57.33 - 57.38		irregular <u>fracture</u> at 12° CA with minor orange-brown material
57.56 - 57.61		irregular <u>fracture</u> at small angle CA with minor orange-brown material
57.61 - 57.80		0.19 m lost core
57.80 - 59.13		few light-grey <u>masses</u> 2 - 10 mm in size
57.80 - 57.83		longitudinal <u>fracture</u> partly coated with orange-brown material
57.88 - 57.97		rough <u>fracture</u> at 17° CA partly coated with rusty-red material
57.98		smooth <u>fracture</u> at 70° CA
58.07		smooth <u>fracture</u> at 70° CA
58.21		smooth <u>fracture</u> at 58° CA
58.27		smooth <u>fracture</u> at 60° CA
58.31		irregular <u>fracture</u> at ~30° CA with minor orange-brown material on surface
58.43		fairly smooth <u>fracture</u> at 52° CA
58.53		smooth <u>fracture</u> at 60° CA
58.60		smooth <u>fracture</u> at 61° CA
58.68 - 58.93		5% white <u>calcite masses</u> to 2 cm in size
58.70		smooth <u>fracture</u> at 60° CA
58.79		rough <u>fracture</u> at 43° CA
59.00		indistinct <u>layering</u> at 32° CA
59.13		fairly smooth <u>fracture</u> at 55° CA
59.21		fairly smooth <u>fracture</u> at 70° CA
59.23 - 59.49		<u>stringers</u> to 1 mm filled with orange-brown material at 15° CA
59.59		rough <u>fracture</u> at 65° CA
59.54 - 59.77		irregular <u>stringers</u> >½ mm thick with orange-brown material
59.64		fairly smooth <u>fracture</u> at 60° CA with minor orange-brown material
59.72		fairly smooth <u>fracture</u> at 50° CA
59.80		smooth <u>fracture</u> at 50° CA

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9322	57.61 - 59.96	2.35	2.16	55.47	0.15	0.08	0.17	<0.05	0.01	154

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Metrage	Interval	Description
	59.96	smooth <u>fracture</u> at 65° CA
	59.99 - 60.22	undulating <u>fracture</u> at 20° CA with up to 1 mm of orange-brown material
	60.33	smooth <u>fracture</u> at 70° CA
	60.43	smooth <u>fracture</u> at 63° CA
	60.58	smooth <u>fracture</u> at 62° CA
	60.66	smooth <u>fracture</u> at 48° CA
	60.73	rough <u>fracture</u> at 57° CA
	60.97	smooth <u>fracture</u> at 55° CA
	61.19	smooth <u>fracture</u> at 45° CA
	61.27	fairly smooth <u>fracture</u> at 50° CA
	61.37 - 61.47	fine <u>stylolite</u> ? with hematitic-red material at ~28 - 30° CA, few other stylolitic features with hematitic-red material, some to 61.59 m
	61.38	smooth <u>fracture</u> at 65° CA with minor orange-brown material
	61.48	smooth <u>fracture</u> at 42° CA
	61.59	fairly smooth <u>fracture</u> at 47° CA with minor hematitic-red material
	61.63	<u>stylolite</u> with fine hematitic-red material at ~32° CA
	61.63 - 61.93	few <u>stylolites</u> with hematitic-red or buff-brown material
	62.05 - 62.09	0.04 m lost core
	62.09 - 62.18	irregular <u>fracture</u> at ~30° CA filled with up to 5 mm of fine rusty material
	62.18 - 65.23	<u>stylolite-like features</u> with rust or hematitic-red material
	62.18 - 63.47	more or less continuous undulating longitudinal <u>fracture</u> ~parallel CA with variable coating of rusty-brown material and other branching fine stringers with rust
	62.61	fairly smooth <u>fracture</u> at 52° CA
	63.05	fine <u>stylolite</u> with hematitic-red material at ~30° CA
	63.11	fairly smooth <u>fracture</u> at 57° CA

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9323	59.96 - 62.03	2.07	2.07	55.03	0.14	0.06	0.19	<0.05	0.01	164
9324	62.03 - 62.18	0.15	0.11	53.90	0.22	1.24	0.86	0.36	0.13	171
9325	62.18 - 63.52	1.34	1.34	55.48	0.13	0.13	0.22	<0.05	0.02	170

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Metrage	Interval	Description
63.57		<u>stylolite</u> with fine red-hematitic material at ~32° CA
63.57 - 64.83		more abundant hematitic-red material along <u>stylolite-like feature</u>
63.83		smooth <u>fracture</u> at 58° CA
64.20		fairly smooth <u>fracture</u> at 63° CA
64.28		fairly smooth <u>fracture</u> at 70° CA
64.33 - 64.63		longitudinal <u>fracture</u> with rusty material
64.49		fairly smooth <u>fracture</u> at 70° CA
64.76		becoming <u>medium-grey</u> downhole
64.86 - 65.23		undulating longitudinal <u>fracture</u> partly coated with rusty material, some irregular masses of lighter-grey
64.23 - 67.29		medium-grey <u>mottled</u> with lighter-grey, irregular fine white <u>stylolite-like features</u> with very thin hematitic-red material, few white <u>calcite stringers</u> at 43° CA
65.23 - 65.34		<u>stringer</u> with rusty material at ~15° CA
65.85		rough <u>fracture</u> at 69° CA
65.88		becoming <u>medium- to light-grey</u>
66.15		smooth <u>fracture</u> at 75° CA
66.33		<u>stylolite</u> with thin hematitic-red material at 10 - 15° CA
66.68		smooth <u>fracture</u> at ~30° CA
66.71		few curved <u>fossil shells</u>
66.76		irregular <u>fracture</u> coated with rusty material at 28° CA
66.86 - 67.09		<u>crumbly and altered</u> ; several <u>fractures</u> with rusty or orange-brown material
67.27 - 67.35		discontinuous <u>dark layer</u> 1 cm thick at 40° CA
67.44 - 67.69		rough <u>fracture</u> partly coated with rusty material
67.69 - 67.80		0.11 m lost core
67.82		irregular <u>fracture</u> at 30° CA
67.92		discontinuous <u>dark layer</u> 1 cm thick at 66° CA
68.04		rough <u>fracture</u> surfaces partly coated with orange-brown material: one at ~30° CA and the other at ~20° CA about perpendicular to each other
68.20 - 68.21		white <u>calcite vein</u> 1 - 1½ cm thick at 76° CA, fairly smooth <u>fracture</u> partly coated with orange-brown material
68.21 - 68.48		10 - 20% white <u>calcite stringers</u> and <u>veins</u> , stringers filled with orange-brown material
68.48 - 68.65		<u>fracture</u> partly coated with orange-brown material, becoming <u>medium-grey</u>

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9376	63.52 - 65.23	1.71	1.71	55.47	0.15	0.09	0.22	<0.05	0.02	185
9377	65.23 - 66.56	1.33	1.33	54.95	0.22	0.10	0.18	<0.05	0.01	218
9378	66.56 - 67.65	1.09	1.09	54.55	0.20	0.14	0.24	<0.05	0.05	202
9379	67.65 - 68.71	1.06	0.95	55.25	0.16	0.11	0.23	<0.05	0.03	201

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Metrage	Interval	Description	
	68.88 - 69.07	medium-grey, indistinct mottles, calcite stringers and masses	
	68.88	irregular fracture with minor rusty-brown material at 72° CA	
	68.94	irregular fracture with minor rusty-brown material at 70° CA	
	69.03	becoming light-to medium-grey	
69.20 - 69.54	0.34	Dolomitic Limestone	whitish fine-grained layer, black layer with abundant calcite, medium-grey layer below, brecciated (?)
	69.20		fine-grained whitish layer ~5 mm thick at 70° CA, smooth fracture
	69.20 - 69.33		30 - 40% whitish carbonate in masses, stringers, and angular fragments in black limestone with grain sizes to 1 mm
	69.33		irregular contact between black limestone above and medium-grey below with grain sizes ~¼ mm, black carbonaceous material at undulating contact ~90° CA
	69.39		contact at base of medium-grey, broken surface at 60° CA completely covered with sparse reddish hematitic material with silty-looking medium-grey below, fairly smooth fracture at ~80° CA
	69.39 - 69.54		medium-grey brecciated(?) particularly in lower 4 cm and cemented with white carbonate
	69.54		very thin stylolite with hematitic-red material at 90° CA

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9380	68.71 - 69.20	0.49	0.49	54.84	0.16	0.07	0.19	0.27	0.01	223
9381	69.20 - 69.54	0.34	0.34	49.57	5.27	0.23	0.27	<0.05	0.06	296

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Metrag	Interval	Description
69.54 - 71.88	2.34	Limestone  medium-grey, cryptocrystalline, irregularly veined with flesh-colored material to 2 mm wide, some with very thin hematitic-red material, some pinkish stringers at 25° CA, becoming medium- to light-grey by 70.04 m
	70.77	very thin hematitic-red <u>stylolite</u> at 38° CA
	70.79 - 71.37	whitish <u>stringers</u> absent
	70.79	rough <u>fracture</u> with much hematitic-red at 50° CA
	71.02	rough <u>fracture</u> with thin brown material at ~30° CA
	71.26	rough <u>fracture</u> with minor brown material at 60° CA
	71.29	thin <u>stylolite</u> with hematitic-red material at ~30° CA
	71.33	slickensided <u>fracture</u> at 44° CA
	71.37 - 71.88	<u>stylolite-like features</u> with very thin hematitic-red material, rust on many fracture surfaces
	71.41	irregular <u>fracture</u> with rusty material at ~32° CA
71.88 - 72.81	0.93	Dolomitic Limestone  medium-grey, cryptocrystalline with abundant flesh-colored material in upper part; darker-grey, silt-like, hematitic-red material in lower part
	71.88 - 72.04	flooded with <u>flesh-colored material</u> so that at bottom only 10 - 20% of grey limestone left
	71.94 - 72.36	flooded with <u>flesh-colored material</u> , grains to 1 mm
	72.36	thin hematitic-red <u>stylolite</u> at 75° CA
	72.36 - 72.75	dark- to medium-grey, <u>silty texture</u> , few whitish masses, blobs and stringers; hematitic-red material along irregular <u>stylolite-like features</u> , grains to 2 mm in size near bottom
	72.56	rough <u>fracture</u> with minor hematitic-red material at 52° CA
	72.66	rusty-coated <u>fracture</u> at 15° CA
	72.75	<u>contact</u> at 32° CA with lighter-grey 2 - 3 cm thick
72.81 - 72.97	0.16	Limestone  dark-grey, cryptocrystalline, few thin white calcite stringers
	72.97	<u>contact</u> at 50° CA

Sample	Metrag	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9382	69.54 - 71.20	1.66	1.66	55.22	0.36	0.07	0.17	<0.05	0.04	166
9383	71.20 - 71.93	0.73	0.73	55.31	0.21	0.13	0.21	<0.05	0.02	150
9384	71.93 - 72.36	0.43	0.43	45.85	8.18	0.19	0.24	<0.05	0.05	170
9385	72.36 - 72.81	0.45	0.45	48.52	6.01	0.22	0.27	0.16	0.06	230

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Metrage	Interval	Description
72.97 - 76.95	3.98	<b>Carbonaceous Limestone</b> black to dark-grey, carbonaceous, cryptocrystalline to $\frac{1}{4}$ -mm grains, numerous irregular carbonaceous stylolite-like features, irregular fractures with some fractures healed, 10% white calcite to 20% downhole in veins 2 - 12 mm thick
	73.26 - 73.29	<u>vug</u> ~1 cm wide, with projecting clear calcite crystals
	73.38 - 73.50	at least two <u>vugs</u>
	73.43	<u>carbonaceous layer</u> to 8 mm thick bounded by white calcite at 20° CA
	73.67 - 73.70	<u>vug</u> with coarse calcite to 5 mm
	73.77 - 73.79	<u>vug</u>
	73.99	<u>carbonaceous layer</u> to 5 mm thick at 32° CA
	74.18 - 74.39	longitudinal <u>fracture</u> with calcite and carbonaceous material
	74.68 - 75.06	irregularly veined with white <u>calcite</u>
	74.98	irregular <u>carbonaceous parting</u> at 40° CA
	75.01	irregular <u>carbonaceous parting</u> at 33° CA
	75.16 - 75.22	irregular longitudinal <u>fracture</u> with carbonaceous material
	75.22	<u>carbonaceous parting</u> at 45° CA
	75.25	<u>carbonaceous parting</u> to 5 mm thick at 40° CA
	75.32 - 75.33	two <u>carbonaceous partings</u> each 1 - 2 mm thick at 56° CA
	75.34	irregular <u>carbonaceous parting</u> at 62° CA
	75.35	irregular <u>carbonaceous parting</u> at 40° CA
	75.39 - 76.44	whitish <u>fossil shells</u> and crinoid stems
	75.44	irregular <u>carbonaceous parting</u> at 37° CA
	75.56	irregular white <u>calcite</u> vein 4 cm thick at 42° CA with irregular <u>carbonaceous parting</u> along lower contact
	75.59 - 75.67	irregular <u>carbonaceous partings</u> at ~28° CA
	75.73 - 76.50	<u>fossil shells</u> abundant
	75.87	<u>carbonaceous stylolite</u> at ~33° CA, more carbonaceous partings downhole
	76.32 - 76.42	0.10 m lost core
	76.51	<u>carbonaceous stylolite</u> at 25° CA
	76.65 - 76.68	<u>carbonaceous and crumbly</u>
	76.78 - 76.95	few <u>fossil shells</u> to 1 - 2 cm in size, up to 10 - 20% round whitish spots
	76.95	contact with lighter-grey below at 50° CA

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9386	72.81 - 74.96	2.17	2.17	53.07	0.89	0.53	0.46	0.11	0.15	398
9387	74.98 - 76.95	1.97	1.87	53.04	0.49	1.15	0.66	0.15	0.52	395

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Metrage	Interval	Description
76.95 - 80.80	3.85 Limestone	medium-grey, locally darker-grey, micritic to fine-grained, few per cent white calcite stringers and veinlets
	77.16	fracture along white calcite veinlet 2 - 3 mm thick at 40° CA
	77.21	smooth fracture at 30° CA
	77.56 - 77.71	slightly mottled with darker-grey
	77.71	fairly smooth fracture at 40° CA
	78.03 - 80.80	few masses and veinlets of white calcite to 5 cm in length
	78.56	stylolite at ~30° CA
	78.62	rough fracture with rusty material at 45° CA
	78.75	darker-grey with irregular contacts but ~parallel to fracture at 78.80 m
	78.80	rough fracture along white calcite vein at 60° CA
	78.86 - 79.09	irregular white calcite veinlets at ~60° CA, some grains to ½ mm in size, becoming dark-grey by 79.25 m
	79.09 - 79.61	only few white calcite veinlets
	79.25	fairly smooth fracture at 48° CA partly coated with shiny carbonaceous material
	79.38	irregular fracture coated with black carbonaceous material at 43° CA
	79.61	contact between darker- and medium-grey below at stylolite at 33° CA; darker-grey - cryptocrystalline to fine-grained, medium-grey - micritic
	79.66	white calcite vein 6 mm thick at 70° CA
	79.66 - 80.19	darker-grey with black carbonaceous material on most core breaks
	79.97	white calcite vein 6 mm thick at 20° CA
	80.19	irregular contact between dark-grey and medium-grey below
	80.33	rust along fracture surface at ~30° CA, very few white calcite stringers in this interval
	80.38	very irregular fracture partly at 30° CA partly coated with rusty material
	80.44	rust-coated rough fracture at 50° CA
	80.54	rusty spots probably from pyrite
	80.64	fairly smooth fracture partly coated with rusty material at 30° CA
	80.74	broken surface partly coated with rusty material

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9388	76.95 - 79.22	2.27	2.27	55.06	0.26	0.06	0.20	<0.05	0.07	421
9389	79.22 - 81.45	2.23	2.23	55.34	0.16	0.11	0.19	<0.05	0.06	302

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Metrage	Interval	Description
80.80 - 82.48	1.68	Limestone dark- to medium-grey locally black, micritic to fine-grained, up to few per cent white calcite, black material on some fractures
	80.80 - 81.08	1 - 2% white <u>calcite veinlets</u> and <u>stringers</u> , some broken core surfaces with dull-black carbonaceous material
	80.85	cavity or vug along fracture at 28° CA parallel to white <u>calcite vein</u> with protruding rust-covered calcite crystals to 1 cm in size, dark- to medium-grey in this part of the hole
	81.08 - 81.45	becoming <u>darker-grey</u> , very sparse white <u>calcite veinlets</u> and <u>stringers</u>
	81.45 - 81.79	<u>medium-grey</u> , becoming black downhole
	81.50	fairly smooth <u>fracture</u> at 15° CA with irregular calcite(?) on surface
	81.67 - 82.48	irregular lighter-grey fine <u>mottling</u> , some <u>crinoid stems</u>
	81.79	becoming <u>dark-grey</u>
	82.07	dull-black <u>carbonaceous</u> material on broken surface
	82.24	becoming <u>fine-grained</u>
	82.26 - 82.47	longitudinal <u>fracture</u> coated black
	82.48	<u>contact</u> at 62° CA at bottom of dark-grey
82.48 - 87.17	4.69	Limestone medium-grey, fossils(?) to 1 - 2 mm in size in very fine grained matrix, very sparse white calcite
	82.59 - 82.70	fairly smooth <u>fracture</u> at 20° CA
	82.94	irregular <u>fracture</u> at 49° CA
	83.69	rough rust-coated <u>fracture</u> at 58° CA
	83.69 - 83.77	<u>fractures</u> partly coated with rusty or orange-brown material
	83.87	rough <u>fracture</u> partly coated with orange-brown material at 33° CA
	83.93	smooth <u>fracture</u> partly coated with rusty material at 40° CA
	84.09	smooth <u>fracture</u> at 60° CA
	84.19	fairly smooth <u>fracture</u> at 30° CA
	84.20 - 84.24	four or five white <u>calcite veinlets</u> ~1 mm thick at 35 - 45° CA
	84.27	<u>stylolite</u> at 33° CA
	84.34	smooth <u>fracture</u> at 30° CA
	84.58	rough <u>fracture</u> at 45° CA
	84.65 - 84.75	up to 10% fine <u>mottling</u> with flesh-colored material, <u>very fine grained</u> by 84.67 m, becoming <u>medium-</u> to <u>dark-grey</u> by 84.92 m

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9390	81.45 - 83.74	2.29	2.29	55.34	0.15	<0.05	0.19	<0.05	0.09	281
9391	83.74 - 85.73	1.99	1.99	55.45	0.16	<0.05	0.19	<0.05	0.03	303

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Metrage	Interval	Description
	84.93 - 85.73	up to 50% or more <u>mottled</u> medium-grey micrite becoming dark-grey by 85.73 m and continuing darker-grey downhole
	86.17 - 86.56	up to 10 - 15% irregular <u>flesh-colored masses</u>
	86.36	<u>contact</u> at 62° CA between dark-grey and medium-grey micritic below and continuing downhole, subround mass of flesh-colored medium-grey 5 cm long at bottom of dark-grey
	86.60 - 86.71	rough <u>fracture</u> partly coated with rust at 25° CA
	86.70 - 87.12	<u>flesh-colored masses</u>
	87.12	indistinct <u>contact</u> at 45° CA
87.17 - 87.48	0.31	Limestone dark-grey, cryptocrystalline to fine-grained, few white calcite veins and stringers
	87.48	irregular <u>contact</u> at 66° CA with darker-grey above and lighter-grey below
87.48 - 94.27	6.79	Limestone medium-grey transitional to lighter-grey downhole, cryptocrystalline to fine-grained with few grains to 2 - 3 mm in size, sparse white calcite stringers, veinlets, and masses
	87.48 - 87.94	~20% irregular <u>flesh-colored masses</u>
	87.56 - 87.68	smooth <u>fracture</u> at ~20° CA
	87.65 - 87.75	fairly smooth <u>fracture</u> at 25° CA
	87.84 - 87.92	smooth <u>fracture</u> at 23° CA
	88.65	smooth <u>fracture</u> at 20° CA
	88.93	lighter-colored <u>mottling</u>
	88.94	smooth <u>fracture</u> at 34° CA
	89.15	smooth calcite-coated <u>fracture</u> at 63° CA
	89.28	smooth <u>fracture</u> partly coated with rust at 60° CA
	89.47 - 89.54	irregular <u>fractures</u> partly coated with rust at 20° CA
	89.54 - 89.61	0.07 m lost core

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9392	85.73 - 87.94	2.21	2.21	55.44	0.17	<0.05	0.20	<0.05	0.04	294
9393	87.94 - 90.04	2.10	2.03	55.27	0.34	<0.05	0.18	<0.05	0.06	347

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Metrage	Interval	Description
90.05		uneven fracture with minor buff-brown material at 34° CA
90.22 - 94.27		lighter-grey mottles
90.26		smooth fracture at 25° CA with very sparse brown material
90.44		rough fracture at 20° CA with minor rusty-brown material
90.54		smooth fracture at 22° CA with rusty-brown material, intersected by irregular hollow (solution channel ?) also coated with rusty-brown material
90.64		rough fracture at 30° CA partly coated with thin rust
90.91		uneven fracture at 42° CA with minor rust
90.95		fairly smooth fracture partly coated with rusty-brown material at 37° CA
90.90 - 91.08		longitudinal fracture along core
90.96 - 91.08		faint lighter-grey mottling to 75% of rock
91.48		smooth fracture at 20° CA with minor rust
91.52 - 91.58		white calcite stringers 5 - 6 mm thick
91.73		white calcite vein 3 - 4 mm thick with few calcite crystals to 5 - 6 mm in size and partly coated with rusty material at 40° CA
91.82 - 91.87		darker-grey with irregular contacts
92.07		partly rusty rough fracture at 75° CA
92.10		becoming fine-grained and micritic by 92.24 m
92.54		rough fracture at 60° CA with sparse rust
92.64 - 92.83		very irregular mottling with slight pink tint to 5 - 10% of rock
92.73		rough fracture at 42° CA with minor rust
92.98		uneven fracture at 80° CA with minor rust
93.36		calcite-coated fracture at 65° CA with minor rust
93.48		uneven fracture at 42° CA with minor rust
93.55		smooth fracture at 28° CA with sparse rust
93.61		smooth fracture at 30° CA with sparse rust
93.61 - 93.80		fine irregular mottles
93.87		smooth fracture at 40° CA with minor rust
93.98		calcite-coated fracture at 47° CA, few white calcite blebs and stringers downhole

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9394	90.04 - 92.11	2.07	2.07	55.52	0.14	<0.05	0.19	<0.05	0.04	341
9395	92.11 - 94.27	2.16	2.16	55.50	0.15	<0.05	0.18	<0.05	0.01	244

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Metrage	Interval	Description	
94.27- 96.38	2.11	Limestone  94.30-94.41 94.67-94.81 95.29-95.40 95.68-95.85 96.35 96.38	medium-grey, cryptocrystalline, partly fractured, to 5% white calcite stringers to 1/4 cm thick and veins to 1/2 cm thick  white <u>calcite vein</u> 1/2 cm thick at 22° CA white <u>calcite vein</u> 1/2 cm thick at 16° CA white <u>calcite vein</u> 1/2 cm thick at 21° CA white <u>calcite veins</u> to 1/4 cm thick generally parallel CA rare <u>crinoid</u> fragments wavy <u>lower contact</u> at ~47° CA
96.38- 97.98	1.60	Limestone  97.50 97.70 97.78 97.81-97.84	light-grey, very fine grained, minor white calcite filling fractures to 2 mm thick and in veins at random orientations, trace medium-grey limestone grains to 4 mm in size  <u>joint surface</u> at 32° CA <u>fracture</u> at 45° CA <u>fracture</u> at 45° CA 0.03 m lost core
97.98- 98.91	0.93	Limestone  98.08 98.56-98.79	light-grey, cryptocrystalline, broken/fractured with minor rusty-orange clay ~1/4 mm thick  white <u>calcite vein</u> 1 cm wide at 30° CA 0.23 m lost core
98.91- 102.75	3.84	Limestone  99.11-99.20 99.51-99.63  100.14-100.24	medium-grey, cryptocrystalline, sparse calcite as blebs to 3 mm in size and as veins to 4 mm thick, to 1% dark-grey limestone grains ~2 mm in size  ~4% <u>porosity</u> as pores aligned along fracture at 40° CA ~3% <u>porosity</u> as pores aligned along fracture at 36° CA, minor rusty-orange material on <u>fracture</u> surface, minor white <u>calcite</u> as blebs 2 mm in size and veins roughly aligned at 29 - 31° CA up to 15% <u>porosity</u> as small vugs aligned at 40° CA

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9601	94.27-94.84	0.57	0.57	55.54	0.13	<0.05	0.18	<0.05	0.04	262
9602	94.84-96.38	1.54	1.54	55.53	0.13	<0.05	0.14	<0.05	0.07	247
9603	96.38-97.98	1.60	1.57	55.36	0.13	0.12	0.18	<0.05	0.06	222
9604	97.98-98.91	0.93	0.70	55.34	0.15	0.16	0.21	<0.05	0.03	237
9605	98.91-100.27	1.36	1.36	55.41	0.14	<0.05	0.17	<0.05	0.03	210

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Metrage	Interval		Description
	100.27-100.80		up to 10% white to light-pinkish-calcite to 1 cm in size as blebs and veins crudely aligned at 30 - 33° CA, to 3% porosity
	100.80		fracture surface with rusty-orange stain at 18° CA
	100.80-100.97		flooded with pinkish-white calcite as irregular masses and veins, locally fractured with rusty-orange stain on fracture surfaces, upper contact at 18° CA
	101.71		fracture at 40° CA
	101.88		thin clay-lined fracture at 71° CA
	101.91		pinkish-white calcite vein ~1/4 cm thick at 44° CA
	102.75		irregular lower contact
102.75- 104.95	2.20	Limestone	medium- to dark-grey, cryptocrystalline with abundant tan to light-pinkish-tan relict dolomite(?) as randomly orientated blebs and irregular patches to 7½ cm in size, patches of round very dark grey to black limestone grains to 2 mm in size, sparse calcite veins to 3 mm thick and crudely aligned at 30 - 35° CA, calcite blebs to 4 mm in size
	104.13-104.38		up to 45% white to rusty-white calcite as irregular masses and veins, fractured with abundant rusty-orange stain and clayey coatings, upper contact at 20° CA
	104.75-104.95		gradational lower contact
104.95- 106.33	1.38	Limestone	light-grey, cryptocrystalline, ~12 joint surfaces/m at ~68° CA, to 5% subangular dark-grey to black limestone grains to 1 cm in size, minor white calcite as blebs to 1 cm in size and veins to ½ cm thick

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9606	100.27-101.03	0.76	0.76	55.42	0.14	0.06	0.21	<0.05	0.11	270
9607	101.03-102.75	1.72	1.72	54.65	0.83	<0.05	0.17	<0.05	0.05	217
9608	102.75-104.13	1.38	1.38	53.01	2.27	<0.05	0.22	<0.05	0.04	196
9609	104.13-104.38	0.25	0.25	55.41	0.20	0.09	0.21	<0.05	0.03	170
9610	104.38-104.95	0.57	0.57	55.31	0.23	<0.05	0.20	0.12	0.01	166
9611	104.95-106.33	1.38	1.38	54.60	0.10	<0.05	0.23	<0.05	0.08	158

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Metrag	Interval	Description
	105.99-106.30	<u>fractured</u> with <10% <u>calcite</u> as randomly oriented veins
	105.99-106.01	<u>fracture</u> at 64° CA with slickensides, lower 1 cm
	106.17-106.19	<u>brecciated</u> with subangular fragments to ½ cm in size
		<u>breccia</u> at 44° CA with very fine grained light-pinkish-white calcite matrix and angular to subangular limestone fragments to ½ cm in size
	106.30-106.33	<u>breccia</u> at 54° CA with very fine grained light-pinkish-white calcite matrix and angular to subangular limestone fragments to ½ cm in size, ~25% porosity
106.33- 113.75	7.42	Limestone  light-grey, cryptocrystalline with <3% subround black to very dark grey limestone grains to 3 mm in size within thin intervals, to 1% milky-white calcite veins to 1 mm thick
	107.18	milky-white <u>calcite</u> vein to 1 mm thick at 36° CA
	108.36	milky-white <u>calcite</u> vein to 1 mm thick at 32° CA with trace rusty-orange stain
	108.49-108.51	0.02 m lost core
	108.88-109.93	up to 3% subround black to very dark grey <u>limestone grains</u> to 3 mm in size
	109.54-109.57	<u>breccia</u> at 37° CA with light-grey cryptocrystalline calcite matrix and subangular limestone fragments to 1 cm in size
	109.57-109.70	minor rusty-orange material on <u>fractured</u> pieces, intact pieces with 5 - 6% porosity
	109.82-109.84	0.02 m lost core
	110.13	milky-white <u>calcite</u> vein with rusty stain to 1 mm thick at 41° CA
	110.52	milky-white <u>calcite</u> vein with rusty stain to 1 mm thick at 25° CA
	110.97-111.08	up to 3% subangular black to very dark grey <u>limestone grains</u> to 2 mm in size
	111.26-111.48	<u>fracture</u> at 14° CA with rusty stain
	112.37-112.75	milky-white <u>calcite</u> veins to ¼ cm thick generally at 18 - 24° CA with trace rusty-orange stain

Sample	Metrag	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9612	106.33-108.33	2.00	2.00	54.50	0.14	<0.05	0.21	0.42	0.02	194
9613	108.33-109.93	1.60	1.56	54.98	0.12	<0.05	0.16	<0.05	0.14	203
9614	109.93-111.93	2.00	2.00	54.95	0.15	<0.05	0.22	<0.05	<0.01	211
9615	111.93-113.75	1.82	1.82	54.08	0.87	<0.05	0.21	<0.05	0.02	249

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Metrage	Interval	Description
113.75- 117.73	3.98	<b>Carbonaceous Limestone</b> medium-grey, cryptocrystalline to $\frac{1}{2}$ -mm grains, 'wispy' to mottled, abundant black carbonaceous bands to 1 mm thick roughly at $41 - 46^\circ$ CA, with sparse round milky-white calcite grains to 4 mm in size
	114.08-114.48	0.40 m lost core
	116.00-116.19	up to 15% subround to round milky-white to light-grey <u>calcite</u> and <u>limestone grains</u> 1 - 10 mm in size with few elongate and aligned at $42^\circ$ CA
	116.46-116.50	up to 25% subround light-grey <u>limestone grains</u> 1 - 10 mm in size and aligned at $56^\circ$ CA
117.73- 119.26	1.53	<b>Dolomitic Limestone</b> medium-grey transitional to light-grey, cryptocrystalline to $\frac{1}{2}$ -mm grains, minor light-greyish-buff bands and layers with most to 4 cm thick, to 5% subround black carbonaceous grains to 2 mm in size
	117.73-118.39	abundant wispy buff to very light grey <u>dolomitic(?) lenses</u> , to 1 cm thick at $54^\circ$ CA
119.26- 122.39	3.13	<b>Limestone and Dolomitic Limestone</b> light-grey, grains $\frac{1}{8}$ -1 mm, sparse milky-white calcite veins to 2 mm thick at various angles CA, to 1% subangular argillaceous/carbonaceous(?) black grains 1 - 2 mm in size
	119.53-119.75	<u>fractures</u> with minor rusty-orange stain at $0 - 5^\circ$ CA
	120.26	milky-white <u>calcite</u> vein at $42^\circ$ CA with trace rusty-orange stain
	120.39-120.44	<u>breccia</u> with milky-orange-white to rusty-white calcite matrix and angular light-grey limestone fragments to 2 cm in size and with grains to 1 mm
	120.47-120.62	randomly oriented <u>fractures</u> with rusty-orange clay and stain, to 1% porosity
	121.62-122.36	milky-white <u>calcite</u> vein to 2 mm thick at $2 - 3^\circ$ CA

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9616	113.75-115.75	2.00	1.60	54.23	0.49	<0.05	0.18	<0.05	<0.01	468
9617	115.75-117.73	1.98	1.98	52.51	1.95	<0.05	0.19	<0.05	<0.01	382
9618	117.73-119.26	1.53	1.53	51.96	2.53	<0.05	0.19	<0.05	0.07	246
9619	119.26-120.71	1.45	1.45	54.70	0.18	<0.05	0.23	<0.05	0.11	210
9620	120.71-122.39	1.68	1.68	47.02	6.42	<0.05	0.24	<0.05	0.08	201

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Metrage	Interval		Description
122.39- 127.49	5.10	Dolomitic Limestone	medium- to dark-grey, grains to $\frac{1}{2}$ mm, light-brownish-grey, slightly dolomitic(?) bioturbated (?)mottles, to 5% white to milky-white calcite as irregular blebs and lenses to 3 cm thick, sparse fossils primarily brachiopods and molluscs(?) with primary characteristics obscured
	122.90		thin black <u>stylolite</u> at 30 - 44° CA
	123.67-127.49		abundant irregular and wavy black <u>stylolites</u> < $\frac{1}{2}$ mm thick at 25 - 45° CA
127.49- 128.46	0.97	Limestone	very dark grey, cryptocrystalline, to 1% milky-white calcite as irregular crosscutting stringers and veins with variable orientations to $\frac{1}{4}$ cm thick and as irregular blebs and masses to 1 cm in size
	127.49-127.66		few irregular black <u>stylolites</u> at ~46° CA
128.46- 133.50	5.04	Limestone	dark-grey, cryptocrystalline to $\frac{1}{2}$ -mm grains, to 10% surround to round light-grey limestone grains to 4 mm in size within local bands; minor milky-white calcite as blebs, lenses, stringers, and veins to 4 mm in size
	129.06-129.33		abundant milky-white <u>calcite</u> veins and stringers at 32 - 47° CA with angle decreasing through interval, several thin black <u>stylolites</u> from 27 - 46° CA
	129.59-129.79		abundant milky-white <u>calcite</u> as blebs, stringers, and veins

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9621	122.39-124.39	2.00	2.00	53.64	0.87	<0.05	0.23	<0.05	0.04	207
9622	124.39-126.39	2.00	2.00	52.52	1.82	0.17	0.24	<0.05	0.10	216
9623	126.39-127.49	1.10	1.10	53.37	1.29	0.14	0.21	<0.05	0.04	221
9624	127.49-128.46	0.97	0.97	53.83	0.85	<0.05	0.23	<0.05	0.07	235
9625	128.46-129.79	1.33	1.33	53.92	0.77	<0.05	0.19	<0.05	0.04	212

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Metrage	Interval	Description
	130.58-130.61	<u>subparallel alignment</u> of limestone grains to 2 mm in size at 46° CA
	133.34-133.50	milky-white <u>calcite</u> veins to 2½ cm thick, few <u>stylolites</u> <½ mm thick with variable orientations, top of section marked by stylolite at 86° CA
133.50- 136.17	2.67	<b>Dolomitic Limestone</b> medium-grey, grains to ½ mm, to 8% milky-white calcite as blebs, irregular masses, and stringers to 2 cm in size; black stylolites <½ mm thick
	133.50-134.08	<u>breccia</u> grading through interval to fractures with subangular fragments <3 - 40 mm in size and to 10% interstitial milky-white calcite
	134.36-134.41	few irregular <u>stylolites</u> <½ mm thick at 80 - ~90° CA, top of interval marked by milky-white <u>calcite</u> vein ~3 mm thick at 44° CA displaced by stylolite, bottom of interval marked by calcite vein ~3 mm thick at 43° CA
	134.55-134.64	<u>breccia</u> with subangular dark-grey to black <u>limestone</u> fragments to 1½ cm in size and to 15% interstitial milky-white <u>calcite</u> , irregular <u>contacts</u> at ~40 - 42° CA
	134.68-135.82	many <u>tension fractures</u> to 1 cm thick filled with milky-white calcite primarily at 36 - 46° CA and a few at 62 - 68° CA
	135.66	<u>tension fracture</u> filled with milky-white calcite and abundant rusty-orange material, slickensides on another calcite surface at 49° CA
	135.94-136.03	0.09 m lost core
136.17- 138.79	2.62	<b>Limestone</b> medium- to light-grey, cryptocrystalline to ½-mm grains with up to 10% medium-greyish-brown irregular dolomitic mottles as lenses and patches with grains to 1 mm, minor milky-white calcite as blebs and veins to 4 mm thick
	136.17-136.30	milky-white <u>calcite</u> veins to 4 mm thick crosscutting with one at 16° CA cutting two at 69° CA
	136.17-136.50	~50% medium-greyish-brown <u>mottles</u>

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9626	129.79-131.79	2.00	2.00	54.26	0.57	<0.05	0.23	0.07	0.05	225
9627	131.79-133.50	1.71	1.71	53.42	1.00	<0.05	0.24	<0.05	0.06	220
9628	133.50-135.50	2.00	2.00	47.95	5.65	0.36	0.28	<0.05	0.05	207
9629	135.50-136.17	0.67	0.58	55.14	0.43	0.07	0.24	<0.05	0.04	254
9630	136.17-137.67	1.50	1.50	53.03	2.23	<0.05	0.23	<0.05	0.04	246

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Metrage	Interval	Description
	136.42-136.52	up to 3% porosity
	136.60-136.69	medium-greyish-brown dolomitic limestone lens with grains to 1 mm at 41° CA
	137.62-137.69	tension fractures filled with milky-white calcite at 39 - 41° CA
	138.13-138.27	fractures filled with milky-white calcite at 38 - 39° CA
	138.62	milky-white calcite vein to ½ cm thick at 64° CA, trace rusty-red material on surfaces, slickensides on vein surface
	138.74-138.75	breccia with cryptocrystalline dark-grey limestone fragments 1 cm in size and up to 15% interfragmental milky-white calcite, contacts at 64° CA
138.79-	5.85	Limestone
144.64		light- to medium-grey, cryptocrystalline, to 5% irregular medium-greyish brown mottles as lenses and patches with grains to 1 mm, thin irregular wavy black stylolites; sparse milky-white calcite as blebs, stringers, and veins to 1½ mm in size
	140.37-144.64	sparse light-grey limestone grains to 2 mm in size
	140.37-140.42	few thin black stylolites at 41° CA
	140.68-140.79	milky-white calcite vein at 24° CA with trace light-brown alteration parallel to vein, to 1% porosity
	140.79	thin black stylolite at 49° CA, single mollusc replaced by milky-white calcite
	141.06-141.19	fracture with trace rusty-red material at 16° CA parallel to creamy-white calcite vein to 1 mm thick
	141.48-141.52	medium-brownish-grey limestone, top contact along irregular thin black stylolite, bottom contact at 46° CA
	141.56-141.58	3% porosity as thin vugs to 1 mm wide and generally aligned at 36° CA
	141.61-141.63	milky-white calcite vein at 46° CA with few light-grey limestone inclusions to ¼ cm in size
	142.04-142.56	few milky-white calcite veins at 41° and 60° CA, cut and offset by milky-white calcite vein to 1 mm thick at 4° CA with rusty-red material
	142.76-142.80	thin black stylolite at 40° CA

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9631	137.67-138.79	1.12	1.12	53.65	1.68	<0.05	0.27	<0.05	0.04	261
9632	138.79-140.79	2.00	2.00	52.81	2.46	<0.05	0.23	<0.05	0.05	280
9633	140.79-142.79	2.00	2.00	53.84	1.57	0.07	0.20	<0.05	0.04	260

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Metrage	Interval	Description
	142.90-142.94	thin black <u>stylolite</u> at 40° CA
	143.19-143.22	thin black <u>stylolite</u> at 46° CA
	143.63-143.69	thin black <u>stylolite</u> at 44° CA
	143.74-144.42	milky-white <u>calcite</u> veins to 2 mm thick at 5 - 9° CA with trace rust
144.64- 146.45	1.81	Limestone light-grey, minor light-brownish-grey irregular mottles as lenses and patches, cryptocrystalline; 15 - 20% milky-white calcite as irregular blebs to 1½ cm in size, masses to 3½ cm in size, and stringers and veins to ½ cm thick
	144.70-145.14	abundant circular <u>calcite</u> blebs to ¾ cm in size some to 1½ cm long possibly a replacement of colonial corals
146.45- 146.90	0.45	Limestone light- to medium-grey, cryptocrystalline, abundant milky-white calcite as blebs 3 mm in size, to 6% subangular limestone grains to 1½ mm in size
	146.62-146.65	thin milky-white <u>calcite</u> vein at 56° CA
146.90- 150.03	3.13	Limestone medium-grey, cryptocrystalline
	146.90-147.09	abundant <u>calcite</u> as blebs ½ cm in size and lenses, sparse <u>fossil</u> shells and <u>crinoid</u> debris, grainy appearance
	147.12-147.15	<u>tension fracture</u> filled with milky-white calcite at 49° CA
	147.34-148.72	up to 5% light-grey to white <u>calcite</u> as blebs and grains with local grainy appearance and replacing a few fossil shells
	147.63-148.13	up to 8% milky-white <u>calcite</u> veins to ¾ cm thick primarily at 60 - 63° CA and a few at 37 - 40° CA
	148.73-149.23	up to 8% milky-white <u>calcite</u> veins to ¾ cm thick at 45 - 63° CA
	149.49-150.03	up to 8% milky-white <u>calcite</u> veins to ¾ cm thick at 45 - 63° CA

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9634	142.79-144.64	1.85	1.85	53.42	1.81	0.10	0.29	<0.05	0.05	250
9635	144.64-146.45	1.81	1.81	54.74	0.75	<0.05	0.24	<0.05	0.03	197
9636	146.45-146.90	0.45	0.45	54.64	0.85	<0.05	0.24	<0.05	0.03	203
9637	146.90-148.40	1.50	1.50	55.11	0.48	<0.05	0.22	<0.05	0.03	215
9638	148.40-150.03	1.63	1.63	54.80	0.63	0.09	0.27	0.07	0.05	253

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Metrage	Interval	Lithology	Description
150.03- 152.26	2.23	Limestone	medium-grey, cryptocrystalline, abundant milky-white calcite as blebs and veins to 1½ cm in size and masses to 2 cm in size  150.03-150.12      few thin black <u>stylolites</u> at 80 - 90° CA 150.10-150.14      wavy light to dark bands from soft-sediment deformation(?) 151.22-151.26      few thin black <u>stylolites</u> at 45 - 50° CA 151.42      thin black <u>stylolite</u> at 61° CA 151.47-151.51      light-greyish-white to milky-white <u>calcite</u> veins to 1½ cm thick at 44 - 48° CA 152.12-152.16      light-greyish-white to milky-white <u>calcite</u> veins to 1½ cm thick at 69 - 73° CA
152.26- 159.27	7.01	Limestone	light- to medium-grey, cryptocrystalline, locally banded, minor medium-grey limestone with grains to 1½ mm as interbeds and lenses, and with minor subround light-grey to white calcite grains to 2 mm in size, minor generally elongate dark-grey to black carbonaceous limestone grains to 1 mm in size
	152.59-152.63		very dark grey to black cryptocrystalline <u>limestone lenses</u> with minor subangular light-grey limestone grains to ½ cm in size, contacts at 53° and 55° CA
	153.14-153.19		<u>lenses</u> as above, contacts at 45° and 46° CA
	153.19-153.27		<u>lenses</u> as above, top contact at 43°, bottom contact gradational
	153.33-153.38		<u>lenses</u> as above, top contact at 46°, bottom contact gradational
	153.40-153.47		<u>lenses</u> as above, top contact gradational, bottom contact along thin black stylolite at 48° CA
	153.68-153.88		<u>lenses</u> as above, top contact at 47°, bottom contact gradational

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9639	150.03-152.26	2.23	2.23	55.13	0.42	0.06	0.25	<0.05	0.03	335
9640	152.26-154.26	2.00	2.00	54.97	0.52	0.11	0.26	<0.05	0.06	435

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Metrage	Interval	Description
	154.43-154.49	<u>lens</u> as above, top contact at 44° along thin black <u>stylolite</u> , bottom contact at 41° along thin black <u>stylolite</u>
	154.85-155.13	milky-white <u>calcite</u> veins to 3 mm thick at 41 - 58° CA
	156.54-156.59	few thin black <u>stylolites</u> at 60° CA
	156.95-157.02	few thin black <u>stylolites</u> at 46° CA
	157.28-157.39	abundant milky-white <u>calcite</u> veins to 1 cm thick at 45° CA
	157.83-157.87	medium-grey <u>limestone lens</u> , contacts along thin black <u>stylolites</u> : top at 45° CA and bottom at 44° CA
	157.99-159.11	abundant thin black <u>stylolites</u> at 41 - 49° CA
159.27- 163.47	4.20	Limestone  medium- to light-grey, cryptocrystalline to 2-mm grains with coarse grains of two types: subround to subangular dark-grey to black to 1 mm in size and subround milky-white to greyish-white calcite to 2 mm in size, weakly defined banding at 43 - 47° CA
	160.56-160.61	thin black <u>stylolite</u> at 26° CA
	160.71-160.76	thin black <u>stylolite</u> at 41° CA
	160.97-161.02	thin black <u>stylolite</u> at 39° CA
	162.97-163.07	few thin black <u>stylolites</u> at ~40° CA
	163.16-163.47	few thin black <u>stylolites</u> at ~39° CA
163.47- 167.40	3.93	Limestone  medium-grey with some light- to medium-grey sections, primarily cryptocrystalline with minor sections containing grains to 1 mm, minor subround milky-white calcite grains to 1 mm that define weak banding at 39 - 40° CA, minor thin black stylolites at 40 - 45° CA

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9641	154.26-156.26	2.00	2.00	55.08	0.44	0.13	0.25	<0.05	0.04	475
9642	156.26-158.26	2.00	2.00	54.89	0.63	0.06	0.23	<0.05	0.05	474
9643	158.26-159.27	1.01	1.01	54.85	0.58	<0.05	0.28	<0.05	0.02	485
9644	159.27-161.27	2.00	2.00	53.84	1.09	0.31	0.34	0.16	0.03	439
9645	161.27-163.47	2.20	2.20	53.20	0.68	0.59	0.41	0.21	0.03	379
9646	163.47-165.47	2.00	2.00	53.47	0.82	0.23	0.27	0.08	0.06	267

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Metrage	Interval	Description
	165.77-166.00	milky-white calcite vein to 1 mm thick at 39 - 42° CA
	166.26-166.33	milky-white calcite vein to 3 mm thick at 47 - 52° CA
	167.40	bottom contact along black stylolite <1 mm thick at 46° CA
167.40- 171.78	4.38	Limestone medium-grey, cryptocrystalline with minor subangular calcite grains to 1½ mm in size, sparse debris and fragments of crinoids and molluscs with shells replaced by milky-white calcite, rare pyrite cubes or crystal masses to 1½ mm in size
	167.54-167.59	black stylolite <½ mm thick at 43° CA
	168.59-168.64	to 10% light-greyish white calcite as blebs to 1½ cm in size and replacing fossil shells, base of interval defined by thin black stylolite at 41° CA
	168.79-168.82	black stylolite <½ mm thick at 55° CA
	169.19-169.24	zoned calcite vein at 45° CA with milky-white to light-grey core to 1½ cm thick and white with rusty-orange material along rims <¼ cm thick
	169.75-169.79	black stylolite <½ mm thick at 40° CA
	170.20-171.78	minor black stylolite <½ mm thick at 40 - 51° CA
	170.64	fractured interval with greasy black carbonaceous material to ½ cm thick at 81° CA
	170.82-170.92	minor light-greyish-white limestone grains to 1½ mm in size, top contact along stylolite at 43° CA, bottom contact along stylolite at 61° CA
	171.53-171.65	light-greyish-white limestone grains to 1½ mm in size, contacts along stylolites: top at 51° CA and bottom at 48° CA
171.78- 176.11	4.33	Limestone medium-grey, cryptocrystalline, abundant milky-white calcite veins to ¼ cm thick at 35 - 39° CA, abundant fractures generally parallel to calcite stringers and veins
	172.48-172.52	0.04 m lost core
	173.66-173.71	0.05 m lost core

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9647	165.47-167.40	1.93	1.93	53.95	1.00	0.69	0.12	0.07	0.11	272
9648	167.40-169.40	2.00	2.00	54.75	0.37	0.78	0.19	0.10	0.11	298
9649	169.40-170.65	1.25	1.25	54.85	0.35	1.03	0.24	0.09	0.14	292
9650	170.65-171.78	1.13	1.13	54.62	0.33	1.03	0.23	0.16	0.09	285
9007	171.78-173.78	2.00	1.91	54.87	0.35	0.75	0.09	0.09	0.11	301

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Metrage	Interval	Description
	173.88-174.32	milky-white <u>calcite</u> stringers at 23 - 28° CA
	174.32-174.87	crosscutting milky-white <u>calcite</u> veins to 1 mm thick with fracturing parallel to both sets, one set at 20 - 26° CA, second set at 33 - 37° CA
176.11- 196.90	20.79	Limestone  medium-grey, cryptocrystalline to 2% milky-white calcite as irregular masses, lenses, stringers, and veins, trace subround carbonaceous limestone grains to ½ mm in size
	176.54-176.59	milky-white <u>calcite</u> vein 2 mm thick at 38° CA
	176.83-176.99	milky-white <u>calcite</u> vein 2 mm thick at 38° CA
	177.02-177.05	milky-white <u>calcite</u> vein 2 mm thick at 53° CA
	177.14-177.17	milky-white <u>calcite</u> vein 2 mm thick at 60° CA
	178.62-178.86	up to 20% milky-white <u>calcite</u> as blebs and irregular masses to 4 cm in size
	179.04-179.05	thin black <u>stylolite</u> at 45° CA
	180.16-180.22	thin black <u>stylolite</u> at 47° CA
	180.49-180.75	few milky-white <u>calcite</u> veins to 3 mm thick at 57 - 62° CA
	184.81-185.07	few milky-white <u>calcite</u> veins to 3 mm thick at 38 - 39° CA
	185.42-185.46	thin black <u>stylolite</u> at 45° CA
	185.85-185.94	wavy milky-white <u>calcite</u> stringer to 2 mm thick at 36° CA
	186.02-186.06	greasy black <u>carbonaceous</u> material <1 mm thick along fracture at 47° CA

Sample	Metrage	Interval (m)	Sample Length (m)	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9008	173.78-175.03	1.25	1.25	55.05	0.27	0.69	0.11	<0.05	0.11	291
9009	175.03-176.11	1.08	1.08	53.55	1.22	1.12	0.12	0.07	0.14	250
9010	176.11-178.11	2.00	2.00	54.81	0.38	0.59	0.10	<0.05	0.09	235
9011	178.11-180.11	2.00	2.00	54.64	0.37	0.98	0.21	0.13	0.08	287
9012	180.11-182.11	2.00	2.00	54.53	0.50	0.60	0.37	0.15	0.03	282
9013	182.11-184.11	2.00	2.00	54.34	0.55	0.47	0.26	0.15	0.04	284
9014	184.11-186.11	2.00	2.00	54.33	0.45	0.66	0.33	0.17	0.06	302

## A33

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-1

Property: Pat Claims, near Giscome, B.C.  
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Metrage	Interval	Description
	186.11-186.17	thin black <u>stylolite</u> at 40° CA
	186.32-186.38	thin black <u>stylolite</u> at 31° CA
	186.46-186.56	thin black <u>stylolite</u> at 21° CA
	186.58-186.64	light-greyish-white to milky-white <u>calcite</u> vein 5 cm thick with crystals to 1 cm in size and to 15% angular limestone inclusions to 1 cm in size, top contact at 50° CA, bottom contact at 71° CA
	187.11-187.15	thin black <u>stylolite</u> at 41° CA
	189.06-190.76	up to 2% milky-white to subround light-greyish-white <u>calcite</u> grains to 4 mm in size
	189.06-189.17	few <u>calcite</u> veins to 3 mm thick at 49° CA
	190.03-190.45	up to 10% milky-white <u>calcite</u> veins to 2 mm thick at 39 - 42° CA
	191.25-191.30	thin black <u>stylolite</u> at 56° CA
	191.40-191.45	thin black <u>stylolite</u> at 47° CA
	191.40-191.67	thin black <u>stylolite</u> at 53° CA
	191.97	greasy black <u>carbonaceous</u> material along fracture at 84 - 86° CA
	192.53-192.57	thin black <u>stylolite</u> at 56° CA
	192.69-193.25	up to 10% milky-white <u>calcite</u> veins at 45 - 49° CA
	195.70-195.71	greasy black <u>carbonaceous</u> material <1½ mm thick along fracture at 90° CA
	195.71-196.67	five milky-white <u>calcite</u> veins to 1½ mm thick at 10 - 15° CA with trace rusty-orange stain
	194.83-194.99	five milky-white <u>calcite</u> veins to 1½ mm thick at 24° CA with trace rusty-orange stain
196.90		End of Hole

Sample	Metrage	Interval (m)	Sample Length	CaO (%)	MgO (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9015	186.11-188.11	2.00	2.00	53.80	0.68	1.12	0.49	0.22	0.07	300
9016	188.11-190.11	2.00	2.00	53.64	1.09	0.81	0.35	0.15	0.05	289
9017	190.11-192.11	2.00	2.00	53.31	0.57	0.84	0.44	0.22	0.06	329
9018	192.11-194.11	2.00	2.00	54.15	0.34	0.65	0.35	0.10	0.02	321
9019	194.11-195.61	1.50	1.50	54.05	0.42	0.57	0.29	0.20	0.05	316
9020	195.61-196.90	1.29	1.29	52.92	1.89	0.57	0.33	0.14	0.06	284

## A34

Owner: Ecowaste Industries Ltd.  
 Drillhole: 94-2  
 Inclination: -90°  
 Depth: 137.16 m  
 Core Recovered: 135.08 m; 99.6 %  
 Core Size: NQ  
 Downhole Logs: None

Property: Pat Claims, near Giscome, B.C.  
 Location: Claim Pat 2  
 UTM: 546910E 5989745N  
 Elevation: 734 m  
 Dates Drilled: 1994 09 18 to 20  
 Drilled by Tex Drilling Ltd., Kamloops, B.C.  
 Logged by J. Dahrouge

Metrage	Interval	Description
0.00 - 1.52	1.52	Overburden unconsolidated surficial material; casing (not cored)
1.52- 7.92	6.40	Limestone light- to medium-grey, cryptocrystalline to 1½-mm grains, minor rust on fracture surfaces, to 25% coarse milky-white calcite as blebs and irregular masses primarily 1 - 3 cm in size but up to 12 cm, sparse subangular to subrounded dark-grey to black limestone detritus to 1 cm in size, sparse shells of brachiopods or molluscs generally replaced by milky-white calcite
	1.52-1.63	0.11 m lost core
	2.74-3.03	0.29 m lost core
	3.10-3.18	abundant oval cryptocrystalline light-grey <u>mottles</u>
	3.21-3.38	medium-brownish-grey <u>calcarenite</u> with grains to 3 mm in 25% cryptocrystalline matrix, moderate to poor reaction with HCL
	3.21-3.76	local subangular <u>grains and fragments</u> to 2½ cm in size, moderate to poor reaction with HCL
	4.29-4.39	medium- to dark-grey, top contact along irregular stylolite, bottom contact along stylolite at 59° CA
	4.72-5.47	>30% coarse milky-white <u>calcite</u>
	5.78-6.07	milky-white <u>calcite</u> vein with trace rusty-orange stain at 80 - 85° CA
	6.07-6.14	milky-white <u>calcite</u> vein with trace rusty-orange stain at 37 - 38° CA
	6.73-6.81	0.08 m lost core
	7.37-7.45	milky-white <u>calcite</u> vein with trace rusty-orange stain at 34° CA

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9021	1.52-3.43	1.91	1.51	54.76	0.28	0.42	0.28	<0.05	0.29	275
9022	3.43-3.98	0.55	0.55	54.83	0.37	0.59	0.28	<0.05	0.16	276
9023	3.98-4.72	0.74	0.74	54.98	0.24	0.34	0.27	<0.05	0.10	276
9024	4.72-5.47	0.75	0.75	55.02	0.22	0.30	0.24	0.29	0.08	287
9025	5.47-7.47	2.00	1.92	55.39	0.24	0.24	0.25	0.08	0.10	287
9676	7.47-7.92	0.45	0.45	54.48	0.28	0.18	0.25	<0.05	0.03	273

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-2

Property: Pat Claims, near Giscome, B.C.  
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Metrag	Interval	Description
7.92- 12.55	4.63      Limestone	light- to medium-grey, cryptocrystalline, to 15% milky-white calcite as crystals to ½ cm in size, as lenses, stringers, and veins; rusty-orange stain common, rare fossil fragments or shells replaced by milky-white calcite which obscures primary characteristics
	7.92-8.34	dark-grey with few irregular <u>calcite</u> stringers to ½ mm thick and blebs, 'soapy feel'
	8.26-8.74	milky-white <u>calcite</u> stringers and veinlets to 1 cm thick with trace rusty-orange stain primarily at 42 - 45° CA but few at 24 - 41° CA
	9.71	<u>Mollusc</u> <i>Aulacoceratida</i> (?) 2 cm long
	9.74-11.01	abundant <u>fractures</u> coated with rusty-orange material, sparse milky-white <u>calcite</u> veins with minor rusty-orange stain
	10.49-10.70	<u>slickensides</u> on fracture surface at ~6 - 8° CA
	11.93	<u>Brachiopod</u> <i>Atrypida</i> (?) with pronounced brachial valve and fine rounded ribs 1½ cm wide replaced by milky-white calcite
	11.98-12.07	milky-white <u>calcite</u> vein to ¾ cm thick at 42° CA
	12.35-12.46	sparse <u>crinoid</u> debris and fragments, <u>Mollusc</u> <i>Aulacoceratida</i> (?) 3 cm long
12.55- 17.56	5.01      Fossiliferous Limestone	light-grey, cryptocrystalline, with abundant milky-white calcite crystals to 1 cm as blebs and irregular masses to 7 cm in size, up to 10% light-grey to light-brownish-grey irregular patches and lenses; abundant crinoids, brachiopods, and less abundant molluscs as shells, fragments, and debris
	14.02-14.12	up to 5% <u>porosity</u> , fractures with trace of rust on surfaces
	14.26-14.52	light-brownish-grey <u>lenses</u> aligned at 45° to 75° CA
	15.18-15.57	trace orange to orange-brown <u>relict dolomite</u> (?) as anhedral crystals and crystal fragments to ½ cm in size
	15.52-15.62	<u>crinoid</u> stems, stem fragments, and debris

Sample	Metrag	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9677	7.92-8.34	0.42	0.42	54.48	0.29	0.17	0.24	<0.05	0.02	281
9678	8.34-9.74	1.40	1.40	54.71	0.29	0.13	0.21	<0.05	0.04	265
9679	9.74-11.01	1.27	1.27	54.54	0.29	0.47	0.43	0.11	0.04	277
9680	11.01-12.55	1.54	1.54	55.05	0.25	0.09	0.19	<0.05	0.06	255
9681	12.55-14.55	2.00	2.00	55.20	0.21	<0.05	0.20	<0.05	0.11	261
9682	14.55-16.14	1.59	1.59	54.73	0.22	<0.05	0.21	<0.05	0.10	268

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-2

Property: Pat Claims, near Giscome, B.C.  
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Metrage	Interval	Description		
	16.14-16.97	sparse milky-white <u>calcite</u> stringers and veinlets to 2½ cm thick at 37° - 45° CA		
17.56- 18.22	0.66	Fossiliferous Limestone	medium-grey, cryptocrystalline to 2½-mm grains, dark-brownish-grey cryptocrystalline matrix with 25% milky-white medium-grained calcite as blebs to 3 cm in size and replacing fossil fragments and shells, to 40% debris and fragments primarily of brachiopods and crinoids, few irregular black stylolites to 1 mm thick with very thin carbonaceous material at random angles CA, bottom contact along thin irregular and wavy black stylolite at 15° CA	
18.22- 18.78	0.56	Dolomitic Limestone	dark-grey to black, cryptocrystalline to 1-mm grains with local milky-white calcite as blebs to 4 mm in size, slightly carbonaceous/dolomitic matrix, abundant irregular stylolites to ½ mm thick at random angles CA; local brachiopods, crinoids, and other fossils as debris and associated with mottled intervals; local light-brownish-grey mottles with grains to ¼ mm	
18.78- 22.48	3.70	Mottled Dolomitic Limestone	medium-grey, cryptocrystalline, abundant irregular light-brownish-grey mottles with grains to ½ mm in size, mostly as elongate lenses but a very few oval patches; to 8% milky-white calcite as blebs and masses to 2½ cm in size, locally fossiliferous	

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9683	16.14-16.97	0.83	0.83	54.84	0.24	<0.05	0.19	<0.05	0.04	268
9684	16.97-17.56	0.59	0.59	54.61	0.34	<0.05	0.20	<0.05	0.13	237
9685	17.56-18.22	0.66	0.66	54.52	0.31	0.15	0.27	<0.05	0.11	279
9686	18.22-18.78	0.56	0.56	50.24	3.08	0.77	0.63	0.18	0.20	275
9687	18.78-19.83	1.05	1.05	54.56	0.40	0.11	0.19	<0.05	0.02	275

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-2

Property: Pat Claims, near Giscome, B.C.  
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Metrag	Interval	Description
	19.83-20.01	black cryptocrystalline <u>dolomitic/carbonaceous limestone</u> lens 3½ cm thick, variable contacts along irregular black stylolites to 1 mm thick at 5 - 35° CA, trace rusty-red stain on surfaces
	19.97-20.12	<u>fossil debris and fragments</u> in 2-cm-wide band along base of above interval at 26° CA
	21.51-21.76	<u>crinoid debris and fragments</u> in 2-cm-wide band with distinct upper contact at 60 - 70° CA and lower at 46° CA
	21.76-21.88	greasy black <u>dolomitic/carbonaceous limestone</u> , to 5% milky-white calcite in irregular veins
	22.00-22.05	black <u>stylolite</u> <1 mm thick at 50° CA
	22.48	<u>lower contact</u> along black stylolite to 1 mm thick at 62° CA
22.48- 29.50	7.02	<b>Limestone</b> light-grey, cryptocrystalline to ¼-mm grains, to 15% milky- white calcite as blebs and irregular masses to 7 cm in size and as sparse stringers and veins, abundant light-brownish-grey oval-shaped mottles to 2 cm in size and similar material as rare lenses, very rare fossil debris and fragments
	22.48-23.06	pinkish-grey or pinkish-orange <u>relic dolomite(?)</u> , as crystal masses and stain, to 2% milky-white <u>calcite</u> as stringers and veinlets to 1½ cm thick at 16 - 19° CA
	23.24-23.32	irregular and wavy black <u>stylolites</u> <1½ mm thick at 49 - 85° CA
	23.35-23.61	light-brownish-grey <u>mottles</u> with grains to ¼ mm, similar material as lenses and stringers to 5 cm thick generally at 55 - 65° CA

Sample	Metrag	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9688	19.83-20.08	0.25	0.25	48.43	4.65	0.88	0.61	0.25	0.15	271
9689	20.08-21.76	1.68	1.68	53.87	0.72	0.18	0.26	<0.05	0.05	283
9690	21.76-21.88	0.12	0.12	43.84	7.28	2.02	1.25	0.46	0.63	266
9691	21.88-22.48	0.60	0.60	47.94	5.90	0.91	0.63	0.24	0.25	288
9692	22.48-23.06	0.58	0.58	54.75	0.54	0.22	0.32	<0.05	0.08	280
9693	23.06-25.06	2.00	2.00	55.03	0.35	0.06	0.19	<0.05	0.06	290

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Owner: Ecowaste Industries Ltd.  
Drillhole: 94-2

Property: Pat Claims, near Giscome, B.C.  
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Metrage	Interval	Description	
	25.35-25.55	up to 30% <u>debris and fragments</u> primarily of crinoids and brachiopods with primary features obscured by recrystallization	
	25.91-26.14	up to 30% <u>debris and fragments</u> primarily of crinoids and brachiopods with primary features obscured by recrystallization	
	26.70-26.99	milky-white <u>calcite</u> with trace orange stain as stringers and veinlets to 3 mm thick at 19 - 34° CA	
	27.45-27.56	up to 30% <u>debris and fragments</u> primarily of crinoids and brachiopods with primary features obscured by recrystallization	
	27.56-27.62	irregular <u>stylolite</u> with rusty-orange stain at 46° CA	
	27.70-28.38	four milky-white <u>calcite</u> veins to ½ cm thick at 29 - 34° CA	
29.50- 30.06	0.56	<b>Fossiliferous Limestone</b>	dark-grey to black, cryptocrystalline to 2-mm grains, to 40% fossils primarily crinoids and shells as debris and fragments, wavy black stylolites <2 mm thick, carbonaceous material, trace greasy reddish-brown material at random angles CA
	29.91-30.06	up to 30% <u>carbonaceous material</u> along stylolites at various angles CA	
30.06- 35.43	5.37	<b>Fossiliferous Limestone</b>	mottled, medium-grey, cryptocrystalline, to 15% milky-white calcite as blebs and irregular masses, abundant fossils primarily crinoids and shells as debris and fragments, abundant black stylolites <½ mm thick at random angles CA
	30.71-30.75	greasy black <u>carbonaceous material</u> <2 mm thick along fracture at 55° CA	
	34.30-34.60	<u>banding</u> /subparallel alignment of fossil fragments and calcite blebs to ½ cm in size at 30 - 40° CA	

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9694	25.06-27.06	2.00	2.00	55.15	0.32	<0.05	0.22	<0.05	0.04	292
9695	27.06-28.38	1.32	1.32	55.26	0.22	<0.05	0.23	<0.05	0.01	281
9696	28.38-29.50	1.12	1.12	55.11	0.21	0.11	0.25	0.18	0.04	276
9697	29.50-30.06	0.56	0.56	55.23	0.22	0.08	0.24	<0.05	0.08	287
9698	30.06-32.06	2.00	2.00	55.23	0.24	<0.05	0.17	<0.05	0.07	289
9699	32.06-34.06	2.00	2.00	55.26	0.25	<0.05	0.19	<0.05	0.10	284
9700	34.06-35.43	1.37	1.37	55.34	0.20	<0.05	0.20	<0.05	0.15	278

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-2

Property: Pat Claims, near Giscome, B.C.  
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Metrag	Interval	Description
35.43- 42.38	6.95	Limestone  light-grey, grains <½ - 3 mm, to 5% milky-white calcite and locally to 20% as blebs and irregular masses to 3 cm in size, abundant fossils primarily shells and fragments with primary characteristics obscured, rare irregular light- to medium-grey patches cryptocrystalline to ½-mm grains
	36.25-36.29	fracture with red to rusty-red coating at 47° CA
	37.29-40.79	up to 20% milky-white calcite with trace reddish-brown stain as blebs and irregular masses to 5 cm in size rarely as stringers and veins to 1 cm thick
	38.02-38.30	milky-white calcite vein 1 cm thick at 45° CA
	37.92-37.98	up to 5% porosity as fractures and small vugs
	38.22-38.30	milky-white calcite vein 1 cm thick at 36° CA
	38.25-38.34	up to 3% porosity as fractures and small vugs
	38.56-38.78	light-brownish-grey elongate and oval mottles to 2 cm in size
	38.91-39.38	up to 7% porosity as fractures and small vugs
	39.72-40.78	up to 3% porosity as fractures and small vugs
	40.79-42.38	grading to medium-grey
42.38- 43.25	0.87	Limestone  medium- to dark-grey, cryptocrystalline to 2½-mm grains, abundant thin wavy black stylolites at high-angles CA, to 5% irregular patches of black slightly carbonaceous limestone cryptocrystalline to grains to ½ mm, sparse bands and lenses with debris and fragments primarily of brachipods but rare crinoids, to 2½% milky-white calcite as blebs and irregular masses to 2½ cm in size
	43.25	distinct lower contact along bedding at 38° CA with secondary straight black stylolite

Sample	Metrag	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9776	35.43-37.29	1.86	1.86	55.40	0.17	<0.05	0.20	<0.05	0.12	276
9777	37.29-39.29	2.00	2.00	55.40	0.17	<0.05	0.20	<0.05	0.03	281
9778	39.29-40.79	1.50	1.50	55.32	0.17	<0.05	0.20	<0.05	0.09	259
9779	40.79-42.38	1.59	1.59	55.38	0.19	<0.05	0.20	<0.05	0.08	264
9780	42.38-43.25	0.87	0.87	55.25	0.26	0.07	0.21	<0.05	0.16	274

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-2

Property: Pat Claims, near Giscome, B.C.  
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Metrage	Interval	Description
43.25- 52.67	9.42	<b>Fossiliferous Limestone</b>
		light-grey, cryptocrystalline to $\frac{1}{2}$ -mm grains, to 20% of unit with bands and lenses of fossils debris and fragments primarily of crinoids and brachiopods, to 10% milky-white calcite most as blebs and irregular masses to 2 cm in size others as stringers and veins to 1 cm thick, to 2½% greasy black carbonaceous material as bands 2 - 8 cm thick generally with stylolitic contacts, rare subangular and anhedral pinkish-red to pinkish-orange relict dolomite(?) as corroded crystal masses mostly to 2 cm but up to 7 cm
	43.31-43.37	milky-white <u>calcite</u> vein $\frac{1}{2}$ cm thick at 37° CA
	44.39-44.44	milky-white <u>calcite</u> vein with trace rusty-orange stain to $\frac{1}{2}$ cm thick at 48° CA
	44.74-44.84	pinkish-tan <u>relict dolomite(?)</u> $\frac{1}{4}$ - 2 cm in size
	45.16-45.21	milky-white <u>calcite</u> vein to $\frac{1}{2}$ cm thick at 45° CA
	45.49-45.54	milky-white <u>calcite</u> vein to $\frac{1}{2}$ cm thick at 45° CA
	45.72-46.15	layer with debris and fragments of <u>brachiopods and crinoids</u> , gradational top contact, bottom contact at 56° CA
	46.04-46.14	2% <u>porosity</u> as small vugs to 3 mm in size
	46.36-47.05	up to 4% <u>porosity</u> as small vugs to 3 mm in size many along fractures
	46.36-46.70	light-brownish-grey to light-grey <u>mottles</u> to 1½ cm in size
	47.05-47.10	greasy black <u>carbonaceous material</u> 2½ cm thick, irregular contacts with top at 43° CA and bottom at 48° CA
	47.30-47.33	greasy black <u>carbonaceous material</u> 1 cm thick, top contact at 63° CA, bottom contact irregular
	47.35-47.37	thin wavy black <u>stylolite</u> at 63° CA
	47.55-47.75	30% angular pinkish-orange to pinkish-tan <u>relict dolomite(?)</u> $\frac{1}{2}$ - 5 cm in size
	47.62-47.74	black <u>carbonaceous material</u> in irregular masses and patches
	47.96-48.24	up to 20% <u>fossil</u> debris and fragments primarily of crinoids and rare well preserved molluscs
	48.70-49.35	up to 2½% <u>fossil</u> debris and fragments primarily of crinoids and rare well preserved molluscs

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9781	43.25-45.25	2.00	2.00	55.33	0.17	<0.05	0.17	<0.05	0.12	259
9782	45.25-47.05	1.80	1.80	55.32	0.17	<0.05	0.17	<0.05	0.08	249
9783	47.05-47.75	0.70	0.70	54.10	0.99	0.33	0.33	0.16	0.07	229
9784	47.75-49.37	1.62	1.62	55.39	0.21	0.05	0.17	<0.05	0.07	263

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Metrage	Interval	Description
	49.37-49.43	irregular and wavy black <u>stylolites</u> to 2 mm thick at 52 - 57° CA
	49.78-49.86	up to 5% dark-grey to black <u>carbonaceous material</u> with contacts marked by stylolites with top at 60° CA and bottom irregular at 52 - 56° CA
	49.86-50.02	up to 15% <u>fossil</u> debris and fragments primarily of crinoids and rare well preserved molluscs
	50.02-50.05	up to 5% dark-grey to black <u>carbonaceous material</u> ¼ - 1 cm thick, contacts marked by stylolites with top at 55° CA
	50.09-50.22	up to 5% dark-grey to black <u>carbonaceous material</u> . irregular contacts marked by stylolites with top at 45° CA and bottom at 50 - 55° CA
	50.28-50.83	milky-white <u>calcite</u> vein to ¾ cm thick with trace rusty-orange stain at 8° CA
	51.03-51.36	up to 20% <u>fossil</u> debris and fragments primarily of crinoids and rare well preserved molluscs
52.67- 53.58	0.91	Limestone dark-grey to black, cryptocrystalline to 2-mm grains, sparse fossil debris and fragments primarily of brachiopods and crinoids, rare calcite as blebs and stringers ½ - 2 cm in size, rare carbonaceous material along irregular wavy black stylolites generally at 0 - 7° CA
	53.58	<u>lower contact</u> along thin wavy black <u>stylolite</u> at 50 - 52° CA

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9785	49.37-50.22	0.85	0.85	55.36	0.24	<0.05	0.20	<0.05	0.10	288
9786	50.22-51.67	1.45	1.45	55.37	0.19	0.06	0.21	<0.05	0.06	270
9787	51.67-52.67	1.00	1.00	55.40	0.17	0.06	0.17	<0.05	0.05	267
9788	52.67-53.58	0.91	0.91	55.09	0.22	0.19	0.23	<0.05	0.11	281

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Metrage	Interval	Description
53.58- 56.66	3.08	<b>Limestone</b> light-grey, grains < ½ - 3 mm, rare fossils primarily of crinoids and molluscs, to 1% subround limestone grains to 3 mm in size
	53.78-54.41	milky-white <u>calcite</u> veins to ½ cm thick at 22 - 24° CA, to 2% porosity
	56.38-56.54	to 10% dark-grey to black <u>carbonaceous material</u> with irregular contacts, minor milky-white calcite as blebs and irregular masses to 2 cm in size
56.66- 58.86	2.20	<b>Fossiliferous Limestone</b> dark-grey, cryptocrystalline to 4-mm grains, to 2% porosity, to 15% scattered debris primarily of brachiopods, crinoids, and molluscs; to 5% dirty dark-grey to black carbonaceous material along black stylolites <½ mm thick
	56.66-56.71	greasy black <u>carbonaceous</u> stylolite <3 mm thick at 44° CA
	57.47-57.59	greasy black <u>carbonaceous</u> stylolite <3 mm thick at 29° CA
	58.00-58.17	greasy black <u>carbonaceous</u> intervals <½ cm thick along stylolites at 38 - 43° CA

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9789	53.58-55.58	2.00	2.00	55.20	0.27	0.21	0.049	0.035	0.048	245
9790	55.58-56.66	1.08	1.08	55.42	0.33	0.11	0.028	0.036	0.057	256
9791	56.66-57.66	1.00	1.00	54.88	0.63	0.22	0.085	0.076	0.065	262
9792	57.66-58.86	1.20	1.20	54.64	0.46	0.75	0.346	0.247	0.142	278

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Metrage	Interval	Description
58.86- 66.80	7.94	Limestone  medium-grey, grains <½ - 4 mm, to 5% fossils debris and fragments locally to 20% primarily of brachiopods and crinoids, sparse milky-white calcite as blebs and irregular masses to 2 cm in size and rarely as veins, sparse black stylolites <1 mm thick
	59.82-60.46	up to 3% porosity
	61.19-61.45	irregular and wavy black stylolite <1 mm thick at 78° CA
	61.33-61.45	up to 2% black carbonaceous material <1 mm thick along wavy black stylolites, top contact at 44°, bottom contact at 64°
	61.47-61.95	up to 5% reddish-orange or orange relict dolomite(?) in subangular featureless masses
	62.07	fracture with rusty-brown to rusty-red material at 85 - 90° CA
	62.64-62.73	milky-white calcite vein to 3 mm thick at 29° CA
	63.53-63.59	wavy black stylolite <2 mm thick with carbonaceous material <1 mm thick at 43° CA
66.80- 68.36	1.56	Limestone  light-grey, grains to 1 mm, to ½% porosity, sparse milky-white calcite veins
	67.19-67.22	milky-white calcite vein to 1½ cm at 64° CA
	67.76-67.80	milky-white calcite vein to 1½ cm at 49° CA

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9793	58.86-60.86	2.00	2.00	55.42	0.31	0.12	0.040	0.039	0.046	297
9794	60.86-62.86	2.00	2.00	55.41	0.32	0.15	0.052	0.044	0.067	299
9795	62.86-64.86	2.00	2.00	55.44	0.31	0.17	0.049	0.039	0.128	302
9796	64.86-66.80	1.94	1.94	55.22	0.43	0.21	0.069	0.065	0.090	298
9797	66.80-68.36	1.56	1.56	55.51	0.26	0.10	0.035	0.040	0.200	288

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Metrage	Interval	Description
68.36- 73.08	4.72	<b>Fossiliferous Limestone</b>  dark-grey, locally black, cryptocrystalline to 1-mm grains, to 20% fossil debris and fragments primarily of brachiopods and crinoids, rare colonial corals(?), sparse elongate and irregular mottles, wavy black stylolites <1 mm thick at various angles CA, to 5% milky-white calcite blebs and irregular masses to 10 cm in size
	<b>68.61-68.87</b>	<b>soft sediment deformation</b> consisting of black calcareous mud with wavy milky-white calcite fill
	<b>69.73-70.04</b>	milky-white <u>calcite</u> veins to 1½ mm thick at 68 - 72° CA
	<b>70.63-71.06</b>	<u>solution breccia</u> with dark-grey limestone fragments and up to 15% interstitial milky-white calcite
73.08- 81.95	8.87	<b>Limestone</b>  medium-grey, grains <½ - 3 mm, to 7½% surround light-grey to greyish-white limestone grains to 3 mm in size, locally banded, sparse fossil debris and fragments primarily of brachiopods and crinoids with rare molluscs, sparse wavy greasy black stylolites with carbonaceous material <¾ cm thick
	<b>74.16-74.41</b>	light-grey <u>banding</u> cryptocrystalline to ½-mm grains, contacts at 38° CA
	<b>74.61-74.68</b>	greasy black <u>carbonaceous material</u> <½ cm thick, and milky-white calcite vein to ¼ cm thick, both at 30° CA
	<b>75.34-75.43</b>	wavy black <u>carbonaceous material</u> <¼ cm thick along stylolite at 34° CA
	<b>76.06-76.16</b>	<u>carbonaceous material</u> <¼ cm thick along wavy black stylolite, banding/rough subparallel alignment of limestone grains, both at 31° CA
	<b>76.25-76.44</b>	wavy black <u>carbonaceous material</u> <1 cm thick with thin fining-up sequences of subparallel alignment of limestone grains, both at 35° CA

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9798	68.36-70.36	2.00	2.00	55.32	0.32	0.23	0.098	0.070	0.041	323
9799	70.36-71.86	1.50	1.50	55.28	0.33	0.18	0.079	0.065	0.130	322
9800	71.86-73.08	1.22	1.22	55.47	0.30	0.09	0.035	0.040	0.053	318
9801	73.08-75.08	2.00	2.00	55.45	0.29	0.13	0.040	0.042	0.085	283
9802	75.08-77.08	2.00	2.00	54.43	1.17	0.12	0.040	0.033	0.131	229

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Metrage	Interval	Description
	77.75-77.85	wavy black <u>stylolite</u> <1 mm thick at 31° CA
	77.88-77.95	<u>fracture</u> with slickensides and irregular milky-white calcite to 2 mm thick with trace rusty-orange stain
	78.03-80.25	<u>banding/rough subparallel alignment</u> of limestone grains at 35 - 39° CA
	81.86-81.95	<u>gradational lower contact</u> at bottom of slightly argillaceous black carbonaceous material ½ cm thick at 36° CA
81.95- 83.45	1.50	Limestone light- to medium-grey, cryptocrystalline to ½-mm grains, to 2% porosity locally
	82.83-82.92	flooded with milky-white calcite, top contact along milky-white calcite vein to 1 cm thick with rusty-orange stain at 49° CA
	83.01-83.09	flooded with multi-phased milky-white calcite as irregular masses and veins, top contact along milky-white calcite vein to 2½ cm thick with rusty-orange stain at 37° CA
	83.08-83.12	greasy black <u>carbonaceous material</u> <1¼ cm thick at 44° CA
83.45- 83.62	0.17	Argillaceous Dolomitic Limestone black, slightly carbonaceous, cryptocrystalline, top contact at 41° CA, bottom contact broken

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9803	77.08-79.08	2.00	2.00	54.50	1.16	0.11	0.036	0.031	0.140	173
9804	79.08-81.08	2.00	2.00	53.93	1.56	0.13	0.057	0.061	0.117	211
9805	81.08-81.95	0.87	0.87	55.14	0.54	0.10	0.037	0.036	0.061	221
9806	81.95-82.83	0.88	0.88	55.10	0.55	0.14	0.053	0.025	0.075	220
9807	82.83-83.45	0.62	0.62	55.07	0.45	0.29	0.130	0.112	0.076	257
9808	83.45-83.62	0.17	0.17	40.43	10.27	2.42	1.218	0.396	0.359	192

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Metrage	Interval	Description
83.62- 103.74	20.12	<b>Carbonaceous Limestone</b>
		medium- to dark-grey, grains <½ - 4 mm, local debris and fragments of molluscs and minor crinoids, abundant thin wavy black stylolites, abundant carbonaceous material, sparse medium-grey mottles, sparse light-grey limestone grains
	85.38-85.47	milky-white <u>calcite</u> vein to 2 mm thick at 38° CA
	85.96-86.03	milky-white <u>calcite</u> vein to 2 mm thick at 37° CA
	86.84-87.95	<u>banding</u> /subparallel alignment of limestone grains at 36 - 39° CA
	87.59-87.62	patchy greasy black <u>carbonaceous material</u> <1½ cm thick at 47° CA
	87.87-88.13	one set of milky-white <u>calcite</u> veins at 21° CA cut by second set at 16° CA
	89.33-89.40	greasy black <u>carbonaceous material</u> <1 cm thick at 38° CA
	89.43-89.53	two greasy black <u>carbonaceous layers</u> 1 and 2½ cm thick at 46° and 36° CA, respectively
	89.62-89.75	four greasy black <u>carbonaceous layers</u> <1 cm thick at ~36° CA
	90.71-90.79	banded greasy black <u>carbonaceous material</u> <1 cm thick at 29° CA

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9809	83.62-85.62	2.00	2.00	54.41	1.08	0.30	0.085	0.054	0.083	239
9810	85.62-87.62	2.00	2.00	54.84	0.74	0.24	0.037	0.036	0.068	212
9811	87.62-89.33	1.71	1.71	50.88	3.75	0.85	0.159	0.090	0.138	240
9812	89.33-89.75	0.42	0.42	48.75	4.58	1.92	0.858	0.363	0.416	224
9813	89.75-91.75	2.00	2.00	54.70	0.76	0.31	0.056	0.053	0.117	219
9814	91.75-92.63	0.88	0.88	54.36	1.11	0.32	0.061	0.040	0.350	211

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Metrage	Interval	Description
	92.63-92.73	greasy black <u>calcareous shale</u> 7 cm thick at 58° CA
	92.92-92.98	irregular greasy black <u>carbonaceous material</u> <1/4 cm thick at 50° CA
	92.98-93.14	several irregular greasy black <u>carbonaceous intervals</u> <1/4 cm thick at 31 - 51° CA
	93.86-93.91	up to 35% <u>carbonaceous material</u> , abundant greasy black stylolites
	93.98-94.07	<u>carbonaceous material</u> <3 cm thick, abundant greasy black stylolites at 32 - 44° CA
	96.57-96.67	cream-colored <u>calcite</u> vein to 1 cm thick at 26° CA
	98.60-98.70	up to 45% <u>carbonaceous material</u> along greasy black stylolites at 52° CA
	99.36-99.61	up to 45% <u>carbonaceous material</u> along greasy black stylolites at 38 - 42° CA
	99.61-103.74	<u>banding/weak subparallel alignment of fossil fragments</u> and limestone grains at 39 - 41° CA
	103.03-103.11	black <u>carbonaceous material</u> <1/2 cm thick and calcite vein to 1/4 cm thick at 30° CA
	103.74	<u>lower contact</u> along thin wavy black stylolite at 26° CA

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9815	92.63-93.14	0.51	0.51	49.34	4.98	0.88	0.282	0.125	0.500	239
9816	93.14-94.07	0.93	0.93	53.56	1.79	0.31	0.069	0.049	0.097	239
9817	94.07-96.07	2.00	2.00	54.84	0.84	0.21	0.042	0.023	0.116	215
9818	96.07-98.07	2.00	2.00	53.90	1.61	0.21	0.041	0.022	0.184	197
9819	98.07-99.36	1.29	1.29	52.79	2.49	0.22	0.083	0.051	0.265	196
9820	99.36-99.61	0.25	0.25	43.48	8.81	1.40	0.697	0.293	0.505	210
9821	99.61-101.61	2.00	2.00	51.38	3.58	0.36	0.142	0.056	0.121	224
9822	101.61-103.74	2.13	2.13	45.63	8.34	0.57	0.290	0.152	0.190	195

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Metrage	Interval	Description	
103.74- 104.14	0.40	Mottled Limestone	medium-grey with light-grey mottles, cryptocrystalline, stylolites with lower contact along one at 34° CA
104.14- 109.23	5.09	Dolomitic Fossiliferous Limestone	dark-grey, cryptocrystalline to 3-mm grains, banded, abundant fossil debris and fragments primarily of brachiopods and crinoids, sparse greasy black carbonaceous material <2 cm thick
	104.44-104.59		up to 60% greasy black <u>carbonaceous material</u> , banded at 35 - 36° CA
	106.35-106.37		milky-white <u>calcite</u> vein at 68° CA
	107.44-107.51		milky-white <u>calcite</u> vein at 34° CA
	108.11-108.17		fractured greasy black <u>carbonaceous material</u> to 2 mm thick at 42° CA
	108.25-108.38		greasy black <u>carbonaceous material</u> <4 cm thick, irregular contacts with top at 28° CA and bottom at 35° CA
	108.62-108.89		cryptocrystalline <u>carbonaceous/argillaceous material</u> , stylolitic contacts with top at ~36° CA and bottom at 45 - 60° CA, milky-white calcite vein at 44° CA cutting top contact
	109.23		gradational <u>lower contact</u> at ~30° CA

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9823	103.74-104.14	0.40	0.40	52.20	2.95	0.34	0.137	0.049	0.076	205
9824	104.14-106.14	2.00	2.00	50.86	3.99	0.43	0.196	0.103	0.100	205
9825	106.14-108.11	1.97	1.97	48.17	6.37	0.31	0.145	0.063	0.170	210
9826	108.11-109.23	1.12	1.12	39.80	12.84	0.88	0.429	0.266	0.292	195

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Metrag	Interval	Description
109.23- 110.85	1.62	Dolomitic Limestone  light- to medium-grey, cryptocrystalline to 4-mm grains, to 3½% porosity, to 5% milky-white calcite veins and stringers to ½ cm thick, to 2½% fossil debris and fragments primarily of brachiopods and crinoids, sparse thin black stylolites slightly more abundant near base of interval
110.85- 112.67	1.82	Interbedded Limestone and Argillaceous-Carbonaceous-Limestone  50% <u>limestone</u> , medium-grey to black, grains <¼ - 4 mm, and 50% <u>argillaceous-carbonaceous limestone</u> , black, cryptocrystalline to ¼-mm grains, with well defined bedding at 45° CA, to 2½% milky-white calcite veins to ½ cm thick, common wavy black stylolites <1 mm thick
112.67- 117.59	4.92	Dolomitic Limestone  medium-grey to black, dominantly cryptocrystalline with few buff-grey to milky-white calcite crystals to 3 mm in size, sparse carbonaceous material in irregular masses and lenses to 3 cm thick, and along stylolites; sparse fossil debris and fragments primarily of brachiopods, crinoids and molluscs; to 5% milky-white calcite as blebs and irregular masses to 3 cm in size
	113.11-113.62	up to 5% <u>carbonaceous material</u> as irregular patches and along stylolites <1 mm thick, fossiliferous near base, irregular bottom contact along stylolite at ~68 - 72° CA, second stylolite near base at 32° CA
	114.06-114.65	<u>mottled</u> light-grey
	115.57-115.77	<u>mottled</u> light-grey
	116.54-116.67	greasy black <u>carbonaceous material</u> <1 cm thick, irregular top contact, bottom contact at 53° CA

Sample	Metrag	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9827	109.23-110.85	1.62	1.62	52.16	3.06	0.21	0.063	0.027	0.091	202
9828	110.85-112.67	1.82	1.82	44.36	8.60	1.56	0.616	0.327	1.200	245
9829	112.67-114.67	2.00	2.00	50.37	4.49	0.31	0.120	0.063	0.128	254
9830	114.67-116.67	2.00	2.00	52.47	2.60	0.34	0.121	0.065	0.174	240
9831	116.67-117.59	0.92	0.92	53.61	1.61	0.42	0.173	0.110	0.178	240

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Metrage	Interval	Description	
117.59- 122.31	4.72	Dolomitic Fossiliferous Limestone  118.75-118.97 119.66-119.95 120.70-121.51 121.54-121.61 122.31	medium- to dark-grey, grains to ½ - 4 mm, abundant crinoid debris and fragments, <5% carbonaceous material as lenses and along stylolites  thin <u>argillaceous/carbonaceous</u> lenses with several <1 cm thick at 28 - 30° CA <u>argillaceous/carbonaceous</u> lenses to ½ cm thick at 38 - 41° CA, banding/subparallel alignment of fossil fragments 35% <u>carbonaceous</u> material as irregular masses and lenses, soft-sediment deformation, lower contact gradational at ~38° CA greasy black <u>carbonaceous</u> material 2 cm thick at 43° CA lower contact along carbonaceous shale at 42° CA
122.31- 137.16	14.85	Interbedded Limestone and Carbonaceous Calcareous Shale  122.31-123.50 123.50-125.50 123.60 124.36 124.62-124.79 125.50-127.50 126.62	>62½% <u>limestone</u> , dark-grey, cryptocrystalline to 1-mm grains, abundant fossil debris and fragments primarily of brachiopods and crinoids, laminated; sparse calcite blebs, irregular masses, stringers, and veins; to 3% black subround grains to 2 mm; up to 37½% <u>carbonaceous calcareous shale</u> - black, cryptocrystalline to microcrystalline, few greasy well laminated layers <10 - 80 cm thick, sparse carbonaceous material generally along stylolites  10% carbonaceous calcareous <u>shale</u> and 90% <u>limestone</u> 65% carbonaceous calcareous <u>shale</u> and 35% <u>limestone</u> <u>bedding</u> at 41° CA <u>bedding</u> at 47° CA 0.17 m lost core 7½% carbonaceous calcareous <u>shale</u> and 92½% <u>limestone</u> <u>bedding</u> at 39° CA

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9832	117.59-119.66	2.07	2.07	49.76	4.91	0.37	0.162	0.074	0.256	231
9833	119.66-121.61	1.95	1.95	42.35	10.71	1.06	0.437	0.330	0.230	227
9834	121.61-122.31	0.70	0.70	51.89	2.82	0.87	0.154	0.137	0.304	242
9835	122.31-123.50	1.19	1.19	52.51	2.20	0.99	0.327	0.273	0.430	318
9836	123.50-125.50	2.00	1.83	45.49	5.47	5.02	1.022	0.601	0.745	363
9837	125.50-127.50	2.00	2.00	51.77	2.67	1.17	0.376	0.206	1.097	379

**Owner: Ecowaste Industries Ltd.  
Drillhole: 94-2**

**Property: Pat Claims, near Giscome, B.C.**  
**Page 18**

Metrage	Interval	Description
	127.50-129.58	7½% carbonaceous calcareous <u>shale</u> and 92½% <u>limestone</u>
	127.89-127.94	0.05 m lost core
	128.25	<u>bedding</u> at 36° CA
	129.58-131.65	50% carbonaceous calcareous <u>shale</u> and 50% <u>limestone</u>
	129.93	<u>bedding</u> at 29° CA
	131.65-133.13	10% carbonaceous calcareous <u>shale</u> and 90% <u>limestone</u>
	133.13-134.65	40% carbonaceous calcareous <u>shale</u> and 60% <u>limestone</u>
	133.26	<u>bedding</u> at 32° CA
	134.65-135.38	black <u>calcareous</u> carbonaceous <u>shale</u> , cryptocrystalline to microcrystalline, well laminated, trace very fine disseminated pyrite and as thin crystal masses to 2 mm in size along laminations
	135.38-137.16	25% carbonaceous calcareous <u>shale</u> and 75% <u>limestone</u>
	135.98	<u>bedding</u> at 37° CA
	136.49	<u>bedding</u> at 35° CA

137,16

## **End of Hole**

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9838	127.50-129.58	2.08	2.03	50.62	3.11	1.96	0.546	0.285	1.168	371
9839	129.58-131.65	2.07	2.07	42.45	6.40	5.82	1.484	0.857	0.810	316
9840	131.65-133.13	1.48	1.48	47.76	3.79	4.81	1.044	0.571	0.760	361
9841	133.13-134.65	1.52	1.52	40.07	4.81	10.36	1.853	1.201	0.389	386
9842	134.65-135.38	0.73	0.73	18.33	8.95	23.71	3.229	3.263	0.305	161
9843	135.38-137.16	1.78	1.78	44.78	5.08	5.99	1.261	0.649	0.570	287

## A52

Owner: Ecowaste Industries Ltd.  
 Drillhole: 94-3  
 Inclination: -90°  
 Depth: 71.93 m  
 Core Recovered: 69.42 m; 99.0 %  
 Core Size: NQ  
 Downhole Logs: None

Property: Pat Claims, near Giscome, B.C.  
 Location: Claim Pat 2  
 UTM: 546940E 5989868N  
 Elevation: 741 m  
 Dates Drilled: 1994 09 20 to 21  
 Drilled Tex Drilling Ltd., Kamloops, B.C.  
 Logged by J. Dahrouge

Metrage	Interval		Description
0.00 - 1.83	1.83	Overburden	unconsolidated surficial material; casing (not cored)
1.83- 12.54	10.71	Limestone	light- to medium-grey, cryptocrystalline, to 20% milky-white calcite as blebs, irregular masses, and rare veins, to 2% brownish-grey cryptocrystalline dolomitic mottles generally 1 - 3 cm in size but to 5 cm, rare debris and fragments of fossil shells with primary characteristics obscured by recrystallization, rare colonial corals (?)
	2.82-2.86		debris and fragments of <u>colonial corals</u> (?)
	2.86		light-grey and medium-grey <u>color contact</u> at 54° CA
	2.96-3.06		milky-white calcite vein 2 cm thick at 31° CA
	3.27-3.36		0.09 m lost core
	4.09-4.17		milky-white <u>calcite</u> vein $\frac{1}{4}$ cm thick at ~24° CA
	5.54-5.70		milky-white <u>calcite</u> filling fractures to $\frac{1}{2}$ cm thick at 28 - 54°CA
	8.79-8.97		irregular <u>stylolite</u> with rusty-red stain at 36° CA
	9.94-12.54		up to $\frac{1}{2}\%$ corroded and irregular crystal masses of <u>relic dolomite</u> (?) to 1½ cm in size
	11.06-11.35		up to 2½% <u>porosity</u> as small vugs to $\frac{1}{2}$ cm in size probably by removal of <u>relic dolomite</u> (?)

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9844	1.83-2.86	1.03	1.03	55.34	0.39	0.15	0.042	0.073	0.058	208
9845	2.86-4.73	1.87	1.78	55.31	0.46	0.11	0.021	0.069	0.029	198
9846	4.73-6.73	2.00	2.00	55.29	0.45	0.13	0.017	0.019	0.027	193
9847	6.73-8.73	2.00	2.00	55.11	0.51	0.11	0.021	0.035	0.057	201
9848	8.73-10.73	2.00	2.00	55.19	0.55	0.08	0.023	0.116	0.031	201
9849	10.73-12.54	1.81	1.81	55.04	0.68	0.15	0.043	0.045	0.033	201

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-3

Property: Pat Claims, near Giscome, B.C.  
Page 2

Metrage	Interval	Description
12.54- 13.37	0.83	Limestone  light- to medium-grey, cryptocrystalline, to 40% lenses with distinct unconformable (?) contacts of medium-brownish-grey limestone with grains and granules ½ - 10 mm in size, to 30% milky-white calcite as irregular masses
	12.54-12.60	medium-brownish-grey <u>limestone</u> with ~60% sparry-calcite matrix and to 30% subangular detritus from ½ - 10 mm in size, to 2½% noncarbonate detritus, to 2½% rusty material and stains, top contact at 49° CA, bottom contact at 54° CA
	12.74-13.37	medium-brownish-grey <u>limestone</u> with ~60% sparry-calcite matrix and 40% subangular limestone detritus from ½ - 7 cm in size, contact along thin irregular and wavy <u>rust-coated stylolite</u> subparallel CA
13.37- 17.68	4.31	Mottled Limestone  medium-grey, cryptocrystalline, to 17% light-brownish-grey to buff-grey mottles to 7 cm in size, sparse milky-white calcite as blebs and irregular masses to 4 cm in size
	14.61-15.65	up to 3% <u>porosity</u> with minor rusty-orange material coating vugs and on sparse fractures at various angles CA
	14.94-15.13	0.19 m lost core
	16.21-16.23	<u>clay lens</u> ½ cm thick with abundant rusty-orange material parallel to 1¼-cm milky-white <u>calcite</u> vein at 36° CA
	16.28-17.57	flooded by milky-white <u>calcite</u> with rusty-orange stain as stringers and veins generally subparallel CA
17.68- 19.02	1.34	Limestone  medium-grey, cryptocrystalline, to 5% milky-white calcite as stringers and veins to 1 cm thick
	18.05-18.11	milky-white <u>calcite</u> vein ¾ cm thick at 46° CA
	18.86-19.02	milky-white <u>calcite</u> vein ¾ cm thick with traces of orange and rusty stain at 16° CA

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9850	12.54-13.37	0.83	0.83	54.96	0.66	0.22	0.093	0.078	0.057	214
9851	13.37-14.61	1.24	1.24	55.34	0.36	0.10	0.031	0.027	0.032	189
9852	14.61-15.65	1.04	0.85	55.35	0.34	0.14	0.032	0.063	0.037	183
9853	15.65-16.21	0.56	0.56	55.46	0.31	0.13	0.051	0.093	0.030	180
9854	16.21-17.68	1.47	1.47	55.30	0.31	0.11	0.042	0.052	0.036	188
9855	17.68-19.02	1.34	1.34	55.06	0.59	0.12	0.033	0.033	0.025	174

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-3

Property: Pat Claims, near Giscome, B.C.  
Page 3

Metrage	Interval	Description
19.02- 25.14	6.12	Dolomitic Limestone  medium-grey, cryptocrystalline, to 7½% milky-white calcite as irregular stringers and veins to 1½ cm thick and as rare blebs and irregular masses, to 5% dolomitic mottles, to 5% medium-brownish-grey limestone with ~60% sparry-calcite matrix and to 30% subangular limestone detritus ½ - 10 mm in size, abundant stylolites with rusty-red coatings, very rare crinoid debris and fragments
	19.74-19.89	medium-brownish-grey limestone with ~60% sparry-calcite matrix and to 30% subangular limestone detritus ½ - 10 mm in size, to 2½% noncarbonate detritus, to 2½% rusty material and stains, contacts along stylolites at 15 - 20° CA
	20.14-20.80	milky-white calcite veins to ½ cm thick mostly at 20 - 25° CA but few at 37° CA
	20.80-21.17	medium-brownish-grey limestone with ~60% sparry-calcite matrix and to 30% subangular limestone detritus ½ - 10 mm in size, to 2½% noncarbonate detritus, to 2½% rusty material and stains, gradational top contact, bottom contact along rust-stained stylolite at 18° CA
	22.08-22.13	medium-brownish-grey stylolite with trace rusty-orange stain ~1 cm thick at 39° CA
	24.38-24.42	0.04 m lost core
25.14- 26.21	1.07	Dolomitic Limestone  light-buff-grey with light buff-pink as irregular patches and zones around fractures, grains ¼ to 1 mm
	25.31-25.44	milky-pinkish-white calcite vein to 1½ cm thick at 22° CA with trace rusty-orange stain
	26.04-26.21	abundant fractures with rusty-orange material as thin coatings

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9856	19.02-20.80	1.78	1.78	54.24	1.23	0.24	0.067	0.066	0.053	217
9857	20.80-22.80	2.00	2.00	52.82	2.30	0.22	0.099	0.121	0.080	193
9858	22.80-24.30	1.50	1.50	54.36	1.13	0.26	0.070	0.065	0.066	170
9859	24.30-25.14	0.84	0.80	54.13	1.22	0.17	0.073	0.055	0.050	171
9860	25.14-26.21	1.07	1.07	53.88	1.56	0.23	0.098	0.061	0.113	139

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-3

Property: Pat Claims, near Giscome, B.C.  
Page 4

Metrage	Interval	Description
26.21- 30.11	3.90	Limestone  light- to medium-grey, cryptocrystalline to $\frac{1}{2}$ -mm grains, abundant rusty-orange stain on the many fractures, to 2% rusty-orange clay as thin coatings on fractures, to 2% milky-white calcite as stringers and veins to $\frac{1}{4}$ cm thick generally at 15 - 25° CA
	26.75-26.82	0.07 m lost core
	28.28-28.35	0.07 m lost core
30.11- 30.85	0.74	Limestone  medium-grey, cryptocrystalline to $\frac{1}{2}$ -mm grains, to 4% subround light-buff-grey limestone grains $\frac{1}{4}$ - $\frac{1}{2}$ mm in size, to 3% coarse milky-white calcite as stringers and veins to $\frac{1}{4}$ cm thick
	30.12-30.18	0.06 m lost core
	30.50-30.56	milky-white calcite vein $\frac{1}{4}$ cm thick with rusty-orange stain at 33° CA
	30.85	<u>bottom contact</u> along wavy black stylolite <1 mm thick at 63° CA
30.85- 31.15	0.30	Carbonaceous Limestone  medium- to dark-grey, cryptocrystalline, 7½% subround limestone grains $\frac{1}{2}$ - 4 mm in size, to 5% black irregular carbonaceous material to $\frac{1}{2}$ cm thick
	31.07-31.15	<u>solution breccia</u> with fragments to 4 cm in size, to 5% interstitial milky-white calcite, abundant <u>stylolites</u> at various angles CA
	31.15	gradational <u>bottom contact</u> along greasy black stylolitic carbonaceous material $\frac{1}{2}$ cm thick at ~21 - 54° CA

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9861	26.21-28.21	2.00	1.93	55.46	0.27	0.14	0.055	0.080	0.049	155
9862	28.21-30.11	1.90	1.83	55.34	0.29	0.29	0.098	0.056	0.064	156
9863	30.11-30.85	0.74	0.68	54.74	0.71	0.29	0.125	0.063	0.036	187
9864	30.85-31.15	0.30	0.30	52.59	1.47	2.21	0.401	0.367	0.142	299

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Owner: Ecowaste Industries Ltd.  
Drillhole: 94-3

Property: Pat Claims, near Giscome, B.C.  
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Metrage	Interval	Description
31.15- 39.45	8.30	<b>Carbonaceous Limestone and Limestone</b> dark-grey, cryptocrystalline to 1-mm grains, to 5% carbonaceous material to 2 cm thick, to 4% subround black or greyish-white limestone grains $\frac{1}{4}$ - $\frac{1}{2}$ mm, to 3% milky-white calcite as stringers and veins to 1 cm thick primarily $\frac{1}{4}$ - $\frac{1}{2}$ cm thick, to 3% brachiopods and crinoids as debris and fragments
	31.15-31.57	irregular carbonaceous material $<\frac{1}{2}$ cm thick along stylolite at high angle CA
	31.37-31.43	greasy black carbonaceous material 2 $\frac{1}{2}$ cm thick at 55° CA
	31.50-31.70	milky-white calcite veins to $\frac{1}{2}$ cm thick at 47° CA
	32.07-32.16	greasy black carbonaceous material $<\frac{1}{2}$ cm thick at 30° CA
	32.40-32.67	<u>banding</u> /subparallel alignment of black limestone grains at 34 - 36° CA
	32.53-32.63	greasy black carbonaceous material 1 $\frac{1}{4}$ cm thick at 36° CA
	33.60-33.68	greasy black carbonaceous material $<\frac{1}{2}$ cm thick at 40° CA
	34.48-34.54	greasy black carbonaceous material $<\frac{1}{2}$ cm thick at 35° CA, milky-white calcite with black stain as stringers to $\frac{1}{4}$ cm thick parallel to carbonaceous material
	35.08-35.13	slightly carbonaceous as very thin laminations or lenses up to 1 $\frac{1}{4}$ cm thick at 42 - 48° CA
	35.72-35.78	greasy black carbonaceous material $\frac{1}{4}$ cm thick at 39 - 41° CA
	36.42-36.78	<u>banding</u> /subparallel alignment of black limestone grains at 34° CA
	37.07-37.16	wavy black stylolite $<1$ mm thick at 36° CA
	37.86-38.12	<u>banding</u> /subparallel alignment of black limestone grains at 40° CA, fossil fragments and shells replaced by milky-white calcite
	38.44-38.51	<u>banding</u> /subparallel alignment of black limestone grains at 38° CA

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9865	31.15-31.57	0.42	0.42	45.45	1.06	9.23	1.905	0.913	1.306	282
9866	31.57-32.71	1.14	1.14	52.41	0.64	3.02	0.610	0.221	0.300	293
9867	32.71-34.69	1.98	1.98	55.16	0.40	0.36	0.060	0.034	0.061	269
9868	34.69-36.69	2.00	2.00	55.02	0.43	0.55	0.124	0.051	0.071	377
9869	36.69-38.69	2.00	2.00	55.35	0.38	0.16	0.055	0.038	0.075	313

## A57

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-3

Property: Pat Claims, near Giscome, B.C.  
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Metrag	Interval	Description
	39.45	<u>bottom contact along carbonaceous material</u> 2 mm thick and parallel to milky-white calcite vein 1 cm thick at 35° CA
39.45- 40.81	1.36	<b>Carbonaceous Fossiliferous Limestone</b> dark-grey, cryptocrystalline matrix with some calcite grains to 4 mm in size, to 15% fossils primarily brachiopods and lesser crinoids both as debris and fragments with fossil shells generally replaced by milky-white calcite, to 5% greasy black carbonaceous material <3 cm thick
	39.70-39.75	greasy black <u>carbonaceous material</u> <1 cm thick at 46° CA
	39.96-40.02	greasy black <u>carbonaceous material</u> <4 cm thick at 44° CA
40.81- 46.80	5.99	<b>Carbonaceous Limestone</b> dark-grey, cryptocrystalline, to 7½% milky-white calcite veins to 5 cm thick and rare blebs and stringers, to 6% irregular lenses of black carbonaceous material, to 2½% black limestone grains
	41.01-41.60	dark-grey <u>solution breccia</u> of ~55% angular dark-grey limestone fragments to 1½ cm in size and ~37½% interstitial milky-white calcite, ~2% greasy black <u>carbonaceous material</u> along fractures and stylolites
	41.45-41.59	0.14 m lost core
	41.68-42.42	<u>banding</u> /subparallel alignment of black carbonaceous grains producing a laminated appearance mostly at 31° CA and rarely at 32 - 42° CA

Sample	Metrag	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9870	38.69-39.45	0.76	0.76	54.44	0.45	1.10	0.121	0.078	0.116	277
9871	39.45-40.81	1.36	1.36	52.80	1.41	1.99	0.389	0.169	0.523	348
9872	40.81-41.01	0.20	0.20	54.72	0.56	0.92	0.100	0.051	0.217	354
9873	41.01-41.60	0.59	0.45	50.93	1.48	4.32	0.968	0.409	0.643	307
9874	41.60-42.42	0.82	0.82	54.22	0.87	0.95	0.196	0.083	1.140	361

## A58

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-3

Property: Pat Claims, near Giscome, B.C.  
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Metrage	Interval	Description
	42.42-42.75	greasy black <u>carbonaceous material</u> <1½ cm thick, ~30% milky-white <u>calcite</u> as veins and stringers at <20° CA
	43.05-43.20	to 15% milky-white <u>calcite</u> veins, slightly <u>carbonaceous</u> in bottom 2 cm at 61° CA
	43.23-43.43	dark-grey <u>solution breccia</u> of ~40% angular dark-grey limestone fragments to 1½ cm in size, ~40% interstitial milky-white calcite, ~20% greasy black carbonaceous material along fractures and stylolites
	44.03-44.10	milky-white <u>calcite</u> vein 5 cm thick with carbonaceous material to ¼ cm thick along bottom contact at 31° CA, top contact at 41° CA
	44.16-46.51	<u>banding</u> /subparallel alignment of black carbonaceous grains at 41 - 44° CA, laminated appearance
	46.01-46.06	greasy black <u>carbonaceous material</u> ½ cm thick at 41° CA
	46.37-46.48	black <u>carbonaceous shale</u> interbed 4½ cm thick at 42° CA
46.80- 50.98	4.18	<b>Limestone</b>  medium and dark-grey, cryptocrystalline to 4-mm grains, local graded bedding, to 5% fossils as milky-white shell debris and fragments, to 3% subround black limestone grains to 3 mm in size, to 3% subround medium-grey limestone grains
	46.80-47.80	1% porosity
	47.53	<u>contact</u> at 48° CA between upper 'grainy' dark-grey limestone and lower cryptocrystalline medium-grey limestone
	47.96-48.01	greasy black <u>carbonaceous material</u> at 47° CA
	48.54-50.98	<u>banding</u> /subparallel alignment of fossil debris and grains at 42 - 46° CA
	50.98	<u>bottom contact</u> along greasy black carbonaceous material to 2 cm thick at 46° CA

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9875	42.42-44.10	1.68	1.68	52.85	0.96	2.67	0.593	0.247	0.993	377
9876	44.10-45.60	1.50	1.50	52.57	1.90	1.42	0.375	0.149	1.064	318
9877	45.60-46.37	0.77	0.77	53.30	1.44	1.30	0.159	0.063	0.244	319
9878	46.37-46.80	0.43	0.43	47.02	2.52	7.74	1.493	0.572	0.429	332
9879	46.80-48.80	2.00	2.00	53.92	1.27	0.78	0.138	0.067	0.106	281
9880	48.80-50.98	2.18	2.18	53.65	1.34	0.77	0.128	0.056	0.178	275

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-3

Property: Pat Claims, near Giscome, B.C.  
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Metrage	Interval	Description
50.98- 56.96	5.98  Carbonaceous Fossiliferous Limestone	medium- to dark-grey, cryptocrystalline matrix with calcite grains to 3 mm, abundant fragments and debris of brachiopods, crinoids, and other shells generally replaced by coarse milky-white calcite; to 3% greasy black carbonaceous material to 2 cm thick, to 3% milky-white calcite as stringers and veins to 1½ cm thick
	50.98-51.04	greasy black <u>carbonaceous</u> material 2 cm thick at 46° CA
	51.34-51.38	greasy black <u>carbonaceous</u> material 1½ cm thick at 54° CA
	51.63-51.69	greasy black <u>carbonaceous</u> material 1 cm thick at 33 - 40° CA
	52.13-52.19	greasy black <u>carbonaceous</u> material ¾ cm thick at 40° CA
	52.38-52.43	irregular greasy black <u>carbonaceous</u> material 2½ cm thick, top contact along stylolite(?) at 60 - 65° CA, bottom contact at 56° CA
	53.11-53.15	milky-white <u>calcite</u> vein to ½ cm thick at 51° CA
	53.51-53.85	up to 5% <u>carbonaceous</u> laminations and weak <u>subparallel alignment</u> of fossil debris, top contact at 44° CA, bottom at 46° CA
	55.23-55.56	up to 5% <u>carbonaceous</u> laminations and weak <u>subparallel alignment</u> of fossil debris, top and bottom contacts at 36 - 49° CA
	55.56-55.69	greasy black <u>carbonaceous</u> material <1 cm thick, milky-white <u>calcite</u> vein with black carbonaceous stain both at 37° CA
	55.83-55.96	up to 10% milky-white <u>calcite</u> as stringers and veins to 2 cm thick

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9881	50.98-52.43	1.45	1.45	51.50	1.57	3.06	0.796	0.299	0.411	369
9882	52.43-54.43	2.00	2.00	54.08	1.10	0.76	0.166	0.077	0.378	280
9883	54.43-55.83	1.40	1.40	53.96	1.13	0.92	0.129	0.066	0.273	301
9884	55.83-56.96	1.13	1.13	52.84	1.77	1.53	0.150	0.069	0.242	313

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Drillhole: 94-3

Property: Pat Claims, near Giscome, B.C.  
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Metrage	Interval	Description
56.96- 66.41	9.45  <b>Interbedded Carbonaceous Limestone and Carbonaceous Shale</b>	75% dark-grey cryptocrystalline <u>carbonaceous limestone</u> , to 2½% brachiopods and other fossils as debris and shell fragments, to 2½% subround medium-grey limestone grains to 3 mm in size, to 2% subangular black limestone grains to 3 mm in size, and 25% greasy black <u>carbonaceous shale</u> as thin laminations and interbeds to 30 cm thick; to 2½% milky-white calcite as irregular masses and veins to 4 cm in size, and stringers to 2½ cm in size
	56.96-57.03	greasy black <u>carbonaceous interbed</u> 4½ cm thick, top contact at 39° CA, bottom contact at 45° CA
	57.57-57.94	<u>carbonaceous laminations</u> and <u>subparallel alignment</u> of fossil fragments and grains at 35 - 40° CA
	58.31-58.60	greasy black <u>carbonaceous shale interbed</u> <30 cm thick, top contact at 43° CA, bottom contact at 33° CA
	58.93-59.17	greasy black <u>carbonaceous shale interbed</u> <30 cm thick, top contact at 31° CA, bottom contact irregular
	59.10-59.20	greasy black <u>carbonaceous shale interbed</u> 6 cm thick, top and bottom contacts at 43° CA
	59.60-59.75	<u>carbonaceous laminations</u> and <u>interbeds</u> <1 cm thick, contacts and laminations at 24° CA
	60.21-60.57	greasy black <u>carbonaceous shale interbed</u> <30 cm thick, laminations and top contact at 24° CA, bottom contact at 32° CA
	60.58-60.65	greasy black <u>carbonaceous shale interbed</u> <2 cm thick, top contact at 30° CA, bottom contact at 31° CA
	60.73-60.96	greasy black <u>carbonaceous shale interbed</u> <10 cm thick, top contact at 36° CA, bottom contact at 31° CA
	61.57-61.81	greasy black <u>carbonaceous shale interbed</u> <15 cm thick, top contact at 35° CA, bottom contact at 31° CA
	62.00-62.37	greasy black <u>carbonaceous shale interbed</u> 20 cm thick, top contact at 35° CA, bottom contact at 31° CA

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9885	56.96-57.37	0.41	0.41	50.97	0.97	4.70	0.721	0.436	0.397	329
9886	57.37-58.31	0.94	0.94	53.59	1.18	1.22	0.116	0.060	0.567	306
9887	58.31-60.21	1.90	1.90	44.87	2.33	10.57	1.556	0.932	0.842	338
9888	60.21-62.37	2.16	2.16	28.47	4.90	24.59	2.342	2.213	0.694	266
9889	62.37-63.10	0.73	0.73	51.84	1.55	2.52	0.482	0.289	0.416	277

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Owner: Ecowaste Industries Ltd.  
Drillhole: 94-3

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Metrag	Interval	Description
	63.10-63.19	<u>carbonaceous shale</u>
	64.03-64.36	to 5% greasy black <u>carbonaceous laminations and interbeds</u> to ½ cm thick at 42 - 46° CA
	64.47-64.63	greasy black <u>carbonaceous shale interbed</u> , irregular top contact, bottom contact at 36° CA
	65.58-65.83	up to 2½% greasy black <u>carbonaceous laminations</u> at 43° CA
	66.32-66.37	greasy black <u>carbonaceous shale interbed</u> <3 cm thick, top and bottom contacts at 43° CA
66.41- 71.93	5.52	Limestone medium-grey with some sections light- to medium-grey, cryptocrystalline to 1-mm grains, to 2½% milky-white calcite as stringers and veins to 3 cm thick, to 2½% greasy black carbonaceous interbeds, rare brachiopod shell fragments
	66.70-66.75	wavy black <u>stylolite</u> <½ mm thick at 46° CA
	66.77-67.74	up to 2½% greasy black <u>carbonaceous laminations and carbonaceous interbeds</u> to ½ cm thick at 47 - 53° CA, to 3% porosity, few irregular light-buff-orange patches to ½ cm in size
	69.28-69.72	up to 10% irregular thin black carbonaceous laminations <u>and lenses</u> at ~55° CA, to 4% subround to subangular carbonaceous limestone grains to 4 mm in size, to 2½% fossils primarily of brachiopod shell fragments mostly replaced by milky-white calcite
	70.24-70.40	dark-grey to black <u>laminations</u> at 42° CA
	70.50-71.93	up to 3% porosity and locally to 6%

Sample	Metrag	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9890	63.10-64.63	1.53	1.53	49.77	3.65	2.51	0.504	0.233	1.838	297
9891	64.63-66.41	1.78	1.78	50.99	2.53	2.75	0.408	0.249	0.662	222
9892	66.41-67.94	1.53	1.53	50.90	1.45	4.63	0.817	0.498	0.267	204
9893	67.94-69.28	1.34	1.34	55.34	0.39	0.23	0.064	0.042	0.135	174
9894	69.28-71.34	2.06	2.06	54.99	0.49	0.42	0.129	0.074	1.032	230

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Metrage	Interval	Description
	71.34-71.48	pinkish-white to buff-white <u>calcite</u> vein to 5½ cm thick, top contact at 30° CA, bottom contact at 41° CA
	71.43-71.58	<u>solution breccia</u> of black carbonaceous limestone and brecciated and fractured cryptocrystalline dark-grey limestone, 20% buff-white to pinkish-white interstitial calcite, bottom contact at 49° CA
	71.56-71.72	<u>fractures</u> with up to 7½% milky-white calcite
	71.68-71.72	black greasy <u>carbonaceous clay</u> 3 cm thick at 48° CA
71.93		End of Hole

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9895	71.34-71.93	0.59	0.59	53.95	0.98	0.96	0.368	0.203	0.913	191

## A63

Owner: Ecowaste Industries Ltd.  
 Drillhole: 94-4  
 Inclination: -90°  
 Depth: 85.04 m  
 Core Recovered: 81.28 m, 99.1 %  
 Core Size: NQ  
 Downhole Logs: None

Property: Pat Claims, near Giscome, B.C.  
 Location: Claim Pat 2  
 UTM: 546898E 5989666N  
 Elevation: 725 m  
 Dates Drilled: 1994 09 22 to 23  
 Drilled by Tex Drilling Ltd., Kamloops, B.C.  
 Logged by J. Dahrouge

Metrage	Interval	Description
0.00 - 3.05	Overburden	unconsolidated surficial material; casing (not cored)
3.05- 16.83	Limestone	medium-grey, cryptocrystalline, to 5% milky-white calcite stringers and veins to 1½ cm thick, sparse rounded dark-grey grains of limestone up to 2 mm in size, trace rusty-red coatings on fracture surfaces
	3.70-3.76	milky-white <u>calcite</u> vein 1 cm thick at 38° CA
	3.76-4.01	0.25 m lost core
	4.80-4.85	milky-white <u>calcite</u> vein to ½ cm thick at 47° CA
	4.92-4.96	milky-white <u>calcite</u> vein 1 cm thick at 52° CA
	5.79-7.14	up to 2% <u>porosity</u> as random vugs to 1 mm in size
	7.76-7.84	rusty-orange <u>clay</u> to ½ mm thick on fracture surface at 32° CA
	9.18-9.23	milky-white <u>calcite</u> vein to ¼ cm thick at 38° CA
	11.09-11.15	milky-white <u>calcite</u> vein to ½ cm thick at 38° CA
	11.31-13.42	sparse buff-orange or light-reddish-orange stain within <u>calcite</u> veins and as very thin material on fracture surfaces
	14.07-14.12	milky-white <u>calcite</u> vein to ¼ cm thick at 43° CA
	14.60-14.95	few irregular and wavy black <u>stylolites</u> to ½ mm thick predominantly at 60 - 65° CA with few at 30° CA
	15.88-15.97	very thin irregular and wavy black <u>stylolite</u> with trace red stain at 39° CA
	16.30-16.43	vuggy with irregular concentrations of <u>stylolites</u> <½ cm thick, to 2% <u>clay</u> on surfaces at 31 - 35° CA

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9896	3.05-5.05	2.00	1.75	54.55	1.01	0.20	0.067	0.051	0.119	230
9897	5.05-7.05	2.00	2.00	54.08	1.44	0.17	0.050	0.039	0.100	206
9898	7.05-9.05	2.00	2.00	54.69	0.69	0.33	0.038	0.026	0.051	167
9899	9.05-11.05	2.00	2.00	55.17	0.39	0.26	0.034	0.023	0.057	193
9900	11.05-13.05	2.00	2.00	54.45	1.02	0.22	0.088	0.071	0.120	285
9901	13.05-15.05	2.00	2.00	55.19	0.44	0.31	0.079	0.071	0.098	324

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-4

Property: Pat Claims, near Giscome, B.C.  
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Metrage	Interval		Description
16.83- 18.55	1.72	Limestone	medium-grey, cryptocrystalline with up to 4% calcite as stringers and veins to $\frac{1}{4}$ cm thick, to 3% surround to subangular black to dark-grey limestone grains 1 - 3 mm in size, weak foliation or subparallel alignment of grains at 31 - 46° CA
	16.86-16.97		light-buff-grey <u>alteration</u> (?), band 2 - 5 cm thick with trace rusty-red stain, irregular top contact at 21 - 44° CA, bottom contact at 51° CA
	17.55-17.64		light-buff-grey <u>alteration</u> (?), with band $\frac{3}{4}$ cm thick with trace rusty-red stain, top contact at 36° CA, bottom contact at 39° CA
	17.65-17.70		light-buff-grey <u>alteration</u> (?), with band to 2 cm thick with trace rusty-red stain, top contact at 36° CA, bottom contact at 51° CA
18.55- 21.49	2.94	Limestone	medium-grey, cryptocrystalline, to 5% calcite as irregular stringers and in veins to $\frac{1}{2}$ cm thick, minor yellowish-orange stain on broken sections and fracture surfaces
	19.04-19.08		milky-white <u>calcite</u> vein to $\frac{1}{2}$ cm thick at 61° CA
21.49- 24.95	3.46	Limestone	~65% medium-grey, highly fractured cryptocrystalline limestone with up to 4% porosity, to 33% milky-white calcite with rusty-orange material as irregular masses and on fractures and veins, to 2% rusty-orange clay lining fractures and on broken surfaces to 2 mm thick

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9902	15.05-16.83	1.78	1.78	55.10	0.46	0.33	0.112	0.083	0.155	348
9903	16.83-18.55	1.72	1.72	55.39	0.32	0.19	0.060	0.046	0.224	307
9904	18.55-20.05	1.50	1.50	55.39	0.31	0.14	0.049	0.044	0.116	294
9905	20.05-21.49	1.44	1.44	55.36	0.29	0.24	0.057	0.045	0.084	284
9906	21.49-21.80	0.31	0.31	55.43	0.29	0.15	0.034	0.025	0.052	275

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-4

Property: Pat Claims, near Giscome, B.C.  
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Metrage	Interval	Description
	21.80-22.56	up to 15% milky-white <u>calcite</u> with abundant rusty-orange stain
	21.88-21.97	0.09 m lost core
	23.00-23.90	~70% milky-white <u>calcite</u> with abundant rusty-orange stain
	23.27-23.44	0.17 m lost core
	24.36-24.95	up to 55% milky-white <u>calcite</u> with minor rusty-orange stain
24.95- 33.36	8.41	Limestone medium-grey and dark-grey, cryptocrystalline, to 6% milky-white calcite as veins, to 2½% coarse milky-white calcite as blebs and masses to 5 mm in size, some surround to round grains(?), sparse thin wavy black stylolites
	25.26-25.42	up to 20% light-grey <u>calcite</u> as irregular masses and veins, top contact at 65° CA along milky-white calcite vein 1 cm thick, bottom contact gradational
	25.99-26.08	milky-white <u>calcite</u> vein to 3 cm thick at ~37° CA with minor deformed and elongate medium-grey limestone <u>selvage</u> to 1 mm thick
	26.10-26.14	<u>stylolite</u> <½ mm thick with rusty-orange coating at 53° CA
	26.21-26.31	<u>solution breccia</u> to 4 cm thick with angular medium-grey limestone fragments to 3½ cm in size, contacts at ~51° CA, ~35% interstitial milky-white calcite
	26.45-26.47	irregular <u>stylolite</u> <½ mm thick with rusty-orange material at ~71° CA
	26.89-27.10	few irregular and wavy black <u>stylolites</u> <½ mm thick at 24 - 36° CA

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9907	21.80-23.00	1.20	1.11	55.37	0.30	0.24	0.086	0.053	0.102	291
9908	23.00-23.90	0.90	0.73	55.31	0.31	0.26	0.099	0.068	0.098	316
9909	23.90-24.36	0.46	0.46	55.40	0.28	0.19	0.078	0.070	0.104	285
9910	24.36-24.95	0.59	0.59	55.31	0.25	0.15	0.052	0.042	0.080	303
9911	24.95-26.45	1.50	1.50	55.36	0.30	0.19	0.080	0.058	0.079	277
9912	26.45-27.39	0.94	0.94	55.22	0.36	0.28	0.109	0.060	0.032	252

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-4

Property: Pat Claims, near Giscome, B.C.  
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Metrage	Interval			Description						
	27.39-29.39	numerous thin light-buff-grey to light-greenish-grey zones of <u>alteration</u> , abundant rusty-red stain on fractures and stylolites								
	28.00-28.10	light-greenish-grey <u>alteration</u> , to 20% subround medium-grey <u>brecciated/ground</u> limestone with up to 20% interstitial milky-white <u>calcite</u> , top contact along calcite vein $\frac{1}{4}$ cm thick at 44° CA, bottom contact at 62° CA								
	29.39-30.13	minor <u>solution breccia(?)</u> with rare angular medium-grey limestone fragments, to 10% interstitial milky-white <u>calcite</u>								
	30.91-31.10	several wavy black <u>stylolites</u> <1 mm thick at 27 - 28° CA								
	31.83-31.99	several wavy black <u>stylolites</u> <1 mm thick at 27° CA								
	32.97-32.30	several wavy black <u>stylolites</u> with minor <2-mm thick carbonaceous material on surfaces at 38 - 41° CA								
	33.36	gradational <u>lower contact</u>								
33.36- 40.35	6.99	<b>Limestone</b>		light- to medium-grey, cryptocrystalline, to 4% milky-white <u>calcite</u> as stringers and veins to 1 cm thick, to 2½% subround to round dark-grey to black limestone grains $\frac{1}{2}$ - 5 mm in size, very rare fossil fragments and shells						
	34.13-34.25	milky-white <u>calcite</u> vein to $\frac{1}{4}$ cm thick at 30 - 39° CA								
	34.20-35.02	poorly defined <u>banding</u> /subparallel alignment of fossil fragments and limestone grains at 35 - 46° CA								
	38.91-38.96	planar vug-lined <u>stylolite(?)</u> at 44° CA								
	39.43-39.50	<u>stylolite</u> $\frac{1}{4}$ mm thick with rusty-red coatings at ~31° CA								
	39.46-39.60	weak <u>banding</u> /subparallel alignment of fossil fragments and limestone grains at 38 - 39° CA								
	39.59-39.62	milky-white <u>calcite</u> vein to 3 cm thick at 60° CA								
	40.35	gradational <u>lower contact</u>								

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9913	27.39-29.39	2.00	2.00	55.04	0.29	0.53	0.256	0.170	0.112	281
9914	29.39-31.39	2.00	2.00	54.60	0.88	0.13	0.044	0.048	0.090	250
9915	31.39-33.36	1.97	1.97	55.04	0.62	0.18	0.052	0.055	0.143	264
9916	33.36-35.36	2.00	2.00	55.02	0.31	0.11	0.044	0.042	0.122	233
9917	35.36-37.36	2.00	2.00	55.38	0.26	0.15	0.047	0.042	0.108	241
9918	37.36-38.86	1.50	1.50	55.52	0.25	0.13	0.048	0.046	0.126	223
9919	38.86-40.35	1.49	1.49	55.29	0.27	0.28	0.092	0.064	0.068	231

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-4

Property: Pat Claims, near Giscome, B.C.  
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Metrage	Interval	Description
40.35- 53.71	13.36      Limestone	dark-grey, rarely medium-grey, cryptocrystalline, abundant wavy black stylolites <½ mm thick, minor thin greasy black carbonaceous material, to 2½% milky-white calcite as stringers and veins to 3½ cm thick and small blebs to ½ cm in size, to 2½% surround medium-grey or black limestone grains to 2 mm in size, sparse rusty-red or rusty-orange coatings on fracture surfaces and as irregular 'pits', rare fossils primarily of crinoid stems and unrecognizable debris, very rare pyrite
	40.67-40.74	milky-white <u>calcite</u> vein to 2½ cm thick with minor rusty-orange stain at 40° CA
	41.08-41.14	stylolite <½ mm thick with rusty-red stain at 34° CA
	41.47-41.56	irregular stylolite <½ mm thick with rusty-red stain partly subparallel CA but overall at <25° CA
	41.92-41.95	discontinuous stylolite <½ mm thick with rusty-red stain at ~34° CA
	42.14-42.18	irregular stylolite <½ mm thick with rusty-red stain at 49° CA
	43.00-43.07	wavy black <u>stylolite</u> <½ mm thick at 30° CA
	43.14-43.22	wavy black <u>stylolite</u> with greasy black <u>carbonaceous</u> material <½ cm thick at 31° CA
	43.21-43.31	wavy black <u>stylolite</u> <½ mm thick at 31° CA
	43.32-43.37	wavy black <u>stylolite</u> <½ mm thick at 40° CA
	43.41-43.52	irregular and wavy black <u>stylolite</u> <½ mm thick at 32° CA
	43.55-43.61	black <u>stylolite</u> <½ mm thick at 42° CA
	43.69-43.76	black <u>stylolite</u> <½ mm thick at 40° CA
	43.81-43.89	black <u>stylolite</u> <½ mm thick at 37° CA
	43.87-43.99	irregular black <u>stylolite</u> <½ mm thick at 22° CA
	44.14-44.28	irregular black <u>stylolite</u> <½ mm thick at 28° CA
	44.27-44.36	irregular black <u>stylolites</u> with <u>carbonaceous</u> material <½ mm thick at 34° CA
	44.50-44.57	black <u>stylolite</u> <½ mm thick at 37° CA
	44.92-45.21	milky-white <u>calcite</u> veins to ¼ cm thick at 37 - 40° CA

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9920	40.35-42.35	2.00	2.00	55.16	0.36	0.33	0.163	0.106	0.052	287
9921	42.35-44.35	2.00	2.00	54.64	0.56	0.42	0.185	0.170	0.069	299
9922	44.35-45.36	1.01	1.01	54.98	0.47	0.33	0.137	0.124	0.064	300

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-4

Property: Pat Claims, near Giscome, B.C.  
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Metrage	Interval	Description
	45.36-46.25	trace <u>rusty-red material</u> on stylolites and as subround grains to 1 mm in size, very rare <u>pyrite</u> masses to 3 mm in size
	46.27-46.38	milky-white <u>calcite</u> veins to ¼ cm thick at 35 - 36° CA
	46.37-46.43	irregular and wavy black <u>stylolite</u> <½ mm thick at 45° CA
	46.67-47.01	trace <u>rusty-red material</u> on stylolites and as subround grains to 1 mm in size, very rare <u>pyrite</u> masses to 3 mm in size
	47.10-47.15	irregular and wavy black <u>stylolite</u> <½ mm thick at 55° CA
	47.18-47.28	irregular and wavy black <u>stylolite</u> <½ mm thick at ~29° CA
	47.55-48.07	up to 12½% milky-white <u>calcite</u> with minor light-orange stain as veins to 6 cm thick but generally <2 cm thick with irregular dark-grey limestone selvage to 2 cm thick
	48.06-48.15	irregular and wavy black <u>stylolite</u> <½ mm thick at 30° CA
	48.31-48.44	irregular and wavy black <u>stylolite</u> <½ mm thick at 28° CA offset 2 cm by milky-white <u>calcite</u> vein to ¼ cm thick at 14° CA
	48.45-48.64	to 4% greasy black <u>carbonaceous material</u> <2 mm thick generally along stylolites, top contact at 28° CA, bottom contact at 36° CA
	48.95-49.21	irregular and wavy black <u>stylolites</u> <½ mm thick at 28 - 55° CA
	49.40-49.79	black <u>carbonaceous material</u> <2 mm thick along <u>stylolites</u> at 22 - 36° CA
	50.48-50.54	wavy greasy black <u>stylolite</u> with <u>carbonaceous material</u> <4 mm thick at 36° CA
	52.47-52.56	wavy greasy black <u>stylolite</u> with <u>carbonaceous material</u> <2 mm thick at 34 - 37° CA

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9923	45.36-47.01	1.65	1.65	55.13	0.37	0.30	0.143	0.103	0.078	302
9924	47.01-49.01	2.00	2.00	55.03	0.37	0.35	0.172	0.273	0.128	302
9925	49.01-51.01	2.00	2.00	54.15	0.41	0.60	0.296	0.242	0.180	274
9926	51.01-53.01	2.00	2.00	54.70	0.47	0.66	0.283	0.207	0.115	286

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-4

Property: Pat Claims, near Giscome, B.C.  
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Metrage	Interval	Description	
53.71- 65.55	11.84	<b>Carbonaceous Limestone</b>	dark-grey, similar to previous interval but with abundant greasy black carbonaceous material
	53.71-54.18		wavy black <u>stylolites</u> $<\frac{1}{2}$ mm thick at 32 - 42° CA
	54.61-54.67		greasy black <u>stylolites</u> with carbonaceous material $<3$ mm thick at 33° CA
	54.70-54.75		greasy black <u>carbonaceous material</u> 3 mm thick at 43° CA
	55.09-55.14		greasy black <u>carbonaceous material</u> $<\frac{1}{2}$ cm thick along stylolite(?) at 34° CA
	55.33-55.40		greasy black <u>carbonaceous material</u> $<\frac{1}{2}$ cm thick along stylolite(?) at 31° CA
	55.69-55.76		greasy black <u>carbonaceous material</u> $<\frac{1}{2}$ cm thick along stylolite(?) at 34° CA
	58.01-58.07		greasy black <u>carbonaceous material</u> $<\frac{1}{2}$ cm thick along stylolite(?) at 41° CA
	58.42-58.49		greasy black <u>carbonaceous material</u> $<\frac{1}{4}$ cm thick along stylolite(?) at 44° CA
	58.96-59.57		up to 5% irregular milky-white <u>calcite</u> veins to $\frac{1}{4}$ cm thick at 30 - 46° CA
	59.18-59.23		greasy black <u>carbonaceous material</u> $\sim\frac{1}{4}$ cm thick along stylolite at 44° CA
	59.63-59.69		<u>calcite</u> replacement of irregular, oval, and elongate <u>coral colonies</u> (?) to 2 cm in size
	60.12-60.24		up to 7½% greasy dark-grey to black <u>carbonaceous material</u> in 3-cm band with abundant stylolites, top contact at 34° CA and irregular bottom contact
	62.10-62.19		up to 5% black <u>carbonaceous material</u> along stylolite and in irregular patches $<\frac{1}{2}$ cm thick at 40 - 60° CA

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9927	53.01-55.01	2.00	2.00	52.49	2.09	0.96	0.371	0.251	0.078	302
9928	55.01-57.01	2.00	2.00	53.18	0.64	1.93	0.722	0.517	0.118	335
9929	57.01-59.01	2.00	2.00	53.74	0.65	1.21	0.449	0.302	0.087	351
9930	59.01-61.01	2.00	2.00	54.03	0.84	0.91	0.439	0.296	0.194	320
9931	61.01-63.01	2.00	2.00	54.24	0.66	0.48	0.248	0.185	0.187	349

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Owner: Ecowaste Industries Ltd.  
Drillhole: 94-4

Property: Pat Claims, near Giscome, B.C.  
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Metrage	Interval	Description	
	63.27-63.35	greasy black <u>carbonaceous material</u> <½ cm thick along <u>stylolite</u> at 39° CA	
	63.45-63.50	greasy black <u>carbonaceous material</u> <½ cm thick along <u>stylolite</u> at 45° CA	
	63.85-63.90	irregular and greasy black <u>carbonaceous material</u> <½ cm thick along <u>stylolite</u> at 39 - 50° CA	
	64.09-64.16	greasy black <u>carbonaceous material</u> <½ cm thick along <u>stylolite</u> at 36° CA	
	64.58-64.64	<u>stylolite</u> with rusty-red coating and minor brown <u>clay</u> at 38° CA	
	65.07-65.14	greasy black <u>carbonaceous material</u> <½ cm thick along <u>stylolite</u> at 33° CA	
	65.38-65.44	greasy black <u>carbonaceous material</u> <½ cm thick along <u>stylolite</u> at 40° CA	
65.55- 67.95	2.40	Limestone	medium- to light-grey, cryptocrystalline
	66.32-66.80	milky-white <u>calcite</u> vein to 3 cm thick with trace light-orange-buff banding at 14 - 17° CA	
	67.95	gradational <u>lower contact</u>	
67.95- 73.05	5.10	Limestone	light-grey, cryptocrystalline to 1½-mm grains, to 10% milky-white to buff-white calcite as blebs and irregular masses to 10 cm in size, minor buff-orange material coating fracture surfaces and as stain on calcite veins, to 3% dark-grey subround limestone grains to 3 mm in size, local medium-grey mottles to 8 cm in size, rare generally unrecognizable fossil debris and fragments
	67.95-69.40	<u>fractures</u> with rusty-orange coatings roughly aligned at ~44 - 47° CA	
	69.26-69.40	irregular <u>lens</u> <1 cm thick of subround dark-grey or black limestone grains primarily well sorted, top contact irregular, bottom contact along wavy <u>stylolite</u> <¼ mm thick with reddish-orange stain at ~29° CA	

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9932	63.01-65.01	2.00	2.00	54.60	0.72	0.51	0.255	0.148	0.099	275
9933	65.01-66.32	1.31	1.31	54.76	0.40	0.54	0.272	0.236	0.079	326
9934	66.32-66.80	0.48	0.48	55.14	0.41	0.30	0.105	0.082	0.040	318
9935	66.80-67.95	1.15	1.15	55.09	0.38	0.38	0.155	0.109	0.174	297
9936	67.95-69.95	2.00	2.00	54.79	0.35	0.19	0.065	0.087	0.171	293

Owner: Ecowaste Industries Ltd.  
Drillhole: 94-4

Property: Pat Claims, near Giscome, B.C.  
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Metrag	Interval	Description
	70.50-70.56 71.82-71.93	milky-white calcite vein $\frac{1}{4}$ cm thick at 40° CA debris and fragments of <u>mollusc shells</u>
73.05- 74.00	0.95  <b>Mottled Carbonaceous and Fossiliferous Limestone</b>	dark-grey to black, cryptocrystalline to 1-mm grains, abundant medium- to dark-grey mottles, bioturbated(?) appearance, ~7½% black carbonaceous material as lenses and irregular masses to 2 cm in size, to 5% coarse milky-white calcite as blebs and irregular masses to 2 cm in size, abundant debris and fragments of brachiopods and corals(?)
	73.05-73.19	very abundant <u>brachiopod shells</u> as debris and fragments with primary characteristics partly obscured by recrystallization
	74.00	irregular <u>lower contact</u>
74.00- 74.32	0.32  <b>Mottled Limestone</b>	light- to medium-grey, cryptocrystalline, mottled, to 7½% coarse milky-white calcite as blebs and irregular masses
	74.32	irregular <u>lower contact</u>
74.32- 75.23	0.91  <b>Carbonaceous Limestone</b>	dark-grey to black, cryptocrystalline to 1-mm grains, 10 - 12% black carbonaceous material as lenses and irregular masses <2 cm in size, to 5% coarse milky- white calcite as blebs and irregular masses to 5 cm in size, sparse bioturbation (?), abundant debris and fragments primarily of brachiopods generally associated with carbonaceous material
	74.48-74.68	<u>banding(?)</u> /subparallel alignment of carbonaceous material and fossil debris at 60° CA
	74.81-75.13	irregular and wavy black <u>stylolite</u> at 0 - 15° CA along contact with mottled medium-grey limestone boulder (?)
	75.23	gradational <u>lower contact</u>

Sample	Metrag	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9937	69.95-71.95	2.00	2.00	55.32	0.35	0.20	0.039	0.049	0.160	280
9938	71.95-73.05	1.10	1.10	55.35	0.36	0.09	0.025	0.076	0.100	265
9939	73.05-74.00	0.95	0.95	54.82	0.38	0.20	0.065	0.066	0.378	312
9940	74.00-74.32	0.32	0.32	55.34	0.38	0.10	0.042	0.057	0.198	332
9941	74.32-75.23	0.91	0.91	55.27	0.35	0.29	0.126	0.080	0.900	303

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Owner: Ecowaste Industries Ltd.  
Drillhole: 94-4

Property: Pat Claims, near Giscome, B.C.  
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Metrage	Interval	Description	
75.23- 85.04	9.81	<b>Fossiliferous Limestone</b>	light- to medium-grey, cryptocrystalline, to 6% milky-white calcite as stringers and veins to 1½ cm thick and blebs and irregular masses to 3 cm in size, to 5% cryptocrystalline surround light-grey limestone grains and pebbles 1 - 20 mm in size, abundant debris and fragments primarily of brachiopods with shells generally replaced by milky-white calcite which obscures primary characteristics
	76.25-76.32		milky-white <u>calcite</u> vein ¼ cm thick at 39° CA
	76.93-76.99		milky-white <u>calcite</u> vein 5 cm thick with trace rusty-orange stain at ~51° CA
	79.96-80.72		minor light-grey <u>mottles</u>
	81.28-82.26		up to 12½% milky-white <u>calcite</u> as blebs, abundant <u>mottles</u>
85.04		End of Hole	

Sample	Metrage	Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	P <sub>2</sub> O <sub>5</sub> (%)	Sr (ppm)
9942	75.23-77.23	2.00	2.00	55.37	0.39	0.14	0.037	0.045	0.228	294
9943	77.23-79.23	2.00	2.00	55.41	0.33	0.14	0.032	0.045	0.184	297
9944	79.23-81.23	2.00	2.00	54.98	0.34	0.10	0.020	0.070	0.083	291
9945	81.23-82.26	1.03	1.03	55.44	0.26	0.08	0.022	0.034	0.051	266
9946	82.26-84.04	1.78	1.78	54.70	0.37	0.36	0.048	0.077	0.097	305
9947	84.04-85.04	1.00	1.00	54.97	0.39	0.22	0.066	0.046	0.120	293

**APPENDIX 4A: ANALYTICAL REPORTS FROM ACME ANALYTICAL LABORATORIES LTD.**

ACME ANALYTICAL LABORATORIES LTD.		852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6												PHONE (604) 253-3158 FAX (604) 253-1716						
WHOLE ROCK ICP ANALYSIS																				
		Halfordahl & Associates Ltd. File # 94-3392 Page 1																		
		18 - 10509 - 81st Ave, Edmonton AB T6E 1X7																		
SAMPLE#		SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	MgO	CaO	Na <sub>2</sub> O	K <sub>2</sub> O	TiO <sub>2</sub>	P <sub>2</sub> O <sub>5</sub>	MnO	Cr <sub>2</sub> O <sub>3</sub>	Ba	Sr	Zr	Y	Nb	Sc	LOI	SUM
		%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	%
9012		.60	.37	.15	.50	54.53	.01	<.05	.04	.03	<.01	.008	123	282	<10	<10	<10	<2	43.4	99.70
9013		.47	.26	.15	.55	54.34	.02	<.05	.03	.04	<.01	.004	126	284	<10	<10	<10	<2	43.6	99.52
9014		.66	.33	.17	.45	54.33	.02	.11	.03	.06	<.01	.006	170	302	<10	<10	<10	<2	43.4	99.63
9015		1.12	.49	.22	.68	53.80	.02	<.05	.03	.07	<.01	.008	142	300	<10	<10	<10	<2	42.8	99.30
9016		.81	.35	.15	1.09	53.64	.02	.07	.03	.05	<.01	.004	118	289	11	<10	<10	<2	43.2	99.47
9017		.84	.44	.22	.57	53.31	.02	.13	.04	.06	<.01	.003	125	329	<10	<10	<10	<2	43.1	98.80
9018		.65	.35	.10	.34	54.15	.02	.07	.02	.02	<.01	.005	107	321	<10	<10	<10	<2	43.2	98.98
9019		.57	.29	.20	.42	54.05	.02	<.05	.03	.05	<.01	.007	148	316	<10	<10	<10	<2	43.2	98.95
9020		.57	.33	.14	1.89	52.92	.02	<.05	.03	.06	<.01	.002	102	284	<10	<10	<10	<2	43.6	99.61
9021		.42	.28	<.05	.28	54.76	.03	<.05	.03	.29	<.01	.004	83	275	13	<10	<10	<2	42.9	99.10
9022		.59	.28	<.05	.37	54.83	.02	<.05	.01	.16	.01	.005	86	276	11	<10	<10	<2	43.0	99.40
9023		.34	.27	<.05	.24	54.98	.01	.15	.02	.10	.01	.002	77	276	<10	<10	<10	<2	43.1	99.28
9024		.30	.25	.30	.22	55.35	.01	<.05	<.01	.08	.01	.055	70	288	<10	<10	<10	<2	43.0	99.62
RE 9024		.29	.23	.28	.22	55.00	.02	<.05	.01	.08	<.01	.052	67	285	<10	<10	<10	<2	43.0	99.23
9025		.24	.25	.08	.24	55.39	.01	<.05	<.01	.10	<.01	.005	76	287	<10	<10	<10	<2	43.0	99.37
9302		3.63	.49	.14	.22	53.23	.06	<.05	.03	.10	.01	.004	59	203	<10	<10	<10	<2	41.5	99.45
9303		.12	.20	<.05	.17	55.39	.01	.07	<.01	.07	<.01	.009	58	203	11	<10	<10	<2	43.0	99.08
9304		<.05	.13	<.05	.15	54.66	.02	<.05	<.01	.07	<.01	.003	55	186	<10	<10	<10	<2	43.1	98.21
9305		.08	.18	<.05	.16	55.80	.02	<.05	<.01	.05	<.01	.003	44	186	<10	<10	<10	<2	43.0	99.33
9306		.17	.23	.21	.16	54.84	.02	<.05	.01	.17	<.01	.003	61	178	<10	<10	<10	<2	43.1	98.96
9307		<.05	.32	<.05	.18	54.79	.01	.09	<.01	.07	<.01	.004	55	200	21	<10	<10	<2	42.8	98.35
9308		.06	.18	<.05	.17	55.68	.02	<.05	<.01	.08	<.01	.004	47	197	<10	<10	<10	<2	42.9	99.13
9309		<.05	.19	<.05	.16	55.51	.01	<.05	<.01	.11	<.01	.002	47	191	<10	<10	<10	<2	42.8	98.88
9310		.07	.20	<.05	.15	55.97	.01	<.05	<.01	.10	<.01	.002	51	192	<10	<10	<10	<2	42.6	99.15
9311		.10	.21	<.05	.19	55.84	.02	<.05	<.01	.10	<.01	.003	58	203	<10	<10	<10	<2	42.7	99.21
9312		.08	.19	<.05	.18	56.18	<.01	<.05	<.01	.07	<.01	.004	50	198	<10	<10	<10	<2	42.7	99.44
9313		.07	.19	<.05	.20	56.51	.01	<.05	<.01	.06	<.01	.002	45	194	<10	<10	<10	<2	42.6	99.68
9314		.07	.19	<.05	.19	56.13	.01	.07	.01	.05	<.01	.002	43	194	<10	<10	<10	<2	42.7	99.45
9315		.08	.18	<.05	.20	56.19	.01	<.05	.01	.09	<.01	.004	47	201	<10	<10	<10	<2	42.7	99.50
9316		<.05	.17	<.05	.17	56.33	.02	<.05	<.01	.07	<.01	.002	46	192	<10	<10	<10	<2	42.6	99.44
9317		<.05	.17	<.05	.14	56.13	.02	<.05	<.01	.02	<.01	.002	34	149	<10	<10	<10	<2	42.7	99.24
9318		.06	.15	<.05	.13	56.24	.02	<.05	.01	.02	<.01	.002	33	148	<10	<10	<10	<2	42.6	99.26
9319		<.05	.17	<.05	.14	56.26	.01	<.05	<.01	.02	<.01	.005	35	156	<10	<10	<10	<2	42.6	99.30
9320		<.05	.13	<.05	.14	55.81	.01	<.05	<.01	.04	<.01	.003	31	147	10	<10	<10	<2	42.3	98.52
9321		<.05	.19	<.05	.13	56.36	.01	<.05	<.01	.02	<.01	.002	25	144	<10	<10	<10	<2	42.5	99.28
STANDARD LIMESTONE		6.90	1.35	.53	.42	50.16	.04	.25	.06	.03	.02	.006	83	263	21	<10	<10	<2	39.9	99.71

.200 GRAM SAMPLES ARE FUSED WITH 1.2 GRAM OF LIBO<sub>2</sub> AND ARE DISSOLVED IN 100 MLS 5% HNO<sub>3</sub>. Ba IS SUM AS BaSO<sub>4</sub> AND OTHER METALS ARE SUM AS OXIDES.  
 - SAMPLE TYPE: CORE      Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: SEP 28 1994 DATE REPORT MAILED: Oct 7/94 SIGNED BY C.L., D.TOE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

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**APPENDIX 4A: CONTINUED**



**Halferdahl & Associates Ltd.**

**FILE # 94-3392**

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SAMPLE#	SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Sr	Zr	Y	Nb	Sc	LOI	SUM
	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	%
9322	.08	.17	<.05	.15	55.47	.01	<.05	<.01	.01	<.01	.002	31	154	11	<10	<10	<2	43.1	99.02
9323	.06	.19	<.05	.14	55.03	.01	<.05	<.01	.01	<.01	.002	32	164	<10	<10	<10	<2	43.1	98.62
9324	1.24	.86	.36	.22	53.90	.02	.15	.03	.13	<.01	.012	76	171	16	<10	<10	<2	42.6	99.56
9325	.13	.22	<.05	.13	55.73	.01	<.05	.01	.02	<.01	.006	36	170	<10	<10	<10	<2	43.2	99.54
9376	.09	.22	<.05	.15	55.72	.01	<.05	<.01	.02	<.01	<.002	45	185	<10	<10	<10	<2	43.1	99.34
9377	.10	.18	<.05	.22	54.95	.01	<.05	<.01	.01	<.01	.002	49	218	<10	<10	<10	<2	43.3	98.85
9378	.14	.24	<.05	.20	54.55	.01	<.05	.01	.05	<.01	<.002	47	202	<10	<10	<10	<2	43.3	98.54
9379	.11	.23	<.05	.16	55.25	<.01	.07	.01	.03	<.01	.004	71	201	<10	<10	<10	<2	43.1	99.01
9380	.07	.19	.27	.16	54.84	.01	<.05	<.01	.01	<.01	.044	59	223	10	<10	<10	<2	43.2	98.83
9381	.23	.27	<.05	5.27	49.57	.01	<.05	.01	.06	<.01	.005	102	296	<10	<10	<10	<2	43.8	99.33
9382	.07	.17	<.05	.36	55.45	.02	.10	<.01	.04	<.01	.002	43	166	<10	<10	<10	<2	43.2	99.44
9383	.13	.21	<.05	.21	55.31	.01	<.05	.01	.02	<.01	.003	44	150	11	<10	<10	<2	43.2	99.17
9384	.19	.24	<.05	8.18	45.85	.01	.09	.01	.05	<.01	<.002	54	170	14	<10	<10	<2	44.4	99.06
9385	.22	.27	.16	6.01	48.52	.01	<.05	.01	.06	<.01	.003	56	230	<10	<10	<10	<2	44.0	99.32
9386	.53	.46	.11	.89	53.07	.01	.17	.03	.15	<.01	.006	117	398	20	<10	10	<2	43.8	99.30
9387	1.14	.67	.16	.48	52.90	.01	.11	.05	.52	<.01	.010	133	393	15	10	<10	<2	42.8	98.93
RE 9387	1.15	.64	.14	.50	53.19	.01	.17	.03	.51	<.01	.010	134	396	15	10	<10	<2	42.8	99.23
9388	.06	.20	<.05	.26	55.06	.01	.08	<.01	.07	<.01	.002	56	421	<10	<10	<10	<2	43.3	99.10
9389	.11	.19	<.05	.16	55.34	.01	.20	<.01	.06	<.01	<.002	48	302	<10	<10	<10	<2	43.4	99.52
9390	<.05	.19	<.05	.15	55.34	<.01	.14	<.01	.09	<.01	.002	49	281	<10	<10	<10	<2	43.5	99.50
9391	<.05	.19	<.05	.16	55.45	<.01	<.05	<.01	.03	<.01	<.002	42	303	<10	<10	<10	<2	43.1	99.03
9392	<.05	.20	<.05	.17	55.66	<.01	.11	<.01	.04	<.01	.002	52	294	23	<10	<10	<2	43.3	99.58
9393	<.05	.18	<.05	.34	55.27	.01	<.05	<.01	.06	<.01	.002	43	347	<10	<10	<10	<2	43.1	99.07
9394	<.05	.19	<.05	.14	55.86	<.01	<.05	<.01	.04	<.01	.002	36	341	<10	<10	<10	<2	43.0	99.35
9395	<.05	.18	<.05	.15	55.94	.01	<.05	<.01	.01	<.01	.004	41	244	<10	<10	<10	<2	43.1	99.46
9601	<.05	.18	<.05	.13	55.87	<.01	<.05	<.01	.04	<.01	.005	39	262	<10	<10	<10	<2	43.1	99.40
9602	<.05	.14	<.05	.13	56.13	.01	<.05	<.01	.07	<.01	.002	31	247	<10	<10	<10	<2	43.2	99.79
9603	.12	.18	<.05	.13	56.36	.01	.10	<.01	.06	<.01	.002	35	222	<10	<10	<10	<2	42.7	99.70
9604	.16	.21	<.05	.15	56.12	<.01	.08	<.01	.03	<.01	.003	43	237	<10	<10	<10	<2	43.0	99.79
9605	<.05	.17	<.05	.14	56.32	.01	.11	<.01	.03	<.01	.007	39	210	<10	<10	<10	<2	42.9	99.75
9606	.06	.21	<.05	.14	56.11	.01	.06	<.01	.11	<.01	.002	66	270	<10	<10	<10	<2	42.9	99.65
9607	<.05	.17	<.05	.83	55.33	<.01	.10	.02	.05	<.01	.002	35	217	<10	<10	<10	<2	43.0	99.59
9608	<.05	.22	<.05	2.27	53.01	.01	<.05	<.01	.04	<.01	<.002	35	196	<10	<10	<10	<2	43.4	99.07
9609	.09	.21	<.05	.20	55.41	.01	.08	<.01	.03	<.01	<.002	25	170	<10	<10	<10	<2	43.1	99.16
9610	<.05	.20	.12	.23	55.64	.01	.12	<.01	.01	<.01	<.002	30	166	<10	<10	<10	<2	42.9	99.29
STANDARD LIMESTONE	6.71	1.40	.58	.46	50.55	.03	.08	.07	.02	.02	.002	84	270	<10	<10	<10	<2	39.9	99.87

Sample type: CORE. Samples beginning 'RE' are duplicate samples.

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**APPENDIX 4A: CONTINUED**



**Halferdahl & Associates Ltd.**

**FILE # 94-3392**

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SAMPLE#	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	MgO %	CaO %	Na <sub>2</sub> O %	K <sub>2</sub> O %	TiO <sub>2</sub> %	P <sub>2</sub> O <sub>5</sub> %	MnO %	Cr <sub>2</sub> O <sub>3</sub> %	Ba ppm	Sr ppm	Zr ppm	Y ppm	Nb ppm	Sc ppm	LOI %	SUM %
9611	<.05	.23	<.05	.10	54.60	.01	<.05	.02	.08	<.01	.002	25	158	<10	<10	<10	<2	43.4	98.50
9612	<.05	.21	.42	.14	54.50	.01	<.05	.02	.02	<.01	.078	31	194	<10	<10	<10	<2	43.5	98.93
9613	<.05	.16	<.05	.12	54.98	.03	.12	.02	.14	<.01	<.002	39	203	31	<10	<10	<2	43.3	98.92
9614	<.05	.22	<.05	.15	54.95	.02	<.05	.01	<.01	<.01	.006	33	211	<10	<10	<10	<2	43.3	98.69
9615	<.05	.21	<.05	.87	54.08	.01	<.05	.01	.02	<.01	.002	35	249	<10	<10	<10	<2	43.4	98.67
9616	<.05	.18	<.05	.49	54.23	.01	<.05	<.01	<.01	<.01	<.002	34	468	15	<10	<10	<2	43.7	98.68
9617	<.05	.19	<.05	1.95	52.51	.01	<.05	.02	<.01	<.01	<.002	37	382	15	<10	<10	<2	43.8	98.54
9618	<.05	.19	<.05	2.53	51.96	.02	<.05	<.01	.07	<.01	<.002	38	246	35	<10	<10	<2	43.5	98.35
9619	<.05	.23	<.05	.18	54.70	.02	<.05	<.01	.11	<.01	<.002	39	210	<10	<10	<10	<2	43.2	98.50
9620	<.05	.24	<.05	6.42	47.02	.01	.13	.01	.08	<.01	.003	29	201	80	<10	<10	<2	44.3	98.28
9621	<.05	.25	<.05	.86	53.72	.02	<.05	.02	.02	<.01	<.002	40	207	17	<10	<10	<2	43.7	98.68
RE 9621	<.05	.20	<.05	.87	53.57	.01	<.05	.01	.05	<.01	.002	43	207	<10	<10	<10	<2	43.7	98.50
9622	.17	.24	<.05	1.82	52.52	.02	<.05	.01	.10	<.01	<.002	50	216	<10	<10	<10	<2	43.7	98.62
9623	.14	.21	<.05	1.29	53.37	.02	<.05	.01	.04	<.01	<.002	42	221	12	<10	<10	<2	43.7	98.84
9624	<.05	.23	<.05	.85	53.83	.02	<.05	.01	.07	<.01	<.002	45	235	<10	<10	<10	<2	43.7	98.75
9625	<.05	.19	<.05	.77	53.92	.02	<.05	.02	.04	<.01	.004	38	212	<10	<10	<10	<2	43.8	98.83
9626	<.05	.23	.07	.57	54.26	.01	<.05	.01	.05	<.01	.002	41	225	<10	<10	<10	<2	43.6	98.84
9627	<.05	.24	<.05	1.00	53.42	.01	<.05	.01	.06	<.01	.002	42	220	<10	<10	<10	<2	43.8	98.60
9628	.36	.28	<.05	5.65	47.95	.01	.06	.02	.05	<.01	.004	59	207	<10	<10	<10	<2	44.1	98.55
9629	.07	.24	<.05	.43	55.43	.01	<.05	.01	.04	<.01	.005	47	254	11	<10	<10	<2	43.6	99.88
9630	<.05	.23	<.05	2.23	53.47	.02	<.05	.02	.04	<.01	<.002	43	246	<10	<10	<10	<2	43.7	99.77
9631	<.05	.27	<.05	1.68	54.18	.01	<.05	.02	.04	<.01	<.002	49	261	<10	<10	<10	<2	43.6	99.87
9632	<.05	.23	<.05	2.46	52.91	<.01	<.05	.02	.05	<.01	.003	48	280	<10	<10	<10	<2	44.0	99.80
9633	.07	.20	<.05	1.57	53.84	<.01	.09	<.01	.04	<.01	<.002	51	260	10	<10	<10	<2	44.0	99.91
9634	.10	.29	<.05	1.81	53.92	.02	.07	.01	.05	<.01	<.002	52	250	<10	<10	<10	<2	43.8	100.11
9635	<.05	.24	<.05	.75	55.46	.01	<.05	.01	.03	<.01	.004	39	197	15	<10	<10	<2	43.4	100.03
9636	<.05	.24	<.05	.85	55.20	.01	<.05	.01	.03	<.01	<.002	40	203	<10	<10	<10	<2	43.4	99.81
9637	<.05	.22	<.05	.48	55.41	.02	<.05	.01	.03	<.01	.004	46	215	16	<10	<10	<2	43.7	99.95
9638	.09	.27	.07	.63	54.93	.02	.13	<.01	.05	<.01	.002	58	253	11	<10	<10	<2	43.7	99.94
9639	.06	.25	<.05	.42	55.42	.02	<.05	.02	.03	<.01	<.002	93	335	10	<10	<10	<2	43.6	99.93
9640	.11	.26	<.05	.52	55.36	.01	<.05	.01	.06	<.01	.004	65	435	10	<10	<10	<2	43.6	100.01
9641	.13	.25	<.05	.44	55.18	.03	<.05	.02	.04	<.01	<.002	84	475	<10	<10	<10	<2	43.7	99.87
9642	.06	.23	<.05	.63	54.89	.01	<.05	<.01	.05	<.01	<.002	82	474	<10	<10	<10	<2	43.6	99.55
9643	<.05	.28	<.05	.58	54.85	.02	<.05	.01	.02	<.01	.002	152	485	<10	<10	<10	<2	43.7	99.58
9644	.31	.34	.16	1.09	53.84	.02	<.05	.01	.03	<.01	.006	87	439	13	<10	<10	<2	43.6	99.48
STANDARD LIMESTONE	6.92	1.43	.51	.48	50.65	.03	.22	.08	.02	.02	<.002	81	257	13	<10	<10	<2	39.9	100.31

Sample type: CORE. Samples beginning 'RE' are duplicate samples.

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**APPENDIX 4A: CONTINUED**



**Halferdahl & Associates Ltd. FILE # 94-3392**

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SAMPLE#	SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Sr	Zr	Y	Nb	Sc	LOI	SUM
	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	%
9645	.59	.41	.21	.68	53.20	.01	<.05	.05	.03	<.01	<.002	146	379	<10	<10	<10	<2	43.0	98.26
9646	.23	.27	.08	.82	53.47	.01	.06	.04	.06	<.01	.006	73	267	<10	<10	<10	<2	43.2	98.29
9676	.18	.25	<.05	.28	54.48	.02	.11	.03	.03	<.01	.004	73	273	14	<10	<10	<2	42.5	97.95
9677	.17	.24	<.05	.29	54.48	.01	.06	.02	.02	<.01	.005	71	281	<10	<10	<10	<2	42.6	97.95
9678	.13	.21	<.05	.29	54.71	.01	.21	.03	.04	<.01	.002	69	265	21	<10	<10	<2	42.6	98.28
9679	.47	.43	.11	.29	54.54	.02	.20	.04	.04	<.01	.003	66	277	16	<10	<10	<2	42.6	98.79
9680	.09	.19	<.05	.25	55.05	.01	.15	.02	.06	<.01	<.002	70	255	<10	<10	<10	<2	42.6	98.47
9681	<.05	.20	<.05	.21	55.20	.01	.06	<.01	.11	<.01	.003	66	261	<10	<10	<10	<2	42.5	98.37
9682	<.05	.21	<.05	.22	54.73	.02	<.05	<.01	.10	<.01	<.002	71	268	<10	<10	<10	<2	42.8	98.18
9683	<.05	.19	<.05	.24	54.84	.02	<.05	<.01	.04	.01	.006	73	268	21	<10	<10	<2	42.7	98.14
9684	<.05	.20	<.05	.34	54.61	.01	.17	.01	.13	<.01	.004	57	237	14	<10	<10	<2	42.6	98.15
9685	.15	.27	<.05	.31	54.52	.02	.24	.04	.11	<.01	.004	84	279	<10	<10	<10	<2	42.7	98.42
9686	.77	.63	.18	3.08	50.24	.01	.12	.04	.20	<.01	.005	141	275	14	<10	<10	<2	43.3	98.64
9687	.11	.19	<.05	.40	54.56	.01	<.05	.02	.02	<.01	.002	68	275	<10	<10	<10	<2	42.7	98.07
9688	.88	.61	.25	4.65	48.43	.03	.25	.05	.15	<.01	.006	153	271	51	<10	<10	<2	43.6	98.97
9689	.18	.26	<.05	.72	53.87	<.01	.24	.02	.05	<.01	.005	87	283	12	<10	<10	<2	43.1	98.52
9690	2.02	1.25	.46	7.28	43.84	.02	.25	.09	.63	.01	.011	209	266	18	<10	<10	<2	42.9	98.83
9691	.91	.63	.24	5.90	47.94	.02	.19	.04	.25	.01	.008	162	288	11	<10	<10	<2	43.5	99.70
9692	.22	.33	<.05	.54	55.44	.01	.13	.04	.08	<.01	.003	92	279	<10	<10	<10	<2	42.4	99.25
RE 9692	.22	.32	<.05	.54	55.79	.02	.06	.03	.08	<.01	.005	95	281	10	<10	<10	<2	42.3	99.42
9693	.06	.19	<.05	.35	56.03	.02	.23	.02	.06	<.01	<.002	404	290	<10	<10	<10	<2	42.5	99.57
9694	<.05	.22	<.05	.32	56.14	<.01	.12	.03	.04	<.01	.004	83	292	<10	<10	<10	<2	42.4	99.36
9695	<.05	.23	<.05	.22	56.78	.01	<.05	.02	.01	<.01	.005	81	281	<10	<10	<10	<2	41.8	99.18
9696	.11	.25	.18	.21	56.67	<.01	<.05	.02	.04	<.01	.031	70	276	<10	<10	<10	<2	41.8	99.36
9697	.08	.24	<.05	.22	56.54	.02	.06	.01	.08	<.01	.002	83	287	<10	<10	<10	<2	42.2	99.51
9698	<.05	.17	<.05	.24	56.70	<.01	.11	.02	.07	<.01	.002	90	289	12	<10	<10	<2	42.3	99.68
9699	<.05	.19	<.05	.25	56.14	.01	.13	<.01	.10	<.01	.004	80	284	<10	<10	<10	<2	42.4	99.31
9700	<.05	.20	<.05	.20	56.01	.01	.12	.03	.15	<.01	.002	85	278	<10	<10	<10	<2	42.4	99.21
9776	<.05	.20	<.05	.17	56.43	.01	<.05	.01	.12	<.01	.003	72	276	32	<10	<10	<2	42.2	99.21
9777	<.05	.20	<.05	.17	56.34	.01	<.05	<.01	.03	<.01	.003	88	281	<10	<10	<10	<2	42.1	98.95
9778	<.05	.20	<.05	.17	56.32	.01	.17	.01	.09	.01	.002	77	259	<10	<10	<10	<2	42.2	99.28
9779	<.05	.20	<.05	.19	56.33	.01	<.05	<.01	.08	<.01	.003	67	264	11	<10	<10	<2	42.3	99.24
9780	.07	.21	<.05	.26	56.30	.01	<.05	.02	.16	<.01	.004	80	274	<10	<10	<10	<2	42.3	99.40
9781	<.05	.17	<.05	.17	56.43	.01	.17	.01	.12	<.01	.003	64	259	15	<10	<10	<2	42.1	99.25
9782	<.05	.17	<.05	.17	56.50	.01	.17	.01	.08	<.01	.003	66	249	<10	<10	<10	<2	42.4	99.57
STANDARD LIMESTONE	6.72	1.32	.54	.47	50.19	.03	.31	.07	.06	.02	.004	86	249	23	<10	<10	<2	39.9	99.68

Sample type: CORE. Samples beginning 'RE' are duplicate samples.

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## APPENDIX 4A: CONTINUED



Halferdahl &amp; Associates Ltd. FILE # 94-3392

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SAMPLE#	SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Sr	Zr	Y	Nb	Sc	LOI	SUM
	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	%
9783	.33	.33	.16	.99	54.97	.01	.07	.03	.07	<.01	.003	82	229	<10	<10	<10	<2	42.5	99.51
9784	<.05	.19	<.05	.20	56.23	.02	<.05	<.01	.07	<.01	.002	80	263	<10	<10	<10	<2	42.5	99.29
RE 9784	.06	.15	<.05	.21	55.97	.01	<.05	<.01	.07	<.01	.002	83	263	<10	<10	<10	<2	42.5	99.02
9785	<.05	.20	<.05	.24	55.86	.02	<.05	<.01	.10	<.01	.008	81	288	<10	<10	<10	<2	42.4	98.93
9786	.06	.21	<.05	.19	56.08	.02	<.05	<.01	.06	<.01	.006	79	270	<10	<10	<10	<2	42.3	98.98
9787	.06	.17	<.05	.17	56.34	.01	<.05	<.01	.05	<.01	<.002	75	267	<10	<10	<10	<2	42.4	99.25
9788	.19	.23	<.05	.22	55.87	.03	.29	<.01	.11	.01	<.002	87	281	<10	<10	<10	<2	42.5	99.50
STANDARD LIMESTONE	6.91	1.33	.53	.46	50.34	.04	.30	.08	.04	.02	.002	85	257	14	<10	<10	<2	39.9	100.00

Sample type: CORE. Samples beginning 'RE' are duplicate samples.

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APPENDIX 4A: CONTINUED

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE (604) 253-3158 FAX (604) 253-1716

**WHOLE ROCK ICP ANALYSIS**

**Halferdahl & Associates Ltd.** File # 94-4148  
18 - 10509 - 81st Ave, Edmonton AB T6E 1X7 Submitted by: J. Dohrouge

SAMPLE#	SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI	SUM
	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
9007	.75	.09	.09	.35	54.87	.02	<.05	.03	.11	<.01	.007	100	25	301	178	<10	<10	<2	43.5	99.90
9008	.69	.11	<.05	.27	55.50	.03	<.05	<.01	.11	<.01	.004	112	31	291	47	<10	<10	<2	43.3	100.09
9009	1.12	.12	.07	1.22	53.55	.02	<.05	.01	.14	<.01	.004	95	32	250	76	<10	<10	<2	43.4	99.72
9010	.59	.10	<.05	.38	54.81	<.01	.07	<.01	.09	<.01	.005	77	15	235	18	<10	<10	<2	43.4	99.52
9011	.98	.21	.13	.37	54.85	.02	<.05	.03	.08	<.01	.005	95	12	287	19	<10	<10	<2	43.3	100.03
9647	.70	.11	<.05	1.00	54.28	.03	.35	.01	.10	<.01	.003	77	14	272	20	<10	<10	<2	43.5	100.17
RE 9647	.68	.13	.10	1.00	54.56	.02	.30	.02	.12	<.01	.003	78	13	272	21	<10	<10	<2	43.4	100.39
9648	.78	.19	.10	.37	54.75	.03	<.05	<.01	.11	<.01	.004	107	23	298	22	<10	<10	<2	43.4	99.80
9649	1.03	.24	.09	.35	54.85	.02	<.05	<.01	.14	<.01	.006	134	29	292	15	<10	<10	<2	43.3	100.11
9650	1.03	.23	.16	.33	54.84	.01	.07	.01	.09	<.01	.004	170	13	285	22	<10	<10	<2	43.3	100.14
STANDARD LIMESTONE	6.95	1.31	.65	.28	49.59	.06	<.05	.07	.04	.02	.018	94	79	272	34	<10	<10	<2	39.9	98.95

.200 GRAM SAMPLES ARE FUSED WITH 1.2 GRAM OF LIBO2 AND ARE DISSOLVED IN 100 MLS 5% HNO3. Ba IS SUM AS BaSO4 AND OTHER METALS ARE SUM AS OXIDES.  
- SAMPLE TYPE: CORE Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: NOV 16 1994 DATE REPORT MAILED: Nov 24/94 SIGNED BY: C.L. D.TOEY, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

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APPENDIX 4A: CONTINUED

ACME ANALYTICAL LABORATORIES LTD.

852 E. HASTINGS ST. VANCOUVER BC V6A 1R6

PHONE (604) 253-3158 FAX (604) 253-1716

WHOLE ROCK ICP ANALYSIS

Halferdahl & Associates Ltd. File # 95-1272

18 - 10509 - 81st Ave, Edmonton AB T6E 1X7

SAMPLE#	SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Ni	Sr	Zr	Y	Nb	Sc	LOI	SUM
	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
9791	.20	.05	.08	.65	55.25	<.01	<.04	.06	.05	<.01	.003	56	29	238	<10	<10	<10	<10	43.7	100.12
9792	.76	.34	.29	.49	55.07	<.01	.09	.07	.09	.01	.011	106	73	265	<10	<10	<10	<10	43.5	100.78
9801	.40	<.03	.07	.29	55.70	<.01	<.04	.04	.04	<.01	.007	78	50	268	10	<10	<10	<10	43.8	100.43
9811	.92	.12	.15	3.66	51.39	.01	.04	.01	.10	<.01	.008	69	38	203	12	<10	<10	<10	44.0	100.46
9841	12.47	3.00	1.41	5.21	39.63	.04	.77	.24	.30	.02	.017	1249	56	363	43	13	<10	<10	37.4	100.78
9842	30.12	7.71	3.83	9.95	18.22	.25	2.17	.54	.25	.03	.018	502	99	168	113	21	<10	10	27.0	100.23
9845	.16	.03	.05	.48	56.00	.01	<.04	.01	.02	<.01	.005	52	41	192	<10	<10	<10	<10	43.5	100.32
RE 9845	.14	<.03	.04	.44	56.29	<.01	<.04	.01	.01	.01	.006	45	32	192	<10	<10	<10	<10	43.5	100.49
9850	.32	.07	.09	.66	55.49	<.01	<.04	.07	.04	.01	.005	66	20	207	163	<10	<10	<10	43.6	100.45
9853	.21	.04	.08	.31	56.40	<.01	<.04	.02	.04	.01	.005	41	38	173	193	<10	<10	<10	43.3	100.49
9854	.18	<.03	<.04	.32	56.49	<.01	<.04	.01	.03	.01	.005	45	23	169	<10	<10	<10	<10	43.4	100.53
9858	.26	.04	.08	1.11	54.88	<.01	<.04	<.01	.05	.01	.005	43	28	157	<10	<10	<10	<10	43.5	99.99
9874	1.24	.20	.13	.85	54.39	<.01	.05	.03	.82	<.01	.010	97	40	363	17	<10	<10	<10	42.7	100.50
9890	2.79	.64	.24	3.53	49.90	<.01	.15	.07	1.46	.01	.011	140	35	292	21	11	<10	<10	41.8	100.67
9894	.48	.13	.09	.49	55.10	<.01	.04	.05	.76	<.01	.005	79	27	231	<10	<10	<10	<10	43.0	100.19
9910	.16	<.03	.09	.27	56.21	<.01	<.04	<.01	.07	<.01	.004	53	35	294	<10	<10	<10	<10	43.4	100.30
9916	.20	<.03	.13	.31	55.84	<.01	<.04	.04	.10	<.01	.017	61	58	216	<10	<10	<10	<10	43.6	100.31
9918	.15	<.03	.06	.25	56.47	<.01	<.04	<.01	.10	<.01	.002	42	38	200	<10	<10	<10	<10	43.4	100.49
9919	.27	.05	.08	.28	56.26	<.01	<.04	.02	.04	<.01	.005	49	16	215	<10	<10	<10	<10	43.3	100.37
9923	.37	.11	.14	.35	55.56	<.01	.04	.03	.04	<.01	.012	71	47	276	10	<10	<10	<10	43.7	100.41
9927	.99	.36	.29	1.96	53.24	<.01	.10	.06	.06	<.01	.008	77	42	281	<10	<10	<10	<10	43.5	100.63
9932	.55	.25	.17	.70	55.10	<.01	.07	.05	.07	<.01	.007	79	50	245	35	<10	<10	<10	43.6	100.63
9948	1.01	.10	.13	.56	55.44	<.01	<.04	.02	.08	.01	.009	74	42	257	<10	<10	<10	<10	43.1	100.54
STANDARD LIMESTONE	6.91	1.21	.58	.40	50.25	.01	.25	.08	.03	.02	.004	79	28	256	28	<10	<10	<10	40.4	100.20

.200 GRAM SAMPLES ARE FUSED WITH 1.2 GRAM OF LIBO2 AND ARE DISSOLVED IN 100 MLS 5% HNO3. Ba IS SUM AS BaSO4 AND OTHER METALS ARE SUM AS OXIDES.

- SAMPLE TYPE: PULP Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: APR 27 1995 DATE REPORT MAILED: May 5/95

SIGNED BY...: C.L., D.TOEY, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

APPENDIX 4A: CONTINUED

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

Halferdahl & Associates Ltd. File # 95-2460  
18 - 10509 - 81st Ave, Edmonton AB T6E 1X7

SAMPLE#	TOT/S %
9024	<.01
9308	<.01
9318	.02
9608	.01
9680	<.01
RE 9680	<.01
9682	<.01
9692	.01
9781	.01
9782	.01
9794	<.01
9848	<.01
9849	.02

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TOTAL S BY LECO.

- SAMPLE TYPE: PULP

Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: JUL 24 1995 DATE REPORT MAILED:

July 31/95

SIGNED BY..... D.TOEY, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

## APPENDIX 4B: ANALYTICAL REPORTS FROM THE CENTRAL LABORATORY OF CONTINENTAL LIME INC.

Central Lab

ICP

Date of run 02-27-95

		12/Miscellaneous/Stone/Halferdahl & Associates											
	%	%	%	%	%	%	ppm	ppm	%	%			
Sample	CaCO <sub>3</sub>	CaO	MgCO <sub>3</sub>	MgO	Fe2O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub>	SiCO <sub>3</sub>	MnO	SiO <sub>2</sub>	P2O <sub>5</sub>			TOTAL
9789	98.53	55.20	0.56	0.27	0.035	0.049	412	33	0.21	0.048			99.48
9790	98.92	55.42	0.69	0.33	0.036	0.028	431	31	0.11	0.057			99.89
9791	97.94	54.88	1.32	0.63	0.076	0.085	442	30	0.22	0.065			99.75
9792	97.52	54.64	0.97	0.46	0.247	0.346	469	36	0.75	0.142			100.03
9793	98.91	55.42	0.64	0.31	0.039	0.040	501	29	0.12	0.046			99.84
9794	98.90	55.41	0.68	0.32	0.044	0.052	504	32	0.15	0.067			99.94
9795	98.95	55.44	0.65	0.31	0.039	0.049	508	28	0.17	0.128			100.04
9796	98.56	55.22	0.91	0.43	0.065	0.069	502	29	0.21	0.090			99.95
9797	99.08	55.51	0.55	0.26	0.040	0.035	486	30	0.10	0.200			100.06
9798	98.73	55.32	0.67	0.32	0.070	0.098	544	30	0.23	0.041			99.89
9799	98.66	55.28	0.69	0.33	0.065	0.079	543	31	0.18	0.130			99.86
9800	99.01	55.47	0.63	0.30	0.040	0.035	535	35	0.09	0.053			99.92
9801	98.98	55.45	0.61	0.29	0.042	0.040	476	29	0.13	0.085			99.94
9802	97.15	54.43	2.44	1.17	0.033	0.040	386	27	0.12	0.131			99.96
9803	97.26	54.50	2.43	1.16	0.031	0.036	345	27	0.11	0.140			100.05
9804	96.26	53.93	3.26	1.56	0.061	0.057	356	28	0.13	0.117			99.93
9805	98.41	55.14	1.13	0.54	0.036	0.037	372	27	0.10	0.061			99.81
9806	98.34	55.10	1.14	0.55	0.025	0.053	371	29	0.14	0.075			99.82
9807	98.29	55.07	0.93	0.45	0.112	0.130	433	32	0.29	0.076			99.88
9808	72.17	40.43	21.47	10.27	0.396	1.218	324	52	2.42	0.359			98.07
9809	97.10	54.41	2.27	1.08	0.054	0.085	402	28	0.30	0.083			99.93
9810	97.87	54.84	1.55	0.74	0.036	0.037	358	27	0.24	0.068			99.84
9811	90.82	50.88	7.85	3.75	0.090	0.159	404	34	0.85	0.138			99.95
9812	87.01	48.75	9.58	4.58	0.363	0.858	377	36	1.92	0.416			100.19
9813	97.62	54.70	1.59	0.76	0.053	0.056	369	27	0.31	0.117			99.79
9814	97.03	54.36	2.33	1.11	0.040	0.061	355	26	0.32	0.350			100.16
9815	88.06	49.34	10.42	4.98	0.125	0.282	403	33	0.88	0.500			100.31
9816	95.59	53.56	3.74	1.79	0.049	0.069	402	27	0.31	0.097			99.89
9817	97.88	54.84	1.75	0.84	0.023	0.042	363	26	0.21	0.116			100.07

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## APPENDIX 4B: CONTINUED

Central Lab

ICP

Date of run 02-27-95

9818	96.19	<b>53.90</b>	3.36	<b>1.61</b>	0.022	0.041	332	26	0.21	0.184	100.05
9819	94.21	<b>52.79</b>	5.21	<b>2.49</b>	0.051	0.083	331	25	0.22	0.265	100.08
9820	77.60	<b>43.48</b>	18.43	<b>8.81</b>	0.293	0.697	353	40	1.40	0.505	98.97
9821	91.70	<b>51.38</b>	7.49	<b>3.58</b>	0.056	0.142	377	31	0.36	0.121	99.91
9822	81.44	<b>45.63</b>	17.45	<b>8.34</b>	0.152	0.290	329	35	0.57	0.190	100.12
9823	93.17	<b>52.20</b>	6.16	<b>2.95</b>	0.049	0.137	346	27	0.34	0.076	99.98
9824	90.77	<b>50.86</b>	8.34	<b>3.99</b>	0.103	0.196	346	29	0.43	0.100	99.98
9825	85.98	<b>48.17</b>	13.33	<b>6.37</b>	0.063	0.145	353	33	0.31	0.170	100.03
9826	71.03	<b>39.80</b>	26.87	<b>12.84</b>	0.266	0.429	329	44	0.88	0.292	99.81
9827	93.09	<b>52.16</b>	6.41	<b>3.06</b>	0.027	0.063	340	27	0.21	0.091	99.93
9828	79.18	<b>44.36</b>	17.98	<b>8.60</b>	0.327	0.616	412	42	1.56	1.200	100.91
9829	89.90	<b>50.37</b>	9.38	<b>4.49</b>	0.063	0.120	428	33	0.31	0.128	99.95
9830	93.65	<b>52.47</b>	5.45	<b>2.60</b>	0.065	0.121	404	28	0.34	0.174	99.84
9831	95.68	<b>53.61</b>	3.37	<b>1.61</b>	0.110	0.173	404	27	0.42	0.178	99.97
9832	88.82	<b>49.76</b>	10.26	<b>4.91</b>	0.074	0.162	389	32	0.37	0.256	99.98
9833	75.58	<b>42.35</b>	22.41	<b>10.71</b>	0.330	0.437	382	49	1.06	0.230	100.10
9834	92.61	<b>51.89</b>	5.89	<b>2.82</b>	0.137	0.154	407	31	0.87	0.304	100.01
9835	93.72	<b>52.51</b>	4.60	<b>2.20</b>	0.273	0.327	535	38	0.99	0.430	100.39
9836	81.19	<b>45.49</b>	11.44	<b>5.47</b>	0.601	1.022	612	70	5.02	0.745	100.09
9837	92.40	<b>51.77</b>	5.58	<b>2.67</b>	0.206	0.376	638	39	1.17	1.097	100.89
9838	90.35	<b>50.62</b>	6.50	<b>3.11</b>	0.285	0.546	625	45	1.96	1.166	100.88
9839	75.77	<b>42.45</b>	13.39	<b>6.40</b>	0.857	1.484	532	87	5.82	0.810	98.18
9840	85.24	<b>47.76</b>	7.93	<b>3.79</b>	0.571	1.044	609	76	4.81	0.760	100.42
9841	71.52	<b>40.07</b>	10.07	<b>4.81</b>	1.201	1.853	650	126	10.36	0.389	95.48
9842	32.72	<b>18.33</b>	18.73	<b>8.95</b>	3.263	3.229	271	277	23.71	0.305	82.02
9843	79.93	<b>44.78</b>	10.62	<b>5.08</b>	0.649	1.261	483	92	5.99	0.570	99.08
9844	98.77	<b>55.34</b>	0.81	<b>0.39</b>	0.073	0.042	351	53	0.15	0.058	99.94
9845	98.72	<b>55.31</b>	0.95	<b>0.46</b>	0.069	0.021	334	42	0.11	0.029	99.94
9846	98.68	<b>55.29</b>	0.93	<b>0.45</b>	0.019	0.017	326	38	0.13	0.027	99.85
9847	98.37	<b>55.11</b>	1.07	<b>0.51</b>	0.035	0.021	339	34	0.11	0.057	99.69
9848	98.50	<b>55.19</b>	1.15	<b>0.55</b>	0.116	0.023	338	48	0.08	0.031	99.94
9849	98.24	<b>55.04</b>	1.41	<b>0.68</b>	0.045	0.043	339	43	0.15	0.033	99.96
9850	98.09	<b>54.96</b>	1.39	<b>0.66</b>	0.078	0.093	361	45	0.22	0.057	99.96

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## APPENDIX 4B: CONTINUED

Central Lab

ICP

Date of run 02-27-95

9851	98.78	<b>55.34</b>	0.76	<b>0.36</b>	0.027	0.031	318	39	0.10	0.032	99.76
9852	98.78	<b>55.35</b>	0.71	<b>0.34</b>	0.063	0.032	308	46	0.14	0.037	99.80
9853	98.98	<b>55.46</b>	0.66	<b>0.31</b>	0.093	0.051	303	42	0.13	0.030	99.97
9854	98.70	<b>55.30</b>	0.64	<b>0.31</b>	0.052	0.042	317	43	0.11	0.036	99.62
9855	98.27	<b>55.06</b>	1.24	<b>0.59</b>	0.033	0.033	294	41	0.12	0.025	99.75
9856	96.82	<b>54.24</b>	2.57	<b>1.23</b>	0.066	0.067	365	49	0.24	0.053	99.85
9857	94.26	<b>52.82</b>	4.80	<b>2.30</b>	0.121	0.099	326	55	0.22	0.080	99.63
9858	97.01	<b>54.36</b>	2.36	<b>1.13</b>	0.065	0.070	289	60	0.26	0.066	99.87
9859	96.61	<b>54.13</b>	2.56	<b>1.22</b>	0.055	0.073	288	43	0.17	0.050	99.54
9860	96.16	<b>53.88</b>	3.26	<b>1.56</b>	0.061	0.098	234	59	0.23	0.113	99.94
9861	98.98	<b>55.46</b>	0.56	<b>0.27</b>	0.080	0.055	261	41	0.14	0.049	99.90
9862	98.76	<b>55.34</b>	0.61	<b>0.29</b>	0.056	0.098	263	42	0.29	0.064	99.92
9863	97.71	<b>54.74</b>	1.48	<b>0.71</b>	0.063	0.125	315	43	0.29	0.036	99.74
9864	93.86	<b>52.59</b>	3.07	<b>1.47</b>	0.367	0.401	503	50	2.21	0.142	100.10
9865	81.12	<b>45.45</b>	2.22	<b>1.06</b>	0.913	1.905	475	59	9.23	1.306	96.75
9866	93.54	<b>52.41</b>	1.34	<b>0.64</b>	0.221	0.610	493	35	3.02	0.300	99.08
9867	98.45	<b>55.16</b>	0.84	<b>0.40</b>	0.034	0.060	454	24	0.36	0.061	99.85
9868	98.20	<b>55.02</b>	0.91	<b>0.43</b>	0.051	0.124	636	17	0.55	0.071	99.97
9869	98.80	<b>55.35</b>	0.79	<b>0.38</b>	0.038	0.055	528	22	0.16	0.075	99.97
9870	97.17	<b>54.44</b>	0.94	<b>0.45</b>	0.078	0.121	467	27	1.10	0.116	99.57
9871	94.23	<b>52.80</b>	2.94	<b>1.41</b>	0.169	0.389	586	28	1.99	0.523	100.31
9872	97.67	<b>54.72</b>	1.16	<b>0.56</b>	0.051	0.100	596	24	0.92	0.217	100.18
9873	90.90	<b>50.93</b>	3.10	<b>1.48</b>	0.409	0.968	517	42	4.32	0.643	100.39
9874	96.77	<b>54.22</b>	1.83	<b>0.87</b>	0.083	0.196	608	25	0.95	1.140	101.03
9875	94.33	<b>52.85</b>	2.00	<b>0.96</b>	0.247	0.593	636	34	2.67	0.993	100.90
9876	93.83	<b>52.57</b>	3.98	<b>1.90</b>	0.149	0.375	535	27	1.42	1.064	100.88
9877	95.13	<b>53.30</b>	3.01	<b>1.44</b>	0.063	0.159	538	32	1.30	0.244	99.97
9878	83.92	<b>47.02</b>	5.26	<b>2.52</b>	0.572	1.493	559	61	7.74	0.429	99.47
9879	96.24	<b>53.92</b>	2.66	<b>1.27</b>	0.067	0.138	474	32	0.78	0.106	100.04
9880	95.76	<b>53.65</b>	2.80	<b>1.34</b>	0.056	0.128	463	28	0.77	0.178	99.74
9881	91.93	<b>51.50</b>	3.29	<b>1.57</b>	0.299	0.796	622	41	3.06	0.411	99.85
9882	96.51	<b>54.08</b>	2.30	<b>1.10</b>	0.077	0.166	471	29	0.76	0.378	100.24
9883	96.31	<b>53.96</b>	2.37	<b>1.13</b>	0.066	0.129	507	28	0.92	0.273	100.12

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## APPENDIX 4B: CONTINUED

Central Lab

ICP

Date of run 02-27-95

9884	94.32	<b>52.84</b>	3.70	<b>1.77</b>	0.069	0.150	528	36	1.53	0.242	100.07
9885	90.97	<b>50.97</b>	2.03	<b>0.97</b>	0.436	0.721	554	59	4.70	0.397	99.32
9886	95.65	<b>53.59</b>	2.46	<b>1.18</b>	0.060	0.116	515	43	1.22	0.567	100.13
9887	80.08	<b>44.87</b>	4.87	<b>2.33</b>	0.932	1.556	569	104	10.57	0.842	98.92
9888	50.82	<b>28.47</b>	10.25	<b>4.90</b>	2.213	2.342	449	197	24.59	0.694	90.98
9889	92.53	<b>51.84</b>	3.24	<b>1.55</b>	0.289	0.482	467	74	2.52	0.416	99.52
9890	88.84	<b>49.77</b>	7.64	<b>3.65</b>	0.233	0.504	501	63	2.51	1.838	101.62
9891	91.00	<b>50.99</b>	5.29	<b>2.53</b>	0.249	0.408	374	51	2.75	0.662	100.41
9892	90.85	<b>50.90</b>	3.04	<b>1.45</b>	0.498	0.817	343	46	4.63	0.267	100.13
9893	98.76	<b>55.34</b>	0.82	<b>0.39</b>	0.042	0.064	293	41	0.23	0.135	100.08
9894	98.14	<b>54.99</b>	1.03	<b>0.49</b>	0.074	0.129	387	39	0.42	1.032	100.86
9895	96.28	<b>53.95</b>	2.04	<b>0.98</b>	0.203	0.368	322	63	0.96	0.913	100.81
9896	97.37	<b>54.55</b>	2.12	<b>1.01</b>	0.051	0.067	388	25	0.20	0.119	99.96
9897	96.53	<b>54.08</b>	3.02	<b>1.44</b>	0.039	0.050	347	28	0.17	0.100	99.94
9898	97.62	<b>54.69</b>	1.45	<b>0.69</b>	0.026	0.038	281	28	0.33	0.051	99.54
9899	98.48	<b>55.17</b>	0.81	<b>0.39</b>	0.023	0.034	325	23	0.26	0.057	99.70
9900	97.19	<b>54.45</b>	2.14	<b>1.02</b>	0.071	0.088	481	25	0.22	0.120	99.88
9901	98.49	<b>55.19</b>	0.92	<b>0.44</b>	0.071	0.079	546	21	0.31	0.098	100.03
9902	98.34	<b>55.10</b>	0.95	<b>0.46</b>	0.083	0.112	586	16	0.33	0.155	100.03
9903	98.87	<b>55.39</b>	0.67	<b>0.32</b>	0.046	0.060	518	13	0.19	0.224	100.11
9904	98.86	<b>55.39</b>	0.66	<b>0.31</b>	0.044	0.049	495	15	0.14	0.116	99.91
9905	98.81	<b>55.36</b>	0.60	<b>0.29</b>	0.045	0.057	479	15	0.24	0.084	99.90
9906	98.94	<b>55.43</b>	0.61	<b>0.29</b>	0.025	0.034	463	14	0.15	0.052	99.85
9907	98.83	<b>55.37</b>	0.62	<b>0.30</b>	0.053	0.086	490	20	0.24	0.102	99.97
9908	98.72	<b>55.31</b>	0.65	<b>0.31</b>	0.068	0.099	532	21	0.26	0.098	99.95
9909	98.87	<b>55.40</b>	0.58	<b>0.28</b>	0.070	0.078	481	22	0.19	0.104	99.94
9910	98.72	<b>55.31</b>	0.53	<b>0.25</b>	0.042	0.052	510	20	0.15	0.080	99.63
9911	98.80	<b>55.36</b>	0.64	<b>0.30</b>	0.058	0.080	466	20	0.19	0.079	99.89
9912	98.55	<b>55.22</b>	0.76	<b>0.36</b>	0.060	0.109	424	19	0.28	0.032	99.84
9913	98.24	<b>55.04</b>	0.60	<b>0.29</b>	0.170	0.256	474	24	0.53	0.112	99.95
9914	97.44	<b>54.60</b>	1.84	<b>0.88</b>	0.048	0.044	421	22	0.13	0.090	99.65
9915	98.23	<b>55.04</b>	1.30	<b>0.62</b>	0.055	0.052	445	20	0.18	0.143	100.00
9916	98.21	<b>55.02</b>	0.66	<b>0.31</b>	0.042	0.044	392	22	0.11	0.122	99.23

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## APPENDIX 4B: CONTINUED

Central Lab

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Date of run 02-27-95

9917	98.84	<b>55.38</b>	0.54	<b>0.26</b>	0.042	0.047	406	29	0.15	0.108	99.77
9918	99.10	<b>55.52</b>	0.51	<b>0.25</b>	0.046	0.048	375	28	0.13	0.126	100.01
9919	98.68	<b>55.29</b>	0.57	<b>0.27</b>	0.064	0.092	389	29	0.28	0.068	99.80
9920	98.45	<b>55.16</b>	0.76	<b>0.36</b>	0.106	0.163	483	26	0.33	0.052	99.92
9921	97.52	<b>54.64</b>	1.17	<b>0.56</b>	0.170	0.185	503	26	0.42	0.069	99.59
9922	98.13	<b>54.98</b>	0.99	<b>0.47</b>	0.124	0.137	505	24	0.33	0.064	99.82
9923	98.40	<b>55.13</b>	0.77	<b>0.37</b>	0.103	0.143	509	20	0.30	0.078	99.85
9924	98.21	<b>55.03</b>	0.77	<b>0.37</b>	0.273	0.172	509	36	0.35	0.128	99.97
9925	96.64	<b>54.15</b>	0.85	<b>0.41</b>	0.242	0.296	461	42	0.60	0.180	98.86
9926	97.63	<b>54.70</b>	0.97	<b>0.47</b>	0.207	0.283	482	41	0.66	0.115	99.92
9927	93.68	<b>52.49</b>	4.37	<b>2.09</b>	0.251	0.371	508	45	0.96	0.078	99.77
9928	94.92	<b>53.18</b>	1.35	<b>0.64</b>	0.517	0.722	564	66	1.93	0.118	99.61
9929	95.91	<b>53.74</b>	1.35	<b>0.65</b>	0.302	0.449	591	45	1.21	0.087	99.38
9930	96.44	<b>54.03</b>	1.76	<b>0.84</b>	0.296	0.439	539	47	0.91	0.194	100.10
9931	96.81	<b>54.24</b>	1.38	<b>0.66</b>	0.185	0.248	588	38	0.48	0.187	99.35
9932	97.45	<b>54.60</b>	1.50	<b>0.72</b>	0.148	0.255	463	37	0.51	0.099	100.01
9933	97.73	<b>54.76</b>	0.84	<b>0.40</b>	0.236	0.272	549	34	0.54	0.079	99.76
9934	98.41	<b>55.14</b>	0.86	<b>0.41</b>	0.082	0.105	536	30	0.30	0.040	99.85
9935	98.32	<b>55.09</b>	0.79	<b>0.38</b>	0.109	0.155	500	41	0.38	0.174	99.98
9936	97.79	<b>54.79</b>	0.72	<b>0.35</b>	0.087	0.065	494	37	0.19	0.171	99.08
9937	98.73	<b>55.32</b>	0.73	<b>0.35</b>	0.049	0.039	471	35	0.20	0.160	99.96
9938	98.78	<b>55.35</b>	0.75	<b>0.36</b>	0.076	0.025	446	35	0.09	0.100	99.87
9939	97.85	<b>54.82</b>	0.80	<b>0.38</b>	0.066	0.065	525	35	0.20	0.378	99.41
9940	98.77	<b>55.34</b>	0.79	<b>0.38</b>	0.057	0.042	559	39	0.10	0.198	100.02
9941	98.64	<b>55.27</b>	0.73	<b>0.35</b>	0.080	0.126	510	35	0.29	0.900	100.82
9942	98.83	<b>55.37</b>	0.81	<b>0.39</b>	0.045	0.037	495	27	0.14	0.228	100.14
9943	98.89	<b>55.41</b>	0.69	<b>0.33</b>	0.045	0.032	501	32	0.14	0.184	100.03
9944	98.14	<b>54.98</b>	0.72	<b>0.34</b>	0.070	0.020	491	33	0.10	0.083	99.18
9945	98.95	<b>55.44</b>	0.55	<b>0.26</b>	0.034	0.022	449	36	0.08	0.051	99.74
9946	97.62	<b>54.70</b>	0.78	<b>0.37</b>	0.077	0.048	514	43	0.36	0.097	99.05
9947	98.10	<b>54.97</b>	0.82	<b>0.39</b>	0.046	0.066	493	35	0.22	0.120	99.42
9948	96.45	<b>54.04</b>	1.21	<b>0.58</b>	0.076	0.106	469	88	1.02	0.114	99.03
9949	98.31	<b>55.08</b>	0.85	<b>0.41</b>	0.058	0.045	429	60	0.42	0.042	99.77

**APPENDIX 4B: CONTINUED**

Samples marked with an asterisk are from the 1994 drillholes. Samples marked with a dot are from the 1993 drillholes. Unmarked samples are not from the Pat claims.

Central Lab

ICP

Date of run 01-25-95

Sample	Halferdahl & Associates Ltd. Stone						ppm	ppm	%	%	SiO2	TOTAL
	%	%	%	%	%	%						
7781	96.26	53.93	3.18	1.52	0.055	0.055	399	19	<.010	0.32	99.90	
7782	97.70	54.74	1.84	0.88	0.034	0.033	432	23	<.010	0.20	99.85	
* 9009	96.90	54.29	2.11	1.01	0.050	0.058	443	32	0.208	0.17	99.55	
* 9012	97.48	54.62	1.27	0.61	0.128	0.183	529	29	0.068	0.65	99.83	
* 9015	96.18	53.89	1.59	0.76	0.206	0.325	510	33	0.106	1.13	99.59	
* 9022	97.55	54.66	1.11	0.53	0.075	0.152	489	56	0.230	0.63	99.80	
• 9274	98.18	55.01	0.66	0.32	0.131	0.139	400	36	0.184	0.30	99.64	
9356	98.53	55.21	1.01	0.48	0.076	0.112	451	24	<.010	0.15	99.92	
9357	98.51	55.20	0.91	0.44	0.030	0.022	397	23	<.010	0.26	99.78	
9360	97.30	54.52	1.79	0.86	0.102	0.056	378	34	0.018	0.31	99.61	
9369	96.70	54.18	2.51	1.20	0.037	0.037	439	20	<.010	0.46	99.79	
9373	98.67	55.28	0.85	0.41	0.055	0.068	479	30	<.010	0.19	99.89	
• 9406	98.72	55.31	0.59	0.28	0.044	0.067	390	38	0.136	0.16	99.76	
• 9413	98.50	55.19	0.60	0.29	0.053	0.122	384	39	0.146	0.26	99.72	
• 9430	94.49	52.94	1.58	0.75	0.412	0.671	566	67	0.117	2.37	99.70	
• 9439	98.39	55.12	0.75	0.36	0.044	0.071	462	44	0.208	0.18	99.69	
• 9447	98.08	54.95	0.88	0.42	0.060	0.062	528	61	0.336	0.14	99.61	
• 9460	97.57	54.67	1.09	0.52	0.042	0.073	542	48	0.680	0.25	99.77	
• 9473	98.11	54.97	0.56	0.27	0.036	0.046	488	40	0.840	0.13	99.78	
• 9482	98.46	55.17	0.97	0.47	0.042	0.092	537	53	0.076	0.19	99.90	
• 9489	88.00	49.30	9.42	4.50	0.257	0.520	473	58	0.267	1.34	99.86	
• 9501	98.60	55.24	0.66	0.31	0.089	0.073	406	37	0.177	0.17	99.81	
• 9513	98.44	55.15	0.76	0.36	0.068	0.121	306	56	0.170	0.13	99.72	
• 9514	95.19	53.33	4.12	1.97	0.059	0.080	392	50	0.089	0.12	99.70	
• 9526	98.97	55.45	0.58	0.28	0.050	0.080	421	39	0.088	0.14	99.95	
• 9541	98.79	55.35	0.63	0.30	0.030	0.043	437	35	0.123	0.09	99.75	
• 9546	97.97	54.89	1.20	0.57	0.037	0.104	470	34	0.121	0.27	99.76	
• 9559	98.52	55.20	0.65	0.31	0.047	0.100	462	33	0.072	0.20	99.63	
• 9571	96.51	54.07	2.93	1.40	0.039	0.086	411	26	0.102	0.19	99.90	
• 9581	87.77	49.17	6.17	2.95	0.351	0.751	591	66	1.082	3.56	99.75	
• 9591	73.36	41.11	3.98	1.90	1.145	1.588	648	185	0.345	19.05	99.55	
* 9602	98.85	55.38	0.49	0.23	0.008	0.016	412	10	0.148	0.06	99.61	
* 9606	98.80	55.36	0.56	0.27	0.041	0.068	481	29	0.236	0.11	99.86	
* 9608	94.58	52.99	5.06	2.42	0.024	0.047	371	19	0.063	0.07	99.89	
* 9611	98.91	55.42	0.47	0.23	0.030	0.045	293	18	0.151	0.12	99.76	
* 9615	97.34	54.54	2.10	1.00	0.016	0.021	448	11	0.041	0.16	99.73	

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## APPENDIX 4B: CONTINUED

Central Lab

ICP

Date of run 01-25-95

		<b>Halferdahl &amp; Associates Ltd. Stone</b>										
	%	%	%	%	%	%	ppm	ppm	%	%		
Sample	CaCO <sub>3</sub>	CaO	MgCO <sub>3</sub>	MgO	Fe2O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub>	SrCO <sub>3</sub>	MnO	P2O <sub>5</sub>	SiO <sub>2</sub>	TOTAL	
*	9620	84.79	47.51	14.42	6.89	0.024	0.061	367	21	0.098	0.24	99.67
*	9636	97.50	54.63	1.99	0.95	0.022	0.054	363	25	0.083	0.11	99.79
*	9645	96.95	54.32	1.69	0.81	0.170	0.201	674	37	0.077	0.68	99.84
*	9646	97.02	54.36	2.02	0.97	0.066	0.079	474	19	0.101	0.36	99.70
	9663	97.21	54.46	2.31	1.11	0.027	0.026	302	19	<.010	0.29	99.90
	9669	94.66	53.04	4.57	2.18	0.045	0.090	383	29	<.010	0.48	99.90
*	9679	97.97	54.89	0.85	0.41	0.097	0.260	495	40	0.072	0.57	99.87
*	9680	98.69	55.30	0.75	0.36	0.027	0.051	451	31	0.057	0.16	99.79
*	9686	90.38	50.64	7.46	3.57	0.133	0.461	501	49	0.327	0.89	99.70
*	9689	97.43	54.59	1.74	0.83	0.050	0.121	534	39	0.079	0.28	99.75
*	9695	98.92	55.42	0.69	0.33	0.022	0.037	490	35	0.055	0.14	99.92
	9732	89.99	50.42	7.40	3.54	0.060	0.052	591	25	<.010	2.26	99.83
	9737	98.18	55.01	1.14	0.55	0.035	0.024	491	16	<.010	0.24	99.69
	9739	98.38	55.12	1.10	0.53	0.036	0.051	525	20	<.010	0.16	99.79
	9752	98.32	55.09	1.02	0.49	0.026	0.041	520	21	<.010	0.31	99.78
	9756	98.57	55.23	0.96	0.46	0.020	0.033	429	20	<.010	0.21	99.83
	9757	97.60	54.68	1.62	0.78	0.027	0.036	418	22	<.010	0.36	99.70
*	9780	98.38	55.12	0.77	0.37	0.037	0.067	486	28	0.262	0.22	99.79
*	9782	98.82	55.37	0.56	0.27	0.021	0.039	447	36	0.096	0.12	99.71

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## APPENDIX 5: DETERMINED, ADJUSTED, AND PREFERRED VALUES FOR CaO AND LOI

Det'd - determined; adjustments: LOI - LOI based, Imp - impurity based; Pref - preferred

Code

- 1 LOI - CO<sub>2</sub>EQ ≥ 0.00      CaO(Pref) = CaO(Det'd)      LOI(Pref) = LOI(Det'd)  
 2 LOI - CO<sub>2</sub>EQ < 0.00 and CaO(Det'd) < 52.50      CaO(Pref) = CaO(Det'd)      LOI(Pref) = LOI(Det'd)  
 3 LOI - CO<sub>2</sub>EQ < 0.00 and CaO(Det'd) < CaO(LOI)      CaO(Pref) = CaO(Det'd)      LOI(Pref) = LOI(Det'd)  
 4 For repeat analyses (RE) the preferred values for that sample are the means of the CaO(Pref) and the LOI(Pref) values.  
 5 LOI - CO<sub>2</sub>EQ < 0.00 and CaO(LOI) ≤ CaO(Imp)      CaO(Pref) = CaO(LOI)      LOI(Pref) = LOI(LOI)

Sample Number	LOI-CO <sub>2</sub> EQ	Code	CaO %				LOI %				SUM % Det'd
			Det'd	LOI	Imp	Pref	Det'd	LOI	Imp	Pref	
<b>94-1</b>											
9302	-0.41	5	53.23	53.17	53.18	53.17	41.50	42.07	42.08	42.07	99.98
9303	-0.58	3	55.39	55.44	55.44	55.39	43.00	43.83	43.82	43.00	99.14
9304	0.11	1	54.66	55.70	55.58	54.66	43.10	44.01	43.91	43.10	98.34
9305	-0.91	5	55.80	55.47	55.51	55.47	43.00	43.86	43.89	43.86	99.92
9306	0.06	1	54.84	55.40	55.33	54.84	43.10	43.69	43.63	43.10	99.01
9307	-0.32	3	54.79	55.49	55.40	54.79	42.80	43.87	43.81	42.80	98.42
9308	-0.90	5	55.68	55.48	55.51	55.48	42.90	43.85	43.87	43.85	99.95
9309	-0.82	3	55.51	55.54	55.54	55.51	42.80	43.86	43.85	42.80	100.00
9310	-1.38	5	55.97	55.46	55.52	55.46	42.60	43.79	43.84	43.79	99.88
9311	-1.23	5	55.84	55.39	55.44	55.39	42.70	43.78	43.82	43.78	99.90
9312	-1.51	5	56.18	55.39	55.49	55.39	42.70	43.80	43.87	43.80	99.82
9313	-1.90	5	56.51	55.32	55.47	55.32	42.60	43.78	43.89	43.78	99.74
9314	-1.51	5	56.13	55.37	55.46	55.37	42.70	43.81	43.89	43.81	99.83
9315	-1.52	5	56.19	55.38	55.47	55.38	42.70	43.79	43.87	43.79	99.82
9316	-1.72	5	56.33	55.42	55.53	55.42	42.60	43.81	43.90	43.81	99.80
9317	-1.48	5	56.13	55.50	55.57	55.50	42.70	43.89	43.95	43.89	99.85
9318	-1.66	5	56.24	55.49	55.58	55.49	42.60	43.87	43.94	43.87	99.83
9319	-1.68	5	56.26	55.48	55.58	55.48	42.60	43.87	43.95	43.87	99.82
9320	-1.61	5	55.81	55.57	55.60	55.57	42.30	43.92	43.95	43.92	99.94
9321	-1.85	5	56.36	55.47	55.58	55.47	42.50	43.86	43.94	43.86	99.80
9322	-0.59	3	55.47	55.54	55.54	55.47	43.10	43.94	43.94	43.10	99.14
9323	-0.23	3	55.03	55.62	55.55	55.03	43.10	43.99	43.94	43.10	98.69
9324	0.19	1	53.90	54.17	54.14	53.90	42.60	42.83	42.80	42.60	99.57
9325	-0.66	5	55.73	55.48	55.51	55.48	43.20	43.86	43.88	43.86	99.94
9326	-0.77	5	55.72	55.47	55.50	55.47	43.10	43.88	43.90	43.88	99.94
9377	-0.05	3	54.95	55.50	55.43	54.95	43.30	43.98	43.93	43.30	98.93
9378	0.32	1	54.55	55.53	55.41	54.55	43.30	43.95	43.85	43.30	98.65
9379	-0.40	3	55.25	55.48	55.45	55.25	43.10	43.89	43.86	43.10	99.07
9380	-0.00	3	54.84	55.42	55.35	54.84	43.20	43.86	43.80	43.20	98.90
9381	-0.79	2	49.57	49.36	49.39	49.57	43.80	44.63	44.65	43.80	99.39
9382	-0.67	5	55.45	55.22	55.25	55.22	43.20	43.89	43.91	43.89	99.95
9383	-0.41	3	55.31	55.44	55.42	55.31	43.20	43.92	43.90	43.20	99.24
9384	-0.46	2	45.85	46.01	45.99	45.85	44.40	45.19	45.18	44.40	99.11
9385	-0.58	2	48.52	48.45	48.46	48.52	44.00	44.73	44.73	44.00	99.36
9386	1.34	1	53.07	54.24	54.10	53.07	43.80	43.59	43.48	43.80	99.30
9387	1.30	1, 4	52.90	54.27	54.10	53.04	42.80	42.80	42.67	42.80	99.08
RE 9387	1.04	1, 4	53.19	54.20	54.08	-	42.80	42.78	42.69	-	99.09
9388	-0.12	3	55.06	55.39	55.35	55.06	43.30	43.88	43.85	43.30	99.17
9389	-0.14	3	55.34	55.39	55.39	55.34	43.40	43.79	43.78	43.40	99.59
9390	-0.00	3	55.34	55.50	55.48	55.34	43.50	43.83	43.82	43.50	99.59

## APPENDIX 5: CONTINUED

Sample Number	LOI-CO <sub>2</sub> EQ	Code	CaO %				LOI %				SUM % Def'd
			Def'd	LOI	Imp	Pref	Def'd	LOI	Imp	Pref	
9391	-0.56	3	55.45	55.55	55.54	55.45	43.10	43.94	43.93	43.10	99.16
9392	-0.53	5	55.66	55.44	55.47	55.44	43.30	43.86	43.88	43.86	99.95
9393	-0.58	3	55.27	55.33	55.32	55.27	43.10	43.94	43.93	43.10	99.18
9394	-0.95	5	55.86	55.52	55.56	55.52	43.00	43.88	43.91	43.88	99.92
9395	-0.95	5	55.94	55.50	55.55	55.50	43.10	43.91	43.95	43.91	99.90
9601	-0.85	5	55.87	55.54	55.58	55.54	43.10	43.89	43.92	43.89	99.92
9602	-0.92	5	56.13	55.53	55.60	55.53	43.20	43.85	43.91	43.85	99.86
9603	-1.61	5	56.36	55.36	55.48	55.36	42.70	43.73	43.83	43.73	99.78
9604	-1.17	5	56.12	55.34	55.43	55.34	43.00	43.76	43.84	43.76	99.83
9605	-1.42	5	56.32	55.41	55.52	55.41	42.90	43.81	43.90	43.81	99.80
9606	-1.17	5	56.11	55.42	55.51	55.42	42.90	43.74	43.81	43.74	99.85
9607	-1.28	5	55.33	54.65	54.73	54.65	43.00	43.94	44.01	43.94	99.84
9608	-0.64	3	53.01	53.06	53.05	53.01	43.40	44.28	44.27	43.40	99.15
9609	-0.57	3	55.41	55.42	55.42	55.41	43.10	43.88	43.88	43.10	100.00
9610	-1.01	5	55.64	55.31	55.35	55.31	42.90	43.85	43.88	43.85	99.93
9611	0.52	1	54.60	55.73	55.59	54.60	43.40	43.97	43.86	43.40	98.63
9612	0.60	1	54.50	55.40	55.29	54.50	43.50	43.81	43.73	43.50	99.04
9613	0.17	1	54.98	55.62	55.54	54.98	43.30	43.84	43.78	43.30	99.02
9614	0.02	1	54.95	55.62	55.54	54.95	43.30	44.00	43.94	43.30	98.86
9615	0.03	1	54.08	54.79	54.70	54.08	43.40	44.13	44.06	43.40	98.80
9616	0.61	1	54.23	55.27	55.14	54.23	43.70	44.10	44.00	43.70	98.86
9617	0.47	1	52.51	53.56	53.43	52.51	43.80	44.36	44.26	43.80	98.71
9618	0.03	1	51.96	52.86	52.75	51.96	43.50	44.38	44.29	43.50	98.48
9619	0.19	1	54.70	55.60	55.49	54.70	43.20	43.92	43.83	43.20	98.65
9620	0.47	1	47.02	48.27	48.12	47.02	44.30	45.01	44.89	44.30	98.36
9621	0.62	1, 4	53.72	54.81	54.68	53.64	43.70	44.14	44.03	43.70	98.72
RE 9621	0.76	1, 4	53.57	54.87	54.71	-	43.70	44.16	44.04	-	98.69
	0.60	1	52.52	53.62	53.49	52.52	43.70	44.17	44.06	43.70	98.73
	0.45	1	53.37	54.25	54.14	53.37	43.70	44.14	44.06	43.70	98.93
	0.60	1	53.83	54.83	54.71	53.83	43.70	44.09	43.99	43.70	98.91
9625	0.69	1	53.92	54.94	54.82	53.92	43.80	44.12	44.02	43.80	98.96
9626	0.45	1	54.26	55.12	55.02	54.26	43.60	44.03	43.95	43.60	98.95
9627	0.85	1	53.42	54.69	54.53	53.42	43.80	44.15	44.03	43.80	98.74
9628	0.35	1	47.95	48.97	48.85	47.95	44.10	44.75	44.65	44.10	98.58
9629	-0.33	5	55.43	55.14	55.17	55.14	43.60	43.90	43.93	43.90	99.93
9630	-0.66	5	53.47	53.03	53.09	53.03	43.70	44.21	44.26	44.21	99.89
9631	-0.71	5	54.18	53.65	53.71	53.65	43.60	44.10	44.15	44.10	99.87
9632	-0.16	5	52.91	52.81	52.82	52.81	44.00	44.28	44.29	44.28	99.89
9633	0.07	1	53.84	53.82	53.82	53.84	44.00	44.11	44.11	44.00	99.93
9634	-0.44	5	53.92	53.42	53.48	53.42	43.80	44.05	44.10	44.05	99.89
9635	-0.91	5	55.46	54.74	54.83	54.74	43.40	43.95	44.02	43.95	99.83
9636	-0.82	5	55.20	54.64	54.71	54.64	43.40	43.98	44.04	43.98	99.87
9637	-0.28	5	55.41	55.11	55.15	55.11	43.70	43.94	43.97	43.94	99.92
9638	-0.04	5	54.93	54.80	54.81	54.80	43.70	43.84	43.86	43.84	99.97
9639	-0.32	5	55.42	55.13	55.17	55.13	43.60	43.90	43.92	43.90	99.93
9640	-0.35	5	55.36	54.97	55.02	54.97	43.60	43.85	43.89	43.85	99.91
9641	-0.04	5	55.18	55.08	55.09	55.08	43.70	43.87	43.88	43.87	99.97
9642	-0.11	3	54.89	54.93	54.93	54.89	43.60	43.95	43.94	43.60	99.66
9643	0.04	1	54.85	54.99	54.97	54.85	43.70	43.97	43.96	43.70	99.70
9644	0.19	1	53.84	54.15	54.11	53.84	43.60	43.86	43.83	43.60	99.53

## APPENDIX 5: CONTINUED

Sample Number	LOI-CO <sub>2</sub> EQ	Code	CaO %			LOI %			SUM % Def'd		
			Def'd	LOI	Imp	Pref	Def'd	LOI			
9645	0.54	1	53.20	54.51	54.35	53.20	43.00	43.69	43.57	43.00	98.31
9646	0.40	1	53.47	54.69	54.54	53.47	43.20	43.95	43.84	43.20	98.30
9647	-0.09	4, 5	54.28	53.97	54.01	53.95	43.50	43.55	43.58	43.52	100.17
RE9647	-0.39	4, 5	54.56	53.93	54.01	-	43.40	43.50	43.56	-	100.39
9648	0.14	1	54.75	54.80	54.79	54.75	43.40	43.50	43.50	43.40	99.80
9649	0.02	1	54.85	54.63	54.66	54.85	43.30	43.32	43.34	43.30	100.11
9650	-0.00	5	54.84	54.62	54.64	54.62	43.30	43.33	43.36	43.33	100.14
9007	0.17	1	54.87	54.90	54.89	54.87	43.50	43.56	43.55	43.50	99.90
9008	-0.08	3	55.05	55.06	55.05	55.05	43.30	43.59	43.59	43.30	100.09
9009	0.19	1	53.55	53.70	53.68	53.55	43.40	43.54	43.53	43.40	99.72
9010	0.06	1	54.81	55.01	54.99	54.81	43.40	43.70	43.68	43.40	99.52
9011	-0.07	5	54.85	54.64	54.67	54.64	43.30	43.41	43.43	43.41	100.03
9012	0.09	1	54.53	54.84	54.63	54.53	43.40	43.60	43.59	43.40	99.75
9013	0.40	1	54.34	54.75	54.70	54.34	43.60	43.73	43.69	43.60	99.58
9014	0.33	1	54.33	54.65	54.61	54.33	43.40	43.52	43.49	43.40	99.64
9015	-0.09	3	53.80	54.04	54.01	53.80	42.80	43.29	43.26	42.80	99.35
9016	-0.03	3	53.64	53.83	53.80	53.64	43.20	43.58	43.57	43.20	99.48
9017	0.70	1	53.31	54.40	54.27	53.31	43.10	43.45	43.35	43.10	98.80
9018	0.35	1	54.15	54.89	54.81	54.15	43.20	43.63	43.56	43.20	98.99
9019	0.38	1	54.05	54.85	54.75	54.05	43.20	43.65	43.58	43.20	98.96
9020	0.07	1	52.92	53.06	53.05	52.92	43.60	43.85	43.83	43.60	99.67
<b>94-2</b>											
9021	-0.08	3	54.76	55.15	55.10	54.76	42.90	43.50	43.46	42.90	99.15
9022	-0.27	3	54.83	54.93	54.92	54.83	43.00	43.55	43.54	43.00	99.42
9023	-0.21	3	54.98	55.17	55.15	54.98	43.10	43.66	43.64	43.10	99.32
9024	-0.60	4, 5	55.35	55.05	55.09	55.02	43.00	43.57	43.60	43.28	99.63
RE 9024	-0.32	3, 4	55.00	55.14	55.12	-	43.00	43.63	43.62	-	99.59
9025	0.07	1	55.39	55.23	55.25	55.39	43.70	43.71	43.72	43.70	99.96
9676	-0.53	3	54.48	55.31	55.21	54.48	42.50	43.89	43.81	42.50	97.99
9677	-0.45	3	54.48	55.36	55.25	54.48	42.60	43.94	43.86	42.60	98.00
9678	-0.61	3	54.71	55.27	55.20	54.71	42.60	43.85	43.80	42.60	98.34
9679	-0.48	3	54.54	54.88	54.84	54.54	42.60	43.54	43.51	42.60	98.80
9680	-0.81	3	55.05	55.36	55.33	55.05	42.60	43.86	43.83	42.60	98.52
9681	-0.94	3	55.20	55.48	55.45	55.20	42.50	43.86	43.84	42.50	98.46
9682	-0.29	3	54.73	55.54	55.45	54.73	42.80	43.93	43.86	42.80	98.30
9683	-0.56	3	54.84	55.51	55.43	54.84	42.70	43.98	43.92	42.70	98.25
9684	-0.49	3	54.61	55.33	55.24	54.61	42.60	43.87	43.80	42.60	98.22
9685	-0.31	3	54.52	55.18	55.10	54.52	42.70	43.74	43.68	42.70	98.47
9686	0.72	1	50.24	51.43	51.29	50.24	43.30	43.73	43.62	43.30	98.64
9687	-0.53	3	54.56	55.30	55.21	54.56	42.70	44.01	43.94	42.70	98.17
9688	0.67	1	48.43	49.38	49.27	48.43	43.60	43.88	43.79	43.60	98.98
9689	0.09	1	53.87	54.74	54.63	53.87	43.10	43.89	43.81	43.10	98.56
9690	1.20	1	43.84	45.21	45.04	43.84	42.90	43.01	42.88	42.90	98.82
9691	-0.31	2	47.94	47.80	47.82	47.94	43.50	43.91	43.93	43.50	99.69
9692	-1.62	4, 5	55.44	54.75	54.83	54.75	42.40	43.67	43.74	43.67	99.85
RE 9692	-1.99	4, 5	55.79	54.75	54.87	-	42.30	43.68	43.78	-	99.77
9693	-1.79	5	56.03	55.03	55.15	55.03	42.50	43.71	43.81	43.71	99.78

## APPENDIX 5: CONTINUED

Sample Number	LOI-CO <sub>2</sub> EQ	Code	CaO %			LOI %			SUM % Det'd		
			Det'd	LOI	Imp	Pref	Det'd	LOI			
9694	-1.97	5	56.14	55.15	55.27	55.15	42.40	43.79	43.89	43.79	99.78
9695	-2.99	5	56.78	55.26	55.44	55.26	41.80	43.79	43.94	43.79	99.66
9696	-2.86	5	56.67	55.11	55.30	55.11	41.80	43.64	43.79	43.64	99.66
9697	-2.33	5	56.54	55.23	55.38	55.23	42.20	43.70	43.83	43.70	99.71
9698	-2.39	5	56.70	55.23	55.41	55.23	42.30	43.73	43.87	43.73	99.67
9699	-1.83	5	56.14	55.26	55.37	55.26	42.40	43.74	43.83	43.74	99.80
9700	-1.62	5	56.01	55.34	55.42	55.34	42.40	43.70	43.77	43.70	99.85
9776	-1.95	5	56.43	55.40	55.52	55.40	42.40	43.74	43.84	43.74	99.77
9777	-2.27	5	56.34	55.40	55.51	55.40	42.10	43.83	43.92	43.83	99.79
9778	-2.09	5	56.32	55.32	55.44	55.32	42.20	43.71	43.81	43.71	99.78
9779	-2.03	5	56.33	55.38	55.49	55.38	42.30	43.79	43.88	43.79	99.79
9780	-2.00	5	56.30	55.25	55.38	55.25	42.30	43.69	43.79	43.69	99.77
9781	-2.25	5	56.43	55.33	55.46	55.33	42.10	43.69	43.79	43.69	99.75
9782	-2.04	5	56.50	55.32	55.46	55.32	42.40	43.72	43.83	43.72	99.74
9783	-1.65	5	54.97	54.10	54.21	54.10	42.50	43.67	43.75	43.67	99.81
9784	-1.77	4, 5	56.23	55.38	55.48	55.39	42.50	43.81	43.89	43.82	99.86
RE 9784	-1.58	4, 5	55.97	55.41	55.48	-	42.50	43.84	43.90	-	99.83
9785	-1.60	5	55.86	55.36	55.42	55.36	42.40	43.81	43.86	43.81	99.88
9786	-1.86	5	56.08	55.37	55.46	55.37	42.30	43.80	43.87	43.80	99.84
9787	-1.95	5	56.34	55.40	55.51	55.40	42.40	43.81	43.90	43.81	99.79
9788	-1.47	5	55.87	55.09	55.18	55.09	42.50	43.57	43.64	43.57	99.83
<b>Acme Check Analyses for 94-2</b>											
9791	-0.32	5	55.25	54.85	54.90	54.85	43.70	43.90	43.94	43.90	100.12
9792	-0.16	5	55.07	54.34	54.43	54.34	43.50	43.29	43.36	43.29	100.78
9801	-0.19	5	55.70	55.16	55.23	55.16	43.80	43.77	43.82	43.77	100.43
9811	-0.22	2	51.39	50.83	50.90	51.39	44.00	43.99	44.04	44.00	100.46
9841	0.92	1	39.63	39.63	39.63	39.63	37.40	36.69	36.70	37.40	100.78
9842	2.10	1	18.22	19.30	19.17	18.22	27.00	25.96	25.86	27.00	100.23
<b>Acme Check Analyses for 94-3</b>											
9845	-0.95	4, 5	56.00	55.06	55.17	55.07	43.50	43.91	44.00	43.91	100.32
RE 9845	-1.15	4, 5	56.29	55.09	55.24	-	43.50	43.91	44.02	-	100.49
9850	-0.63	5	55.49	54.68	54.78	54.68	43.60	43.80	43.87	43.80	100.45
9853	-1.26	5	56.40	55.15	55.30	55.15	43.30	43.78	43.90	43.78	100.49
9854	-1.25	5	56.49	55.21	55.37	55.21	43.40	43.85	43.97	43.85	100.53
9858	-0.73	5	54.88	54.28	54.35	54.28	43.50	43.96	44.02	43.96	99.99
9874	-0.06	5	54.39	53.88	53.94	53.88	42.70	42.61	42.66	42.61	100.50
9890	0.29	1	49.90	49.49	49.54	49.90	41.80	41.46	41.50	41.80	100.67
9894	0.01	1	55.10	54.83	54.86	55.10	43.00	43.02	43.04	43.00	100.19
<b>Acme Check Analyses for 94-4</b>											
9910	-0.93	5	56.21	55.27	55.39	55.27	43.40	43.80	43.89	43.80	100.30
9916	-0.46	5	55.84	55.21	55.28	55.21	43.60	43.76	43.83	43.76	100.31
9918	-1.09	5	56.47	55.30	55.44	55.30	43.40	43.77	43.88	43.77	100.49
9919	-1.12	5	56.26	55.18	55.31	55.18	43.30	43.77	43.88	43.77	100.37
9923	-0.24	5	55.56	55.01	55.08	55.01	43.70	43.72	43.77	43.72	100.41
9927	-0.36	5	53.24	52.48	52.57	52.48	43.50	43.47	43.54	43.47	100.63
9932	-0.33	5	55.10	54.36	54.45	54.36	43.60	43.55	43.63	43.55	100.63
<b>Acme Check Analysis of Surface Sample</b>											
9948	-0.94	5	55.44	54.38	54.50	54.38	43.10	43.41	43.51	43.41	100.54

## APPENDIX 6: DETERMINED AND PREFERRED CONCENTRATIONS OF CHEMICAL CONSTITUENTS IN DRILL CORE AND SURFACE SAMPLES

For the samples from drillhole 94-1 and the upper part of drillhole 94-2 all values are as determined by Acme except for CaO, LOI, and SUM; CaO and LOI have been adjusted, where required, to the preferred value in Appendix 5. Sum is the sum of all constituents and includes one-half of the detection limit for those reported as less than the detection limit. "Others" is the sum of Nb, Ni (if determined), Sc, Y, and Zr (Appendix 4A). These constituents as well as Na<sub>2</sub>O, K<sub>2</sub>O, TiO<sub>2</sub>, Cr<sub>2</sub>O<sub>3</sub>, and LOI were not determined in the other samples, which were analyzed at the Central Laboratory of Continental Lime Inc.

Sample	Metrage	Sample Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	Na <sub>2</sub> O %	K <sub>2</sub> O %	TiO <sub>2</sub> %	P <sub>2</sub> O <sub>5</sub> %	Cr <sub>2</sub> O <sub>3</sub> %	MnO ppm	Ba ppm	Sr ppm	Others ppm	LOI %	LOI-CO <sub>2</sub> -EQ	SUM %
<b>Drillhole 94-1</b>																				
9302	21.95 - 22.24	0.29	0.29	53.17	0.22	3.63	0.49	0.14	0.06	<0.05	0.03	0.10	0.004	100	59	203	<32	42.07	-0.41	99.98
9303	22.24 - 24.83	2.39	2.31	55.39	0.17	0.12	0.20	<0.05	0.01	0.07	<0.01	0.07	0.009	<100	58	203	<33	43.00	-0.58	99.12
9304	24.63 - 27.14	2.51	2.42	54.66	0.15	<0.05	0.13	<0.05	0.02	<0.05	<0.01	0.07	0.003	<100	55	186	<32	43.10	0.11	98.26
9305	27.14 - 28.51	1.37	1.37	55.47	0.16	0.08	0.18	<0.05	0.02	<0.05	<0.01	0.05	0.003	<100	44	186	<32	43.86	-0.91	99.92
9306	28.51 - 28.70	0.19	0.19	54.84	0.16	0.17	0.23	0.21	0.02	<0.05	0.01	0.17	0.003	<100	61	178	<32	43.10	0.06	98.97
9307	28.70 - 30.77	2.07	2.07	54.79	0.18	<0.05	0.32	<0.05	0.01	0.09	<0.01	0.07	0.004	<100	55	200	<43	42.80	-0.32	98.37
9308	30.77 - 33.23	2.46	2.25	55.48	0.17	0.06	0.18	<0.05	0.02	<0.05	<0.01	0.08	0.004	<100	47	197	<32	43.85	-0.90	99.95
9309	33.23 - 35.36	2.13	2.13	55.51	0.16	<0.05	0.19	<0.05	0.01	<0.05	<0.01	0.11	<0.002	<100	47	191	<32	42.80	-0.82	98.91
9310	35.36 - 37.07	1.71	1.71	55.46	0.15	0.07	0.20	<0.05	0.01	<0.05	<0.01	0.10	<0.002	<100	51	192	<32	43.79	-1.38	99.88
9311	37.07 - 37.98	0.91	0.91	55.39	0.19	0.10	0.21	<0.05	0.02	<0.05	<0.01	0.10	0.003	<100	58	203	<32	43.78	-1.23	99.90
9312	37.98 - 39.61	1.63	1.63	55.39	0.18	0.08	0.19	<0.05	<0.01	<0.05	<0.01	0.07	0.004	<100	50	198	<32	43.80	-1.51	99.82
9313	39.61 - 41.45	1.84	1.84	55.32	0.20	0.07	0.19	<0.05	0.01	<0.05	<0.01	0.06	0.002	<100	45	194	<32	43.78	-1.90	99.74
9314	41.45 - 43.39	1.94	1.87	55.37	0.19	0.07	0.19	<0.05	0.01	0.07	0.01	0.05	0.002	<100	43	194	<32	43.81	-1.51	99.83
9315	43.39 - 45.46	2.07	2.07	55.38	0.20	0.08	0.18	<0.05	0.01	<0.05	<0.01	0.09	0.004	<100	47	201	<32	43.79	-1.52	99.82
9316	45.46 - 47.55	2.09	2.09	55.42	0.17	<0.05	0.17	<0.05	0.02	<0.05	<0.01	0.07	0.002	<100	46	192	<32	43.81	-1.72	99.80
9317	47.55 - 49.71	2.16	2.16	55.50	0.14	<0.05	0.17	<0.05	0.02	<0.05	<0.01	0.02	<0.002	<100	34	149	<32	43.89	-1.48	99.86
9318	49.71 - 51.89	2.18	2.18	55.49	0.13	0.06	0.15	<0.05	0.02	<0.05	0.01	0.02	0.002	<100	33	148	<32	43.87	-1.66	99.83
9319	51.89 - 53.64	1.75	1.68	55.48	0.14	<0.05	0.17	<0.05	0.01	<0.05	<0.01	0.02	0.005	<100	35	156	<32	43.87	-1.68	99.83
9320	53.64 - 55.19	1.55	1.55	55.57	0.14	<0.05	0.13	<0.05	0.01	<0.05	<0.01	0.04	0.003	<100	31	147	<32	43.92	-1.61	99.94
9321	55.19 - 57.61	2.42	2.41	55.47	0.13	<0.05	0.19	<0.05	0.01	<0.05	<0.01	0.02	<0.002	<100	25	144	<32	43.86	-1.85	99.80
9322	57.61 - 59.96	2.35	2.16	55.47	0.15	0.08	0.17	<0.05	0.01	<0.05	<0.01	0.01	0.002	<100	31	154	<33	43.10	-0.59	99.09
9323	59.96 - 62.03	2.07	2.07	55.03	0.14	0.06	0.19	<0.05	0.01	<0.05	<0.01	0.01	0.002	<100	32	164	<32	43.10	-0.23	98.64
9324	62.03 - 62.18	0.15	0.11	53.90	0.22	1.24	0.86	0.36	0.02	0.15	0.03	0.13	0.012	<100	76	171	<38	42.60	0.19	99.55
9325	62.18 - 63.52	1.34	1.34	55.48	0.13	0.13	0.22	<0.05	0.01	<0.05	0.01	0.02	0.006	<100	36	170	<32	43.86	-0.66	99.94
9326	63.52 - 65.23	1.71	1.71	55.47	0.15	0.09	0.22	<0.05	0.01	<0.05	<0.01	0.02	<0.002	<100	45	185	<32	43.88	-0.77	99.94

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**APPENDIX 6: CONTINUED**

Sample	Metrage	Sample Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	Na <sub>2</sub> O %	K <sub>2</sub> O %	TiO <sub>2</sub> %	P <sub>2</sub> O <sub>5</sub> %	Cr <sub>2</sub> O <sub>3</sub> %	MnO ppm	Ba ppm	Sr ppm	Others ppm	LOI %	LOI-CO <sub>2</sub> -EQ	SUM %
		(m)	(m)																	
9377	65.23 - 66.56	1.33	1.33	54.95	0.22	0.10	0.18	<0.05	0.01	<0.05	<0.01	0.01	0.002	<100	49	218	<32	43.30	-0.05	98.88
9378	66.56 - 67.65	1.09	1.09	54.55	0.20	0.14	0.24	<0.05	0.01	<0.05	0.01	0.05	<0.002	<100	47	202	<32	43.30	0.32	98.58
9379	67.65 - 68.71	1.06	0.95	55.25	0.16	0.11	0.23	<0.05	<0.01	0.07	0.01	0.03	0.004	<100	71	201	<32	43.10	-0.40	99.03
9380	68.71 - 69.20	0.49	0.49	54.84	0.16	0.07	0.19	0.27	0.01	<0.05	<0.01	0.01	0.044	<100	59	223	<32	43.20	0.00	98.88
9381	69.20 - 69.54	0.34	0.34	49.57	5.27	0.23	0.27	<0.05	0.01	<0.05	0.01	0.06	0.005	<100	102	296	<32	43.80	-0.79	99.32
9382	69.54 - 71.20	1.66	1.66	55.22	0.36	0.07	0.17	<0.05	0.02	0.10	<0.01	0.04	0.002	<100	43	166	<32	43.89	-0.67	99.94
9383	71.20 - 71.93	0.73	0.73	55.31	0.21	0.13	0.21	<0.05	0.01	<0.05	0.01	0.02	0.003	<100	44	150	<33	43.20	-0.41	99.18
9384	71.93 - 72.36	0.43	0.43	45.85	8.18	0.19	0.24	<0.05	0.01	0.09	0.01	0.05	<0.002	<100	54	170	<36	44.40	-0.46	99.08
9385	72.36 - 72.81	0.45	0.45	48.52	6.01	0.22	0.27	0.16	0.01	<0.05	0.01	0.06	0.003	<100	56	230	<32	44.00	-0.58	99.32
9386	72.81 - 74.98	2.17	2.17	53.07	0.89	0.53	0.46	0.11	0.01	0.17	0.03	0.15	0.006	<100	117	398	<42	43.80	1.34	99.29
9387	74.98 - 76.95	1.97	1.87	53.04	0.49	1.15	0.66	0.15	0.01	0.14	0.04	0.52	0.010	<100	134	395	<37	42.80	1.17	99.06
9388	76.95 - 79.22	2.27	2.27	55.06	0.26	0.06	0.20	<0.05	0.01	0.08	<0.01	0.07	0.002	<100	56	421	<32	43.30	-0.12	99.15
9389	79.22 - 81.45	2.23	2.23	55.34	0.16	0.11	0.19	<0.05	0.01	0.20	<0.01	0.06	<0.002	<100	48	302	<32	43.40	-0.14	99.56
9390	81.45 - 83.74	2.29	2.29	55.34	0.15	<0.05	0.19	<0.05	<0.01	0.14	<0.01	0.09	0.002	<100	49	281	<32	43.50	0.00	99.53
9391	83.74 - 85.73	1.99	1.99	55.45	0.16	<0.05	0.19	<0.05	<0.01	<0.05	<0.01	0.03	<0.002	<100	42	303	<32	43.10	-0.56	99.08
9392	85.73 - 87.94	2.21	2.21	55.44	0.17	<0.05	0.20	<0.05	<0.01	0.11	<0.01	0.04	0.002	<100	52	294	<45	43.86	-0.53	99.94
9393	87.94 - 90.04	2.10	2.03	55.27	0.34	<0.05	0.18	<0.05	0.01	<0.05	<0.01	0.06	0.002	<100	43	347	<32	43.10	-0.58	99.11
9394	90.04 - 92.11	2.07	2.07	55.52	0.14	<0.05	0.19	<0.05	<0.01	<0.05	<0.01	0.04	0.002	<100	36	341	<32	43.88	-0.95	99.92
9395	92.11 - 94.27	2.16	2.16	55.50	0.15	<0.05	0.18	<0.05	0.01	<0.05	<0.01	0.01	0.004	<100	41	244	<32	43.91	-0.95	99.90
9601	94.27 - 94.84	0.57	0.57	55.54	0.13	<0.05	0.18	<0.05	<0.01	<0.05	<0.01	0.04	0.005	<100	39	262	<32	43.89	-0.85	99.92
9602	94.84 - 96.38	1.54	1.54	55.53	0.13	<0.05	0.14	<0.05	0.01	<0.05	<0.01	0.07	0.002	<100	31	247	<32	43.85	-0.92	99.86
9603	96.38 - 97.98	1.60	1.57	55.36	0.13	0.12	0.18	<0.05	0.01	0.10	<0.01	0.06	0.002	<100	35	222	<32	43.73	-1.61	99.78
9604	97.98 - 98.91	0.93	0.70	55.34	0.15	0.16	0.21	<0.05	<0.01	0.08	<0.01	0.03	0.003	<100	43	237	<32	43.76	-1.17	99.83
9605	98.91 - 100.27	1.36	1.36	55.41	0.14	<0.05	0.17	<0.05	0.01	0.11	<0.01	0.03	0.007	<100	39	210	<32	43.81	-1.42	99.80
9606	100.27 - 101.03	0.76	0.76	55.42	0.14	0.06	0.21	<0.05	0.01	0.06	<0.01	0.11	0.002	<100	66	270	<32	43.74	-1.17	99.84
9607	101.03 - 102.75	1.72	1.72	54.65	0.83	<0.05	0.17	<0.05	<0.01	0.10	0.02	0.05	0.002	<100	35	217	<32	43.94	-1.28	99.85
9608	102.75 - 104.13	1.38	1.38	53.01	2.27	<0.05	0.22	<0.05	0.01	<0.05	<0.01	0.04	<0.002	<100	35	196	<32	43.40	-0.64	99.08
9609	104.13 - 104.38	0.25	0.25	55.41	0.20	0.09	0.21	<0.05	0.01	0.08	<0.01	0.03	<0.002	<100	25	170	<32	43.10	-0.57	99.21
9610	104.38 - 104.95	0.57	0.57	55.31	0.23	<0.05	0.20	0.12	0.01	0.12	<0.01	0.01	<0.002	<100	30	166	<32	43.85	-1.01	99.92
9611	104.95 - 106.33	1.38	1.38	54.60	0.10	<0.05	0.23	<0.05	0.01	<0.05	0.02	0.08	0.002	<100	25	158	<32	43.40	0.52	98.54

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**APPENDIX 6: CONTINUED**

Sample	Metrage	Sample Interval	Sample Length	CaO	MgO	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	Na <sub>2</sub> O	K <sub>2</sub> O	TiO <sub>2</sub>	P <sub>2</sub> O <sub>5</sub>	Cr <sub>2</sub> O <sub>3</sub>	MnO	Ba	Sr	Others	LOI	LOI-CO <sub>2</sub> -EQ	SUM
		(m)	(m)	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	%	%	
9612	106.33 - 108.33	2.00	2.00	54.50	0.14	<0.05	0.21	0.42	0.01	<0.05	0.02	0.02	0.078	<100	31	194	<32	43.50	0.60	98.98
9613	108.33 - 109.93	1.60	1.56	54.98	0.12	<0.05	0.16	<0.05	0.03	0.12	0.02	0.14	<0.002	<100	39	203	<53	43.30	0.17	98.95
9614	109.93 - 111.93	2.00	2.00	54.95	0.15	<0.05	0.22	<0.05	0.02	<0.05	0.01	<0.01	0.006	<100	33	211	<32	43.30	0.02	98.77
9615	111.93 - 113.75	1.82	1.82	54.08	0.87	<0.05	0.21	<0.05	0.01	<0.05	0.01	0.02	0.002	<100	35	249	<32	43.40	0.03	98.71
9616	113.75 - 115.75	2.00	1.60	54.23	0.49	<0.05	0.18	<0.05	0.01	<0.05	<0.01	<0.01	<0.002	<100	34	468	<37	43.70	0.61	98.77
9617	115.75 - 117.73	1.98	1.98	52.51	1.95	<0.05	0.19	<0.05	0.01	<0.05	0.02	<0.01	<0.002	<100	37	382	<37	43.80	0.47	98.61
9618	117.73 - 119.26	1.53	1.53	51.96	2.53	<0.05	0.19	<0.05	0.02	<0.05	<0.01	0.07	<0.002	<100	38	246	<57	43.50	0.03	98.41
9619	119.26 - 120.71	1.45	1.45	54.70	0.18	<0.05	0.23	<0.05	0.02	<0.05	<0.01	0.11	<0.002	<100	39	210	<32	43.20	0.19	98.57
9620	120.71 - 122.39	1.68	1.68	47.02	6.42	<0.05	0.24	<0.05	0.01	0.13	0.01	0.08	0.003	<100	29	201	<102	44.30	0.47	98.30
9621	122.39 - 124.39	2.00	2.00	53.64	0.86	<0.05	0.22	<0.05	0.01	<0.05	0.01	0.03	<0.002	<100	41	207	<35	43.70	0.69	98.61
9622	124.39 - 126.39	2.00	2.00	52.52	1.82	0.17	0.24	<0.05	0.02	<0.05	0.01	0.10	<0.002	<100	50	216	<32	43.70	0.60	98.66
9623	126.39 - 127.49	1.10	1.10	53.37	1.29	0.14	0.21	<0.05	0.02	<0.05	0.01	0.04	<0.002	<100	42	221	<34	43.70	0.45	98.86
9624	127.49 - 128.46	0.97	0.97	53.83	0.85	<0.05	0.23	<0.05	0.02	<0.05	0.01	0.07	<0.002	<100	45	235	<32	43.70	0.60	98.82
9625	128.46 - 129.79	1.33	1.33	53.92	0.77	<0.05	0.19	<0.05	0.02	<0.05	0.02	0.04	0.004	<100	38	212	<32	43.80	0.69	98.87
9626	129.79 - 131.79	2.00	2.00	54.26	0.57	<0.05	0.23	0.07	0.01	<0.05	0.01	0.05	0.002	<100	41	225	<32	43.60	0.45	98.89
9627	131.79 - 133.50	1.71	1.71	53.42	1.00	<0.05	0.24	<0.05	0.01	<0.05	0.01	0.06	0.002	<100	42	220	<32	43.80	0.85	98.65
9628	133.50 - 135.50	2.00	2.00	47.95	5.65	0.36	0.28	<0.05	0.01	0.06	0.02	0.05	0.004	<100	59	207	<32	44.10	0.35	98.54
9629	135.50 - 136.17	0.67	0.58	55.14	0.43	0.07	0.24	<0.05	0.01	<0.05	0.01	0.04	0.005	<100	47	254	<33	43.90	-0.33	99.93
9630	136.17 - 137.67	1.50	1.50	53.03	2.23	<0.05	0.23	<0.05	0.02	<0.05	0.02	0.04	<0.002	<100	43	246	<32	44.21	-0.66	99.90
9631	137.67 - 138.79	1.12	1.12	53.65	1.68	<0.05	0.27	<0.05	0.01	<0.05	0.02	0.04	<0.002	<100	49	261	<32	44.10	-0.71	99.88
9632	138.79 - 140.79	2.00	2.00	52.81	2.46	<0.05	0.23	<0.05	<0.01	<0.05	0.02	0.05	0.003	<100	48	280	<32	44.28	-0.16	99.97
9633	140.79 - 142.79	2.00	2.00	53.84	1.57	0.07	0.20	<0.05	<0.01	0.09	<0.01	0.04	<0.002	<100	51	260	<32	44.00	0.07	99.90
9634	142.79 - 144.64	1.85	1.85	53.42	1.81	0.10	0.29	<0.05	0.02	0.07	0.01	0.05	<0.002	<100	52	250	<32	44.05	-0.44	99.89
9635	144.64 - 146.45	1.81	1.81	54.74	0.75	<0.05	0.24	<0.05	0.01	<0.05	0.01	0.03	0.004	<100	39	197	<37	43.95	-0.91	99.84
9636	146.45 - 146.90	0.45	0.45	54.64	0.85	<0.05	0.24	<0.05	0.01	<0.05	0.01	0.03	<0.002	<100	40	203	<32	43.98	-0.82	99.87
9637	146.90 - 148.40	1.50	1.50	55.11	0.48	<0.05	0.22	<0.05	0.02	<0.05	0.01	0.03	0.004	<100	46	215	<38	43.94	-0.28	99.93
9638	148.40 - 150.03	1.63	1.63	54.80	0.63	0.09	0.27	0.07	0.02	0.13	<0.01	0.05	0.002	<100	58	253	<33	43.84	-0.04	99.96
9639	150.03 - 152.26	2.23	2.23	55.13	0.42	0.06	0.25	<0.05	0.02	<0.05	0.02	0.03	<0.002	<100	93	335	<32	43.90	-0.32	99.93
9640	152.26 - 154.26	2.00	2.00	54.97	0.52	0.11	0.26	<0.05	0.01	<0.05	0.01	0.06	0.004	<100	65	435	<32	43.85	-0.35	99.91
9641	154.26 - 156.26	2.00	2.00	55.08	0.44	0.13	0.25	<0.05	0.03	<0.05	0.02	0.04	<0.002	<100	84	475	<32	43.87	-0.04	99.97

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**APPENDIX 6: CONTINUED**

Sample	Metric	Sample Interval (m)	Sample Length (m)	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	Na <sub>2</sub> O %	K <sub>2</sub> O %	TiO <sub>2</sub> %	P <sub>2</sub> O <sub>5</sub> %	Cr <sub>2</sub> O <sub>3</sub> %	MnO ppm	Ba ppm	Sr ppm	Others ppm	LOI %	LOI-CO <sub>2</sub> EQ	SUM %
9642	156.26 - 158.26	2.00	2.00	54.89	0.63	0.06	0.23	<0.05	0.01	<0.05	<0.01	0.05	<0.002	<100	82	474	<32	43.60	-0.11	99.61
9643	158.26 - 159.27	1.01	1.01	54.85	0.58	<0.05	0.28	<0.05	0.02	<0.05	0.01	0.02	0.002	<100	152	485	<32	43.70	0.04	99.61
9644	159.27 - 161.27	2.00	2.00	53.84	1.09	0.31	0.34	0.16	0.02	<0.05	0.01	0.03	0.006	<100	87	439	<35	43.60	0.19	99.49
9645	161.27 - 163.47	2.20	2.20	53.20	0.68	0.59	0.41	0.21	0.01	<0.05	0.05	0.03	<0.002	<100	146	379	<32	43.00	0.54	98.27
9646	163.47 - 165.47	2.00	2.00	53.47	0.82	0.23	0.27	0.08	0.01	0.06	0.04	0.06	0.006	<100	73	267	<32	43.20	0.40	98.29
9647	165.47 - 167.40	1.93	1.93	53.95	1.00	0.69	0.12	0.07	0.02	0.32	0.01	0.11	0.003	100	77	272	<56	43.52	-0.24	99.89
9648	167.40 - 169.40	2.00	2.00	54.75	0.37	0.78	0.19	0.10	0.03	0.05	0.01	0.11	0.004	100	107	298	<67	43.40	0.14	99.85
9649	169.40 - 170.65	1.25	1.25	54.85	0.35	1.03	0.24	0.09	0.02	0.05	0.01	0.14	0.006	100	134	292	<66	43.30	0.02	100.14
9650	170.65 - 171.78	1.13	1.13	54.62	0.33	1.03	0.23	0.16	0.01	0.07	0.01	0.09	0.004	100	170	285	<57	43.33	0.00	99.94
9007	171.78 - 173.78	2.00	1.91	54.87	0.35	0.75	0.09	0.09	0.02	<0.05	0.03	0.11	0.007	<100	100	301	<225	43.50	0.17	99.91
9008	173.78 - 175.03	1.25	1.25	55.05	0.27	0.69	0.11	<0.05	0.03	<0.05	<0.01	0.11	0.004	<100	112	291	<100	43.30	-0.08	99.69
9009	175.03 - 176.11	1.08	1.08	53.55	1.22	1.12	0.12	0.07	0.02	<0.05	0.01	0.14	0.004	<100	95	250	<130	43.40	0.19	99.73
9010	176.11 - 178.11	2.00	2.00	54.81	0.38	0.59	0.10	<0.05	<0.01	0.07	<0.01	0.09	0.005	<100	77	235	<55	43.40	0.06	99.54
9011	178.11 - 180.11	2.00	2.00	54.64	0.37	0.98	0.21	0.13	0.02	<0.05	0.03	0.08	0.005	<100	95	287	<53	43.41	-0.07	99.95
9012	180.11 - 182.11	2.00	2.00	54.53	0.50	0.60	0.37	0.15	0.01	<0.05	0.04	0.03	0.008	<100	123	282	<32	43.40	0.09	99.71
9013	182.11 - 184.11	2.00	2.00	54.34	0.55	0.47	0.26	0.15	0.02	<0.05	0.03	0.04	0.004	<100	126	284	<32	43.60	0.40	99.54
9014	184.11 - 186.11	2.00	2.00	54.33	0.45	0.66	0.33	0.17	0.02	0.11	0.03	0.06	0.006	<100	170	302	<32	43.40	0.33	99.62
9015	186.11 - 188.11	2.00	2.00	53.80	0.68	1.12	0.49	0.22	0.02	<0.05	0.03	0.07	0.008	<100	142	300	<32	42.80	-0.09	99.31
9016	188.11 - 190.11	2.00	2.00	53.64	1.09	0.81	0.35	0.15	0.02	0.07	0.03	0.05	0.004	<100	118	289	<33	43.20	-0.03	99.46
9017	190.11 - 192.11	2.00	2.00	53.31	0.57	0.84	0.44	0.22	0.02	0.13	0.04	0.06	0.003	<100	125	329	<32	43.10	0.70	98.79
9018	192.11 - 194.11	2.00	2.00	54.15	0.34	0.65	0.35	0.10	0.02	0.07	0.02	0.02	0.005	<100	107	321	<32	43.20	0.35	98.97
9019	194.11 - 195.61	1.50	1.50	54.05	0.42	0.57	0.29	0.20	0.02	<0.05	0.03	0.05	0.007	<100	148	316	<32	43.20	0.38	98.92
9020	195.61 - 196.90	1.29	1.29	52.92	1.89	0.57	0.33	0.14	0.02	<0.05	0.03	0.06	0.002	<100	102	284	<32	43.60	0.07	99.63
<b>Drillhole 94-2</b>																				
9021	1.52 - 3.43	1.91	1.51	54.76	0.28	0.42	0.28	<0.05	0.03	<0.05	0.03	0.29	0.004	<100	83	275	<35	42.90	-0.08	99.09
9022	3.43 - 3.98	0.55	0.55	54.83	0.37	0.59	0.28	<0.05	0.02	<0.05	0.01	0.16	0.005	100	86	276	<33	43.00	-0.27	99.36
9023	3.98 - 4.72	0.74	0.74	54.98	0.24	0.34	0.27	<0.05	0.01	0.15	0.02	0.10	0.002	100	77	276	<32	43.10	-0.21	99.28
9024	4.72 - 5.47	0.75	0.75	55.02	0.22	0.29	0.24	0.29	0.01	<0.05	<0.01	0.08	0.053	<100	68	286	<32	43.28	-0.46	99.59
9025	5.47 - 7.47	2.00	1.92	55.39	0.24	0.24	0.25	0.08	0.01	<0.05	<0.01	0.10	0.005	100	76	287	<32	43.70	0.07	100.11

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**APPENDIX 6: CONTINUED**

Sample	Metric	Sample Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	Na <sub>2</sub> O %	K <sub>2</sub> O %	TiO <sub>2</sub> %	P <sub>2</sub> O <sub>5</sub> %	Cr <sub>2</sub> O <sub>3</sub> %	MnO ppm	Ba ppm	Sr ppm	Others ppm	LOI %	LOI-CO <sub>2</sub> -EQ	SUM %
		(m)	(m)																	
9676	7.47 - 7.92	0.45	0.45	54.48	0.28	0.18	0.25	<0.05	0.02	0.11	0.03	0.03	0.004	<100	73	273	<36	42.50	-0.53	97.95
9677	7.92 - 8.34	0.42	0.42	54.48	0.29	0.17	0.24	<0.05	0.01	0.06	0.02	0.02	0.005	<100	71	281	<32	42.60	-0.45	97.96
9678	8.34 - 9.74	1.40	1.40	54.71	0.29	0.13	0.21	<0.05	0.01	0.21	0.03	0.04	0.002	<100	69	265	<43	42.60	-0.61	98.30
9679	9.74 - 11.01	1.27	1.27	54.54	0.29	0.47	0.43	0.11	0.02	0.20	0.04	0.04	0.003	<100	66	277	<36	42.60	-0.48	98.79
9680	11.01 - 12.55	1.54	1.54	55.05	0.25	0.09	0.19	<0.05	0.01	0.15	0.02	0.06	<0.002	<100	70	255	<32	42.60	-0.81	98.49
9681	12.55 - 14.55	2.00	2.00	55.20	0.21	<0.05	0.20	<0.05	0.01	0.06	<0.01	0.11	0.003	<100	66	261	<32	42.50	-0.94	98.41
9682	14.55 - 16.14	1.59	1.59	54.73	0.22	<0.05	0.21	<0.05	0.02	<0.05	<0.01	0.10	<0.002	<100	71	268	<32	42.80	-0.29	98.22
9683	16.14 - 16.97	0.83	0.83	54.84	0.24	<0.05	0.19	<0.05	0.02	<0.05	<0.01	0.04	0.006	100	73	268	<43	42.70	-0.56	98.18
9684	16.97 - 17.56	0.59	0.59	54.61	0.34	<0.05	0.20	<0.05	0.01	0.17	0.01	0.13	0.004	<100	57	237	<36	42.60	-0.49	98.16
9685	17.56 - 18.22	0.66	0.66	54.52	0.31	0.15	0.27	<0.05	0.02	0.24	0.04	0.11	0.004	<100	84	279	<32	42.70	-0.31	98.43
9686	18.22 - 18.78	0.56	0.56	50.24	3.08	0.77	0.63	0.18	0.01	0.12	0.04	0.20	0.005	<100	141	275	<36	43.30	0.72	98.62
9687	18.78 - 19.83	1.05	1.05	54.56	0.40	0.11	0.19	<0.05	0.01	<0.05	0.02	0.02	0.002	<100	68	275	<32	42.70	-0.53	98.10
9688	19.83 - 20.08	0.25	0.25	48.43	4.65	0.88	0.61	0.25	0.03	0.25	0.05	0.15	0.006	<100	153	271	<73	43.60	0.67	98.96
9689	20.08 - 21.76	1.68	1.68	53.87	0.72	0.18	0.26	<0.05	<0.01	0.24	0.02	0.05	0.005	<100	87	283	<34	43.10	0.09	98.52
9690	21.76 - 21.88	0.12	0.12	43.84	7.28	2.02	1.25	0.46	0.02	0.25	0.09	0.63	0.011	100	209	266	<40	42.90	1.20	98.81
9691	21.88 - 22.48	0.60	0.60	47.94	5.90	0.91	0.63	0.24	0.02	0.19	0.04	0.25	0.008	100	162	288	<33	43.50	-0.31	99.69
9692	22.48 - 23.06	0.58	0.58	54.75	0.54	0.22	0.33	<0.05	0.01	0.09	0.03	0.08	0.004	<100	93	280	<32	43.67	-1.80	99.81
9693	23.06 - 25.06	2.00	2.00	55.03	0.35	0.06	0.19	<0.05	0.02	0.23	0.02	0.06	<0.002	<100	404	290	<32	43.71	-1.79	99.77
9694	25.06 - 27.06	2.00	2.00	55.15	0.32	<0.05	0.22	<0.05	<0.01	0.12	0.03	0.04	0.004	<100	83	292	<32	43.79	-1.97	99.78
9695	27.06 - 28.38	1.32	1.32	55.26	0.22	<0.05	0.23	<0.05	0.01	<0.05	0.02	0.01	0.005	<100	81	281	<32	43.79	-2.99	99.66
9696	28.38 - 29.50	1.12	1.12	55.11	0.21	0.11	0.25	0.18	<0.01	<0.05	0.02	0.04	0.031	<100	70	276	<32	43.64	-2.86	99.66
9697	29.50 - 30.06	0.56	0.56	55.23	0.22	0.08	0.24	<0.05	0.02	0.06	0.01	0.08	0.002	<100	83	287	<32	43.70	-2.33	99.71
9698	30.06 - 32.06	2.00	2.00	55.23	0.24	<0.05	0.17	<0.05	<0.01	0.11	0.02	0.07	0.002	<100	90	289	<34	43.73	-2.39	99.67
9699	32.06 - 34.06	2.00	2.00	55.26	0.25	<0.05	0.19	<0.05	0.01	0.13	<0.01	0.10	0.004	<100	80	284	<32	43.74	-1.83	99.80
9700	34.06 - 35.43	1.37	1.37	55.34	0.20	<0.05	0.20	<0.05	0.01	0.12	0.03	0.15	0.002	<100	85	278	<32	43.70	-1.62	99.85
9776	35.43 - 37.29	1.86	1.86	55.40	0.17	<0.05	0.20	<0.05	0.01	<0.05	0.01	0.12	0.003	<100	72	276	<54	43.74	-1.95	99.77
9777	37.29 - 39.29	2.00	2.00	55.40	0.17	<0.05	0.20	<0.05	0.01	<0.05	<0.01	0.03	0.003	<100	88	281	<32	43.83	-2.27	99.79
9778	39.29 - 40.79	1.50	1.50	55.32	0.17	<0.05	0.20	<0.05	0.01	0.17	0.01	0.09	0.002	100	77	259	<32	43.71	-2.09	99.78
9779	40.79 - 42.38	1.59	1.59	55.38	0.19	<0.05	0.20	<0.05	0.01	<0.05	<0.01	0.08	0.003	<100	67	264	<33	43.79	-2.03	99.79
9780	42.38 - 43.25	0.87	0.87	55.25	0.26	0.07	0.21	<0.05	0.01	<0.05	0.02	0.16	0.004	<100	80	274	<32	43.69	-2.00	99.77

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**APPENDIX 6: CONTINUED**

Sample	Metrage	Sample Interval (m)	Sample Length (m)	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	Na <sub>2</sub> O %	K <sub>2</sub> O %	TiO <sub>2</sub> %	P <sub>2</sub> O <sub>5</sub> %	Cr <sub>2</sub> O <sub>3</sub> %	MnO ppm	Ba ppm	Sr ppm	Others ppm	LOI %	LOI-CO <sub>2</sub> -EQ	SUM %
9781	43.25 - 45.25	2.00	2.00	55.33	0.17	<0.05	0.17	<0.05	0.01	0.17	0.01	0.12	0.003	<100	64	259	<37	43.69	-2.25	99.75
9782	45.25 - 47.05	1.80	1.80	55.32	0.17	<0.05	0.17	<0.05	0.01	0.17	0.01	0.08	0.003	<100	66	249	<32	43.72	-2.04	99.74
9783	47.05 - 47.75	0.70	0.70	54.10	0.99	0.33	0.33	0.16	0.01	0.07	0.03	0.07	0.003	<100	82	229	<32	43.67	-1.65	99.81
9784	47.75 - 49.37	1.62	1.62	55.39	0.20	<0.05	0.17	<0.05	0.01	<0.05	<0.01	0.07	0.002	<100	81	263	<32	43.82	-1.68	99.84
9785	49.37 - 50.22	0.85	0.85	55.36	0.24	<0.05	0.20	<0.05	0.02	<0.05	<0.01	0.10	0.008	<100	81	288	<32	43.81	-1.60	99.88
9786	50.22 - 51.67	1.45	1.45	55.37	0.19	0.06	0.21	<0.05	0.02	<0.05	<0.01	0.06	0.006	<100	79	270	<32	43.80	-1.86	99.84
9787	51.67 - 52.67	1.00	1.00	55.40	0.17	0.06	0.17	<0.05	0.01	<0.05	<0.01	0.05	<0.002	<100	75	267	<32	43.81	-1.95	99.79
9788	52.67 - 53.58	0.91	0.91	55.09	0.22	0.19	0.23	<0.05	0.03	0.29	<0.01	0.11	<0.002	100	87	281	<32	43.57	-1.47	99.82
9789	53.58 - 55.58	2.00	2.00	55.20	0.27	0.21	0.049	0.035	-	-	-	0.048	-	33	-	245	-	-	-	99.48
9790	55.58 - 56.66	1.08	1.08	55.42	0.33	0.11	0.028	0.036	-	-	-	0.057	-	31	-	256	-	-	-	99.89
9791	56.66 - 57.66	1.00	1.00	54.88	0.63	0.22	0.085	0.076	-	-	-	0.065	-	30	-	262	-	-	-	99.76
9792	57.66 - 58.86	1.20	1.20	54.64	0.46	0.75	0.346	0.247	-	-	-	0.142	-	36	-	278	-	-	-	100.02
9793	58.86 - 60.86	2.00	2.00	55.42	0.31	0.12	0.040	0.039	-	-	-	0.046	-	29	-	297	-	-	-	99.85
9794	60.86 - 62.86	2.00	2.00	55.41	0.32	0.15	0.052	0.044	-	-	-	0.067	-	32	-	299	-	-	-	99.94
9795	62.86 - 64.86	2.00	2.00	55.44	0.31	0.17	0.049	0.039	-	-	-	0.128	-	28	-	302	-	-	-	100.04
9796	64.86 - 66.80	1.94	1.94	55.22	0.43	0.21	0.069	0.065	-	-	-	0.090	-	29	-	298	-	-	-	99.95
9797	66.80 - 68.36	1.56	1.56	55.51	0.26	0.10	0.035	0.040	-	-	-	0.200	-	30	-	288	-	-	-	100.06
9798	68.36 - 70.36	2.00	2.00	55.32	0.32	0.23	0.098	0.070	-	-	-	0.041	-	30	-	323	-	-	-	99.89
9799	70.36 - 71.86	1.50	1.50	55.28	0.33	0.18	0.079	0.065	-	-	-	0.130	-	31	-	322	-	-	-	99.86
9800	71.86 - 73.08	1.22	1.22	55.47	0.30	0.09	0.035	0.040	-	-	-	0.053	-	35	-	318	-	-	-	99.91
9801	73.08 - 75.08	2.00	2.00	55.45	0.29	0.13	0.040	0.042	-	-	-	0.085	-	29	-	283	-	-	-	99.94
9802	75.08 - 77.08	2.00	2.00	54.43	1.17	0.12	0.040	0.033	-	-	-	0.131	-	27	-	229	-	-	-	99.96
9803	77.08 - 79.08	2.00	2.00	54.50	1.16	0.11	0.036	0.031	-	-	-	0.140	-	27	-	205	-	-	-	100.05
9804	79.08 - 81.08	2.00	2.00	53.93	1.56	0.13	0.057	0.061	-	-	-	0.117	-	28	-	211	-	-	-	99.93
9805	81.08 - 81.95	0.87	0.87	55.14	0.54	0.10	0.037	0.036	-	-	-	0.061	-	27	-	221	-	-	-	99.80
9806	81.95 - 82.83	0.88	0.88	55.10	0.55	0.14	0.053	0.025	-	-	-	0.075	-	29	-	220	-	-	-	99.82
9807	82.83 - 83.45	0.62	0.62	55.07	0.45	0.29	0.130	0.112	-	-	-	0.076	-	32	-	257	-	-	-	99.88
9808	83.45 - 83.62	0.17	0.17	40.43	10.27	2.42	1.218	0.396	-	-	-	0.359	-	52	-	192	-	-	-	98.08
9809	83.62 - 85.62	2.00	2.00	54.41	1.08	0.30	0.085	0.054	-	-	-	0.083	-	28	-	239	-	-	-	99.93
9810	85.62 - 87.62	2.00	2.00	54.84	0.74	0.24	0.037	0.036	-	-	-	0.068	-	27	-	212	-	-	-	99.84

**APPENDIX 6: CONTINUED**

Sample	Metrage	Sample Interval (m)	Sample Length (m)	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	Na <sub>2</sub> O %	K <sub>2</sub> O %	TiO <sub>2</sub> %	P <sub>2</sub> O <sub>5</sub> %	Cr <sub>2</sub> O <sub>3</sub> %	MnO ppm	Ba ppm	Sr ppm	Others ppm	LOI %	LOI-CO <sub>2</sub> -EQ	SUM %
9811	87.62 - 89.33	1.71	1.71	50.88	3.75	0.85	0.159	0.090	-	-	-	0.138	-	34	-	240	-	-	-	99.95
9812	89.33 - 89.75	0.42	0.42	48.75	4.58	1.92	0.858	0.363	-	-	-	0.416	-	36	-	224	-	-	-	100.19
9813	89.75 - 91.75	2.00	2.00	54.70	0.76	0.31	0.056	0.053	-	-	-	0.117	-	27	-	219	-	-	-	99.79
9814	91.75 - 92.63	0.88	0.88	54.36	1.11	0.32	0.061	0.040	-	-	-	0.350	-	26	-	211	-	-	-	100.16
9815	92.63 - 93.14	0.51	0.51	49.34	4.98	0.88	0.282	0.125	-	-	-	0.500	-	33	-	239	-	-	-	100.31
9816	93.14 - 94.07	0.93	0.93	53.56	1.79	0.31	0.069	0.049	-	-	-	0.097	-	27	-	239	-	-	-	99.89
9817	94.07 - 96.07	2.00	2.00	54.84	0.84	0.21	0.042	0.023	-	-	-	0.116	-	26	-	215	-	-	-	100.07
9818	96.07 - 98.07	2.00	2.00	53.90	1.61	0.21	0.041	0.022	-	-	-	0.184	-	26	-	197	-	-	-	100.04
9819	98.07 - 99.36	1.29	1.29	52.79	2.49	0.22	0.083	0.051	-	-	-	0.265	-	25	-	196	-	-	-	100.08
9820	99.36 - 99.61	0.25	0.25	43.48	8.81	1.40	0.697	0.293	-	-	-	0.505	-	40	-	210	-	-	-	98.97
9821	99.61 - 101.61	2.00	2.00	51.38	3.58	0.36	0.142	0.056	-	-	-	0.121	-	31	-	224	-	-	-	99.91
9822	101.61 - 103.74	2.13	2.13	45.63	8.34	0.57	0.290	0.152	-	-	-	0.190	-	35	-	195	-	-	-	100.12
9823	103.74 - 104.14	0.40	0.40	52.20	2.95	0.34	0.137	0.049	-	-	-	0.076	-	27	-	205	-	-	-	99.98
9824	104.14 - 106.14	2.00	2.00	50.86	3.99	0.43	0.196	0.103	-	-	-	0.100	-	29	-	205	-	-	-	99.98
9825	106.14 - 108.11	1.97	1.97	48.17	6.37	0.31	0.145	0.063	-	-	-	0.170	-	33	-	210	-	-	-	100.03
9826	108.11 - 109.23	1.12	1.12	39.80	12.84	0.88	0.429	0.266	-	-	-	0.292	-	44	-	195	-	-	-	99.81
9827	109.23 - 110.85	1.62	1.62	52.16	3.06	0.21	0.063	0.027	-	-	-	0.091	-	27	-	202	-	-	-	99.93
9828	110.85 - 112.67	1.82	1.82	44.36	8.60	1.56	0.616	0.327	-	-	-	1.200	-	42	-	245	-	-	-	100.91
9829	112.67 - 114.67	2.00	2.00	50.37	4.49	0.31	0.120	0.063	-	-	-	0.128	-	33	-	254	-	-	-	99.96
9830	114.67 - 116.67	2.00	2.00	52.47	2.60	0.34	0.121	0.085	-	-	-	0.174	-	28	-	240	-	-	-	99.84
9831	116.67 - 117.59	0.92	0.92	53.61	1.61	0.42	0.173	0.110	-	-	-	0.178	-	27	-	240	-	-	-	99.97
9832	117.59 - 119.66	2.07	2.07	49.76	4.91	0.37	0.162	0.074	-	-	-	0.256	-	32	-	231	-	-	-	99.99
9833	119.66 - 121.61	1.95	1.95	42.35	10.71	1.06	0.437	0.330	-	-	-	0.230	-	49	-	227	-	-	-	100.10
9834	121.61 - 122.31	0.70	0.70	51.89	2.82	0.87	0.154	0.137	-	-	-	0.304	-	31	-	242	-	-	-	100.00
9835	122.31 - 123.50	1.19	1.19	52.51	2.20	0.99	0.327	0.273	-	-	-	0.430	-	38	-	318	-	-	-	100.39
9836	123.50 - 125.50	2.00	1.83	45.49	5.47	5.02	1.022	0.601	-	-	-	0.745	-	70	-	363	-	-	-	100.09
9837	125.50 - 127.50	2.00	2.00	51.77	2.67	1.17	0.376	0.206	-	-	-	1.097	-	39	-	379	-	-	-	100.89
9838	127.50 - 129.58	2.08	2.03	50.62	3.11	1.96	0.546	0.285	-	-	-	1.166	-	45	-	371	-	-	-	100.88
9839	129.58 - 131.65	2.07	2.07	42.45	6.40	5.82	1.484	0.857	-	-	-	0.810	-	87	-	316	-	-	-	98.18
9840	131.65 - 133.13	1.48	1.48	47.76	3.79	4.81	1.044	0.571	-	-	-	0.760	-	76	-	361	-	-	-	100.42
9841	133.13 - 134.65	1.52	1.52	40.07	4.81	10.36	1.853	1.201	-	-	-	0.389	-	126	-	386	-	-	-	95.48
9842	134.65 - 135.38	0.73	0.73	18.33	8.95	23.71	3.229	3.263	-	-	-	0.305	-	277	-	161	-	-	-	82.02
9843	135.38 - 137.16	1.78	1.78	44.78	5.08	5.99	1.261	0.649	-	-	-	0.570	-	92	-	287	-	-	-	99.08

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**APPENDIX 6: CONTINUED**

Sample	Metrage	Sample Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	Na <sub>2</sub> O %	K <sub>2</sub> O %	TiO <sub>2</sub> %	P <sub>2</sub> O <sub>5</sub> %	Cr <sub>2</sub> O <sub>3</sub> %	MnO ppm	Ba ppm	Sr ppm	Others ppm	LOI %	LOI-CO <sub>2</sub> -EQ	SUM %
		(m)	(m)																	
<b>Drillhole 94-3</b>																				
9844	1.83 - 2.86	1.03	1.03	55.34	0.39	0.15	0.042	0.073	-	-	-	0.058	-	53	-	208	-	-	100.04	
9845	2.86 - 4.73	1.87	1.78	55.31	0.46	0.11	0.021	0.069	-	-	-	0.029	-	42	-	198	-	-	99.94	
9846	4.73 - 6.73	2.00	2.00	55.29	0.45	0.13	0.017	0.019	-	-	-	0.027	-	38	-	193	-	-	99.85	
9847	6.73 - 8.73	2.00	2.00	55.11	0.51	0.11	0.021	0.035	-	-	-	0.057	-	34	-	201	-	-	99.69	
9848	8.73 - 10.73	2.00	2.00	55.19	0.55	0.08	0.023	0.116	-	-	-	0.031	-	48	-	201	-	-	99.94	
9849	10.73 - 12.54	1.81	1.81	55.04	0.68	0.15	0.043	0.045	-	-	-	0.033	-	43	-	201	-	-	99.96	
9850	12.54 - 13.37	0.83	0.83	54.96	0.66	0.22	0.093	0.078	-	-	-	0.057	-	45	-	214	-	-	99.96	
9851	13.37 - 14.61	1.24	1.24	55.34	0.36	0.10	0.031	0.027	-	-	-	0.032	-	39	-	189	-	-	99.76	
9852	14.61 - 15.65	1.04	0.85	55.35	0.34	0.14	0.032	0.063	-	-	-	0.037	-	46	-	183	-	-	99.80	
9853	15.65 - 16.21	0.56	0.56	55.46	0.31	0.13	0.051	0.093	-	-	-	0.030	-	42	-	180	-	-	99.97	
9854	16.21 - 17.68	1.47	1.47	55.30	0.31	0.11	0.042	0.052	-	-	-	0.036	-	43	-	188	-	-	99.62	
9855	17.68 - 19.02	1.34	1.34	55.06	0.59	0.12	0.033	0.033	-	-	-	0.025	-	41	-	174	-	-	99.76	
9856	19.02 - 20.80	1.78	1.78	54.24	1.23	0.24	0.067	0.066	-	-	-	0.053	-	49	-	217	-	-	99.84	
9857	20.80 - 22.80	2.00	2.00	52.82	2.30	0.22	0.099	0.121	-	-	-	0.080	-	55	-	193	-	-	99.63	
9858	22.80 - 24.30	1.50	1.50	54.36	1.13	0.26	0.070	0.065	-	-	-	0.066	-	60	-	172	-	-	99.87	
9859	24.30 - 25.14	0.84	0.80	54.13	1.22	0.17	0.073	0.055	-	-	-	0.050	-	43	-	171	-	-	99.54	
9860	25.14 - 26.21	1.07	1.07	53.88	1.56	0.23	0.098	0.061	-	-	-	0.113	-	59	-	139	-	-	99.94	
9861	26.21 - 28.21	2.00	1.93	55.46	0.27	0.14	0.055	0.080	-	-	-	0.049	-	41	-	155	-	-	99.90	
9862	28.21 - 30.11	1.90	1.83	55.34	0.29	0.29	0.098	0.056	-	-	-	0.064	-	42	-	156	-	-	99.91	
9863	30.11 - 30.85	0.74	0.68	54.74	0.71	0.29	0.125	0.063	-	-	-	0.036	-	43	-	187	-	-	99.74	
9864	30.85 - 31.15	0.30	0.30	52.59	1.47	2.21	0.401	0.367	-	-	-	0.142	-	50	-	299	-	-	100.09	
9865	31.15 - 31.57	0.42	0.42	45.45	1.06	9.23	1.905	0.913	-	-	-	1.306	-	59	-	282	-	-	96.75	
9866	31.57 - 32.71	1.14	1.14	52.41	0.64	3.02	0.610	0.221	-	-	-	0.300	-	35	-	293	-	-	99.08	
9867	32.71 - 34.69	1.98	1.98	55.16	0.40	0.36	0.060	0.034	-	-	-	0.061	-	24	-	269	-	-	99.85	
9868	34.69 - 36.69	2.00	2.00	55.02	0.43	0.55	0.124	0.051	-	-	-	0.071	-	17	-	377	-	-	99.97	
9869	36.69 - 38.69	2.00	2.00	55.35	0.38	0.16	0.055	0.038	-	-	-	0.075	-	22	-	313	-	-	99.97	
9870	38.69 - 39.45	0.76	0.76	54.44	0.45	1.10	0.121	0.078	-	-	-	0.116	-	27	-	277	-	-	99.58	
9871	39.45 - 40.81	1.36	1.36	52.80	1.41	1.99	0.389	0.169	-	-	-	0.523	-	28	-	348	-	-	100.31	
9872	40.81 - 41.01	0.20	0.20	54.72	0.56	0.92	0.100	0.051	-	-	-	0.217	-	24	-	354	-	-	100.18	
9873	41.01 - 41.60	0.59	0.45	50.93	1.48	4.32	0.968	0.409	-	-	-	0.643	-	42	-	307	-	-	100.39	

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**APPENDIX 6: CONTINUED**

Sample	Metrage	Sample Interval (m)	Sample Length (m)	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	Na <sub>2</sub> O %	K <sub>2</sub> O %	TiO <sub>2</sub> %	P <sub>2</sub> O <sub>5</sub> %	Cr <sub>2</sub> O <sub>3</sub> %	MnO ppm	Ba ppm	Sr ppm	Others ppm	LOI %	LOI-CO <sub>2</sub> EQ	SUM %
9874	41.60 - 42.42	0.82	0.82	54.22	0.87	0.95	0.196	0.083	-	-	-	1.140	-	25	-	361	-	-	-	101.03
9875	42.42 - 44.10	1.68	1.68	52.85	0.96	2.67	0.593	0.247	-	-	-	0.993	-	34	-	377	-	-	-	100.90
9876	44.10 - 45.60	1.50	1.50	52.57	1.90	1.42	0.375	0.149	-	-	-	1.064	-	27	-	318	-	-	-	100.88
9877	45.60 - 46.37	0.77	0.77	53.30	1.44	1.30	0.159	0.063	-	-	-	0.244	-	32	-	319	-	-	-	99.96
9878	46.37 - 46.80	0.43	0.43	47.02	2.52	7.74	1.493	0.572	-	-	-	0.429	-	61	-	332	-	-	-	99.47
9879	46.80 - 48.80	2.00	2.00	53.92	1.27	0.78	0.138	0.067	-	-	-	0.106	-	32	-	281	-	-	-	100.04
9880	48.80 - 50.98	2.18	2.18	53.65	1.34	0.77	0.128	0.056	-	-	-	0.178	-	28	-	275	-	-	-	99.74
9881	50.98 - 52.43	1.45	1.45	51.50	1.57	3.06	0.796	0.299	-	-	-	0.411	-	41	-	369	-	-	-	99.85
9882	52.43 - 54.43	2.00	2.00	54.08	1.10	0.76	0.166	0.077	-	-	-	0.378	-	29	-	280	-	-	-	100.25
9883	54.43 - 55.83	1.40	1.40	53.96	1.13	0.92	0.129	0.066	-	-	-	0.273	-	28	-	301	-	-	-	100.11
9884	55.83 - 56.96	1.13	1.13	52.84	1.77	1.53	0.150	0.069	-	-	-	0.242	-	36	-	313	-	-	-	100.06
9885	56.96 - 57.37	0.41	0.41	50.97	0.97	4.70	0.721	0.436	-	-	-	0.397	-	59	-	329	-	-	-	99.32
9886	57.37 - 58.31	0.94	0.94	53.59	1.18	1.22	0.116	0.060	-	-	-	0.567	-	43	-	306	-	-	-	100.14
9887	58.31 - 60.21	1.90	1.90	44.87	2.33	10.57	1.556	0.932	-	-	-	0.842	-	104	-	338	-	-	-	98.92
9888	60.21 - 62.37	2.16	2.16	28.47	4.90	24.59	2.342	2.213	-	-	-	0.694	-	197	-	266	-	-	-	90.97
9889	62.37 - 63.10	0.73	0.73	51.84	1.55	2.52	0.482	0.289	-	-	-	0.416	-	74	-	277	-	-	-	99.53
9890	63.10 - 64.63	1.53	1.53	49.77	3.65	2.51	0.504	0.233	-	-	-	1.838	-	63	-	297	-	-	-	101.62
9891	64.63 - 66.41	1.78	1.78	50.99	2.53	2.75	0.408	0.249	-	-	-	0.662	-	51	-	222	-	-	-	100.41
9892	66.41 - 67.94	1.53	1.53	50.90	1.45	4.63	0.817	0.498	-	-	-	0.267	-	46	-	204	-	-	-	100.14
9893	67.94 - 69.28	1.34	1.34	55.34	0.39	0.23	0.064	0.042	-	-	-	0.135	-	41	-	174	-	-	-	100.09
9894	69.28 - 71.34	2.06	2.06	54.99	0.49	0.42	0.129	0.074	-	-	-	1.032	-	39	-	230	-	-	-	100.86
9895	71.34 - 71.93	0.59	0.59	53.95	0.98	0.96	0.368	0.203	-	-	-	0.913	-	63	-	191	-	-	-	100.80
<b>Drillhole 94-4</b>																				
9896	3.05 - 5.05	2.00	1.75	54.55	1.01	0.20	0.067	0.051	-	-	-	0.119	-	25	-	230	-	-	-	99.97
9897	5.05 - 7.05	2.00	2.00	54.08	1.44	0.17	0.050	0.039	-	-	-	0.100	-	28	-	206	-	-	-	99.94
9898	7.05 - 9.05	2.00	2.00	54.69	0.69	0.33	0.038	0.026	-	-	-	0.051	-	28	-	167	-	-	-	99.54
9899	9.05 - 11.05	2.00	2.00	55.17	0.39	0.26	0.034	0.023	-	-	-	0.057	-	23	-	193	-	-	-	99.70
9900	11.05 - 13.05	2.00	2.00	54.45	1.02	0.22	0.088	0.071	-	-	-	0.120	-	25	-	285	-	-	-	99.88
9901	13.05 - 15.05	2.00	2.00	55.19	0.44	0.31	0.079	0.071	-	-	-	0.098	-	21	-	324	-	-	-	100.03
9902	15.05 - 16.83	1.78	1.78	55.10	0.46	0.33	0.112	0.083	-	-	-	0.155	-	16	-	348	-	-	-	100.04
9903	16.83 - 18.55	1.72	1.72	55.39	0.32	0.19	0.060	0.046	-	-	-	0.224	-	13	-	307	-	-	-	100.11
9904	18.55 - 20.05	1.50	1.50	55.39	0.31	0.14	0.049	0.044	-	-	-	0.116	-	15	-	294	-	-	-	99.92
9905	20.05 - 21.49	1.44	1.44	55.36	0.29	0.24	0.057	0.045	-	-	-	0.084	-	15	-	284	-	-	-	99.90

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**APPENDIX 6: CONTINUED**

Sample	Metrage	Sample Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	Na <sub>2</sub> O %	K <sub>2</sub> O %	TiO <sub>2</sub> %	P <sub>2</sub> O <sub>5</sub> %	Cr <sub>2</sub> O <sub>3</sub> %	MnO ppm	Ba ppm	Sr ppm	Others ppm	LOI %	LOI-CO <sub>2</sub> -EQ	SUM %
		(m)	(m)																	
9906	21.49 - 21.80	0.31	0.31	55.43	0.29	0.15	0.034	0.025	-	-	-	0.052	-	14	-	275	-	-	99.85	
9907	21.80 - 23.00	1.20	1.11	55.37	0.30	0.24	0.086	0.053	-	-	-	0.102	-	20	-	291	-	-	99.97	
9908	23.00 - 23.90	0.90	0.73	55.31	0.31	0.26	0.099	0.068	-	-	-	0.098	-	21	-	316	-	-	99.96	
9909	23.90 - 24.36	0.46	0.46	55.40	0.28	0.19	0.078	0.070	-	-	-	0.104	-	22	-	285	-	-	99.93	
9910	24.36 - 24.95	0.59	0.59	55.31	0.25	0.15	0.052	0.042	-	-	-	0.080	-	20	-	303	-	-	99.63	
9911	24.95 - 26.45	1.50	1.50	55.36	0.30	0.19	0.080	0.058	-	-	-	0.079	-	20	-	277	-	-	99.90	
9912	26.45 - 27.39	0.94	0.94	55.22	0.36	0.28	0.109	0.060	-	-	-	0.032	-	19	-	252	-	-	99.84	
9913	27.39 - 29.39	2.00	2.00	55.04	0.29	0.53	0.256	0.170	-	-	-	0.112	-	24	-	281	-	-	99.95	
9914	29.39 - 31.39	2.00	2.00	54.60	0.88	0.13	0.044	0.048	-	-	-	0.090	-	22	-	250	-	-	99.65	
9915	31.39 - 33.36	1.97	1.97	55.04	0.62	0.18	0.052	0.055	-	-	-	0.143	-	20	-	264	-	-	100.00	
9916	33.36 - 35.36	2.00	2.00	55.02	0.31	0.11	0.044	0.042	-	-	-	0.122	-	22	-	233	-	-	99.22	
9917	35.36 - 37.36	2.00	2.00	55.38	0.26	0.15	0.047	0.042	-	-	-	0.108	-	29	-	241	-	-	99.77	
9918	37.36 - 38.86	1.50	1.50	55.52	0.25	0.13	0.048	0.046	-	-	-	0.126	-	28	-	223	-	-	100.01	
9919	38.86 - 40.35	1.49	1.49	55.29	0.27	0.28	0.092	0.064	-	-	-	0.068	-	29	-	231	-	-	99.80	
9920	40.35 - 42.35	2.00	2.00	55.16	0.36	0.33	0.163	0.106	-	-	-	0.052	-	26	-	287	-	-	99.92	
9921	42.35 - 44.35	2.00	2.00	54.64	0.56	0.42	0.185	0.170	-	-	-	0.069	-	26	-	299	-	-	99.59	
9922	44.35 - 45.36	1.01	1.01	54.98	0.47	0.33	0.137	0.124	-	-	-	0.064	-	24	-	300	-	-	99.82	
9923	45.36 - 47.01	1.65	1.65	55.13	0.37	0.30	0.143	0.103	-	-	-	0.078	-	20	-	302	-	-	99.86	
9924	47.01 - 49.01	2.00	2.00	55.03	0.37	0.35	0.172	0.273	-	-	-	0.128	-	36	-	302	-	-	99.97	
9925	49.01 - 51.01	2.00	2.00	54.15	0.41	0.60	0.296	0.242	-	-	-	0.180	-	42	-	274	-	-	98.86	
9926	51.01 - 53.01	2.00	2.00	54.70	0.47	0.66	0.283	0.207	-	-	-	0.115	-	41	-	286	-	-	99.93	
9927	53.01 - 55.01	2.00	2.00	52.49	2.09	0.96	0.371	0.251	-	-	-	0.078	-	45	-	302	-	-	99.77	
9928	55.01 - 57.01	2.00	2.00	53.18	0.64	1.93	0.722	0.517	-	-	-	0.118	-	66	-	335	-	-	99.62	
9929	57.01 - 59.01	2.00	2.00	53.74	0.65	1.21	0.449	0.302	-	-	-	0.087	-	45	-	351	-	-	99.38	
9930	59.01 - 61.01	2.00	2.00	54.03	0.84	0.91	0.439	0.296	-	-	-	0.194	-	47	-	320	-	-	100.10	
9931	61.01 - 63.01	2.00	2.00	54.24	0.66	0.48	0.248	0.185	-	-	-	0.187	-	38	-	349	-	-	99.36	
9932	63.01 - 65.01	2.00	2.00	54.60	0.72	0.51	0.255	0.148	-	-	-	0.099	-	37	-	275	-	-	100.01	
9933	65.01 - 66.32	1.31	1.31	54.76	0.40	0.54	0.272	0.236	-	-	-	0.079	-	34	-	326	-	-	99.76	
9934	66.32 - 66.80	0.48	0.48	55.14	0.41	0.30	0.105	0.082	-	-	-	0.040	-	30	-	318	-	-	99.85	
9935	66.80 - 67.95	1.15	1.15	55.09	0.38	0.38	0.155	0.109	-	-	-	0.174	-	41	-	297	-	-	99.97	

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**APPENDIX 6: CONTINUED**

Sample	Metrage	Sample Interval (m)	Sample Length (m)	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	Na <sub>2</sub> O %	K <sub>2</sub> O %	TiO <sub>2</sub> %	P <sub>2</sub> O <sub>5</sub> %	Cr <sub>2</sub> O <sub>3</sub> %	MnO ppm	Ba ppm	Sr ppm	Others ppm	LOI %	LOI-CO <sub>2</sub> EQ	SUM %
9936	67.95 - 69.95	2.00	2.00	54.79	0.35	0.19	0.065	0.087	-	-	-	0.171	-	37	-	293	-	-	-	99.08
9937	69.95 - 71.95	2.00	2.00	55.32	0.35	0.20	0.039	0.049	-	-	-	0.160	-	35	-	280	-	-	-	99.96
9938	71.95 - 73.05	1.10	1.10	55.35	0.36	0.09	0.025	0.076	-	-	-	0.100	-	35	-	265	-	-	-	99.87
9939	73.05 - 74.00	0.95	0.95	54.82	0.38	0.20	0.065	0.066	-	-	-	0.378	-	35	-	312	-	-	-	99.41
9940	74.00 - 74.32	0.32	0.32	55.34	0.38	0.10	0.042	0.057	-	-	-	0.198	-	39	-	332	-	-	-	100.02
9941	74.32 - 75.23	0.91	0.91	55.27	0.35	0.29	0.126	0.080	-	-	-	0.900	-	35	-	303	-	-	-	100.82
9942	75.23 - 77.23	2.00	2.00	55.37	0.39	0.14	0.037	0.045	-	-	-	0.228	-	27	-	294	-	-	-	100.14
9943	77.23 - 79.23	2.00	2.00	55.41	0.33	0.14	0.032	0.045	-	-	-	0.184	-	32	-	297	-	-	-	100.02
9944	79.23 - 81.23	2.00	2.00	54.98	0.34	0.10	0.020	0.070	-	-	-	0.083	-	33	-	291	-	-	-	99.18
9945	81.23 - 82.26	1.03	1.03	55.44	0.26	0.08	0.022	0.034	-	-	-	0.051	-	36	-	266	-	-	-	99.74
9946	82.26 - 84.04	1.78	1.78	54.70	0.37	0.36	0.048	0.077	-	-	-	0.097	-	43	-	305	-	-	-	99.05
9947	84.04 - 85.04	1.00	1.00	54.97	0.39	0.22	0.066	0.046	-	-	-	0.120	-	35	-	293	-	-	-	99.42
<b>Surface Samples</b>																				
9948	-	-	-	54.04	0.58	1.02	0.106	0.076	-	-	-	0.114	-	88	-	278	-	-	-	99.14
9949	-	-	-	55.08	0.41	0.42	0.045	0.058	-	-	-	0.042	-	60	-	255	-	-	-	99.81
<b>Acme Check Analyses for 94-2</b>																				
9791	56.66 - 57.86	1.00	1.00	54.85	0.65	0.20	0.05	0.08	<0.01	<0.04	0.06	0.05	0.003	<100	56	238	<61	43.90	-0.32	99.91
9792	57.66 - 58.86	1.20	1.20	54.34	0.49	0.76	0.34	0.29	<0.01	0.09	0.07	0.09	0.011	100	106	265	<105	43.29	-0.16	99.83
9801	73.08 - 75.08	2.00	2.00	55.16	0.29	0.40	<0.03	0.07	<0.01	<0.04	0.04	0.04	0.007	<100	78	268	<82	43.77	-0.19	99.88
9811	87.62 - 89.33	1.71	1.71	51.39	3.66	0.92	0.12	0.15	0.01	0.04	0.01	0.10	0.008	<100	69	203	<72	44.00	-0.22	100.45
9841	133.13 - 134.65	1.52	1.52	39.63	5.21	12.47	3.00	1.41	0.04	0.77	0.24	0.30	0.017	200	1249	363	<124	37.40	0.92	100.68
9842	134.65 - 135.38	0.73	0.73	18.22	9.95	30.12	7.71	3.83	0.25	2.17	0.54	0.25	0.018	300	502	168	<245	27.00	2.10	100.18
<b>Acme Check Analyses for 94-3</b>																				
9845	2.86 - 4.73	1.87	1.78	55.07	0.46	0.15	0.03	0.04	0.01	<0.04	0.01	0.01	0.005	<100	48	192	<68	43.91	-1.05	99.77
9850	12.54 - 13.37	0.83	0.83	54.68	0.66	0.32	0.07	0.09	<0.01	<0.04	0.07	0.04	0.005	100	66	207	<205	43.80	-0.63	99.82
9853	15.65 - 16.21	0.56	0.56	55.15	0.31	0.21	0.04	0.08	<0.01	<0.04	0.02	0.04	0.005	100	41	173	<253	43.78	-1.26	99.72
9854	16.21 - 17.68	1.47	1.47	55.21	0.32	0.18	<0.03	<0.04	<0.01	<0.04	0.01	0.03	0.005	100	45	169	<55	43.85	-1.25	99.73
9858	22.80 - 24.30	1.50	1.50	54.28	1.11	0.26	0.04	0.08	<0.01	<0.04	<0.01	0.05	0.005	100	43	157	<60	43.96	-0.73	99.87
9874	41.60 - 42.42	0.82	0.82	53.88	0.85	1.24	0.20	0.13	<0.01	0.05	0.03	0.82	0.010	<100	97	363	<79	42.61	-0.06	99.88
9890	63.10 - 64.63	1.53	1.53	49.90	3.53	2.79	0.64	0.24	<0.01	0.15	0.07	1.46	0.011	100	140	292	<79	41.80	0.29	100.66
9894	69.28 - 71.34	2.06	2.06	55.10	0.49	0.48	0.13	0.09	<0.01	0.04	0.05	0.76	0.005	<100	79	231	<59	43.00	0.01	100.19

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**APPENDIX 6: CONTINUED**

Sample	Metrage	Sample Interval	Sample Length	CaO %	MgO %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	Na <sub>2</sub> O %	K <sub>2</sub> O %	TiO <sub>2</sub> %	P <sub>2</sub> O <sub>5</sub> %	Cr <sub>2</sub> O <sub>3</sub> %	MnO ppm	Ba ppm	Sr ppm	Others ppm	LOI %	LOI-CO <sub>2</sub> EQ	SUM %
		(m)	(m)																	
<b><u>Acme Check Analyses for 94-4</u></b>																				
9910	24.36 - 24.95	0.59	0.59	55.27	0.27	0.16	<0.03	0.09	<0.01	<0.04	<0.01	0.07	0.004	<100	53	294	<67	43.80	-0.93	99.80
9916	33.36 - 35.36	2.00	2.00	55.21	0.31	0.20	<0.03	0.13	<0.01	<0.04	0.04	0.10	0.017	<100	61	216	<90	43.76	-0.46	99.86
9918	37.36 - 38.86	1.50	1.50	55.30	0.25	0.15	<0.03	0.06	<0.01	<0.04	<0.01	0.10	0.002	<100	42	200	<70	43.77	-1.09	99.75
9919	38.86 - 40.35	1.49	1.49	55.18	0.28	0.27	0.05	0.08	<0.01	<0.04	0.02	0.04	0.005	<100	49	215	<48	43.77	-1.12	99.77
9923	45.36 - 47.01	1.65	1.65	55.01	0.35	0.37	0.11	0.14	<0.01	0.04	0.03	0.04	0.012	<100	71	276	<79	43.72	-0.24	99.87
9927	53.01 - 55.01	2.00	2.00	52.48	1.96	0.99	0.36	0.29	<0.01	0.10	0.06	0.06	0.008	<100	77	281	<74	43.47	-0.36	99.83
9932	63.01 - 65.01	2.00	2.00	54.36	0.70	0.55	0.25	0.17	<0.01	0.07	0.05	0.07	0.007	<100	79	245	<107	43.55	-0.33	99.83
<b><u>Acme Check Analysis of Surface Sample</u></b>																				
9948	-	-	-	54.38	0.56	1.01	0.10	0.13	<0.01	<0.04	0.02	0.08	0.009	100	74	257	<74	43.41	-0.94	99.77

**APPENDIX 7: TWO-TAILED STUDENTS  $t$ -TESTS FOR DIFFERENCES, SIGN TEST, AND  
TEST OF CONFIDENCE INTERVALS FOR IDENTIFYING DIFFERENCES  
IN CONSTITUENT DETERMINATIONS BETWEEN ACME ANALYTICAL LABORATORIES LTD.  
AND THE CENTRAL ANALYTICAL LABORATORY OF CONTINENTAL LIME INC.**

Notes: For Acme analysis with reported  $\text{SiO}_2$  determinations less than the detection limit the determined value is set equal to one-half the detection limit.  
 For Acme analysis with reported  $\text{Fe}_2\text{O}_3$  determinations less than the detection limit the determined value is set equal to one-half the detection limit.  
 For Sr the Continental analysis are reported as  $\text{SrCO}_3$  and converted to Sr by multiplying by 0.59351.

**CONT:** Central Analytical Laboratory of Continental Lime

**DIFF:** Difference

**n:** number of samples

**d.o.f.:** degrees of freedom [ $n-1$ ]

**$d_x$ :** mean of differences in constituent

**$t_\alpha$ :** two-tailed

**TWO-TAILED STUDENTS  $t$ -TEST OF DIFFERENCES (Snedecor, 1957)**

For the test of differences analytical determinations for the same sample at the two laboratories are paired and their differences comprise the sample data for which the following hypothesis may be tested:

**$H_0$ :** Constituent Determination<sub>CONT</sub> - Constituent Determination<sub>ACME</sub> = 0  
 **$H_a$ :** Constituent Determination<sub>CONT</sub> - Constituent Determination<sub>ACME</sub> ≠ 0

The measured variation in the sample-difference population is given by

**$S_{D2}$ :** variance of differences in constituent [ $\sum d^2 / \text{d.o.f.}$ ], and  
 **$S_D$ :** standard deviation of differences in constituent [ $(S_{D2})^{1/2}$ ];

and the measured variation in the sample differences is given by

**$S_{d2}$ :** sample variance of differences in constituent [ $S_{D2} / n$ ], and  
 **$S_d$ :** sample standard deviation of differences in constituent [ $(S_{d2})^{1/2}$ ].

The Students  $t$ -Test is used to test the hypothesis regarding the sample differences.

**t:** Test statistic [ $(d_x - \mu) / S_d$ ]

**TWO-TAILED SIGN TEST (Mendenhall et al., 1990)**

For the sign test the analytical determinations for the same sample at the two laboratories are paired and the signs of the differences comprise the sample data, with M equal to the number of positive differences. The hypothesis that both determinations are derived from the same probability distribution is tested against the alternative that the mean of the distributions differ. Under the null hypothesis the probability that the sign of the difference is + or - is  $1/2$ , and

## APPENDIX 7: CONTINUED

M: number of positive differences

$H_0: P(\text{Constituent Determination}_{\text{CONT}} > \text{Constituent Determination}_{\text{ACME}}) = \frac{1}{2}$   
 $H_a: P(\text{Constituent Determination}_{\text{CONT}} > \text{Constituent Determination}_{\text{ACME}}) \neq \frac{1}{2}$

If both determinations are derived from the same probability distribution then M will be binomially distributed with  $p = \frac{1}{2}$  and the level of significance  $\alpha$  associated with the rejection region is determined by

y: number of samples required to raise  $\alpha$  to the required level of significance,  
 $p(x)$ : binomial probability  $[(n! / ((n-x)!x!)) 0.5^x 0.5^{n-x}]$ ,  
 $\alpha$ : two-tailed level of significance  $[p(0) + \dots + p(0+y) + p(n-y) + \dots + p(n)]$ , and  
RR: rejection region  $[(0 \leq M \geq y, y-n \leq M \geq n)]$ .

#### TWO-TAILED STUDENTS t-TEST OF CONFIDENCE INTERVALS (Koch and Link, 1970)

For the test of confidence intervals the analytical determinations for the same sample at the two laboratories are paired and their differences comprise the sample data for which the following hypothesis may be tested:

$H_0: \text{Constituent Determination}_{\text{CONT}} - \text{Constituent Determination}_{\text{ACME}} = 0$   
 $H_a: \text{Constituent Determination}_{\text{CONT}} - \text{Constituent Determination}_{\text{ACME}} \neq 0$

If confidence intervals constructed about the mean difference exclude 0 then the null hypothesis is rejected.

$\Sigma w$ : Sum of observations

$\Sigma w_{\text{DIFFERENCE}}$ : Difference of the sum of observations  $[\Sigma w_{\text{CONT}} - \Sigma w_{\text{ACME}}]$

$(\Sigma w_{\text{DIFFERENCE}})^2$ : Squared difference of the sum of observations  $[(\Sigma w_{\text{CONT}} - \Sigma w_{\text{ACME}})^2]$

$(\Sigma w_{\text{DIFFERENCE}})^2 / n$ : Mean squared difference

SS: Sum of squared deviations from the sample mean

$s^2$ : Sample variance  $[SS / \text{d.o.f}]$

$s$ : Sample standard deviation  $[(s^2)^{\frac{1}{2}}$  or  $SS^{\frac{1}{2}}]$

$s / n^{\frac{1}{2}}$ : Standard deviation of sample means

$t(s / n^{\frac{1}{2}})$ : Test statistic at  $\alpha$  level of significance  $[(s / n^{\frac{1}{2}}) \cdot (t_{\alpha})]$

$\mu_L$ : Lower confidence limit  $[d_x - t(s / n^{\frac{1}{2}})]$

$\mu_U$ : Upper confidence limit  $[d_x + t(s / n^{\frac{1}{2}})]$

## APPENDIX 7: CONTINUED

## Unadjusted CaO

## TEST OF DIFFERENCES AND CONFIDENCE INTERVALS

## SIGN TEST

Sample	Continental Analyses	Acne Analyses	Difference D = CaO <sub>CONT</sub> - CaO <sub>ACNE</sub>	Deviation d=D-d <sub>x</sub>	Squared Deviation $d^2$	Sign of Difference
9274	55.01	55.87	-0.86	-0.2606	0.0679	.
9406	55.31	56.16	-0.85	-0.4506	0.2031	.
9413	55.19	56.14	-0.95	-0.5506	0.3032	.
9430	52.94	53.09	-0.15	0.2494	0.0622	.
9439	55.12	55.84	-0.72	-0.3206	0.1028	.
9447	54.95	56.19	-1.24	-0.8406	0.7067	.
9460	54.67	55.98	-1.31	-0.9106	0.8293	.
9473	54.97	55.27	-0.30	0.0992	0.0098	.
9482	55.17	55.85	-0.68	-0.0806	0.0065	.
9489	48.30	49.84	-0.34	0.0594	0.0035	.
9501	55.24	55.98	-0.74	-0.3406	0.1160	.
9513	55.15	56.37	-1.22	-0.8206	0.6734	.
9514	53.33	54.74	-1.41	-1.0106	1.0214	.
9526	55.45	56.08	-0.63	-0.2306	0.0532	.
9541	55.35	55.97	-0.62	-0.2206	0.0487	.
9546	54.89	55.85	-0.96	-0.3606	0.1301	.
9559	55.20	55.88	-0.67	-0.2756	0.0760	.
9571	54.07	54.33	-0.26	0.1444	0.0208	.
9581	49.17	49.80	-0.63	-0.2306	0.0532	.
9591	41.11	39.83	1.28	1.6794	2.6203	+
9609	54.29	53.55	0.74	1.1394	1.2662	+
9612	54.62	54.53	0.09	0.4884	0.2386	+
9615	53.89	53.80	0.09	0.4884	0.2385	+
9622	54.66	54.83	-0.17	0.2294	0.0526	.
9602	55.38	56.13	-0.75	-0.3506	0.1229	.
9606	55.36	56.11	-0.75	-0.3506	0.1229	.
9608	52.99	53.01	-0.02	0.3794	0.1439	.
9611	55.42	54.80	0.62	1.2194	1.4869	+
9615	54.54	54.08	0.46	0.8594	0.7385	+
9620	47.51	47.02	0.49	0.8894	0.7910	+
9636	54.63	55.20	-0.57	-0.1706	0.0291	.
9645	54.32	53.20	1.12	1.5194	2.3085	+
9646	54.36	53.47	0.89	1.2694	1.6625	•
9679	54.89	54.54	0.35	0.7494	0.5616	+
9680	55.30	55.05	0.25	0.6494	0.4217	+
9686	50.84	50.24	0.40	0.7994	0.6390	+
9688	54.59	53.87	0.72	1.1194	1.2530	+
9695	55.42	56.78	-1.36	-0.9606	0.9228	.
9780	55.12	56.30	-1.18	-0.7806	0.6094	.
9782	55.37	56.50	-1.13	-0.7306	0.5338	.
9791	54.88	55.25	-0.37	0.0294	0.0009	.
9792	54.84	55.07	-0.43	-0.0306	0.0009	.
9801	55.45	55.70	-0.25	0.1494	0.0223	.
9811	50.88	51.39	-0.51	-0.1106	0.0122	.
9841	40.07	39.83	0.44	0.8394	0.7045	+
9842	18.33	18.22	0.11	0.5094	0.2595	+
9845	55.31	56.00	-0.69	-0.2906	0.0645	.
RE 9845	55.31	56.29	-0.98	-0.5806	0.3371	.
9850	54.98	55.49	-0.53	-0.1306	0.0171	.
9853	55.46	56.40	-0.94	-0.5406	0.2923	.
9854	55.30	56.49	-1.19	-0.7906	0.6251	.
9858	54.36	54.88	-0.52	-0.1206	0.0146	.
9874	54.22	54.39	-0.17	0.2294	0.0526	.
9890	49.77	49.90	-0.13	0.2694	0.0728	.
9894	54.99	55.10	-0.11	0.2894	0.0637	.
9910	55.31	56.21	-0.90	-0.5006	0.2506	.
9915	55.02	55.84	-0.82	-0.4206	0.1769	.
9918	55.52	56.47	-0.95	-0.5506	0.3032	.
9919	55.29	56.26	-0.97	-0.5706	0.3256	.
9923	55.13	55.56	-0.43	-0.0306	0.0009	.
9927	52.49	53.24	-0.75	-0.3506	0.1229	.
9932	54.80	55.10	-0.50	-0.1006	0.0101	.
9948	54.04	55.44	-1.40	-1.0006	1.0013	.
Total ( $\Sigma w$ )	3356.22	3381.38	$w_{DFF}$ = -25.16	0.0000	SS = 26.2567	M = 15
Mean ( $\mu$ )	53.27	53.67	$d_x$ = -0.3994		$S_{\mu 2}$ = 0.4235	
n =	63		d.o.f = 62			

## TEST OF DIFFERENCES

$$S_0 = 0.6508$$

$$S_{\mu 2} = 0.0067$$

$$S_d = 0.0820$$

$$t = -4.871$$

$$t_{\alpha=0.100} = 1.671$$

$$t_{\alpha=0.050} = 2.000$$

$$t_{\alpha=0.025} = 2.299$$

Reject H<sub>0</sub>:  
Reject H<sub>0</sub>:  
Reject H<sub>0</sub>:

## SIGN TEST

$$\alpha = p(0) + \dots + p(23) + p(40) + \dots + p(63)$$

$$\alpha = p(0) + \dots + p(24) + p(39) + \dots + p(63)$$

$$\alpha = p(0) + \dots + p(25) + p(38) + \dots + p(63)$$

$$RR = (0 \dots 23, 40 \dots 63)$$

$$RR = (0 \dots 24, 39 \dots 63)$$

$$RR = (0 \dots 25, 38 \dots 63)$$

$$\alpha = 0.0430$$

$$\alpha = 0.0769$$

$$\alpha = 0.1299$$

Reject H<sub>0</sub>:  
Reject H<sub>0</sub>:  
Reject H<sub>0</sub>:

## TEST OF CONFIDENCE INTERVALS

$$(\Sigma w_{DFF})^2 = 633.0340$$

$$s^2 = SS/d.o.f = 0.4235$$

$$t(s/n)^2 = 0.1370$$

$$t(s/n)^2 = 0.1640$$

$$t(s/n)^2 = 0.1885$$

$$(\Sigma w_{DFF})^2 / n = 10.0482$$

$$s = (s^2)^{1/2} = 0.6508$$

$$\mu_L = -0.5364$$

$$\mu_L = -0.5633$$

$$\mu_L = -0.5879$$

$$SS = 26.2567$$

$$s/n^{1/2} = 0.0820$$

$$\mu_U = -0.2624$$

$$\mu_U = -0.2354$$

$$\mu_U = -0.2109$$

Reject H<sub>0</sub>:  
Reject H<sub>0</sub>:  
Reject H<sub>0</sub>:

## APPENDIX 7: CONTINUED

## Adjusted CaO

Sample	TEST OF DIFFERENCES AND CONFIDENCE INTERVALS					SIGN TEST	
	Continental	Adjusted	Difference	Deviation	Squared	Sign of	
	Analyses	Acme	$D = \text{CaO}_{\text{CONT}}$	$d = D - d_x$	$d^2$	Difference	
		Analyses	$\text{CaO}_{\text{ACME}}$				
9274	55.01	55.19	-0.18	-0.2790	0.0778	-	
9408	55.31	55.41	-0.10	-0.1954	0.0382	-	
9413	55.19	55.32	-0.13	-0.2296	0.0527	+	
9430	52.94	52.84	0.10	0.0058	0.0000	+	
9439	55.12	55.21	-0.09	-0.1901	0.0361	-	
9447	54.96	55.13	-0.18	-0.2750	0.0758	-	
9460	54.67	54.96	-0.29	-0.3864	0.1493	-	
9473	54.97	55.27	-0.30	-0.3902	0.1570	-	
9482	55.17	55.06	0.11	0.0109	0.0001	+	
9489	49.30	49.64	-0.34	-0.4361	0.1901	-	
9501	55.24	55.44	-0.20	-0.3001	0.0901	-	
9513	55.15	55.37	-0.22	-0.3131	0.0981	-	
9514	53.33	54.09	-0.78	-0.8569	0.7343	-	
9526	55.45	55.47	-0.02	-0.1194	0.0142	-	
9541	55.35	55.33	0.02	-0.0800	0.0064	•	
9546	54.89	54.94	-0.05	-0.1437	0.0206	-	
9559	55.20	55.36	-0.16	-0.2534	0.0642	-	
9571	54.07	54.11	-0.04	-0.1372	0.0188	-	
9581	49.17	49.80	-0.63	-0.7261	0.5272	-	
9581	41.11	39.83	1.28	1.1639	1.4017	+	
9009	54.29	53.55	0.74	0.6439	0.4147	•	
9012	54.62	54.53	0.09	-0.0061	0.0000	+	
9015	53.89	53.80	0.09	-0.0061	0.0000	+	
9022	54.66	54.83	-0.17	-0.2861	0.0708	-	
9802	55.38	55.60	-0.22	-0.3161	0.0999	-	
9806	55.38	55.46	-0.10	-0.1961	0.0384	-	
9808	52.99	53.01	-0.02	-0.1161	0.0135	-	
9811	55.42	54.60	0.82	0.7239	0.5241	+	
9815	54.54	54.08	0.46	0.3639	0.1325	•	
9820	47.51	47.02	0.49	0.3939	0.1552	+	
9836	54.63	54.70	-0.07	-0.1661	0.0278	-	
9845	54.32	53.20	1.12	1.0239	1.0485	+	
9848	54.36	53.47	0.89	0.7939	0.6303	+	
9878	54.89	54.54	0.35	0.2539	0.0645	+	
9880	55.30	55.05	0.25	0.1539	0.0237	+	
9888	50.84	50.24	0.40	0.3039	0.0924	+	
9889	54.59	53.87	0.72	0.6239	0.3893	+	
9895	55.42	55.31	0.11	0.0139	0.0002	+	
9780	55.12	55.29	-0.17	-0.2861	0.0708	-	
9782	55.37	55.38	0.01	-0.0861	0.0074	+	
9791	54.88	54.83	0.05	-0.0424	0.0018	+	
9792	54.84	54.34	0.30	0.2060	0.0433	+	
9801	55.45	55.14	0.31	0.2131	0.0454	+	
9811	50.88	51.39	-0.51	-0.6061	0.3673	-	
9841	40.07	39.63	0.44	0.3439	0.1183	+	
9842	18.33	18.22	0.11	0.0139	0.0002	+	
9845	55.31	55.06	0.25	0.1539	0.0237	+	
RE 9845	55.31	55.06	0.25	0.1539	0.0237	+	
9850	54.96	54.67	0.29	0.1978	0.0381	•	
9853	55.46	55.14	0.32	0.2284	0.0522	+	
9854	55.30	55.18	0.12	0.0196	0.0004	+	
9858	54.38	54.27	0.09	-0.0059	0.0000	+	
9874	54.22	53.87	0.35	0.2502	0.0626	+	
9880	49.77	49.90	-0.13	-0.2261	0.0511	-	
9894	54.99	55.10	-0.11	-0.2061	0.0425	-	
9910	55.31	55.26	0.05	-0.0455	0.0021	+	
9916	55.02	55.18	-0.16	-0.2577	0.0664	-	
9918	55.52	55.28	0.24	0.1394	0.0194	+	
9919	55.29	55.16	0.13	0.0300	0.0009	+	
9923	55.13	55.01	0.12	0.0270	0.0007	+	
9927	52.49	52.47	0.02	-0.0802	0.0064	+	
9932	54.80	54.35	0.25	0.1530	0.0234	+	
9948	54.04	54.36	-0.32	-0.4141	0.1714	-	
Total ( $\Sigma w$ )	3356.22	3350.17	$w_{\text{DIFF}} =$	6.05	0.0000	SS = 8.7188	M = 36
Mean ( $\mu$ )	53.27	53.18	$d_x =$	0.0961		$S_d2 = 0.1406$	
n =	63		d.o.f =	62			

## TEST OF DIFFERENCES

$$S_d = 0.3750 \quad t = 2.033 \quad t_{\alpha=0.100} = 1.671$$

$$S_d2 = 0.0022 \quad t_{\alpha=0.050} = 2.000$$

$$S_d = 0.0472 \quad t_{\alpha=0.025} = 2.299$$

Reject Ho:  
Reject Ho:  
Accept Ho:

## SIGN TEST

$$\alpha = p(0) + \dots + p(23) + p(40) + \dots + p(63) \quad RR = (0 \dots 23, 40 \dots 63) \quad \alpha = 0.0430 \quad \text{Accept Ho:}$$

$$\alpha = p(0) + \dots + p(24) + p(39) + \dots + p(63) \quad RR = (0 \dots 24, 39 \dots 63) \quad \alpha = 0.0769 \quad \text{Accept Ho:}$$

$$\alpha = p(0) + \dots + p(25) + p(38) + \dots + p(63) \quad RR = (0 \dots 25, 38 \dots 63) \quad \alpha = 0.1299 \quad \text{Accept Ho:}$$

## TEST OF CONFIDENCE INTERVALS

$$(\sum w_{\text{DIFF}})^2 = 36.6201 \quad (\sum w_{\text{DIFF}})^2 / n = 0.5813 \quad SS = 8.7188$$

$$s^2 = SS/d.o.f = 0.1406 \quad s = (s^2)^{1/2} = 0.3750 \quad s/n^{1/2} = 0.0472$$

$$t(s/n^{1/2})_{\alpha=0.100} = 0.0789 \quad \mu_L = 0.0171 \quad \mu_U = 0.1750 \quad \text{Reject Ho:}$$

$$t(s/n^{1/2})_{\alpha=0.050} = 0.0945 \quad \mu_L = 0.0016 \quad \mu_U = 0.1905 \quad \text{Reject Ho:}$$

$$t(s/n^{1/2})_{\alpha=0.025} = 0.1086 \quad \mu_L = -0.0126 \quad \mu_U = 0.2047 \quad \text{Accept Ho:}$$

## APPENDIX 7: CONTINUED

## MgO

Sample	TEST OF DIFFERENCES AND CONFIDENCE INTERVALS					SIGN TEST
	Continental Analyses	Acme Analyses	Difference	Deviation	Squared Deviation	
			D = MgO <sub>CONT</sub> - MgO <sub>ACME</sub>	d = D - d <sub>x</sub>	d <sup>2</sup>	
9274	0.32	0.26	0.06	0.0030	0.0000	+
9406	0.28	0.23	0.05	-0.0070	0.0000	+
9413	0.29	0.22	0.07	0.0130	0.0002	+
9430	0.75	0.74	0.01	-0.0470	0.0022	+
9439	0.36	0.34	0.02	-0.0370	0.0014	+
9447	0.42	0.40	0.02	-0.0370	0.0014	+
9460	0.52	0.50	0.02	-0.0370	0.0014	+
9473	0.27	0.27	0.00	-0.0570	0.0032	+
9482	0.47	0.43	0.04	-0.0170	0.0003	+
9489	4.50	3.78	0.72	0.6630	0.4396	+
9501	0.31	0.21	0.10	0.0430	0.0019	+
9513	0.36	0.26	0.10	0.0430	0.0019	+
9514	1.97	1.38	0.59	0.5330	0.2841	+
9526	0.28	0.20	0.08	0.0230	0.0005	+
9541	0.30	0.27	0.03	-0.0270	0.0007	+
9546	0.57	0.52	0.05	-0.0070	0.0000	+
9559	0.31	0.26	0.05	-0.0070	0.0000	+
9571	1.40	1.35	0.05	-0.0070	0.0000	+
9581	2.95	2.59	0.36	0.3030	0.0918	+
9591	1.90	2.48	-0.58	-0.6170	0.3807	-
9608	1.01	1.22	-0.21	-0.2670	0.0713	-
9612	0.61	0.50	0.11	0.0530	0.0028	+
9615	0.76	0.68	0.08	0.0230	0.0005	+
9622	0.53	0.37	0.16	0.1030	0.0106	+
9602	0.23	0.13	0.10	0.0430	0.0019	+
9606	0.27	0.14	0.13	0.0730	0.0053	+
9608	2.42	2.27	0.15	0.0930	0.0087	+
9611	0.23	0.10	0.13	0.0730	0.0053	+
9615	1.00	0.87	0.13	0.0730	0.0053	+
9620	6.89	6.42	0.47	0.4130	0.1708	+
9636	0.95	0.85	0.10	0.0430	0.0019	+
9645	0.81	0.68	0.13	0.0730	0.0053	+
9646	0.97	0.82	0.15	0.0930	0.0087	+
9679	0.41	0.29	0.12	0.0630	0.0040	+
9680	0.36	0.25	0.11	0.0530	0.0028	+
9686	3.57	3.08	0.49	0.4330	0.1875	+
9689	0.83	0.72	0.11	0.0530	0.0028	+
9695	0.33	0.22	0.11	0.0530	0.0028	+
9780	0.37	0.26	0.11	0.0530	0.0028	+
9782	0.27	0.17	0.10	0.0430	0.0019	+
9791	0.63	0.65	-0.02	-0.0770	0.0059	-
9792	0.46	0.49	-0.03	-0.0870	0.0076	-
9801	0.29	0.28	0.00	-0.0570	0.0032	+
9811	3.75	3.66	0.09	0.0330	0.0011	+
9841	4.81	5.21	-0.40	-0.4570	0.2088	-
9842	8.95	9.95	-1.00	-1.0570	1.1172	-
9845	0.46	0.48	-0.02	-0.0770	0.0059	-
RE 9845	0.46	0.44	0.02	-0.0370	0.0014	+
9850	0.66	0.68	0.00	-0.0570	0.0032	+
9853	0.31	0.31	0.00	-0.0570	0.0032	+
9854	0.31	0.32	-0.01	-0.0670	0.0045	-
9858	1.13	1.11	0.02	-0.0370	0.0014	+
9874	0.87	0.85	0.02	-0.0370	0.0014	+
9880	3.65	3.53	0.12	0.0630	0.0040	+
9884	0.49	0.49	0.00	-0.0570	0.0032	+
9910	0.25	0.27	-0.02	-0.0770	0.0059	-
9918	0.31	0.31	0.00	-0.0570	0.0032	+
9918	0.25	0.25	0.00	-0.0570	0.0032	+
9919	0.27	0.28	-0.01	-0.0670	0.0045	-
9923	0.37	0.35	0.02	-0.0370	0.0014	+
9927	2.09	1.96	0.13	0.0730	0.0053	+
9932	0.72	0.70	0.02	-0.0370	0.0014	+
9948	0.58	0.58	0.02	-0.0370	0.0014	+
Total ( $\Sigma w$ )	73.42	69.83	$w_{\text{diff}} =$	3.59	0.0000	$M = 53$
Mean ( $\mu$ )	1.17	1.11	$d_x =$	0.0570	$S_{\text{d}2} =$	0.0502
n =	63		d.o.f =	62		

## TEST OF DIFFERENCES

$$\begin{aligned}
 S_0 &= 0.2241 & t &= 2.019 & t_{\alpha/2} = 1.671 & \text{Reject } H_0 \\
 S_{d2} &= 0.0008 & & & t_{\alpha} = 2.000 & \text{Reject } H_0 \\
 S_d &= 0.0282 & & & t_{\alpha/2} = 2.299 & \text{Accept } H_0
 \end{aligned}$$

## SIGN TEST

$$\begin{aligned}
 \alpha &= p(0) + \dots + p(23) + p(40) + \dots + p(63) & RR &= (0 \dots 23, 40 \dots 63) & \alpha &= 0.0430 & \text{Reject } H_0 \\
 \alpha &= p(0) + \dots + p(24) + p(39) + \dots + p(63) & RR &= (0 \dots 24, 39 \dots 63) & \alpha &= 0.0769 & \text{Reject } H_0 \\
 \alpha &= p(0) + \dots + p(25) + p(38) + \dots + p(63) & RR &= (0 \dots 25, 38 \dots 63) & \alpha &= 0.1299 & \text{Reject } H_0
 \end{aligned}$$

## TEST OF CONFIDENCE INTERVALS

$$\begin{aligned}
 (\sum w_{\text{diff}})^2 &= 12.8881 & (\sum w_{\text{diff}})^2 / n &= 0.2046 & SS &= 3.1125 & \\
 s^2 = SS/d.o.f &= 0.0502 & s = (s^2)^{1/2} &= 0.2241 & s/n^{1/2} &= 0.0282 & \\
 t(s/n^{1/2})_{\alpha=0.100} &= 0.0472 & \mu_L &= 0.0098 & \mu_U &= 0.1042 & \text{Reject } H_0 \\
 t(s/n^{1/2})_{\alpha=0.050} &= 0.0565 & \mu_L &= 0.0005 & \mu_U &= 0.1134 & \text{Reject } H_0 \\
 t(s/n^{1/2})_{\alpha=0.025} &= 0.0649 & \mu_L &= -0.0079 & \mu_U &= 0.1219 & \text{Accept } H_0
 \end{aligned}$$

## APPENDIX 7: CONTINUED

 $\text{SiO}_2$ 

Sample	TEST OF DIFFERENCES AND CONFIDENCE INTERVALS						SIGN TEST	
	Continental	Acme	Difference	Deviation	Squared	Sign of		
			$D = \text{SiO}_2_{\text{CONT}}$	$d = D - d_x$	$d^2$			
			- $\text{SiO}_2_{\text{ACME}}$					
9274	0.30	0.22		0.08	0.1982	0.0393	+	
9406	0.16	0.08		0.08	0.1982	0.0393	+	
9413	0.28	0.15		0.11	0.2282	0.0521	+	
9430	2.37	2.29		0.08	0.1982	0.0393	+	
9439	0.18	0.10		0.08	0.1982	0.0393	+	
9447	0.14	0.06		0.08	0.1982	0.0393	+	
9460	0.25	0.15		0.10	0.2182	0.0478	+	
9473	0.13	0.03		0.11	0.2232	0.0498	+	
9482	0.19	0.08		0.11	0.2282	0.0521	+	
9489	1.34	1.26		0.08	0.1982	0.0393	+	
9501	0.17	0.08		0.09	0.2082	0.0433	+	
9513	0.13	0.03		0.11	0.2232	0.0498	+	
9514	0.12	0.03		0.10	0.2132	0.0454	+	
9526	0.14	0.06		0.08	0.1982	0.0393	+	
9541	0.09	0.03		0.07	0.1832	0.0336	+	
9546	0.27	0.15		0.12	0.2382	0.0567	+	
9559	0.20	0.03		0.18	0.2932	0.0860	+	
9571	0.19	0.13		0.06	0.1782	0.0317	+	
9581	3.56	3.68		-0.12	-0.0018	0.0000	-	
9591	19.05	18.80		0.25	0.3682	0.1356	+	
9609	0.17	1.12		-0.95	-0.8318	0.8819	-	
9612	0.65	0.60		0.05	0.1682	0.0283	+	
9615	1.13	1.12		0.01	0.1282	0.0164	+	
9622	0.63	0.59		0.04	0.1582	0.0250	+	
9602	0.06	0.03		0.04	0.1532	0.0235	+	
9606	0.11	0.06		0.05	0.1682	0.0283	+	
9608	0.07	0.03		0.05	0.1632	0.0266	+	
9611	0.12	0.03		0.10	0.2132	0.0454	+	
9615	0.18	0.03		0.14	0.2532	0.0641	+	
9620	0.24	0.03		0.22	0.3332	0.1110	+	
9636	0.11	0.03		0.09	0.2032	0.0413	+	
9645	0.88	0.59		0.09	0.2082	0.0433	+	
9646	0.36	0.23		0.13	0.2482	0.0616	+	
9679	0.57	0.47		0.10	0.2182	0.0476	+	
9680	0.16	0.09		0.07	0.1882	0.0354	+	
9686	0.89	0.77		0.12	0.2382	0.0587	+	
9688	0.28	0.18		0.10	0.2182	0.0476	+	
9695	0.14	0.03		0.12	0.2332	0.0544	+	
9780	0.22	0.07		0.15	0.2682	0.0719	+	
9782	0.12	0.03		0.10	0.2132	0.0454	+	
9791	0.22	0.20		0.02	0.1382	0.0191	+	
9792	0.75	0.76		-0.01	0.1082	0.0117	-	
9801	0.13	0.40		-0.27	-0.1518	0.0231	-	
9811	0.85	0.92		-0.07	0.0482	0.0023	-	
9841	10.36	12.47		-2.11	-1.9918	3.9874	-	
9842	23.71	30.12		-6.41	-6.2918	39.5871	-	
9845	0.11	0.16		-0.05	0.0682	0.0046	-	
RE 9645	0.11	0.14		-0.03	0.0682	0.0078	-	
9850	0.22	0.32		-0.10	0.0182	0.0003	-	
9853	0.13	0.21		-0.08	0.0382	0.0015	-	
9854	0.11	0.18		-0.07	0.0482	0.0023	-	
9858	0.28	0.26		0.00	0.1182	0.0140	+	
9874	0.95	1.24		-0.29	-0.1718	0.0295	-	
9890	2.51	2.79		-0.28	-0.1618	0.0262	-	
9894	0.42	0.48		-0.06	0.0582	0.0034	-	
9910	0.15	0.16		-0.01	0.1082	0.0117	-	
9918	0.11	0.20		-0.09	0.0282	0.0008	-	
9918	0.13	0.15		-0.02	0.0982	0.0096	-	
9919	0.28	0.27		0.01	0.1282	0.0164	+	
9923	0.30	0.37		-0.07	0.0482	0.0023	-	
9927	0.96	0.99		-0.03	0.0882	0.0078	-	
9932	0.51	0.55		-0.04	0.0782	0.0061	-	
9948	1.02	1.01		0.01	0.1282	0.0164	+	
Total ( $\Sigma w$ )	80.41	87.86	$w_{\text{DIFF}} =$	-7.45	0.0000	SS = 46.2958	M = 42	
Mean ( $\mu$ )	1.28	1.39	$d_x =$	-0.1182		$S_{\text{D}2} = 0.7467$		
n =	63		d.o.f =	62				

## TEST OF DIFFERENCES

$$\begin{aligned} S_D &= 0.8641 & t &= -1.085 & t_{\alpha=0.100} &= 1.671 & \text{Accept } H_0 \\ S_{\text{D}2} &= 0.0119 & & & t_{\alpha=0.050} &= 2.000 & \text{Accept } H_0 \\ S_d &= 0.1089 & & & t_{\alpha=0.025} &= 2.299 & \text{Accept } H_0 \end{aligned}$$

## SIGN TEST

$$\begin{aligned} \alpha &= p(0) + \dots + p(23) + p(40) + \dots + p(63) & RR &= (0 \dots 23, 40 \dots 63) & \alpha &= 0.0430 & \text{Reject } H_0 \\ \alpha &= p(0) + \dots + p(24) + p(39) + \dots + p(63) & RR &= (0 \dots 24, 39 \dots 63) & \alpha &= 0.0769 & \text{Reject } H_0 \\ \alpha &= p(0) + \dots + p(25) + p(38) + \dots + p(63) & RR &= (0 \dots 25, 38 \dots 63) & \alpha &= 0.1299 & \text{Reject } H_0 \end{aligned}$$

## TEST OF CONFIDENCE INTERVALS

$$\begin{aligned} (\Sigma w_{\text{DIFF}})^2 &= 55.4280 & (\Sigma w_{\text{DIFF}})^2 / n &= 0.8798 & SS &= 46.2958 \\ s^2 = SS/d.o.f &= 0.7467 & s = (s^2)^{1/2} &= 0.8641 & s/n^{1/2} &= 0.1089 \\ t(s/n^{1/2})_{\alpha=0.100} &= 0.1819 & \mu_L &= -0.3001 & \mu_U &= 0.0637 & \text{Accept } H_0 \\ t(s/n^{1/2})_{\alpha=0.050} &= 0.2177 & \mu_L &= -0.3359 & \mu_U &= 0.0996 & \text{Accept } H_0 \\ t(s/n^{1/2})_{\alpha=0.025} &= 0.2503 & \mu_L &= -0.3685 & \mu_U &= 0.1321 & \text{Accept } H_0 \end{aligned}$$

## APPENDIX 7: CONTINUED

 $\text{Al}_2\text{O}_3$ 

Sample	TEST OF DIFFERENCES AND CONFIDENCE INTERVALS						SIGN TEST
	Continental	Acme	Difference	Deviation	Squared	Sign of	
	Analyses	Analyses	$D = \text{Al}_2\text{O}_3_{\text{CONT}}$	$d = D - d_x$	Deviation	Difference	
			$- \text{Al}_2\text{O}_3_{\text{ACME}}$			$d^2$	
9274	0.139	0.16	-0.02	0.1454	0.0211	-	
9406	0.067	0.09	-0.02	0.1434	0.0206	-	
9413	0.122	0.13	-0.01	0.1584	0.0251	-	
9430	0.671	0.75	-0.08	0.0874	0.0076	-	
9439	0.071	0.12	-0.05	0.1174	0.0138	-	
9447	0.062	0.10	-0.04	0.1284	0.0165	-	
9460	0.073	0.11	-0.04	0.1294	0.0167	-	
9473	0.046	0.09	-0.04	0.1224	0.0150	-	
9482	0.092	0.12	-0.03	0.1384	0.0191	-	
9489	0.520	0.54	-0.02	0.1484	0.0214	-	
9501	0.073	0.10	-0.03	0.1394	0.0194	-	
9513	0.121	0.09	0.03	0.1974	0.0390	+	
9514	0.080	0.09	-0.01	0.1584	0.0245	-	
9528	0.080	0.09	-0.01	0.1584	0.0245	-	
9541	0.043	0.11	-0.07	0.0994	0.0099	-	
9546	0.104	0.16	-0.06	0.1104	0.0122	-	
9556	0.100	0.11	-0.01	0.1584	0.0245	-	
9571	0.086	0.10	-0.01	0.1524	0.0232	-	
9581	0.751	0.85	-0.10	0.0674	0.0045	-	
9591	1.588	2.79	-1.20	-0.1056	1.0725	-	
9609	0.058	0.12	-0.06	0.1044	0.0109	-	
9612	0.183	0.37	-0.19	-0.0206	0.0004	-	
9615	0.325	0.49	-0.17	0.0014	0.0000	-	
9622	0.152	0.28	-0.13	0.0384	0.0015	-	
9602	0.016	0.14	-0.12	0.0424	0.0018	-	
9606	0.068	0.21	-0.14	0.0244	0.0006	-	
9608	0.047	0.22	-0.17	-0.0066	0.0000	-	
9611	0.045	0.23	-0.19	-0.0186	0.0003	-	
9615	0.021	0.21	-0.19	-0.0226	0.0005	-	
9620	0.061	0.24	-0.18	-0.0126	0.0002	-	
9636	0.054	0.24	-0.19	-0.0196	0.0004	-	
9645	0.201	0.41	-0.21	-0.0426	0.0018	-	
9646	0.079	0.27	-0.19	-0.0246	0.0006	-	
9679	0.260	0.43	-0.17	-0.0036	0.0000	-	
9680	0.051	0.19	-0.14	0.0274	0.0007	-	
9686	0.481	0.63	-0.17	-0.0026	0.0000	-	
9689	0.121	0.26	-0.14	0.0274	0.0007	-	
9695	0.037	0.23	-0.19	-0.0266	0.0007	-	
9780	0.067	0.21	-0.14	0.0234	0.0005	-	
9782	0.039	0.17	-0.13	0.0354	0.0013	-	
9791	0.065	0.05	0.04	0.2014	0.0405	+	
9792	0.348	0.34	0.01	0.1724	0.0297	+	
9801	0.040	0.03	0.01	0.1784	0.0311	+	
9811	0.159	0.12	0.04	0.2054	0.0422	+	
9841	1.853	3.00	-1.15	-0.9606	0.9616	-	
9842	3.228	7.71	-4.48	-4.3146	18.6161	-	
9845	0.021	0.03	-0.01	0.1574	0.0248	-	
RE 9845	0.021	0.03	-0.01	0.1574	0.0248	-	
9850	0.083	0.07	0.02	0.1884	0.0359	+	
9853	0.051	0.04	0.01	0.1774	0.0315	+	
9854	0.042	0.03	0.01	0.1784	0.0318	+	
9858	0.070	0.04	0.03	0.1984	0.0386	+	
9874	0.196	0.20	0.00	0.1624	0.0284	-	
9890	0.504	0.84	-0.14	0.0304	0.0009	-	
9894	0.129	0.13	0.00	0.1654	0.0273	-	
9910	0.052	0.03	0.02	0.1884	0.0356	+	
9916	0.044	0.03	0.01	0.1804	0.0325	+	
9918	0.048	0.03	0.02	0.1844	0.0340	+	
9919	0.062	0.05	0.04	0.2084	0.0434	+	
9923	0.143	0.11	0.03	0.1994	0.0397	+	
9927	0.371	0.36	0.01	0.1774	0.0315	+	
9932	0.255	0.25	0.01	0.1714	0.0294	+	
9946	0.110	0.10	0.01	0.1784	0.0311	+	
Total ( $\Sigma w$ )	15.19	25.67	$w_{DFF} = -10.48$	0.0000	SS = 21.6943	M = 17	
Mean ( $\mu$ )	0.24	0.41	$d_x = -0.1664$		$S_{d2} = 0.3499$		
n =	63		d.o.f = 62				

## TEST OF DIFFERENCES

$$\begin{aligned}
 S_d &= 0.5915 & t &= -2.232 & t_{\alpha=0.100} &= 1.671 & \text{Reject } H_0: \\
 S_{d2} &= 0.0056 & & & t_{\alpha=0.050} &= 2.000 & \text{Reject } H_0: \\
 S_d &= 0.0745 & & & t_{\alpha=0.025} &= 2.299 & \text{Accept } H_0:
 \end{aligned}$$

## SIGN TEST

$$\begin{aligned}
 \alpha &= p(0) + \dots + p(23) + p(40) + \dots + p(63) & RR &= (0 \dots 23, 40 \dots 63) & \alpha &= 0.0430 & \text{Reject } H_0: \\
 \alpha &= p(0) + \dots + p(24) + p(39) + \dots + p(63) & RR &= (0 \dots 24, 39 \dots 63) & \alpha &= 0.0769 & \text{Reject } H_0: \\
 \alpha &= p(0) + \dots + p(25) + p(38) + \dots + p(63) & RR &= (0 \dots 25, 38 \dots 63) & \alpha &= 0.1299 & \text{Reject } H_0:
 \end{aligned}$$

## TEST OF CONFIDENCE INTERVALS

$$\begin{aligned}
 (\sum w_{DFF})^2 &= 109.8514 & (\sum w_{DFF})^2 / n &= 1.7437 & SS &= 21.6943 & \\
 s^2 = SS/d.o.f &= 0.3499 & s = (s^2)^{1/2} &= 0.5915 & s/n &= 0.0745 & \\
 t(s/n)^{\alpha} &= 0.1245 & \mu_L &= -0.2909 & \mu_U &= -0.0418 & \text{Reject } H_0: \\
 t(s/n)^{\alpha} &= 0.1491 & \mu_L &= -0.3154 & \mu_U &= -0.0173 & \text{Reject } H_0: \\
 t(s/n)^{\alpha} &= 0.1713 & \mu_L &= -0.3377 & \mu_U &= 0.0050 & \text{Accept } H_0:
 \end{aligned}$$

## APPENDIX 7: CONTINUED

 $\text{Fe}_2\text{O}_3$ 

Sample	TEST OF DIFFERENCES AND CONFIDENCE INTERVALS						SIGN TEST
	Continental	Acme	Difference	Deviation	Squared	Sign of	
	Analyses	Analyses	$D = \text{Fe}_2\text{O}_3_{\text{CONT}}$	$d = D - d_x$	Deviation	Difference	
			$- \text{Fe}_2\text{O}_3_{\text{ACME}}$			$d^2$	
9274	0.131	0.12		0.01	0.0299	0.0009	*
9406	0.044	0.03		0.02	0.0379	0.0014	+
9413	0.053	0.03		0.03	0.0469	0.0022	+
9430	0.412	0.43		-0.02	0.0009	0.0000	-
9439	0.044	0.08		-0.04	-0.0171	0.0003	-
9447	0.060	0.08		-0.02	-0.0011	0.0000	-
9460	0.042	0.07		-0.03	-0.0091	0.0001	-
9473	0.036	0.06		-0.02	-0.0051	0.0000	-
9482	0.042	0.07		-0.03	-0.0091	0.0001	-
9489	0.257	0.27		-0.01	0.0059	0.0000	-
9501	0.089	0.03		0.06	0.0829	0.0069	+
9513	0.068	0.03		0.04	0.0619	0.0038	+
9514	0.059	0.03		0.03	0.0529	0.0028	+
9526	0.050	0.03		0.03	0.0439	0.0019	+
9541	0.030	0.03		0.01	0.0239	0.0006	+
9546	0.037	0.03		0.01	0.0309	0.0010	+
9559	0.047	0.03		0.02	0.0409	0.0017	+
9571	0.039	0.05		-0.01	0.0079	0.0001	-
9581	0.351	0.30		0.05	0.0699	0.0049	+
9591	1.145	1.13		0.02	0.0339	0.0011	+
9609	0.050	0.07		-0.02	-0.0011	0.0000	-
9612	0.128	0.15		-0.02	-0.0031	0.0000	-
9615	0.208	0.22		-0.01	0.0049	0.0000	-
9622	0.075	0.03		0.05	0.0689	0.0047	+
9602	0.008	0.03		-0.02	0.0019	0.0000	-
9606	0.041	0.03		0.02	0.0349	0.0012	+
9608	0.024	0.03		0.00	0.0179	0.0003	-
9611	0.030	0.03		0.01	0.0239	0.0008	+
9615	0.016	0.03		-0.01	0.0099	0.0001	-
9620	0.024	0.03		0.00	0.0179	0.0003	-
9636	0.022	0.03		0.00	0.0159	0.0003	-
9645	0.170	0.21		-0.04	-0.0211	0.0004	-
9646	0.086	0.06		-0.01	0.0049	0.0000	-
9679	0.097	0.11		-0.01	0.0059	0.0000	-
9680	0.027	0.03		0.00	0.0209	0.0004	+
9686	0.133	0.18		-0.05	-0.0281	0.0008	-
9689	0.050	0.03		0.03	0.0439	0.0019	+
9695	0.022	0.03		0.00	0.0159	0.0003	-
9780	0.037	0.03		0.01	0.0309	0.0010	*
9782	0.021	0.03		0.00	0.0149	0.0002	-
9791	0.076	0.06		0.00	0.0149	0.0002	-
9792	0.247	0.29		-0.04	-0.0241	0.0006	-
9801	0.042	0.07		-0.03	-0.0091	0.0001	-
9811	0.090	0.15		-0.06	-0.0411	0.0017	-
9841	1.201	1.41		-0.21	-0.1901	0.0361	-
9842	3.263	3.83		-0.57	-0.5481	0.3004	-
9845	0.069	0.05		0.02	0.0379	0.0014	+
RE 9845	0.078	0.04		0.04	0.0569	0.0032	+
9850	0.078	0.09		-0.01	0.0069	0.0000	-
9853	0.083	0.08		0.01	0.0319	0.0010	+
9854	0.052	0.04		0.01	0.0309	0.0010	+
9858	0.065	0.08		-0.02	0.0039	0.0000	-
9874	0.083	0.13		-0.05	-0.0281	0.0008	-
9890	0.233	0.24		-0.01	0.0119	0.0001	-
9894	0.074	0.09		-0.02	0.0029	0.0000	-
9910	0.042	0.09		-0.05	-0.0291	0.0008	-
9916	0.042	0.13		-0.09	-0.0691	0.0048	-
9918	0.046	0.06		-0.01	0.0049	0.0000	-
9919	0.064	0.08		-0.02	0.0029	0.0000	-
9923	0.103	0.14		-0.04	-0.0181	0.0003	-
9927	0.251	0.29		-0.04	-0.0201	0.0004	-
9932	0.148	0.17		-0.02	-0.0031	0.0000	-
9946	0.076	0.13		-0.06	-0.0351	0.0012	-
Total ( $\Sigma w$ )	10.80	11.99	$w_{\text{DIFF}} =$	-1.19	0.0000	SS = 0.3968	M = 22
Mean ( $\mu$ )	0.17	0.19	$d_x =$	-0.0189		$S_{d2} = 0.0064$	
n =	63		d.o.f =	62			

## TEST OF DIFFERENCES

$$\begin{aligned}
 S_d &= 0.0800 & t &= -1.876 & t_{\alpha=0.100} &= 1.671 & \text{Reject } H_0: \\
 S_{d2} &= 0.0001 & & & t_{\alpha=0.050} &= 2.000 & \text{Accept } H_0: \\
 S_d &= 0.0101 & & & t_{\alpha=0.025} &= 2.299 & \text{Accept } H_0:
 \end{aligned}$$

## SIGN TEST

$$\begin{aligned}
 \alpha &= p(0) + \dots + p(23) + p(40) + \dots + p(63) & RR &= (0 \dots 23, 40 \dots 63) & \alpha &= 0.0430 & \text{Reject } H_0: \\
 \alpha &= p(0) + \dots + p(24) + p(39) + \dots + p(63) & RR &= (0 \dots 24, 39 \dots 63) & \alpha &= 0.0769 & \text{Reject } H_0: \\
 \alpha &= p(0) + \dots + p(25) + p(38) + \dots + p(63) & RR &= (0 \dots 25, 38 \dots 63) & \alpha &= 0.1299 & \text{Reject } H_0:
 \end{aligned}$$

## TEST OF CONFIDENCE INTERVALS

$$\begin{aligned}
 (\Sigma w_{\text{DIFF}})^2 &= 1.4185 & (\Sigma w_{\text{DIFF}})^2 / n &= 0.0225 & SS &= 0.3968 \\
 s^2 = SS/d.o.f &= 0.0064 & s = (s^2)^{1/2} &= 0.0800 & s / n^{1/2} &= 0.0101 \\
 t(s / n^{1/2})_{\alpha=0.100} &= 0.0168 & \mu_L &= -0.0357 & \mu_U &= -0.0021 & \text{Reject } H_0: \\
 t(s / n^{1/2})_{\alpha=0.050} &= 0.0202 & \mu_L &= -0.0391 & \mu_U &= 0.0013 & \text{Accept } H_0: \\
 t(s / n^{1/2})_{\alpha=0.025} &= 0.0232 & \mu_L &= -0.0421 & \mu_U &= 0.0043 & \text{Accept } H_0:
 \end{aligned}$$

## APPENDIX 7: CONTINUED

 $P_2O_5$ 

Sample	TEST OF DIFFERENCES AND CONFIDENCE INTERVALS					SIGN TEST
	Continental	Acme	Difference	Deviation	Squared	
	Analyses	Analyses	$D = P_2O_{5\text{CONT}}$	$d = D - d_x$	$d^2$	
9274	0.184	0.12	0.06	-0.0064	0.0001	•
9406	0.136	0.07	0.07	-0.0064	0.0000	+
9413	0.146	0.10	0.05	-0.0264	0.0007	•
9430	0.117	0.08	0.04	-0.0364	0.0013	•
9439	0.208	0.15	0.08	-0.0144	0.0002	•
9447	0.336	0.25	0.09	0.0136	0.0002	•
9460	0.680	0.45	0.23	0.1576	0.0248	•
9473	0.840	0.53	0.31	0.2376	0.0564	+
9482	0.076	0.05	0.03	-0.0464	0.0022	+
9489	0.267	0.17	0.10	0.0246	0.0006	+
9501	0.177	0.08	0.10	0.0246	0.0008	+
9513	0.170	0.08	0.09	0.0176	0.0003	+
9514	0.089	0.04	0.05	-0.0234	0.0005	+
9526	0.088	0.03	0.05	-0.0144	0.0002	+
9541	0.123	0.06	0.06	-0.0064	0.0001	+
9546	0.121	0.07	0.05	-0.0214	0.0005	+
9559	0.072	0.04	0.03	-0.0404	0.0016	+
9571	0.102	0.08	0.04	-0.0304	0.0009	+
9581	1.062	0.68	0.40	0.3296	0.1086	+
9591	0.345	0.25	0.10	0.0226	0.0005	+
9609	0.208	0.14	0.07	-0.0044	0.0000	+
9612	0.068	0.03	0.04	-0.0344	0.0012	+
9615	0.106	0.07	0.04	-0.0364	0.0013	+
9622	0.230	0.16	0.07	-0.0024	0.0000	+
9602	0.148	0.07	0.08	0.0056	0.0000	+
9606	0.238	0.11	0.13	0.0536	0.0029	+
9608	0.063	0.04	0.02	-0.0494	0.0024	+
9611	0.151	0.06	0.07	-0.0014	0.0000	+
9615	0.041	0.02	0.02	-0.0514	0.0026	+
9620	0.098	0.06	0.02	-0.0544	0.0030	+
9638	0.083	0.03	0.05	-0.0194	0.0004	+
9645	0.077	0.03	0.05	-0.0254	0.0006	+
9646	0.101	0.06	0.04	-0.0314	0.0010	+
9679	0.072	0.04	0.03	-0.0404	0.0016	+
9680	0.057	0.06	0.00	-0.0754	0.0057	-
9688	0.327	0.20	0.13	0.0548	0.0030	+
9689	0.079	0.05	0.03	-0.0434	0.0019	+
9695	0.055	0.01	0.05	-0.0274	0.0008	+
9780	0.262	0.16	0.10	0.0296	0.0008	+
9782	0.098	0.08	0.02	-0.0564	0.0032	+
9791	0.065	0.05	0.02	-0.0574	0.0033	+
9792	0.142	0.08	0.05	-0.0204	0.0004	+
9801	0.085	0.04	0.05	-0.0274	0.0008	+
9811	0.138	0.10	0.04	-0.0344	0.0012	+
9841	0.389	0.30	0.09	0.0166	0.0003	+
9842	0.305	0.25	0.06	-0.0174	0.0003	+
9845	0.029	0.02	0.01	-0.0634	0.0040	+
RE 9845	0.029	0.01	0.02	-0.0534	0.0028	+
9850	0.057	0.04	0.02	-0.0554	0.0031	+
9853	0.030	0.04	-0.01	-0.0824	0.0068	-
9854	0.036	0.03	0.01	-0.0664	0.0044	+
9858	0.066	0.06	0.02	-0.0564	0.0032	+
9874	1.140	0.82	0.32	0.2476	0.0613	+
9880	1.838	1.46	0.38	0.3056	0.0934	+
9884	1.032	0.76	0.27	0.1986	0.0398	+
9910	0.080	0.07	0.01	-0.0624	0.0039	+
9916	0.122	0.10	0.02	-0.0504	0.0025	+
9918	0.128	0.10	0.03	-0.0464	0.0022	+
9919	0.068	0.04	0.03	-0.0444	0.0020	+
9923	0.078	0.04	0.04	-0.0344	0.0012	+
9927	0.078	0.08	0.02	-0.0544	0.0030	+
9932	0.098	0.07	0.03	-0.0434	0.0019	+
9948	0.114	0.08	0.03	-0.0384	0.0015	+
Total ( $\Sigma w$ )	14.06	9.50	$w_{DFF} =$	4.56	0.0000	SS = 0.4760
Mean ( $\mu$ )	0.22	0.15	$d_x =$	0.0724		$S_d2 = 0.0077$
n =	63		d.o.f =	62		

## TEST OF DIFFERENCES

$$S_d = 0.0876 \quad t = 6.561 \quad t_{\alpha/2} = 1.671 \quad \text{Reject } H_0:$$

$$S_d2 = 0.0001 \quad t_{\alpha} = 0.056 = 2.000 \quad \text{Reject } H_0:$$

$$S_d = 0.0110 \quad t_{\alpha/2} = 0.025 = 2.299 \quad \text{Reject } H_0:$$

## SIGN TEST

$$\alpha = p(0) + \dots + p(23) + p(40) + \dots + p(63) \quad RR = (0 \dots 23, 40 \dots 63) \quad \alpha = 0.0430 \quad \text{Reject } H_0:$$

$$\alpha = p(0) + \dots + p(24) + p(39) + \dots + p(63) \quad RR = (0 \dots 24, 39 \dots 63) \quad \alpha = 0.0769 \quad \text{Reject } H_0:$$

$$\alpha = p(0) + \dots + p(25) + p(38) + \dots + p(63) \quad RR = (0 \dots 25, 38 \dots 63) \quad \alpha = 0.1299 \quad \text{Reject } H_0:$$

## TEST OF CONFIDENCE INTERVALS

$$(\Sigma w_{DFF})^2 = 20.8210 \quad (\Sigma w_{DFF})^2 / n = 0.3305 \quad SS = 0.4760$$

$$s^2 = SS/d.o.f = 0.0077 \quad s = (s^2)^{1/2} = 0.0876 \quad s / n^{1/2} = 0.0110$$

$$t(s / n^{1/2})_{\alpha/2} = 0.0184 \quad \mu_L = 0.0540 \quad \mu_U = 0.0909 \quad \text{Reject } H_0:$$

$$t(s / n^{1/2})_{\alpha} = 0.0221 \quad \mu_L = 0.0503 \quad \mu_U = 0.0945 \quad \text{Reject } H_0:$$

$$t(s / n^{1/2})_{\alpha/2} = 0.0254 \quad \mu_L = 0.0470 \quad \mu_U = 0.0978 \quad \text{Reject } H_0:$$

## APPENDIX 7: CONTINUED

## Sr

Sample	TEST OF DIFFERENCES AND CONFIDENCE INTERVALS					SIGN TEST	
	Continental	Acme	Difference	Deviation	Squared Deviation	Sign of Difference	
	Analyses	Analyses	D = Sr <sub>CONT</sub> - Sr <sub>ACME</sub>	d=D-d <sub>x</sub>	d <sup>2</sup>		
9274	237	173	64	35	1239	+	
9406	231	154	77	48	2330	+	
9413	228	145	83	54	2884	+	
9430	336	280	56	27	714	+	
9439	274	229	45	16	256	+	
9447	313	254	59	30	910	+	
9460	322	271	51	21	461	+	
9473	290	261	29	-1	0	+	
9482	319	259	60	31	931	+	
9489	281	241	40	11	111	+	
9501	241	134	107	78	6047	+	
9513	182	113	69	39	1553	+	
9514	233	148	85	55	3075	+	
9528	250	161	88	60	3560	+	
9541	250	218	41	12	148	+	
9546	279	237	42	13	163	+	
9559	274	205	69	40	1600	+	
9571	244	192	52	23	517	+	
9581	351	304	47	18	308	+	
9591	385	362	23	-7	44	+	
9609	263	250	13	-16	265	+	
9612	314	282	32	3	8	+	
9615	303	300	3	-27	703	+	
9622	290	276	14	-15	224	+	
9632	245	247	-2	-32	1003	-	
9636	285	270	15	-14	188	+	
9638	220	196	24	-5	25	+	
9611	174	158	16	-13	177	+	
9615	286	249	17	-12	152	+	
9620	218	201	17	-12	153	+	
9636	215	203	12	-17	281	+	
9645	400	379	21	-8	67	+	
9646	281	287	14	-15	221	•	
9679	294	277	17	-12	154	+	
9680	288	255	13	-17	273	•	
9688	297	275	22	-7	47	•	
9689	317	283	34	5	22	•	
9695	291	281	10	-19	376	+	
9780	288	274	14	-15	218	+	
9782	285	249	16	-13	166	+	
9791	282	238	24	-5	27	+	
9792	278	265	13	-16	282	+	
9801	283	288	15	-14	202	+	
9811	240	203	37	8	61	+	
9841	386	383	23	-8	38	+	
9842	161	168	-7	-36	1311	-	
9845	198	192	6	-23	538	+	
RE 9845	198	192	6	-23	538	+	
9850	214	207	7	-22	493	+	
9853	180	173	7	-22	493	+	
9854	188	169	19	-10	104	+	
9858	172	157	15	-14	202	+	
9874	361	363	-2	-31	974	-	
9890	297	292	5	-24	588	+	
9894	230	231	-1	-30	912	-	
9910	303	294	9	-20	408	+	
9916	233	216	17	-12	149	+	
9916	223	200	23	-8	38	+	
9919	231	215	16	-13	174	+	
9923	302	276	26	-3	10	+	
9927	302	281	21	-8	67	+	
9932	275	245	30	1	1	+	
9948	278	257	21	-8	67	+	
Total ( $\Sigma w$ )	16818	14978	$w_{DIFF}$ = 1840	0	SS = 39232	M = 59	
Mean ( $\mu$ )	267	238	$d_x$ = 29		$S_d2$ = 633		
n =	63		d.o.f = 62				

## TEST OF DIFFERENCES

$$\begin{aligned}
 S_d &= 25 & t &= 9.214 & t_{\alpha} = 0.100 &= 1.671 & \text{Reject } H_0 \\
 S_d2 &= 10 & & & t_{\alpha} = 0.050 &= 2.000 & \text{Reject } H_0 \\
 S_d &= 3 & & & t_{\alpha} = 0.025 &= 2.299 & \text{Reject } H_0
 \end{aligned}$$

## SIGN TEST

$$\begin{aligned}
 \alpha &= p(0) + \dots + p(23) + p(40) + \dots + p(63) & RR &= (0 \dots 23, 40 \dots 63) & \alpha &= 0.043 & \text{Reject } H_0 \\
 \alpha &= p(0) + \dots + p(24) + p(39) + \dots + p(63) & RR &= (0 \dots 24, 39 \dots 63) & \alpha &= 0.077 & \text{Reject } H_0 \\
 \alpha &= p(0) + \dots + p(25) + p(38) + \dots + p(63) & RR &= (0 \dots 25, 38 \dots 63) & \alpha &= 0.130 & \text{Reject } H_0
 \end{aligned}$$

## TEST OF CONFIDENCE INTERVALS

$$\begin{aligned}
 (\Sigma w_{DIFF})^2 &= 3384377 & (\Sigma w_{DIFF})^2 / n &= 53720 & SS &= 39232 & \\
 s^2 = SS/d.o.f &= 633 & s = (s^2)^{1/2} &= 25 & s / n^{1/2} &= 3 & \\
 t(s / n^{1/2})_{\alpha} = 0.100 &= 5.296 & \mu_L &= 23.91 & \mu_U &= 34.50 & \text{Reject } H_0 \\
 t(s / n^{1/2})_{\alpha} = 0.050 &= 6.338 & \mu_L &= 22.86 & \mu_U &= 35.54 & \text{Reject } H_0 \\
 t(s / n^{1/2})_{\alpha} = 0.025 &= 7.286 & \mu_L &= 21.91 & \mu_U &= 36.49 & \text{Reject } H_0
 \end{aligned}$$

**APPENDIX 8: ITEMIZED COST STATEMENT****a) Personnel**

J. Dahrouge, geologist

2 days organizing for drilling  
 19 days spotting drillholes, supervising drilling, logging and sampling core, collecting surface samples, magnetometry, travelling from September 12 to 30, 1994  
 16 days logging core in Edmonton  
24 days compiling and preparing report, reclamation information  
 61 days @ \$350

\$21,350.00

L.B. Halferdahl, geological engineer

3 days planning and organizing drilling, drilling approvals, bids on drilling, drilling contract, reclamation  
 8 days supervising drilling, logging core, travelling from September 12 to 19, 1994  
8 days supervising and preparing report, reclamation aspects  
 19 days @ \$550

\$10,450.00

W. McGuire, field assistant

splitting and assisting with core, magnetometry, travelling from September 19 to 30, 1994  
 12 days @ \$300  
 draftsman, computer operator, geological assistant preparing maps, computing analytical data, measuring and splitting core in Edmonton  
159½ h @ \$30

\$3,600.00

\$4,785.00

\$40,185.00

**b) Food and Accommodation**

36 man-days in motel and restaurants @ \$51.16

\$1,841.76

## APPENDIX 8: CONTINUED

## c) Transportation

## Airfares

1 Edmonton - Prince George return	\$679.18
2 Edmonton - Prince George @ 339.59	<u>\$679.18</u>
	\$1,358.36

## Vehicle

4x4 pick-up truck 3289 km @ 0.34	\$1,118.26
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## Freight

Field gear Edmonton - Prince George	\$123.64
Samples Prince George - Vancouver	\$132.20
Edmonton - Salt Lake City	\$376.62
Core Prince George - Pavilion	\$382.44
Prince George - Edmonton - Pavilion	<u>\$796.53</u>
	<u>\$1,811.43</u>
	\$4,288.05

## d) Instrument Rental

Level	\$111.28
Magnetometer	<u>\$107.00</u>
	\$218.28

## e) Drilling

(all inclusive - mob, demob, moving, water, trucks, accommodation and meals, metrage)	
494 m @ 81.32	\$40,172.08

## f) Analyses

151 samples prepared and analyzed for major and minor constituents by ICP (Acme) @ 16.3434	\$2,467.85
161 samples prepared and analyzed for eight constituents by ICP (Salt Lake City) @ 10.50	\$1,690.50
22 samples for check analyses (Acme) @ 12.6418	\$278.12
40 samples for check analyses (Salt Lake City) @ \$7.50	<u>\$300.00</u>
	\$4,736.47

g) Report typing, reproduction, assembly	\$1,374.27
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## h) Other

Reclamation bond fee	\$150.00
Field Supplies	\$178.26
Telephone and fax	\$85.76
Courier	<u>\$10.69</u>
	\$424.71
	\$93,240.62

#### **APPENDIX 9: QUALIFICATIONS**

J.R. Dahrouge obtained degrees in geology and computing science from the University of Alberta, Edmonton in 1988 and 1994, respectively. He has five years of experience in mining exploration. He is registered as P. Geol. in the Association of Professional Engineers, Geologists, and Geophysicists of Alberta.

The work described in the report was under the supervision of L.B. Halferdahl, who obtained degrees in geological engineering and geology from Queen's University, Kingston, Ontario, and The Johns Hopkins University, Baltimore, Maryland. He has more than 35 years experience as a practising engineer and geologist in research and mining exploration, including consulting since 1969. He is a member of the Canadian Institute of Mining and Metallurgy, and is registered as P. Eng. and P. Geol. in the Association of Professional Engineers, Geologists, and Geophysicists of Alberta, and registered as P. Eng. in the Association of Professional Engineers and Geoscientists of British Columbia.