MAR 20080031: NORDEGG NORTH

Received date: Nov 28, 2008

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PART B

ASSESSMENT REPORT

Metallic and Industrial Mineral Permit Number 9306080829

NORDEGG NORTH PROSPECT

NTS: 83C

For

1208013 ALBERTA LTD.

Submitted by

FISH CREEK EXCAVATING LTD.

For

1208013 ALBERTA LTD.

November 5, 2008

Confidentiality Report End Date:
August 30, 2009

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NORDEGG NORTH PROSPECT

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Map of Current Permits and Boundaries

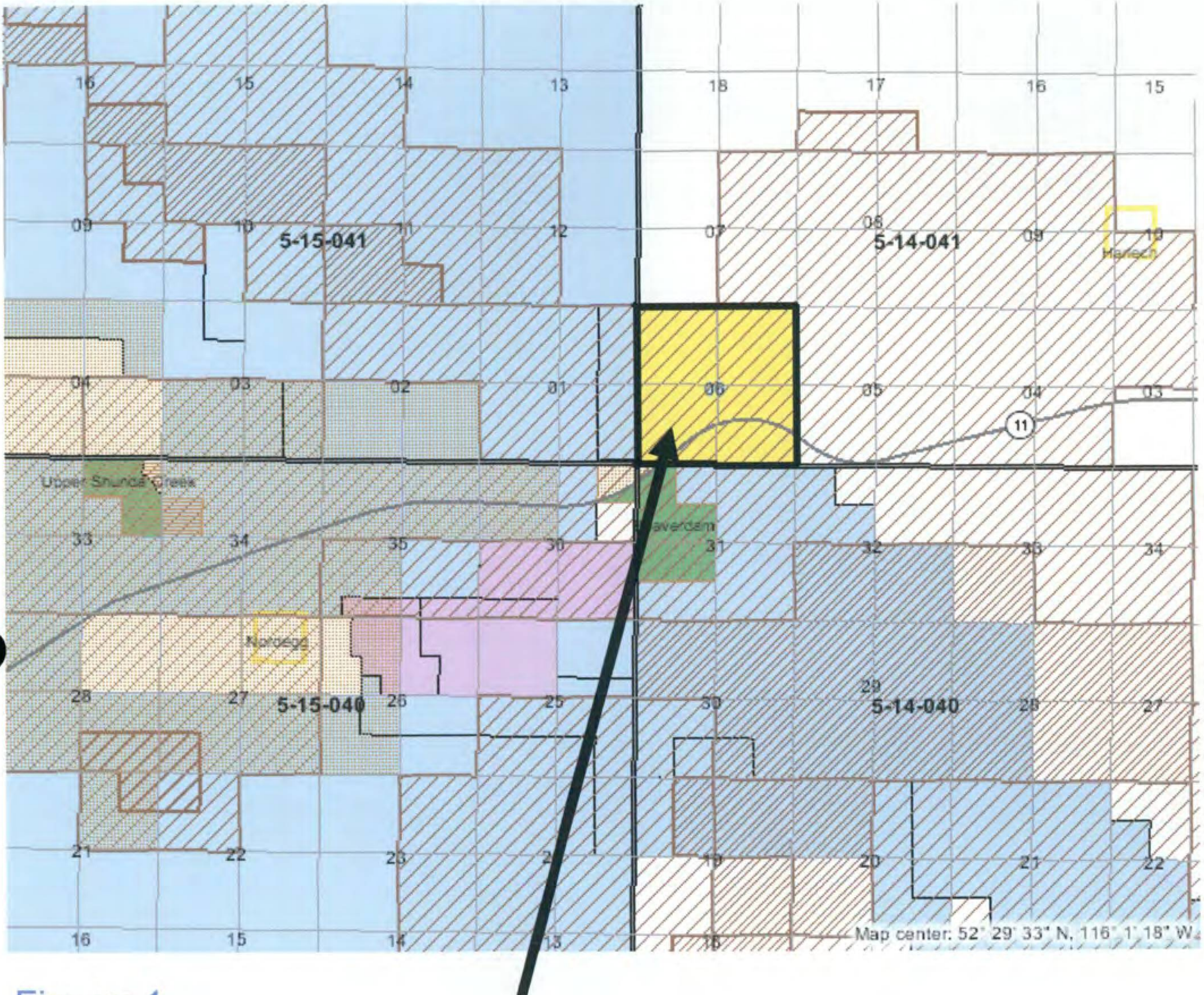

Figure: 1

METALLIC AND INDUSTRIAL MINERALS
PERMIT NO. 9306080829
5-11- 041: 6
W5M

PART B - TECHNICAL REPORT

SUMMARY

Metallic and Industrial Minerals Permit No. 9306080829 Obtained (August 30, 2006)

Exploration performed and grab samples obtained from site November 16 / 2006 for Lab testing.

INTRODUCTION

Original interest in this site started with information obtained from a map contained in an Alberta Research Council Publication (Limestone Resources of Alberta – M.E. Holter).

An area detailed on a map entitled *Geology of the Nordegg Area* (Figure: 2) showed an potential deposit in Section 6 that contained a formation of rock of particular interest. This material appears identical to high quality aggregate product processed and supplied from another quarry in which we have involvement. This material appears identical to high quality aggregate product processed and supplied from another quarry in which we have an interest. A site visit confirmed the existence of a near vertical exposure of rock on either side of Highway 11 east of Nordegg. This formation appeared to run in a northwesterly diagonal direction as shown on the Geological map (Figure: 2).

MINERAL ASSESSMENT
EXPENDITURE BREAKDOWN BY TYPE OF WORK

Estimated Expenditure ($2,469.50)

Actual Expenditure ($3,613.50)

Project Name: NORDEGG NORTH PROSPECT

AMOUNT

1. Prospecting	$ 750.00
3. X-Ray Diffraction / Petrographic Analysis	$ 1,495.00
5. Report Preparation	$ 1,040.00
SUBTOTAL $	**3,285.00**
6. Administration (up to 10% of subtotal)	$ 328.50
TOTAL	$ **3,613.50**

[redacted]

Nov 27/08

SUBMITTED BY (Don Scheurman) DATE

REGIONAL GEOLOGY

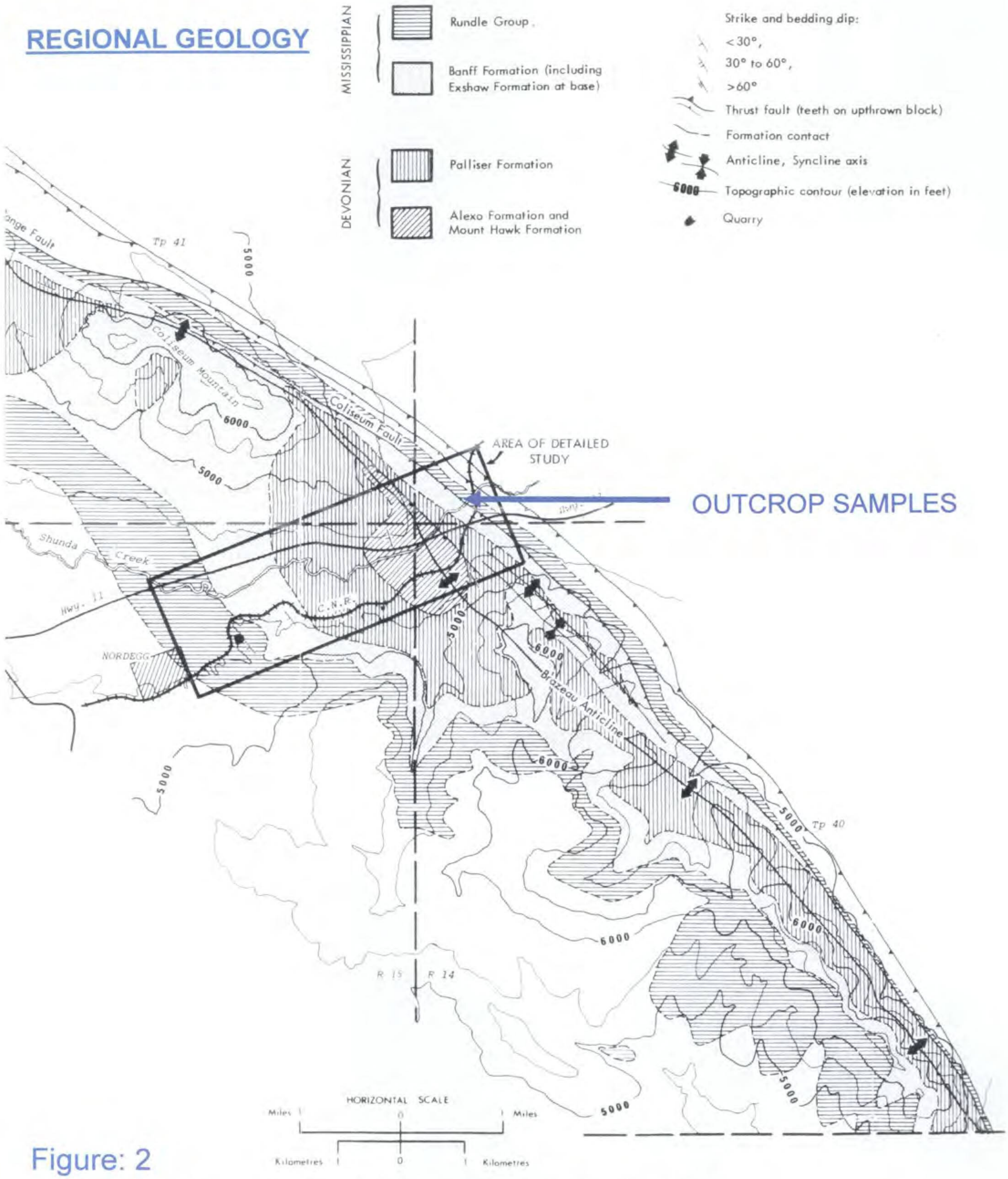

Figure: 2

FIGURE 13. GEOLOGY OF THE NORDEGG AREA
(after Erdman, 1950; Douglas, 1956 and 1958)

REGIONAL GEOLOGY

The property included in this Metallic and Industrial Mineral Permit No. 9306080829 lies along the Eastern Slope of the Rocky Mountains in west central Alberta, east of the town of Nordegg and is part of the Banff Formation (Mississipian) as indicated in the previous mapping.

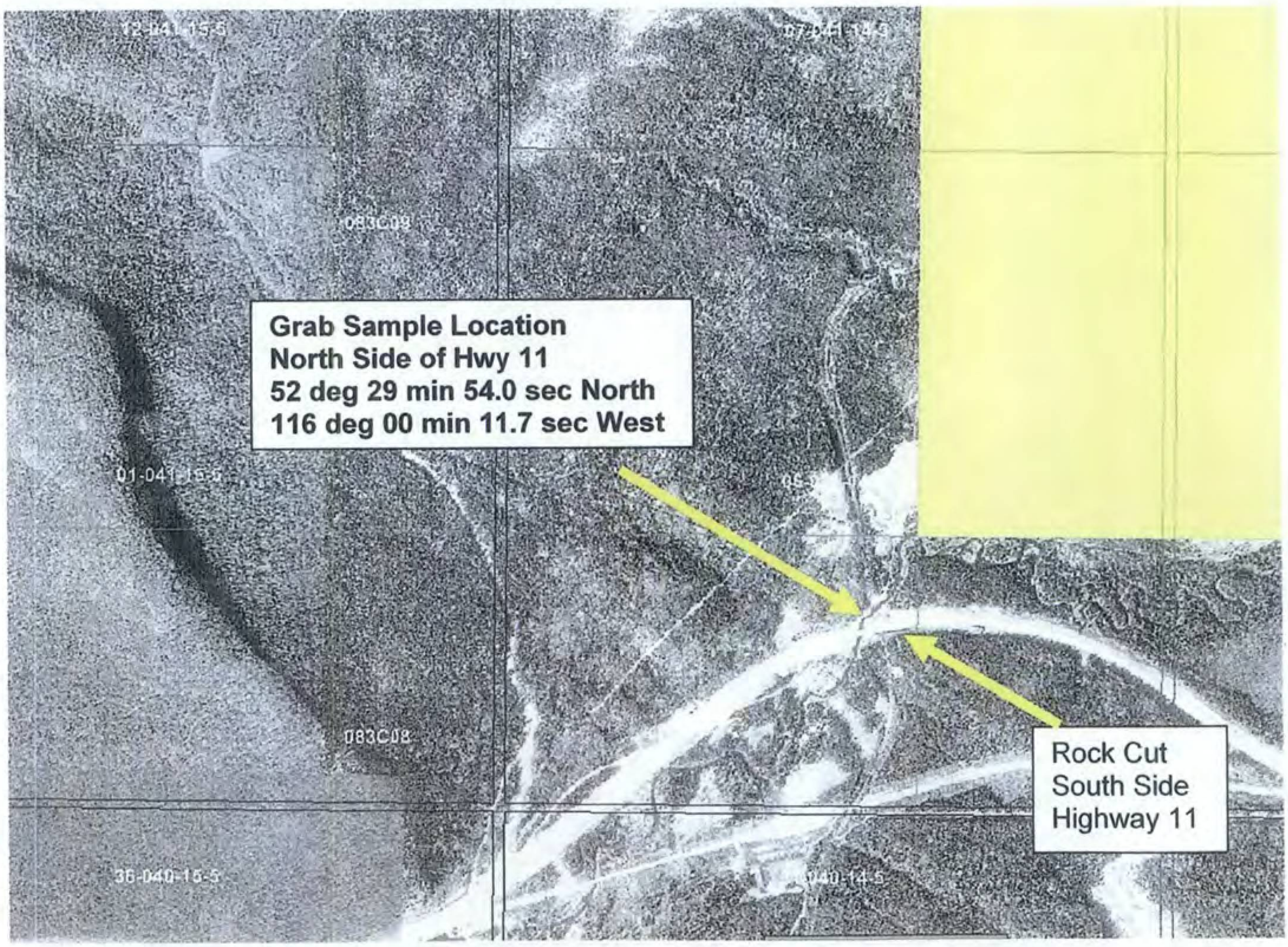

Figure: 3 - Arial Photo of Section 6 and area showing Highway 11 and the location for Grab Samples

SITE EXAMINATION

A site visit confirmed the presence of the near vertical formation of high siliceous limestone near the town of Nordegg. These outcrops were observed on either side of Highway 11 as shown in (Figure: 4, Figure: 5).

Figure: 4 – South Rock Cut

(Looking South)

This rock cut on the south side of Highway 11 shows the near vertical formation of rock.

Figure: 5 - North Rock Cut

(Looking North)

This photogragh shows the same near vertical formation on the north side of the highway.

NORDEGG PROSPECT - EXPLORATION PROGRAM

Grab samples were obtained from the outcropping on the north side of the highway across the width of the formation. These locations are shown in figures 6,7,8. below.

Figure: 6 - Sample #1

Eastern side of Exposure

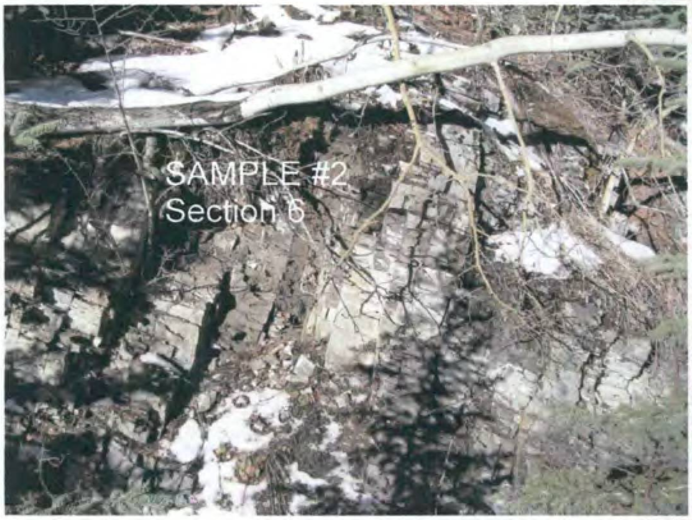

Figure: 7 - Sample #2

Mid Section of Exposure

Figure: 8 - Sample #3

Western Side of Exposure

The samples obtained from this outcropping were taken to the Laboratory for Petrological Analysis and X-Ray Diffraction.

X-RAY DIFFRACTION

An X-Ray Diffraction analysis of Nordegg North samples was performed to determine the mineralogy of the deposit. Quantitative measurements indicate the predominant presence of quartz combined with variations calcite and dolomite. The results show that the composition of all three sample is very similar indicating consistency across the deposit. The quartz content was between 62% to 72%. A detailed report is included in Appendix 1.

PETROLOGICAL ANALYSIS

Thin sections were prepared from the Nordegg North samples and analyzed using petrographic analysis to determine the basic mineralogy and texture of the rock. Samples 1 through 3 were characterized as foraminiferal chert (Highly Siliceous Limestone). It is a very homogeneous material with very low porosity. The abundance of silica in the chert and strong compaction (low porosity) strengthen this rock. The properties of this stone are very similar to a product we currently supply as a superior quality construction aggregate.

A copy of this report is included in Appendix 2.

Conclusion

The exploration work performed in Section 6 (Nordegg North Prospect) relative to **Metallic and Industrial Mineral Permit Number 9306080829** confirmed the presence of a high quality stone suitable for use in the construction industry. Although the presence of the high quality material was confirmed, additional information acquired through test pit excavation and possibly core drilling will be necessary to determine the extent and quantity of this reserve.

Author Qualifications

I, Don Scheurman, residing at Calgary, Alberta Canada do hereby certify that:

I am the Manager of the Aggregate Division with Fish Creek Excavating Ltd. (7515 – 84 Street S.E., Calgary, Alberta, Canada), and also a Shareholder and Manager of the company 1208013 Alberta Ltd (7515 – 84 Street S.E., Calgary, Alberta, Canada).

I am a graduate of the University of Lethbridge AB. with a Bachelor of Science Degree and have managed the aggregate division of Fish Creek Excavating Ltd. for the past 25 years.

I am not aware of any material fact or material change with respect to the subject matter of the Report that is not reflected in the Report, or the omission to disclose which makes the Report misleading.

[redacted]

Don Scheurman B.Sc.
Aggregate Division Manager
Fish Creek Excavating Ltd.

Signed at Calgary, Alberta, Canada, November 24, 2008

Metallic and Industrial Mineral Permit Number 9306080829

APPENDICES TABLE OF CONTENTS

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References:

Ref. 1 Alberta Research Council
Economic Geology Report 4
LIMESTONE RESOURCES OF ALBERTA
M. E. Holter

Appendix 1

X-Ray Diffraction Report

Fish Creek Excavating

Nordegg Samples

22 November, 2006

Calgary Rock and Materials Services Inc.

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Calgary Rock and Materials Services Inc. #3, 3610 – 29th Street N.E., Calgary, Alberta Canada (403) 735-5050

Section 1

Introduction

Calgary Rock and Materials Services Inc.
X-RAY DIFFRACTOMETRY (XRD) EVALUATION - AN INTRODUCTION

Introduction

X-Ray Diffractometry (XRD) is a very useful tool to the geologist, in that it has the capability of positively identifying crystalline materials. XRD can be used as a stand-alone method, or used in conjunction with other tools to provide a comprehensive, integrated approach to petrologic evaluation. In the following we will outline the strengths and potential weaknesses of the XRD method.

XRD has been used in the oil and gas industry as a routine analysis technique since the early 1960s when cost effective commercial units were introduced to the marketplace. Use of the technique has become commonplace due to its low cost and availability.

Sample Preparation

Sample Homogeneity – Sample quality can vary considerably, depending on whether it is a whole rock sample, cuttings or corrosion sample. Homogeneity of the samples can vary considerably as well. A uniform, massive sandstone with well distributed clays and cements will present the least problem while partially cemented sandstones and variable lithology carbonates and cuttings samples represent the most challenging samples.

Sample Sizes

It is recommended that a minimum sample size be in the range of 5 to 10 grams. For normal sample preparation, a 1 gram sample is needed for bulk powder analysis, while 5 grams are needed for clay separates analysis.

Bulk Sample Prep. – Normal sampling of bulk samples is accomplished by drying the sample at 60 °C overnight, then fracturing a portion of the bulk rock for use in the pulverizing mill. Samples are normally ground for 20 minutes in the mill until a homogenous powder is obtained. If specified by the client, samples can be crushed then quartered until a representative amount is obtained. This quartered sample is then pulverized until homogeneous. The powder is then packed in a powder mount, against glass, to provide a stable surface for analysis. Keep in mind that this will destroy the sample for analysis by most other testing techniques.

Special cases would include selection of specific parts of a rock for analysis, for example, mineral nodules of interest.

Cuttings can be analyzed as well. Usually a minimal amount of sample is available for analysis, and as a result, hand grinding and packing into a micro powder holder is required. As little as 1 or 2 cuttings can be analyzed in this fashion.

The bulk powder holder is then placed into the goniometer and the sample is typically scanned from 4 to 60 degrees 2θ (two theta) to produce the spectrum. A copper source tube is used to provide the incident beam of monochromatic X-rays.

Clay Sample Prep. – Generally, a 5 gram sample is required in order to get good results from the clay separates. Rock portions are first of all, disaggregated using an agate mortar and pestle with a calgon solution. Suspended clays, silt and sand are then transferred to a glass tube, topped up with calgon solution, agitated and then centrifuged for the appropriate amount of time at given centrifuge speeds to drop out the coarse fraction. The suspended portion is decanted into a clean centrifuge tube, and this is spun at high speed to settle the fine fraction of material. Calgary Rock chooses to utilize the less than 5 micron fraction (<5μ) for clay analysis, while others may utilize the <2μ or <1μ fraction. The reason for this is that significant amounts of kaolinite may be settled out of the clay suspension if other than the 5 micron fraction size is used. Kaolinite particles can typically have sizes of 10-20 microns. If other than the <5μ fraction is desired, clients should specify what value they want. After settling of the clays, the majority of the supernatant liquid is poured off, and the settled clays are homogenized. A small amount of the clay suspension is then smeared on to a glass slide, and allowed to air dry. The slide is then placed into the goniometer and run typically from 2 to 35 degrees 2θ. The slide will then be removed and placed in a container with glycol vapours at elevated temperature in order to expand sensitive clays. This provides a diagnostic for particular clay types as well as providing an indication of whether or not the clays will be fresh-water sensitive. Heating of samples, on occasion, may be necessary to delineate clay species. Sensitivity to ionic substitution (Na^+, Mg^{++}, K^+ and Ca++) can also be completed as a special analysis.

It should be noted that the term clay analysis in this case refers to sample particle size, and not necessarily mineralogy. As a result, clay results will include such minerals as quartz, feldspars, carbonates and potentially even heavy minerals such as pyrite. If true clay species alone are needed, then recalculation excluding non-clay species will be required. It should be kept in mind that size fractions of non-clay types may be important, particularly where microcrystalline minerals are present, or where dissolution of minerals is or has taken place. Often, these species will show up in the clay trace.

Data Interpretation

Raw data provided in a tabular form by the X-Ray computer is imported into X-Ray analysis software, where peak positions, shapes and heights are recorded. The software then provides most likely matches of minerals for the spectrum generated.

The Bragg Equation

The Bragg equation is used to determine the relationship between the 2θ angle of the incident beam of X-rays, and the spacings between ordered layers or sheets of atoms.

The Bragg equation is as follows:

$$n\lambda = 2d \times \sin\theta$$

Where:

n = order of the reflection. This number is an integer.

λ = wavelength of the incident beam of x-rays.

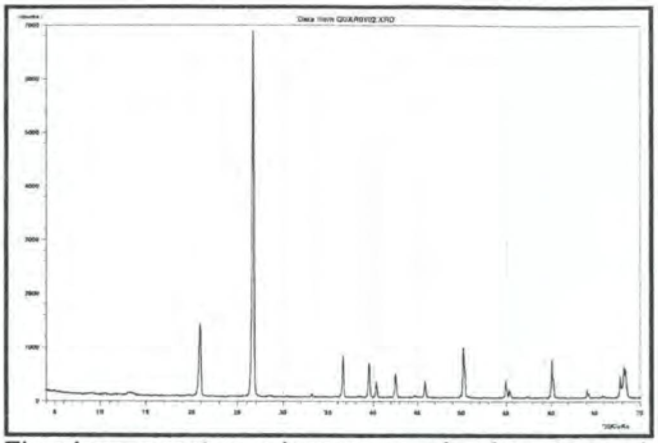
d = spacing of the layers or sheets of atoms in Angstroms.

θ = angle between the incident beam and the atomic planes of the layers or sheets.

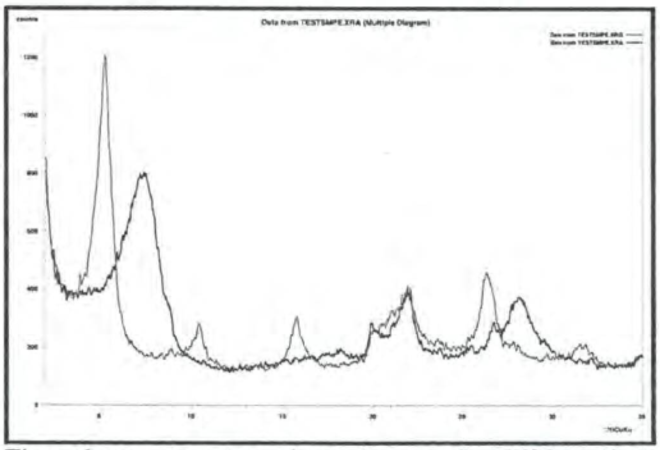
A copper tube emitting a beam of X-rays having a wavelength of 1.541874Å is normally used for most analyses. Analysis of spectra is based on tables or standard spectra generated on standard samples of known minerals.

Peaks found on the spectra must have a high enough signal to be discriminated from the background noise. In addition, it is necessary to have secondary peaks that are used to confirm the primary peak as belonging to the particular mineral species in question. As a result, there are practical limitations to the minimum detectability of minerals in the sample. Some minerals may simply be reported as having trace amounts.

Printed spectra, digital spectra images as .pdf files, spreadsheets of tabular data and .pdf files of tabular data are provided on disk for the client.



The above spectrum shows a sample of quartz used as a standard. Virtually all of the peaks seen in the spectrum are attributed to the quartz. Exceptions include a peak at 33.1 degrees 2θ (pyrite) and one at 44.7 degrees 2θ (iron). The pyrite is part of the sample while the iron is from secondary emissions from the metal parts of the instrument itself.



The above spectra show the peak shifting that occurs in a sample containing abundant smectite. The blue spectrum is the air-dried run while the green spectrum is the glycolated run. Substitution of interlayer water molecules with larger radii glycol molecules expands the interlayer distances (d-spacing) causing the shift of peaks in those species which are susceptible to expansion. Note the shift of the main peak at about 7 degrees to just over 5 degrees 2θ. The fact that the peak at about 7 degrees (air-dried) is strongly broadened indicates multiple species of clays or disordering of clay layers. Illite-smectite layers are indicated. A very sharp peak and placement toward 6 degrees 2θ would indicate pure smectite.

Calgary Rock and Materials Services Inc.

SEMI QUANTITATIVE MINERALOGY BY XRD

COMPANY: Your Company REQ BY:
LOCN: 1-2-3-4W5
DEPTH: 1234.5 M. BULK POWDER
FORM: CRDM 00010505

	2 THETA	DENSITY	INTENSITY	FACTOR	WGHT FRACTION	VOL FRACTION
QUARTZ	20.9	2.65	6734	1.00	0.77	0.78
K-FELDSPAR	25.8	2.58	0	3.12	0.00	0.00
K-FELDSPAR	27.5	2.58	127	1.10	0.02	0.02
PLAGIOCLASE	22.1	2.63	0	1.63	0.00	0.00
PLAGIOCLASE	28.0	2.63	679	0.66	0.08	0.08
CALCITE	29.5	2.71	274	0.33	0.03	0.03
DOLOMITE	30.8	2.84	147	0.40	0.01	0.01
ARAGONITE	26.2	2.93	0	1.80	0.00	0.00
SIDERITE	32.0	3.80	63	0.84	0.01	0.00
APATITE	25.9	3.20	0	1.88	0.00	0.00
ANHYDRITE	25.5	2.95	0	0.13	0.00	0.00
GYPSUM	11.7	2.33	0	0.85	0.00	0.00
BARITE	26.0	4.50	0	0.96	0.00	0.00
HALITE	31.7	2.16	0	0.25	0.00	0.00
PYRITE	33.1	5.00	284	0.60	0.02	0.01
KAOLINITE	12.5	2.65	256	1.20	0.04	0.04
ILLITE	8.9	2.75	121	2.07	0.02	0.02
ILLITE	19.8	2.75	0	4.20	0.00	0.00
CHLORITE	6.2	3.00	57	5.00	0.01	0.01
SMECTITE	5.0	2.50	0	1.00	0.00	0.00
MICA	8.9	2.75	0	1.00	0.00	0.00
BERTHIERINE	12.5	3.03	0	1.00	0.00	0.00
					1.00	1.00

CALCULATED GRAIN DENSITY = 2.71

Interpreted output tables are provided for the client's use. Pertinent data includes both weight fraction as well as volume fractions for mineral species. Note the calculated grain density at the bottom.

Important Reminders

Strengths

There are several reasons for using XRD as a semi-analytical tool. It can be used to positively identify mineral species contained in a sample. For example, on larger samples, relative amounts of clay types can be determined. In addition, the relative amounts of clays can be evaluated, both from a volumetric and mass perspective.

Differences between illite and mixed-layer clays are easily discernable using XRD analysis.

XRD analysis can be conducted on small amounts of sample. Qualitative analysis may provide critical input to completion decisions.

XRD analysis conducted on small samples can provide grain density of the rock in question. This can be helpful for calibrating logs.

Clay analyses can also be indicators of burial history. For example, shallow sediments often contain smectite, which will undergo transition through illite/smectite mixed layer clay, to a pure, end-member illite clay. If, for example, illite/smectite mixed-layer clay is found at around 300 metres depth, it could be an indication that the sediments have undergone a burial history of subsidence, then erosional uplift following that deeper burial. Similarly, smectite found at depth may indicate a situation of lower temperatures or compartmentalization of sediments with minimal diagenesis.

Limitations

X-ray analysis only measures what is there. One of the common errors in evaluation of XRD data is to compare it to petrographic analysis. For example, a petrologist will, in doing a point count and landing on a pore fill of kaolinite, count it as kaolinite. In fact, clusters of vermicular kaolinite are really only about 50% kaolinite, while the remainder is made up of microporosity. This is clearly seen in scanning electron microscopy analysis. As a result, the petrographer's results could be out by 100% with respect to the amount of kaolinite present! Chert dissolution can present a similar problem. Care must be taken in comparing XRD mineralogical analyses to standard petrographic techniques.

XRD analysis is limited with respect to the minimum fractions of mineral that it can detect. This can be related to the absolute amounts of material present, for example, if under one percent of a mineral is present, it may or may not be detectable. Response factors, interference by other minerals and signal to noise ratios may be influential on whether detection is possible. Peak overlap presents serious roadblocks to detectability when small amounts of one mineral are dominated by large amounts of another.

Note that multiple angles are reported for the same minerals such as the feldspars and illite. Only one peak position will be used for any mineral, and where the typical peak position is interfered with by other minerals, the alternate position will be used for semi-quantitative analysis.

Q & A

Q: My amounts of clay (<5 μm) shown on the clay fraction table do not match the amounts shown if I add up the clay amounts from the bulk analysis spreadsheet.

A: It would, in fact, be unusual to have these two amounts match. There are several reasons for this. First of all, we are separating out the less than 5 micron fraction of the material by centrifugation methods. This means that materials that are not technically considered to be clays in a generic sense (illite, kaolinite, smectite and chlorite) like quartz and feldspars for example, may be of an appropriate size fraction to be separated using this standard method. Second, clay sizes are different, so minerals such as kaolinite, having particle sizes sometimes approaching 20 microns diameter, will get "spun out" of the "clay" fraction simply because they are large enough to settle rapidly. Other clays such as illite may or may not disaggregate to the size necessary to do a quantitative analysis. This is partially why XRD is considered semi-quantitative. The nature of the minerals involved have a substantial influence on the end result. So, amounts that can to too little, or too great will be normal when using these techniques.

Q: Petrographically, the results do not match the amounts of minerals that are found using XRD analysis.

A: This too, is not unusual. Much depends on the homogeneity of the sample, and the method of deriving a sample from the raw rock piece provided. Cuttings can be very inhomogeneous, as can bulk rock samples from plugs, core or outcrop. As suggested in the preceding review, techniques can be used to minimize these effects, but they cannot be totally eliminated.

Q: Petrographically, I see a large amount of blue-stained "dolomite" but the XRD analysis shows calcite.

A: In unusual circumstances (mostly in shallow burial) the calcite takes on a very hard blue stain in the thin sections. It is unclear as to why this phenomenon occurs. If inspection is made on the thin section, it will be discovered that the stain (which is a thin film over the calcite or dolomite) has a "crazed" appearance. This is caused by aggressive evolution of CO_2 gas from underneath the layer of stain. This feature is enhanced when the sample is dried.

Hints on Manipulation of Tabular Data from an Adobe Acrobat® .pdf file.

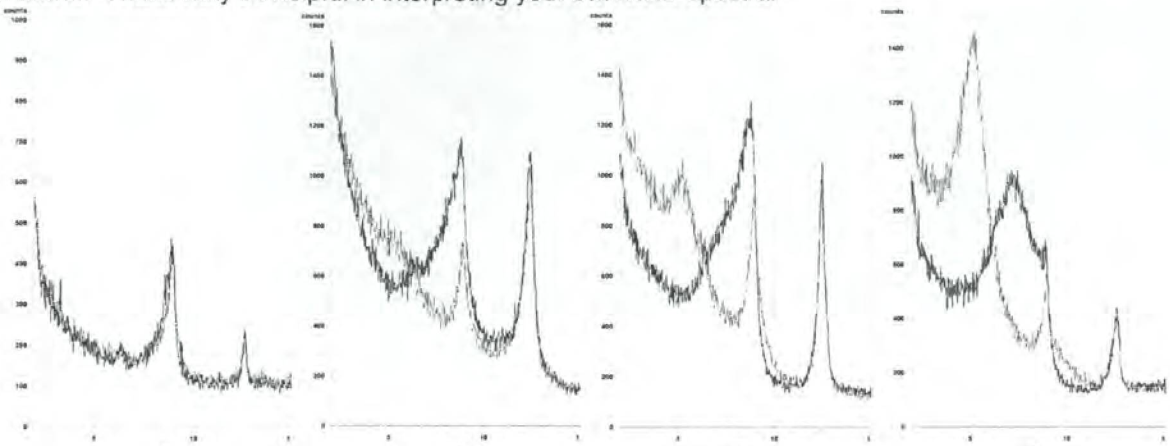
1. Open the Acrobat .pdf file.
2. Click the Text Select tool on the menu bar.
3. Click and drag select the text you want to copy.
4. Use the Copy command or use the Ctrl+C keys to copy the text. This copies the text to your clipboard.
5. Open a word processor like Notepad, Wordpad, Word or some other.
6. Use the Paste command or use the Ctrl+V keys to paste the copied text to your page.
7. Save the file as a ASCII text file.
8. Start Microsoft Excel or another spreadsheet.
9. Open the file that you saved from your word processor.
10. Follow the instructions for delimiting the columnar data. Normally this will be a space delimited type.
11. Manipulate and chart your data.

An excellent resource for techniques used in XRD analysis is found at:

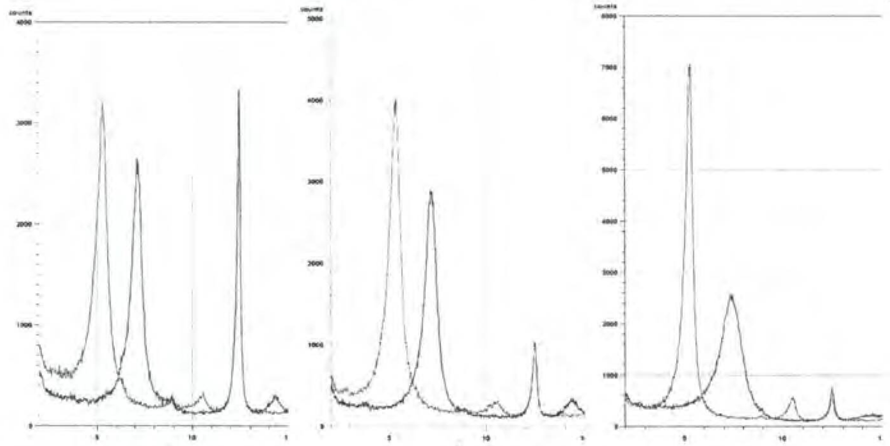
http://pubs.usgs.gov/of/of01-041/htmldocs/intro.htm

Some Additional Notes on Clay Analysis

The following real-world clay traces provide some examples of the variety of smectite and illite combinations that can be found. These may be helpful in interpreting your own XRD spectra.



a b c d



e f g

The following provide explanations for the traces shown above. The x-axis is calibrated in 2-theta (θ) degrees while the y-axis denotes peak intensity. Air-dried traces are shown in blue while glycolated traces are shown in green.

a: A sample containing virtually no smectite or illite-smectite expandable clays. Illite is shown at peak position of about 8.9 degrees. Note also kaolinite at about 12.5 degrees and chlorite at about 6.3 degrees.

b: A sample containing pure end-member illite (8.9 degrees on the glycolated trace) and a highly disordered illite-smectite indicated by the broad leading edge of the illite peak in the air-dried trace (blue). When glycolated, this type of highly disordered illite-smectite gets generally "smeared" into the low-angle background rather than showing any distinct peak. Kaolinite is seen at about 12.5 degrees where peaks essentially overlap.

c: Sample showing a mixture of illite, illite-smectite and minor pure end-member smectite. Pure illite is discriminated in the glycolated trace at 8.9 degrees. The background is generally increased at the low angles indicating a disordered illite-smectite. Kaolinite is shown at about 12.5 degrees.

d: Sample showing a dominance of illite and illite-smectite. Large, broad peak at 5.2 degrees in the glycolated trace is ordered illite-smectite. Randomly-ordered illite-smectite can be indicated by a significant background increase at the low-angle region of the spectrum.

e: Sample of mainly ordered smectite (narrow, sharp peaks) with illite-smectite layers in small amounts. There are small amounts of pure, end-member illite and a trace of chlorite.

f: This sample has even less illite than e, but similar characteristics are seen otherwise.

g: Sample similar to previous two. Illite-smectite peak at 7 degrees is very broad, indicating more poorly ordered illite-smectite compared to previous samples. Pure smectite is also present. Care must be taken to evaluate the peak broadening characteristics of the sample, as well as higher angle responses of the traces. Very broad peaks are indicators of multiple species.

Section 2

Tables and Plots

Calgary Rock and Materials Services Inc. XRD Clay Fraction Table

Requestor: Don Schuerman **Company:** Fish Creek Excavating **Date:** 17 November, 2006

Sequence Number	Sample Number	Formation	Location	Depth	Total Sample Mass gm	Mass of Centrifuge Tube + >5 um - gm	Mass of Centrifuge Tube gm	Total Clay % <5 um by Mass	Sequence Number
1	04021106	N/A	Nordegg	#1	4.40	49.07	44.85	4.1	1
2	04031106	N/A	Nordegg	#2	4.76	49.36	44.82	4.6	2
3	04041106	N/A	Nordegg	#3	4.52	48.99	44.63	3.5	3
4									4
5									5
6									6
7									7
8									8
9									9
10									10
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Calgary Rock and Materials Services Inc.

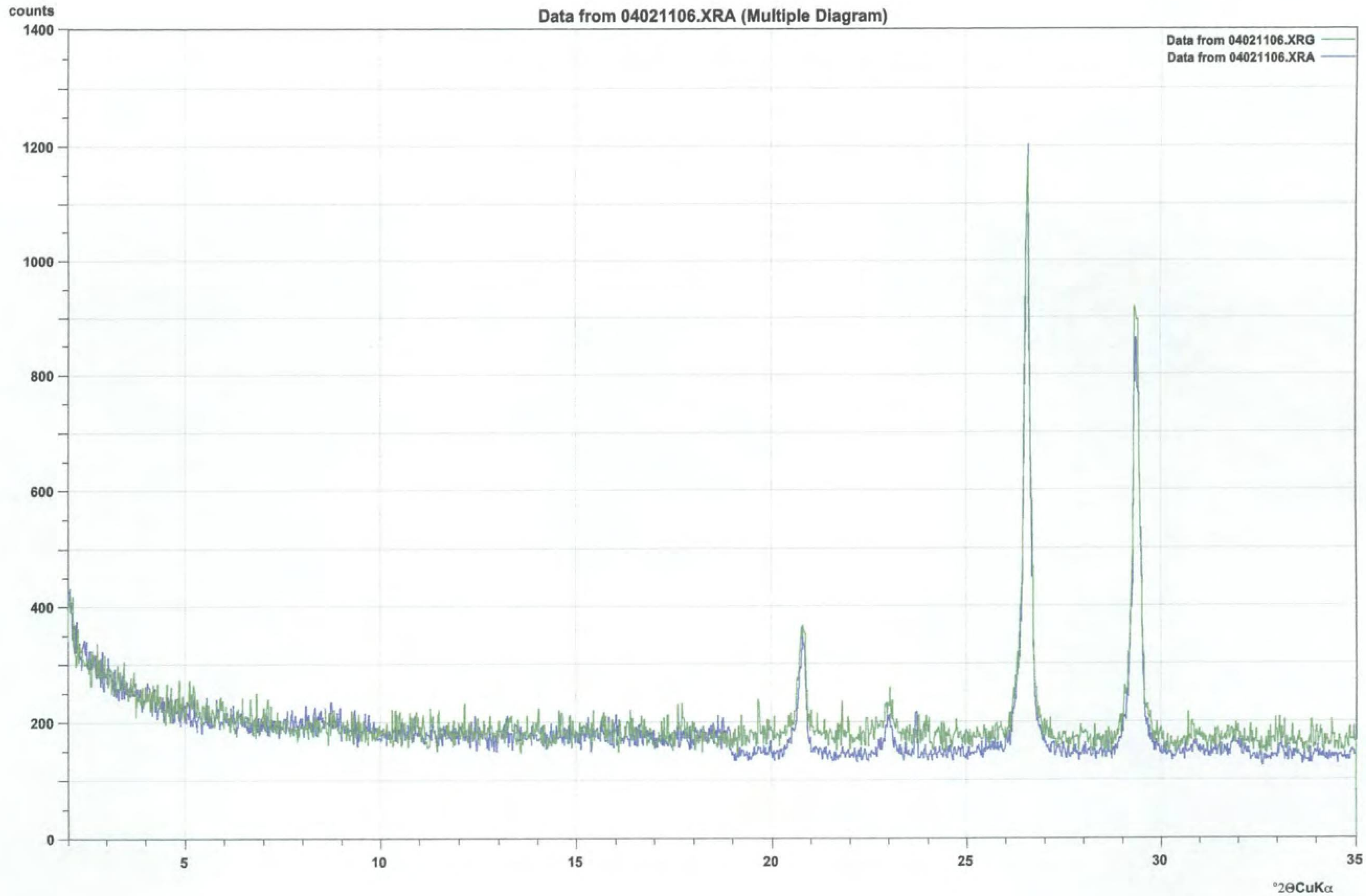
SEMI QUANTITATIVE MINERALOGY BY XRD

COMPANY: Fish Creek Excavating REQ BY: Don Schuerman
LOCN: Nordegg
DEPTH: #1 CLAY SMEAR < 5 um
FORM: N/A 04021106

	2 THETA	DENSITY	INTENSITY	FACTOR	WGHT FRACTION	VOL FRACTION
QUARTZ	20.9	2.65	192	1.00	0.25	0.26
K-FELDSPAR	25.8	2.58	0	3.12	0.00	0.00
K-FELDSPAR	27.5	2.58	0	0.62	0.00	0.00
PLAGIOCLASE	22.1	2.63	0	1.63	0.00	0.00
PLAGIOCLASE	28.0	2.63	0	0.66	0.00	0.00
CALCITE	29.5	2.71	745	0.69	0.67	0.68
DOLOMITE	30.8	2.84	40	0.64	0.03	0.03
ARAGONITE	26.2	2.93	0	1.80	0.00	0.00
SIDERITE	32.0	3.80	26	0.84	0.03	0.02
APATITE	25.9	3.20	0	1.88	0.00	0.00
ANHYDRITE	25.5	2.95	0	0.13	0.00	0.00
GYPSUM	11.7	2.33	0	0.85	0.00	0.00
BARITE	26.0	4.50	0	0.96	0.00	0.00
HALITE	31.7	2.16	0	0.25	0.00	0.00
PYRITE	33.1	5.00	28	0.60	0.02	0.01
HEMATITE	33.3	5.27	0	1.00	0.00	0.00
KAOLINITE	12.5	2.65	0	1.20	0.00	0.00
ILLITE	8.9	2.75	tr	7.20	0.00	0.00
ILLITE	19.8	2.75	0	4.20	0.00	0.00
CHLORITE	6.2	3.00	0	5.00	0.00	0.00
SMECTITE	5.0	2.50	0	1.00	0.00	0.00
ILLITE/SMECTITE	5.2	2.50	0	1.00	0.00	0.00
MICA	8.9	2.75	0	1.00	0.00	0.00
BERTHIERINE	12.5	3.03	0	1.00	0.00	0.00
					1.00	1.00

CALCULATED GRAIN DENSITY = 2.78

Mon, Nov 20, 2006, 19:42
Operator: Raymond Strom



Calgary Rock and Materials Services Inc.

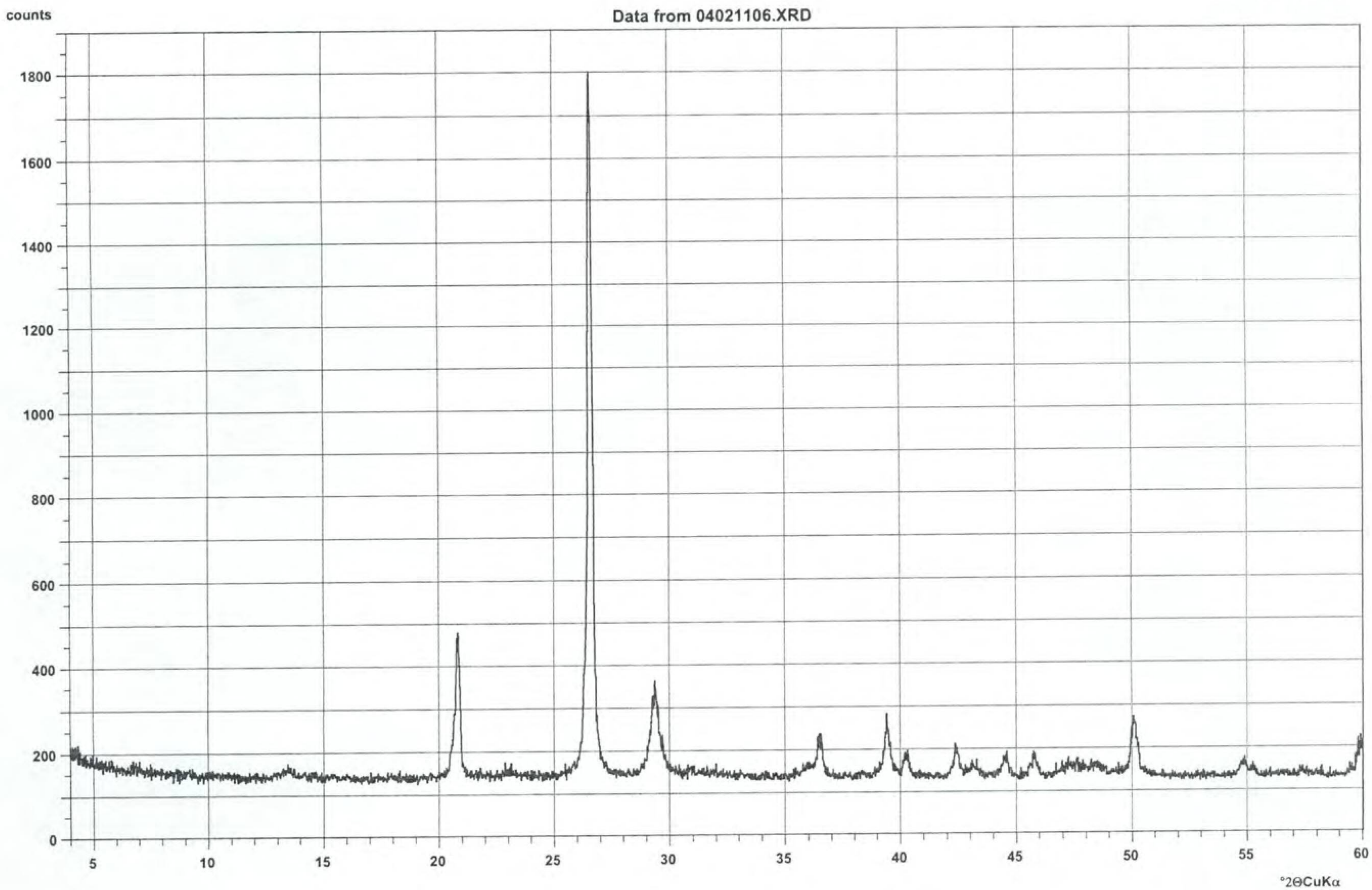
SEMI QUANTITATIVE MINERALOGY BY XRD

COMPANY: Fish Creek Excavating REQ BY: Don Schuerman
LOCN: Nordegg
DEPTH: #1 BULK POWDER
FORM: N/A 04021106

	2 THETA	DENSITY	INTENSITY	FACTOR	WGHT FRACTION	VOL FRACTION
QUARTZ	20.9	2.65	335	1.00	0.62	0.62
K-FELDSPAR	25.8	2.58	0	3.12	0.00	0.00
K-FELDSPAR	27.5	2.58	0	1.10	0.00	0.00
PLAGIOCLASE	22.1	2.63	0	1.63	0.00	0.00
PLAGIOCLASE	28.0	2.63	0	0.66	0.00	0.00
CALCITE	29.5	2.71	211	0.33	0.36	0.35
DOLOMITE	30.8	2.84	16	0.40	0.02	0.02
ARAGONITE	26.2	2.93	0	1.80	0.00	0.00
SIDERITE	32.0	3.80	0	0.84	0.00	0.00
APATITE	25.9	3.20	0	1.88	0.00	0.00
ANHYDRITE	25.5	2.95	0	0.13	0.00	0.00
GYPSUM	11.7	2.33	0	0.85	0.00	0.00
BARITE	26.0	4.50	0	0.96	0.00	0.00
HALITE	31.7	2.16	0	0.25	0.00	0.00
PYRITE	33.1	5.00	0	0.60	0.00	0.00
KAOLINITE	12.5	2.65	0	1.20	0.00	0.00
ILLITE	8.9	2.75	0	2.07	0.00	0.00
ILLITE	19.8	2.75	0	4.20	0.00	0.00
CHLORITE	6.2	3.00	0	5.00	0.00	0.00
SMECTITE	5.0	2.50	0	1.00	0.00	0.00
MICA	8.9	2.75	0	1.00	0.00	0.00
BERTHIERINE	12.5	3.03	0	1.00	0.00	0.00
					1.00	1.00

CALCULATED GRAIN DENSITY = 2.68

Mon, Nov 20, 2006, 19:37
Operator: Raymond Strom
File: '04021106.XRD'



Calgary Rock and Materials Services Inc.

SEMI QUANTITATIVE MINERALOGY BY XRD

COMPANY: Fish Creek Excavating REQ BY: Don Schuerman
LOCN: Nordegg
DEPTH: #2 BULK POWDER
FORM: N/A 04031106

	2 THETA	DENSITY	INTENSITY	FACTOR	WGHT FRACTION	VOL FRACTION
QUARTZ	20.9	2.65	366	1.00	0.70	0.72
K-FELDSPAR	25.8	2.58	0	3.12	0.00	0.00
K-FELDSPAR	27.5	2.58	0	1.10	0.00	0.00
PLAGIOCLASE	22.1	2.63	0	1.63	0.00	0.00
PLAGIOCLASE	28.0	2.63	0	0.66	0.00	0.00
CALCITE	29.5	2.71	82	0.33	0.14	0.14
DOLOMITE	30.8	2.84	87	0.40	0.13	0.12
ARAGONITE	26.2	2.93	0	1.80	0.00	0.00
SIDERITE	32.0	3.80	0	0.84	0.00	0.00
APATITE	25.9	3.20	0	1.88	0.00	0.00
ANHYDRITE	25.5	2.95	0	0.13	0.00	0.00
GYPSUM	11.7	2.33	0	0.85	0.00	0.00
BARITE	26.0	4.50	0	0.96	0.00	0.00
HALITE	31.7	2.16	0	0.25	0.00	0.00
PYRITE	33.1	5.00	25	0.60	0.03	0.02
KAOLINITE	12.5	2.65	0	1.20	0.00	0.00
ILLITE	8.9	2.75	0	2.07	0.00	0.00
ILLITE	19.8	2.75	0	4.20	0.00	0.00
CHLORITE	6.2	3.00	0	5.00	0.00	0.00
SMECTITE	5.0	2.50	0	1.00	0.00	0.00
MICA	8.9	2.75	0	1.00	0.00	0.00
BERTHIERINE	12.5	3.03	0	1.00	0.00	0.00
					1.00	1.00

CALCULATED GRAIN DENSITY = 2.75

Mon, Nov 20, 2006, 19:43
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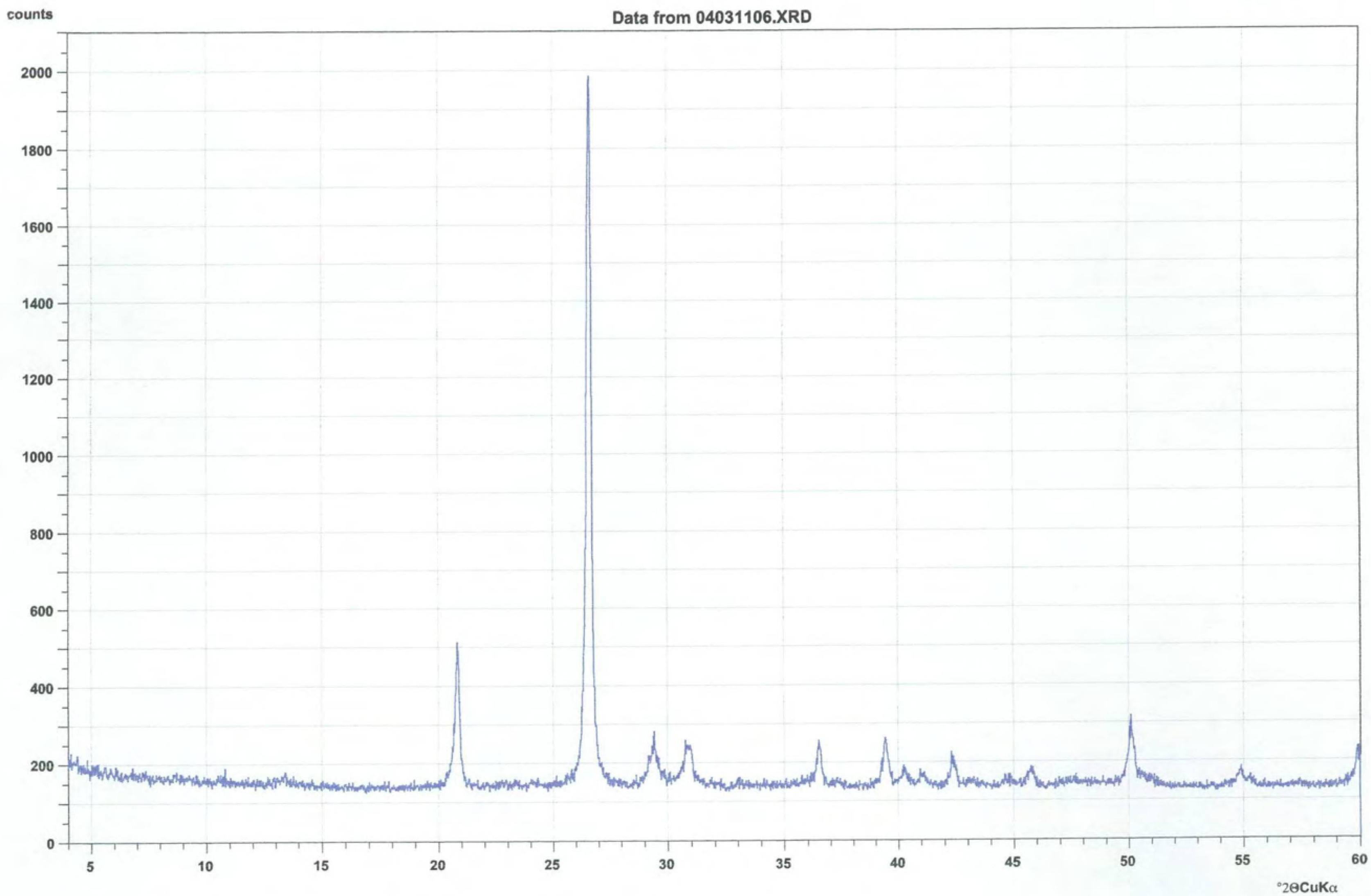


Calgary Rock and Materials Services Inc.

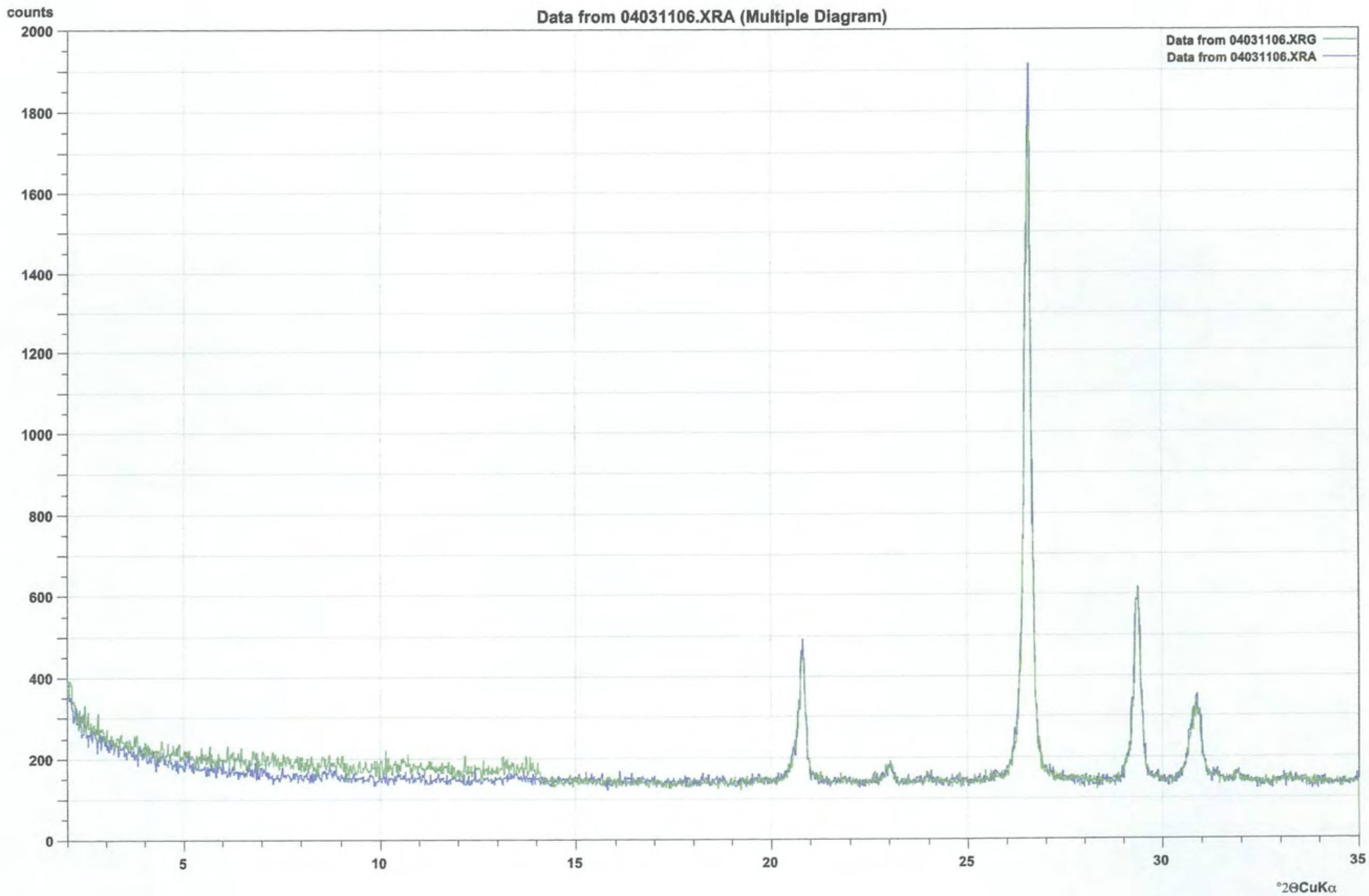
SEMI QUANTITATIVE MINERALOGY BY XRD

COMPANY: Fish Creek Excavating REQ BY: Don Schuerman
LOCN: Nordegg
DEPTH: #2 CLAY SMEAR < 5 um
FORM: N/A 04031106

	2 THETA	DENSITY	INTENSITY	FACTOR	WGHT FRACTION	VOL FRACTION
QUARTZ	20.9	2.65	306	1.00	0.40	0.41
K-FELDSPAR	25.8	2.58	0	3.12	0.00	0.00
K-FELDSPAR	27.5	2.58	0	0.62	0.00	0.00
PLAGIOCLASE	22.1	2.63	0	1.63	0.00	0.00
PLAGIOCLASE	28.0	2.63	0	0.66	0.00	0.00
CALCITE	29.5	2.71	454	0.69	0.41	0.41
DOLOMITE	30.8	2.84	201	0.64	0.17	0.16
ARAGONITE	26.2	2.93	0	1.80	0.00	0.00
SIDERITE	32.0	3.80	17	0.84	0.02	0.01
APATITE	25.9	3.20	0	1.88	0.00	0.00
ANHYDRITE	25.5	2.95	0	0.13	0.00	0.00
GYPSUM	11.7	2.33	0	0.85	0.00	0.00
BARITE	26.0	4.50	0	0.96	0.00	0.00
HALITE	31.7	2.16	0	0.25	0.00	0.00
PYRITE	33.1	5.00	0	0.60	0.00	0.00
HEMATITE	33.3	5.27	0	1.00	0.00	0.00
KAOLINITE	12.5	2.65	0	1.20	0.00	0.00
ILLITE	8.9	2.75	0	7.20	0.00	0.00
ILLITE	19.8	2.75	0	4.20	0.00	0.00
CHLORITE	6.2	3.00	0	5.00	0.00	0.00
SMECTITE	5.0	2.50	0	1.00	0.00	0.00
ILLITE/SMECTITE	5.2	2.50	0	1.00	0.00	0.00
MICA	8.9	2.75	0	1.00	0.00	0.00
BERTHIERINE	12.5	3.03	0	1.00	0.00	0.00
					1.00	1.00

CALCULATED GRAIN DENSITY = 2.73

Mon, Nov 20, 2006, 19:44
Operator: Raymond Strom



Calgary Rock and Materials Services Inc.

SEMI QUANTITATIVE MINERALOGY BY XRD

COMPANY:	Fish Creek Excavating	REQ BY:	Don Schuerman
LOCN:	Nordegg		
DEPTH:	#3	BULK POWDER	
FORM:	N/A	04041106	

	2 THETA	DENSITY	INTENSITY	FACTOR	WGHT FRACTION	VOL FRACTION
QUARTZ	20.9	2.65	518	1.00	0.61	0.63
K-FELDSPAR	25.8	2.58	0	3.12	0.00	0.00
K-FELDSPAR	27.5	2.58	0	1.10	0.00	0.00
PLAGIOCLASE	22.1	2.63	0	1.63	0.00	0.00
PLAGIOCLASE	28.0	2.63	0	0.66	0.00	0.00
CALCITE	29.5	2.71	63	0.33	0.07	0.07
DOLOMITE	30.8	2.84	342	0.40	0.32	0.30
ARAGONITE	26.2	2.93	0	1.80	0.00	0.00
SIDERITE	32.0	3.80	0	0.84	0.00	0.00
APATITE	25.9	3.20	0	1.88	0.00	0.00
ANHYDRITE	25.5	2.95	0	0.13	0.00	0.00
GYPSUM	11.7	2.33	0	0.85	0.00	0.00
BARITE	26.0	4.50	0	0.96	0.00	0.00
HALITE	31.7	2.16	0	0.25	0.00	0.00
PYRITE	33.1	5.00	tr	0.60	0.00	0.00
KAOLINITE	12.5	2.65	0	1.20	0.00	0.00
ILLITE	8.9	2.75	0	2.07	0.00	0.00
ILLITE	19.8	2.75	0	4.20	0.00	0.00
CHLORITE	6.2	3.00	0	5.00	0.00	0.00
SMECTITE	5.0	2.50	0	1.00	0.00	0.00
MICA	8.9	2.75	0	1.00	0.00	0.00
BERTHIERINE	12.5	3.03	0	1.00	0.00	0.00
					1.00	1.00

CALCULATED GRAIN DENSITY = 2.71

Mon, Nov 20, 2006, 19:47
Operator: Raymond Strom
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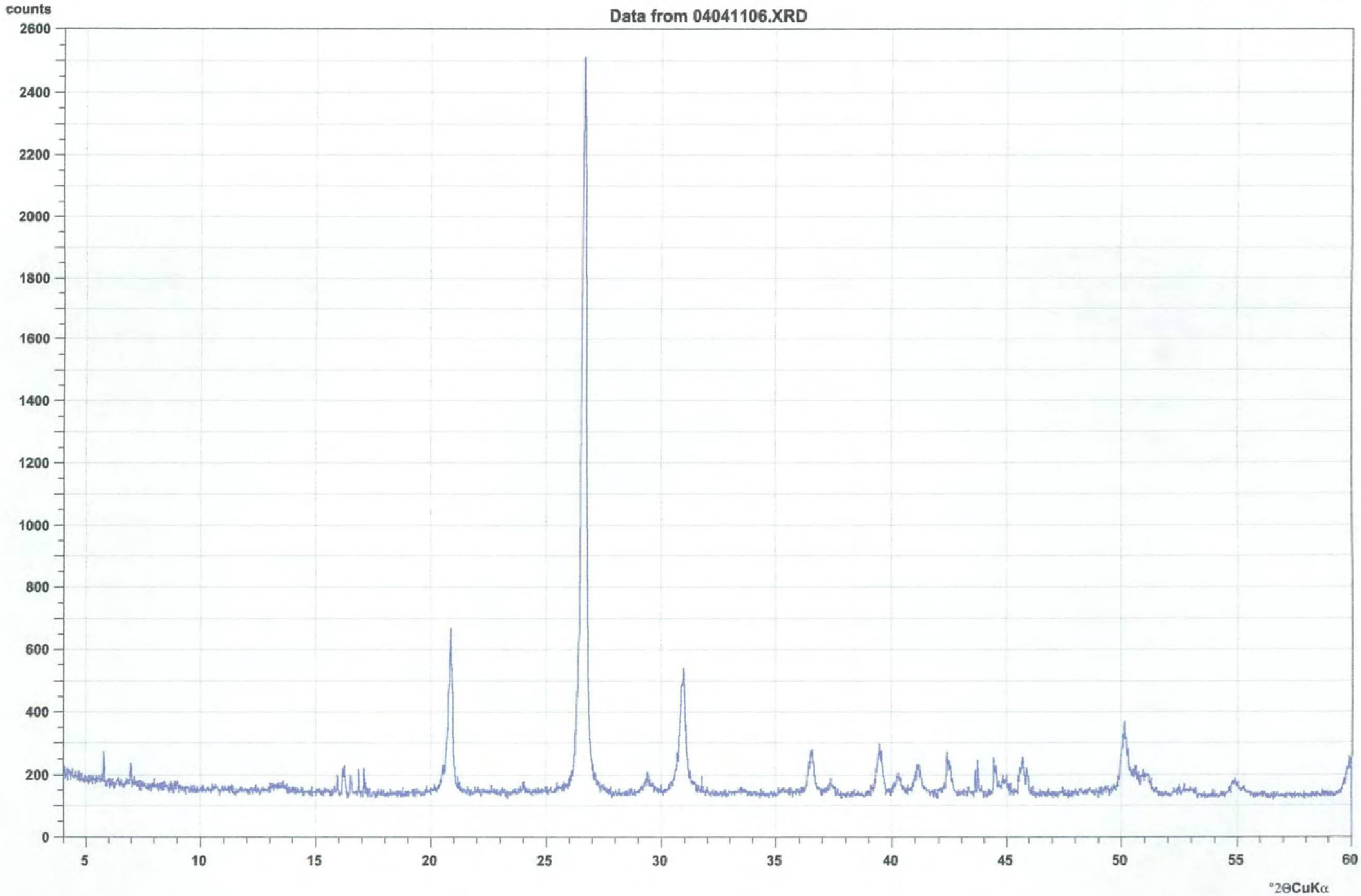


Calgary Rock and Materials Services Inc.

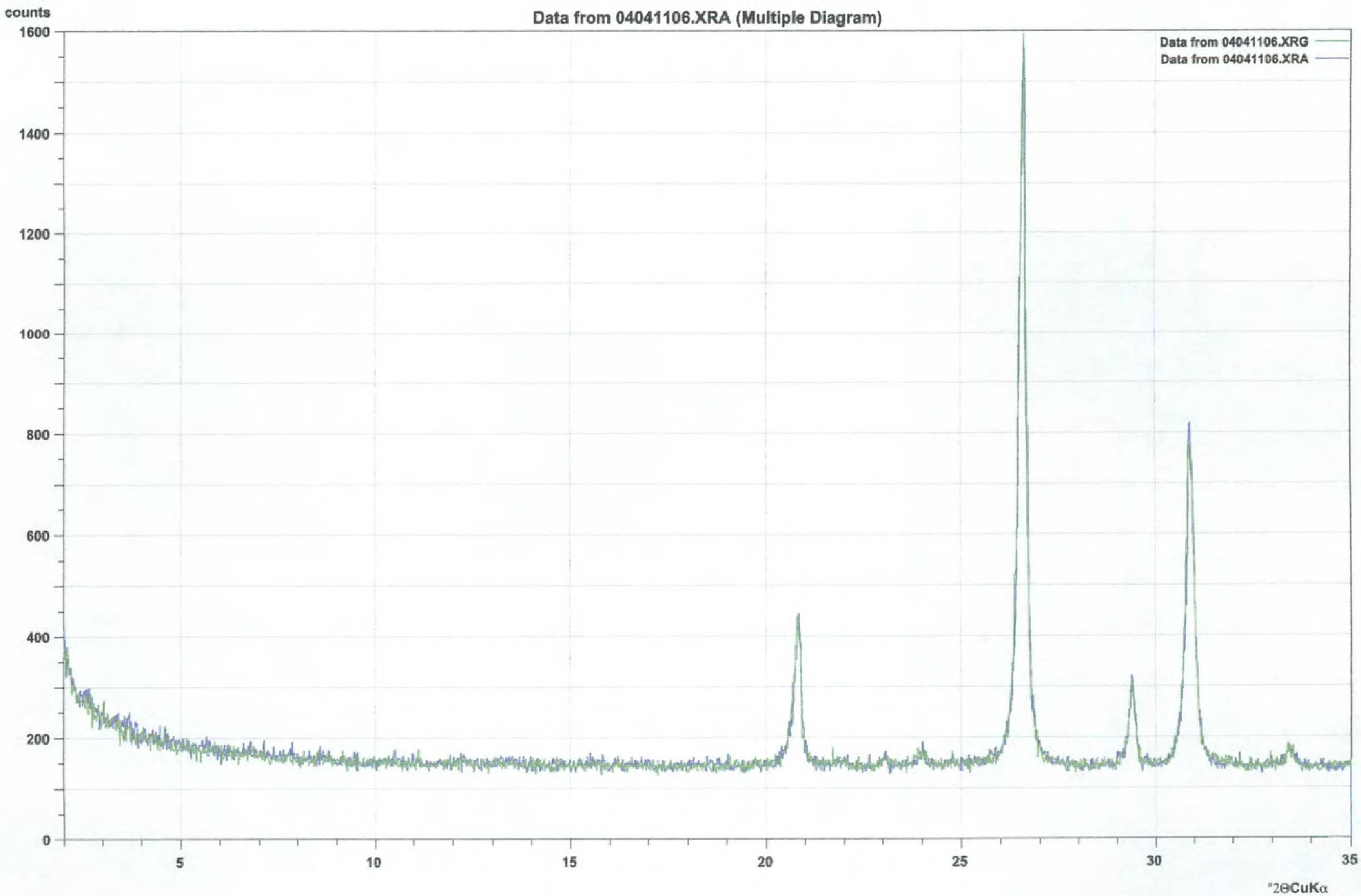
SEMI QUANTITATIVE MINERALOGY BY XRD

COMPANY: Fish Creek Excavating REQ BY: Don Schuerman
LOCN: Nordegg
DEPTH: #3 CLAY SMEAR < 5 um
FORM: N/A 04041106

	2 THETA	DENSITY	INTENSITY	FACTOR	WGHT FRACTION	VOL FRACTION
QUARTZ	20.9	2.65	288	1.00	0.36	0.37
K-FELDSPAR	25.8	2.58	0	3.12	0.00	0.00
K-FELDSPAR	27.5	2.58	0	0.62	0.00	0.00
PLAGIOCLASE	22.1	2.63	0	1.63	0.00	0.00
PLAGIOCLASE	28.0	2.63	0	0.66	0.00	0.00
CALCITE	29.5	2.71	164	0.69	0.14	0.14
DOLOMITE	30.8	2.84	624	0.64	0.50	0.48
ARAGONITE	26.2	2.93	0	1.80	0.00	0.00
SIDERITE	32.0	3.80	0	0.84	0.00	0.00
APATITE	25.9	3.20	0	1.88	0.00	0.00
ANHYDRITE	25.5	2.95	0	0.13	0.00	0.00
GYPSUM	11.7	2.33	0	0.85	0.00	0.00
BARITE	26.0	4.50	0	0.96	0.00	0.00
HALITE	31.7	2.16	0	0.25	0.00	0.00
PYRITE	33.1	5.00	0	0.60	0.00	0.00
HEMATITE	33.3	5.27	0	1.00	0.00	0.00
KAOLINITE	12.5	2.65	0	1.20	0.00	0.00
ILLITE	8.9	2.75	0	7.20	0.00	0.00
ILLITE	19.8	2.75	0	4.20	0.00	0.00
CHLORITE	6.2	3.00	0	5.00	0.00	0.00
SMECTITE	5.0	2.50	0	1.00	0.00	0.00
ILLITE/SMECTITE	5.2	2.50	0	1.00	0.00	0.00
MICA	8.9	2.75	0	1.00	0.00	0.00
BERTHIERINE	12.5	3.03	0	1.00	0.00	0.00
					1.00	1.00

CALCULATED GRAIN DENSITY = 2.75

Mon, Nov 20, 2006, 19:45
Operator: Raymond Strom



APPENDIX 2

Calgary Rock and Materials Services Inc.

PETROLOGICAL ANALYSIS

NORDEGG OUTCROP

CONFIDENTIAL

Prepared by Calgary Rock and Materials Services

For

Fish Creek Excavating Ltd.
30th November, 2006

CALGARY ROCK AND MATERIALS SERVICES INC.

NOTICE OF PROPRIETARY TECHNOLOGY AND LIABILITY

TABLE OF CONTENTS

Petrographic Study
Nordegg Outcrop

Introduction

The main purpose of this study is to briefly evaluate the mineralogy, texture and durability for three Nordegg outcrop samples.

The thin-sections produced from outcrop samples, were impregnated with blue epoxy to identify porosity and to prevent delicate structures (e.g. clays) from being destroyed during preparation. The samples were stained with Alizarin Red and potassium ferricyanide to distinguish ferroan carbonates as well as sodium cobaltinitrite stain to identify the presence of alkali feldspars.

Petrographic Descriptions

Nordegg #1-3:

The outcrop samples were analyzed using petrographic analysis as well as XRD analysis to determine the basic mineralogy and texture. Samples 1 through 3 are characterized as a foraminiferal chert (limestone). The original rock (foraminiferal limestone), has undergone extensive silicification/replacement, primarily within the forams and shell fragments. Compaction is moderate to strong.

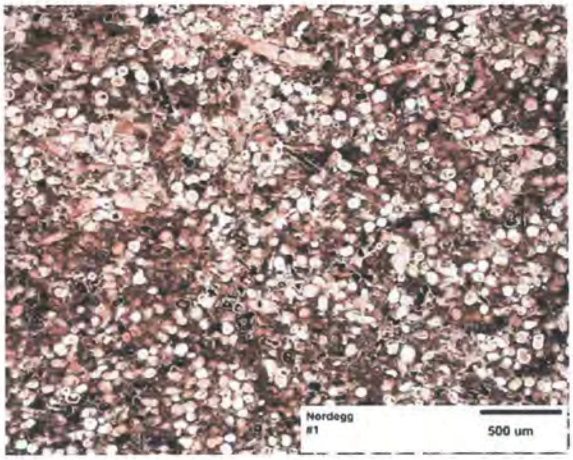


Figure 1: Abundant foraminifera

Fabric components include common to abundant foraminifera (see Figure 1), minor sponge spicules and minor shell fragments. Foraminifera within the samples are predominantly silicified (originally calcite), with occasional forams composed of secondary calcite. Sponge spicules are composed of chert and are occasionally composed of secondary calcite. Shell fragments observed with the samples are also composed of calcite.

Total rock composition consists predominantly of chert (quartz in XRD) with minor to abundant calcite, minor to abundant dolomite, minor to common organic material and minor amounts of pyrite, phosphate and siderite. Trace illite is also present.

Chert in the samples is observed predominantly within foraminifera as well as occasionally within the matrix. Chert types (see Figure 2) include microquartz (tiny crystals of quartz generally less than 5 to 20 microns in diameter, which display an equigranular texture with pinpoint extinction pattern), megaquartz (generally displays a progressive increase in crystal size from margin to center) and chalcedony (bundles of fibers with a commonly radiating pattern).

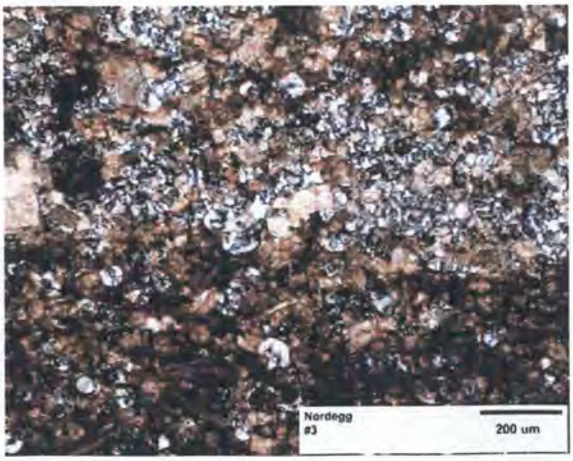


Figure 2: Chert in cross-polarized light.

Calcite is identified by red-staining and is associated primarily with the matrix as well as within occasional foraminifera, shell fragments and sponge spicules. Calcite decreases in content from samples 1 to 3. Dolomite is observed as silt-size to very fine-crystalline rhombs, which increase in content from samples 1 to 3.

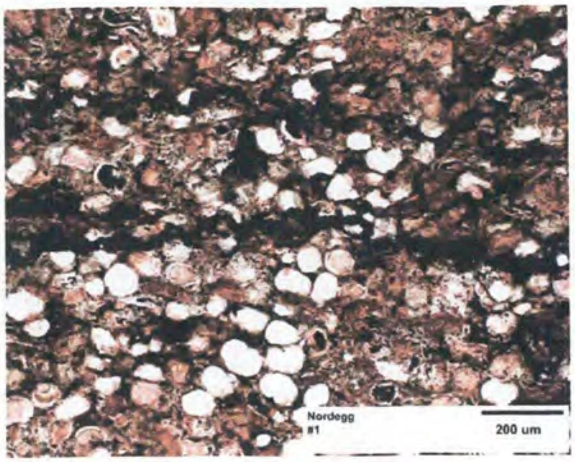


Figure 3: Silicified forams (white) with stylolite (opaque).

Organic material (dark-brown-opaque) is observed coating crystals, partially filling moldic pores as well being associated with pressure solution seams/stylolites (see Figures 3 and 4), which are due to compaction. Phosphate in the sample is brown in colour and opaque in cross-polarized light.

Fracturing is trace to minor with rare intercrystalline porosity and minor moldic porosity (sample 3 only) observed. Porosity is estimated at between less than one and one percent.

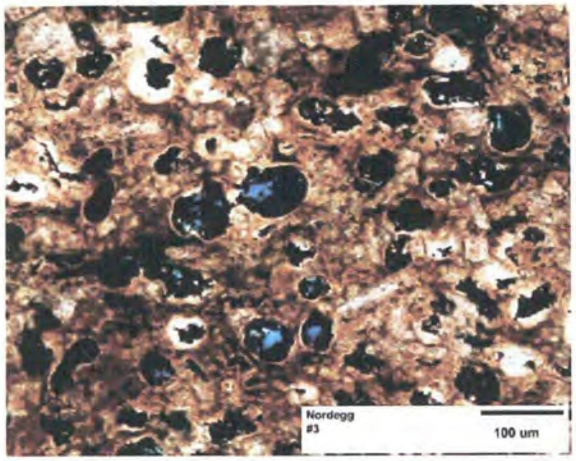


Figure 4: Moldic pores with organic material (opaque).

Conclusions

The outcrop samples analyzed were identified as foraminiferal chert (limestone). The original rock fabric consisted of abundant foraminifera composed of calcite, which was subsequently silicified/replaced by chert.

Abundant silica present as chert and strong compaction has helped strengthen the rock framework. Porosity (estimated at between less than one and one percent) should not impact durability issues. Additional tests are recommended to determine the strength and weathering potential of the rock.

Aaron Bonk, B.Sc. Manager, Petrographic Services Calgary Rock and Materials Services	Raymond Strom, Ch.T. President Calgary Rock and Materials Services