

006765

**DYE PENETRATION TESTWORK**

on Vangorda ore samples from Faro, Yukon  
submitted by

**CURRAGH RESOURCES**

Project No. L.R. 4049

**NOTE:**

This report refers to the samples as received.

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**LAKEFIELD RESEARCH  
A DIVISION OF FALCONBRIDGE LIMITED  
November 23, 1990**

# **INTRODUCTION**

At the request of Mr. Godfrey MacDonald of Curragh Resources, nine samples of Vandorda footwall drill core samples were submitted to Lakefield Research for dye penetration testwork.

**LAKEFIELD RESEARCH**

A handwritten signature in cursive script that reads "Doug Newman". The signature is written in black ink and includes a long horizontal stroke at the end.

**D. Newman, P. Eng.,  
Sr. Project Metallurgist**

A handwritten signature in cursive script that reads "J.G. Davison". The signature is written in black ink and is more compact than the one above.

**J.G. Davison, M.Sc.  
Mineralogist**

# S U M M A R Y

Nine samples of Vangorda drill core, typically characterized by massive pyritic mineralization were submitted for qualitative permeability evaluation by the dye penetration technique.

The majority of the samples exhibited very minor to trace, localized, microfracture permeability displaying incipient diffuse peripheral penetration. Only two of the core samples, #3 and #8, indicated moderate and extensive diffuse penetration, respectively.

# PROCEDURES

The nine drill core samples were placed in shallow steel pans containing a 1-1.5 cm depth of a fluorescent water washable penetrant dye. After exposures of 72 hours (3 days) and 144 hours (6 days), the rock samples were sawn perpendicular to the basal exposure (also perpendicular to the drill core axis) to obtain a fresh surface for examination of dye penetration. The core offcuts and remaining sample were washed with hot water, dried, rinsed with acetone and were photographed under longwave ultraviolet light conditions using standard daylight (100 ASA) color print film. After each photograph session, the samples were returned to the dye for further exposure.

Photographs for each sample are given in the Appendix.

# RESULTS

## Sample #1 (Illustrations 1 and 2)

The core sample displayed minor microfracture penetration with incipient diffuse staining observed following six days exposure.

## Sample #2 (Illustrations 3 and 4)

The sample displayed patchy diffuse penetration particularly visible after six days exposure, typically developed adjacent to several macrofractures.

## Sample #3 (Illustrations 5 and 6)

Minor diffuse penetration was noted after three days with moderate diffuse penetration observed following six days exposure.

## Sample #4 (Illustrations 7 and 8)

Trace quantities of microfracture penetration were accompanied by scattered peripheral diffuse staining.

## Sample #5 (Illustrations 9 and 10)

Minor to moderate diffuse penetration was common following three days exposure, though only traces of macrofracture and diffuse penetration were reported after six days. The differences were likely due to variable composition, degree of oxidation, and proportion of sulphide/gangue minerals within beds/layers typically oriented perpendicular to the core axis.

## Sample #6 (Illustrations 11 and 12)

Only traces of microfracture permeability were noted after six days exposure.

## Sample #7 (Illustrations 13 and 14)

Patchy, moderate to strong diffuse penetration was reported after only three days exposure. However, further exposure of six days exhibited only traces of diffuse staining, also due to different mineral composition, textures, etc. within the sulphidic layers.

**Results - Continued**

**Sample #8 (Illustrations 15 and 16)**

Extensive microfracture controlled to diffuse penetration was indicated after only three days exposure. Similar results were noted upon further exposure.

**Sample #9 (Illustrations 17 and 18)**

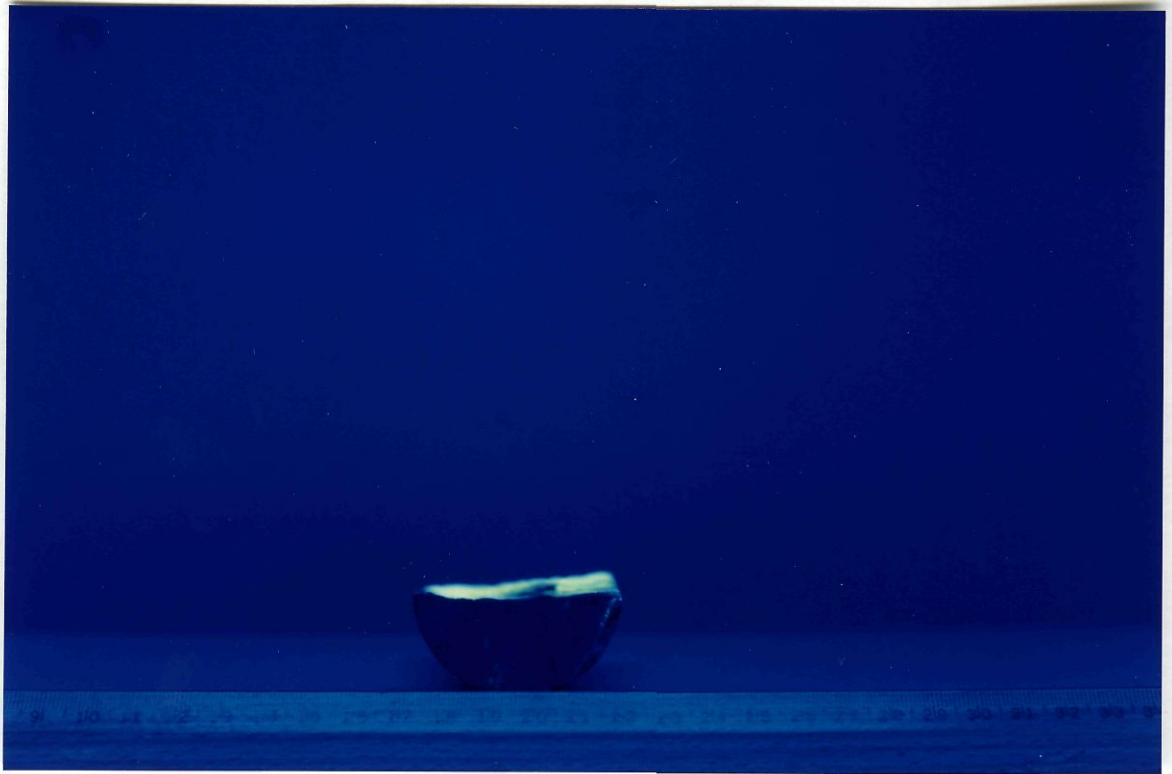
Only very few hairline microfractures exhibited penetration, locally visible near the right edge of the sample shown within Illustration #17.



**Illustration #1. Sample #1. Exposure - 3 Days**



**Illustration #2. Sample #1. Exposure - 6 Days**



**Illustration #3. Sample #2. Exposure - 3 Days**



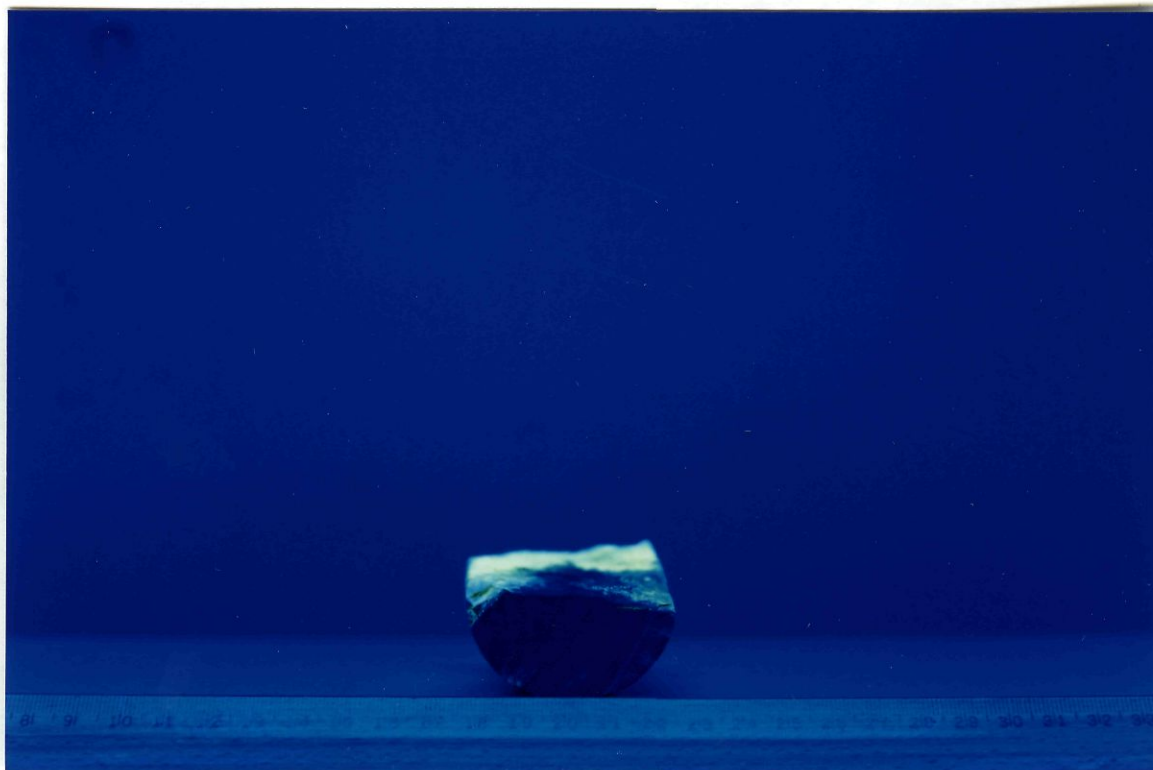
**Illustration #4. Sample #2. Exposure - 6 Days**



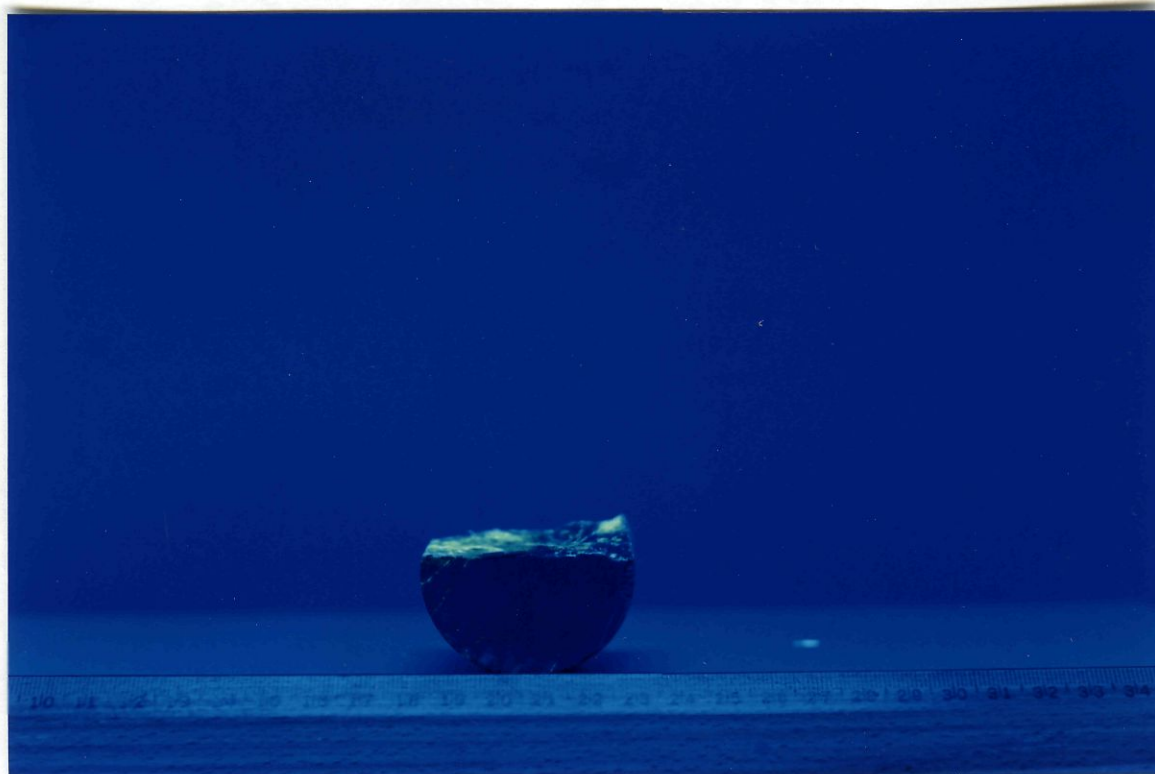
**Illustration #5. Sample #3. Exposure - 3 Days**



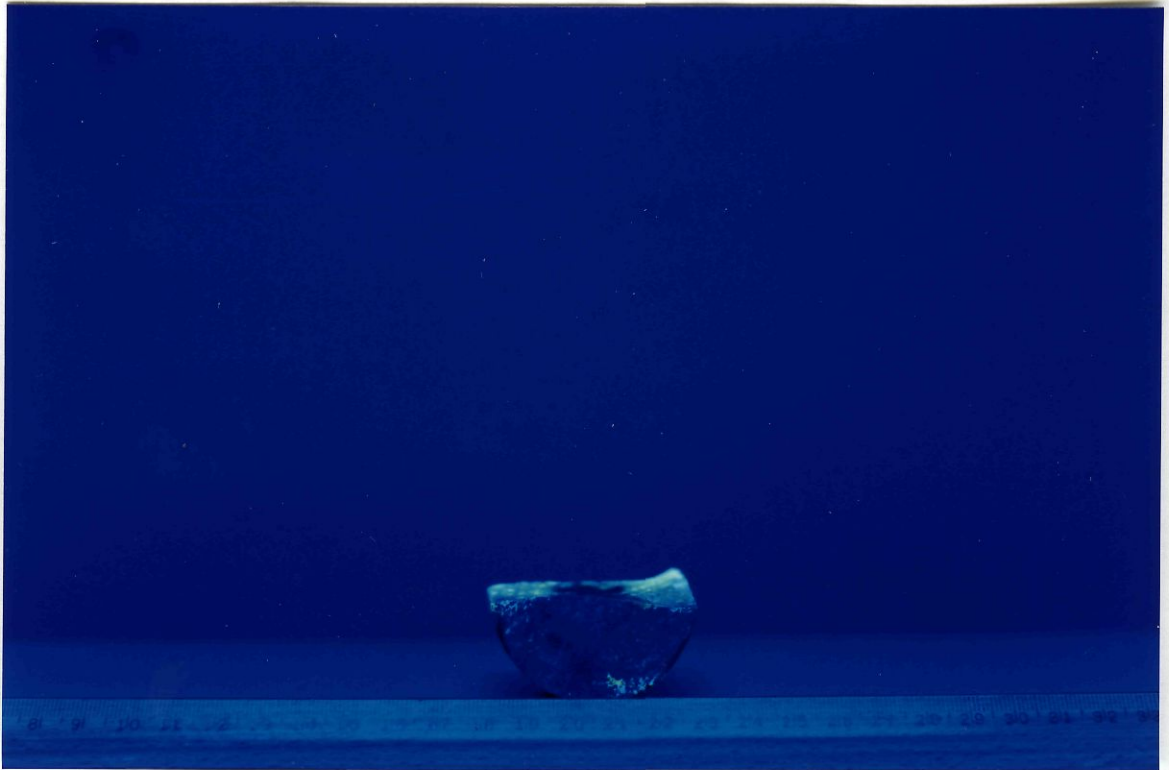
**Illustration #6. Sample #3. Exposure - 6 Days**



**Illustration #7. Sample #4. Exposure - 3 Days**



**Illustration #8. Sample #4. Exposure - 6 Days**



**Illustration #9. Sample #5. Exposure - 3 Days**



**Illustration #10. Sample #5. Exposure - 6 Days**



**Illustration #11. Sample #6. Exposure - 3 Days**



**Illustration #12. Sample #6. Exposure - 6 Days**



**Illustration #13. Sample #7. Exposure - 3 Days**



**Illustration #14. Sample #7. Exposure - 6 Days**



**Illustration #15. Sample #8. Exposure - 3 Days**



**Illustration #16. Sample #8. Exposure - 6 Days**



**Illustration #17. Sample #9. Exposure - 3 Days**



**Illustration #18. Sample #9. Exposure - 6 Days**