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**PRELIMINARY REPORT ON WHOLE ROCK  
ANALYSES FROM LITHOGEOCHEMICAL  
STUDY OF RED MAGANIFEROUS SLATE  
AND BLACK SLATE-CHERT IN THE  
MIRAMICHI TERRANE, NEW BRUNSWICK**

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**compiled by  
G.P. Watson**

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Natural Resources and Energy  
New Brunswick

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Energy, Mines and  
Resources Canada

Énergie, Mines et  
Ressources Canada

**PRELIMINARY REPORT ON WHOLE ROCK ANALYSES FROM  
LITHOGEOCHEMICAL STUDY OF RED MANGANIFEROUS SLATE AND BLACK  
SLATE-CHERT IN THE MIRAMICHI TERRANE, NEW BRUNSWICK**

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Compilation by G.P. Watson,  
Geological Survey of Canada.

## Introduction

This Open File Report is a preliminary release of chemical data from the analysis of 276 rock samples collected during field work for a Canada-New Brunswick Mineral Development Agreement project "LITHOGEOCHEMICAL STUDY OF RED MANGANIFEROUS SLATE AND BLACK SLATE-CHERT IN THE MIRAMICHI TERRANE, NEW BRUNSWICK". The project was carried out under contract to the Geological Survey of Canada. Although a comprehensive report of the field and laboratory results from the study is in preparation, several requests from co-workers in government and industry prompted the publication of chemical data in advance of the summary report.

## Geologic Overview

Cambro-Ordovician quartzites and dark slates which are overlain by Lower to Middle Ordovician and younger dark greywackes and slates are widespread in Nova Scotia, central and northern New Brunswick, and in limited areas on Gaspé and Maine. In Gaspé, there is a prominent conglomerate at the base of the latter rocks. In central New Brunswick, quartzite clasts are present in minor conglomerate at that stratigraphic position, indicating uplift and erosion of quartzites somewhere in that area. At other points in central New Brunswick and in eastern Maine, there appears to have been a pause in clastic sedimentation between deposition of the two sequences. Also in the Meguma Terrane of Nova Scotia, there was a reduction in the supply of clastics during that time. In the Miramichi Zone, cherts and ferruginous beds, either red, oxidized and manganiferous or black and sulphidic, mark brief periods of dominance of chemical sedimentation. These manganiferous and ferruginous rocks are either interlayered or coeval with mafic and felsic flows, volcanic fragmental rocks, and volcanoclastic sedimentary rocks derived from the volcanic rocks. Those rocks with relatively high contents of chemically sedimented iron, manganese or silica are the subject of this project.

## Scope

Limits of time and budget dictated the selection of approximately 90 localities for sampling, some of which are clusters of geologically similar sites. In all, 276 samples were analysed for up to 37 elements and oxides. The budget permitted 2 to 6 samples per site, to represent various ferruginous, manganiferous or cherty lithologies. Diversity of geographical coverage has been favoured over statistical replications, but some repeat samples were collected to assess within-site variability for particular lithologies. The sites give a spacing between 5 and 10 km along strike of the units of interest, except in the Bathurst-Newcastle area, where the multiplicity of horizons which could be sampled exceeded our ability to maintain this interval, within the budget.

### Data Compilation and Literature Search

Sites were chosen through review of government reports and maps, personal experience and advice from colleagues. Those parts of mineral exploration assessment files pertinent to the chosen sites were photocopied. Government, topographic, geologic maps and aerial photographs were assembled. University theses were borrowed and scanned for analytical data, rock descriptions and interpretations of depositional environments. Janes (1976) summarised analytical data available to that date. Other theses, mainly from University of New Brunswick, but also from McGill, University of Toronto, Carleton, Yale, University of Western Ontario and McMaster, contain data on sedimentary rocks near various sulphide deposits. The study by Troop (1984) on the Flat Landing sulphide deposit and the associated iron formations is outstanding for interpretation of abundant new data. Field notes and analytical results from 65 rocks collected by S.I. Saif for the Geological Survey of Canada in 1978, (Saif, 1980) were acquired and are included in the tables of data. Discussions were conducted with Cees van Staal and John Winchester about sampling and mapping they were undertaking in the Bathurst area.

### Field Methods

Field work commenced on 11 August, 1986. Most sites have been visited in the field, and in addition, samples were selected from drill cores in government and corporate core storage from about 30 sites. Most cores were cut with a diamond saw, or halved with a splitter, but in some cases it was necessary to select alternate discs from intensely cleaved core or previously sampled rocks.

In the field, channel samples were chiseled methodically in slate, but only as cracks permitted, in cherts. Sample length was nearly always 1 meter, cut perpendicular to the assumed bedding orientation. Fluorescent orange paint was sprayed along the sampled length.

The environs of sampled outcrops were mapped at some scale between 1:100 and 1:2000. A compass, a 30 meter tape or a "Hip Chain", and when needed, a Suunto clinometer, were utilized for making the outlines for maps, with details being added through pace and compass measurements.

### X-Ray Assay Laboratory's Analytical Methods

Samples were analysed by X-Ray Assay Laboratories Ltd., Don Mills, Ontario. The rocks were crushed to about 6 mm particles and an aliquot pulverized in an agate mill to -200 mesh.

The 276 samples were analysed by X-ray Fluorescence on fused discs for major oxides plus Cr<sub>2</sub>O<sub>3</sub>, Ba, Nb, Rb, Sr, Y and Zr; by Inductively Coupled Plasma/Mass Spectrometer for Ag, Be, Cd, Cr, Co, Cu, Pb, Li, Mo, Ni, Sb, Se, Te, Sn, W, U, V and Zn; by Atomic Absorption Spectrometry for As; and by Fire Assay for Au. Out of these samples, 191 were further analysed for Fe<sup>++</sup>, S, Cl, CO<sub>2</sub>, H<sub>2</sub>O<sup>+</sup> and F by wet chemical methods.

### References

Janes, D. A., 1976. Geochemistry of the altered volcanic and intrusive rocks of Bathurst District, N.B. Unpublished MSc Thesis, University of Montreal, 110 pp.

Saif, S.I., 1980. Petrographic and geochemical investigation of iron formation and other iron-rich rocks in Bathurst District, New Brunswick. In Current Research, Part A, Geological Survey of Canada, Paper 80-1A, p. 309-317.

Troop, D. G., 1984. The petrology and geochemistry of Ordovician banded iron formations and associated rocks at the Flat Landing Brook massive sulphide deposit, northern New Brunswick. Unpublished MSc thesis, University of Toronto, 218 pp.

### NOTES FOR TABLES

#### TABLE I Sample identification and location

FILE = LOCATION IDENTIFICATION IN THIS PROJECT.

UTME = UNIVERSAL TRANSVERSE MERCATOR COORDINATES, EASTING IN METRES.

UTMN = UNIVERSAL TRANSVERSE MERCATOR COORDINATES, NORTHING IN METRES.

\*ROCK1 = MAIN ROCK TYPE IN SAMPLE.

\*ROCK2 = SECONDARY ROCK TYPE IN SAMPLE.

\*GEOL1 = MAIN HOST ROCK TYPE IN VICINITY.

\*GEOL2 = SECONDARY HOST ROCK TYPE IN VICINITY.

**NOTE:** All location coordinates are given as UTM values for Zone 19 including areas to the northeast inside UTM Zone 20.

\* (The numeric codes for these items from Table I are explained in Table Ib)

#### TABLE II - WHOLE ROCK MAJOR ELEMENTS

Whole rock major element oxides (SiO<sub>2</sub>, Fe<sub>2</sub>O<sub>3</sub> etc.), including LOI, H<sub>2</sub>O, CO<sub>2</sub> and S are expressed as weight percentages.

FE<sub>2</sub>O<sub>3</sub> = TOTAL FE EXPRESSED AS FE<sub>2</sub>O<sub>3</sub>.

FEX = FEO \* 1.11.

FE<sub>2</sub>O<sub>A</sub> = FE<sub>2</sub>O<sub>3</sub> - FEX.

## TABLE III - WHOLE ROCK MINOR ELEMENTS

Fe, Mn, Co, Cricp, Crxrf, Cu, Ni, Zn, Pb, Th, Zr, Y, Rb, Sr, Nb, F, Cl - all expressed in ppm.

Cricp = Cr determined by Inductively Coupled Plasma Method.

Crxrf = Cr determined by X-Ray Fluorescence method.

## TABLE IV - WHOLE ROCK TRACE ELEMENTS

AG, AS, SB, MO, SN, BA, W, U, TE, BI, CD, V, LI, BE - all expressed in ppm. AU expressed in ppb.

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE I SUMMARY OF SAMPLE LOCATIONS AND ROCK TYPES**

FILE	SAMPLE	GROUP	UTME	UTMN	ROCK1	ROCK2	GEOL1	GEOL2
2.	3615.	A	690255.	5266600.	8.		4.	2.
2.	3617.	A	690163.	5266792.	3.		4.	2.
2.	3616.	B	690185.	5266740.	3.	2.	4.	2.
2.	3614.	B	690253.	5266628.	8.		4.	2.
2.	78160.	SAIF	691500.	5266380.	6.		3.	4.
2.1	3612.	A	696790.	5264500.	4.		4.	
2.1	3613.	A	697490.	5263850.	8.	9.	4.	
2.1	3611.	A	697700.	5264100.	3.	2.	2.	4.
3.	55521.	A	702700.	5274060.	3.	1.	3.	4.
3.	55523.	B	702707.	5274063.	3.	1.	3.	4.
4.	55524.	A	709802.	5273906.	3.		3.	
4.	55507.	B	709980.	5274730.	4.		3.	
6.	55555.	A	723580.	5278860.	4.		4.	2.
6.	55554.	A	723623.	5278872.	4.		4.	2.
7.	35002.	A	720220.	5266400.	5.	1.	2.	1.
7.	35006.	A	720220.	5266400.	4.	9.	2.	
8.	55594.	A	717150.	5261100.	4.	3.	2.	4.
8.	35003.	B	713980.	5263050.	3.	9.	2.	
8.	35001.	B	715300.	5262960.	3.	9.	3.	4.
8.	55600.	B	715100.	5261950.	3.	9.	3.	4.
8.1	35093.	A	710900.	5260970.	3.		4.	1.
8.1	55599.	B	710520.	5263300.	5.	3.	1.	4.
8.2	55590.	A	708680.	5258670.	5.	3.	3.	4.
8.3	35094.	A	713731.	5254507.	8.	9.	4.	3.
8.3	41090.	A	713730.	5254500.	5.	8.	4.	3.
8.3	55589.	A	713710.	5254545.	3.	5.	4.	3.
9.	55596.	A	718650.	5253825.	4.		4.	1.
9.	55598.	B	719280.	5253970.	4.		4.	1.
9.	55597.	B	718820.	5253840.	5.	4.	4.	1.
10.	55592.	A	721380.	5256620.	3.		2.	4.
10.	55591.	A	718850.	5255600.	3.	4.	2.	4.
10.	55593.	B	722080.	5256850.	3.		2.	4.
11.	55595.	A	724460.	5257580.	8.	1.	2.	1.
12.	55553.	A	738590.	5278480.	3.		4.	1.
13.	55552.	A	747720.	5283800.	3.	2.	2.	
14.	41017.	A	733541.	5259257.	1.		3.	
14.	41022.	A	733992.	5258745.	5.	1.	3.	
14.	41054.	A	732430.	5259475.	5.	1.	3.	4.
14.	41019.	B	733830.	5258762.	1.		3.	
14.	41018.	B	733546.	5259260.	1.		3.	
14.	41053.	B	732250.	5259500.	2.		3.	4.
14.	55556.	B	731150.	5259280.	3.		4.	3.
15.	41041.	A	734275.	5262950.	6.	7.	1.	7.
15.	41046.	A	734050.	5262500.	6.	7.	1.	7.
15.	41043.	A	734238.	5263047.	6.		1.	7.
15.	41040.	A	734272.	5262950.	5.	1.	1.	7.
15.	41042.	A	734235.	5263050.	6.		1.	7.
15.	78108.	SAIF	734220.	5262550.	6.		1.	7.



**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE I SUMMARY OF SAMPLE LOCATIONS AND ROCK TYPES**

FILE	SAMPLE	GROUP	UTME	UTMN	ROCK1	ROCK2	GEOL1	GEOL2
15.	78131.	SAIF	733990.	5263340.	2.	6.	2.	1.
15.	78120.	SAIF	734270.	5262150.	6.		1.	7.
15.	78130.	SAIF	733985.	5263340.	2.	6.	2.	1.
15.	78148.	SAIF	734350.	5262890.	6.		1.	7.
15.	41048.	B	733830.	5263290.	1.	5.	1.	7.
17.	35004.	A	725170.	5253560.	5.		2.	4.
17.	35095.	B	723750.	5252250.	5.	1.	1.	
18.	35005.	A	725850.	5250800.	8.		4.	2.
19.	55518.	A	717850.	5251530.	3.		4.	1.
19.	55520.	A	717400.	5250920.	3.	9.	4.	1.
19.	55519.	B	717630.	5250985.	3.	9.	4.	1.
20.	55513.	A	731599.	5253151.	4.		2.	4.
20.	55514.	A	731596.	5253148.	2.		2.	
20.	55508.	B	731600.	5253150.	5.	2.	2.	4.
21.	55510.	A	726730.	5255250.	3.	2.	4.	2.
21.	55512.	B	727582.	5254420.	3.	5.	4.	2.
21.	55511.	B	727580.	5254420.	3.	5.	4.	2.
21.1	41023.	A	725893.	5255433.	8.	9.	4.	3.
21.1	41024.	B	725881.	5255436.	8.	9.	4.	3.
21.1	55509.	B	725865.	5255400.	8.	9.	4.	3.
22.	55515.	A	732959.	5251627.	6.		2.	1.
22.	55516.	A	732956.	5251624.	6.	7.	2.	1.
22.	78069.	SAIF	732940.	5251610.	6.	5.	3.	4.
22.	78072.	SAIF	732945.	5251615.	6.	5.	3.	4.
22.	78073.	SAIF	732950.	5251620.	6.	5.	3.	
22.	55517.	B	732950.	5251622.	2.	6.	2.	1.
24.	41003.	A	735216.	5252011.	1.		1.	6.
24.	41002.	A	735215.	5252012.	6.		1.	6.
24.	35096.	B	735700.	5252370.	5.	2.	1.	7.
25.	41055.	A	736944.	5253550.	6.		1.	4.
25.	41076.	A	736965.	5253665.	6.	5.	1.	4.
25.	41077.	A	736962.	5253665.	6.		1.	4.
25.	41056.	B	736970.	5253430.	6.	1.	1.	7.
25.	41078.	B	736950.	5253550.	6.		1.	7.
25.	41057.	B	736978.	5253430.	6.		1.	7.
26.	41085.	A	739489.	5255201.	6.		1.	7.
26.	41082.	A	739380.	5253125.	6.		1.	6.
26.	41086.	A	739527.	5255119.	6.		1.	7.
26.	41079.	A	739385.	5253510.	6.	5.	1.	6.
26.	55551.	A	739700.	5255060.	6.		1.	3.
26.	41087.	A	739527.	5255123.	6.		1.	7.
26.	41083.	A	739382.	5253125.	6.		1.	6.
26.	41081.	A	739390.	5253510.	6.		1.	6.
26.	78051.	SAIF	739591.	5254164.	6.	5.	1.	4.
26.	78043.	SAIF	739631.	5254008.	6.	5.	1.	4.
26.	78044.	SAIF	739630.	5254000.	6.	5.	1.	4.
26.	78045.	SAIF	739630.	5253993.	6.	5.	1.	4.
26.	78046.	SAIF	739625.	5253985.	6.		1.	4.

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
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**TABLE I SUMMARY OF SAMPLE LOCATIONS AND ROCK TYPES**

FILE	SAMPLE	GROUP	UTME	UTMN	ROCK1	ROCK2	GEOL1	GEOL2
26.	78047.	SAIF	739595.	5254000.	6.		1.	4.
26.	78049.	SAIF	739588.	5254156.	6.		1.	4.
26.	78050.	SAIF	739589.	5254160.	6.	2.	1.	4.
26.	78028.	SAIF	739637.	5254100.	6.		1.	4.
26.	78029.	SAIF	739635.	5254094.	6.		1.	4.
26.	78030.	SAIF	739635.	5254089.	6.		1.	4.
26.	78031.	SAIF	739635.	5254084.	6.		1.	4.
26.	78032.	SAIF	739637.	5254078.	6.		1.	4.
26.	78033.	SAIF	739637.	5254073.	6.		1.	4.
26.	78034.	SAIF	739638.	5254068.	6.	5.	1.	4.
26.	78040.	SAIF	739638.	5254034.	6.		1.	4.
26.	78042.	SAIF	739631.	5254008.	6.	5.	1.	4.
26.	78052.	SAIF	739635.	5253967.	6.		1.	4.
26.	78055.	SAIF	739624.	5253948.	6.		1.	7.
26.	78056.	SAIF	739606.	5253922.	6.	5.	1.	
26.	78057.	SAIF	739616.	5253924.	6.	5.	1.	7.
26.	78059.	SAIF	739612.	5253903.	6.	5.	1.	7.
26.	78078.	SAIF	739950.	5254100.	6.		1.	4.
26.	78079.	SAIF	739950.	5254100.	6.		1.	4.
26.	78076.	SAIF	739940.	5254150.	6.	5.	1.	4.
26.	78077.	SAIF	739945.	5254125.	6.		1.	4.
26.	78081.	SAIF	740130.	5254045.	6.		1.	4.
26.	78083.	SAIF	740140.	5254020.	6.		1.	4.
26.	78143.	SAIF	739655.	5255065.	6.		1.	4.
26.	78141.	SAIF	739590.	5255110.	6.		1.	4.
26.	78146.	SAIF	739580.	5255140.	6.		1.	4.
26.	78147.	SAIF	739630.	5255260.	6.		1.	4.
26.	78140.	SAIF	739605.	5255170.	6.		1.	4.
26.	78144.	SAIF	739600.	5255100.	6.		1.	4.
26.	78139.	SAIF	739545.	5255095.	6.		1.	4.
26.	41084.	B	739485.	5255200.	6.		1.	7.
27.	41051.	A	740924.	5256188.	6.		1.	4.
27.	41072.	A	741420.	5255470.	6.		1.	4.
27.	41070.	A	741402.	5255600.	6.		1.	4.
27.	41074.	A	741520.	5255355.	6.		1.	4.
27.	41073.	A	741423.	5255471.	6.		1.	4.
27.	41069.	A	741340.	5255705.	6.		1.	4.
27.	41075.	A	741500.	5255230.	6.	5.	1.	4.
27.	78086.	SAIF	741700.	5254800.	6.		1.	4.
28.	41035.	A	748927.	5258682.	1.		3.	7.
28.	41034.	A	748920.	5258675.	6.	7.	3.	7.
28.	78095.	SAIF	749410.	5257960.	6.	3.	3.	4.
28.	78002.3	SAIF	749000.	5258200.	6.	2.	3.	4.
28.	78004.	SAIF	749001.	5258201.	6.	2.	3.	4.
28.	78002.1	SAIF	749000.	5258200.	6.	2.	3.	4.
28.	78002.2	SAIF	749000.	5258200.	6.	2.	3.	4.
28.	78005.1	SAIF	749002.	5258202.	6.	2.	3.	4.
29.	41064.	A	739696.	5248560.	6.		1.	4.

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**TABLE I SUMMARY OF SAMPLE LOCATIONS AND ROCK TYPES**

FILE	SAMPLE	GROUP	UTME	UTMN	ROCK1	ROCK2	GEOL1	GEOL2
29.	41066.	A	739730.	5248676.	1.	5.	1.	4.
29.	41059.	A	739753.	5248445.	6.	7.	1.	4.
29.	41060.	A	739755.	5248445.	6.	7.	1.	4.
29.	41067.	A	739700.	5248670.	6.		2.	4.
29.	41063.	A	739700.	5248570.	6.		1.	4.
29.	41062.	A	739749.	5248444.	5.	8.	1.	4.
29.	78016.	SAIF	739760.	5248445.	6.		1.	7.
29.	78015.	SAIF	739761.	5248445.	6.	7.	1.	7.
29.	78014.	SAIF	739762.	5248445.	6.		1.	7.
29.	41061.	B	739744.	5248443.	5.	1.	1.	4.
29.1	41091.	A	738375.	5244360.	5.	9.	2.	4.
30.	41027.	A	738410.	5249500.	5.	6.	1.	6.
30.	41026.	A	738358.	5249500.	5.	6.	1.	6.
30.	41025.	A	738339.	5249500.	8.	9.	1.	6.
30.	41028.	A	738437.	5249500.	8.	6.	1.	6.
31.	55587.	B	733720.	5244000.	6.		1.	
31.1	35098.	A	733000.	5241400.	1.		1.	4.
31.1	41093.	B	733400.	5241400.	1.	5.	1.	8.
32.	41007.	A	726160.	5242060.	1.		1.	2.
32.	55588.	A	727055.	5243050.	6.	3.	2.	1.
33.	35091.	A	721934.	5242443.	6.	7.	1.	7.
33.	35090.	A	720470.	5241700.	6.	5.	1.	7.
33.	35089.	A	721865.	5242396.	6.	4.	1.	7.
33.	35088.	A	721888.	5242434.	6.	7.	1.	7.
33.	78062.	SAIF	723670.	5242620.	6.	7.	1.	7.
33.	78060.	SAIF	723645.	5242620.	6.	7.	1.	7.
33.	78064.	SAIF	723669.	5242645.	6.		1.	7.
33.	78065.	SAIF	723285.	5242575.	6.		1.	4.
33.	78066.	SAIF	723283.	5242579.	6.		1.	4.
33.	78068.	SAIF	723500.	5242500.	6.		1.	7.
33.	78063.	SAIF	723669.	5242643.	6.		1.	7.
33.	78166.	SAIF	719940.	5241030.	6.		1.	7.
33.	78164.	SAIF	719900.	5241070.	6.		1.	7.
33.	78165.	SAIF	719920.	5241050.	6.		1.	7.
33.	78167.	SAIF	719960.	5241000.	6.		1.	7.
33.2	41005.	A	719400.	5237000.	6.		1.	
36.	55580.	A	703210.	5231735.	6.	3.	2.	1.
36.	55582.	A	702866.	5230783.	6.	3.	3.	4.
36.	55583.	A	702850.	5230780.	2.	5.	3.	4.
36.	55581.	B	703050.	5231125.	3.	3.	2.	1.
36.	55579.	B	702975.	5231750.	6.	3.	2.	1.
37.	55584.	A	704370.	5226800.	4.	6.	4.	1.
38.	55577.	A	711610.	5224160.	6.	5.	3.	
38.	55575.	A	711830.	5226290.	6.		2.	1.
38.	55576.	B	712065.	5226400.	2.	6.	2.	1.
38.1	55578.	A	714100.	5230200.	8.		4.	1.
40.1	41009.	A	722640.	5234481.	2.		2.	4.
40.1	41008.	A	722630.	5234470.	2.		2.	4.

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE I SUMMARY OF SAMPLE LOCATIONS AND ROCK TYPES**

FILE	SAMPLE	GROUP	UTME	UTMN	ROCK1	ROCK2	GEOL1	GEOL2
41.	55586.	B	733375.	5231780.	5.		3.	
42.	35087.	A	733197.	5230920.	8.	9.	4.	2.
42.	55570.	A	733015.	5231002.	4.		4.	2.
42.	55574.	A	733067.	5230987.	8.	9.	4.	2.
42.	55572.	A	733047.	5230992.	8.		4.	2.
42.	55571.	B	733036.	5230993.	4.	8.	4.	2.
44.	3609.	A	657890.	5220620.	10.	9.	4.	1.
44.	3607.	A	658240.	5224160.	10.	9.	4.	3.
44.	3610.	B	657860.	5220565.	10.	9.	4.	1.
44.	3608.	B	657950.	5223540.	10.	9.	4.	
46.	55557.	A	723870.	5201680.	8.	5.	2.	
46.	55559.	A	723758.	5201677.	3.	2.	2.	
46.	55558.	B	723812.	5201685.	3.	2.	2.	
46.1	55560.	A	727460.	5204950.	4.	2.	2.	4.
47.	55564.	A	713549.	5195749.	6.		2.	4.
47.	55565.	A	713720.	5195830.	3.	2.	2.	
47.	55563.	B	713510.	5195710.	6.	7.	2.	4.
48.	55561.	B	708100.	5202700.	11.	9.	4.	1.
49.	55566.	A	698900.	5186900.	8.		2.	4.
50.	55568.	A	694535.	5184921.	3.	5.	2.	4.
50.	55567.	B	694500.	5184920.	3.		2.	4.
50.1	55569.	A	690500.	5179310.	8.		2.	
51.	35074.	A	674604.	5170218.	8.		4.	2.
51.	35075.	A	674609.	5170215.	8.		4.	2.
51.	35073.	A	674600.	5170220.	8.		4.	2.
51.	35023.	A	678090.	5171390.	8.		4.	2.
52.	35068.	A	676850.	5166020.	8.		4.	2.
52.	35024.	A	681350.	5170930.	8.	9.	4.	2.
52.	35072.	A	678248.	5168100.	8.		4.	2.
52.	35027.	A	676270.	5167700.	11.	9.	4.	
52.	35070.	A	676874.	5166000.	8.		4.	2.
52.	35029.	B	677060.	5165850.	8.	9.	4.	2.
52.	35076.	B	664385.	5155467.	8.	9.	4.	
52.	35025.	B	681310.	5168150.	8.	9.	4.	2.
52.	35069.	B	676854.	5166017.	8.		4.	2.
52.	35071.	B	678230.	5168130.	8.	9.	4.	2.
53.	41013.	A	674689.	5165008.	8.		4.	2.
53.	41011.	A	674647.	5165074.	8.		4.	2.
53.	41016.	A	673090.	5163780.	8.		4.	2.
53.	41014.	A	672977.	5163893.	8.		4.	2.
53.	41015.	B	672978.	5163892.	8.		4.	2.
53.	41012.	B	674672.	5165027.	8.		4.	2.
53.	41010.	B	674638.	5165087.	8.		4.	2.
54.	35066.	A	668575.	5158380.	8.	9.	4.	2.
54.	35057.	A	670580.	5160940.	8.		4.	2.
54.	35055.	B	669900.	5159700.	8.	9.	4.	2.
54.	35058.	B	670588.	5160936.	8.	9.	4.	2.
54.	35067.	B	668567.	5158384.	8.		4.	2.

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE I SUMMARY OF SAMPLE LOCATIONS AND ROCK TYPES**

FILE	SAMPLE	GROUP	UTME	UTMN	ROCK1	ROCK2	GEOL1	GEOL2
55.	35031.	A	664200.	5152227.	8.		4.	1.
55.	35030.	B	664174.	5152240.	8.	9.	4.	1.
56.	35036.	A	663970.	5157950.	8.		4.	
56.	35077.	A	664362.	5155484.	8.	9.	4.	
56.	35078.	A	664230.	5155400.	8.		4.	
56.	35034.	A	663860.	5156300.	8.		4.	
56.	35080.	A	662330.	5157620.	8.		4.	
56.	35032.	B	662290.	5155020.	8.	9.	4.	
56.	35035.	B	662740.	5155770.	8.	9.	4.	
56.	35033.	B	664500.	5156500.	8.	9.	4.	
56.	35081.	B	664275.	5160160.	8.		4.	2.
56.	35037.	B	663975.	5157975.	8.		4.	
56.	35079.	B	664238.	5155394.	8.		4.	
57.	3606.	A	660030.	5146153.	8.		4.	
57.	35048.	A	660240.	5146030.	8.		4.	
57.	35044.	B	660040.	5146150.	8.		4.	
58.	35040.	A	686168.	5160540.	3.		4.	
58.	35043.	A	686710.	5162150.	8.	9.	4.	
58.	35039.	A	686170.	5160460.	5.		4.	
58.	35041.	A	686155.	5160720.	3.		4.	
58.	35038.	B	686170.	5160410.	3.	9.	4.	
58.	35042.	B	686170.	5160600.	3.		4.	
59.	35060.	A	684115.	5163589.	8.	9.	4.	
59.	35059.	B	684110.	5163600.	8.	9.	4.	
60.	35084.	A	674348.	5155015.	8.		4.	
60.	35083.	A	674340.	5155020.	8.		4.	
61.	35052.	A	671600.	5152820.	8.	2.	4.	
61.	35051.	A	671630.	5152680.	8.		4.	
61.	35050.	A	673850.	5154150.	8.		4.	
61.	35049.	A	673760.	5154480.	8.		4.	
62.	35062.	A	667600.	5149200.	3.		4.	
62.	35061.	A	667890.	5149120.	8.		4.	
62.	35065.	A	667380.	5149480.	3.		4.	
62.	35064.	A	667385.	5149390.	5.		4.	
62.	35063.	B	667590.	5149210.	5.	5.	4.	
63.	3623.	A	665260.	5144550.	8.		4.	1.
65.	3603.	A	661713.	5138260.	8.		4.	
65.	3605.	A	661850.	5138410.	3.	9.	4.	
65.	3604.	B	661890.	5138470.	3.	9.	4.	
65.	3624.	B	661710.	5138250.	8.		4.	
65.	3625.	B	661930.	5138485.	5.	9.	4.	1.
66.	3601.	A	657840.	5134200.	3.	5.	4.	
67.	35020.	A	659600.	5132650.	5.	2.	4.	2.
67.	41029.	A	659672.	5132956.	8.		4.	2.
67.	41031.	B	659757.	5132960.	8.		4.	2.
68.	35046.	A	671400.	5146700.	8.		4.	
68.	35082.	A	674300.	5149680.	8.		4.	
68.	35053.	B	671391.	5146693.	8.	9.	4.	

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE I SUMMARY OF SAMPLE LOCATIONS AND ROCK TYPES**

FILE	SAMPLE	GROUP	UTME	UTMN	ROCK1	ROCK2	GEOL1	GEOL2
68.	35054.	B	671367.	5146704.	8.	9.	4.	
69.	35086.	A	680000.	5155702.	8.	9.	4.	
69.	35085.	B	680004.	5155100.	8.	9.	4.	
70.	35017.	A	654800.	5135100.	8.	9.	4.	
70.	41030.	A	656820.	5137700.	8.		4.	1.
70.	35016.	B	655250.	5136330.	8.		4.	
71.	35014.	A	654050.	5143020.	8.	9.	4.	1.
71.	35013.	B	654380.	5143180.	8.	9.	4.	
72.	35015.	A	651650.	5142500.	8.	9.	4.	3.
74.	35011.	A	649500.	5130920.	8.	9.	4.	
74.	35010.	B	649400.	5131150.	8.	9.	4.	
75.	3602.	A	642236.	5113752.	5.		4.	3.
75.	55550.	B	642238.	5113745.	5.		4.	3.
76.	55549.	A	640480.	5110105.	3.	9.	4.	1.
77.	41036.	A	636010.	5105830.	8.		4.	1.
77.	41038.	A	635910.	5105520.	8.		4.	1.
77.	41037.	A	636047.	5105776.	6.	3.	4.	1.
77.	55573.	B	637260.	5107430.	8.		4.	1.
77.	55548.	B	637420.	5107340.	5.	9.	4.	1.
77.1	41033.	A	629920.	5104150.	8.		4.	
78.	55546.	A	626394.	5110617.	10.		4.	
78.	55547.	B	626400.	5110620.	10.		4.	
81.	55542.	A	603130.	5099460.	5.	9.	3.	4.
81.	55541.	B	603122.	5099450.	5.	9.	3.	4.
82.	55533.	A	603395.	5095020.	3.		4.	2.
82.	55535.	A	603334.	5095066.	8.	2.	2.	4.
82.	55536.	A	603265.	5095050.	8.		2.	4.
82.	55534.	B	603363.	5095028.	3.		4.	2.
83.	3618.	A	618875.	5093690.	8.	9.	4.	1.
83.	55537.	A	618615.	5093765.	3.		4.	1.
83.	55538.	A	618705.	5093735.	3.	6.	4.	1.
85.	3622.	A	614010.	5091580.	3.	2.	3.	4.
85.	3621.	A	612840.	5090940.	8.	9.	4.	1.
85.	41032.	A	613510.	5091380.	8.		4.	3.
86.	55525.	A	611107.	5089210.	3.	9.	4.	1.
86.	55531.	A	611140.	5089740.	4.		1.	
86.	55530.	A	611150.	5089622.	3.	5.	4.	1.
86.	55529.	A	611150.	5089610.	5.	9.	4.	1.
86.	55528.	A	611050.	5089325.	5.	1.	1.	4.
86.	55527.	A	611055.	5089295.	3.	9.	1.	4.
86.	55532.	A	611190.	5089710.	8.	9.	4.	
86.	55526.	B	611125.	5089165.	3.	1.	4.	1.
87.1	3620.	A	607390.	5088790.	8.		4.	2.
87.1	55544.	A	607350.	5089200.	3.		3.	4.
87.1	55543.	B	607380.	5088880.	3.	9.	3.	4.
87.2	3619.	A	608540.	5091820.	8.		4.	1.
87.2	55545.	A	608240.	5091420.	10.	9.	4.	
88.	55540.	A	599120.	5090003.	8.		4.	1.

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE I SUMMARY OF SAMPLE LOCATIONS AND ROCK TYPES**

FILE	SAMPLE	GROUP	UTME	UTMN	ROCK1	ROCK2	GEOL1	GEOL2
88.	55539.	A	599126.	5090000.	3.		4.	1.
90.	35007.	A	733217.	5306928.	8.	9.	2.	4.
90.	35009.	A	731600.	5305550.	3.	9.	2.	4.
90.	41001.	A	734100.	5305650.	8.	9.	2.	4.
90.	35008.	B	733480.	5307280.	8.	9.	2.	4.

**TABLE IB CODING FOR ROCK TYPES AND GEOLOGICAL SETTING**

Rock type(s) within sample

(ROCK1= main rock type )

(ROCK2= secondary rock type)

1. Felsic tuff - usually highly siliceous sericitic schist.
2. Magnetite-chlorite-carbonate ( epidote) rocks by alteration of mafic rocks ("mafic iron formation").
3. Maroon to red argillite and slate.
4. Maroon chert, jasper.
5. Dark green chert, slate to grey; some with minor Fe sulphide.
6. "Iron Formation" - oxide, silicate and carbonate.
7. Sulphide facies (i.e. massive slphides) (in ROCK2 only).
8. Black slate, chert ( graphite, Fe sulphides).
9. Greywacke, siltstone (in ROCK2 only).
10. Cambro-Ordovician maroon slate (low Mn)>
11. Cambro-Ordovician dark grey slate, fine quartzite.

GEOLOGICAL SETTING

GEOL1= Main rock type in area. GEOL2= Secondary rock type in area.

1. Felsic Volcanic.
2. Mafic Volcanic.
3. Mixed felsic and mafic volcanic.
4. Sedimentary rocks (slate, wacke).
6. Iron formation (GEOL2 only).
7. Massive (i.e. bedded) sulphides (GEOL2 only).

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE II SUMMARY OF WHOLE ROCK ANALYSES (MAJOR ELEMENTS)**

FILE	SAMPLE	GROUP	SiO2	TiO2	Al2O3	Fe2O3	FeO	FEX	Fe2O3A	MNO	MGO	CAO	Na2O	K2O	P2O5	H2O	CO2	S
2.	3615.	A	82.80	0.28	6.78	4.01	1.50	1.667	2.343	0.06	0.97	0.390	0.005	1.180	0.39	1.90	0.005	0.005
2.	3617.	A	75.70	0.25	5.05	9.56	0.70	0.778	8.782	2.97	0.85	0.650	0.340	1.330	0.41	1.00	0.150	0.005
2.	3616.	B	75.40	0.55	6.72	9.93				0.76	1.25	0.420	0.660	1.560	0.23			
2.	3614.	B	83.60	0.30	7.67	2.96				0.03	0.54	0.010	0.005	1.420	0.04			
2.	78160.	SAIF	18.00	1.33	0.20	81.60	4.10	0.000	77.000	0.10	0.10				0.02		0.200	0.230
2.1	3612.	A	88.50	0.04	0.32	9.26	0.10	0.111	9.149	0.06	5.E-3	0.050	0.005	0.080	0.05	0.20	0.005	0.005
2.1	3613.	A	71.50	0.57	11.30	5.64	1.60	1.778	3.862	0.10	2.18	0.080	1.490	2.090	0.09	2.80	0.010	0.005
2.1	3611.	A	40.90	2.30	12.70	24.90	0.10	0.111	24.789	4.55	2.11	3.060	2.180	2.770	0.22	2.40	0.010	0.005
3.	55521.	A	66.80	0.32	6.65	13.40	0.05		13.400	4.34	0.98	0.780	0.020	2.630	0.23	1.30	0.700	0.005
3.	55523.	B	64.60	0.47	10.50	10.60				3.13	1.70	0.680	0.110	4.160	0.28			
4.	55524.	A	60.70	0.43	11.00	8.26	0.20	0.222	8.038	4.11	1.65	9.550	0.070	1.150	0.26	0.80	0.020	0.005
4.	55507.	B	75.40	0.27	11.50	3.17				0.50	1.34	0.640	1.820	3.000	0.07			
6.	55555.	A	82.10	0.28	4.29	6.74	0.05		6.740	1.79	0.63	0.680	1.500	0.390	0.15	0.50	0.270	0.005
6.	55554.	A	83.10	0.28	4.55	5.42	0.05		5.420	2.06	0.74	0.500	0.980	0.470	0.15	0.70	0.070	0.005
7.	35002.	A	76.80	0.60	6.47	7.68	2.80	3.112	4.568	0.65	0.72	1.620	3.960	0.150	0.33	0.50	0.470	0.005
7.	35006.	A	82.20	0.27	5.57	5.36	0.05		5.360	0.81	0.35	0.590	2.630	0.720	0.10	0.40	0.360	0.005
8.	55594.	A	66.70	0.36	6.27	19.70	0.05		19.700	0.82	1.16	0.570	1.290	1.520	0.40	1.10	0.020	0.005
8.	35003.	B	67.70	0.43	7.61	10.30				4.58	1.48	2.220	3.390	0.130	0.15			
8.	35001.	B	71.36	0.42	8.37	13.90				0.20	0.79	0.570	1.360	1.630	0.11			
8.	55600.	B	71.80	0.40	7.21	10.10				2.74	1.19	0.460	2.150	1.040	0.18			
8.1	35093.	A	55.40	0.45	9.11	11.60	5.40	6.001	5.599	7.31	2.28	1.020	0.490	1.830	0.26	1.90	6.950	0.310
8.1	55599.	B	71.80	0.43	8.72	6.49				3.36	1.49	0.220	0.005	3.150	0.14			
8.2	55590.	A	62.20	0.46	7.97	19.60	7.40	8.224	11.376	2.65	2.10	0.370	0.005	0.500	0.26	4.40	0.040	0.005
8.3	35094.	A	69.20	0.42	8.57	6.01	1.20	1.334	4.676	0.10	2.05	2.000	1.000	1.790	0.10	1.40	3.000	3.140
8.3	41090.	A	66.00	0.48	8.19	10.60	8.40	9.335	1.265	2.90	1.59	0.590	0.840	1.240	0.21	1.90	5.200	0.050
8.3	55589.	A	68.10	0.51	8.45	9.49	0.20	0.222	9.268	3.28	1.55	0.240	3.210	1.080	0.17	1.40	1.150	0.005
9.	55596.	A	79.40	0.24	4.24	7.50	1.60	1.778	5.722	1.58	0.58	0.300	2.210	0.270	0.07	0.70	1.060	0.005
9.	55598.	B	69.50	0.45	9.39	8.01				2.92	1.50	0.390	2.770	0.480	0.14			
9.	55597.	B	76.60	0.27	5.23	11.40				1.07	0.99	0.290	0.480	0.550	0.21			
10.	55592.	A	76.70	0.03	0.14	21.00	0.10	0.111	20.889	0.22	5.E-3	0.360	0.005	0.020	0.11	0.10	0.230	0.380
10.	55591.	A	83.80	0.28	4.60	5.00	0.40	0.445	4.555	0.60	0.96	0.280	0.200	1.550	0.10	1.00	0.060	0.005
10.	55593.	B	74.60	0.35	8.05	9.00				0.46	1.64	0.260	1.490	1.550	0.19			
11.	55595.	A	63.00	2.04	11.20	11.90	7.70	8.557	3.343	0.48	2.25	1.670	2.270	1.160	0.30	3.10	0.270	0.005
12.	55553.	A	60.70	0.40	7.98	19.30	0.05		19.300	3.19	0.99	1.320	0.005	2.460	0.82	1.70	0.240	0.005
13.	55552.	A	69.60	0.50	7.96	12.80	3.60	4.001	8.799	0.16	1.42	1.930	0.480	1.990	0.13	1.80	1.420	0.005



**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE II SUMMARY OF WHOLE ROCK ANALYSES (MAJOR ELEMENTS)**

FILE	SAMPLE	GROUP	SiO2	TiO2	Al2O3	Fe2O3	FeO	FEX	Fe2O3A	MNO	MGO	CAO	NA2O	K2O	P2O5	H2O	CO2	S
14.	41017.	A	78.40	0.20	8.66	1.03	0.30	0.333	0.697	0.06	0.16	2.760	3.270	2.340	0.04	0.30	2.000	0.210
14.	41022.	A	74.70	0.23	12.10	1.66	0.90	1.000	0.660	0.02	0.64	0.390	2.660	5.830	0.04	0.50	0.430	0.160
14.	41054.	A	81.60	0.32	7.20	2.70	0.40	0.445	2.255	0.03	0.64	0.250	0.170	2.480	0.13	0.80	0.080	1.690
14.	41019.	B	80.10	0.24	10.80	0.76				0.02	0.09	0.820	3.730	2.240	0.04			
14.	41018.	B	80.80	0.22	9.78	0.93				0.03	0.10	0.680	3.220	3.250	0.04			
14.	41053.	B	36.20	1.19	13.80	10.20				0.45	5.51	13.100	1.120	2.810	0.15			
14.	55556.	B	74.40	0.35	6.58	10.40				2.70	0.85	0.100	0.005	1.930	0.13			
15.	41041.	A	46.90	0.32	7.05	24.10	11.90	13.224	10.876	0.95	4.51	3.400	0.005	0.220	1.33	3.50	2.650	5.980
15.	41046.	A	36.00	0.22	4.45	36.90	18.40	20.448	16.452	0.31	1.58	5.770	0.005	0.030	0.91	2.60	4.510	12.700
15.	41043.	A	18.20	0.13	2.27	44.90	26.70	29.672	15.228	1.43	2.92	9.350	0.030	0.070	3.36	1.30	18.040	2.280
15.	41040.	A	66.10	0.24	15.00	2.39	1.40	1.556	0.834	0.10	2.54	0.100	0.100	5.640	0.04	2.00	0.120	0.005
15.	41042.	A	26.20	0.11	1.66	42.20	26.70	29.672	12.528	6.75	1.32	3.880	0.080	0.260	1.77	0.60	18.740	0.640
15.	78108.	SAIF	14.50	0.67	301.30	49.80	26.80		20.000	10.61	1.40	4.960		0.310	3.21	2.10	14.800	0.210
15.	78131.	SAIF	28.70	4.57	15.10	25.70	17.40		6.400	0.48	10.70	6.280	0.100	0.400	1.30	8.40	0.800	0.010
15.	78120.	SAIF	34.20	0.25	6.10	37.60	26.00		8.800	2.62	3.36	3.820	0.500	1.190	1.34	8.10	3.400	1.110
15.	78130.	SAIF	25.30	9.22	909.80	30.20	12.90		15.900	0.43	5.50	11.390		1.020	2.94	4.50	0.200	0.030
15.	78148.	SAIF	20.80	0.67	501.30	58.10	26.80		28.300	4.24	0.80	4.700		0.010	1.76		11.400	0.130
15.	41048.	B	56.20	0.50	13.50	10.60				0.37	9.01	0.520	0.050	1.530	0.36			
17.	35004.	A	76.20	0.23	4.45	11.00	7.00	7.779	3.221	1.68	1.27	0.220	0.005	0.180	0.13	2.20	0.160	0.060
17.	35095.	B	56.70	1.07	18.00	11.10				0.09	3.80	0.130	0.020	4.120	0.11			
18.	35005.	A	66.00	0.44	8.74	11.90	8.90	9.891	2.009	2.56	1.72	0.540	1.200	0.660	0.25	2.60	2.380	0.260
19.	55518.	A	66.20	0.44	8.84	9.13	0.05		9.130	4.86	1.28	0.550	2.080	1.600	0.19	1.40	0.440	0.005
19.	55520.	A	67.40	0.38	9.49	8.87	0.05		8.870	3.57	1.43	0.380	2.680	1.310	0.20	1.10	0.350	0.005
19.	55519.	B	75.70	0.28	7.24	6.50				2.63	1.74	0.390	1.590	0.750	0.14			
20.	55513.	A	71.50	0.03	0.25	28.20	2.00	2.223	25.977	0.09	0.04	0.060	0.005	0.060	0.05	0.10	0.020	0.005
20.	55514.	A	43.50	3.41	14.70	18.20	6.60	7.335	10.865	0.31	5.97	1.900	0.020	4.140	1.49	3.30	0.010	0.005
20.	55508.	B	65.50	0.75	5.02	21.30				0.20	3.09	0.350	0.005	0.800	0.27			
21.	55510.	A	45.20	0.43	7.18	30.60	4.60	5.112	25.488	5.83	1.28	0.980	1.760	2.200	0.50	1.50	2.230	0.005
21.	55512.	B	79.50	0.26	3.43	10.80				1.24	0.65	0.270	0.510	1.190	0.22			
21.	55511.	B	77.82	0.21	3.62	7.87				4.47	0.83	0.160	0.320	1.020	0.15			
21.1	41023.	A	53.40	0.89	19.40	11.10	8.80	9.779	1.321	1.22	2.09	0.590	1.060	3.580	0.26	3.80	2.420	0.005
21.1	41024.	B	54.60	0.89	19.40	10.90				0.97	2.12	0.450	0.920	3.620	0.16			
21.1	55509.	B	54.80	0.93	19.90	10.70				1.31	1.53	0.140	0.760	3.720	0.19			
22.	55515.	A	29.80	0.31	5.01	41.50	6.70	7.446	34.054	3.71	2.05	3.540	0.005	0.730	2.96	5.70	1.520	0.190
22.	55516.	A	38.10	0.41	7.02	31.80	9.10	10.113	21.687	4.49	1.64	2.590	0.005	0.620	2.07	4.80	4.300	1.870

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE II SUMMARY OF WHOLE ROCK ANALYSES (MAJOR ELEMENTS)**

FILE	SAMPLE	GROUP	SiO2	TiO2	Al2O3	Fe2O3	FeO	FEX	Fe2O3A	MNO	MGO	CAO	Na2O	K2O	P2O5	H2O	CO2	S
22.	78069.	SAIF	27.60	0.20	303.80	40.90	21.60		16.900	7.10	2.20	4.190		0.860	2.84	6.10	6.000	0.890
22.	78072.	SAIF	29.50	0.22	3.90	45.40	22.20		20.700	5.27	2.90	2.050		0.880	1.18	6.30	4.400	0.470
22.	78073.	SAIF	33.40	0.17	303.10	33.70	16.70		15.100	12.32	1.60	3.010		0.800	1.05	4.00	8.800	0.070
22.	55517.	B	21.00	0.29	4.02	46.80				10.20	1.74	2.560	0.005	0.710	1.61			
24.	41003.	A	74.00	0.24	12.30	4.01	2.90	3.223	0.787	0.31	1.79	0.350	2.460	2.450	0.08	1.70	0.200	0.005
24.	41002.	A	48.10	0.22	7.79	26.90	21.50	23.893	3.007	2.19	2.37	4.010	0.320	0.700	2.02	4.70	1.230	0.150
24.	35096.	B	62.90	0.53	11.70	14.20				0.41	1.24	0.550	0.040	2.790	0.40			
25.	41055.	A	30.00	0.20	4.24	42.40	24.70	27.449	14.951	3.86	2.64	4.850	0.280	1.430	2.81	3.20	4.830	1.190
25.	41076.	A	46.90	0.45	8.80	23.00	15.40	17.114	5.886	1.46	5.30	1.710	1.030	3.410	1.20	1.50	0.920	7.530
25.	41077.	A	18.10	0.12	2.10	54.60	33.30	37.006	17.594	4.35	1.67	5.340	0.100	0.660	2.64	1.80	9.740	3.080
25.	41056.	B	46.00	0.25	6.59	26.91				1.43	3.78	3.750	0.005	2.240	2.01			
25.	41078.	B	15.00	0.22	3.16	50.20				7.49	1.57	4.640	0.005	1.180	2.19			
25.	41057.	B	26.00	0.35	9.46	36.60				2.37	4.12	4.000	0.005	1.730	2.36			
26.	41085.	A	31.40	0.31	5.31	30.90	25.00	27.783	3.117	9.29	2.62	2.270	0.005	0.030	1.24	2.70	17.050	0.230
26.	41082.	A	38.70	0.80	15.30	13.30	10.30	11.446	1.854	1.45	7.03	8.370	1.990	2.110	0.08	4.30	7.420	0.005
26.	41086.	A	16.00	0.07	0.76	67.00	24.80	27.560	39.440	0.91	0.95	4.910	0.005	0.020	4.41	0.50	5.700	1.950
26.	41079.	A	48.60	0.08	1.08	45.70	8.90	9.891	35.809	0.13	0.56	2.560	0.005	0.130	1.44	0.60	0.550	0.005
26.	55551.	A	24.00	0.10	1.30	63.40	15.70	17.447	45.953	2.20	0.51	4.060	0.300	0.100	1.76	0.30	3.270	0.005
26.	41087.	A	12.40	0.38	5.70	40.80	31.70	35.228	5.572	11.40	2.74	3.700	0.005	0.050	2.05	2.90	21.830	0.120
26.	41083.	A	17.80	0.12	1.95	67.70	21.90	24.337	43.363	4.48	0.65	3.380	0.005	0.060	1.94	0.60	3.810	0.060
26.	41081.	A	18.30	0.14	1.98	63.00	16.20	18.003	44.997	5.95	1.23	3.510	0.005	0.070	2.70	0.70	4.420	0.040
26.	78051.	SAIF	31.60	0.28	4.01	39.70	20.00	0.000	17.400	3.47		4.300			2.65	3.70	7.900	0.070
26.	78043.	SAIF	50.40	0.35	4.89	29.90	1.00		13.800	0.37		0.420		0.340	0.42	4.90		0.000
26.	78044.	SAIF	53.50	0.26	3.44	28.70	1.00		15.900	0.37		1.890		0.820	1.47	2.90		0.000
26.	78045.	SAIF	51.20	0.29	3.71	30.80	1.00		16.800	0.43		0.950		0.910	0.80	3.60		0.000
26.	78046.	SAIF	14.30	0.10	0.57	79.40	25.00	0.000	50.700	0.90		2.500			1.90	0.50	1.600	0.370
26.	78047.	SAIF	17.90	0.04	0.52	68.30	22.00	0.000	43.100	3.03		3.670			2.38	0.80	5.600	0.190
26.	78049.	SAIF	18.40	0.03	0.12	71.60	14.00		55.700	1.83		2.890		0.010	2.10	0.20	3.600	0.210
26.	78050.	SAIF	27.10	1.12	3.10	30.90	21.00		7.000	1.92	1.00	0.190		0.590	0.04	9.00	1.800	0.030
26.	78028.	SAIF	29.00	0.03	0.52	58.10	13.00	0.000	42.900	2.67		3.010			2.11	0.80	5.500	0.070
26.	78029.	SAIF	15.10	0.03	0.55	77.10	23.00		51.300	2.17		2.450		0.030	1.71	0.40	2.500	0.210
26.	78030.	SAIF	22.70	0.12	0.13	56.90	20.00		34.200	5.58		3.270		0.270	2.43	1.30	6.200	0.150
26.	78031.	SAIF	14.70	0.09	1.43	66.60	21.00		42.600	4.90		4.070		0.010	2.97	1.40	4.200	0.090
26.	78032.	SAIF	20.30	1.E-2	0.59	72.90	24.00	0.000	46.100	1.57		2.650			2.00	0.10	2.800	0.190
26.	78033.	SAIF	13.60	0.04	0.53	76.00	24.00	0.000	49.200	2.03		3.880			2.83	0.40	3.200	0.070

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
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**TABLE II SUMMARY OF WHOLE ROCK ANALYSES (MAJOR ELEMENTS)**

FILE	SAMPLE	GROUP	SiO2	TiO2	Al2O3	Fe2O3	FeO	FEX	Fe2O3A	MNO	MGO	CAO	NA2O	K2O	P2O5	H2O	CO2	S
26.	78034.	SAIF	33.50	0.16	1.15	55.40	17.00		35.600	1.12		1.540		0.710	1.28	2.00	1.400	0.050
26.	78040.	SAIF	12.10	0.10	0.47	71.70	13.00	0.000	56.600	4.24		3.670			2.66	0.30	6.100	0.210
26.	78042.	SAIF	51.60	0.32	4.88	27.40	1.00		18.700	0.34		0.700		0.060	0.62	4.90		0.000
26.	78052.	SAIF	23.30	0.05	0.69	67.80	13.00	0.000	52.600	2.56		1.910			1.43	1.30	2.100	0.070
26.	78055.	SAIF	10.10	0.09	0.26	79.40	24.00		52.200	3.60		3.650		0.010	2.71	1.40	2.000	0.070
26.	78056.	SAIF	28.20	0.02	0.56	65.60	19.00	0.000	43.600	1.57		1.450			1.12	0.30	1.200	0.090
26.	78057.	SAIF	49.30	0.20	3.43	32.30	13.00		17.900	0.77		2.050		0.390	1.60	3.60	0.800	0.270
26.	78059.	SAIF	53.50	0.25	4.08	29.40	13.00		14.500	0.37		0.620		0.380	0.57	4.20	0.100	0.150
26.	78078.	SAIF	28.00	0.67	601.80	48.40	22.90		23.000	6.08	0.80	5.110		0.160	3.61	2.40	6.000	0.290
26.	78079.	SAIF	47.40	0.33	101.10	42.80	9.10		32.700	3.40	0.30	2.040		0.380	0.94	1.40	1.600	0.050
26.	78076.	SAIF	40.10	0.33	801.10	54.30	14.60		38.100	0.83	0.20	2.480		0.110	1.60	0.90	0.600	0.030
26.	78077.	SAIF	22.60	0.67	301.00	70.00	18.60		49.300	0.61	0.30	3.740			2.07	0.70	1.300	0.070
26.	78081.	SAIF	29.40	0.05	700.80	63.30	14.60		47.100	1.52	0.00	2.100		0.020	1.62	2.39	0.700	0.070
26.	78083.	SAIF	38.50	0.67	101.80	38.30	5.80		31.900	7.19	0.30	4.750		0.020	3.41	1.90	5.000	0.030
26.	78143.	SAIF	8.70	0.17	200.40	82.40	25.10		54.500	1.76	0.60	3.860			2.54		2.900	0.150
26.	78141.	SAIF	6.50	0.33	200.30	74.30	25.40		46.100	1.76	2.10	7.230			2.49		7.800	0.150
26.	78146.	SAIF	10.80	0.67	1.80	76.20	21.80		52.000	1.64	1.25	3.730	0.500	0.040	1.98		5.000	0.070
26.	78147.	SAIF	15.20	0.33	300.70	74.00	11.00		61.800	2.58	0.70	2.800			1.89		4.100	0.070
26.	78140.	SAIF	14.70	0.33	600.50	74.50	15.60		57.200	2.54	0.60	2.310		0.060	1.58		4.700	0.090
26.	78144.	SAIF	7.90	0.17	700.30	83.70	25.30		55.600	1.81	0.70	3.220			2.21		3.100	0.210
26.	78139.	SAIF	14.90	0.67	900.50	64.70	24.00		32.500	2.85	1.00	4.330		0.090	3.22	0.10	9.000	0.270
26.	41084.	B	24.00	0.16	1.52	57.50				4.30	0.84	4.760	0.005	0.160	2.98			
27.	41051.	A	34.70	0.26	5.17	40.70	27.60	30.672	10.028	2.92	1.49	3.650	0.560	1.150	1.83	4.50	3.150	0.230
27.	41072.	A	47.70	0.38	7.90	22.00	17.40	19.337	2.663	3.37	2.62	4.200	0.005	0.920	1.72	3.00	6.520	1.870
27.	41070.	A	29.50	0.22	4.11	50.30	24.00	26.671	23.629	1.87	2.33	4.250	0.030	0.410	2.94	2.00	1.440	3.360
27.	41074.	A	47.70	0.26	6.89	26.90	22.50	25.004	1.896	3.87	2.00	3.790	0.030	0.220	1.67	2.60	1.580	4.940
27.	41073.	A	24.70	0.20	4.60	36.20	25.80	28.672	7.528	5.36	1.48	4.830	0.020	0.810	2.04	1.80	2.240	4.660
27.	41069.	A	30.30	0.31	7.49	43.00	27.00	30.005	12.995	4.88	3.54	3.510	0.020	0.130	1.76	3.20	1.890	3.390
27.	41075.	A	51.10	0.38	9.58	18.20	12.90	14.336	3.864	2.57	4.80	4.230	0.050	1.210	0.90	3.90	3.130	1.090
27.	78086.	SAIF	35.60	0.12	2.10	40.90	21.50		17.000	5.80	0.70	3.270		0.520	2.32	3.70	6.900	0.750
28.	41035.	A	76.40	0.20	9.23	5.74	0.50	0.556	5.184	0.02	0.49	0.090	0.090	2.660	0.05	1.00	0.020	3.160
28.	41034.	A	26.00	0.65	16.20	29.60	22.90	25.449	4.151	0.25	13.80	0.220	0.040	1.390	0.11	5.00	0.080	10.100
28.	78095.	SAIF	37.50	2.90	17.10	23.50	7.40		15.300	0.14	1.95	6.040	1.300	5.050	0.38	2.50	2.400	0.030
28.	78002.3	SAIF	38.70	0.53	9.E4	39.90	15.00		22.700	1.90	4.E3	1.920	3.000	0.030	0.42	2.20	0.500	0.030
28.	78004.	SAIF	44.40	0.62	6.9E4	20.00			9.300	3.07	3.E3	8.310	2.000	0.040	0.58	2.70	3.700	

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FILE	SAMPLE	GROUP	SiO2	TiO2	AL2O3	FE2O3	FeO	FEX	FE2O3A	MNO	MGO	CAO	NA2O	K2O	P2O5	H2O	CO2	S
28.	78002.1	SAIF	46.10	0.45	3.2E4	34.30	11.00		21.400	2.40	1.00	1.590	3.000	0.020	0.40	1.90	0.200	0.300
28.	78002.2	SAIF	55.80	0.37	408.00	27.70	9.00		17.600	1.36	7.E3	1.860	2.000	0.010	0.30	1.30	0.800	0.300
28.	78005.1	SAIF	33.00	0.75	4.3E4	34.80	15.00		17.200	2.49	5.E3	4.110	2.000	0.150	0.54	4.00	0.800	0.210
29.	41064.	A	26.80	0.16	2.85	49.60	30.20	33.561	16.039	4.37	2.77	4.400	0.130	0.440	2.66	2.60	4.560	0.530
29.	41066.	A	69.40	0.40	14.20	4.06	2.30	2.556	1.504	0.15	1.47	0.520	0.330	4.480	0.16	1.70	1.900	0.220
29.	41059.	A	37.00	0.16	3.29	36.30	29.20	32.450	3.850	4.05	2.00	4.730	0.270	0.590	2.84	3.00	5.710	3.060
29.	41060.	A	46.50	0.17	4.86	31.60	4.20	4.667	26.933	0.37	1.20	2.040	0.840	0.960	1.85	1.40	2.440	11.600
29.	41067.	A	21.50	0.13	2.23	49.40	33.00	36.673	12.727	3.95	2.26	5.520	0.140	0.420	5.03	2.00	8.830	1.910
29.	41063.	A	26.40	0.18	3.00	49.50	31.00	34.450	15.050	5.10	2.35	4.540	0.110	0.390	3.20	2.10	4.960	1.010
29.	41062.	A	27.60	0.32	5.48	40.40	36.40	40.451	0.005	3.29	4.22	3.690	0.220	0.630	2.17	4.00	4.220	8.120
29.	78016.	SAIF	25.10	0.17	2.89	51.00	27.00		20.900	2.76		5.060		0.060	3.79	3.80	4.300	0.760
29.	78015.	SAIF	26.50	0.18	1.61	46.00	27.00		15.400	1.72		5.870		0.430	4.64	5.90	1.500	4.210
29.	78014.	SAIF	27.90	0.13	2.43	50.30	18.00		30.100	3.68		3.430		0.150	2.66	5.50	1.200	0.490
29.	41061.	B	55.00	0.51	11.40	16.90				1.37	3.70	1.610	0.005	1.740	1.03			
29.1	41091.	A	63.70	0.87	10.90	11.60	9.10	10.113	1.487	1.27	1.79	1.370	0.490	2.690	0.23	2.40	2.970	0.005
30.	41027.	A	70.50	0.26	5.12	10.20	4.30	4.779	5.421	3.27	0.95	0.740	0.005	1.740	0.28	0.80	5.120	0.240
30.	41026.	A	68.60	0.36	8.15	8.84	3.70	4.112	4.728	3.14	1.77	1.070	0.005	2.470	0.23	1.50	3.340	0.130
30.	41025.	A	81.30	0.22	4.74	4.71	1.00	1.111	3.599	0.24	0.41	0.540	0.010	1.290	0.06	1.20	0.710	1.570
30.	41028.	A	54.90	0.34	6.65	20.20	15.90	17.670	2.530	3.42	2.10	1.220	0.005	0.140	0.20	2.90	8.980	0.210
31.	55587.	B	40.80	0.24	3.36	36.50				6.17	1.02	3.020	0.005	0.520	2.16			
31.1	35098.	A	78.60	0.18	9.18	2.69	0.30	0.333	2.357	0.04	0.62	0.400	0.090	3.990	0.11	0.80	0.220	1.190
31.1	41093.	B	82.70	0.15	8.92	2.32				0.04	0.69	0.250	0.005	3.140	0.13			
32.	41007.	A	73.00	0.17	11.00	4.17	0.20	0.222	3.948	0.02	0.09	0.120	1.010	6.990	0.04	0.50	0.100	2.420
32.	55588.	A	47.20	4.34	14.90	18.60	4.60	5.112	13.488	0.10	1.97	2.370	2.610	3.820	0.60	1.60	0.030	0.005
33.	35091.	A	20.40	0.14	2.23	55.00	28.60	31.783	23.217	0.70	1.99	4.520	0.040	0.890	4.94	2.40	6.080	2.990
33.	35090.	A	25.20	0.15	2.23	52.90	26.70	29.672	23.228	1.00	1.68	4.050	0.010	0.450	3.63	2.00	8.000	1.040
33.	35089.	A	17.80	0.15	2.03	55.80	30.00	33.339	22.461	0.84	1.44	5.100	0.040	0.580	3.63	1.00	13.930	1.030
33.	35088.	A	33.60	0.41	5.37	37.80	22.60	25.115	12.685	0.76	3.08	3.230	0.050	1.560	2.33	3.20	4.760	3.580
33.	78062.	SAIF	20.30	0.25	3.38	53.70	27.00		23.200	1.73		4.100		0.060	2.70	3.10	7.100	1.730
33.	78060.	SAIF	4.30	0.10	2.E3	76.60	31.00	0.000	41.100	0.25	1.E3	6.500	0.000		2.20	1.20	5.000	1.950
33.	78064.	SAIF	17.60	0.08	2.61	53.90	24.00		26.800	2.21		8.760		0.100	2.31	1.60	12.000	0.110
33.	78065.	SAIF	14.70	0.12	1.37	71.60	24.00		44.800	0.85		5.520		1.140	2.66	0.70	2.900	0.170
33.	78066.	SAIF	23.00	0.07	1.13	61.00	21.00		37.000	1.42		5.820		0.890	2.93	1.10	3.400	1.030
33.	78068.	SAIF	23.20	0.22	3.32	54.10	26.00		25.200	1.06		4.180		0.010	2.40	2.70	7.200	0.130
33.	78063.	SAIF	30.70	0.27	1.92	55.20	22.00		30.000	1.29		2.170		0.010	1.32	2.80	3.300	0.110

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE II SUMMARY OF WHOLE ROCK ANALYSES (MAJOR ELEMENTS)**

FILE	SAMPLE	GROUP	SiO2	TiO2	Al2O3	Fe2O3	FeO	FeX	Fe2O3A	MnO	MgO	CaO	Na2O	K2O	P2O5	H2O	CO2	S
33.	78166.	SAIF	21.40	0.15	803.00	60.20				1.02	2.40	2.840			2.01	0.90	6.000	0.360
33.	78164.	SAIF	16.60	0.15	2.50	62.90				0.46	1.53	5.810	0.100	0.020	2.12	1.10	5.000	2.060
33.	78165.	SAIF	13.20	0.67	802.30	62.40				0.37	1.00	10.940		0.010	2.24	0.60	6.500	0.680
33.	78167.	SAIF	21.20	0.25	603.30	54.20				1.14	2.80	3.520		0.030	1.15	2.60	7.600	0.730
33.2	41005.	A	46.60	0.53	9.31	28.50	17.40	19.337	9.163	1.99	1.75	2.580	0.560	2.450	1.24	2.60	3.860	0.050
36.	55580.	A	46.30	3.46	14.70	18.20	2.60	2.889	15.311	0.25	0.98	3.620	4.040	2.800	1.09	1.20	1.750	0.005
36.	55582.	A	41.80	2.94	12.80	12.40	8.10	9.002	3.398	0.21	4.35	9.680	3.780	0.960	0.41	2.60	7.190	0.010
36.	55583.	A	40.00	2.88	13.20	13.00	5.70	6.334	6.666	0.17	3.54	11.300	3.480	1.670	0.35	2.30	7.890	0.005
36.	55581.	B	42.40	2.73	17.40	12.80				0.13	1.98	7.970	2.400	3.310	0.51			
36.	55579.	B	45.20	3.88	15.50	21.90				0.12	1.16	1.850	2.520	4.240	1.31			
37.	55584.	A	91.60	0.04	0.06	6.81	0.40	0.445	6.365	0.13	5.E-3	0.050	0.005	0.010	0.03	0.10	0.010	0.005
38.	55577.	A	80.80	0.05	0.47	13.60	0.05		13.600	3.24	5.E-3	0.120	0.005	0.030	0.05	0.30	0.005	0.005
38.	55575.	A	80.80	0.07	1.55	13.00	2.50	2.778	10.222	1.81	0.13	0.410	0.180	0.040	0.08	0.30	0.005	0.005
38.	55576.	B	79.10	0.23	4.43	9.52				2.20	0.96	1.220	0.005	0.550	0.14			
38.1	55578.	A	57.50	1.04	21.00	7.95	4.60	5.112	2.838	0.11	1.87	0.020	0.450	4.740	0.10	3.70	0.005	0.005
40.1	41009.	A	46.80	3.40	14.90	12.70	8.20	9.113	3.587	0.15	3.61	7.100	1.990	1.870	0.43	3.40	5.160	0.005
40.1	41008.	A	44.10	3.03	14.20	12.30	8.50	9.446	2.854	0.17	3.19	9.680	1.780	1.640	0.43	0.30	7.660	0.005
41.	55586.	B	84.80	0.17	4.26	6.63				0.04	0.96	0.110	0.005	1.070	0.08			
42.	35087.	A	57.70	1.22	17.90	9.31	5.80	6.446	2.864	0.15	3.83	0.150	1.210	3.580	0.15	3.90	0.020	0.090
42.	55570.	A	74.30	0.41	6.96	8.34	0.05		8.340	2.68	0.81	0.350	0.740	3.000	0.13	0.50	0.110	0.005
42.	55574.	A	70.50	0.35	7.45	14.50	0.05		14.500	0.40	0.83	0.880	0.020	2.940	0.61	1.00	0.005	0.005
42.	55572.	A	67.90	0.34	6.87	16.90	2.60	2.889	14.011	1.47	1.68	0.310	0.005	1.980	0.20	1.60	0.050	0.005
42.	55571.	B	63.60	0.43	7.72	18.80				1.52	2.11	0.560	0.005	1.620	0.34			
44.	3609.	A	65.30	0.79	16.10	6.21	1.60	1.778	4.432	0.07	1.83	0.500	2.080	3.860	0.11	1.80	0.005	0.005
44.	3607.	A	56.60	0.91	19.70	8.79	0.70	0.778	8.012	0.08	2.08	0.170	0.650	5.770	0.12	2.40	0.010	0.005
44.	3610.	B	56.00	0.95	20.70	9.02				0.08	2.24	0.490	1.040	6.170	0.13			
44.	3608.	B	58.60	0.90	19.30	8.24				0.07	2.04	0.090	0.660	5.600	0.09			
46.	55557.	A	62.90	0.61	13.40	10.30	7.00	7.779	2.521	1.50	2.45	0.890	4.320	0.410	0.18	3.20	0.020	0.005
46.	55559.	A	53.00	0.66	13.50	19.20	8.40	9.335	9.865	0.78	2.30	1.710	0.410	2.420	0.24	4.60	0.980	0.005
46.	55558.	B	57.50	1.16	13.60	11.60				0.75	2.80	3.270	3.670	1.130	0.20			
46.1	55560.	A	59.30	0.76	14.40	11.80	4.00	4.445	7.355	0.09	4.39	0.330	5.650	0.150	0.13	2.50	0.030	0.005
47.	55564.	A	20.70	0.05	0.62	62.80	24.90	27.671	35.129	0.52	2.36	3.670	0.005	0.020	0.02	0.90	10.910	0.005
47.	55565.	A	70.60	0.88	8.34	9.18	0.20	0.222	8.958	0.98	1.05	1.190	2.250	2.280	0.21	1.30	0.190	0.005
47.	55563.	B	15.60	0.09	1.31	60.40				0.52	3.66	4.650	0.005	0.040	0.03			
48.	55561.	B	85.20	0.48	5.91	2.42				0.05	0.78	0.420	2.400	0.240	0.08			

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE II SUMMARY OF WHOLE ROCK ANALYSES (MAJOR ELEMENTS)**

FILE	SAMPLE	GROUP	SiO2	TiO2	Al2O3	Fe2O3	FeO	FEX	Fe2O3A	MNO	MGO	CAO	NA2O	K2O	P2O5	H2O	CO2	S
49.	55566.	A	65.80	0.75	14.90	6.28	4.70	5.223	1.057	0.09	2.78	0.430	1.460	2.690	0.17	3.30	0.140	0.005
50.	55568.	A	63.20	0.31	5.93	11.90	7.10	7.890	4.010	2.57	2.04	6.210	0.170	0.450	0.26	3.10	4.320	0.005
50.	55567.	B	60.90	0.33	6.10	14.30				2.15	2.64	5.770	0.440	0.580	0.39			
50.1	55569.	A	68.40	0.56	6.63	9.55	5.70	6.334	3.216	2.28	1.20	2.380	1.430	2.420	0.15	0.90	0.230	3.050
51.	35074.	A	74.50	0.39	7.44	7.31	5.80	6.446	0.864	3.35	2.14	1.080	0.440	1.490	0.19	0.90	0.020	0.560
51.	35075.	A	70.00	0.60	10.50	7.70	6.90	7.668	0.032	0.08	0.70	0.150	0.005	4.590	0.11	1.10	0.010	3.100
51.	35073.	A	79.00	0.34	7.16	5.06	4.50	5.001	0.059	0.05	0.87	0.170	0.250	2.340	0.07	0.90	0.010	2.000
51.	35023.	A	84.20	0.33	5.88	1.97	0.40	0.445	1.525	0.03	0.76	0.740	0.760	1.180	0.26	1.00	0.050	0.700
52.	35068.	A	63.70	1.01	13.70	7.42	2.80	3.112	4.308	0.11	2.58	1.530	1.090	3.860	0.23	1.20	0.005	1.550
52.	35024.	A	61.40	0.72	15.10	8.36	6.80	7.557	0.803	0.22	4.10	0.900	1.830	3.220	0.11	1.90	0.005	1.090
52.	35072.	A	82.30	0.28	5.89	4.51	2.60	2.889	1.621	0.07	0.95	0.230	0.250	1.460	0.08	1.20	0.010	1.520
52.	35027.	A	59.60	1.00	19.20	7.81	5.20	5.779	2.031	0.26	2.06	0.170	0.430	4.740	0.11	2.90	0.005	0.005
52.	35070.	A	55.50	0.77	15.40	6.76	2.30	2.556	4.204	0.07	2.83	1.760	1.040	6.880	0.81	1.50	0.050	2.190
52.	35029.	B	60.90	0.78	16.20	7.93				0.08	4.38	0.720	2.560	2.990	0.12			
52.	35076.	B	57.80	1.11	17.50	8.97				0.16	4.04	1.820	1.650	3.190	0.13			
52.	35025.	B	58.90	0.94	16.70	8.48				0.17	4.92	2.400	2.660	2.020	0.14			
52.	35069.	B	57.30	0.89	17.50	6.83				0.05	2.52	0.800	0.620	5.760	0.25			
52.	35071.	B	67.20	0.65	12.33	5.98				0.15	1.76	0.930	0.790	3.660	0.08			
53.	41013.	A	78.80	0.30	5.97	6.98	5.90	6.557	0.423	0.13	0.82	0.340	0.200	2.710	0.11	0.60	0.030	2.590
53.	41011.	A	63.90	0.74	14.50	6.70	5.50	6.112	0.588	0.08	3.28	0.800	1.290	3.630	0.14	1.90	0.130	1.460
53.	41016.	A	59.50	1.26	17.00	9.36	7.50	8.335	1.025	0.13	3.58	0.810	1.710	3.240	0.15	2.90	0.005	0.005
53.	41014.	A	67.00	0.60	7.56	13.10	6.20	6.890	6.210	1.62	1.88	2.960	0.380	2.570	0.23	0.90	0.060	0.005
53.	41015.	B	75.90	0.42	6.13	9.47				0.67	1.78	2.410	0.220	1.780	0.14			
53.	41012.	B	83.50	0.23	4.22	4.14				0.19	1.79	0.340	0.005	1.030	0.05			
53.	41010.	B	58.00	0.81	15.90	9.42				0.13	6.10	0.780	1.210	3.280	0.11			
54.	35066.	A	58.20	1.03	20.50	8.30	6.40	7.112	1.188	0.19	2.23	0.340	1.040	4.520	0.10	3.30	0.010	0.290
54.	35057.	A	64.80	0.56	11.60	9.83	7.70	8.557	1.273	1.93	2.69	1.850	0.160	4.590	0.12	1.20	0.080	2.150
54.	35055.	B	60.60	1.17	16.70	7.54				0.09	3.19	1.080	1.900	3.300	0.14			
54.	35058.	B	54.00	0.37	7.61	23.30				0.46	2.71	1.950	0.230	3.280	0.51			
54.	35067.	B	68.20	0.43	14.00	4.32				0.30	3.76	0.640	0.820	3.220	0.22			
55.	35031.	A	89.10	0.24	4.85	1.90	0.30	0.333	1.567	0.04	0.20	0.130	0.080	0.940	0.07	0.70	0.005	0.540
55.	35030.	B	84.50	0.47	8.34	1.92				0.14	0.55	0.410	0.180	1.370	0.27			
56.	35036.	A	92.70	0.15	2.56	0.45	0.10	0.111	0.339	0.02	0.33	0.110	0.130	0.650	0.05	0.40	0.005	0.005
56.	35077.	A	55.60	1.11	17.00	8.86	6.70	7.446	1.414	0.14	4.40	2.610	1.380	2.810	0.13	4.00	1.290	0.110
56.	35078.	A	74.70	0.48	8.91	5.89	5.10	5.668	0.222	0.06	1.38	0.540	0.570	2.400	0.08	1.50	0.330	1.570

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**TABLE II SUMMARY OF WHOLE ROCK ANALYSES (MAJOR ELEMENTS)**

FILE	SAMPLE	GROUP	SiO2	TiO2	Al2O3	Fe2O3	FeO	FEX	Fe2O3A	MNO	MGO	CAO	Na2O	K2O	P2O5	H2O	CO2	S
56.	35034.	A	58.50	1.15	16.60	9.27	7.20	8.001	1.269	0.12	4.36	2.990	2.040	2.670	0.13	1.70	0.010	0.005
56.	35080.	A	71.80	0.57	10.10	5.93	5.30	5.890	0.040	0.04	1.62	2.100	1.380	1.870	0.14	0.80	0.020	2.390
56.	35032.	B	57.90	1.27	17.30	9.72				0.10	3.61	0.810	1.590	3.080	0.13			
56.	35035.	B	58.10	1.24	16.20	9.18				0.14	4.24	2.700	1.990	2.660	0.14			
56.	35033.	B	59.80	1.25	15.80	9.31				0.18	3.77	1.990	2.140	2.280	0.13			
56.	35081.	B	65.50	0.61	11.80	5.96				0.10	1.82	3.830	1.540	2.440	0.15			
56.	35037.	B	57.80	1.04	16.70	7.96				0.14	4.22	4.780	1.660	3.280	0.15			
56.	35079.	B	68.80	0.58	10.50	7.49				0.11	1.61	1.140	1.340	2.360	0.09			
57.	3606.	A	95.30	0.11	2.07	0.21	0.10	0.111	0.099	1.E-2	0.15	0.020	0.005	0.640	0.04	0.30	0.005	0.005
57.	35048.	A	79.40	0.39	7.30	3.73	0.70	0.778	2.952	0.03	1.24	0.580	0.010	2.080	0.13	1.30	0.260	1.040
57.	35044.	B	93.10	0.16	2.66	0.55				0.02	0.65	0.130	0.005	0.630	0.05			
58.	35040.	A	74.90	0.30	6.86	9.17	1.10	1.222	7.948	1.76	0.45	0.120	1.140	1.770	0.10	1.10	0.030	0.005
58.	35043.	A	92.00	0.16	3.18	0.15	0.05		0.150	1.E-2	0.12	0.010	0.005	0.780	0.02	0.70	0.020	0.005
58.	35039.	A	69.90	0.35	7.92	11.00	2.80	3.112	7.888	2.15	2.20	0.240	0.005	0.890	0.19	3.40	0.010	0.005
58.	35041.	A	76.50	0.25	5.27	11.60	0.05		11.600	0.76	0.40	0.210	0.890	1.440	0.11	0.80	0.250	0.005
58.	35038.	B	63.60	0.48	10.60	18.00				0.08	1.18	0.250	0.530	2.580	0.19			
58.	35042.	B	76.20	0.29	6.29	11.10				0.74	1.56	0.230	0.360	1.290	0.15			
59.	35060.	A	59.70	0.72	14.10	10.30	7.50	8.335	1.965	0.07	3.14	2.230	1.680	3.340	0.10	1.30	0.005	4.650
59.	35059.	B	59.23	1.12	15.26	9.63				0.08	3.14	2.460	1.250	3.490	0.10			
60.	35084.	A	62.70	0.47	9.34	15.10	12.90	14.336	0.764	0.09	1.29	1.270	0.570	2.600	0.86	1.30	0.005	5.700
60.	35083.	A	82.70	0.25	5.67	3.81	3.30	3.667	0.143	0.04	0.86	0.230	0.900	1.150	0.06	0.90	0.005	0.940
61.	35052.	A	52.80	0.75	17.60	13.20	6.50	7.223	5.977	2.03	4.31	0.210	1.410	2.600	0.12	5.10	0.005	0.005
61.	35051.	A	92.10	0.14	3.14	1.13	0.70	0.778	0.352	0.02	0.22	0.100	0.010	0.790	0.11	1.00	0.005	0.005
61.	35050.	A	70.90	0.35	10.80	8.25	5.00	5.557	2.693	0.32	2.52	0.050	0.030	3.150	0.08	2.70	0.005	0.005
61.	35049.	A	83.30	0.32	6.44	1.50	0.05		1.500	0.02	0.51	0.020	0.450	1.470	0.02	1.20	0.005	0.790
62.	35062.	A	70.20	0.35	6.83	11.70	0.05		11.700	2.93	0.65	0.160	0.005	2.150	0.16	2.20	0.005	0.005
62.	35061.	A	62.20	0.30	5.93	12.90	0.05		12.900	6.71	0.38	1.120	0.005	1.700	0.84	3.30	0.010	0.005
62.	35065.	A	78.90	0.31	6.55	7.76	0.05		7.760	0.79	0.66	0.160	0.005	2.100	0.14	2.00	0.020	0.005
62.	35064.	A	68.00	0.28	5.30	11.90	0.05		11.900	6.57	0.70	0.310	0.005	1.040	0.35	2.90	0.080	0.005
62.	35063.	B	61.90	0.32	7.01	16.70				3.56	1.24	0.650	0.005	0.930	0.62			
63.	3623.	A	90.70	0.20	3.87	0.83	0.05		0.830	0.02	0.17	0.010	0.030	0.890	0.02	1.00	0.005	0.005
65.	3603.	A	86.80	0.17	3.26	2.91	0.10	0.111	2.799	1.E-2	0.18	0.010	0.005	0.800	0.02	0.80	0.005	2.230
65.	3605.	A	73.70	0.41	7.93	10.60	0.40	0.445	10.155	1.11	0.70	0.060	0.005	2.560	0.09	1.60	0.010	0.005
65.	3604.	B	72.30	0.46	10.50	6.91				1.66	1.15	0.070	0.005	3.690	0.11			
65.	3624.	B	82.30	0.27	5.52	3.31				1.E-2	0.34	0.010	0.005	1.400	0.02			

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE II SUMMARY OF WHOLE ROCK ANALYSES (MAJOR ELEMENTS)**

FILE	SAMPLE	GROUP	SiO2	TiO2	Al2O3	Fe2O3	FeO	FEX	Fe2O3A	MNO	MGO	CAO	NA2O	K2O	P2O5	H2O	CO2	S
65.	3625.	B	62.70	0.36	6.40	15.80				5.81	0.06	0.420	0.005	0.710	0.58			
66.	3601.	A	76.60	0.31	5.28	12.10	0.60	0.667	11.433	0.61	1.08	0.080	0.610	1.040	0.09	1.20	0.020	0.005
67.	35020.	A	51.10	0.63	10.80	25.20	14.20	15.780	9.420	2.16	3.20	0.610	0.200	0.680	0.36	4.80	1.010	0.005
67.	41029.	A	84.90	0.19	3.92	2.85	0.30	0.333	2.517	0.03	0.28	0.020	0.005	0.900	0.02	0.80	0.090	1.550
67.	41031.	B	77.50	0.28	5.00	6.22				1.E-2	0.37	0.020	0.005	1.300	0.02			
68.	35046.	A	86.50	0.18	3.81	1.78	0.30	0.333	1.447	0.03	0.23	0.030	0.005	0.940	0.03	1.10	0.005	0.005
68.	35082.	A	64.20	0.66	11.50	9.47	1.40	1.556	7.914	0.09	1.72	0.230	0.030	3.100	0.10	2.30	0.050	5.400
68.	35053.	B	87.00	0.18	3.77	2.22				1.E-2	0.23	0.030	0.005	0.960	0.02			
68.	35054.	B	84.50	0.24	4.68	4.02				0.02	0.29	0.020	0.005	1.190	0.03			
69.	35086.	A	60.30	0.66	12.60	9.69	2.90	3.223	6.467	0.08	3.24	1.210	0.050	2.970	0.07	2.70	1.170	4.850
69.	35085.	B	63.00	0.63	12.00	8.79				0.08	2.93	1.280	0.010	2.790	0.07			
70.	35017.	A	56.20	1.31	17.50	10.20	7.50	8.335	1.865	0.17	4.14	1.490	2.010	2.380	0.17	4.00	0.020	0.005
70.	41030.	A	80.30	0.37	7.02	2.56	0.50	0.556	2.004	0.02	0.42	0.130	0.010	2.160	0.07	1.10	0.030	1.160
70.	35016.	B	57.10	1.06	21.40	7.75				0.03	2.62	0.090	0.005	5.630	0.12			
71.	35014.	A	77.50	0.37	9.65	1.43	0.30	0.333	1.097	0.03	1.89	0.670	0.520	2.080	0.06	1.30	0.005	0.270
71.	35013.	B	58.30	1.09	17.00	8.44				0.11	3.86	3.030	1.620	3.150	0.12			
72.	35015.	A	61.40	2.05	12.60	9.86	6.20	6.890	2.970	0.19	2.57	4.630	3.270	1.330	0.48	0.90	0.005	0.005
74.	35011.	A	59.00	0.99	18.80	7.80	4.50	5.001	2.799	0.43	2.36	0.140	1.040	4.160	0.11	3.30	0.005	0.280
74.	35010.	B	66.00	0.86	16.30	5.83				0.11	1.44	1.030	2.290	3.400	0.13			
75.	3602.	A	83.10	0.16	4.17	4.07	0.05		4.070	3.33	0.32	0.380	0.005	0.570	0.25	1.50	0.480	0.005
75.	55550.	B	82.70	0.17	3.12	5.61				2.73	0.05	0.040	0.005	0.480	0.10			
76.	55549.	A	71.20	0.40	7.77	8.80	0.05		8.800	4.09	0.63	0.090	0.580	2.200	0.10	1.80	0.005	0.005
77.	41036.	A	76.60	0.30	5.89	5.80	0.70	0.778	5.022	0.04	0.94	0.660	0.150	1.410	0.07	1.30	0.790	3.730
77.	41038.	A	55.80	1.19	20.90	9.57	7.40	8.224	1.346	0.12	2.50	0.420	0.950	4.470	0.11	2.70	0.200	0.630
77.	41037.	A	63.00	0.30	5.67	15.00	3.60	4.001	10.999	4.66	1.30	0.780	0.690	1.410	0.25	0.70	4.630	0.005
77.	55573.	B	91.00	0.22	4.39	0.66				0.03	0.21	0.030	0.005	0.920	0.03			
77.	55548.	B	68.90	0.29	6.08	11.70				4.51	1.61	0.250	0.005	1.090	0.24			
77.1	41033.	A	60.00	0.89	15.80	7.37	5.50	6.112	1.258	0.20	2.72	2.020	1.050	4.060	0.14	3.20	1.550	0.160
78.	55546.	A	57.00	0.88	18.40	8.27	1.20	1.334	6.936	0.10	2.83	1.140	1.630	5.420	0.11	2.60	0.005	0.005
78.	55547.	B	59.30	0.82	17.20	7.90				0.10	2.69	1.120	1.840	4.600	0.15			
81.	55542.	A	68.00	0.27	5.20	15.20	0.05		15.200	3.79	0.07	0.090	0.010	0.490	0.25	3.70	0.030	0.005
81.	55541.	B	68.80	0.24	4.62	14.60				4.07	0.03	0.090	0.005	0.330	0.25			
82.	55533.	A	51.70	0.69	12.20	22.70	0.05		22.700	2.36	1.57	0.550	1.470	3.320	0.29	1.90	0.050	0.005
82.	55535.	A	56.80	0.85	15.40	13.30	7.80	8.668	4.632	0.95	2.50	0.190	0.330	3.990	0.14	4.50	0.040	0.030
82.	55536.	A	79.40	0.34	5.84	7.31	5.10	5.668	1.642	0.19	1.53	0.110	0.080	1.020	0.08	2.00	0.020	0.005



**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE II SUMMARY OF WHOLE ROCK ANALYSES (MAJOR ELEMENTS)**

FILE	SAMPLE	GROUP	SiO2	TiO2	Al2O3	Fe2O3	FeO	FEX	Fe2O3A	MNO	MGO	CAO	Na2O	K2O	P2O5	H2O	CO2	S
82.	55534.	B	55.90	0.72	13.50	17.90				1.35	2.24	0.440	0.540	3.950	0.30			
83.	3618.	A	69.00	0.81	13.50	2.45	0.30	0.333	2.117	0.03	1.25	0.040	0.350	4.640	0.11	2.10	0.010	0.005
83.	55537.	A	53.00	0.61	12.30	19.80	5.20	5.779	14.021	3.22	2.06	0.700	0.120	3.000	0.23	2.60	2.400	0.005
83.	55538.	A	53.90	0.69	12.70	19.90	3.00	3.334	16.566	1.81	1.81	0.430	3.440	2.650	0.30	1.60	0.080	0.005
85.	3622.	A	48.80	0.77	14.50	22.60	3.60	4.001	18.599	1.10	1.56	0.600	2.490	4.720	0.35	1.40	0.050	0.010
85.	3621.	A	71.20	0.83	13.90	2.89	0.20	0.222	2.668	1.E-2	1.05	0.050	0.140	3.940	0.07	2.30	0.070	0.005
85.	41032.	A	54.60	0.80	14.60	12.40	9.10	10.113	2.287	2.99	2.31	1.040	0.260	3.370	0.26	3.40	2.970	0.190
86.	55525.	A	59.20	0.87	17.40	11.10	3.00	3.334	7.766	0.64	2.17	0.290	0.590	4.120	0.13	2.90	0.030	0.005
86.	55531.	A	62.90	0.37	7.19	14.40	0.05		14.400	5.98	1.42	0.930	1.780	1.900	0.19	0.50	0.340	0.010
86.	55530.	A	60.10	0.39	8.89	15.50	0.10	0.111	15.389	4.35	1.20	0.750	3.070	1.060	0.33	1.70	1.570	0.005
86.	55529.	A	73.20	0.30	6.60	11.30	7.10	7.890	3.410	0.51	1.29	0.820	0.550	0.640	0.52	2.40	1.340	0.005
86.	55528.	A	79.30	0.28	6.25	5.33	1.20	1.334	3.996	0.79	0.97	0.790	0.910	1.000	0.11	1.70	0.540	0.210
86.	55527.	A	59.20	0.76	16.00	11.60	1.70	1.889	9.711	0.73	2.28	0.670	0.420	4.100	0.16	2.60	0.030	0.005
86.	55532.	A	83.10	0.28	5.47	4.92	3.20	3.556	1.364	0.25	1.38	0.240	0.020	1.050	0.08	1.70	0.250	0.005
86.	55526.	B	58.60	0.76	15.80	11.40				0.85	2.29	0.920	0.340	3.930	0.24			
87.1	3620.	A	85.10	0.25	6.22	1.73	0.10	0.111	1.619	0.02	0.45	0.010	0.005	1.490	0.05	1.50	0.005	0.005
87.1	55544.	A	78.10	0.20	5.15	8.45	0.05		8.450	1.74	1.14	0.400	0.970	0.620	0.24	1.40	0.030	0.005
87.1	55543.	B	65.40	0.31	6.76	18.40				1.92	1.41	0.830	0.530	1.570	0.49			
87.2	3619.	A	68.10	0.91	15.60	3.85	0.70	0.778	3.072	0.03	1.53	0.040	0.005	3.600	0.08	3.50	0.005	0.005
87.2	55545.	A	58.50	1.07	19.30	9.44	3.30	3.667	5.773	0.29	1.79	0.130	0.670	4.360	0.12	3.60	0.005	0.005
88.	55540.	A	72.90	0.35	7.02	8.31	0.05		8.310	2.87	0.91	0.380	0.390	1.570	0.24	2.50	0.050	0.005
88.	55539.	A	69.90	0.46	9.99	10.80	0.30	0.333	10.467	0.53	0.99	0.190	0.910	3.560	0.16	1.60	0.020	0.005
90.	35007.	A	69.80	0.58	13.10	2.49	1.60	1.778	0.712	0.04	3.97	1.050	6.180	0.060	0.10	1.70	0.210	0.005
90.	35009.	A	63.70	0.65	14.90	6.84	1.20	1.334	5.506	0.20	3.07	1.350	2.860	2.800	0.11	2.30	0.070	0.130
90.	41001.	A	60.90	0.74	15.40	6.96	4.90	5.445	1.515	0.14	4.15	1.880	2.430	2.460	0.16	3.20	1.180	0.150
90.	35008.	B	56.90	0.78	17.90	8.32				0.09	5.37	0.240	0.950	3.660	0.16			

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE III SUMMARY OF WHOLE ROCK ANALYSES (MINOR ELEMENTS)**

File	Sample	Group	Fe	Mn	Co	Cricp	Crxf	Cu	Ni	Zn	Pb	Th	Zr	Y	Rb	Sr	Nb	F	Cl
2.	3615.	A	32000.	400.	4.	50.	100.	33.	23.	45.	25.	4.	30.	20.	120.	60.	10.	440.	25.
2.	3617.	A	70000.	23000.	90.	11.	50.	54.	70.	46.	70.	5.	80.	40.	60.	40.	30.	420.	25.
2.	3616.	B	71000.	6100.	41.	23.	60.	42.	29.	99.	13.	6.	320.	40.	100.	20.	50.		
2.	3614.	B	23000.	160.	4.	44.	80.	19.	29.	66.	6.	3.	60.	5.	80.	5.	10.		
2.	78160.	SAIF	570700.	800.	0.5		0.5	0.5	0.5	30.			30.	5.		300.			0.
2.1	3612.	A	69000.	420.	1.	0.5	40.	1.5	3.	1.	6.	0.5	5.	5.	10.	5.	10.	20.	25.
2.1	3613.	A	46000.	730.	6.	89.	130.	31.	49.	84.	25.	7.	150.	10.	110.	5.	10.	330.	25.
2.1	3611.	A	160000.	38000.	74.	31.	70.	16.	61.	182.	28.	5.	390.	20.	70.	80.	60.	590.	25.
3.	55521.	A	100000.	35000.	96.	28.	60.	170.	101.	89.	28.	6.	40.	20.	140.	10.	20.	630.	25.
3.	55523.	B	72000.	21700.	62.	21.	60.	43.	68.	110.	38.	10.	110.	30.	250.	5.	10.		
4.	55524.	A	67000.	35000.	97.	40.	50.	9.5	143.	107.	77.	9.	70.	30.	60.	710.	30.	580.	25.
4.	55507.	B	24000.	3560.	31.	7.	40.	16.	22.	64.	28.	18.	120.	50.	160.	160.	20.		
6.	55555.	A	49000.	13000.	56.	19.	60.	23.	47.	45.	96.	3.	70.	5.	30.	10.	20.	290.	25.
6.	55554.	A	41000.	14000.	36.	12.	50.	11.	34.	36.	22.	4.	50.	30.	5.	20.	10.	340.	25.
7.	35002.	A	60000.	5100.	21.	21.	60.	70.	34.	108.	91.	5.	130.	10.	20.	20.	30.	400.	25.
7.	35006.	A	41000.	6500.	39.	9.	50.	6.	24.	55.	14.	4.	460.	30.	40.	10.	40.	160.	25.
8.	55594.	A	120000.	6300.	42.	22.	60.	30.	39.	54.	23.	5.	100.	10.	70.	10.	10.	390.	25.
8.	35003.	B	69000.	34000.	104.	39.	60.	64.	110.	84.	46.	5.	70.	30.	20.	50.	20.		
8.	35001.	B	87000.	1450.	17.	24.	60.	28.	31.	57.	66.	6.	120.	20.	120.	20.	10.		
8.	55600.	B	67000.	22900.	68.	25.	70.	19.	72.	65.	18.	8.	110.	20.	60.	50.	20.		
8.1	35093.	A	80000.	59000.	111.	16.	60.	5.5	121.	92.	30.	9.	90.	30.	130.	30.	20.	1100.	25.
8.1	55599.	B	44000.	28700.	95.	22.	60.	18.	69.	117.	8.	12.	100.	30.	200.	20.	30.		
8.2	55590.	A	120000.	20000.	26.	41.	90.	55.	91.	71.	55.	7.	110.	30.	50.	30.	30.	460.	25.
8.3	35094.	A	49000.	800.	20.	63.	100.	79.	113.	95.	37.	5.	80.	30.	110.	120.	20.	540.	25.
8.3	41090.	A	83000.	20000.	161.	45.	80.	79.	143.	83.	47.	6.	80.	20.	70.	20.	40.	560.	25.
8.3	55589.	A	67000.	24000.	66.	31.	80.	88.	94.	67.	24.	7.	80.	10.	80.	40.	30.	500.	25.
9.	55596.	A	56000.	13000.	39.	12.	60.	38.	28.	31.	41.	3.	60.	10.	30.	130.	20.	320.	25.
9.	55598.	B	54000.	23500.	79.	34.	80.	99.	62.	84.	24.	8.	90.	30.	50.	120.	10.		
9.	55597.	B	78000.	7900.	56.	16.	60.	56.	41.	54.	38.	6.	100.	10.	40.	40.	30.		
10.	55592.	A	130000.	1600.	4.	0.5	40.	11.	8.	3.	12.	0.5	5.	5.	10.	5.	20.	70.	25.
10.	55591.	A	39000.	4500.	40.	6.	50.	14.	31.	33.	17.	4.	60.	10.	60.	5.	20.	220.	25.
10.	55593.	B	61000.	3430.	43.	37.	80.	30.	44.	70.	28.	5.	40.	20.	100.	20.	20.		
11.	55595.	A	87000.	3600.	38.	26.	70.	50.	40.	159.	49.	4.	180.	10.	60.	60.	40.	870.	25.
12.	55553.	A	120000.	24000.	136.	26.	70.	18.	105.	78.	74.	8.	90.	30.	160.	40.	10.	1000.	25.
13.	55552.	A	93000.	1300.	50.	21.	60.	65.	61.	68.	25.	5.	70.	5.	80.	30.	10.	260.	25.

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE III SUMMARY OF WHOLE ROCK ANALYSES (MINOR ELEMENTS)**

File	Sample	Group	Fe	Mn	Co	Cricp	Crxrf	Cu	Ni	Zn	Pb	Th	Zr	Y	Rb	Sr	Nb	F	Cl
14.	41017.	A	8900.	420.	2.	3.	30.	10.	5.	15.	7.	11.	190.	30.	70.	50.	20.	20.	25.
14.	41022.	A	15000.	180.	1.	2.	30.	10.	2.	38.	18.	14.	310.	50.	100.	70.	20.	70.	25.
14.	41054.	A	24000.	230.	5.	23.	50.	580.	8.	6730.	656.	7.	130.	5.	110.	5.	10.	1200.	25.
14.	41019.	B	6400.	140.	1.	3.	30.	10.	2.	62.	15.	10.	380.	60.	100.	100.	10.		
14.	41018.	B	7400.	170.	1.	2.	30.	5.	3.	18.	5.	14.	340.	70.	130.	40.	30.		
14.	41053.	B	80000.	4100.	44.	318.	310.	93.	151.	222.	29.	2.	90.	30.	110.	180.	20.		
14.	55556.	B	72000.	21700.	80.	17.	70.	21.	94.	90.	19.	5.	60.	30.	110.	5.	10.		
15.	41041.	A	160000.	7000.	32.	16.	60.	72.	49.	2160.	1350.	5.	80.	5.	40.	130.	20.	1300.	25.
15.	41046.	A	210000.	1900.	34.	17.	50.	430.	51.	136.	99.	5.	40.	10.	40.	30.	10.	940.	25.
15.	41043.	A	330000.	11000.	16.	18.	60.	23.	51.	3580.	2260.	2.	5.	5.	5.	70.	40.	1400.	25.
15.	41040.	A	21000.	760.	1.	3.	20.	3.	3.	76.	8.	21.	240.	60.	270.	50.	30.	1000.	25.
15.	41042.	A	370000.	53000.	12.	11.	60.	30.	28.	347.	1760.	1.	5.	5.	10.	40.	30.	1100.	25.
15.	78108.	SAIF	348300.	82200.	0.5		0.5	10.	0.5	1040.			5.	20.		100.			
15.	78131.	SAIF	179800.	3700.	30.		10.	20.	0.5	350.			500.	100.		200.			
15.	78120.	SAIF	263000.	20300.	0.5		20.	20.	30.	310.			70.	15.		30.			
15.	78130.	SAIF	211200.	3300.	70.		50.	10.	50.	150.			1500.	200.		200.			
15.	78148.	SAIF	406400.	32800.	0.5		15.	0.5	0.5	380.			5.	20.		100.			0.
15.	41048.	B	81000.	2350.	17.	12.	50.	18.	18.	422.	465.	10.	190.	10.	100.	10.	20.		
17.	35004.	A	84000.	13000.	40.	18.	60.	37.	33.	59.	49.	4.	50.	10.	20.	5.	30.	240.	25.
17.	35095.	B	82000.	910.	24.	95.	110.	24.	45.	99.	7.	13.	230.	50.	260.	5.	30.		
18.	35005.	A	93000.	20000.	58.	30.	70.	85.	47.	97.	31.	9.	170.	30.	40.	40.	40.	470.	25.
19.	55518.	A	69000.	38000.	131.	24.	60.	230.	85.	86.	38.	9.	70.	30.	110.	120.	10.	720.	25.
19.	55520.	A	69000.	29000.	75.	23.	60.	110.	68.	65.	56.	12.	180.	40.	80.	160.	30.	940.	25.
19.	55519.	B	46000.	19600.	48.	13.	50.	20.	39.	68.	33.	9.	70.	40.	40.	60.	10.		
20.	55513.	A	140000.	590.	4.	3.	40.	3.5	8.	1.	8.	0.5	5.	5.	5.	5.	20.	10.	25.
20.	55514.	A	110000.	2100.	58.	6.	30.	8.	17.	224.	44.	4.	370.	50.	140.	110.	60.	1500.	25.
20.	55508.	B	140000.	1410.	19.	14.	50.	23.	16.	104.	30.	5.	120.	10.	40.	40.	30.		
21.	55510.	A	190000.	43000.	59.	33.	70.	30.	69.	90.	72.	4.	40.	20.	60.	70.	30.	360.	25.
21.	55512.	B	60000.	9420.	24.	20.	60.	21.	20.	39.	25.	5.	30.	10.	90.	30.	20.		
21.	55511.	B	46000.	30000.	33.	15.	60.	22.	20.	37.	40.	4.	40.	20.	40.	20.	30.		
21.1	41023.	A	91000.	9700.	33.	83.	120.	60.	56.	140.	22.	12.	170.	30.	220.	90.	30.	580.	25.
21.1	41024.	B	82000.	6400.	48.	102.	120.	68.	64.	142.	14.	12.	150.	20.	230.	70.	30.		
21.1	55509.	B	75000.	9680.	36.	81.	120.	53.	55.	140.	35.	14.	160.	20.	220.	70.	20.		
22.	55515.	A	240000.	25000.	16.	41.	80.	38.	31.	442.	1360.	4.	20.	5.	110.	50.	20.	1600.	25.
22.	55516.	A	180000.	34000.	15.	44.	100.	100.	28.	996.	2030.	5.	70.	5.	60.	50.	30.	1300.	25.

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE III SUMMARY OF WHOLE ROCK ANALYSES (MINOR ELEMENTS)**

File	Sample	Group	Fe	Mn	Co	Cricp	Crxrf	Cu	Ni	Zn	Pb	Th	Zr	Y	Rb	Sr	Nb	F	Cl
22.	78069.	SAIF 286100.	55000.	30.			30.	50.	50.	310.			70.	70.		150.			
22.	78072.	SAIF 317500.	40800.	20.			20.	20.	50.	280.			70.	30.		100.			
22.	78073.	SAIF 235700.	95400.	0.5			20.	20.	30.	180.			50.	20.		100.			
22.	55517.	B 290000.	72000.	22.	17.	120.	80.	32.	610.	2300.	4.	130.	5.	70.	80.	50.			
24.	41003.	A 31000.	2400.	2.	1.	40.	6.5	3.	209.	162.	16.	220.	40.	150.	30.	10.	390.	25.	
24.	41002.	A 190000.	18000.	17.	15.	50.	91.	45.	219.	1050.	9.	120.	5.	5.	80.	30.	1600.	25.	
24.	35096.	B 86000.	3460.	19.	58.	90.	60.	35.	4167.	3010.	9.	120.	5.	160.	5.	20.			
25.	41055.	A 340000.	30000.	21.	29.	70.	100.	56.	372.	1990.	3.	5.	5.	200.	110.	40.	1800.	25.	
25.	41076.	A 180000.	13000.	25.	54.	90.	170.	59.	1340.	2140.	6.	80.	5.	260.	80.	20.	1500.	25.	
25.	41077.	A 480000.	41000.	46.	25.	70.	97.	67.	330.	2440.	0.5	5.	5.	70.	100.	50.	1400.	25.	
25.	41056.	B 180000.	11700.	28.	37.	60.	137.	57.	287.	2200.	5.	60.	5.	190.	80.	30.			
25.	41078.	B 310000.	53200.	28.	16.	130.	84.	56.	454.	2700.	3.	160.	5.	120.	110.	40.			
25.	41057.	B 240000.	19300.	27.	28.	110.	101.	56.	340.	2300.	8.	210.	5.	170.	110.	40.			
26.	41085.	A 190000.	71000.	50.	23.	80.	39.	76.	192.	1280.	4.	50.	5.	20.	10.	40.	610.	25.	
26.	41082.	A 110000.	13000.	64.	418.	380.	77.	167.	198.	93.	0.5	5.	10.	5.	390.	10.	100.	25.	
26.	41086.	A 520000.	7300.	4.	11.	60.	98.	21.	936.	392.	0.5	5.	5.	20.	70.	10.	1400.	25.	
26.	41079.	A 240000.	1200.	4.	6.	50.	41.	11.	224.	1990.	0.5	20.	5.	5.	90.	20.	1000.	25.	
26.	55551.	A 490000.	17000.	21.	9.	60.	72.	32.	647.	2960.	1.	5.	5.	5.	40.	40.	1100.	25.	
26.	41087.	A 220000.	86000.	50.	38.	90.	24.	82.	337.	1340.	4.	40.	5.	20.	10.	40.	690.	25.	
26.	41083.	A 530000.	35000.	16.	10.	60.	55.	36.	531.	2960.	1.	5.	5.	20.	80.	60.	550.	25.	
26.	41081.	A 520000.	52000.	25.	21.	60.	50.	59.	905.	2930.	2.	5.	5.	20.	80.	40.	200.	25.	
26.	78051.	SAIF 277700.	26900.	70.			100.	200.	50.	1250.			5.E-4	3.E-4		5.		0.	
26.	78043.	SAIF 209100.	2900.	0.5			10.	20.	0.5	2060.			5.0002	5.0001		1.		110.	
26.	78044.	SAIF 200700.	2900.	0.5			0.5	20.	0.5	780.			5.0001	1.E-4		5.		10.	
26.	78045.	SAIF 215400.	3300.	0.5			10.	20.	0.5	870.			5.0002	1.E-4		3.		10.	
26.	78046.	SAIF 555300.	7000.	0.5			70.	70.	0.5	1620.			5.	0.		5.		0.	
26.	78047.	SAIF 477700.	23500.	0.5			0.5	30.	0.5	1200.			0.	2.E-4		15.		0.	
26.	78049.	SAIF 500800.	14200.	0.5			0.5	70.	0.5	1950.			5.	0.		10.		0.	
26.	78050.	SAIF 216100.	14900.	70.			300.	100.	100.	1000.			7.E-4	1.E-4		1.		0.	
26.	78028.	SAIF 406400.	20700.	0.5			0.5	30.	0.5	1100.			5.	0.		10.		0.	
26.	78029.	SAIF 539200.	16800.	0.5			15.	50.	0.5	710.			5.	0.		10.		0.	
26.	78030.	SAIF 398000.	43200.	0.5			15.	70.	30.	690.			0.	3.E-4		10.		0.	
26.	78031.	SAIF 465800.	38000.	0.5			15.	30.	30.	2050.			0.	3.E-4		10.		0.	
26.	78032.	SAIF 509900.	12200.	0.5			0.5	70.	0.5	880.			5.	0.		5.		0.	
26.	78033.	SAIF 531500.	15700.	0.5			0.5	70.	0.5	790.			0.	2.E-4		10.		0.	

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE III SUMMARY OF WHOLE ROCK ANALYSES (MINOR ELEMENTS)**

File	Sample	Group	Fe	Mn	Co	Cricp	Crxrf	Cu	Ni	Zn	Pb	Th	Zr	Y	Rb	Sr	Nb	F	Cl
26.	78034.	SAIF 387500.	8700.	0.5			0.5	150.	0.5	1270.			5.0007	0.		5.			0.
26.	78040.	SAIF 501500.	32800.	0.5			0.5	30.	0.5	2650.			5.	0.		10.			0.
26.	78042.	SAIF 191600.	2600.	0.5			10.	20.	0.5	1780.			5.0002	5.0001		1.			110.
26.	78052.	SAIF 474200.	19800.	0.5			0.5	150.	0.5	1500.			5.	0.		5.			0.
26.	78055.	SAIF 555300.	27900.	0.5			0.5	50.	0.5	1180.			0.	3.E-4		10.			0.
26.	78056.	SAIF 458800.	12200.	0.5			0.05	20.	0.5	580.			5.	0.		2.			0.
26.	78057.	SAIF 225900.	6000.	0.5			20.	200.	0.5	3900.			1.E-4	2.E-4		5.			0.
26.	78059.	SAIF 205600.	2900.	0.5			20.	200.	0.5	2950.			1.E-4	2.E-4		2.			0.
26.	78078.	SAIF 338500.	47100.	0.5			20.	50.	30.	450.			70.	30.		300.			0.
26.	78079.	SAIF 299300.	26300.	0.5			0.5	30.	0.5	460.			5.	5.		150.			0.
26.	78076.	SAIF 379800.	6400.	0.5			15.	30.	0.5	290.			5.	30.		70.			0.
26.	78077.	SAIF 489600.	4700.	0.5			15.	20.	0.5	360.			5.	20.		100.			0.
26.	78081.	SAIF 442700.	11800.	0.5			0.5	15.	20.	230.			5.	20.		100.			0.
26.	78083.	SAIF 267900.	55700.	0.5			0.5	0.5	20.	130.			5.	30.		150.			0.
26.	78143.	SAIF 576300.	13600.	0.5			0.5	70.	0.5	1450.			5.	5.		100.			0.
26.	78141.	SAIF 519700.	13600.	0.5			0.5	20.	0.5	310.			5.	20.		100.			0.
26.	78146.	SAIF 532900.	12700.	0.5			0.5	30.	0.5	210.			5.	5.		200.			0.
26.	78147.	SAIF 517600.	20000.	0.5			0.5	15.	0.5	230.			5.	5.		100.			0.
26.	78140.	SAIF 521100.	19700.	0.5			0.5	10.	0.5	540.			5.	5.		70.			0.
26.	78144.	SAIF 585400.	14000.	0.5			0.5	70.	0.5	1800.			5.	5.		150.			0.
26.	78139.	SAIF 452500.	22100.	0.5			15.	70.	0.5	1400.			5.	30.		5.			0.
26.	41084.	B	370000.	35300.	12.	17.	110.	45.	28.	415.	2180.	1.	70.	5.	5.	130.	20.		
27.	41051.	A	210000.	19000.	15.	24.	70.	49.	37.	695.	2360.	5.	70.	5.	180.	70.	40.	1100.	25.
27.	41072.	A	140000.	24000.	33.	33.	70.	170.	64.	1700.	1740.	7.	100.	5.	90.	70.	30.	2000.	25.
27.	41070.	A	370000.	13000.	6.	24.	70.	69.	32.	270.	845.	3.	10.	5.	70.	110.	30.	2700.	25.
27.	41074.	A	180000.	38000.	29.	25.	60.	210.	72.	4390.	5230.	5.	80.	5.	20.	20.	50.	1300.	25.
27.	41073.	A	250000.	46000.	33.	29.	60.	150.	58.	753.	2510.	3.	30.	5.	150.	90.	40.	10000.	25.
27.	41069.	A	220000.	37000.	30.	32.	80.	140.	77.	1690.	2290.	6.	60.	5.	10.	40.	30.	1500.	25.
27.	41075.	A	150000.	29000.	82.	29.	60.	93.	73.	1360.	432.	12.	220.	50.	20.	40.	20.	1200.	25.
27.	78086.	SAIF 286100.	44900.	0.5			0.5	70.	20.	310.			5.	30.		100.			
28.	41035.	A	48000.	130.	3.	0.5	40.	120.	3.	57.	82.	13.	130.	10.	170.	5.	20.	1000.	25.
28.	41034.	A	190000.	1900.	23.	15.	60.	2500.	13.	319.	295.	19.	370.	5.	5.	5.	40.	2200.	25.
28.	78095.	SAIF 164400.	1100.	30.			200.	10.	100.	60.			200.	30.		150.			
28.	78002.	SAIF 279100.	14700.	70.			30.	10.	200.	80.			1.5E-4	3.E-4		10.			0.
28.	78004.	SAIF 139900.	23800.	100.			30.	10.	200.	90.			2.E-4	7.E-4		70.			

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE III SUMMARY OF WHOLE ROCK ANALYSES (MINOR ELEMENTS)**

File	Sample	Group	Fe	Mn	Co	Cricp	Crxf	Cu	Ni	Zn	Pb	Th	Zr	Y	Rb	Sr	Nb	F	Cl
28.	78002.	SAIF 239900.	18600.	70.			30.	10.	150.	50.			1.5E-4	3.E-4		15.			0.
28.	78002.	SAIF 193700.	10500.	0.5			0.5	0.5	0.5	30.			5.	5.					0.
28.	78005.	SAIF 243400.	19300.	100.			30.	150.	150.	100.			2.E-4	5.E-4		50.			0.
29.	41064.	A	380000.	33000.	15.	20.	60.	35.	43.	434.	1940.	3.	5.	5.	50.	70.	40.	1200.	25.
29.	41066.	A	34000.	1400.	9.	22.	50.	30.	17.	68.	36.	11.	120.	40.	270.	30.	20.	780.	25.
29.	41059.	A	210000.	31000.	12.	14.	60.	38.	36.	399.	2150.	3.	5.	5.	20.	70.	30.	1600.	25.
29.	41060.	A	190000.	2800.	21.	12.	50.	520.	32.	714.	799.	4.	60.	5.	5.	30.	20.	1300.	25.
29.	41067.	A	420000.	33000.	24.	17.	60.	20.	43.	177.	2300.	2.	5.	5.	5.	80.	40.	1300.	25.
29.	41063.	A	450000.	45000.	16.	22.	70.	52.	45.	415.	1760.	2.	5.	5.	40.	80.	40.	1200.	25.
29.	41062.	A	370000.	31000.	12.	38.	80.	48.	31.	301.	1710.	5.	50.	5.	80.	70.	30.	1600.	25.
29.	78016.	SAIF 356700.	21400.	0.5			30.	7.	30.	310.			0.	7.E-4		15.			0.
29.	78015.	SAIF 321700.	13300.	0.5			20.	10.	30.	2050.			0.	5.E-4		20.			0.
29.	78014.	SAIF 351800.	28500.	0.5			15.	0.5	0.5	470.			0.	3.E-4		7.			0.
29.	41061.	B	110000.	10200.	17.	22.	60.	34.	28.	827.	1900.	7.	120.	5.	100.	40.	20.		
29.1	41091.	A	81000.	8300.	139.	44.	70.	14.	79.	134.	61.	7.	120.	30.	150.	50.	10.	600.	25.
30.	41027.	A	80000.	26000.	91.	21.	60.	89.	75.	68.	22.	5.	30.	20.	110.	20.	20.	570.	25.
30.	41026.	A	69000.	26000.	82.	26.	60.	32.	87.	80.	16.	8.	70.	30.	160.	30.	20.	420.	25.
30.	41025.	A	38000.	2000.	16.	29.	70.	80.	57.	33.	11.	3.	30.	20.	90.	20.	20.	580.	25.
30.	41028.	A	150000.	26000.	68.	43.	90.	210.	191.	181.	53.	5.	70.	20.	5.	20.	20.	250.	25.
31.	55587.	B	220000.	46500.	13.	19.	120.	62.	42.	167.	1780.	3.	10.	5.	5.	70.	30.		
31.1	35098.	A	23000.	290.	2.	4.	40.	12.	5.	289.	294.	7.	80.	5.	240.	5.	10.	1000.	25.
31.1	41093.	B	19000.	250.	2.	5.	30.	9.	2.	160.	86.	7.	60.	40.	170.	5.	10.		
32.	41007.	A	31000.	180.	3.	2.	30.	7.5	5.	51.	44.	23.	200.	80.	200.	90.	20.	120.	25.
32.	55588.	A	130000.	770.	27.	20.	60.	15.	25.	241.	17.	5.	360.	30.	210.	10.	70.	550.	25.
33.	35091.	A	420000.	5800.	8.	15.	60.	110.	16.	159.	1950.	2.	5.	5.	10.	90.	30.	2500.	25.
33.	35090.	A	430000.	8400.	6.	12.	60.	31.	17.	483.	3190.	2.	10.	5.	5.	100.	30.	2100.	25.
33.	35089.	A	420000.	6200.	9.	13.	60.	97.	17.	531.	2970.	2.	5.	5.	5.	140.	40.	1500.	25.
33.	35088.	A	300000.	6200.	45.	24.	60.	2000.	19.	617.	534.	4.	50.	5.	5.	100.	50.	1500.	25.
33.	78062.	SAIF 375600.	13400.	0.5			30.	50.	0.5	4300.			7.E-4	3.E-4		10.			0.
33.	78060.	SAIF 535700.	1900.	50.			0.5	500.	0.5	11500.			0.	2.E-4		15.			0.
33.	78064.	SAIF 377000.	17100.	0.5			15.	0.5	0.5	180.			5.	0.		20.			0.
33.	78065.	SAIF 500800.	6600.	0.5			30.	20.	0.5	200.			0.	3.E-4		20.			0.
33.	78066.	SAIF 426600.	11000.	0.5			0.5	150.	0.5	670.			5.	0.		20.			0.
33.	78068.	SAIF 378400.	8200.	0.5			30.	0.5	0.5	370.			7.E-4	3.E-4		10.			0.
33.	78063.	SAIF 386100.	10000.	0.5			20.	30.	0.5	380.			5.0007	0.		3.			0.

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE III SUMMARY OF WHOLE ROCK ANALYSES (MINOR ELEMENTS)**

File	Sample	Group	Fe	Mn	Co	Cricp	Crxf	Cu	Ni	Zn	Pb	Th	Zr	Y	Rb	Sr	Nb	F	Cl
33.	78166.	SAIF 421000.	7900.	0.5			0.5	30.	0.5	940.			5.	5.		70.			
33.	78164.	SAIF 439900.	3600.	0.5			20.	150.	0.5	1840.			5.	20.		200.			
33.	78165.	SAIF 436400.	2900.	0.5			0.5	50.	0.5	2020.			5.	30.		300.			
33.	78167.	SAIF 379100.	8800.	70.			20.	1500.	0.5	3480.			30.	5.		100.			
33.2	41005.	A	180000.	16000.	14.	32.	70.	40.	30.	316.	963.	7.	140.	5.	200.	50.	20.	1300.	25.
36.	55580.	A	110000.	2100.	21.	5.	40.	15.	16.	96.	19.	3.	390.	50.	70.	200.	90.	1100.	25.
36.	55582.	A	95000.	1800.	36.	49.	90.	57.	43.	185.	5.	0.5	240.	30.	50.	180.	30.	640.	25.
36.	55583.	A	100000.	1400.	37.	82.	130.	70.	53.	142.	18.	0.5	230.	20.	50.	220.	40.	580.	25.
36.	55581.	B	90000.	947.	37.	172.	280.	67.	103.	224.	0.5	3.	240.	20.	90.	140.	60.		
36.	55579.	B	150000.	946.	19.	9.	30.	31.	14.	159.	5.	5.	470.	70.	110.	60.	90.		
37.	55584.	A	40000.	1100.	0.5	4.	40.	3.	2.	3.	4.	0.5	5.	5.	10.	5.	20.	1100.	25.
38.	55577.	A	80000.	25000.	2.	1.	40.	1.5	6.	13.	6.	0.5	5.	5.	20.	5.	20.	40.	25.
38.	55575.	A	82000.	13000.	13.	2.	40.	2.5	19.	26.	26.	0.5	5.	10.	10.	5.	10.	80.	25.
38.	55576.	B	65000.	15900.	57.	16.	50.	14.	34.	41.	2.	4.	50.	20.	50.	50.	20.		
38.1	55578.	A	65000.	910.	6.	76.	120.	46.	17.	93.	19.	20.	190.	70.	330.	70.	20.	970.	25.
40.1	41009.	A	96000.	1300.	31.	54.	90.	62.	41.	180.	9.	3.	280.	50.	50.	180.	60.	820.	25.
40.1	41008.	A	79000.	1100.	41.	50.	80.	31.	49.	143.	6.	2.	250.	20.	30.	230.	50.	680.	25.
41.	55586.	B	43000.	272.	7.	71.	40.	10.	33.	45.	2.	6.	120.	5.	80.	5.	20.		
42.	35087.	A	76000.	1200.	14.	139.	200.	33.	41.	106.	7.	10.	170.	30.	210.	20.	20.	580.	25.
42.	55570.	A	62000.	21000.	75.	23.	60.	56.	55.	51.	65.	7.	60.	20.	150.	40.	20.	360.	25.
42.	55574.	A	98000.	3200.	64.	24.	60.	22.	42.	54.	34.	6.	80.	40.	170.	10.	20.	780.	25.
42.	55572.	A	100000.	11000.	62.	23.	70.	83.	45.	52.	17.	7.	70.	30.	120.	10.	30.	480.	25.
42.	55571.	B	130000.	11300.	81.	19.	80.	85.	72.	124.	14.	10.	120.	20.	100.	5.	40.		
44.	3609.	A	52000.	560.	18.	54.	100.	2.5	40.	112.	7.	10.	280.	30.	240.	70.	20.	540.	25.
44.	3607.	A	71000.	640.	24.	59.	100.	15.	46.	123.	21.	13.	210.	40.	330.	30.	30.	570.	25.
44.	3610.	B	64000.	600.	24.	107.	120.	15.	57.	129.	2.	11.	170.	30.	370.	30.	30.		
44.	3608.	B	52000.	570.	27.	83.	100.	15.	50.	141.	10.	15.	180.	30.	320.	20.	30.		
46.	55557.	A	75000.	11000.	42.	20.	60.	27.	31.	77.	62.	11.	150.	20.	30.	50.	30.	400.	25.
46.	55559.	A	130000.	6200.	88.	40.	90.	100.	69.	111.	28.	10.	110.	20.	150.	10.	40.	350.	25.
46.	55558.	B	82000.	5420.	36.	30.	80.	40.	34.	153.	31.	10.	150.	40.	70.	120.	20.		
46.1	55560.	A	89000.	710.	32.	117.	170.	3.	92.	41.	30.	8.	70.	30.	20.	40.	30.	230.	25.
47.	55564.	A	500000.	4000.	127.	3.	50.	700.	12.	19.	12.	0.5	5.	5.	5.	5.	30.	160.	25.
47.	55565.	A	69000.	7800.	55.	16.	50.	76.	40.	97.	78.	5.	220.	30.	100.	100.	50.	290.	25.
47.	55563.	B	360000.	3880.	213.	9.	50.	4500.	9.	35.	0.5	2.	5.	5.	5.	20.	50.		
48.	55561.	B	18000.	286.	3.	15.	50.	11.	7.	55.	2.	7.	250.	20.	30.	40.	20.		

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE III SUMMARY OF WHOLE ROCK ANALYSES (MINOR ELEMENTS)**

File	Sample	Group	Fe	Mn	Co	Cricp	Crxf	Cu	Ni	Zn	Pb	Th	Zr	Y	Rb	Sr	Nb	F	Cl
49.	55566.	A	51000.	710.	18.	72.	110.	58.	47.	102.	24.	13.	120.	40.	100.	20.	10.	560.	25.
50.	55568.	A	84000.	20000.	178.	18.	50.	88.	136.	68.	91.	5.	60.	40.	20.	30.	20.	780.	25.
50.	55567.	B	97000.	16000.	374.	21.	50.	127.	211.	97.	116.	7.	70.	20.	50.	40.	20.		
50.1	55569.	A	70000.	18000.	78.	21.	60.	82.	49.	72.	62.	5.	80.	5.	60.	160.	30.	160.	25.
51.	35074.	A	55000.	24000.	77.	36.	70.	48.	123.	83.	19.	6.	80.	10.	100.	120.	5.	680.	25.
51.	35075.	A	59000.	490.	27.	69.	110.	86.	119.	89.	19.	6.	110.	20.	230.	40.	30.	680.	25.
51.	35073.	A	38000.	290.	16.	41.	90.	71.	124.	141.	18.	5.	60.	30.	170.	20.	10.	620.	25.
51.	35023.	A	16000.	240.	5.	22.	70.	38.	21.	35.	8.	4.	120.	20.	60.	60.	20.	530.	25.
52.	35068.	A	58000.	660.	22.	100.	140.	93.	80.	98.	25.	11.	140.	40.	220.	160.	20.	1000.	25.
52.	35024.	A	66000.	1800.	31.	144.	190.	54.	154.	153.	25.	8.	130.	40.	180.	100.	10.	660.	25.
52.	35072.	A	37000.	500.	16.	27.	70.	60.	80.	26.	15.	4.	40.	20.	90.	10.	20.	460.	25.
52.	35027.	A	61000.	2100.	10.	83.	120.	32.	23.	276.	14.	15.	190.	30.	370.	30.	20.	1400.	25.
52.	35070.	A	51000.	500.	20.	109.	150.	130.	77.	81.	27.	15.	140.	60.	300.	180.	30.	220.	25.
52.	35029.	B	56000.	620.	32.	211.	210.	70.	195.	151.	9.	7.	140.	30.	150.	120.	20.		
52.	35076.	B	64000.	1430.	28.	156.	180.	64.	95.	262.	6.	10.	160.	20.	250.	140.	20.		
52.	35025.	B	62000.	1480.	26.	204.	190.	73.	121.	156.	8.	6.	180.	40.	120.	160.	20.		
52.	35069.	B	49000.	440.	24.	135.	140.	186.	102.	161.	14.	18.	170.	70.	280.	90.	30.		
52.	35071.	B	45000.	1310.	31.	86.	110.	79.	88.	104.	17.	9.	110.	30.	170.	110.	20.		
53.	41013.	A	54000.	960.	8.	76.	130.	130.	61.	61.	46.	3.	40.	50.	130.	30.	20.	320.	25.
53.	41011.	A	46000.	490.	19.	105.	140.	57.	96.	107.	25.	9.	180.	30.	250.	110.	20.	260.	25.
53.	41016.	A	77000.	1100.	24.	121.	150.	47.	60.	196.	15.	10.	170.	50.	180.	60.	20.	290.	25.
53.	41014.	A	100000.	12000.	77.	25.	60.	47.	108.	116.	36.	6.	80.	10.	110.	30.	30.	380.	25.
53.	41015.	B	73000.	5710.	61.	26.	50.	24.	87.	142.	23.	7.	50.	20.	120.	60.	20.		
53.	41012.	B	31000.	1570.	15.	53.	90.	79.	89.	73.	19.	3.	30.	10.	70.	5.	20.		
53.	41010.	B	68000.	1180.	34.	224.	230.	90.	224.	132.	20.	7.	120.	30.	350.	70.	10.		
54.	35066.	A	67000.	1000.	24.	84.	120.	52.	53.	178.	9.	18.	160.	60.	270.	60.	10.	740.	25.
54.	35057.	A	61000.	9100.	167.	54.	90.	51.	250.	129.	18.	9.	130.	30.	180.	150.	20.	610.	250.
54.	35055.	B	53000.	830.	20.	123.	140.	60.	41.	155.	13.	11.	180.	30.	190.	130.	30.		
54.	35058.	B	160000.	3900.	54.	88.	120.	194.	216.	319.	44.	6.	90.	30.	100.	80.	20.		
54.	35067.	B	32000.	2560.	26.	57.	60.	38.	41.	107.	5.	9.	150.	60.	170.	30.	30.		
55.	35031.	A	14000.	140.	15.	20.	60.	20.	16.	24.	52.	3.	30.	10.	70.	80.	10.	400.	25.
55.	35030.	B	16000.	1280.	6.	42.	70.	15.	18.	37.	16.	6.	80.	10.	100.	160.	20.		
56.	35036.	A	5100.	120.	0.5	20.	70.	16.	5.	32.	10.	2.	5.	5.	40.	10.	10.	120.	25.
56.	35077.	A	74000.	1200.	24.	140.	170.	54.	76.	165.	9.	11.	190.	40.	190.	70.	30.	570.	25.
56.	35078.	A	46000.	450.	19.	55.	100.	69.	70.	76.	35.	7.	90.	20.	130.	40.	10.	510.	25.



**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE III SUMMARY OF WHOLE ROCK ANALYSES (MINOR ELEMENTS)**

File	Sample	Group	Fe	Mn	Co	Cricp	Crxrf	Cu	Ni	Zn	Pb	Th	Zr	Y	Rb	Sr	Nb	F	Cl
56.	35034.	A	74000.	1000.	24.	110.	140.	26.	59.	214.	7.	11.	160.	20.	170.	200.	20.	770.	25.
56.	35080.	A	47000.	310.	14.	29.	60.	110.	64.	59.	7.	6.	190.	50.	140.	190.	50.	1200.	25.
56.	35032.	B	69000.	860.	36.	113.	160.	87.	72.	130.	11.	9.	190.	40.	170.	70.	10.		
56.	35035.	B	68000.	1220.	31.	143.	140.	83.	68.	142.	12.	10.	200.	30.	150.	170.	20.		
56.	35033.	B	68000.	1730.	38.	205.	200.	68.	82.	166.	3.	7.	180.	20.	140.	170.	10.		
56.	35081.	B	49000.	820.	27.	116.	140.	82.	214.	168.	4.	10.	150.	60.	160.	300.	20.		
56.	35037.	B	58000.	1340.	29.	155.	160.	43.	91.	172.	2.	10.	150.	30.	310.	320.	20.		
56.	35079.	B	55000.	1850.	31.	99.	100.	116.	96.	133.	29.	7.	120.	30.	120.	50.	20.		
57.	3606.	A	2000.	54.	0.5	16.	60.	3.5	1.	3.	11.	2.	10.	10.	50.	5.	10.	80.	25.
57.	35048.	A	29000.	140.	6.	117.	160.	110.	90.	141.	17.	6.	60.	30.	90.	5.	20.	360.	25.
57.	35044.	B	5200.	100.	0.5	45.	70.	16.	10.	12.	8.	3.	10.	20.	40.	5.	20.		
58.	35040.	A	70000.	15000.	81.	18.	60.	15.	67.	65.	40.	6.	50.	10.	120.	80.	40.	420.	25.
58.	35043.	A	1200.	30.	0.5	17.	50.	2.	4.	14.	9.	1.	10.	30.	50.	5.	10.	160.	25.
58.	35039.	A	87000.	17000.	85.	30.	70.	66.	75.	98.	22.	9.	80.	40.	60.	30.	20.	500.	25.
58.	35041.	A	90000.	6000.	57.	17.	60.	13.	54.	51.	29.	4.	40.	10.	90.	50.	20.	360.	25.
58.	35038.	B	120000.	660.	35.	22.	50.	19.	74.	86.	24.	6.	120.	10.	90.	5.	30.		
58.	35042.	B	77000.	6360.	46.	30.	60.	48.	34.	59.	20.	7.	60.	30.	60.	20.	20.		
59.	35060.	A	73000.	500.	28.	89.	120.	52.	76.	125.	31.	12.	250.	30.	180.	200.	30.	660.	25.
59.	35059.	B	68000.	690.	28.	144.	150.	75.	76.	155.	11.	11.	160.	20.	170.	170.	30.		
60.	35084.	A	110000.	680.	17.	87.	140.	180.	107.	139.	36.	7.	220.	70.	190.	60.	30.	1000.	25.
60.	35083.	A	31000.	250.	12.	19.	60.	55.	46.	22.	16.	5.	70.	30.	110.	80.	30.	200.	25.
61.	35052.	A	91000.	14000.	67.	121.	160.	93.	129.	176.	44.	9.	110.	20.	140.	70.	20.	480.	25.
61.	35051.	A	8400.	100.	1.	22.	70.	41.	15.	32.	8.	2.	10.	20.	80.	30.	10.	360.	25.
61.	35050.	A	65000.	2500.	50.	22.	60.	15.	41.	127.	14.	15.	140.	30.	270.	5.	10.	650.	25.
61.	35049.	A	13000.	82.	4.	29.	70.	14.	14.	32.	23.	6.	100.	30.	100.	5.	30.	170.	25.
62.	35062.	A	82000.	22000.	86.	17.	60.	25.	92.	60.	26.	7.	80.	20.	140.	20.	20.	500.	25.
62.	35061.	A	80000.	46000.	131.	20.	60.	66.	142.	85.	45.	5.	30.	60.	80.	190.	20.	820.	25.
62.	35065.	A	71000.	6200.	89.	14.	60.	11.	123.	48.	30.	6.	50.	30.	150.	10.	20.	440.	25.
62.	35064.	A	98000.	59000.	95.	25.	70.	140.	129.	68.	47.	5.	40.	30.	60.	60.	30.	360.	25.
62.	35063.	B	110000.	28500.	115.	54.	60.	72.	128.	135.	36.	10.	80.	50.	50.	80.	10.		
63.	3623.	A	7700.	58.	0.5	18.	60.	11.	4.	19.	13.	3.	50.	20.	50.	5.	10.	210.	25.
65.	3603.	A	24000.	42.	5.	22.	60.	37.	53.	24.	14.	1.	20.	10.	40.	5.	5.	90.	25.
65.	3605.	A	80000.	8500.	128.	29.	70.	9.	89.	78.	36.	7.	60.	20.	160.	50.	20.	290.	25.
65.	3604.	B	48000.	13300.	112.	29.	60.	54.	98.	99.	67.	9.	90.	30.	220.	100.	30.		
65.	3624.	B	25000.	40.	7.	33.	70.	36.	49.	35.	7.	2.	60.	20.	80.	5.	30.		

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE III SUMMARY OF WHOLE ROCK ANALYSES (MINOR ELEMENTS)**

File	Sample	Group	Fe	Mn	Co	Cricp	Crxf	Cu	Ni	Zn	Pb	Th	Zr	Y	Rb	Sr	Nb	F	Cl
65.	3625.	B	110000.	40000.	239.	33.	70.	98.	78.	34.	70.	6.	60.	20.	40.	120.	20.		
66.	3601.	A	77000.	4900.	65.	23.	60.	88.	67.	59.	32.	6.	80.	20.	80.	40.	20.	200.	25.
67.	35020.	A	180000.	17000.	158.	40.	90.	680.	196.	173.	44.	10.	120.	40.	50.	30.	10.	810.	25.
67.	41029.	A	22000.	180.	10.	18.	70.	41.	53.	47.	15.	2.	40.	5.	60.	5.	10.	170.	25.
67.	41031.	B	47000.	84.	12.	51.	110.	75.	76.	122.	16.	4.	50.	20.	80.	10.	10.		
68.	35046.	A	14000.	46.	0.5	21.	60.	16.	8.	19.	9.	2.	10.	10.	80.	50.	20.	190.	25.
68.	35082.	A	70000.	650.	34.	68.	110.	90.	105.	79.	49.	8.	130.	40.	210.	5.	10.	800.	25.
68.	35053.	B	17000.	84.	4.	52.	60.	27.	35.	23.	2.	3.	20.	10.	80.	5.	5.		
68.	35054.	B	29000.	130.	4.	70.	90.	48.	24.	32.	8.	3.	30.	20.	70.	5.	20.		
69.	35086.	A	71000.	620.	30.	126.	170.	84.	89.	63.	27.	8.	130.	20.	160.	60.	30.	760.	25.
69.	35085.	B	66000.	680.	30.	165.	180.	81.	102.	107.	13.	7.	120.	20.	170.	60.	20.		
70.	35017.	A	85000.	1400.	24.	118.	170.	60.	51.	208.	13.	10.	170.	20.	130.	100.	30.	600.	25.
70.	41030.	A	22000.	120.	6.	81.	130.	69.	61.	86.	24.	5.	80.	5.	140.	10.	20.	690.	25.
70.	35016.	B	57000.	210.	11.	115.	120.	41.	58.	140.	17.	11.	180.	40.	310.	20.	30.		
71.	35014.	A	14000.	210.	5.	27.	60.	30.	18.	58.	16.	12.	120.	20.	100.	100.	20.	750.	25.
71.	35013.	B	59000.	1000.	26.	158.	150.	74.	75.	133.	9.	9.	180.	40.	170.	190.	10.		
72.	35015.	A	82000.	1700.	17.	26.	50.	19.	16.	299.	17.	9.	390.	30.	60.	220.	30.	660.	25.
74.	35011.	A	62000.	3400.	21.	83.	120.	68.	32.	175.	36.	18.	180.	20.	230.	10.	30.	780.	25.
74.	35010.	B	42000.	960.	14.	95.	100.	31.	38.	102.	12.	9.	240.	30.	230.	140.	40.		
75.	3602.	A	32000.	27000.	69.	11.	50.	3.5	54.	43.	33.	3.	70.	20.	30.	5.	20.	280.	25.
75.	55550.	B	39000.	20800.	46.	8.	50.	50.	39.	217.	191.	3.	10.	20.	30.	20.	20.		
76.	55549.	A	67000.	33000.	105.	26.	60.	17.	81.	64.	44.	7.	50.	40.	130.	40.	10.	400.	25.
77.	41036.	A	46000.	290.	12.	21.	70.	77.	57.	60.	9.	4.	60.	20.	90.	30.	10.	590.	25.
77.	41038.	A	72000.	900.	24.	103.	130.	73.	54.	237.	33.	17.	220.	50.	250.	80.	30.	780.	25.
77.	41037.	A	100000.	35000.	99.	25.	60.	42.	104.	147.	109.	6.	40.	40.	80.	50.	20.	570.	25.
77.	55573.	B	5600.	110.	2.	25.	60.	10.	6.	15.	9.	3.	40.	5.	50.	5.	10.		
77.	55548.	B	77000.	33100.	85.	22.	60.	57.	70.	79.	37.	6.	70.	30.	60.	10.	20.		
77.1	41033.	A	59000.	1600.	22.	87.	120.	53.	52.	114.	21.	13.	190.	20.	190.	70.	30.	740.	25.
78.	55546.	A	62000.	790.	20.	45.	100.	7.5	49.	109.	46.	15.	160.	40.	290.	110.	30.	680.	25.
78.	55547.	B	56000.	686.	18.	40.	100.	20.	39.	148.	12.	11.	180.	30.	250.	90.	20.		
81.	55542.	A	100000.	28000.	113.	19.	70.	97.	64.	49.	50.	5.	40.	20.	40.	30.	20.	100.	25.
81.	55541.	B	98000.	30000.	101.	16.	60.	58.	56.	66.	46.	5.	30.	20.	10.	60.	20.		
82.	55533.	A	140000.	18000.	63.	42.	90.	67.	55.	104.	124.	14.	120.	20.	180.	40.	20.	580.	25.
82.	55535.	A	95000.	7700.	48.	82.	130.	170.	93.	137.	119.	16.	140.	30.	220.	5.	20.	640.	25.
82.	55536.	A	56000.	1500.	7.	43.	60.	41.	28.	49.	14.	5.	40.	30.	70.	5.	10.	130.	25.

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE III SUMMARY OF WHOLE ROCK ANALYSES (MINOR ELEMENTS)**

File	Sample	Group	Fe	Mn	Co	Cricp	Crxf	Cu	Ni	Zn	Pb	Th	Zr	Y	Rb	Sr	Nb	F	Cl
82.	55534.	B	12000.	9800.	44.	36.	100.	19.	49.	165.	103.	13.	120.	30.	230.	10.	40.		
83.	3618.	A	21000.	170.	1.	75.	170.	26.	8.	99.	52.	14.	130.	40.	220.	30.	20.	820.	25.
83.	55537.	A	130000.	24000.	49.	36.	90.	69.	39.	76.	63.	10.	90.	30.	190.	20.	30.	530.	25.
83.	55538.	A	130000.	14000.	57.	37.	100.	47.	51.	94.	178.	13.	130.	20.	170.	110.	30.	700.	25.
85.	3622.	A	170000.	8700.	68.	51.	100.	21.	91.	176.	58.	15.	170.	40.	210.	140.	40.	590.	25.
85.	3621.	A	25000.	82.	1.	75.	130.	10.	10.	172.	34.	12.	180.	40.	210.	40.	20.	740.	25.
85.	41032.	A	90000.	22000.	36.	69.	100.	97.	73.	194.	63.	13.	120.	30.	170.	30.	30.	720.	25.
86.	55525.	A	87000.	5300.	49.	92.	110.	53.	54.	167.	31.	12.	150.	30.	250.	30.	30.	640.	25.
86.	55531.	A	95000.	46000.	189.	31.	60.	250.	130.	87.	57.	7.	80.	20.	60.	120.	20.	660.	25.
86.	55530.	A	100000.	30000.	100.	32.	70.	69.	88.	87.	67.	7.	90.	50.	80.	250.	20.	640.	25.
86.	55529.	A	83000.	3900.	59.	32.	60.	120.	72.	78.	85.	6.	120.	30.	50.	110.	20.	760.	25.
86.	55528.	A	42000.	6000.	30.	25.	50.	31.	22.	51.	33.	4.	50.	10.	60.	40.	20.	280.	25.
86.	55527.	A	88000.	5900.	48.	63.	90.	33.	50.	148.	30.	11.	130.	40.	260.	10.	30.	780.	25.
86.	55532.	A	39000.	2000.	39.	37.	80.	44.	67.	56.	57.	5.	40.	5.	80.	20.	30.	290.	25.
86.	55526.	B	79000.	6510.	37.	31.	90.	33.	39.	143.	33.	13.	120.	20.	240.	30.	30.		
87.1	3620.	A	15000.	130.	0.5	30.	80.	7.	16.	64.	22.	5.	70.	30.	90.	5.	30.	370.	25.
87.1	55544.	A	63000.	13000.	69.	13.	50.	19.	36.	44.	45.	3.	10.	10.	50.	40.	10.	270.	25.
87.1	55543.	B	130000.	13200.	82.	19.	60.	104.	60.	89.	60.	6.	70.	30.	100.	30.	30.		
87.2	3619.	A	33000.	220.	2.	59.	130.	29.	22.	180.	41.	14.	210.	50.	200.	60.	30.	670.	25.
87.2	55545.	A	72000.	2300.	27.	79.	120.	36.	41.	121.	23.	14.	180.	20.	270.	80.	10.	660.	25.
88.	55540.	A	62000.	23000.	54.	21.	70.	59.	68.	50.	46.	6.	40.	20.	100.	40.	30.	340.	25.
88.	55539.	A	76000.	4200.	52.	28.	70.	9.5	57.	57.	28.	8.	110.	30.	280.	20.	30.	680.	25.
90.	35007.	A	20000.	320.	4.	69.	160.	1.5	80.	53.	10.	7.	120.	30.	10.	60.	20.	190.	25.
90.	35009.	A	55000.	1600.	19.	82.	180.	8.	75.	135.	12.	7.	140.	20.	180.	180.	30.	600.	25.
90.	41001.	A	59000.	1100.	19.	107.	170.	49.	109.	134.	26.	11.	160.	40.	150.	60.	20.	540.	25.
90.	35008.	B	58000.	810.	29.	165.	180.	70.	236.	167.	14.	10.	160.	20.	200.	20.	20.		

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE IV SUMMARY OF WHOLE ROCK ANALYSES (TRACE ELEMENTS)**

FILE	SAMPLE	GROUP	AU	AG	AS	SB	MO	SN	BA	W	U	TE	BI	CD	V	LI	BE
2.	3615.	A	0.50	0.25	6.20	0.500	0.50	1.000	510.000	1.00	2.00	0.500	0.500	0.500	200.00	18.00	2.000
2.	3617.	A	0.50	0.25	12.00	0.500	1.00	1.000	410.000	5.00	1.00	0.500	0.500	0.500	61.00	10.00	2.000
2.	3616.	B	7.00	0.25	2.20	0.500	0.50	4.000	1.E3	2.00	2.00	0.500	0.500	0.500	74.00	10.00	4.000
2.	3614.	B	8.00	0.25	28.00	9.000	17.00	1.000	390.000	2.00	5.00	0.500	0.500	0.500	230.00	22.00	1.000
2.	78160.	SAIF	0.50	0.10					7.E3	0.00				0.000	200.00		
2.1	3612.	A	0.50	0.25	1.60	1.000	0.50	0.500	80.000	4.00	0.50	0.500	0.500	0.500	38.00	0.50	0.500
2.1	3613.	A	2.00	0.25	18.00	1.000	8.00	2.000	740.000	0.50	5.00	0.500	0.500	0.500	180.00	20.00	2.000
2.1	3611.	A	0.50	0.25	6.80	3.000	0.50	4.000	920.000	3.00	0.50	0.500	0.500	0.500	180.00	6.00	3.000
3.	55521.	A	0.50	0.25	23.00	3.000	0.50	2.000	610.000	8.00	0.50	0.500	0.500	0.500	130.00	8.00	2.000
3.	55523.	B	2.00	0.25	10.00	3.000	0.50	3.000	1.09E3	4.00	2.00	0.500	0.500	0.500	72.00	10.00	2.000
4.	55524.	A	1.00	0.25	14.00	7.000	0.50	3.000	280.000	1.00	0.50	0.500	0.500	0.500	56.00	5.00	3.000
4.	55507.	B	0.50	0.25	9.40	3.000	0.50	4.000	620.000	0.50	1.00	0.500	0.500	0.500	14.00	19.00	2.000
6.	55555.	A	2.00	0.25	16.00	3.000	0.50	1.000	440.000	0.50	0.50	0.500	0.500	0.500	10.00	7.00	0.500
6.	55554.	A	3.00	0.25	12.00	6.000	0.50	2.000	660.000	0.50	0.50	0.500	0.500	0.500	17.00	11.00	0.500
7.	35002.	A	2.00	0.25	12.00	0.500	0.50	3.000	150.000	0.50	1.00	0.500	0.500	0.500	160.00	0.50	1.000
7.	35006.	A	1.00	0.25	16.00	4.000	0.50	3.000	160.000	0.50	0.50	0.500	0.500	0.500	31.00	12.00	2.000
8.	55594.	A	3.00	0.25	25.00	2.000	0.50	1.000	290.000	2.00	1.00	0.500	0.500	0.500	140.00	7.00	2.000
8.	35003.	B	2.00	0.25	19.00	8.000	1.00	3.000	110.000	3.00	1.00	0.500	0.500	0.500	48.00	1.00	2.000
8.	35001.	B	6.00	0.25	1.80	1.000	0.50	2.000	550.000	3.00	0.50	0.500	0.500	0.500	69.00	6.00	0.500
8.	55600.	B	0.50	0.25	35.00	4.000	0.50	2.000	640.000	3.00	1.00	0.500	0.500	0.500	57.00	7.00	2.000
8.1	35093.	A	60.00	0.25	29.00	10.000	1.00	2.000	2.49E3	18.00	3.00	0.500	0.500	0.500	68.00	18.00	3.000
8.1	55599.	B	4.00	0.25	14.00	4.000	1.00	3.000	1.17E3	7.00	3.00	0.500	0.500	0.500	170.00	26.00	3.000
8.2	55590.	A	9.00	0.25	32.00	0.500	0.50	1.000	230.000	2.00	1.00	0.500	0.500	0.500	160.00	16.00	1.000
8.3	35094.	A	30.00	0.25	94.00	35.000	27.00	1.000	490.000	1.00	11.00	0.500	0.500	2.000	160.00	28.00	2.000
8.3	41090.	A	0.50	0.25	100.00	3.000	1.00	2.000	440.000	2.00	1.00	0.500	0.500	0.500	86.00	32.00	2.000
8.3	55589.	A	0.50	0.25	1.90	2.000	2.00	2.000	690.000	3.00	1.00	0.500	0.500	0.500	89.00	8.00	1.000
9.	55596.	A	0.50	0.25	17.00	2.000	0.50	0.500	310.000	2.00	0.50	0.500	0.500	0.500	78.00	3.00	0.500
9.	55598.	B	0.50	0.25	6.90	2.000	3.00	2.000	250.000	3.00	2.00	1.000	0.500	0.500	150.00	16.00	2.000
9.	55597.	B	0.50	0.25	0.80	2.000	0.50	2.000	260.000	3.00	1.00	1.000	0.500	0.500	64.00	13.00	2.000
10.	55592.	A	0.50	0.25	18.00	11.000	33.00	0.500	110.000	16.00	0.50	0.500	0.500	0.500	31.00	0.50	0.500
10.	55591.	A	0.50	0.25	6.10	0.500	0.50	2.000	290.000	1.00	0.50	0.500	0.500	0.500	57.00	7.00	0.500
10.	55593.	B	0.50	0.25	2.90	3.000	0.50	1.000	290.000	2.00	1.00	0.500	0.500	0.500	83.00	12.00	1.000
11.	55595.	A	2.00	0.25	12.00	1.000	1.00	2.000	430.000	0.50	0.50	0.500	0.500	0.500	26.00	20.00	1.000
12.	55553.	A	4.00	0.25	60.00	7.000	2.00	3.000	740.000	4.00	2.00	0.500	0.500	0.500	92.00	11.00	2.000
13.	55552.	A	2.00	0.25	0.30	0.500	1.00	2.000	420.000	1.00	0.50	0.500	0.500	0.500	97.00	11.00	1.000

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE IV SUMMARY OF WHOLE ROCK ANALYSES (TRACE ELEMENTS)**

FILE	SAMPLE	GROUP	AU	AG	AS	SB	MO	SN	BA	W	U	TE	BI	CD	V	LI	BE
14.	41017.	A	0.50	0.25	15.00	0.500	3.00	2.000	570.000	0.50	4.00	0.500	0.500	1.000	12.00	2.00	1.000
14.	41022.	A	0.50	0.25	1.10	0.500	3.00	3.000	1.11E3	1.00	4.00	0.500	0.500	2.000	9.00	3.00	2.000
14.	41054.	A	26.00	0.25	210.00	60.000	5.00	3.000	2.1E3	3.00	2.00	0.500	0.500	18.000	47.00	16.00	2.000
14.	41019.	B	3.00	0.25	70.00	1.000	2.00	4.000	600.000	3.00	4.00	0.500	0.500	1.000	16.00	2.00	3.000
14.	41018.	B	1.00	0.25	300.00	1.000	3.00	4.000	620.000	2.00	5.00	0.500	0.500	1.000	14.00	3.00	2.000
14.	41053.	B	4.00	0.25	1.70	4.000	0.50	1.000	1.88E3	2.00	0.50	0.500	0.500	0.500	270.00	35.00	2.000
14.	55556.	B	2.00	0.25	7.60	2.000	1.00	1.000	710.000	3.00	1.00	0.500	0.500	0.500	65.00	12.00	2.000
15.	41041.	A	91.00	11.00	520.00	36.000	3.00	6.000	1.E3	1.00	2.00	0.500	0.500	7.000	96.00	15.00	0.500
15.	41046.	A	25.00	0.25	60.00	10.000	2.00	3.000	160.000	9.00	1.00	0.500	3.000	0.500	67.00	2.00	0.500
15.	41043.	A	11.00	0.25	16.00	20.000	5.00	8.000	170.000	5.00	0.50	0.500	0.500	10.000	150.00	5.00	2.000
15.	41040.	A	0.50	0.25	1.10	7.000	0.50	6.000	2.73E4	3.00	6.00	0.500	0.500	1.000	15.00	34.00	5.000
15.	41042.	A	22.00	3.00	1.5E3	9.000	3.00	10.000	690.000	5.00	0.50	0.500	0.500	0.500	78.00	2.00	2.000
15.	78108.	SAIF	0.50	7.00					500.000	0.00				0.000	70.00		
15.	78131.	SAIF	0.50	0.10					70.000	0.00				0.000	200.00		
15.	78120.	SAIF	0.50	0.10					1.5E3	0.00				0.000	70.00		
15.	78130.	SAIF	0.50	0.10					150.000	0.00				0.000	500.00		
15.	78148.	SAIF	0.50	0.10					150.000	0.00				0.000	70.00		
15.	41048.	B	17.00	0.25	60.00	12.000	1.00	7.000	3.54E3	4.00	3.00	0.500	0.500	1.000	89.00	69.00	7.000
17.	35004.	A	4.00	0.25	67.00	5.000	0.50	0.500	130.000	2.00	0.50	0.500	0.500	0.500	72.00	22.00	0.500
17.	35095.	B	3.00	0.25	38.00	2.000	2.00	13.000	510.000	7.00	4.00	0.500	4.000	1.000	180.00	18.00	3.000
18.	35005.	A	0.50	0.25	100.00	0.500	2.00	1.000	190.000	1.00	2.00	0.500	0.500	0.500	110.00	35.00	2.000
19.	55518.	A	0.50	0.25	10.00	6.000	1.00	2.000	4.6E3	3.00	2.00	0.500	0.500	0.500	59.00	15.00	2.000
19.	55520.	A	0.50	0.25	44.00	3.000	1.00	3.000	1.92E3	2.00	2.00	0.500	0.500	0.500	44.00	19.00	3.000
19.	55519.	B	2.00	0.25	9.20	4.000	1.00	2.000	550.000	3.00	2.00	0.500	0.500	0.500	27.00	20.00	1.000
20.	55513.	A	0.50	0.25	2.00	2.000	3.00	0.500	430.000	5.00	0.50	0.500	0.500	0.500	180.00	0.50	0.500
20.	55514.	A	0.50	0.25	2.00	3.000	0.50	3.000	2.32E3	2.00	1.00	0.500	0.500	0.500	180.00	43.00	4.000
20.	55508.	B	0.50	0.25	1.10	1.000	1.00	2.000	2.72E3	0.50	0.50	0.500	0.500	0.500	50.00	13.00	0.500
21.	55510.	A	5.00	0.25	48.00	2.000	1.00	2.000	390.000	3.00	1.00	0.500	0.500	0.500	14.00	10.00	3.000
21.	55512.	B	0.50	0.25	0.30	2.000	0.50	1.000	320.000	2.00	1.00	0.500	0.500	0.500	63.00	5.00	1.000
21.	55511.	B	3.00	0.25	2.90	1.000	6.00	1.000	380.000	2.00	0.50	0.500	0.500	0.500	42.00	7.00	0.500
21.1	41023.	A	0.50	0.25	30.00	0.500	0.50	3.000	740.000	0.50	2.00	0.500	0.500	0.500	120.00	68.00	4.000
21.1	41024.	B	0.50	0.25	31.00	1.000	0.50	4.000	820.000	2.00	3.00	0.500	0.500	0.500	150.00	55.00	4.000
21.1	55509.	B	5.00	0.25	49.00	3.000	2.00	3.000	670.000	3.00	3.00	0.500	0.500	0.500	140.00	45.00	3.000
22.	55515.	A	0.50	0.25	10.00	4.000	4.00	14.000	1.08E3	2.00	1.00	0.500	0.500	2.000	320.00	3.00	5.000
22.	55516.	A	4.00	0.25	56.00	3.000	4.00	10.000	210.000	3.00	2.00	0.500	0.500	4.000	250.00	11.00	3.000

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE IV SUMMARY OF WHOLE ROCK ANALYSES (TRACE ELEMENTS)**

FILE	SAMPLE	GROUP	AU	AG	AS	SB	MO	SN	BA	W	U	TE	BI	CD	V	LI	BE
22.	78069.	SAIF	0.50	0.10					1.5E3	0.00				0.000	300.00		
22.	78072.	SAIF	0.50	0.10					1.E3	0.00				0.000	70.00		
22.	78073.	SAIF	0.50	0.10					500.000	0.00				0.000	70.00		
22.	55517.	B	2.00	0.25	38.00	2.000	3.00	18.000	950.000	2.00	1.00	0.500	2.000	0.500	79.00	4.00	3.000
24.	41003.	A	0.50	0.25	0.10	0.500	0.50	4.000	670.000	1.00	4.00	0.500	0.500	1.000	21.00	5.00	2.000
24.	41002.	A	0.50	0.25	6.80	3.000	2.00	11.000	760.000	4.00	3.00	0.500	1.000	1.000	170.00	0.50	1.000
24.	35096.	B	13.00	5.00	500.00	13.000	2.00	12.000	560.000	5.00	4.00	0.500	0.500	7.000	130.00	11.00	2.000
25.	41055.	A	3.00	2.00	5.60	4.000	3.00	27.000	510.000	1.00	2.00	0.500	2.000	0.500	220.00	1.00	5.000
25.	41076.	A	57.00	4.00	140.00	5.000	2.00	11.000	280.000	1.00	2.00	0.500	0.500	2.000	190.00	10.00	1.000
25.	41077.	A	11.00	2.00	19.00	2.000	7.00	20.000	230.000	0.50	0.50	0.500	4.000	0.500	64.00	0.50	2.000
25.	41056.	B	1.00	5.00	10.00	1.000	2.00	9.000	200.000	1.00	2.00	0.500	5.000	0.500	84.00	8.00	2.000
25.	41078.	B	4.00	0.25	14.00	2.000	7.00	26.000	360.000	1.00	2.00	0.500	3.000	0.500	130.00	4.00	2.000
25.	41057.	B	1.00	4.00	10.00	2.000	4.00	15.000	300.000	1.00	3.00	0.500	4.000	0.500	150.00	9.00	2.000
26.	41085.	A	0.50	0.25	72.00	3.000	2.00	4.000	250.000	1.00	1.00	0.500	0.500	0.500	240.00	3.00	1.000
26.	41082.	A	0.50	0.25	0.10	0.500	0.50	4.000	1.34E3	1.00	0.50	0.500	0.500	0.500	100.00	42.00	4.000
26.	41086.	A	4.00	0.25	48.00	20.000	3.00	5.000	130.000	2.00	0.50	0.500	2.000	1.000	120.00	1.00	1.000
26.	41079.	A	4.00	0.25	11.00	5.000	0.50	35.000	150.000	3.00	0.50	0.500	1.000	0.500	120.00	3.00	1.000
26.	55551.	A	8.00	0.25	6.80	4.000	0.50	31.000	170.000	3.00	0.50	0.500	0.500	1.000	170.00	6.00	1.000
26.	41087.	A	4.00	0.25	130.00	14.000	7.00	4.000	190.000	3.00	1.00	0.500	0.500	0.500	84.00	4.00	2.000
26.	41083.	A	2.00	0.25	11.00	2.000	4.00	25.000	240.000	1.00	0.50	0.500	2.000	0.500	110.00	8.00	5.000
26.	41081.	A	7.00	2.00	4.80	4.000	4.00	43.000	710.000	1.00	0.50	0.500	0.500	1.000	250.00	6.00	2.000
26.	78051.	SAIF	0.50	0.00					15.000	0.00				1.E2	70.00		
26.	78043.	SAIF	0.50	0.00					70.000	0.00				1.E2	70.00		
26.	78044.	SAIF	0.50	0.00					300.000	0.00				1.E2	50.00		
26.	78045.	SAIF	0.50	0.00					300.000	0.00				1.E2	50.00		
26.	78046.	SAIF	0.50	0.00					50.000	0.00				1.E2	100.00		
26.	78047.	SAIF	0.50	0.00					300.000	0.00				1.E2	70.00		
26.	78049.	SAIF	0.50	0.00					30.000	0.00				1.E2	50.00		
26.	78050.	SAIF	0.50	0.00					150.000	0.00				1.E2	150.00		
26.	78028.	SAIF	0.50	0.00					20.000	0.00				1.E2	50.00		
26.	78029.	SAIF	0.50	0.00					2.E3	0.00				1.E2	100.00		
26.	78030.	SAIF	0.50	0.00					300.000	0.00				1.E2	70.00		
26.	78031.	SAIF	82.00	0.00					300.000	0.00				1.E2	100.00		
26.	78032.	SAIF	0.50	0.00					30.000	0.00				1.E2	70.00		
26.	78033.	SAIF	0.50	0.00					100.000	0.00				1.E2	70.00		

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE IV SUMMARY OF WHOLE ROCK ANALYSES (TRACE ELEMENTS)**

FILE	SAMPLE	GROUP	AU	AG	AS	SB	MO	SN	BA	W	U	TE	BI	CD	V	LI	BE
26.	78034.	SAIF	0.50	0.00					300.000	0.00				1.E2	70.00		
26.	78040.	SAIF	13.00	0.00					50.000	0.00				1.E2	70.00		
26.	78042.	SAIF	0.50	0.00					20.000	0.00				1.E2	30.00		
26.	78052.	SAIF	0.50	0.00					500.000	0.00				1.E2	50.00		
26.	78055.	SAIF	0.50	0.00					700.000	0.00				1.E2	70.00		
26.	78056.	SAIF	62.00	0.00					50.000	0.00				1.E2	30.00		
26.	78057.	SAIF	0.50	0.00					300.000	0.00				1.E2	50.00		
26.	78059.	SAIF	0.50	0.00					300.000	0.00				1.E2	50.00		
26.	78078.	SAIF	0.50	0.10					100.000	0.00				0.000	70.00		
26.	78079.	SAIF	0.50	0.10					70.000	0.00				0.000	100.00		
26.	78076.	SAIF	0.50	0.10					30.000	0.00				0.000	150.00		
26.	78077.	SAIF	0.50	0.10					5.000	0.00				0.000	100.00		
26.	78081.	SAIF	0.50	0.10					15.000	0.00				0.000	200.00		
26.	78083.	SAIF	0.50	0.10					15.000	0.00				0.000	70.00		
26.	78143.	SAIF	0.50	0.10					500.000	0.00				0.000	100.00		
26.	78141.	SAIF	0.50	0.10					2.E3	0.00				0.000	100.00		
26.	78146.	SAIF	0.50	0.10					300.000	0.00				0.000	100.00		
26.	78147.	SAIF	0.50	0.10					70.000	0.00				0.000	50.00		
26.	78140.	SAIF	0.50	0.10					700.000	0.00				0.000	70.00		
26.	78144.	SAIF	0.50	0.10					700.000	0.00				0.000	100.00		
26.	78139.	SAIF	0.50	7.00					700.000	0.00				0.000	200.00		
26.	41084.	B	2.00	0.25	16.00	8.000	6.00	13.000	520.000	1.00	1.00	0.500	1.000	1.000	210.00	4.00	3.000
27.	41051.	A	3.00	0.25	3.60	4.000	2.00	23.000	260.000	1.00	1.00	0.500	0.500	2.000	180.00	4.00	2.000
27.	41072.	A	5.00	0.25	20.00	36.000	3.00	20.000	270.000	16.00	2.00	0.500	2.000	4.000	120.00	17.00	6.000
27.	41070.	A	0.50	0.25	2.00	3.000	4.00	23.000	200.000	2.00	1.00	0.500	0.500	0.500	170.00	2.00	2.000
27.	41074.	A	3.00	0.25	1.00	3.000	1.00	22.000	190.000	1.00	2.00	0.500	1.000	6.000	99.00	7.00	4.000
27.	41073.	A	0.50	3.00	32.00	8.000	5.00	34.000	380.000	16.00	1.00	0.500	2.000	1.000	170.00	13.00	54.000
27.	41069.	A	0.50	0.25	4.00	2.000	6.00	24.000	140.000	2.00	2.00	0.500	3.000	6.000	210.00	2.00	7.000
27.	41075.	A	3.00	0.25	440.00	2.000	5.00	10.000	230.000	1.00	3.00	0.500	2.000	4.000	210.00	11.00	3.000
27.	78086.	SAIF	0.50	0.10					100.000	0.00				0.000	100.00		
28.	41035.	A	23.00	0.25	56.00	3.000	0.50	6.000	310.000	2.00	4.00	0.500	0.500	0.500	11.00	16.00	0.500
28.	41034.	A	13.00	2.00	43.00	3.000	12.00	7.000	390.000	4.00	7.00	0.500	2.000	1.000	71.00	100.00	1.000
28.	78095.	SAIF	0.50	0.10					300.000	0.00				0.000	300.00		
28.	78002.3	SAIF	0.50	0.00					30.000	0.00				1.E2	100.00		
28.	78004.	SAIF	0.50	0.00					50.000	0.00				1.E2	50.00		

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
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**TABLE IV SUMMARY OF WHOLE ROCK ANALYSES (TRACE ELEMENTS)**

FILE	SAMPLE	GROUP	AU	AG	AS	SB	MO	SN	BA	W	U	TE	BI	CD	V	LI	BE
28.	78002.1	SAIF	0.50	0.00					10.000	0.00				1.E2	70.00		
28.	78002.2	SAIF	0.50	0.00					5.000	0.00				1.E2	0.50		
28.	78005.1	SAIF	0.50	0.00					70.000	0.00				1.E2	70.00		
29.	41064.	A	8.00	0.25	48.00	2.000	4.00	17.000	340.000	2.00	1.00	0.500	0.500	1.000	240.00	0.50	3.000
29.	41066.	A	0.50	0.25	32.00	0.500	0.50	8.000	770.000	3.00	4.00	0.500	0.500	0.500	57.00	16.00	2.000
29.	41059.	A	0.50	0.25	2.40	1.000	2.00	12.000	390.000	2.00	1.00	0.500	0.500	1.000	86.00	1.00	2.000
29.	41060.	A	2.00	1.00	5.60	0.500	0.50	5.000	270.000	0.50	2.00	0.500	3.000	3.000	58.00	6.00	0.500
29.	41067.	A	0.50	0.25	180.00	2.000	3.00	10.000	370.000	2.00	0.50	0.500	0.500	0.500	140.00	0.50	5.000
29.	41063.	A	1.00	0.25	61.00	1.000	5.00	25.000	290.000	2.00	1.00	0.500	0.500	2.000	260.00	1.00	4.000
29.	41062.	A	3.00	0.25	220.00	1.000	12.00	8.000	450.000	2.00	2.00	0.500	0.500	0.500	330.00	2.00	1.000
29.	78016.	SAIF	0.50	0.00					100.000	0.00				1.E2	300.00		
29.	78015.	SAIF	0.50	0.00					300.000	0.00				1.E2	150.00		
29.	78014.	SAIF	0.50	0.00					300.000	0.00				1.E2	200.00		
29.	41061.	B	0.50	0.25	42.00	2.000	0.50	15.000	830.000	5.00	3.00	0.500	2.000	1.000	160.00	22.00	2.000
29.1	41091.	A	0.50	0.25	96.00	0.500	0.50	2.000	1.06E3	3.00	1.00	0.500	0.500	0.500	120.00	24.00	4.000
30.	41027.	A	22.00	0.25	46.00	2.000	1.00	1.000	540.000	4.00	1.00	0.500	0.500	0.500	78.00	8.00	2.000
30.	41026.	A	8.00	0.25	1.50	1.000	1.00	2.000	1.29E3	2.00	1.00	0.500	0.500	0.500	67.00	19.00	3.000
30.	41025.	A	5.00	0.25	84.00	5.000	27.00	1.000	370.000	2.00	2.00	0.500	0.500	0.500	180.00	24.00	2.000
30.	41028.	A	3.00	0.25	120.00	1.000	1.00	0.500	170.000	4.00	1.00	0.500	0.500	0.500	110.00	16.00	2.000
31.	55587.	B	2.00	0.25	3.10	3.000	2.00	23.000	370.000	2.00	1.00	0.500	4.000	0.500	130.00	1.00	1.000
31.1	35098.	A	12.00	0.25	240.00	15.000	1.00	5.000	620.000	2.00	3.00	0.500	0.500	1.000	12.00	11.00	2.000
31.1	41093.	B	2.00	0.25	76.00	3.000	1.00	9.000	220.000	3.00	4.00	0.500	1.000	0.500	10.00	13.00	2.000
32.	41007.	A	20.00	0.25	800.00	12.000	8.00	4.000	1.74E3	1.00	13.00	0.500	0.500	1.000	10.00	0.50	1.000
32.	55588.	A	0.50	0.25	0.90	0.500	0.50	3.000	450.000	1.00	0.50	0.500	0.500	0.500	430.00	6.00	2.000
33.	35091.	A	6.00	3.00	22.00	35.000	4.00	15.000	2.43E3	2.00	0.50	0.500	6.000	0.500	140.00	0.50	2.000
33.	35090.	A	2.00	3.00	9.60	15.000	2.00	13.000	3.37E3	2.00	1.00	0.500	3.000	1.000	100.00	1.00	1.000
33.	35089.	A	10.00	3.00	13.00	18.000	2.00	11.000	680.000	2.00	0.50	0.500	4.000	1.000	92.00	2.00	3.000
33.	35088.	A	46.00	6.00	27.00	14.000	4.00	40.000	1.705E4	2.00	2.00	0.500	17.000	2.000	91.00	6.00	3.000
33.	78062.	SAIF	0.50	0.00					200.000	0.00				1.E2	70.00		
33.	78060.	SAIF	0.50	10.00					100.000	0.00				0.000	100.00		
33.	78064.	SAIF	0.50	0.00					100.000	0.00				1.E2	50.00		
33.	78065.	SAIF	0.50	10.00					30.000	0.00				0.000	100.00		
33.	78066.	SAIF	0.50	5.00					70.000	0.00				0.000	100.00		
33.	78068.	SAIF	0.50	0.00					70.000	0.00				1.E2	100.00		
33.	78063.	SAIF	0.50	0.00					15.000	0.00				1.E2	70.00		



**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
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FILE	SAMPLE	GROUP	AU	AG	AS	SB	MO	SN	BA	W	U	TE	BI	CD	V	LI	BE
33.	78166.	SAIF	0.50	15.00					5.000	0.00				0.000	70.00		
33.	78164.	SAIF	0.50	0.10					30.000	0.00				0.000	100.00		
33.	78165.	SAIF	0.50	0.10					15.000	0.00				0.000	100.00		
33.	78167.	SAIF	0.50	20.00					70.000	0.00				0.000	70.00		
33.2	41005.	A	0.50	0.25	0.80	1.000	2.00	17.000	740.000	2.00	2.00	0.500	1.000	1.000	160.00	8.00	2.000
36.	55580.	A	0.50	0.25	1.30	0.500	0.50	3.000	530.000	0.50	0.50	0.500	0.500	0.500	210.00	10.00	2.000
36.	55582.	A	0.50	0.25	1.00	0.500	0.50	2.000	240.000	0.50	0.50	0.500	0.500	0.500	420.00	20.00	1.000
36.	55583.	A	0.50	0.25	0.40	1.000	0.50	2.000	150.000	0.50	0.50	0.500	0.500	0.500	410.00	17.00	0.500
36.	55581.	B	0.50	0.25	0.80	0.500	0.50	2.000	300.000	0.50	0.50	0.500	0.500	0.500	210.00	15.00	2.000
36.	55579.	B	0.50	0.25	1.60	3.000	0.50	3.000	640.000	2.00	1.00	0.500	0.500	1.000	220.00	8.00	3.000
37.	55584.	A	0.50	0.25	0.20	0.500	1.00	0.500	120.000	6.00	0.50	0.500	0.500	0.500	5.00	3.00	0.500
38.	55577.	A	0.50	0.25	1.90	0.500	0.50	0.500	760.000	2.00	0.50	0.500	0.500	0.500	18.00	4.00	0.500
38.	55575.	A	0.50	0.25	1.90	0.500	0.50	0.500	160.000	0.50	0.50	0.500	0.500	0.500	42.00	4.00	0.500
38.	55576.	B	0.50	0.25	0.70	0.500	0.50	2.000	730.000	1.00	1.00	0.500	0.500	0.500	54.00	5.00	1.000
38.1	55578.	A	0.50	0.25	17.00	0.500	0.50	6.000	790.000	2.00	4.00	0.500	0.500	0.500	180.00	30.00	4.000
40.1	41009.	A	0.50	0.25	0.40	0.500	0.50	1.000	190.000	0.50	0.50	0.500	0.500	0.500	340.00	11.00	2.000
40.1	41008.	A	0.50	0.25	0.70	0.500	1.00	0.500	210.000	0.50	0.50	0.500	0.500	0.500	330.00	7.00	2.000
41.	55586.	B	0.50	0.25	0.60	0.500	9.00	2.000	250.000	1.00	1.00	0.500	0.500	0.500	19.00	7.00	1.000
42.	35087.	A	1.00	0.25	13.00	2.000	2.00	3.000	470.000	2.00	3.00	0.500	0.500	1.000	170.00	47.00	2.000
42.	55570.	A	2.00	0.25	32.00	8.000	0.50	2.000	960.000	3.00	0.50	0.500	0.500	0.500	48.00	20.00	2.000
42.	55574.	A	11.00	0.25	26.00	3.000	0.50	2.000	960.000	2.00	1.00	0.500	0.500	0.500	200.00	18.00	2.000
42.	55572.	A	11.00	0.25	2.40	0.500	0.50	2.000	2.22E3	2.00	1.00	0.500	0.500	0.500	83.00	15.00	2.000
42.	55571.	B	9.00	0.25	26.00	2.000	3.00	3.000	1.56E3	4.00	2.00	2.000	2.000	0.500	110.00	14.00	0.500
44.	3609.	A	0.50	0.25	4.60	1.000	0.50	3.000	550.000	0.50	2.00	0.500	0.500	0.500	120.00	3.00	2.000
44.	3607.	A	0.50	0.25	3.20	0.500	0.50	4.000	730.000	1.00	2.00	0.500	0.500	0.500	140.00	15.00	3.000
44.	3610.	B	2.00	0.25	5.40	1.000	0.50	3.000	810.000	2.00	2.00	0.500	0.500	0.500	130.00	3.00	3.000
44.	3608.	B	8.00	0.25	2.40	1.000	0.50	4.000	690.000	2.00	2.00	0.500	0.500	0.500	110.00	8.00	3.000
46.	55557.	A	1.00	0.25	25.00	0.500	0.50	4.000	160.000	1.00	2.00	0.500	0.500	0.500	100.00	10.00	2.000
46.	55559.	A	0.50	0.25	40.00	2.000	0.50	6.000	480.000	4.00	2.00	0.500	0.500	0.500	120.00	12.00	3.000
46.	55558.	B	0.50	0.25	17.00	1.000	1.00	4.000	200.000	2.00	2.00	0.500	0.500	1.000	220.00	7.00	2.000
46.1	55560.	A	0.50	0.25	0.20	0.500	0.50	4.000	170.000	0.50	1.00	0.500	0.500	0.500	160.00	15.00	2.000
47.	55564.	A	130.00	0.25	19.00	5.000	36.00	46.000	200.000	5.00	0.50	25.000	59.000	0.500	42.00	7.00	1.000
47.	55565.	A	0.50	0.25	14.00	2.000	0.50	3.000	400.000	0.50	0.50	0.500	0.500	0.500	90.00	6.00	2.000
47.	55563.	B	63.00	0.25	63.00	3.000	91.00	46.000	180.000	8.00	1.00	67.000	97.000	1.000	22.00	5.00	0.500
48.	55561.	B	0.50	0.25	3.10	0.500	0.50	1.000	110.000	0.50	2.00	0.500	0.500	0.500	34.00	6.00	0.500

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE IV SUMMARY OF WHOLE ROCK ANALYSES (TRACE ELEMENTS)**

FILE	SAMPLE	GROUP	AU	AG	AS	SB	MO	SN	BA	W	U	TE	BI	CD	V	LI	BE
49.	55566.	A	0.50	0.25	14.00	0.500	0.50	3.000	440.000	2.00	5.00	0.500	0.500	0.500	180.00	42.00	1.000
50.	55568.	A	3.00	0.25	15.00	1.000	0.50	2.000	100.000	2.00	1.00	0.500	0.500	0.500	72.00	8.00	1.000
50.	55567.	B	3.00	0.25	26.00	3.000	2.00	2.000	160.000	4.00	1.00	0.500	1.000	0.500	83.00	6.00	2.000
50.1	55569.	A	6.00	0.25	22.00	3.000	5.00	3.000	350.000	0.50	2.00	0.500	0.500	0.500	91.00	5.00	0.500
51.	35074.	A	0.50	0.25	71.00	13.000	2.00	2.000	780.000	1.00	1.00	0.500	0.500	0.500	66.00	44.00	2.000
51.	35075.	A	4.00	0.25	2.90	6.000	31.00	2.000	7.55E3	12.00	18.00	0.500	0.500	2.000	150.00	22.00	3.000
51.	35073.	A	3.00	0.25	5.40	6.000	36.00	1.000	740.000	2.00	15.00	0.500	0.500	2.000	220.00	27.00	2.000
51.	35023.	A	2.00	0.25	3.20	1.000	22.00	0.500	1.01E3	0.50	7.00	0.500	0.500	0.500	86.00	22.00	1.000
52.	35068.	A	9.00	0.25	20.00	1.000	10.00	3.000	490.000	0.50	12.00	0.500	0.500	1.000	360.00	58.00	2.000
52.	35024.	A	3.00	0.25	16.00	4.000	6.00	2.000	490.000	0.50	4.00	0.500	0.500	0.500	190.00	100.00	2.000
52.	35072.	A	0.50	0.25	1.30	2.000	28.00	1.000	610.000	0.50	15.00	0.500	0.500	1.000	100.00	48.00	1.000
52.	35027.	A	2.00	0.25	62.00	0.500	0.50	18.000	680.000	4.00	3.00	0.500	0.500	2.000	160.00	82.00	4.000
52.	35070.	A	0.50	0.25	24.00	1.000	20.00	3.000	520.000	0.50	22.00	0.500	1.000	1.000	540.00	52.00	3.000
52.	35029.	B	3.00	0.25	9.40	0.500	3.00	2.000	590.000	0.50	3.00	0.500	0.500	0.500	180.00	120.00	3.000
52.	35076.	B	2.00	0.25	110.00	2.000	1.00	54.000	500.000	4.00	4.00	0.500	0.500	2.000	220.00	42.00	3.000
52.	35025.	B	0.50	0.25	22.00	3.000	6.00	2.000	410.000	1.00	2.00	0.500	0.500	1.000	220.00	64.00	2.000
52.	35069.	B	6.00	0.25	5.20	2.000	30.00	5.000	700.000	3.00	29.00	0.500	2.000	3.000	510.00	61.00	4.000
52.	35071.	B	45.00	0.25	4.70	4.000	20.00	2.000	9.83E3	4.00	9.00	0.500	0.500	2.000	130.00	54.00	3.000
53.	41013.	A	15.00	0.25	5.20	2.000	11.00	1.000	790.000	1.00	7.00	0.500	0.500	1.000	53.00	32.00	3.000
53.	41011.	A	0.50	0.25	7.10	0.500	10.00	2.000	740.000	0.50	6.00	0.500	0.500	1.000	160.00	120.00	3.000
53.	41016.	A	0.50	0.25	8.80	1.000	0.50	3.000	500.000	1.00	3.00	0.500	0.500	1.000	180.00	55.00	2.000
53.	41014.	A	2.00	0.25	2.70	2.000	0.50	2.000	390.000	1.00	1.00	0.500	0.500	1.000	76.00	47.00	2.000
53.	41015.	B	25.00	0.25	1.10	2.000	0.50	8.000	520.000	2.00	1.00	0.500	0.500	2.000	86.00	30.00	2.000
53.	41012.	B	2.00	0.25	14.00	1.000	26.00	2.000	290.000	1.00	8.00	0.500	0.500	0.500	240.00	43.00	2.000
53.	41010.	B	0.50	0.25	4.00	0.500	6.00	4.000	560.000	1.00	4.00	0.500	2.000	0.500	140.00	79.00	4.000
54.	35066.	A	1.00	0.25	11.00	1.000	0.50	19.000	770.000	2.00	4.00	0.500	0.500	1.000	170.00	32.00	4.000
54.	35057.	A	4.00	0.25	290.00	6.000	0.50	1.000	1.11E3	1.00	2.00	0.500	0.500	0.500	82.00	67.00	2.000
54.	35055.	B	2.00	0.25	6.60	2.000	3.00	4.000	470.000	2.00	4.00	0.500	0.500	0.500	220.00	63.00	2.000
54.	35058.	B	19.00	0.25	7.40	11.000	6.00	4.000	850.000	2.00	4.00	1.000	8.000	2.000	260.00	34.00	3.000
54.	35067.	B	0.50	0.25	27.00	1.000	0.50	11.000	2.E3	2.00	3.00	0.500	0.500	0.500	53.00	30.00	4.000
55.	35031.	A	2.00	0.25	15.00	5.000	0.50	0.500	610.000	0.50	1.00	0.500	0.500	0.500	51.00	4.00	1.000
55.	35030.	B	0.50	0.25	3.10	3.000	0.50	2.000	990.000	0.50	2.00	0.500	0.500	0.500	66.00	23.00	0.500
56.	35036.	A	0.50	0.25	1.30	0.500	21.00	2.000	290.000	2.00	5.00	0.500	0.500	0.500	420.00	9.00	0.500
56.	35077.	A	5.00	0.25	110.00	3.000	1.00	11.000	430.000	2.00	3.00	0.500	0.500	0.500	190.00	53.00	2.000
56.	35078.	A	2.00	0.25	2.70	3.000	22.00	3.000	460.000	0.50	10.00	0.500	0.500	1.000	100.00	32.00	2.000

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE IV SUMMARY OF WHOLE ROCK ANALYSES (TRACE ELEMENTS)**

FILE	SAMPLE	GROUP	AU	AG	AS	SB	MO	SN	BA	W	U	TE	BI	CD	V	LI	BE
56.	35034.	A	0.50	0.25	18.00	2.000	0.50	2.000	400.000	1.00	3.00	0.500	0.500	0.500	220.00	60.00	3.000
56.	35080.	A	0.50	0.25	2.00	3.000	31.00	7.000	3.99E3	1.00	12.00	0.500	2.000	2.000	73.00	27.00	3.000
56.	35032.	B	0.50	0.25	5.90	2.000	2.00	6.000	480.000	2.00	3.00	0.500	0.500	0.500	210.00	58.00	2.000
56.	35035.	B	5.00	0.25	18.00	0.500	0.50	3.000	420.000	2.00	3.00	0.500	0.500	0.500	210.00	57.00	3.000
56.	35033.	B	2.00	0.25	23.00	1.000	0.50	4.000	330.000	2.00	2.00	0.500	0.500	0.500	200.00	46.00	2.000
56.	35081.	B	1.00	0.25	66.00	1.000	187.00	4.000	6.68E3	8.00	38.00	0.500	2.000	3.000	1.4E3	31.00	9.000
56.	35037.	B	2.00	0.25	86.00	0.500	1.00	10.000	350.000	1.00	3.00	0.500	0.500	0.500	200.00	48.00	3.000
56.	35079.	B	1.00	0.25	2.40	2.000	25.00	5.000	420.000	1.00	9.00	0.500	0.500	2.000	110.00	20.00	2.000
57.	3606.	A	0.50	0.25	1.60	1.000	14.00	1.000	550.000	0.50	4.00	0.500	0.500	0.500	250.00	13.00	0.500
57.	35048.	A	1.00	0.25	0.80	7.000	10.00	2.000	1.25E3	2.00	10.00	0.500	0.500	1.000	280.00	26.00	3.000
57.	35044.	B	5.00	0.25	0.20	2.000	13.00	1.000	470.000	1.00	4.00	0.500	0.500	0.500	190.00	14.00	0.500
58.	35040.	A	0.50	0.25	7.80	7.000	0.50	1.000	1.09E3	2.00	0.50	0.500	0.500	0.500	28.00	17.00	2.000
58.	35043.	A	3.00	0.25	4.00	3.000	13.00	0.500	900.000	0.50	5.00	0.500	0.500	0.500	150.00	6.00	0.500
58.	35039.	A	3.00	0.25	18.00	0.500	0.50	1.000	1.34E3	3.00	2.00	0.500	0.500	0.500	77.00	43.00	2.000
58.	35041.	A	3.00	0.25	2.00	5.000	0.50	0.500	2.59E3	2.00	1.00	0.500	0.500	0.500	90.00	14.00	2.000
58.	35038.	B	0.50	0.25	2.40	5.000	0.50	2.000	1.3E3	5.00	1.00	0.500	0.500	0.500	99.00	25.00	2.000
58.	35042.	B	11.00	0.25	0.60	4.000	0.50	2.000	950.000	2.00	2.00	0.500	0.500	0.500	61.00	13.00	2.000
59.	35060.	A	3.00	0.25	64.00	21.000	28.00	2.000	470.000	0.50	8.00	0.500	0.500	1.000	170.00	58.00	3.000
59.	35059.	B	12.00	0.25	56.00	25.000	8.00	4.000	470.000	4.00	5.00	0.500	0.500	1.000	160.00	56.00	3.000
60.	35084.	A	35.00	0.25	32.00	23.000	8.00	7.000	1.94E3	2.00	6.00	0.500	0.500	2.000	450.00	46.00	3.000
60.	35083.	A	0.50	0.25	43.00	6.000	24.00	3.000	1.63E3	0.50	13.00	0.500	0.500	0.500	78.00	37.00	1.000
61.	35052.	A	2.00	0.25	70.00	16.000	2.00	2.000	920.000	2.00	2.00	0.500	0.500	0.500	180.00	77.00	3.000
61.	35051.	A	3.00	0.25	68.00	18.000	9.00	1.000	1.04E3	1.00	6.00	0.500	0.500	0.500	320.00	77.00	1.000
61.	35050.	A	1.00	0.25	20.00	3.000	0.50	10.000	2.06E3	2.00	2.00	0.500	0.500	0.500	55.00	130.00	3.000
61.	35049.	A	5.00	0.25	18.00	13.000	23.00	5.000	1.37E3	2.00	11.00	0.500	0.500	0.500	120.00	12.00	2.000
62.	35062.	A	2.00	0.25	0.80	8.000	0.50	2.000	1.08E3	6.00	1.00	0.500	0.500	0.500	88.00	26.00	2.000
62.	35061.	A	11.00	0.25	78.00	17.000	4.00	2.000	860.000	0.50	2.00	0.500	0.500	0.500	71.00	19.00	2.000
62.	35065.	A	0.50	0.25	3.60	7.000	0.50	2.000	1.18E3	3.00	1.00	0.500	0.500	0.500	28.00	34.00	2.000
62.	35064.	A	4.00	0.25	8.00	4.000	3.00	2.000	1.24E3	2.00	1.00	0.500	0.500	0.500	65.00	30.00	2.000
62.	35063.	B	7.00	0.25	160.00	18.000	3.00	2.000	620.000	3.00	4.00	0.500	1.000	0.500	76.00	46.00	3.000
63.	3623.	A	3.00	0.25	12.00	12.000	17.00	1.000	1.67E3	0.50	6.00	0.500	0.500	0.500	130.00	28.00	1.000
65.	3603.	A	5.00	0.25	18.00	18.000	31.00	0.500	1.32E3	0.50	3.00	0.500	0.500	0.500	130.00	27.00	0.500
65.	3605.	A	0.50	0.25	8.90	18.000	0.50	2.000	1.59E3	5.00	0.50	0.500	0.500	0.500	48.00	51.00	2.000
65.	3604.	B	9.00	0.25	8.60	17.000	0.50	2.000	2.49E3	6.00	2.00	0.500	0.500	0.500	34.00	27.00	2.000
65.	3624.	B	10.00	0.25	17.00	22.000	37.00	1.000	2.23E3	1.00	6.00	0.500	0.500	0.500	150.00	18.00	1.000

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
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**TABLE IV SUMMARY OF WHOLE ROCK ANALYSES (TRACE ELEMENTS)**

FILE	SAMPLE	GROUP	AU	AG	AS	SB	MO	SN	BA	W	U	TE	BI	CD	V	LI	BE
65.	3625.	B	8.00	0.25	140.00	26.000	1.00	2.000	1.63E3	4.00	2.00	0.500	0.500	0.500	68.00	98.00	3.000
66.	3601.	A	6.00	0.25	2.40	2.000	1.00	2.000	1.23E3	3.00	1.00	0.500	0.500	0.500	70.00	13.00	2.000
67.	35020.	A	8.00	0.25	1.10	2.000	2.00	2.000	470.000	9.00	2.00	0.500	0.500	0.500	190.00	46.00	2.000
67.	41029.	A	4.00	0.25	18.00	5.000	21.00	0.500	630.000	1.00	9.00	0.500	0.500	1.000	120.00	14.00	0.500
67.	41031.	B	6.00	0.25	56.00	6.000	38.00	4.000	830.000	301.00	12.00	2.000	0.500	2.000	150.00	10.00	1.000
68.	35046.	A	5.00	0.25	46.00	21.000	30.00	0.500	580.000	1.00	6.00	0.500	0.500	0.500	120.00	18.00	1.000
68.	35082.	A	11.00	0.25	120.00	39.000	27.00	2.000	630.000	2.00	12.00	0.500	0.500	1.000	150.00	94.00	3.000
68.	35053.	B	16.00	0.25	38.00	18.000	30.00	1.000	550.000	1.00	9.00	0.500	0.500	0.500	150.00	12.00	0.500
68.	35054.	B	12.00	0.25	44.00	11.000	3.00	1.000	570.000	1.00	4.00	0.500	0.500	0.500	170.00	20.00	1.000
69.	35086.	A	5.00	0.25	14.00	12.000	14.00	2.000	490.000	1.00	5.00	0.500	0.500	0.500	150.00	75.00	2.000
69.	35085.	B	4.00	0.25	130.00	11.000	13.00	2.000	490.000	2.00	5.00	0.500	0.500	1.000	120.00	88.00	2.000
70.	35017.	A	0.50	0.25	13.00	6.000	0.50	2.000	350.000	1.00	3.00	0.500	0.500	0.500	220.00	72.00	2.000
70.	41030.	A	6.00	0.25	24.00	13.000	30.00	1.000	610.000	0.50	8.00	0.500	0.500	2.000	540.00	15.00	2.000
70.	35016.	B	2.00	0.25	21.00	4.000	0.50	5.000	950.000	2.00	3.00	0.500	0.500	0.500	180.00	36.00	4.000
71.	35014.	A	1.00	0.25	1.30	0.500	21.00	1.000	4.82E3	0.50	10.00	0.500	0.500	1.000	85.00	47.00	3.000
71.	35013.	B	0.50	0.25	2.20	0.500	2.00	3.000	470.000	0.50	3.00	0.500	0.500	0.500	170.00	58.00	3.000
72.	35015.	A	0.50	0.25	0.50	0.500	0.50	2.000	340.000	1.00	2.00	0.500	0.500	0.500	200.00	8.00	2.000
74.	35011.	A	5.00	0.25	62.00	3.000	1.00	4.000	810.000	4.00	6.00	0.500	0.500	0.500	180.00	55.00	4.000
74.	35010.	B	6.00	0.25	17.00	2.000	0.50	4.000	780.000	2.00	2.00	0.500	0.500	0.500	100.00	24.00	4.000
75.	3602.	A	2.00	0.25	40.00	8.000	2.00	1.000	1.69E3	2.00	2.00	0.500	0.500	0.500	28.00	36.00	1.000
75.	55550.	B	33.00	0.25	140.00	35.000	7.00	0.500	1.48E3	2.00	2.00	0.500	0.500	2.000	30.00	37.00	0.500
76.	55549.	A	0.50	0.25	24.00	4.000	0.50	2.000	1.33E3	3.00	1.00	0.500	0.500	0.500	58.00	22.00	2.000
77.	41036.	A	7.00	0.25	32.00	5.000	30.00	2.000	930.000	0.50	10.00	0.500	0.500	1.000	140.00	22.00	1.000
77.	41038.	A	6.00	0.25	52.00	9.000	0.50	5.000	1.27E3	4.00	4.00	0.500	0.500	1.000	190.00	50.00	5.000
77.	41037.	A	5.00	0.25	2.00	2.000	1.00	2.000	2.12E3	4.00	1.00	1.000	0.500	0.500	97.00	22.00	3.000
77.	55573.	B	5.00	0.25	8.60	6.000	14.00	1.000	920.000	1.00	4.00	0.500	0.500	0.500	130.00	12.00	0.500
77.	55548.	B	2.00	0.25	1.90	2.000	2.00	2.000	2.22E3	3.00	1.00	0.500	0.500	0.500	82.00	26.00	2.000
77.1	41033.	A	1.00	0.25	18.00	0.500	0.50	4.000	1.02E3	2.00	3.00	0.500	0.500	0.500	120.00	43.00	3.000
78.	55546.	A	7.00	0.25	8.40	2.000	0.50	4.000	800.000	1.00	2.00	0.500	0.500	0.500	98.00	32.00	2.000
78.	55547.	B	1.00	0.25	3.90	1.000	0.50	3.000	650.000	2.00	2.00	0.500	0.500	0.500	140.00	20.00	3.000
81.	55542.	A	5.00	0.25	30.00	7.000	0.50	2.000	270.000	4.00	0.50	0.500	0.500	0.500	61.00	110.00	2.000
81.	55541.	B	5.00	0.25	56.00	12.000	1.00	1.000	160.000	5.00	1.00	0.500	0.500	0.500	46.00	54.00	2.000
82.	55533.	A	17.00	0.25	90.00	17.000	1.00	4.000	1.44E3	4.00	3.00	0.500	0.500	0.500	140.00	18.00	3.000
82.	55535.	A	6.00	0.25	40.00	4.000	0.50	5.000	1.44E3	3.00	4.00	0.500	0.500	0.500	190.00	24.00	3.000
82.	55536.	A	25.00	0.25	13.00	2.000	3.00	1.000	270.000	2.00	0.50	0.500	0.500	0.500	64.00	17.00	0.500

**LITHOGEOCHEMISTRY OF RED MANGANIFEROUS CHERT AND BLACK SLATE/CHERT,  
MIRAMICHI ZONE, N.B.**

**TABLE IV SUMMARY OF WHOLE ROCK ANALYSES (TRACE ELEMENTS)**

FILE	SAMPLE	GROUP	AU	AG	AS	SB	MO	SN	BA	W	U	TE	BI	CD	V	LI	BE
82.	55534.	B	7.00	0.25	40.00	13.000	1.00	3.000	1.16E3	6.00	2.00	0.500	0.500	0.500	120.00	13.00	3.000
83.	3618.	A	7.00	0.25	140.00	12.000	29.00	4.000	1.301E4	3.00	15.00	0.500	0.500	1.000	2.7E3	25.00	3.000
83.	55537.	A	11.00	0.25	3.20	5.000	2.00	2.000	1.24E3	5.00	2.00	0.500	0.500	0.500	120.00	32.00	3.000
83.	55538.	A	10.00	0.25	27.00	8.000	0.50	3.000	1.04E3	6.00	3.00	0.500	0.500	0.500	160.00	19.00	3.000
85.	3622.	A	16.00	0.25	62.00	11.000	0.50	4.000	4.96E3	9.00	3.00	1.000	0.500	0.500	210.00	16.00	6.000
85.	3621.	A	4.00	0.25	4.80	3.000	10.00	3.000	1.67E3	2.00	7.00	0.500	0.500	0.500	850.00	21.00	4.000
85.	41032.	A	7.00	0.25	46.00	4.000	3.00	4.000	2.04E3	4.00	4.00	0.500	0.500	2.000	220.00	32.00	4.000
86.	55525.	A	0.50	0.25	0.40	2.000	0.50	4.000	1.03E3	3.00	2.00	0.500	0.500	0.500	170.00	30.00	4.000
86.	55531.	A	14.00	0.25	74.00	8.000	2.00	3.000	1.74E3	3.00	1.00	0.500	0.500	0.500	33.00	24.00	2.000
86.	55530.	A	4.00	0.25	11.00	4.000	0.50	4.000	1.48E3	2.00	2.00	0.500	0.500	0.500	70.00	13.00	3.000
86.	55529.	A	4.00	0.25	36.00	3.000	1.00	4.000	540.000	1.00	1.00	0.500	0.500	0.500	80.00	31.00	1.000
86.	55528.	A	0.50	0.25	36.00	5.000	0.50	1.000	320.000	0.50	1.00	0.500	0.500	0.500	47.00	20.00	1.000
86.	55527.	A	0.50	0.25	2.00	2.000	0.50	4.000	1.21E3	3.00	2.00	0.500	0.500	0.500	150.00	32.00	3.000
86.	55532.	A	2.00	0.25	72.00	2.000	0.50	3.000	860.000	1.00	1.00	0.500	0.500	0.500	64.00	19.00	1.000
86.	55526.	B	0.50	0.25	1.30	3.000	0.50	3.000	1.13E3	3.00	3.00	0.500	0.500	0.500	150.00	30.00	3.000
87.1	3620.	A	3.00	0.25	15.00	12.000	22.00	1.000	1.87E3	1.00	6.00	0.500	0.500	0.500	490.00	41.00	2.000
87.1	55544.	A	11.00	0.25	1.80	2.000	0.50	2.000	1.15E3	2.00	0.50	0.500	0.500	0.500	50.00	16.00	0.500
87.1	55543.	B	2.00	0.25	20.00	7.000	1.00	2.000	1.94E3	4.00	2.00	0.500	1.000	0.500	76.00	8.00	2.000
87.2	3619.	A	3.00	0.25	29.00	4.000	24.00	3.000	1.88E3	2.00	12.00	0.500	0.500	1.000	110.00	23.00	4.000
87.2	55545.	A	5.00	0.25	0.50	2.000	0.50	5.000	650.000	2.00	2.00	0.500	0.500	0.500	160.00	42.00	3.000
88.	55540.	A	5.00	0.25	46.00	2.000	0.50	2.000	510.000	2.00	1.00	0.500	0.500	0.500	80.00	22.00	0.500
88.	55539.	A	0.50	0.25	20.00	6.000	0.50	3.000	620.000	5.00	1.00	0.500	0.500	0.500	82.00	16.00	2.000
90.	35007.	A	0.50	0.25	0.70	0.500	0.50	0.500	100.000	0.50	2.00	0.500	0.500	0.500	120.00	15.00	0.500
90.	35009.	A	0.50	0.25	9.60	0.500	0.50	0.500	400.000	0.50	1.00	0.500	0.500	0.500	120.00	28.00	2.000
90.	41001.	A	3.00	0.25	9.00	0.500	2.00	2.000	410.000	0.50	3.00	0.500	0.500	0.500	150.00	25.00	2.000
90.	35008.	B	1.00	0.25	3.10	0.500	2.00	3.000	500.000	1.00	3.00	0.500	0.500	0.500	130.00	39.00	2.000