



Department of Geological Sciences
6339 Stores Road
Vancouver, B.C. Canada V6T 1Z4
Tel: (604) 822-2449
Fax: (604) 822-6088

March 5, 1992

Dr. R. Lett
Analytical Sciences Lab
541 Superior Street
Victoria, B.C. V8V 1X4

Dear Ray:

Please find enclosed the results of the XRD clay analyses of your samples. Since the object was to determine the clays present I ran partial scans from 3 to 30 degrees. The patterns for illite and glauconite are identical; sample colour is probably the best way to determine the presence of glauconite. None of the samples were green so I have assumed that only illite is possible.

Sample 91112 contains quartz and kaolinite; the collapse of the kaolinite structure with heating is diagnostic. Sample 43744 contains illite with no quartz. Samples 43745 and 43746 have both illite and quartz. The untreated patterns for 43747 and 43748 are difficult to interpret, but with glycolation the (001) peak splits and the spectra can be interpreted as mixtures of quartz and illite-montmorillonite. With heating the montmorillonite layers collapse leaving strong (001) illite peaks.

If you have any questions about the results please call me at 822-8238.

Yours sincerely,

Lee

Lee A. Groat
Asst. Prof.

SAMPLE #'s
43744 = C5
45 = C6
46 = C7
47 = C8
48 = C9
91112 is a standard.

sample prep.
Samples were crushed then powdered with a mortar & pestle; passed through 20 mesh, then 270 mesh. The -63µm fraction was separated & then centrifuge at -2µm.

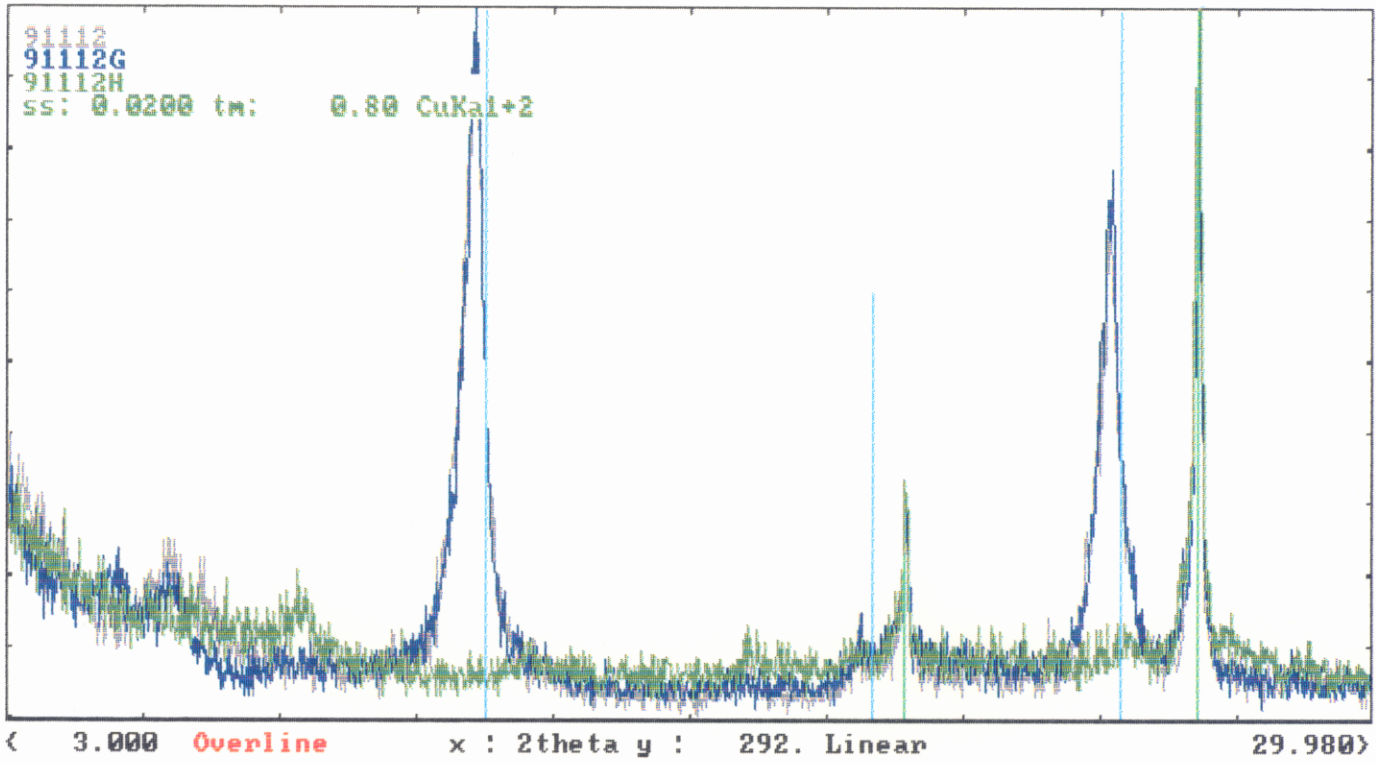
LOG NO: APR 02 1992
ACTION:
FILE NO:

Given to Routine for payment

INVOICE - BCMEMPR, R. LETT (CLAYS)

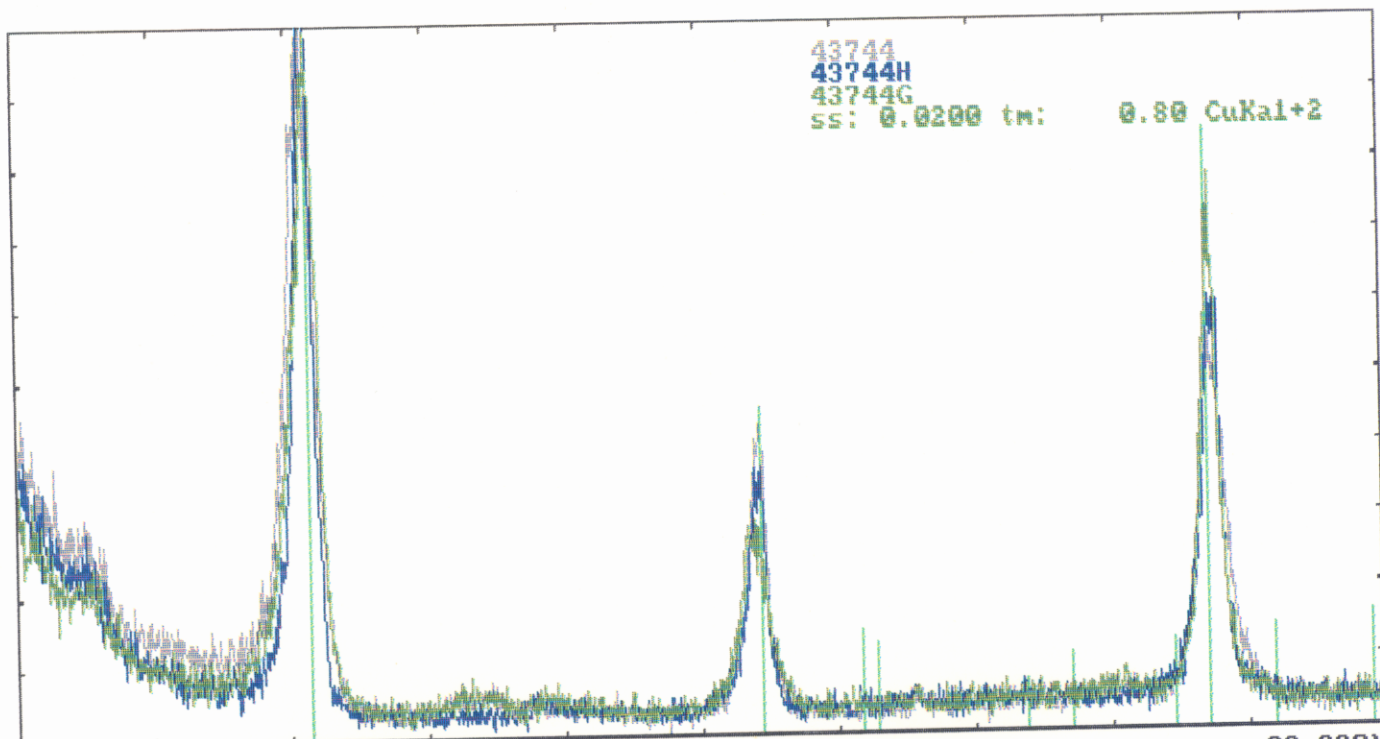
Method	Per hour	Hours	Total
SEM	\$90.00	0.00	\$ 00.00
XRD	\$40.00	3.90	\$156.00
Sample Preparation	\$70.00	0.75	\$ 52.50
Interpretation	\$70.00	0.50	<u>\$ 35.00</u>
TOTAL			\$243.50

Please make out your cheque to Dr. L.A. Groat, and send it c/o the Department of Geological Sciences, University of British Columbia, 6339 Stores Road, Vancouver, B.C. V6T 1Z4.



33-1161 * SiO₂ Quartz syn
 29-1488 Al₂Si₂O₅(OH)₄ Kaolinite IT Md RG

?help Zoom Match File Clear Back. Null K a2 Peaks Smoo. Comp. Wfile -> M

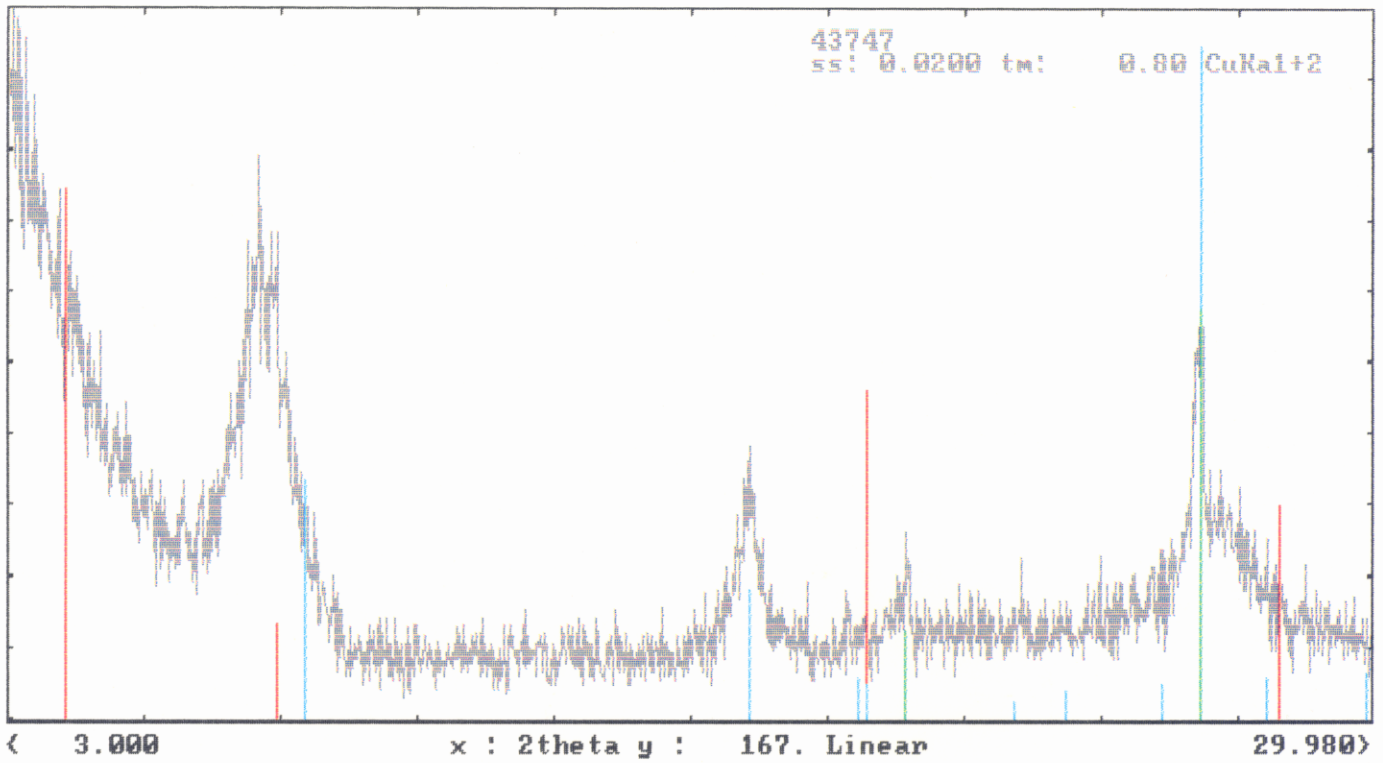


43744
 43744H
 43744G
 ss: 0.0200 tm: 0.80 CuK α 1+2

< 3.000 **Overline** x : 2theta y : 479. Linear 29.980 >

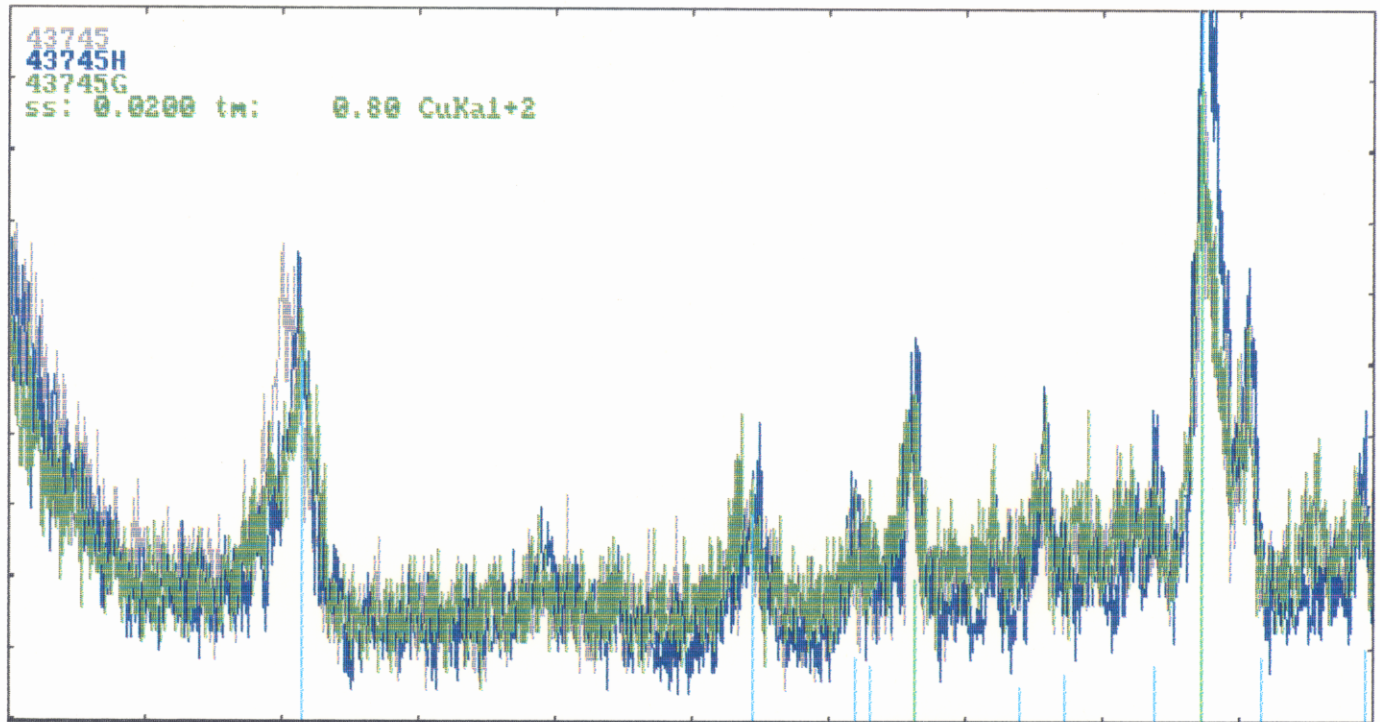
26-0911 I (K,H3O)Al2Si3Al10(OH)2 Illite IT M RG NR

?help Zoom Match File Clear Back. Null K a2 Peaks Smoo. Comp. Wfile -> F



33-1161 * SiO2 Quartz syn
 26-0911 I (K,H3O)Al2Si3AlO10(OH)2 Illite IT M RG NR
 29-1499 Na0.3(Al,Mg)2Si4O10(OH)2.xH2O Montmorillonite A

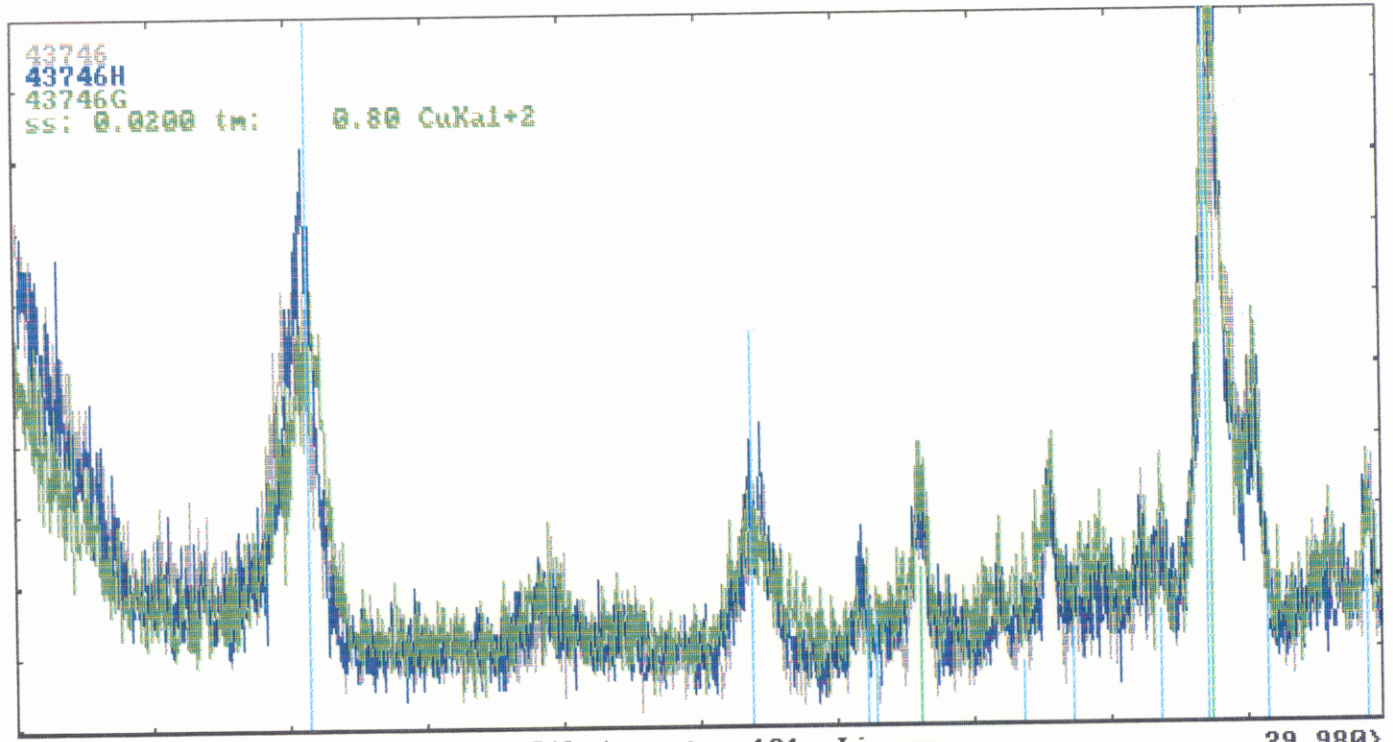
?help Zoom Match File Clear Back. Null K a2 Peaks Smoo. Comp. Wfile -> M



< 3.000 **Overline** x : 2theta y : 100. Linear 29.980 >

33-1161 * SiO2 Quartz syn
26-0911 I (K,H3O)Al2Si3AlO10(OH)2 Illite IT M RG NR

?help Zoom Match File Clear Back. Null K a2 Peaks Smoo. Comp. Wfile -> M

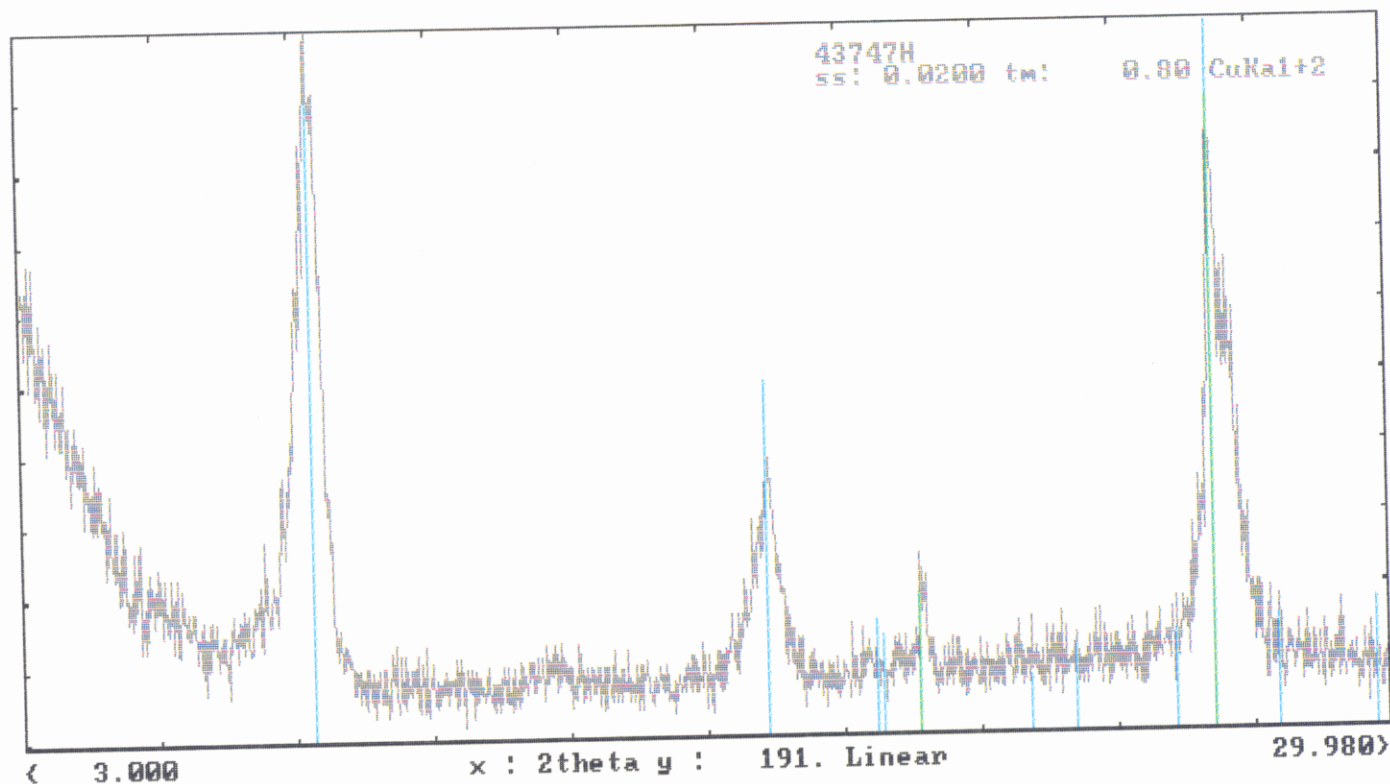


43746
 43746H
 43746G
 SS: 0.0200 tm: 0.80 CuKai+2

< 3.000 **Overline** x : 2theta y : 121. Linear 29.980 >

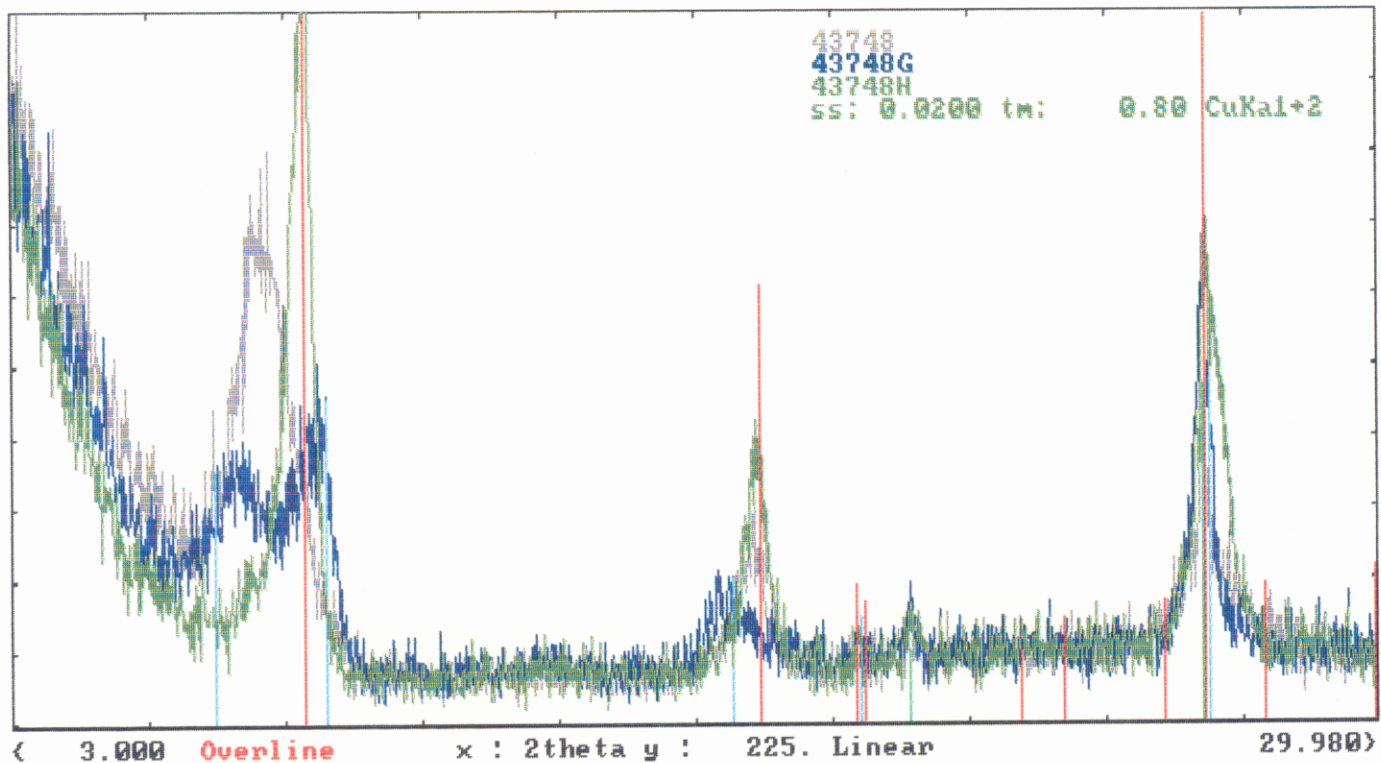
33-1161 * SiO2 Quartz syn
 26-0911 I (K,H3O)Al2Si3AlO10(OH)2 Illite IT M RG NR

?help Zoom Match File Clear Back. Null K a2 Peaks Smoo. Comp. Wfile -> M



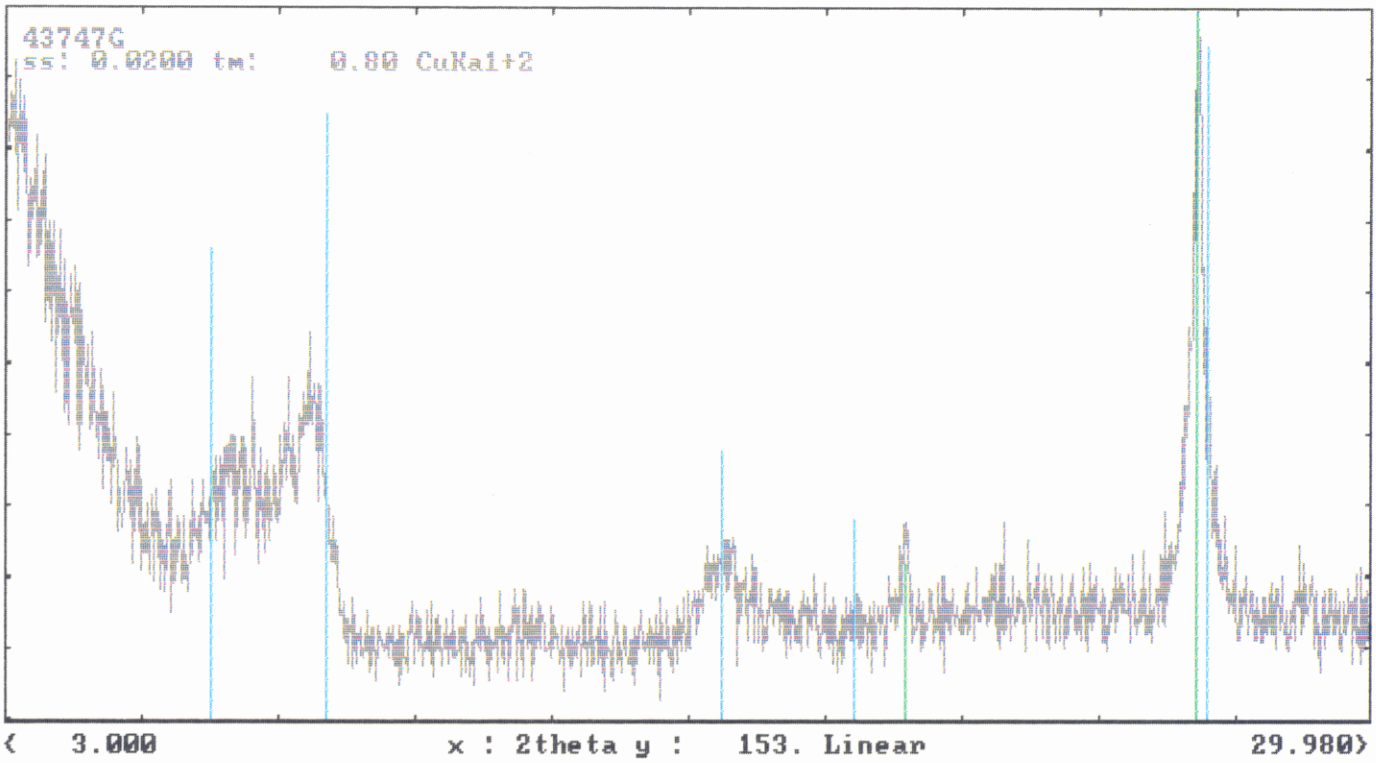
33-1161 * SiO2 Quartz syn
 26-0911 I (K,H3O)Al2Si3AlO10(OH)2 Illite IT M RG NR

?help Zoom Match File Clear Back. Null K a2 Peaks Smoo. Comp. Wfile -> M



33-1161 * SiO2 Quartz syn
 35-0652 K0.5Al2(Si,Al)4O10(OH)2.2H2O Illite montmorillonite
 26-0911 I (K,H3O)Al2Si3AlO10(OH)2 Illite IT M RG NR

?help Zoom Match File Clear Back. Null K a2 Peaks Smoo. Comp. Wfile -> M



33-1161 * SiO2 Quartz syn
 35-0652 K0.5Al2(Si,Al)4O10(OH)2.2H2O Illite montmorillonite

?help Zoom Match File Clear Back. Null K a2 Peaks Smoo. Comp. Wfile -> M