

11/27/96

900255

Daniele:

Attached is the microprobe data report that contains a brief description of the Eagle Plains shale-hosted PGE-Mo-Ni sample (p. 3), and photomicrographs of the ores at both Eagle Plains (fr. 19-23) and Greens Creek SW orebody (p. 18).

All the standards quality of data back up data is in the opening correspondence. I sent the Greens Creek stuff to Tim Hall & Steve Newkirk, but missed any reference to the Eagle Plains sample.

Sure enjoyed Whitehorse Geoscience and I hope you there. Hope you're not still mad at me. I wonder what you have cooked.

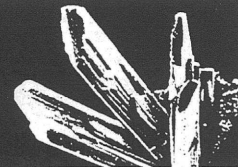
Driving back went real well and the road was in good shape, was dampened however, by seeing the remains of a fatal accident in which a young kid was killed hitting a moose near Eielson Air Force base. (Accident occurred about 1 hour before we got there).

Saw at least 200 caribou on the road between =>

Beaver Creek and Kordian River -

Take Care Daniels -

Tom



ELECTRON MICROPROBE and SCANNING ELECTRON MICROSCOPE ANALYSIS OF GOLD SAMPLES

November 20, 1996

Tom Bundtzen
Alaska Geological Survey
Fairbanks, AK

Invoice 96-244

Description of Samples

12 samples of gold grains in photo tubes. 2 samples of ore specimens.

Purpose of Analysis

Analyze gold grains for provenance studies. Other sample analyzed to determine gross mineralogy.

Analytical Procedure

Prepare polished sections of plastic embedments.

Analyze using an ARL SEMQ electron microprobe equipped with six wavelength dispersive x-ray spectrometers and an energy dispersive x-ray spectrometer.

Conduct quantitative analyses for the following elements: Au, Ag, Cu, Hg, Fe, Bi. Set up for Au @ Au ma (ADP), Ag la (ADP), Cu la (RAP), Hg la (LiF), Fe ka (LiF), Bi la (LiF). Standards are pure metal for Au, Ag, Cu, Sb and Bi. HgS for Hg. Backgrounds obtained using MAN (mean atomic number). Matrix corrections using "prz" within Cal Berkeley's "Probe" quantitative electron microprobe analysis software for wavelength dispersive x-ray spectrometry.

Probe standards were pure metals and cinnabar for Hg. Backgrounds were determined using the mean atomic number method on materials of equivalent atomic number, but containing none of the analyzed for element. Au, Hg background = pure Bi, Ag, Fe. Cu background = pure Sb. Bi background = pure gold.

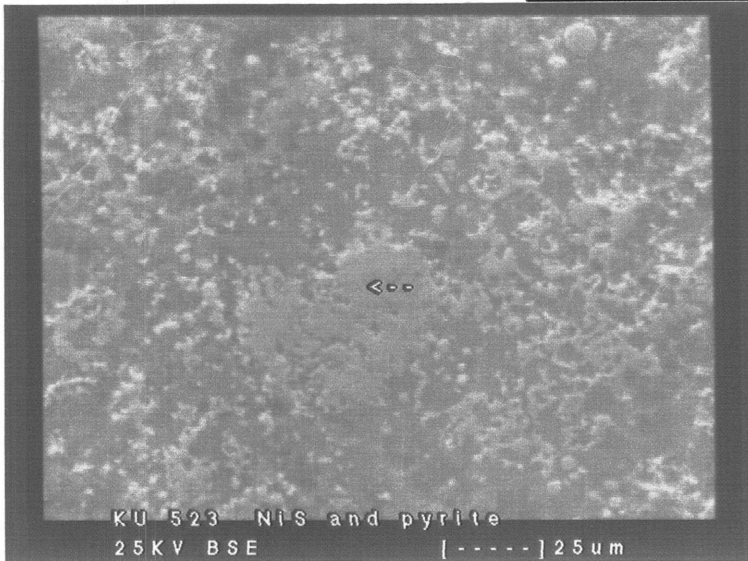
Image using television rate backscattered electron detector. Minerals with high atomic number (i.e. gold etc.) will appear as bright features.

Instrument Operating Conditions

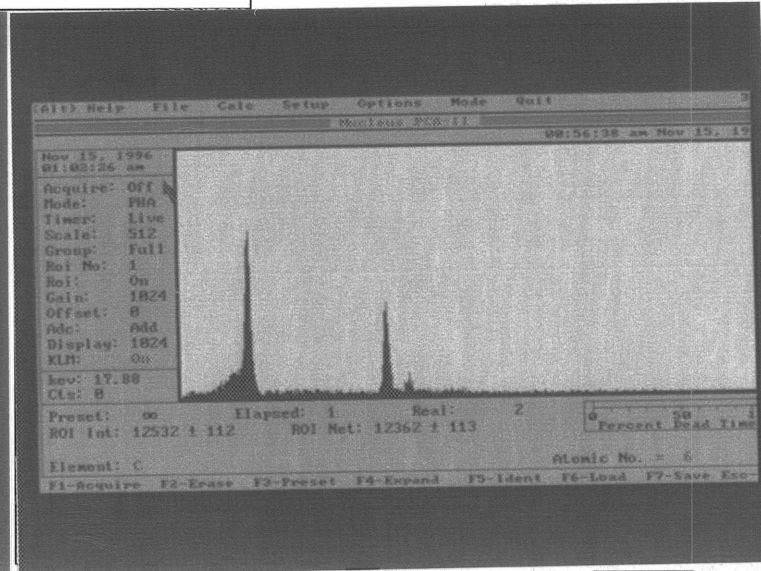
SEMQ 25KV accelerating voltage, 0.05 uA beam current. Analysis counting interval = 15 seconds.

Analyst

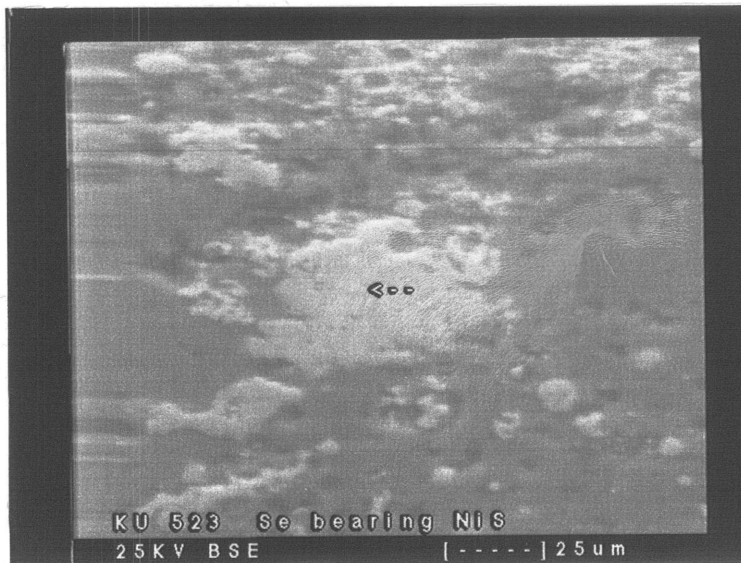
Bart Cannon



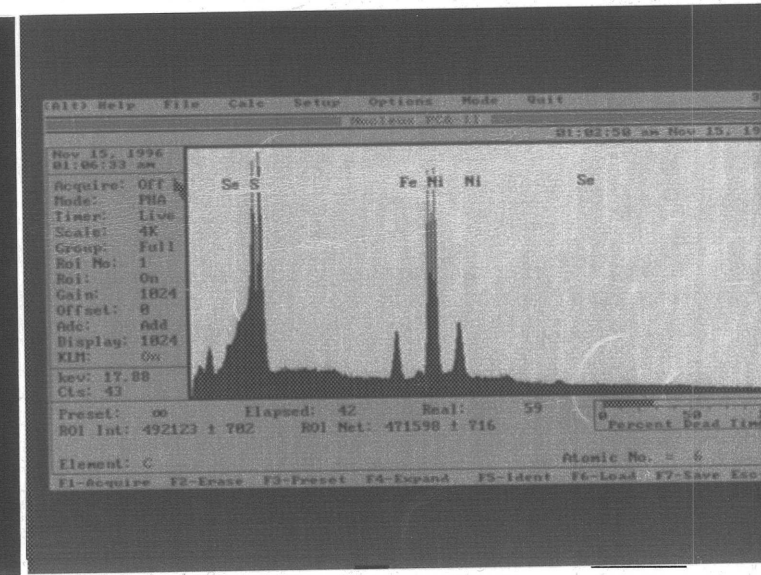
NICKEL SULPHIDE (VAESITE ?) WITH SMALLER GRAINS OF PYRITE. um



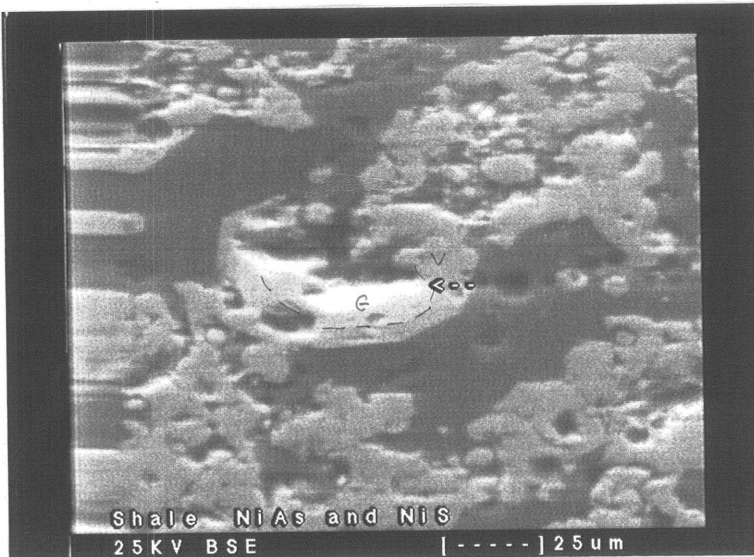
X-RAY SPECTRUM OF NICKEL SULPHIDE GRAIN SHOWN AT LEFT. um



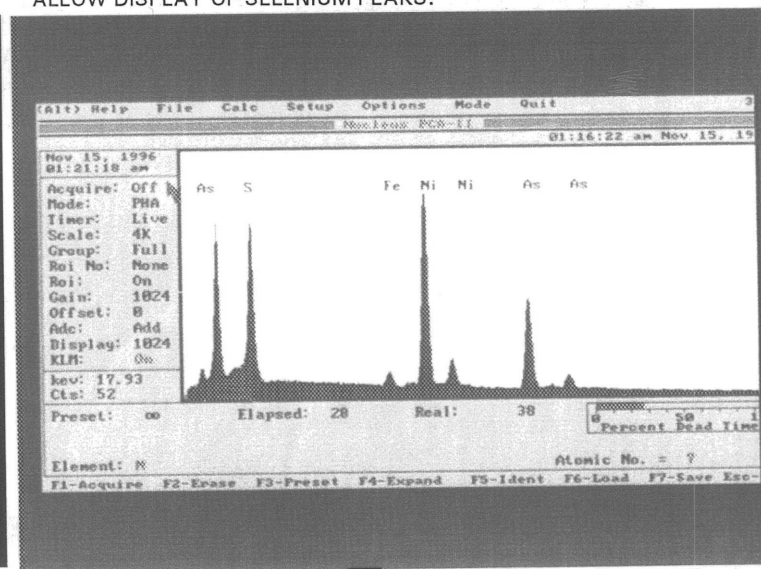
SELENIUM BEARING NICKEL IRON SULPHIDE. MAY BE GODLEVSKITE OR PENTLANDITE. um



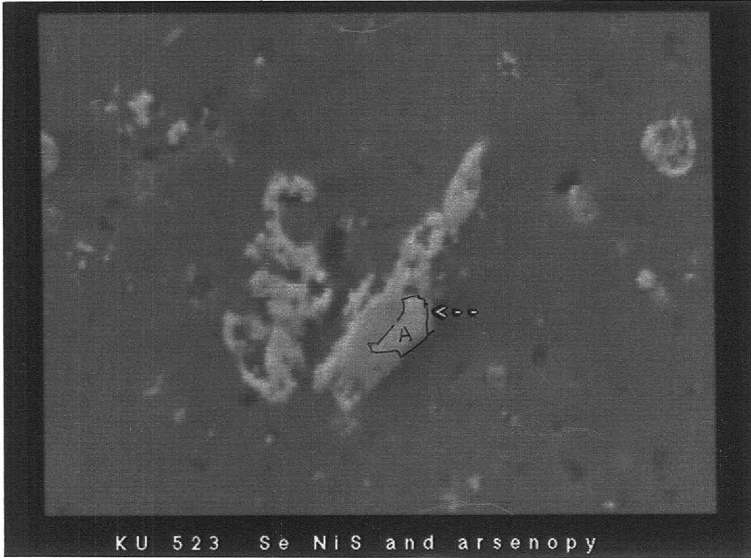
X-RAY SPECTRUM OF GRAIN AT LEFT. PEAKS FOR NICKEL AND SULFUR ARE OFF SCALE TO ALLOW DISPLAY OF SELENIUM PEAKS. um



GERSDORFFITE (Ni(As,s)) RIMMED BY VAESITE(?) um

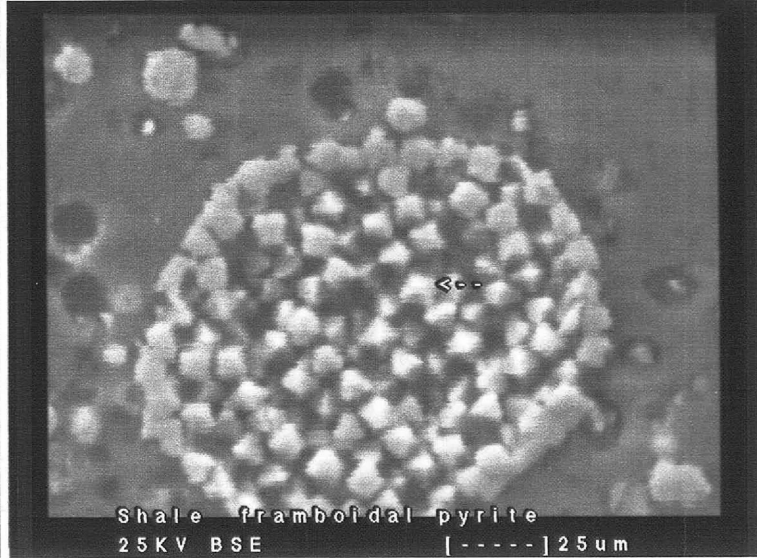


X-RAY SPECTRUM OF GERSDORFFITE. um



KU 523 Se NiS and arsenopy
 ARSENOPYRITE INCLUSION IN VAESITE (?)

um

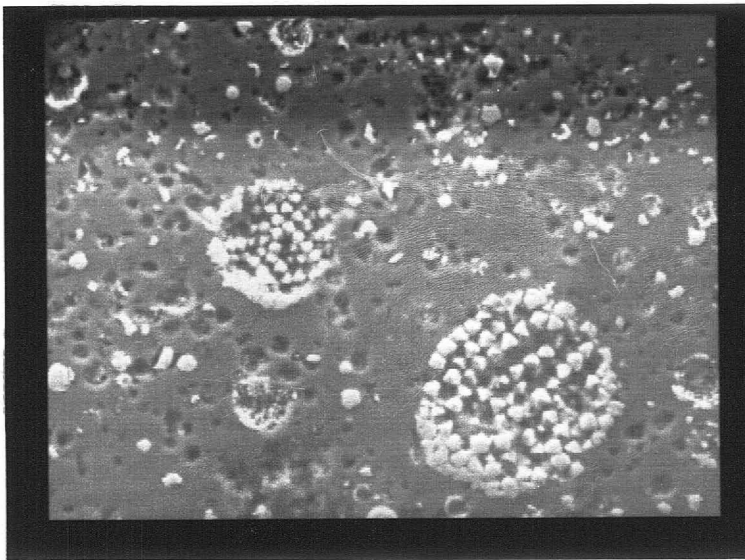


Shale framboidal pyrite
 25KV BSE

[-----] 25um

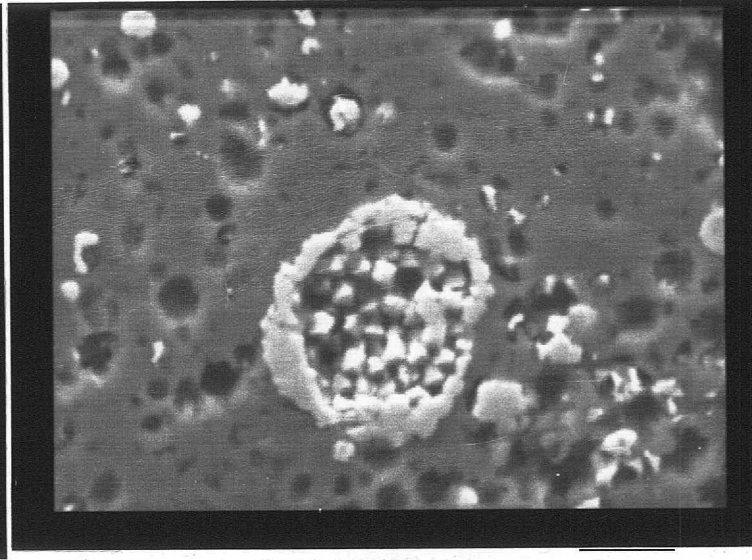
FRAMBOIDAL PYRITE.

um



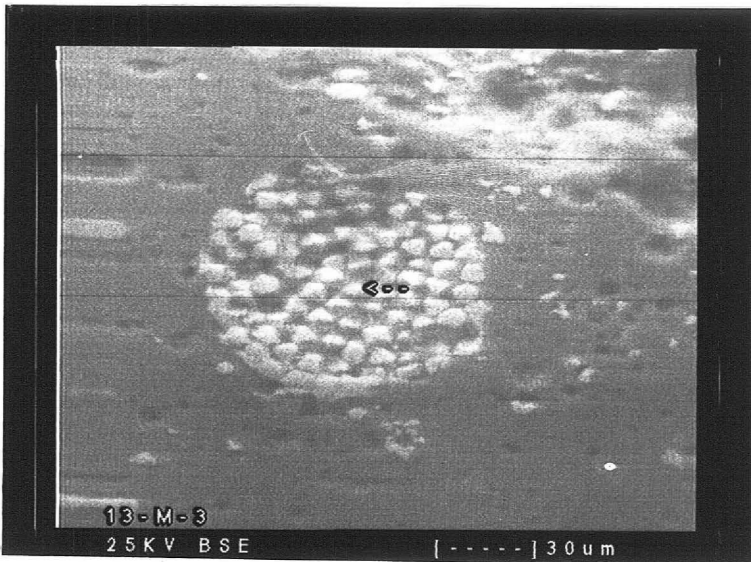
FRAMBOIDAL PYRITE.

um



FRAMBOIDAL PYRITE.

um

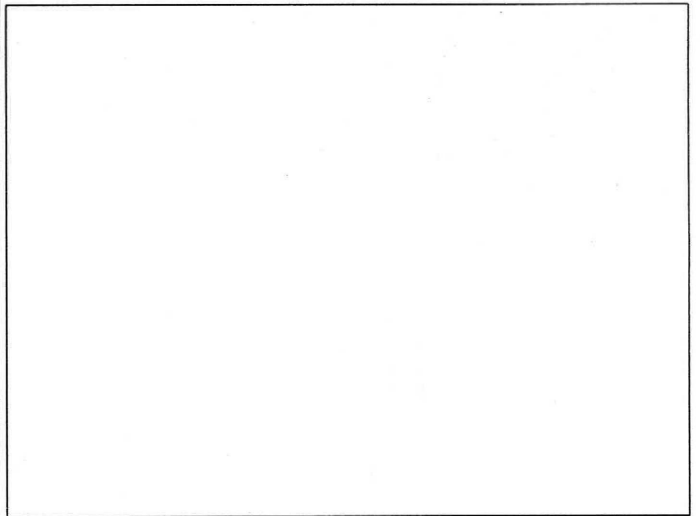


13-M-3
 25KV BSE

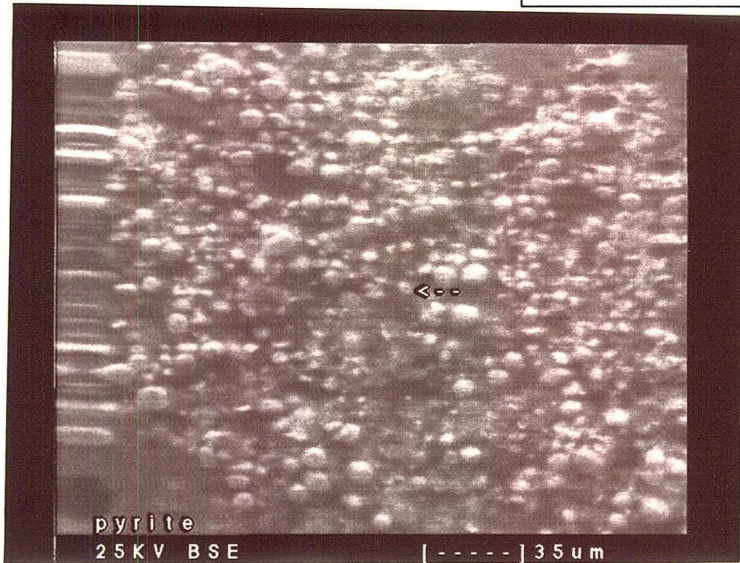
[-----] 30um

FRAMBOIDAL PYRITE.

um

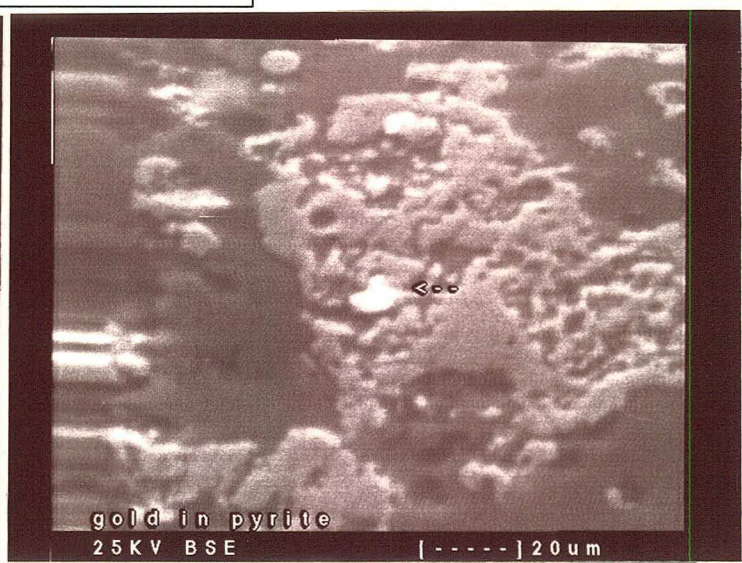


um



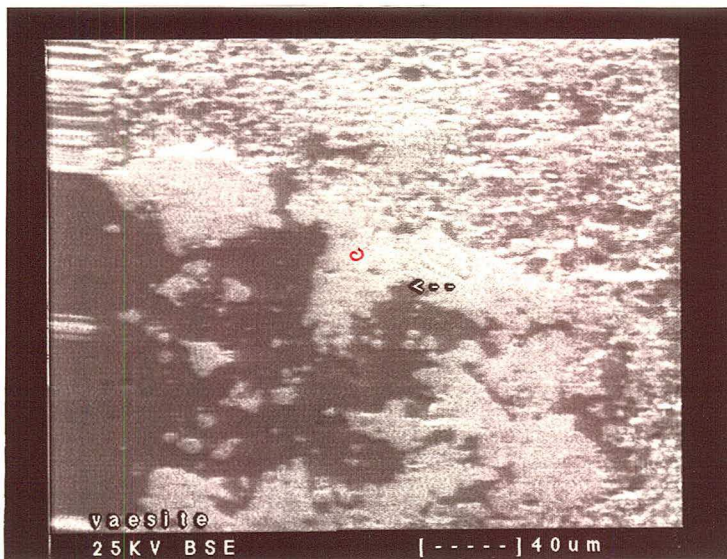
MICROCRYSTALLINE AND FRAMBOIDAL PYRITE.

um



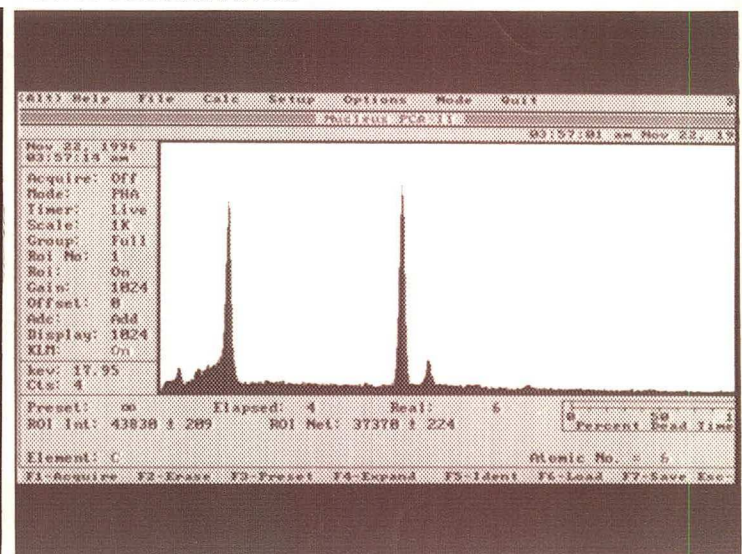
HIGH FINENESS GOLD GRAINS INCLUDED IN PYRITE. MAY HAVE ORIGINATED FROM SAMPLE CROSS CONTAMINATION.

um



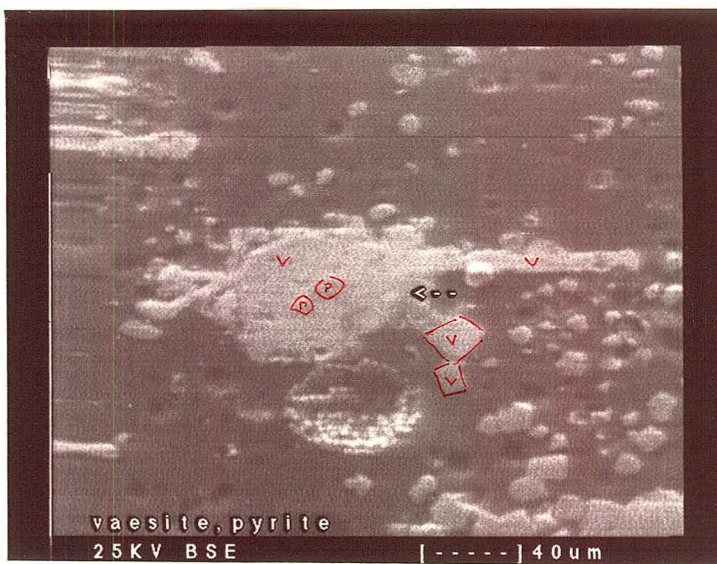
VAESITE (OR OTHER NICKEL SULPHIDE SURROUNDED BY PYRITE.

um



X-RAY SPECTRUM OF VAESITE.

um



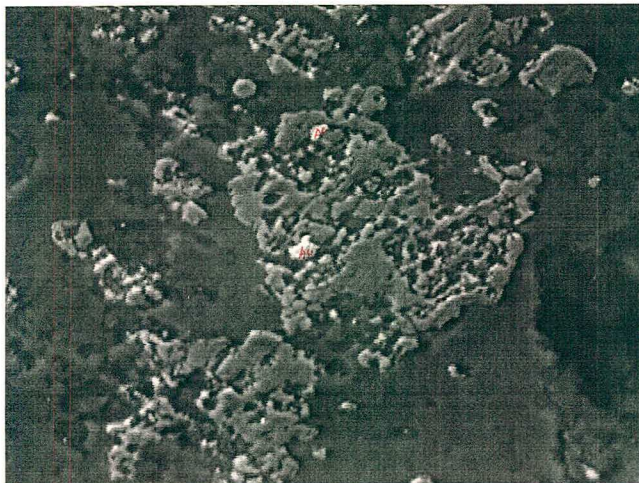
VAESITE GRAIN WITH INCLUSIONS OF PYRITE.

um

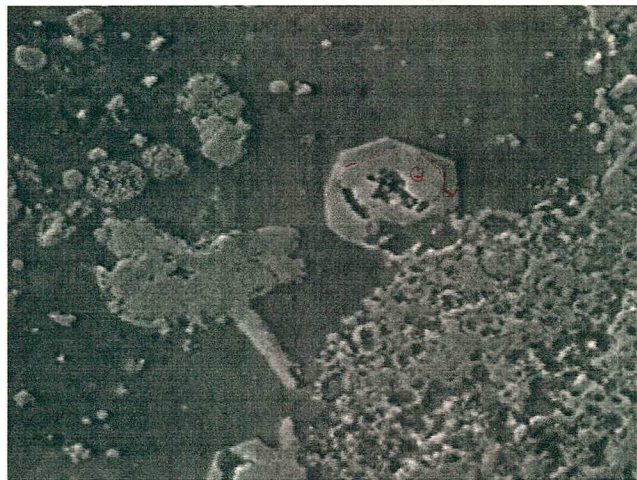


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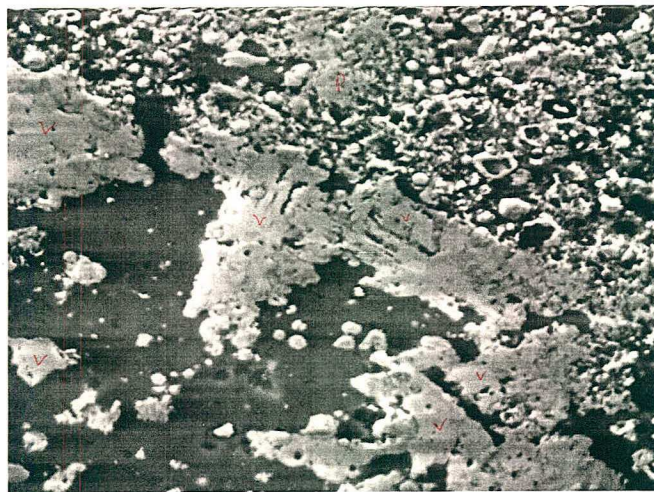
96 BT SHALE HOSTED PGE



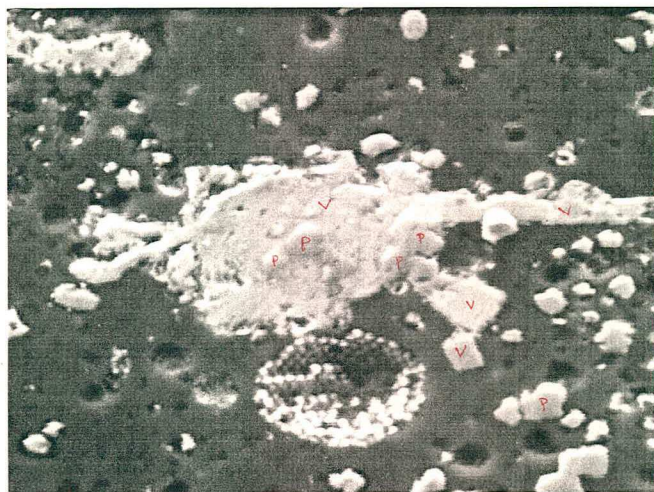
High fineness gold inclusions in pyrite. May have originated from cross sample contamination.



Vaesite, pyrite and gersdorffite.

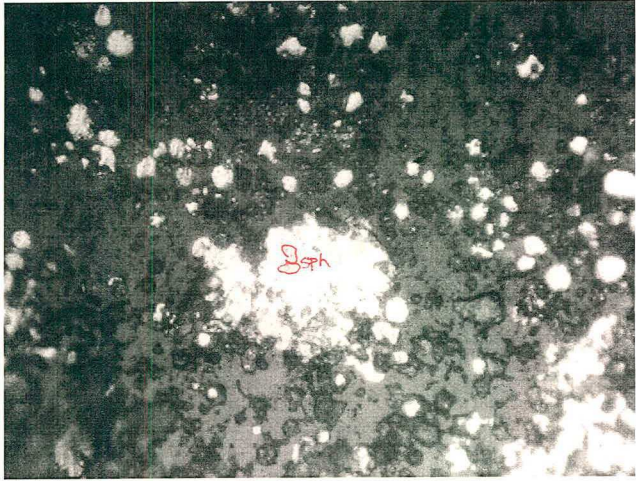


Vaesite zone in pyrite swarm.



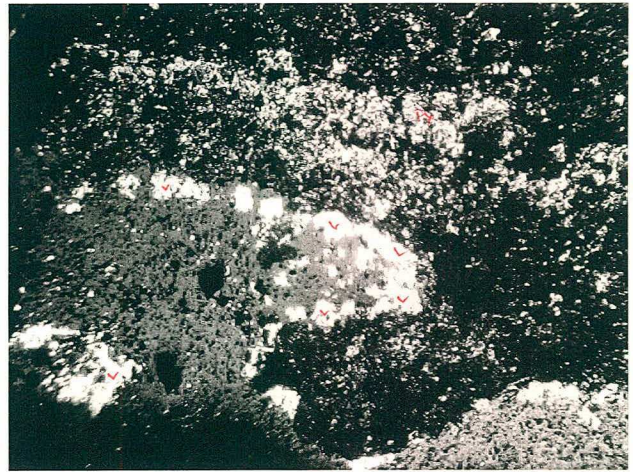
Vaesite, microcrystalline and framboidal pyrite. Note crystal outline of vaesite.

96 BT SHALE, LIGHT MICROSCOPE



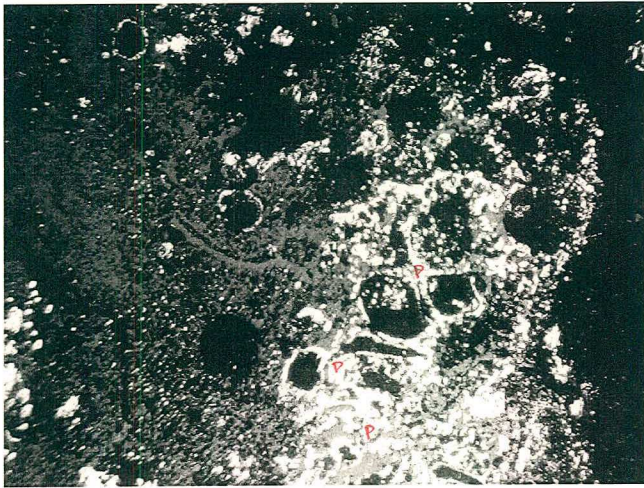
Sphaerulites in pyrite

20 μ m



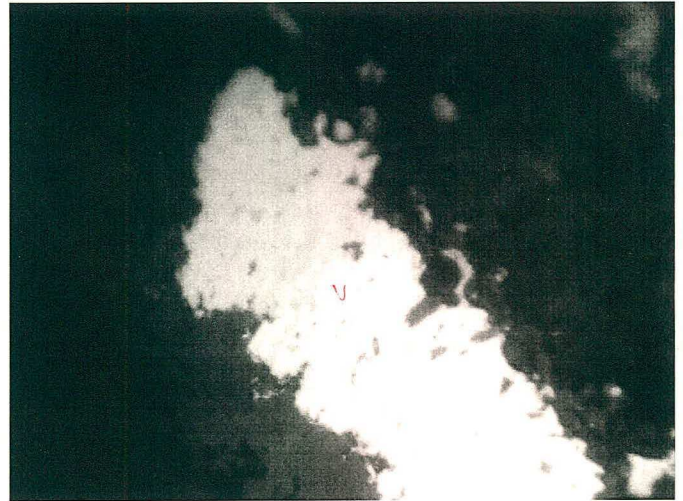
vesicle "chain" embayed in pyrite

100 μ m



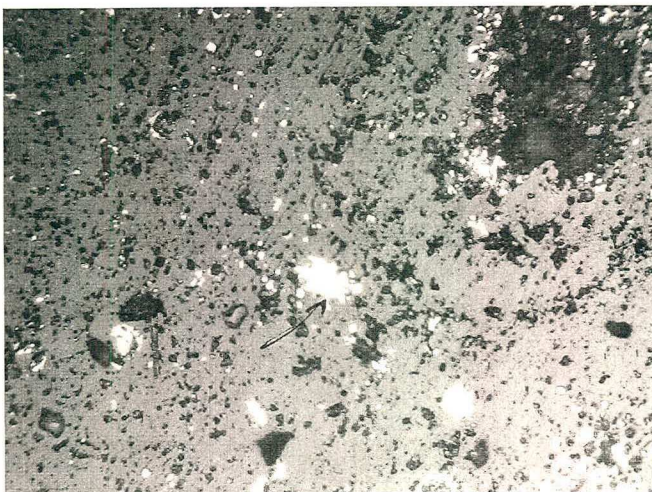
coliform pyrite

100 μ m



Large Vesicle

20 μ m



Vesicle

100 μ m

One grain shows very coarse intergrowths of a Ca,Al,Fe silicate which is probably a pyroxene. This would be an important provenance indicator. Some grains show coarse quartz and many show imogolite / allophane.

KU 533

Copper jacketed lead slug.

96 BHT Green's Creek SW ore

Quartz, silver, chalcopyrite, pyrite, galena. Coarse grains of jalpaite also occur. (jalpaite is a copper silver sulphide). The sample also contains numerous euhedral crystals of a beam sensitive barium aluminum silicate which may be either celsian or harmotome. No "ruby silver" minerals could be found. The silver contains less than 0.1% gold.

96 BT Eagle Plains Shale Hosted PGE

The sample consists of shale impregnated with coliform and disseminated pyrite, some of which shows pronounced framboidal texture. Other metallic minerals observed include a grayish nickel sulphide which may be vaesite, gersdorffite (nickel arsenide sulphide), a nickel iron sulphide which may be godlevskite or perhaps pentlandite, and a few grains of arsenopyrite. A few grains of chalcopyrite and sphalerite were observed.

Two grains of gold were found as inclusions in pyrite. They are 4 and 8 microns in diameter and greater than 940 fineness. The large amount of gold handled in the current job presents the possibility of sample cross contamination of gold.

It is of some interest that some of the nickel iron sulfides contain about 2% selenium, probably in substitution for sulfur.

No molybdenum or cobalt bearing minerals were observed.

Trace analysis of sulphides did not reveal the presence of PGE at detectable concentrations (greater than 100 ppm). Nickel sulfides are, however, known to be solid solution hosts for PGE at many other worldwide deposits.

ELECTRON MICROPROBE ANALYSES OF GOLD GRAINS

The analyses generally show high totals. The apparent cause is related to the inability of the matrix effects program to fully correct for silver / gold absorption. The standards used for gold and silver were pure metals. The matrix corrections were checked on a gold 60% silver 40% alloy which generally about 0.5 to 2 % low and silver about 3 to 5% high. Trace standards for Bi, Fe, Hg, and Cu are not available so the quality of those analyses are not known.

In addition to the gold fineness and mercury population patterns that the analyses suggest, some excellent provenance clues may be revealed from mineral inclusion observations when adequate lode samples exist for characterization and comparison.



SEM OBSERVATIONS OF GOLD and other SAMPLES

KU 505

Inclusions are uncommon. Some embayed imogolite (Fe rich allophane) and quartz were observed. Imogolite is mineral of surface weathering environments. It is an iron rich nearly amorphous clay which often contains some discrete hydrous iron oxides

KU 514

Only iron hydroxide inclusions were observed.

KU 519

Some iron hydroxides with minor allophane.

KU 520

Among the inclusions found are (in order of abundance) quartz, orthoclase, magnetite / hematite, plagioclase, allophane, boulangerite or other PbSbS. One gold grain is thickly intergrown with native bismuth and bismuth oxides. The enclosing gold is about 950 fm and does not contain more than 0.1% Bi. This may be a good key to a specific source.

KU 523

Inclusions and encrustations of allophane / imogolite are common. Minor quartz and biotite also occur.

KU 527

Gold is angular, crystalline and lightly waterworn. Most gold occurs as single, distorted octahedrons. Some complex ram horns and dendritic formations are also present. Minor cinnabar, scheelite, and zircon. No PGM observed.

KU 528

Gold occurs as highly distorted single octahedrons which are highly stream flattened. No PGM observed.

KU 529

Gold occurs as stream flattened simple grains and occasional tabular octahedrons. Possible osmium iridium present as indicated by stereomicroscope observation. Inclusions are somewhat uncommon. Occasional quartz and allophane occur. One grain of ferberite was noted.

KU 530

Gold mostly occurs as flattened single crystals, but 10% are relatively un-flattened. Gold enrichment rims occur on some grains. No PGM observed. Quartz and iron hydroxides are somewhat common and muscovite and pyrite were observed in one grain. A few loose grains of ferberite were noted.

KU 531 Many 2 to 5 mm flattened nuggets

Gold contains some inclusions of euhedral quartz crystals. Also observed in many grains are aluminum silicates which are probably allophane. Single gold grains contained euhedral chalcopyrite, molybdenite, and an unknown PbAsSbAlFe phosphate. One grain contains orthoclase intergrown with allophane.

KU 532 Many 4 to 6 mm rounded nuggets



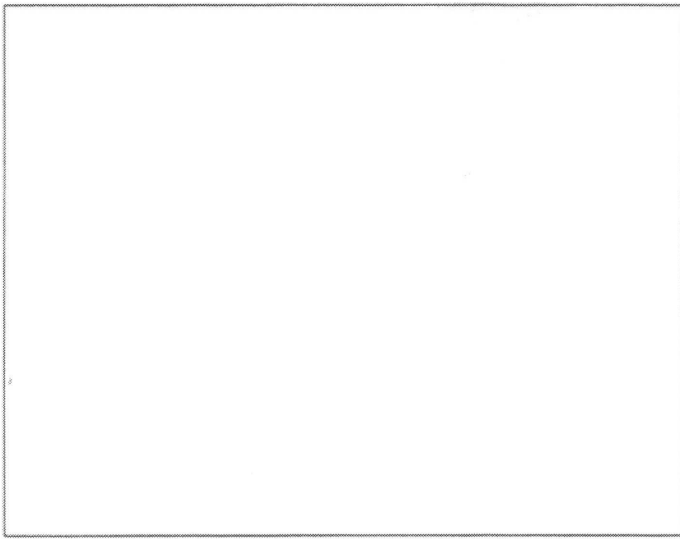
KU 520 Pbsbs
 25KV BSE |-----| 20um
 LEAD ANTIMONY SULPHIDE IN GOLD. MAY BE BOULANGERITE.

um

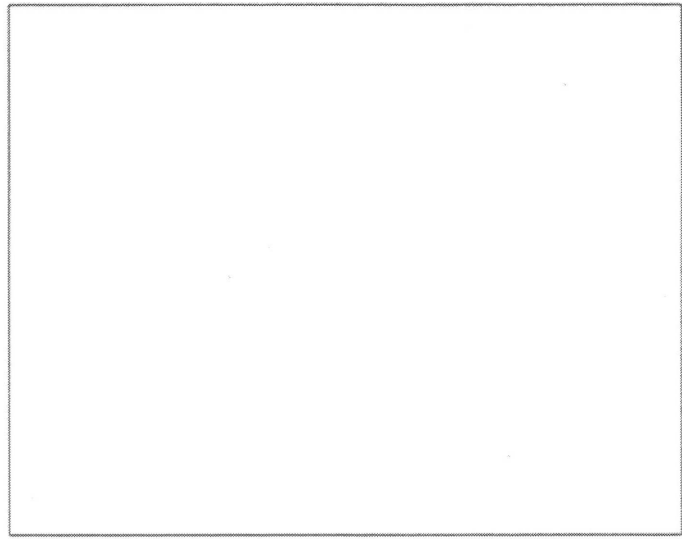


KU 520 Bi and Bi oxides
 25KV BSE |-----| 20um
 BISMUTH OXIDES IN GOLD.

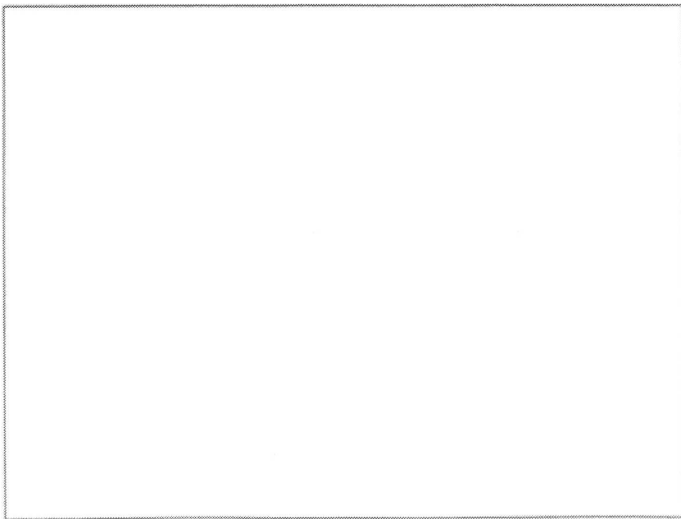
um



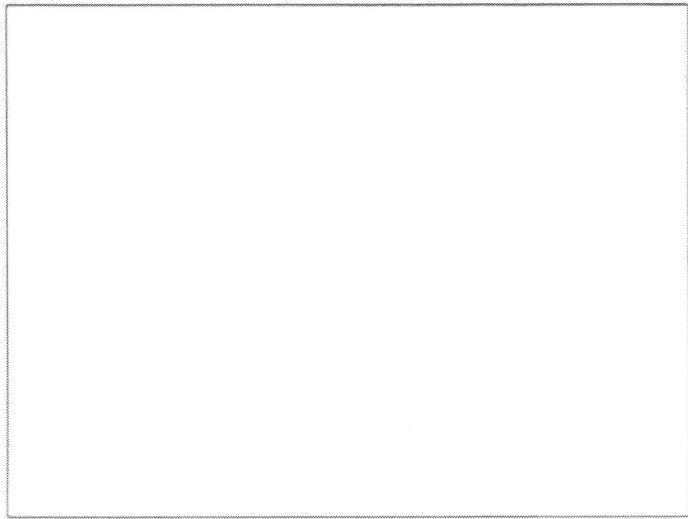
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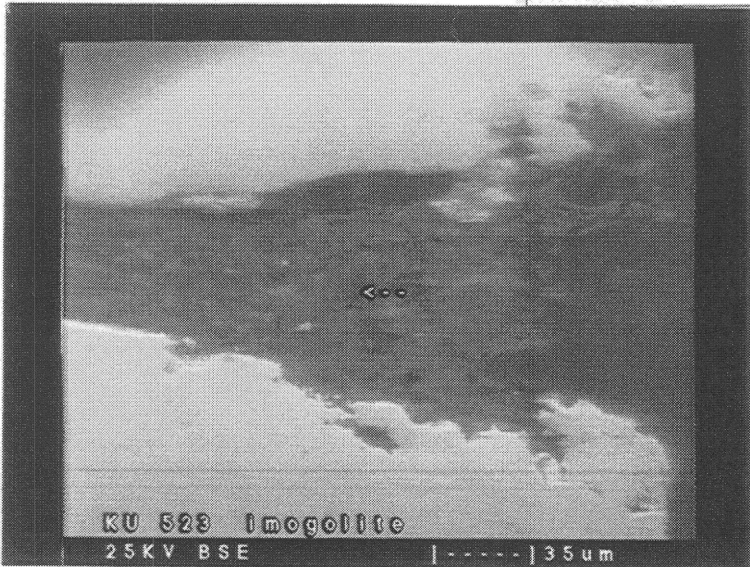
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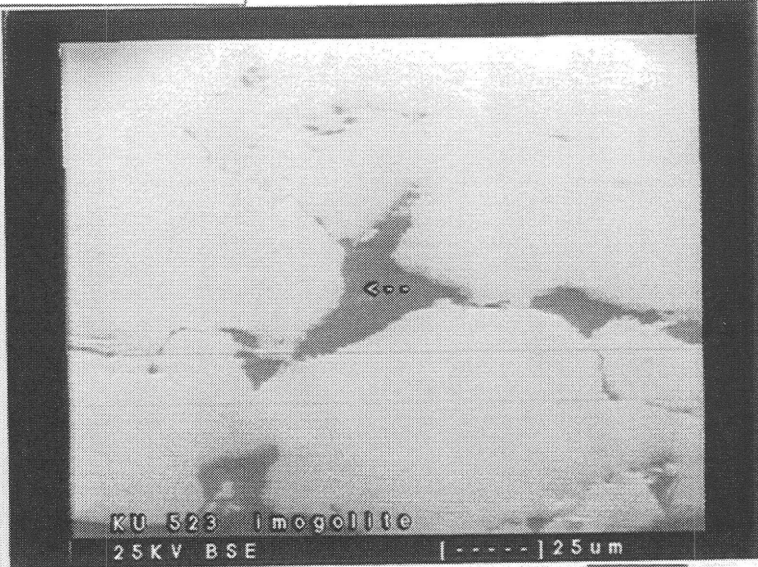


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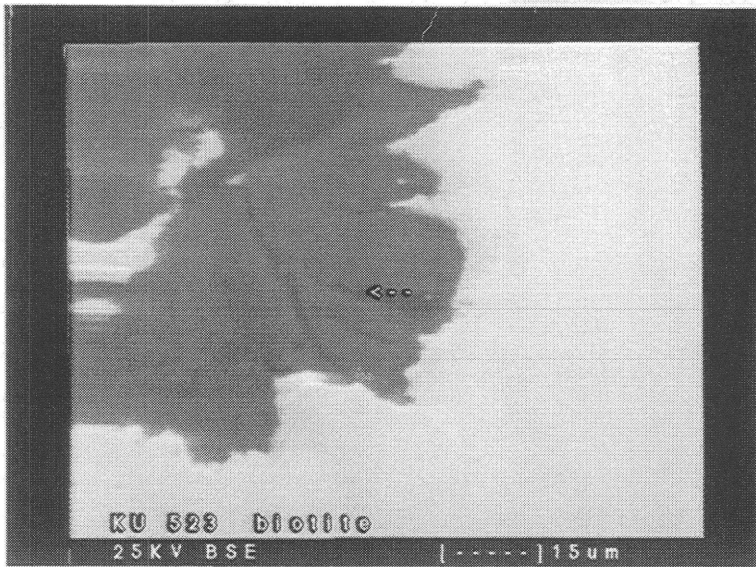
IMOGOLITE IN GOLD.

um



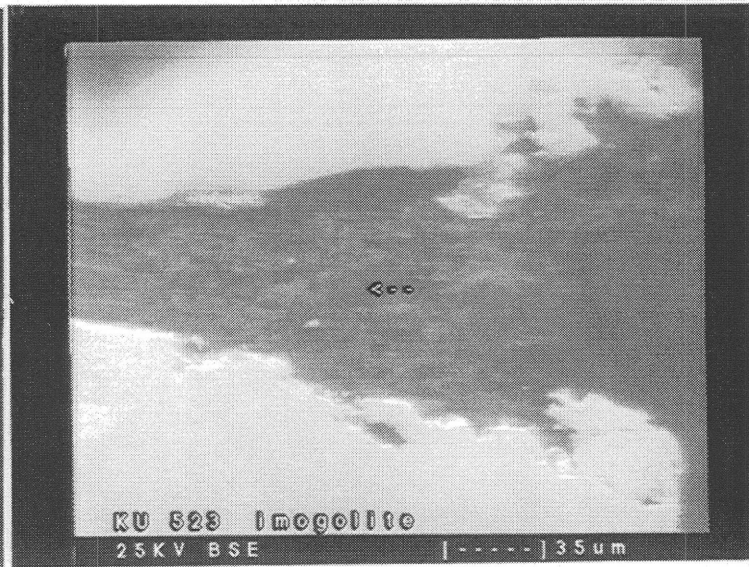
IMOGOLITE IN GOLD.

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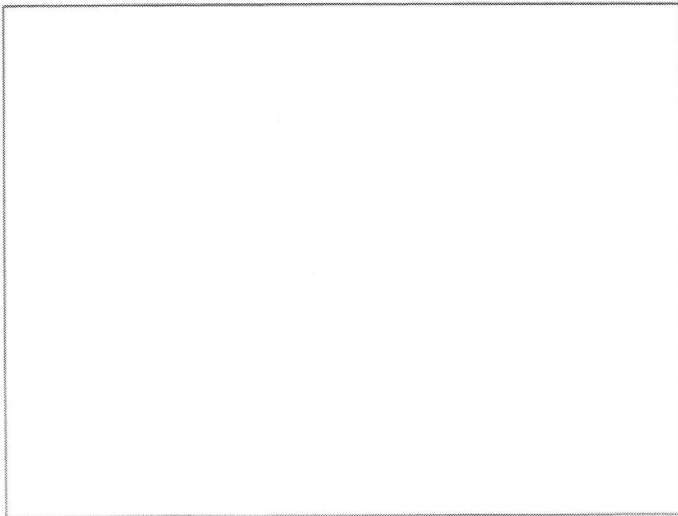
BIOTITE IN GOLD.

um

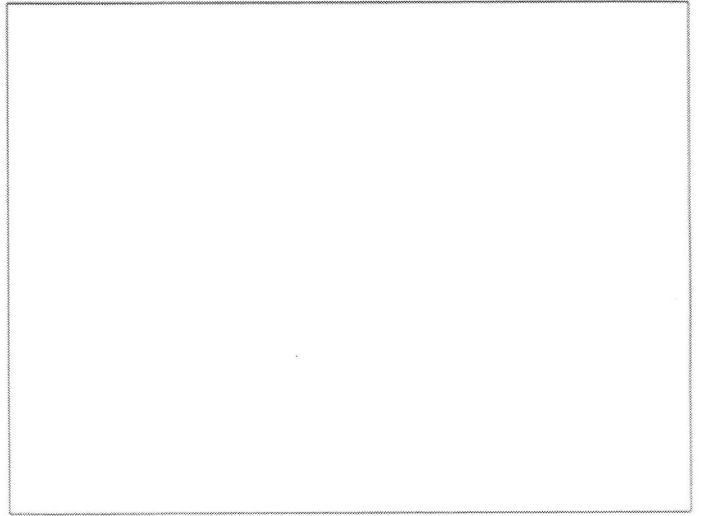


IMOGOLITE IN GOLD.

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um

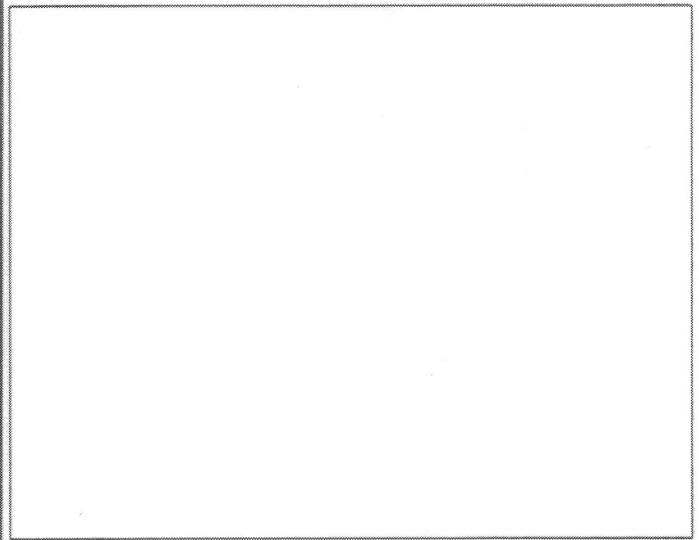
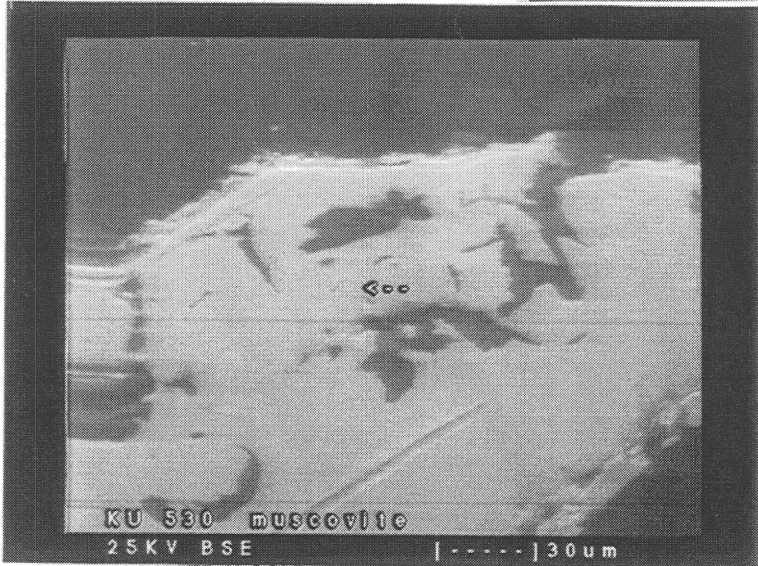


um

Cannon

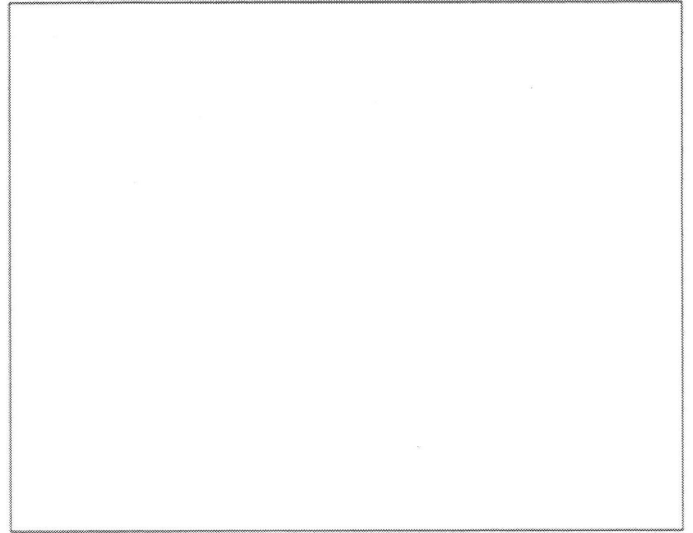
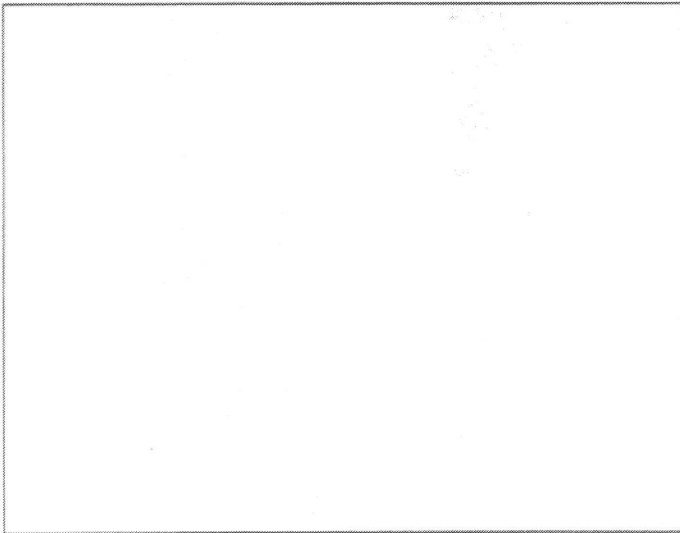
KU 530

Microprobe



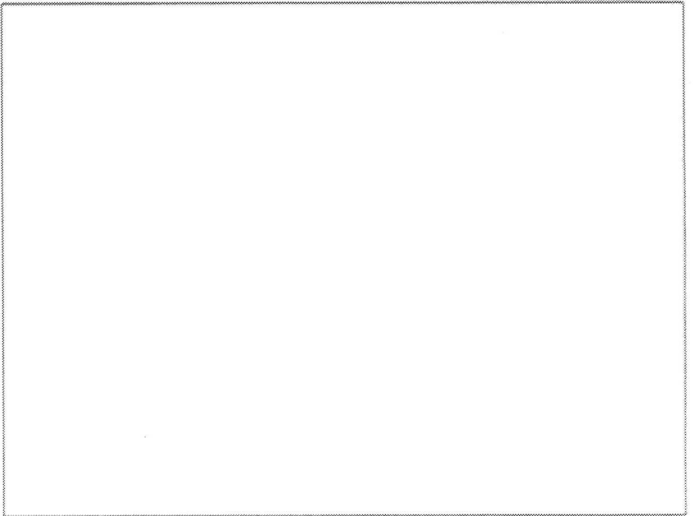
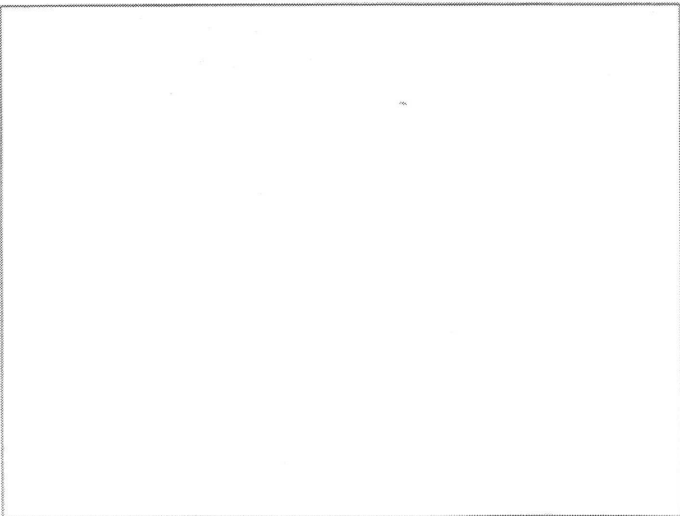
um

um



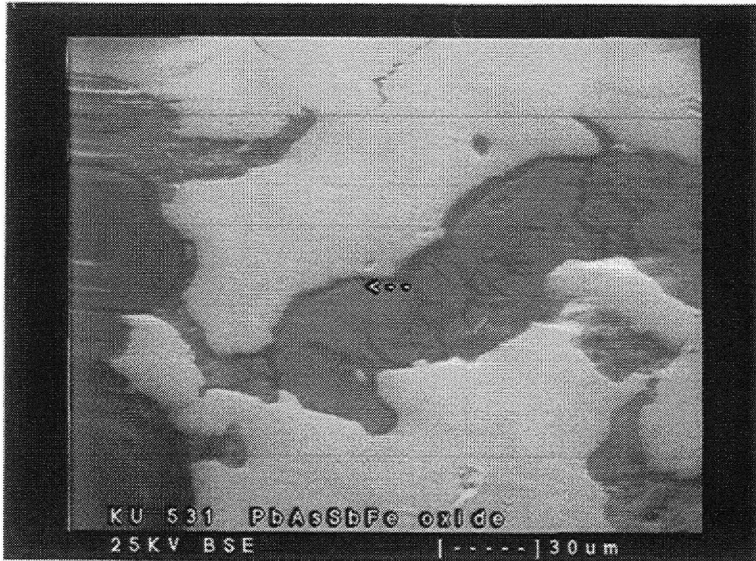
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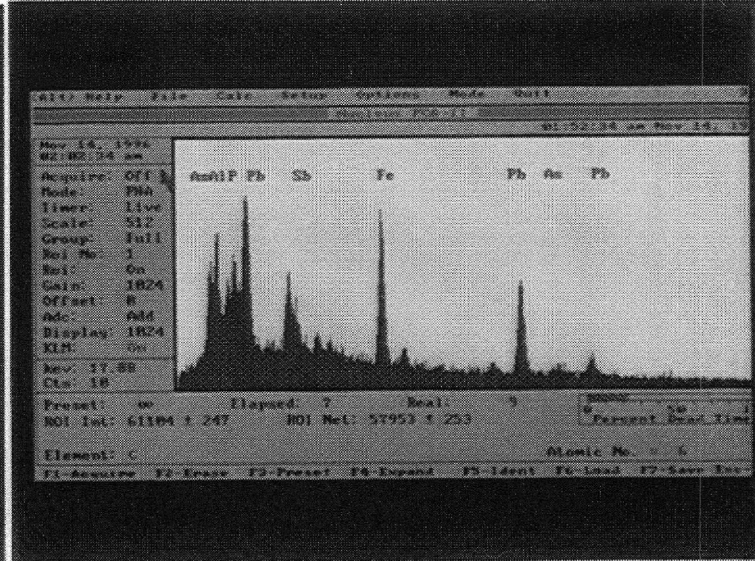
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um



KU 531 PbAsSbFe oxide
25KV BSE |-----| 30um
COMPLEX OXIDE IN GOLD.

um



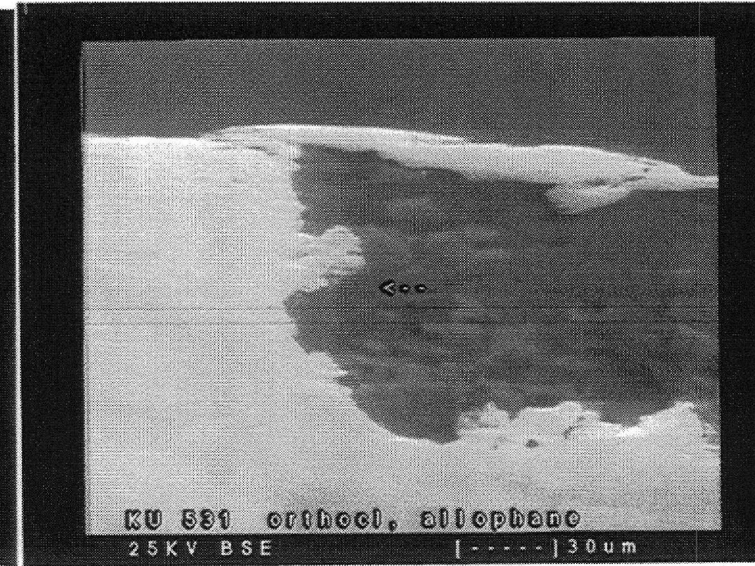
X-RAY SPECTRUM OF COMPLEX OXIDE..

um



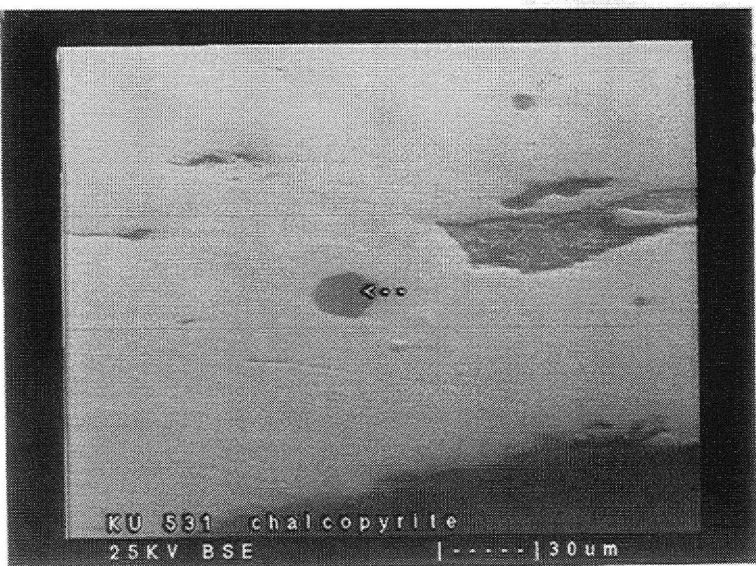
KU 531 molybdenite
25KV BSE |-----| 30um
MOLYBDENITE INCLUSION IN GOLD.

um



KU 531 orthocl, allophane
25KV BSE |-----| 30um
ALLOPHANE AND ORTHOCLASE IN GOLD.

um



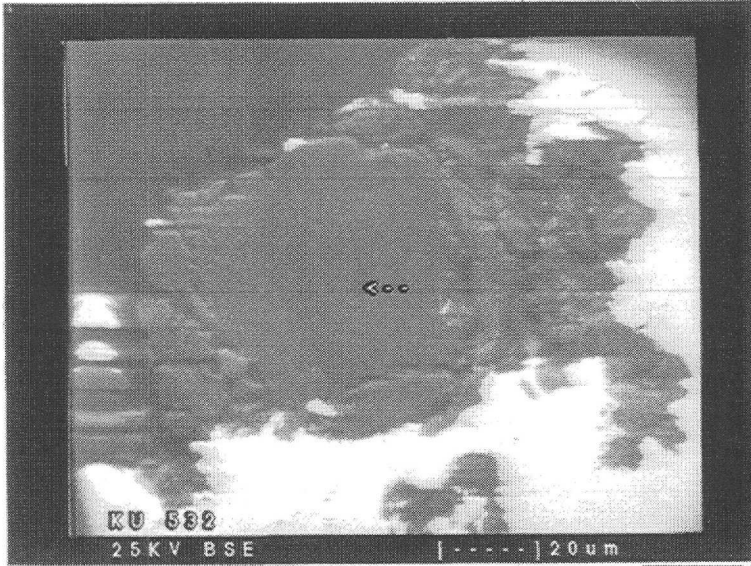
KU 531 chalcopyrite
25KV BSE |-----| 30um
CHALCOPYRITE IN GOLD.

um



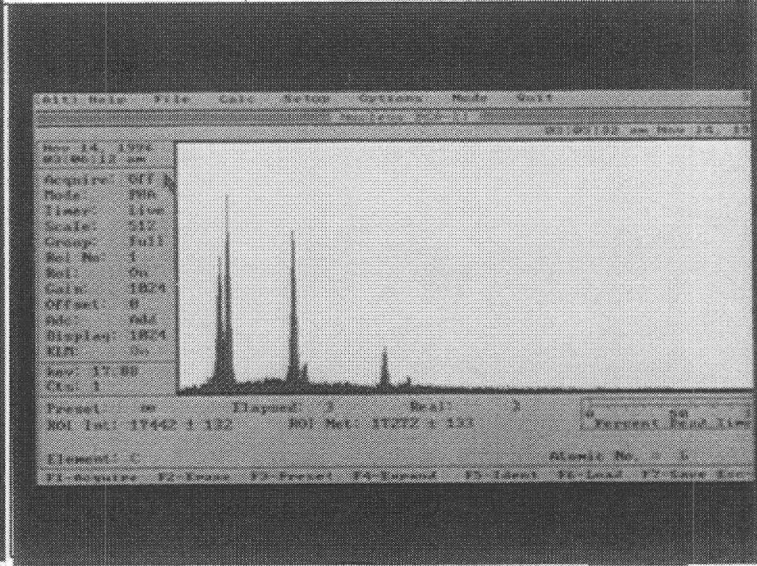
KU 531 Al sil and qtz
25KV BSE |-----| 30um
ALLOPHANE AND QUARTZ IN GOLD

um



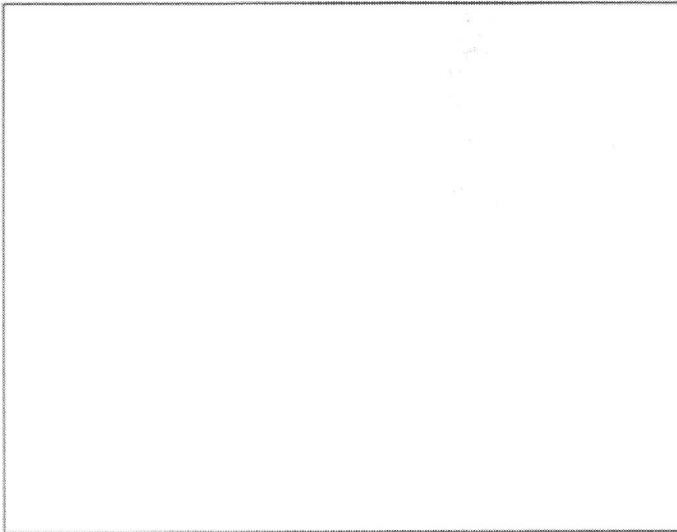
EPIDOTE OR ZOISITE ? IN GOLD.

um

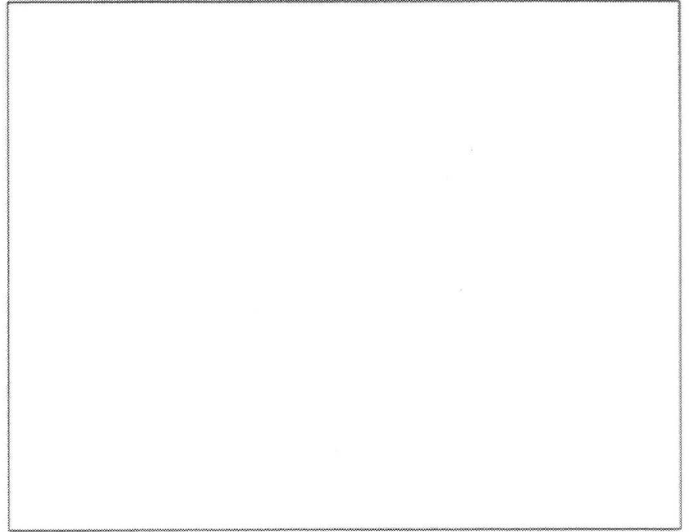


X-RAY SPECTRUM OF INCLUSION SHOWN AT LEFT.

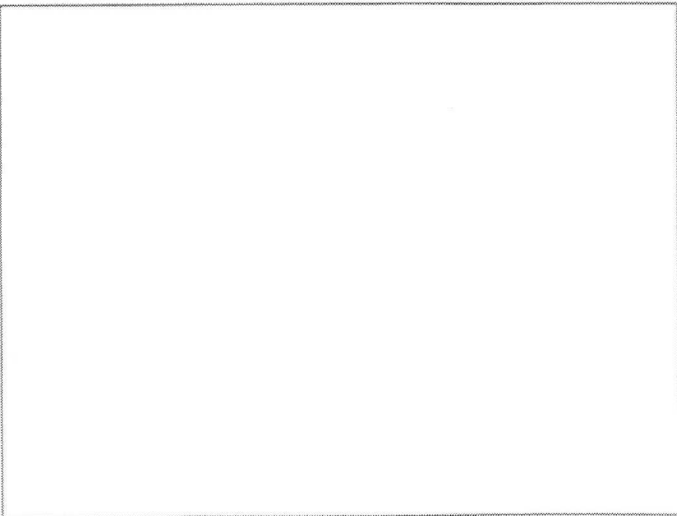
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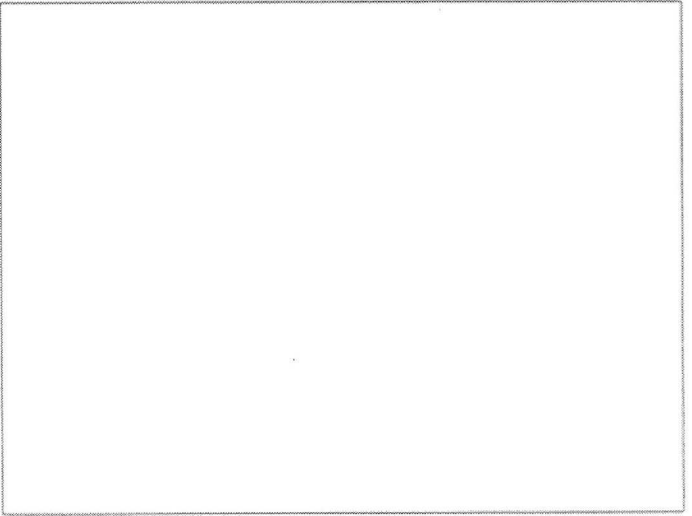
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ELECTRON MICROPROBE ANALYSIS OF PLACER GOLD GRAINS
for the Alaska Geological Survey
November 20, 1996

'Elemental Weight Percents'

'LINE'	'Au'	'Cu'	'Bi'	'Ag'	'Fe'	'Hg'	'Totals'

'	KU 505						
111,	80.770,	.062,	.333,	18.959,	.000,	1.121,	101.246,
112,	91.306,	.000,	.000,	10.778,	.047,	.000,	101.130,
113,	80.453,	.000,	.000,	16.640,	.000,	5.650,	102.743,
114,	91.846,	.097,	.198,	9.701,	.014,	.000,	101.856,
115,	100.842,	.256,	.000,	.495,	.009,	.396,	101.997,
116,	70.324,	.134,	.000,	26.844,	.000,	1.783,	99.085,
117,	91.124,	.000,	.184,	10.403,	.000,	.589,	102.301,
118,	91.168,	.000,	.000,	9.250,	.004,	.000,	100.422,
119,	91.740,	.000,	.187,	8.758,	.027,	.260,	100.972,
120,	80.954,	.000,	.329,	14.423,	.016,	5.583,	101.304,
121,	88.904,	.097,	.148,	9.306,	.041,	1.950,	100.446,
122,	96.473,	.000,	.623,	4.258,	.066,	.475,	101.894,
123,	98.656,	.188,	.000,	1.412,	.000,	1.266,	101.523,
124,	86.243,	.000,	.000,	14.806,	.000,	.827,	101.875,
125,	86.255,	.000,	.000,	14.377,	.038,	1.121,	101.791,
126,	80.194,	.009,	.000,	19.629,	.012,	1.438,	101.283,
127,	95.898,	.275,	.124,	6.451,	.063,	1.641,	104.451,
128,	83.581,	.000,	.000,	16.643,	.024,	.277,	100.524,
129,	83.060,	.000,	.000,	17.145,	.028,	.240,	100.472,
130,	80.475,	.113,	.000,	18.904,	.000,	.766,	100.258,
131,	84.512,	.394,	.581,	14.033,	.090,	.470,	101.080,
132,	81.696,	.018,	.000,	17.200,	.032,	3.237,	102.183,
133,	80.230,	.000,	.112,	17.795,	.035,	3.336,	101.509,
134,	94.533,	.260,	.000,	4.046,	.058,	3.560,	103.456,
135,	86.449,	.000,	.000,	11.433,	.000,	3.390,	101.272,
136,	83.123,	.000,	.455,	17.112,	.026,	.401,	101.117,
137,	80.759,	.000,	.000,	18.828,	.012,	1.339,	100.939,
138,	52.842,	.000,	.000,	40.480,	.047,	4.912,	99.281,
139,	84.498,	.000,	.000,	12.716,	.040,	3.615,	101.869,
140,	97.462,	.000,	.068,	3.439,	.009,	.000,	100.978,
141,	90.360,	.000,	.484,	9.238,	.000,	.000,	99.082,
142,	90.086,	.014,	.490,	9.971,	.034,	.432,	101.026,
143,	92.058,	.000,	.191,	8.514,	.000,	.387,	101.149,
144,	97.111,	.000,	.298,	3.027,	.000,	1.553,	101.989,
145,	85.062,	.244,	.000,	13.001,	.024,	1.532,	100.863,
146,	82.635,	.108,	.479,	16.279,	.015,	.983,	100.498,
147,	91.908,	.000,	.000,	5.933,	.106,	1.347,	99.294,
148,	98.884,	.000,	.059,	.000,	.233,	.567,	100.743,
149,	85.967,	.000,	.000,	13.984,	.000,	.527,	100.478,
150,	80.910,	.000,	.382,	16.717,	.024,	1.532,	99.566,
151,	85.696,	.079,	.069,	14.465,	.094,	.923,	101.327,
152,	92.259,	.148,	.000,	6.457,	.044,	1.834,	100.741,
153,	53.565,	.000,	.173,	43.819,	.017,	1.709,	100.283,
154,	86.259,	.056,	.000,	14.181,	.041,	.673,	101.210,
155,	85.634,	.000,	.000,	13.637,	.041,	3.464,	102.777,
156,	86.957,	.370,	.000,	13.276,	.071,	2.927,	103.601,
157,	92.508,	.000,	.000,	7.924,	.019,	2.418,	102.870,
158,	58.591,	.000,	.000,	35.121,	.042,	5.320,	99.073,
159,	86.952,	.226,	.000,	12.548,	.029,	2.829,	102.583,
160,	90.081,	.077,	.000,	11.833,	.103,	.885,	101.978,
181,	85.319,	.000,	.000,	6.259,	.000,	6.013,	97.591,
182,	85.450,	.044,	.000,	14.859,	.000,	.441,	100.795,
183,	92.025,	.000,	.000,	6.118,	.023,	.855,	99.021,
184,	87.956,	.000,	.000,	10.560,	.073,	2.587,	101.176,
185,	89.603,	.000,	.000,	12.671,	.061,	.757,	103.092,
186,	91.079,	.000,	.000,	10.698,	.036,	.000,	101.813,
187,	86.509,	.402,	.000,	11.849,	.044,	.560,	99.364,
188,	91.032,	.000,	.247,	6.204,	.041,	.743,	98.268,

' LINE ' , 'Au' , 'Cu' , 'Bi' , 'Ag' , 'Fe' , 'Hg' , 'Totals' ,

189	95.017	.000	.066	2.646	.012	.014	97.755
190	87.681	.000	.000	10.669	.063	1.473	99.886
191	98.939	.000	.252	2.114	.068	.000	101.374
192	91.269	.000	.038	10.878	.069	.000	102.254
193	83.821	.000	.000	16.602	.051	.229	100.703
220	81.175	.000	.171	17.391	.053	.000	98.791
221	90.391	.061	.000	10.610	.127	.485	101.675
222	89.653	.000	.000	10.409	.012	1.690	101.764
223	91.178	.148	.000	10.059	.074	.080	101.540
224	90.517	.000	.026	7.489	.082	3.113	101.227
225	79.933	.000	.083	18.344	.000	5.366	103.726
226	90.194	.040	.000	11.227	.033	.578	102.071
227	80.967	.000	.000	10.802	.000	.000	91.768
228	67.893	.000	.166	29.495	.043	3.055	100.653
229	93.859	.184	.000	7.806	.031	.993	102.873
230	95.724	.013	.000	6.902	.001	.245	102.884
231	80.738	.000	.000	19.320	.000	1.208	100.267
261	86.096	.000	.000	10.218	.001	4.745	101.060
262	86.203	.000	.000	15.369	.001	.919	102.493
263	101.996	.000	.042	.302	.096	.000	102.436
264	85.515	.000	.000	11.987	.110	5.045	102.658
265	91.969	.368	.000	8.688	.000	.000	101.025
266	91.557	.009	.000	7.855	.040	1.645	101.106
267	92.615	.000	.017	7.198	.062	2.355	102.246
268	93.557	.000	.000	5.171	.028	1.866	100.621
269	89.933	.000	.000	12.395	.027	1.986	104.341
270	102.438	.001	.283	.054	.064	.000	102.840
271	90.210	.180	.000	6.978	.000	5.788	103.156
272	82.395	.146	.000	17.501	.041	1.187	101.270
273	83.563	.000	.000	16.258	.000	.000	99.821
274	101.840	.009	.000	.487	.108	.000	102.444
275	87.499	.000	.000	13.558	.041	.506	101.603

KU 514 -----

278	82.189	.000	.000	14.098	.028	4.937	101.253
279	91.672	.000	.000	10.186	.007	.500	102.365
280	86.803	.000	.000	13.906	.029	.936	101.674
281	84.402	.000	.000	16.287	.050	2.143	102.882

KU 519 -----

284	94.164	.139	.000	6.375	.052	1.236	101.966
285	93.909	.001	.000	5.652	.051	1.035	100.648
286	100.803	.000	.000	1.764	.032	.151	102.750
287	93.853	.037	.000	6.966	.048	1.402	102.306
288	89.524	.000	.000	.000	3.044	.000	92.568
289	93.166	.000	.000	9.080	.000	.342	102.588
290	94.055	.000	.121	6.125	.029	2.025	102.355
291	94.311	.000	.000	6.419	.040	2.162	102.932
292	96.315	.000	.000	4.379	.061	1.415	102.170
293	86.110	.000	.000	13.151	.024	1.090	100.376
294	.000	58.454	.000	.000	.248	.000	58.703
295	94.009	.040	.000	4.811	.016	.802	99.678
296	91.843	.000	.000	6.767	.030	1.566	100.206
297	96.066	.000	.000	1.275	.006	.000	97.347

KU 520 -----

300	91.652	.000	.000	9.747	.090	1.713	103.202
301	91.689	.000	.000	7.070	.017	2.517	101.293
302	84.844	.000	.032	13.547	.017	2.570	101.009
303	96.263	.000	.128	4.425	.095	.362	101.272
304	100.993	.000	.000	1.989	.126	.238	103.346
305	92.734	.002	.000	8.419	.057	1.286	102.498
306	89.987	.000	.000	8.312	.000	1.634	99.933

'LINE'	'Au'	'Cu'	'Bi'	'Ag'	'Fe'	'Hg'	'Totals'
307,	93.084,	.033,	.000,	5.474,	.013,	1.717,	100.322,
308,	84.446,	.000,	.007,	9.291,	.000,	9.976,	103.720,
309,	83.552,	.000,	.000,	15.761,	.000,	1.068,	100.381,
310,	84.428,	.000,	.000,	15.560,	.033,	.581,	100.601,
311,	92.503,	.334,	.000,	9.214,	.008,	1.745,	103.803,
312,	93.318,	.118,	.000,	10.341,	.062,	.000,	103.839,
313,	84.554,	.058,	.130,	17.385,	.054,	.118,	102.298,
314,	76.254,	.000,	.000,	18.954,	.040,	8.673,	103.922,
315,	97.302,	.000,	.000,	4.507,	.024,	.007,	101.839,
316,	91.650,	.288,	.000,	7.021,	.059,	2.233,	101.250,
317,	83.749,	.009,	.000,	14.571,	.063,	.553,	98.944,
318,	88.931,	.000,	.000,	12.756,	.009,	.532,	102.228,
319,	.301,	61.590,	.000,	.000,	21.995,	.000,	83.886,
320,	91.119,	.000,	.000,	6.603,	.051,	1.868,	99.641,
321,	91.322,	.000,	.019,	8.699,	.023,	1.060,	101.124,
322,	84.070,	.000,	.000,	17.638,	.025,	.153,	101.886,
323,	98.017,	.000,	.000,	3.414,	.000,	.000,	101.431,
324,	.742,	61.466,	.000,	.000,	22.565,	.000,	84.773,
325,	92.750,	.000,	.000,	7.432,	.000,	1.911,	102.093,
326,	103.028,	.000,	.000,	.266,	.042,	.644,	103.981,
327,	91.282,	.067,	.000,	10.403,	.023,	1.432,	103.206,
328,	93.567,	.000,	.000,	3.947,	.069,	.000,	97.583,
329,	94.578,	.000,	.000,	7.204,	.035,	.000,	101.817,
330,	85.121,	.167,	.190,	11.920,	.000,	5.736,	103.134,
331,	92.254,	.000,	.000,	8.982,	.021,	.772,	102.029,
332,	88.542,	.000,	.000,	12.801,	.023,	.208,	101.573,
333,	91.942,	.210,	.110,	9.417,	.005,	.000,	101.683,
334,	73.593,	.106,	.128,	26.223,	.036,	2.559,	102.645,
335,	91.841,	.000,	.035,	7.389,	.022,	2.913,	102.201,
336,	89.909,	.456,	.000,	9.861,	.017,	1.797,	102.040,
337,	96.976,	.000,	.000,	4.573,	.081,	1.510,	103.140,
338,	87.524,	.245,	.000,	12.072,	.068,	2.170,	102.078,
339,	92.334,	.000,	.000,	10.032,	.000,	.271,	102.637,
340,	89.752,	.000,	.000,	7.825,	.015,	1.154,	98.746,
341,	93.617,	.000,	.000,	7.917,	.025,	2.249,	103.807,
342,	70.970,	.000,	.000,	23.460,	.080,	7.166,	101.675,
343,	85.658,	.000,	.000,	11.785,	.018,	1.643,	99.104,
344,	95.013,	.000,	.000,	6.824,	.067,	.557,	101.461,
345,	91.057,	.108,	.000,	9.865,	.096,	.941,	102.067,
346,	83.662,	.000,	.061,	12.550,	.042,	4.634,	100.950,
347,	87.121,	.000,	.000,	12.046,	.058,	1.967,	101.192,
348,	82.122,	.022,	.000,	15.174,	.043,	2.944,	100.305,
349,	.728,	62.470,	.000,	.000,	22.017,	.000,	85.214,

KU 523 -----

371,	80.530,	.000,	.000,	14.802,	.000,	.000,	95.331,
372,	94.990,	.000,	.000,	2.897,	.000,	1.931,	99.817,
373,	94.728,	.033,	.000,	3.405,	.051,	2.821,	101.038,
374,	94.045,	.000,	.000,	7.881,	.007,	.760,	102.693,
375,	98.276,	.000,	.000,	2.045,	.021,	.000,	100.342,
376,	77.862,	.045,	.000,	18.431,	.042,	1.836,	98.215,
377,	81.991,	.000,	.010,	15.023,	.011,	1.899,	98.934,
378,	89.281,	.106,	.000,	9.777,	.007,	.212,	99.384,
379,	76.993,	.000,	.000,	22.569,	.018,	1.184,	100.764,
380,	86.507,	.000,	.000,	10.181,	.000,	1.738,	98.426,
381,	91.816,	.118,	.000,	6.015,	.032,	1.327,	99.308,
382,	91.095,	.000,	.000,	9.794,	.062,	.000,	100.951,
383,	83.404,	.035,	.000,	15.302,	.001,	.310,	99.052,
384,	94.217,	.000,	.000,	2.527,	.040,	2.660,	99.444,
385,	82.753,	.000,	.000,	14.710,	.061,	2.527,	100.051,
386,	89.274,	.000,	.000,	8.803,	.018,	2.279,	100.375,
387,	89.371,	.119,	.000,	8.623,	.044,	.476,	98.632,
388,	91.550,	.341,	.000,	7.745,	.053,	1.114,	100.802,
389,	83.017,	.000,	.111,	16.780,	.001,	1.134,	101.044,
390,	83.292,	.000,	.000,	15.534,	.016,	.621,	99.463,
391,	75.869,	.000,	.227,	20.249,	.001,	4.013,	100.359,
392,	88.871,	.111,	.000,	8.124,	.000,	.976,	98.083,
393,	91.213,	.000,	.000,	5.221,	.003,	.786,	97.222,

LINE	'Au'	'Cu'	'Bi'	'Ag'	'Fe'	'Hg'	'Totals'
394,	91.875,	.000,	.000,	2.491,	.038,	.247,	94.651,
395,	88.910,	.246,	.000,	9.650,	.056,	2.469,	101.330,
396,	74.737,	.000,	.000,	22.394,	.031,	.649,	97.811,

KU 527 -----

399,	99.046,	.000,	.099,	1.109,	.051,	.108,	100.414,
400,	80.342,	.000,	.000,	20.486,	.015,	.757,	101.600,
401,	86.654,	.000,	.000,	13.238,	.000,	2.824,	102.716,
402,	73.216,	.000,	.000,	24.296,	.035,	1.801,	99.348,
403,	83.461,	.000,	.000,	17.700,	.029,	.449,	101.639,
404,	89.750,	.000,	.000,	9.083,	.060,	.385,	99.279,
405,	87.294,	.000,	.000,	12.745,	.042,	1.918,	101.999,
406,	92.363,	.000,	.000,	7.409,	.065,	1.180,	101.018,
407,	96.398,	.000,	.000,	5.563,	.010,	.000,	101.972,
408,	80.642,	.000,	.000,	20.510,	.034,	.335,	101.520,
409,	71.239,	.000,	.092,	21.939,	.000,	8.328,	101.598,
410,	78.286,	.146,	.032,	22.159,	.044,	1.465,	102.133,
411,	93.247,	.000,	.000,	7.728,	.006,	.732,	101.712,
412,	88.296,	.000,	.000,	14.687,	.000,	.462,	101.444,
413,	86.972,	.000,	.000,	13.145,	.053,	1.196,	101.365,
414,	93.606,	.006,	.153,	7.221,	.033,	.000,	101.020,
415,	75.632,	.000,	.397,	26.471,	.105,	1.131,	103.735,
416,	86.876,	.000,	.055,	13.151,	.013,	.724,	100.820,
417,	27.584,	.000,	.000,	.000,	.000,	.000,	27.584,
418,	83.432,	.000,	.005,	16.776,	.000,	1.037,	101.250,
419,	69.103,	.000,	.000,	25.689,	.144,	6.036,	100.971,
420,	91.034,	.168,	.000,	9.528,	.000,	1.422,	102.152,
421,	99.394,	.000,	.000,	2.092,	.046,	.000,	101.531,
422,	82.455,	.177,	.000,	15.587,	.059,	4.697,	102.975,
423,	83.416,	.000,	.643,	17.446,	.000,	.000,	101.506,
424,	81.905,	.000,	.000,	16.447,	.027,	.432,	98.812,
425,	80.749,	.147,	.000,	16.724,	.072,	2.666,	100.358,
426,	78.961,	.000,	.000,	13.065,	.000,	10.327,	102.353,
427,	86.539,	.000,	.000,	11.944,	.018,	3.608,	102.109,
428,	87.358,	.121,	.304,	13.598,	.003,	.844,	102.228,
429,	89.460,	.000,	.000,	9.242,	.032,	.809,	99.543,
430,	87.145,	.016,	.000,	12.186,	.061,	1.932,	101.340,
431,	85.711,	.000,	.000,	13.486,	.061,	2.019,	101.276,
432,	83.357,	.064,	.000,	14.081,	.029,	3.664,	101.194,
433,	74.643,	.000,	.000,	12.363,	.109,	1.708,	88.823,
434,	85.260,	.000,	.000,	16.832,	.003,	.002,	102.097,
435,	84.304,	.000,	.000,	17.660,	.095,	.332,	102.391,
436,	80.571,	.000,	.000,	20.114,	.060,	.627,	101.371,
437,	94.328,	.319,	.000,	6.674,	.031,	.000,	101.352,
438,	84.622,	.000,	.073,	15.866,	.086,	2.310,	102.957,
439,	86.666,	.000,	.000,	15.166,	.071,	.051,	101.954,
440,	90.585,	.000,	.077,	10.377,	.000,	1.115,	102.154,
441,	83.959,	.000,	.000,	15.509,	.038,	.946,	100.453,
442,	88.136,	.086,	.000,	13.248,	.039,	.963,	102.472,
443,	87.633,	.000,	.000,	14.322,	.063,	.306,	102.324,
444,	87.437,	.000,	.000,	13.149,	.045,	.571,	101.202,
445,	83.132,	.000,	.000,	15.205,	.013,	2.295,	100.645,
446,	82.771,	.000,	.000,	17.100,	.039,	1.003,	100.913,
447,	92.650,	.026,	.000,	5.093,	.023,	.353,	98.145,
448,	83.909,	.000,	.000,	14.608,	.000,	.558,	99.075,
451,	91.697,	.041,	.000,	9.677,	.002,	.000,	101.417,
452,	77.639,	.000,	.000,	22.314,	.212,	.367,	100.532,
453,	84.774,	.000,	.000,	12.166,	.000,	6.566,	103.506,
454,	55.518,	.000,	.000,	4.859,	.327,	.000,	60.704,
455,	70.532,	.046,	.000,	23.372,	.017,	7.824,	101.792,
456,	86.189,	.046,	.000,	5.569,	.073,	7.529,	99.406,
457,	88.639,	.000,	.000,	10.762,	.000,	1.413,	100.814,
458,	88.388,	.000,	.000,	13.026,	.029,	1.584,	103.026,
459,	78.294,	.352,	.000,	20.304,	.046,	3.724,	102.720,
460,	91.792,	.005,	.000,	8.615,	.012,	1.051,	101.475,
461,	79.469,	.127,	.000,	8.213,	1.041,	1.579,	90.430,
462,	88.049,	.000,	.000,	9.985,	.000,	2.649,	100.684,
463,	79.135,	.000,	.000,	21.820,	.068,	1.315,	102.339,

LINE	'Au'	'Cu'	'Bi'	'Ag'	'Fe'	'Hg'	'Totals'
464,	94.324,	.000,	.000,	7.785,	.047,	.000,	102.156,
465,	95.647,	.119,	.000,	7.153,	.006,	.000,	102.926,
466,	92.347,	.000,	.000,	9.078,	.000,	.000,	101.424,
467,	81.332,	.167,	.000,	19.295,	.003,	.943,	101.740,
468,	90.566,	.000,	.000,	8.565,	.018,	1.890,	101.039,
469,	92.535,	.000,	.000,	8.245,	.009,	.675,	101.464,
470,	85.646,	.006,	.000,	15.792,	.034,	.000,	101.478,
471,	82.606,	.110,	.000,	15.586,	.000,	.000,	98.302,
472,	82.173,	.000,	.000,	15.210,	.027,	4.277,	101.686,
473,	87.263,	.000,	.000,	12.422,	.000,	1.048,	100.733,
474,	82.984,	.000,	.000,	14.152,	.000,	5.341,	102.476,
475,	70.536,	.000,	.000,	24.573,	.044,	6.658,	101.811,
476,	98.824,	.060,	.000,	1.754,	.017,	.000,	100.655,
477,	89.887,	.000,	.006,	12.182,	.023,	.568,	102.667,
478,	85.315,	.000,	.185,	14.380,	.031,	1.015,	100.926,
479,	92.764,	.000,	.000,	9.732,	.000,	.217,	102.713,
480,	80.650,	.000,	.000,	21.094,	.009,	.673,	102.426,
481,	94.841,	.000,	.000,	6.215,	.132,	.607,	101.795,
482,	94.822,	.012,	.286,	7.519,	.038,	.000,	102.678,
483,	75.035,	.000,	.000,	25.092,	.000,	1.796,	101.922,

KU 528 -----

486,	98.619,	.000,	.000,	2.769,	.017,	.000,	101.405,
487,	89.047,	.000,	.000,	8.306,	.022,	.797,	98.171,
488,	90.771,	.000,	.000,	11.658,	.000,	.000,	102.429,
489,	89.067,	.000,	.000,	13.750,	.000,	.002,	102.819,
490,	90.403,	.000,	.000,	10.968,	.060,	.545,	101.976,
491,	90.342,	.132,	.000,	11.512,	.062,	.000,	102.047,
492,	86.316,	.000,	.344,	11.257,	.010,	2.735,	100.661,
493,	100.930,	.000,	.000,	1.310,	.076,	.000,	102.315,
494,	79.717,	.061,	.000,	18.995,	.042,	1.732,	100.546,
495,	94.487,	.073,	.000,	8.856,	.011,	.335,	103.763,
496,	85.388,	.135,	.000,	15.043,	.005,	1.144,	101.715,
497,	93.752,	.144,	.000,	10.054,	.012,	.000,	103.961,
498,	99.502,	.140,	.178,	1.354,	.028,	.000,	101.203,
499,	89.424,	.000,	.175,	11.664,	.152,	.000,	101.415,
500,	100.028,	.000,	.000,	1.531,	.017,	.000,	101.576,
501,	85.974,	.000,	.000,	12.197,	.007,	.259,	98.437,
502,	90.901,	.004,	.000,	9.905,	.000,	.000,	100.810,
503,	91.974,	.036,	.120,	10.582,	.051,	.668,	103.431,
504,	80.582,	.000,	.000,	18.741,	.089,	2.016,	101.428,
505,	88.061,	.000,	.019,	11.197,	.068,	1.843,	101.188,
506,	89.423,	.000,	.000,	11.714,	.006,	2.254,	103.397,
507,	85.365,	.000,	.000,	14.856,	.040,	2.244,	102.506,
508,	84.591,	.020,	.000,	14.591,	.002,	1.185,	100.388,
509,	85.885,	.067,	.004,	14.738,	.047,	.000,	102.742,
510,	84.426,	.081,	.051,	17.547,	.053,	.000,	102.159,
511,	85.588,	.185,	.000,	13.615,	.036,	2.516,	101.941,
512,	86.265,	.000,	.000,	13.524,	.012,	.504,	100.305,
513,	89.245,	.095,	.000,	10.261,	.000,	1.793,	101.394,
514,	87.777,	.107,	.000,	11.992,	.000,	.612,	100.487,
515,	67.438,	.054,	.000,	30.452,	.010,	3.244,	101.198,
516,	82.067,	.000,	.000,	14.172,	.030,	5.332,	101.601,
517,	86.126,	.000,	.037,	14.563,	.005,	.617,	101.347,
518,	95.647,	.000,	.000,	6.962,	.000,	.185,	104.794,
519,	87.119,	.209,	.000,	13.562,	.000,	.749,	101.640,
520,	90.986,	.000,	.603,	9.016,	.003,	2.371,	102.979,
521,	99.301,	.083,	.000,	1.607,	.007,	.000,	100.998,
522,	88.167,	.000,	.000,	14.194,	.009,	.000,	102.370,
523,	99.977,	.000,	.000,	1.049,	.049,	.000,	101.075,
524,	93.900,	.281,	.118,	7.582,	.010,	.000,	101.892,
525,	83.506,	.000,	.000,	16.255,	.045,	.703,	100.509,
526,	82.491,	.062,	.000,	17.978,	.081,	1.055,	101.667,
527,	80.820,	.019,	.000,	20.357,	.014,	.255,	101.465,
528,	85.708,	.029,	.000,	14.058,	.000,	.811,	100.606,
529,	85.085,	.000,	.000,	16.214,	.035,	.000,	101.333,
530,	99.613,	.000,	.000,	1.229,	.108,	.000,	100.950,
531,	90.162,	.000,	.000,	12.576,	.049,	.087,	102.874,

'LINE'	'Au'	'Cu'	'Bi'	'Ag'	'Fe'	'Hg'	'Totals'
532,	84.864,	.000,	.412,	15.113,	.083,	.600,	101.073,
533,	91.636,	.000,	.072,	10.783,	.026,	.000,	102.517,
534,	100.157,	.000,	.000,	.894,	.027,	.000,	101.078,
535,	83.725,	.054,	.117,	16.301,	.051,	.857,	101.104,
538,	85.876,	.265,	.000,	13.936,	.006,	.373,	100.455,
539,	96.307,	.287,	.000,	4.353,	.031,	2.747,	103.725,
540,	94.390,	.000,	.000,	7.081,	.041,	.016,	101.529,
541,	78.670,	.000,	.132,	16.660,	.026,	5.699,	101.188,
542,	95.468,	.000,	.000,	6.426,	.000,	1.654,	103.548,
543,	96.125,	.000,	.000,	5.943,	.030,	.040,	102.137,
544,	85.413,	.222,	.000,	14.121,	.000,	.000,	99.757,
545,	92.556,	.030,	.000,	3.581,	.123,	.000,	96.291,
546,	92.309,	.465,	.000,	8.316,	.090,	.964,	102.144,
547,	73.215,	.087,	.000,	26.777,	.088,	1.217,	101.384,
548,	87.520,	.215,	.000,	13.639,	.064,	.331,	101.768,
549,	86.466,	.000,	.000,	12.389,	.079,	2.181,	101.115,
550,	90.472,	.045,	.000,	10.881,	.039,	.000,	102.436,
551,	86.645,	.044,	.000,	13.424,	.000,	1.098,	101.211,
552,	88.759,	.000,	.000,	10.802,	.032,	.401,	101.993,
553,	84.322,	.000,	.000,	13.915,	.000,	3.908,	102.144,
554,	87.243,	.000,	.000,	15.205,	.000,	.450,	102.899,
555,	87.959,	.000,	.000,	14.539,	.002,	.019,	102.520,
556,	89.553,	.000,	.000,	12.659,	.034,	.265,	102.512,
557,	86.274,	.000,	.000,	12.440,	.034,	2.459,	101.208,
558,	85.296,	.000,	.000,	12.932,	.029,	1.213,	99.471,
559,	80.639,	.000,	.000,	16.238,	.037,	5.907,	102.820,
560,	89.402,	.000,	.000,	10.827,	.000,	1.332,	101.561,
561,	88.966,	.000,	.000,	11.895,	.006,	1.826,	102.694,
562,	88.850,	.010,	.000,	12.807,	.106,	2.082,	103.856,
563,	100.395,	.000,	.000,	1.779,	.024,	.000,	102.198,
564,	86.902,	.076,	.000,	14.563,	.000,	.299,	101.841,
565,	92.611,	.000,	.000,	7.660,	.062,	.473,	100.806,
566,	81.516,	.000,	.000,	13.902,	.004,	6.608,	102.030,
567,	78.376,	.141,	.000,	19.057,	.084,	4.063,	101.721,
568,	87.689,	.000,	.000,	14.502,	.000,	.635,	102.826,
569,	83.391,	.000,	.000,	15.314,	.000,	3.259,	101.964,
570,	84.195,	.000,	.000,	16.619,	.000,	.811,	101.624,
571,	80.335,	.000,	.000,	21.527,	.000,	.813,	102.675,
572,	80.888,	.030,	.000,	20.870,	.057,	1.060,	102.905,
573,	97.441,	.000,	.000,	4.853,	.000,	.000,	102.293,
574,	84.168,	.048,	.000,	16.545,	.022,	.000,	100.784,
575,	81.591,	.000,	.085,	18.685,	.000,	.611,	100.972,
576,	91.075,	.000,	.000,	10.623,	.005,	.505,	102.207,
577,	97.249,	.050,	.000,	5.345,	.002,	.000,	102.646,

KU 529 -----

623,	87.470,	.065,	.000,	11.586,	.000,	2.269,	101.390,
624,	95.139,	.000,	.000,	4.878,	.041,	1.684,	101.742,
625,	84.833,	.000,	.000,	9.866,	.000,	8.192,	102.891,
626,	98.103,	.103,	.000,	4.713,	.000,	.000,	102.918,
627,	88.299,	.000,	.000,	10.332,	.027,	2.453,	101.110,
628,	85.409,	.000,	.000,	10.567,	.018,	5.300,	101.293,
629,	84.434,	.000,	.000,	12.783,	.023,	2.051,	99.291,
630,	89.125,	.034,	.000,	9.321,	.262,	.000,	98.742,
631,	99.637,	.446,	.224,	1.174,	.035,	.000,	101.516,
632,	79.650,	.000,	.050,	16.346,	.015,	4.257,	100.319,
633,	87.295,	.140,	.000,	12.638,	.056,	.563,	100.691,
634,	89.536,	.105,	.084,	11.928,	.002,	1.256,	100.912,
635,	83.557,	.006,	.000,	13.112,	.030,	4.777,	101.482,
636,	80.129,	.000,	.000,	19.425,	.007,	.483,	99.044,
637,	95.816,	.000,	.000,	5.873,	.000,	.000,	101.689,
638,	90.736,	.000,	.000,	9.834,	.029,	.424,	101.024,
639,	85.261,	.000,	.000,	14.661,	.053,	2.223,	102.198,
640,	84.445,	.000,	.000,	15.658,	.000,	2.914,	103.017,
641,	88.344,	.000,	.000,	12.424,	.000,	.000,	100.768,
642,	84.989,	.000,	.000,	15.094,	.017,	.513,	100.613,
643,	94.687,	.000,	.000,	6.951,	.030,	1.018,	102.685,
644,	81.610,	.000,	.000,	18.594,	.004,	2.079,	102.287,

' LINE ' , 'Au' , 'Cu' , 'Bi' , 'Ag' , 'Fe' , 'Hg' , 'Totals' ,

645,	80.462,	.000,	.000,	20.482,	.060,	1.328,	102.332,
646,	90.102,	.077,	.000,	8.028,	.013,	3.047,	101.268,
647,	82.421,	.080,	.000,	13.624,	.000,	4.187,	100.312,
648,	90.367,	.000,	.000,	9.573,	.054,	.314,	100.309,
649,	92.416,	.262,	.000,	9.306,	.054,	.459,	102.496,
650,	81.492,	.000,	.000,	14.637,	.031,	3.142,	99.303,
651,	83.337,	.070,	.117,	15.143,	.068,	.607,	99.343,
652,	79.179,	.083,	.000,	23.018,	.000,	.214,	102.494,
653,	90.867,	.220,	.000,	10.354,	.017,	1.855,	103.313,
654,	90.598,	.000,	.000,	11.638,	.016,	1.406,	103.658,
655,	73.712,	.000,	.480,	20.247,	.000,	5.650,	100.088,
656,	96.940,	.000,	.000,	6.082,	.000,	.125,	103.148,
657,	77.762,	.000,	.000,	19.616,	.063,	3.494,	100.936,
658,	97.078,	.286,	.882,	2.877,	.007,	.470,	102.600,
659,	87.464,	.000,	.000,	14.285,	.006,	.000,	101.755,
660,	90.667,	.000,	.000,	11.107,	.010,	.156,	101.941,
661,	89.823,	.000,	.000,	11.262,	.000,	1.295,	102.379,
662,	88.295,	.000,	.206,	11.294,	.020,	1.689,	101.504,
663,	83.669,	.000,	.000,	17.727,	.000,	1.231,	102.627,
664,	81.457,	.000,	.000,	18.885,	.038,	.198,	100.578,
665,	81.982,	.000,	.000,	12.519,	.012,	5.805,	100.318,
666,	76.755,	.002,	.000,	21.157,	.028,	.997,	98.939,
667,	98.466,	.000,	.000,	2.905,	.205,	.118,	101.694,
668,	81.762,	.000,	.000,	21.078,	.047,	.787,	103.675,
669,	93.186,	.000,	.000,	9.191,	.000,	.606,	102.983,
670,	80.319,	.000,	.000,	20.336,	.001,	2.009,	102.665,
671,	83.324,	.311,	.000,	17.779,	.000,	.143,	101.556,
672,	85.324,	.010,	.054,	13.393,	.009,	3.110,	101.900,
675,	80.245,	.160,	.000,	10.169,	.095,	4.179,	101.849,
676,	83.042,	.155,	.000,	19.345,	.068,	.201,	102.811,
677,	84.972,	.010,	.338,	16.432,	.000,	.946,	102.698,
678,	93.816,	.038,	.000,	8.749,	.039,	.000,	102.642,
679,	82.335,	.000,	.000,	18.868,	.010,	1.457,	102.670,
680,	78.625,	.017,	.000,	20.772,	.000,	.839,	100.253,
681,	86.145,	.063,	.222,	13.844,	.000,	1.715,	101.990,
682,	100.767,	.347,	.000,	.000,	.039,	.000,	101.154,
683,	86.460,	.000,	.415,	14.021,	.000,	.000,	100.896,
684,	80.201,	.075,	.000,	18.117,	.000,	1.293,	99.686,
685,	89.934,	.083,	.000,	12.046,	.000,	.447,	102.510,
686,	90.023,	.000,	.000,	12.406,	.033,	.309,	102.772,
687,	82.918,	.000,	.000,	17.237,	.049,	.373,	100.578,
688,	83.247,	.000,	.000,	15.329,	.016,	3.369,	101.961,
689,	95.870,	.015,	.000,	6.387,	.020,	.000,	102.292,
690,	89.614,	.000,	.031,	11.588,	.037,	.273,	101.543,
691,	85.259,	.000,	.000,	14.471,	.000,	3.018,	102.749,
692,	83.124,	.129,	.000,	19.502,	.001,	.000,	102.757,
693,	87.155,	.000,	.000,	15.860,	.019,	.000,	103.033,
694,	86.678,	.000,	.000,	6.609,	.780,	.000,	94.066,
695,	93.021,	.000,	.331,	5.967,	.000,	.594,	99.913,
696,	98.082,	.000,	.000,	1.501,	.000,	1.836,	101.419,
697,	88.721,	.000,	.000,	10.004,	.000,	2.964,	101.689,
698,	91.027,	.000,	.271,	7.445,	.079,	2.114,	100.936,
699,	80.844,	.113,	.000,	20.536,	.047,	1.414,	102.954,
700,	79.460,	.024,	.364,	19.002,	.034,	1.892,	100.776,
701,	85.419,	.000,	.000,	14.205,	.034,	.253,	99.911,
702,	92.521,	.409,	.203,	6.567,	.000,	1.838,	101.537,
703,	78.005,	.018,	.000,	17.652,	.051,	4.999,	100.725,

KU 530 -----

706,	93.414,	.084,	.000,	8.801,	.000,	.662,	102.961,
707,	99.844,	.181,	.000,	.901,	.000,	.544,	101.469,
708,	98.092,	.000,	.000,	4.327,	.075,	.000,	102.494,
709,	82.549,	.000,	.000,	19.451,	.000,	.291,	102.291,
710,	86.457,	.272,	.000,	15.379,	.040,	.574,	102.720,
711,	82.112,	.000,	.000,	15.186,	.010,	4.192,	101.500,
712,	83.430,	.198,	.000,	15.804,	.079,	.117,	99.628,
713,	84.634,	.000,	.510,	15.604,	.000,	1.496,	102.244,
714,	83.063,	.120,	.000,	17.993,	.035,	.397,	101.609,

'LINE'	'Au'	'Cu'	'Bi'	'Ag'	'Fe'	'Hg'	'Totals'
715	65.203	.059	.000	32.871	.076	3.902	102.111
716	94.784	.000	.000	6.191	.026	.225	101.226
717	87.159	.038	.000	14.205	.062	.538	102.002
718	66.463	.000	.000	33.360	.021	1.302	101.146
719	97.760	.000	.000	3.087	.018	.000	100.864
720	83.121	.000	.000	17.049	.019	1.797	101.985
721	82.089	.084	.000	17.174	.000	.991	100.339
722	99.432	.019	.026	3.010	.044	.457	102.987
723	90.450	.000	.000	9.723	.044	.793	101.010
724	90.322	.000	.000	11.100	.048	.456	101.926
725	90.775	.000	.182	11.229	.043	.431	102.660
726	87.884	.216	.000	11.280	.037	2.355	101.773
727	86.102	.028	.000	12.801	.031	.806	99.768
728	90.531	.000	.000	9.975	.059	1.006	101.571
729	90.498	.088	.038	9.934	.006	1.257	101.821
730	94.261	.000	.000	2.396	.007	.000	96.663
731	81.363	.000	.000	16.714	.013	2.042	100.132
732	96.455	.048	.000	2.814	.000	.000	99.317
733	86.615	.065	.347	13.265	.023	.463	100.778
734	85.137	.186	.000	13.199	.047	2.582	101.151
735	80.805	.272	.090	18.533	.014	.000	99.714
736	95.766	.000	.032	4.758	.031	.056	100.644
737	67.908	.000	.000	26.944	.033	4.926	99.812
738	90.062	.000	.000	11.211	.000	1.235	102.508
739	90.965	.000	.000	11.037	.040	.670	102.712
740	85.200	.166	.000	13.899	.000	1.370	100.634
741	90.729	.062	.000	10.901	.041	.010	101.743
742	86.229	.107	.000	14.073	.000	.500	100.909
743	82.242	.270	.000	14.922	.048	3.296	100.779
744	86.991	.126	.000	13.152	.020	.106	100.394
745	86.368	.000	.000	14.907	.000	.438	101.713
746	95.987	.060	.000	5.374	.006	.000	101.427
747	85.469	.000	.000	15.993	.035	.105	101.602
748	83.477	.000	.000	16.765	.000	.412	100.654
749	90.358	.000	.000	10.083	.000	1.474	101.915
750	86.110	.000	.000	12.084	.023	3.949	102.166
751	89.692	.000	.000	9.957	.063	1.635	101.347
752	82.475	.000	.000	16.577	.000	1.420	100.472
753	83.878	.000	.084	16.156	.000	1.465	101.583
754	91.233	.000	.000	10.832	.099	.000	102.164
755	90.046	.000	.063	10.496	.000	.892	101.497
758	83.919	.238	.000	18.727	.033	1.150	100.067
759	82.053	.000	.000	18.463	.047	.695	101.257
760	83.426	.168	.000	15.881	.000	1.722	101.196
761	85.969	.236	.000	14.285	.019	.480	100.990
762	91.537	.000	.000	9.915	.066	1.229	102.747
763	87.130	.101	.000	11.507	.037	1.819	100.594
764	93.942	.000	.000	6.223	.044	.296	100.506
765	81.039	.000	.000	17.063	.023	3.184	101.309
766	80.285	.226	.372	17.975	.016	3.034	101.908
767	79.811	.000	.147	18.427	.030	3.476	101.891
768	91.614	.000	.000	9.411	.000	1.505	102.530
769	94.414	.000	.000	5.153	.000	.046	99.613
770	78.889	.063	.000	20.677	.000	.985	99.613
771	78.025	.000	.000	22.122	.022	.287	100.457
772	86.791	.000	.000	13.896	.000	.267	100.953
773	101.240	.000	.000	1.479	.048	.000	102.767
774	84.609	.001	.000	13.722	.000	4.218	102.550
775	84.727	.000	.000	14.668	.048	1.933	101.376
776	86.438	.000	.000	15.600	.021	.617	102.675
777	83.122	.075	.000	17.152	.048	.907	101.304
778	81.633	.000	.000	15.634	.057	4.798	102.121
779	88.889	.134	.099	12.586	.000	.312	102.020
780	80.920	.059	.000	7.943	.000	.072	88.994
781	90.684	.000	.123	10.150	.111	.000	101.068
782	90.781	.148	.130	9.905	.032	1.384	102.379
783	84.078	.007	.000	16.182	.018	1.574	101.859
784	91.852	.226	.241	9.764	.013	1.658	103.755
785	85.100	.215	.000	16.988	.024	.000	102.327

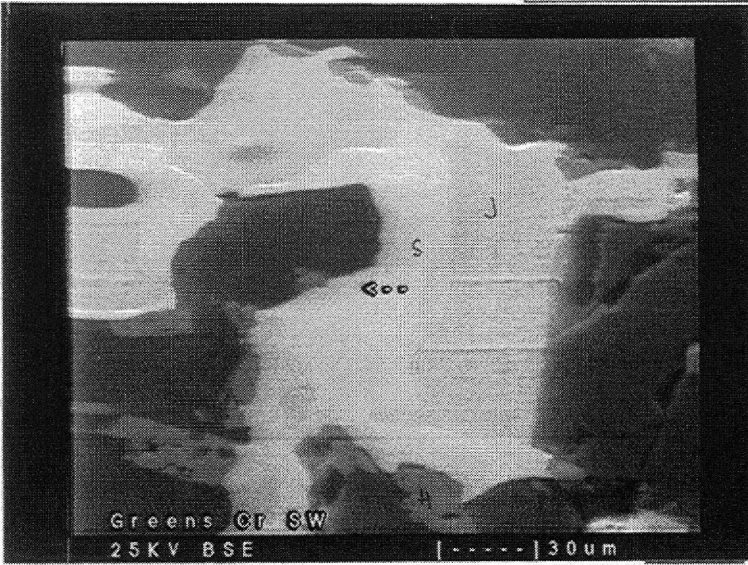
'LINE'	'Au'	'Cu'	'Bi'	'Ag'	'Fe'	'Hg'	'Totals'
786,	95.235,	.000,	.000,	5.409,	.106,	.361,	101.111,
787,	81.809,	.000,	.365,	14.653,	.009,	4.523,	101.359,

KU 531 -----

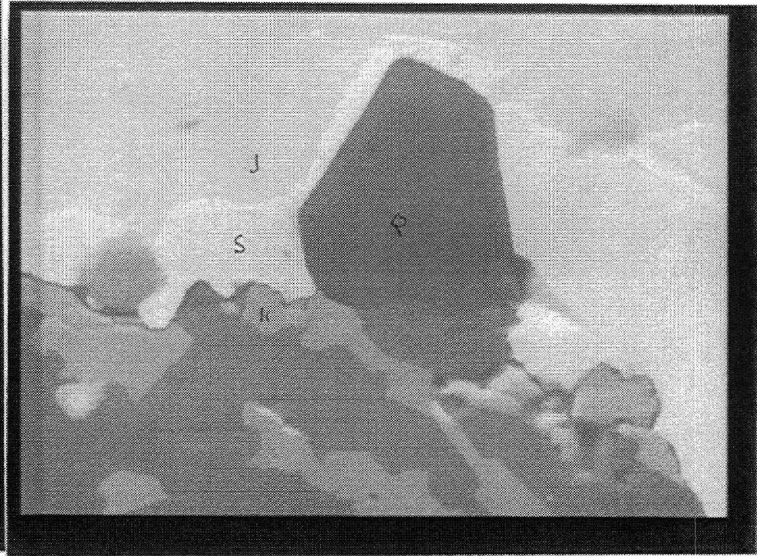
790,	93.595,	.171,	.000,	7.009,	.000,	.000,	100.774,
791,	83.445,	.117,	.000,	14.473,	.029,	.000,	98.065,
792,	83.387,	.034,	.000,	16.251,	.000,	.357,	100.029,
793,	90.868,	.162,	.000,	8.223,	.061,	.000,	99.314,
794,	83.233,	.000,	.000,	16.552,	.000,	.501,	100.286,
795,	88.831,	.178,	.000,	11.618,	.030,	.000,	100.657,
796,	96.681,	.102,	.000,	4.959,	.007,	.000,	101.749,
797,	85.900,	.079,	.000,	5.757,	.016,	.000,	91.752,
798,	81.781,	.000,	.000,	18.506,	.028,	.000,	100.314,
799,	90.144,	.381,	.000,	12.341,	.000,	.000,	102.867,
800,	83.979,	.331,	.040,	16.244,	.056,	.000,	100.651,
801,	97.205,	1.575,	.047,	3.489,	.000,	.000,	102.315,
802,	98.812,	1.856,	.000,	2.228,	.067,	.000,	102.963,
803,	85.611,	.128,	.000,	14.463,	.000,	.225,	100.427,
804,	84.007,	.006,	.032,	14.851,	.000,	2.277,	101.173,
805,	98.231,	.000,	.067,	3.350,	.007,	.051,	101.705,
806,	97.288,	.382,	.000,	3.218,	.021,	.000,	100.909,
807,	81.638,	.000,	.138,	18.788,	.033,	.272,	100.868,
808,	96.244,	.000,	.023,	5.640,	.004,	.000,	101.910,
809,	84.297,	.007,	.000,	12.466,	.017,	1.855,	98.642,
810,	85.779,	.073,	.000,	13.093,	.000,	.209,	99.154,
811,	93.126,	.000,	.000,	8.042,	.000,	.744,	101.911,
812,	98.699,	.351,	.000,	1.619,	.045,	.220,	100.934,
813,	78.921,	.000,	.022,	21.961,	.000,	.585,	101.490,
814,	82.886,	.000,	.000,	16.285,	.042,	.242,	99.455,
815,	97.016,	.000,	.000,	4.549,	.010,	.096,	101.671,
816,	96.838,	.105,	.182,	4.492,	.010,	.000,	101.627,
817,	83.569,	.200,	.000,	16.198,	.053,	.437,	100.457,

KU 532 -----

820,	94.114,	.202,	.000,	4.687,	.000,	.000,	99.004,
821,	95.038,	.183,	.000,	5.994,	.054,	.141,	101.410,
822,	89.875,	.000,	.000,	10.924,	.000,	.236,	101.035,
823,	95.826,	.197,	.000,	4.022,	.028,	.465,	100.539,
824,	95.974,	.000,	.000,	6.687,	.054,	.000,	102.715,
825,	95.713,	.504,	.000,	4.660,	.053,	.137,	101.066,
826,	97.501,	.341,	.027,	2.681,	.017,	.000,	100.566,
827,	95.315,	.219,	.000,	4.474,	.018,	.000,	100.026,
828,	87.913,	.088,	.000,	12.056,	.000,	.000,	100.058,
829,	90.556,	.000,	.000,	3.999,	.056,	.000,	94.611,
830,	96.745,	.275,	.000,	3.829,	.000,	.000,	100.850,
831,	95.463,	.175,	.000,	4.658,	.015,	.000,	100.311,
832,	91.368,	.473,	.000,	8.506,	.057,	.050,	100.453,
833,	89.675,	.318,	.000,	10.129,	.023,	.000,	100.145,
834,	87.892,	.274,	.000,	11.866,	.000,	.000,	101.032,
835,	96.520,	.107,	.000,	5.687,	.000,	.389,	102.703,
836,	91.169,	.098,	.000,	8.698,	.000,	.000,	99.965,
837,	94.945,	.025,	.000,	3.766,	.000,	.000,	98.736,
838,	84.954,	.129,	.000,	14.130,	.026,	.028,	99.267,
839,	84.810,	.144,	.000,	14.657,	.063,	1.546,	101.220,
840,	92.439,	.000,	.000,	8.234,	.021,	.187,	100.881,
841,	91.670,	.086,	.000,	9.367,	.000,	.000,	101.123,
842,	94.833,	.000,	.000,	6.968,	.018,	.000,	101.819,
843,	96.250,	.258,	.000,	6.299,	.000,	.000,	102.807,
844,	92.210,	.000,	.000,	7.696,	.000,	.000,	99.906,
845,	95.261,	.391,	.000,	5.159,	.029,	.151,	100.990,
846,	95.620,	.338,	.000,	2.460,	.000,	.000,	98.418,
847,	85.676,	.000,	.000,	13.405,	.000,	.000,	99.081,
848,	87.473,	.056,	.534,	13.109,	.046,	.000,	101.218,



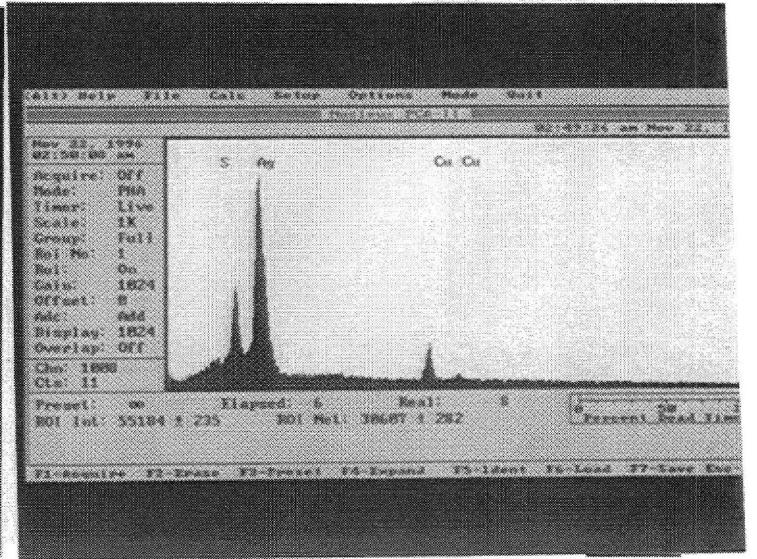
JALPAITE (MIDDLE GRAY), SILVER (BRIGHTEST), CELSIAN OR HARMOTOME (DARK GRAY) AND QUARTZ (BLACK). um



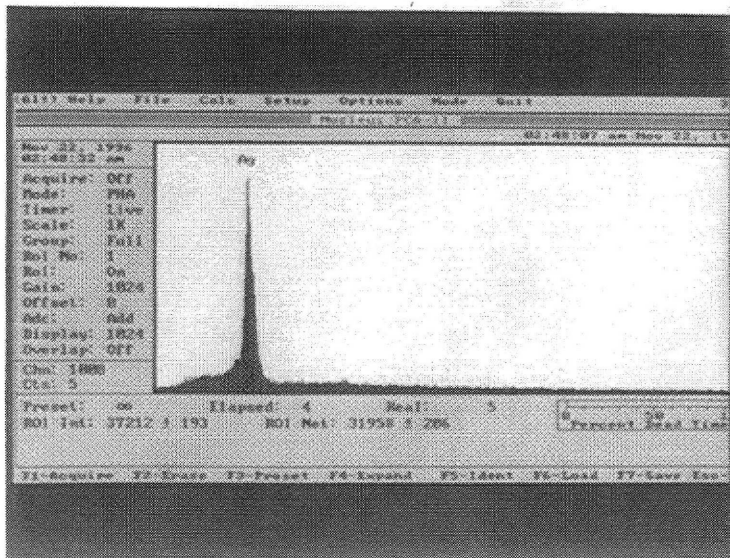
QUARTZ, JALPAITE, CELSIAN OR HARMOTOME AND SILVER. um



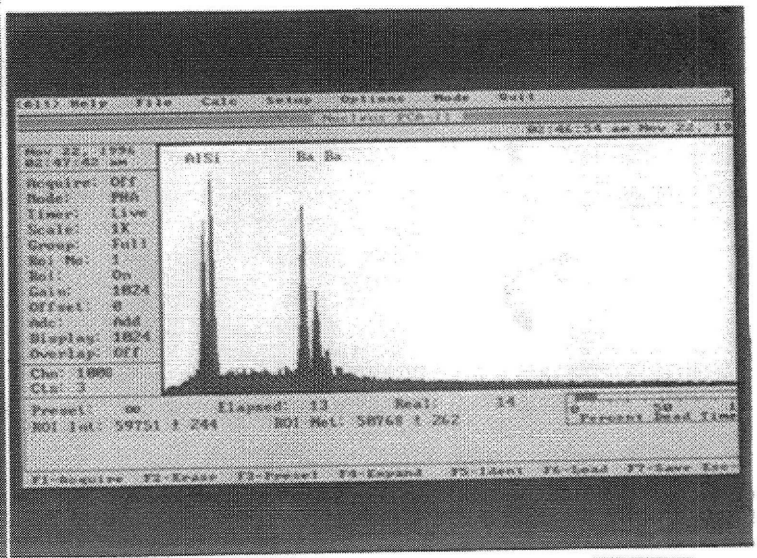
JALPAITE, HARMOTOME OR CELSIAN, SILVER AND QUARTZ. um



X-RAY SPECTRUM OF JALPAITE. um



X-RAY SPECTRUM OF SILVER. um



X-RAY SPECTRUM OF CELSIAN OR HARMOTOME. um