4-2-3 Results of Analysis for Heavy Mineral Samples

1) Analitical Method

Total 168 analytical results of heavy mineral samples were used for heavy mineral sample analysis. Those samples were taken from down side of stream junctions they were concentrated from 3 kg to 50 grams in each place by panning on these heavy mineral samples microchemical analysis for Au, Ga, Cu, Pb, Ag, Zn, Ni Co, Mn, As, Mo, Hg were carried out by atomic absorption method as same manner of stream sediment samples.

The result of chemical analysis are shown in Appendix 7.

According to the assumption that those data have shown log normal dispersion, their mean values, standard deviation are calculated and the data classified by threshold value (1.5σ value) and 2.0σ value into 1st and 2nd order of anomalies.

Those statistical values are shown in Table 11.

Table 11 Statistical Values on Geochemical Analysis of Heavy Mineral in Southern Sierra Madre-Polillo Area

Unit ; ppm

	Au*2	Ga	Cu	Zn	Ni	Co	Mn	As	Mo	Remarks
$\bar{x}$	-	18	42	306	39	41	1,883	31	2.5	
$\bar{x}+1.0\sigma$	-	26	76	547	56	58	3,037	72	4.1	
$\bar{x}+1.5\sigma$	-	31	100	731	67	69	3,857	110	5.3	Threshold value
$\bar{x}+2.0\sigma$	-	38	133	978	80	82	4,898	167	6.7	Over this value 1st order anomaly
Maximum Value	64.4	40	330	2,400	92	88	8,800	64	5	
Minimum Value	0.02	4	5	17	6	3	170	0.5	2	
Valid*1 Number	13	157	168	168	167	167	168	93	48	

*1 Valid number mean that analysis number minus under detection limit number.

*2 1st anomaly of Au estimate over 0.1 ppm value because valid number are very small.

* Analysis for Pb, Ag, Hg were carried out but they exception from statistical analysis because valid number show under 10% of sample number.

2) Characteristic Distribution of Anomalous Value

Distribution of anomalous values in each element are shown PL 6-1 ∿ 6-3.

Description of those are as follows.

Au; Over half 1st order anomalies accumulate in north part of Mt. Kaladang up stream of Umiray River, another four 1st order anomalies are seen in middle-south part of Santa Ines Quadrangle (maximum content Au; 64.4g/t in heavy mineral samples locate in this area) and middle part of Real Quadrangle.

In general view Au 1st order anomalies distribute middle and southern part of Southern Sierra Madre Area.

Ga; 1st order of Ga anomalies are seen in east coast of Ulalikan Point Quadrangle and west-end of Real Quadrangle, and 2nd order of Ga anomalies are located in east side Santa Ines Quadrangle and south-east part of Polillo Is. upper part of Bayabas Group are situated in these areas.

Cu; Two 1st order Cu anomalies are located in north-eastern part of Mt. Caladang. 2nd order of Cu anomalies are seen in north-west corner of Umiray River Quadrangle, and middle part of Deseada Point Quadrangle along Singawan River, both of them accompany with limestone in Bayabas Group.

Zn; Few samples which have $\bar{x}+\sigma$ Zn content are located in east coast of Ulalikan Point Quadrangle.

Ni; 2nd order of Ni anomalies are located in northern part of Mt. Caladang and middle part of Singawan River of Deseada Point Quadrangle.

Co; 1st order of Co anomalies are located in south-western part of Mt. Darahan of south-end part survey area, 2nd order of Co anomalies are distributed in eastern part of Santa Ines Quadrangle. Those anomalies accompany within Bayabas Group.

Mn; 1st order of Mn anomalies are distributed in northern part of Baras Quadrangle, and 2nd order of Mn anomalies are dipersed from east coast to inland area of Ulalikan point Quadrangle. These anomalies are situated in Bayabas Group distribution area.

As; 1st order of As anomalies are located in north-eastern part of Mt. Caladang, north branch stream of Tignuan River Real Quadrangle and Lunga River Ulalikan Point Quadrangle. These anomalies are situated in Bayabas Group distributed area.

Mo; Only one 1st order of Mo is located in north-eastern part of Mt. Caladang, where Bayabas Group distribute.

4-3 Bohol·Squijor Area

4-3-1 Basic Statistical Data

1) Statistical Data On Each Lithological Code

Before statistical analysis of geochemical results, four lithological populations are settled on the regard of geochemical characteristics of country rocks, those populations are as follows.

Lithological Code I	;	Sedimentary Rock Group. Sandstone, shale, conglomerate, limestone and alluvial sediment.
Lithological Code II	;	Ultramafic Rock Group.
Lithological Code III	;	Diorite, Andesite Group.
Lithological Code IV	;	Other Volcanics · Schist Group

Statistical data on each lithological code are shown in Table 12. Those data are calculated by logarithmic figure at first then transformed to antilogalithm figure.

Table 12 Statitiscal Value on Geochemical Analysis of Stream Sdemiment in Bohol·Squijor Area.

Lithological Code I Sedimetary Rock Group

Sample number 2,791, Ni, Co, Analytical data 1406, Mo, Ba, Analytical data 1385

Unit ; ppm

	Cu	Pb	Zn	Ag	Ni	Co	Mn	As	Hg (ppb)	Mo	Ba	Remarks
$\bar{x}$	27	3	48	0.1	28	17	603	4	28	2	52	
Value $\bar{x}+1.0\sigma$	57	8	86	0.2	80	36	1,246	11	56	3	300	
Value $\bar{x}+1.5\sigma$	84	12	115	0.3	135	52	1,791	18	78	4	420	*1 1 footnote Threshold
Value $\bar{x}+2.0\sigma$	123	18	154	0.4	229	77	2,575	30	110	5	590	Over this value 1st order Anomaly
Max. Value	138	357	2,500	0.9	1,700	135	10,000	100	330	12	1,040	
Min. Value	1	1	6	0.1	1	1	40	1	1	1	8	

Lithological Code II Ultramafic Rock Group

Sample number 42, (Mo, Ba, not Analized)

*2 footnote

Unit ; ppm

	Cu	Pb	Zn	Ag	Ni	Co	Mn	As	Hg (ppb)	Mo	Ba	Remarks
$\bar{x}$	39	2	46	0.1	207	34	966	1	13	-	-	
Value $\bar{x}+1.0\sigma$	59	5	66	-	1,032	52	1,330	3	21	-	-	
Value $\bar{x}+1.5\sigma$	72	8	80	-	2,306	65	1,560	4	26	-	-	*1 footnote Threshold
Value $\bar{x}+2.0\sigma$	88	13	96	-	5,153	80	1,831	6	33	-	-	Over this value 1 st order Amonaly
Max. Value	87	11	105	0.1	1,750	96	1,460	46	80	-	-	
Min. Value	14	1	25	0.1	2	12	560	1	10	-	-	

Lithological Code III Diorite · Andesite Group

Sample number 188 (Mo, Ba, Analytical data 6)

Unit ; ppm

	Cu	Pb	Zn	Ag	Ni	Co	Mn	As	Hg (ppb)	Mo	Ba	Remarks
$\bar{x}$	43	2	42	0.1	9	20	852	2	17	-	-	
Value $\bar{x}+1.0\sigma$	70	5	63	-	25	33	1,251	3	30	-	-	
Value $\bar{x}+1.5\sigma$	90	6	78	-	42	41	1,541	4	40	-	-	*1 footnote Threshold
Value $\bar{x}+2.0\sigma$	116	9	96	-	68	52	1,898	6	54	-	-	Over this value 1 st order Amonaly
Max. Value	156	22	165	0.1	333	54	3,400	22	80	6	400	
Min. Value	4	1	8	0.1	1	4	180	1	1	6	90	

Lithological Code IV Other Volcanics; Schist Group

Sample number 236 Ni·Co, Analytical data 125
Mo, Ba, Analytical data 111

Unit ; ppm

	Cu	Pb	Zn	Ag	Ni	Co	Mn	As	Hg (ppb)	Mo	Ba	Remarks
$\bar{x}$	32	4	49	0.2	24	13	669	4	28	2	106	
Value $\bar{x}+1.0\sigma$	59	9	72	0.3	66	31	1,344	10	58	3	287	
Value $\bar{x}+1.5\sigma$	81	13	88	0.5	111	46	1,905	16	80	4	376	*1 footnote Threshold
Value $\bar{x}+2.0\sigma$	110	20	107	0.7	185	70	2,700	26	113	5	494	Over this value 1 st order Amonaly
Max. Value	120	49	155	0.4	372	48	10,000	46	250	9	940	
Min. Value	8	1	18	0.1	2	1	100	1	10	1	40	

*1 Threshold values are estimated on $\bar{x}$ 1.5 because cumulative frequency curves used to change inclination at this value in many elements.

*2 Ag value on Code II and III has shown only 0.1 ppm, so statistical analysis are not provided.

Total Sample 3,253 Ni:Co Analytical data 1,748
Mo:Ba Analytical data 1,495

Unit ; ppm

	Cu	Pb	Zn	Ag	Ni	Co	Mn	As	Hg (ppb)	Mo	Ba	Remarks
$\bar{x}$	28	3	48	0.1	28	17	623	4	27	2	152	
Value $\bar{x}+1.0\sigma$	59	8	84	0.2	80	36	1,268	10	54	3	300	
Value $\bar{x}+1.5\sigma$	86	12	111	0.3	135	53	1,809	17	77	4	420	*1 footnote Threshold
Value $\bar{x}+2.0\sigma$	125	18	146	0.4	229	77	2,582	28	108	5	590	Over this value 1 st order Amonaly
Max. Value	138	357	2,500	0.9	1,750	135	10,000	100	330	12	1,040	
Min. Value	1	1	6	0.1	1	1	40	1	1	1	8	

2) Hystograms

Hystrograms of all analized elements are made on each lithological code, in which analysis values are divided to the intervals of 1/2 standard deviation value. (Appendix 5)

The different code hystograms sometimes show about same dispersion, in such case these hystograms are conbinated (as shown on analytical methods (8).

Characteristics of each hystogram are as follows

Cu; Hystograms of code I show wide frequency around 30 ppm, frequency peak locate somewhat distribution high content side, and gently sloped low content side.
Under detection limit number are below 1%.

In code II - III, frequency clearly concentrate to 40 ppm, and show steeper slop in high content side than low content side.

In code IV wide frequency distribution is shown around 30 ppm, maximum frequency peak located near 40 ppm and second peak is seen near 10 ppm.

Pb; In code I wide frequency distribution is shown near detection limit (1 ppm) maximum peak is seen, it might be influence of 20% samples under detection limit.

In code II frequency distributed around 2 ppm near detection limit maximum peak locate as same on code I.

In code III frequency showed gently slope from 2 ppm to high content side, as for low content side near detection limit (1 ppm) frequency is concentrated.

In code IV maximum frequency peak is seen near 6 ppm at high content side, the second peak located near detection limit (1 ppm)

Zn; In code I - IV typical log normal frequency distribution was seen around mean value (46 ppm), under detection limit samples were below 1%.

Ag; In code I maximum peak is seen near 0.1 ppm and samll amount frequency is located high content side. This is special case that 81% of sample contents concentrate to 0.1 ppm.

In code II and III 100% of contents concentrate to 0.1 ppm.

In code IV 61% of contents concentrate to 0.1 ppm and near 0.3 ppm small peak are abserved decline smooth to high content side.

Ni; In code I 61% of contents concentrate to mean value (28 ppm) and gently decline to high content side.

In code II frequency distribute around 200 ppm and smooth decline to low content side, small peak 6% of samples is seen near detection limit.

In code III -IV about 40% of sample contents concentrate near 10 ppm and gently decline to both side.

Co; In code I concentration of 60% contents is seen near 24 ppm and show steeper slope to high content side than that of low content side.

In code II two peaks of frequency are observed near 42 ppm and 26 ppm and smooth decline to both side.

In code III two peaks of frequency are seen near 25 ppm and 12 ppm, either of them have about 20% concentration and gently decline to both side.

In code IV over 50% concentration is observd near 31 ppm and show steep slop to high content side.

Mn; In code I 21% concentrate is shown near mean value (852 ppm) and decline steep to high content side, smooth to low content side.

In code II 27% concentrate is shown near 1133 ppm and over 10% concentrations are observed high and low both side, as the result of that distribution show box type shape.

In code III near 703 ppm the peak of 27% concentration are observed and decline gently to both side.

In code IV the peak of 23% concentration are seen near 472 ppm and decline smoth to both side.

As; In code I the peak which has 26% frequency is located near mean value (4 ppm) and decline smooth to high content side but in low content side the second peak of 22% concentration are seen near detection limit (1 ppm).

In code III - IV about 30% peak is seen near mean value (3 ppm) decline gently to high content side. Near detection limit 40% concentration is onserved.

Hg; In code I the peak of 23% concentration is located near 28 ppm and decline gently to high content side but in low content side two peaks of 25% and 14% concentration are observed near 14 ppm and 7 ppm.

In code II 72% concentlated peak is located near 10 ppm, 2nd peak of 13% concentration is seen near 17 ppm.

In code III - IV the first peak which show 50% concentration is observed, and second peak of 28% concentration is seen detection limit (1 ppm).

Mo; In code I - IV the first peak which show 56 % concentration is observed near detection limit (1 ppm). 2nd peak of 20% concentration is located near mean value (2 ppm) and decline smooth to high content side.

Ba; In code I - IV the first peak of 20% concentration is observed near 108 ppm gently decline to high content side and steep to low content side.

3) Cummulative Frequency Distribution Curve

Cummulative frequency distribution curve on each element and on each lithological code are shown in Appendix 5.

Cu; The curve on each code shows nearly log normal in shpae. Turning point of each curve is in the interval class "12", therefore it is suitable that the threshold value is to be "mean + 1.5σ " in the class "12".

Pb; The distribution is not clear by reason that most of values are near the detection limit. However, the turning point is recognized in the interval class "12" on the code II and III.

Zn; The curves on every code take tipically log normal ones.
The turning point on each code is to be in the interval class "12".

Ag; Details of distribution is not clear because almost all of values show about detection limit one.

Ni; Values on each code are frequently distributed near the mean. But the turning point on the code III and IV seem to be in the interval class "12" (mean + 1.5σ).

Co; Almost of values are distributed near the mean.
The turning point on the code II and III are recognized in the interval class "12" (mean + 1.5σ) and "11" (mean + 1.0σ).

Mn; Curves on code I, III and IV show nearly log normal distribution in shape, on the other hand the curve on code II takes box like one. The turning points are recognized in the interval class "12" (mean + 1.5σ) for code I and IV and the class"13" for code III.

As; Every value is distributed near the mean.
Nevertheless the turning point seems to be in the interval class "11" (mean + 1.0σ) on code III and IV.

Hg; Many values show about the mean. However, it seems that the curves on code I, III and IV have the turning in the interval class "11" (mean + 1.0σ).

Mo; It is not able to analyze data due to distributing many values around the mean.

Ba; The curve on each code has log normal distribution one in shape and then has the turning point in the interval class "12" (mean + 1.5σ).

4) Correlation Coefficient

Correlation coefficients on values between elements are shown in the Table 13. Number of samples are 3,243 for Cu, Zn, Mn and As, 3,246 for Ag, 3,244 for Hg, 3,240 for Pb, 1,748 for Ni and Co and 1,495 for Mo and Ba.

Table 13 Correlation Coefficient List of Geochemical Data in Bohol·Siquijor Area

	Cu	Pb	Zn	Ag	Ni	Co	Mn	As	Hg	Mo	Ba
Cu	1.0	0.32168	0.70801	-0.18548	0.42256	0.69930	0.77426	-0.03198	0.10057	-0.18275	0.36952
Pb		1.0	0.46447	-0.01572	0.04783	0.05258	0.38589	0.58552	0.46469	0.09512	-0.03012
Zn			1.0	-0.14513	0.42280	0.58575	0.70162	0.23875	0.19843	0.01778	0.23023
Ag				1.0	-0.17996	-0.54387	-0.29126	-0.05254	-0.03124	0.24046	-0.11784
Ni					1.0	0.58225	0.44700	-0.00682	0.05740	-	-
Co						1.0	0.78660	-0.24094	-0.03099	-	-
Mn							1.0	0.05000	0.15182	-0.10731	0.11699
As								1.0	0.46394	0.19421	-0.14659
Hg									1.0	-0.17298	-0.27043
Mo										1.0	-0.08916
Ba											1.0

4-3-2 Local Distribution of Anomalous Values for Detective Elements

The locations of each anomalous value which are selected by the manner as shown 4-3-1. Each anomalous value is classified by the symbol as shown in next.

Analized Value	Symbol	Rank
$\bar{x} + \sigma \leqq Z \quad \bar{x} + 1.5\sigma$	●	
$\bar{x} + 1.5\sigma \leqq Z \quad \bar{x} + 2.0\sigma$	▲	2nd order anomaly
$\bar{x} + 2.0\sigma \leqq Z$	■	1st order anomaly

The elements which showed special frequency (Pb, Ag, As, Hg, Mo) are classified in same manner.

The distribution characteristics about each elements are described as follows.

Cu; Anomaly zone which consist three 1st order and four 2nd order Cu anomalies locate in northern part of Kansuhay south-eastern part of Bohol. This anomaly accompany Boctol serpentinite. Next scale anomaly zone which consist seven 2nd order Cu anomalies is seen east side Anda Peninsula accompanied with Jagna Andesit. Another cu anomalies are located near Calape NW Bohol Is., and east side of Mt. Calamanoc. The former situate in Carmen formation and later is in Maribojoc Pleistocene limestone.

In Siquijor Is. several 1st and 2nd class Cu anomalies are accumulated around Siquijor town accompanied Siquijor limestone.

Pb; Anomaly zone which consist nine 1st order Pb anomalies locate at east side Tambo east coast of Bohol Is. accompanied Sierra Ballones limestone and Carmen formation. Next scale anomaly zone which consist eight 1st order of Pb anomalies locate along east branch stream of Loay River southern Bohol Is., in Carmen formation. Another anomalies distribute at middle-southern part of Anda Peninsula, along Cocotation River in southern part around Balilliham and Mt. Calmanoc in western part and southern part of Carmen in middle part of Bohol Is.

In Siquijor Is. several 1st and 2nd order Pb anomalies are accumulated around Siquijor town of west Siquijor Is. in Siquijor limestone.

Zn; Several 1st and 2nd order of Zn anomalies are located at eastern side of Anda Peninsula in Jagna andesite, at south part of Carmen and south-eastern part of Tigbao in Carmen formation and around Mt. Calmanoc in Maribojoc limestone.

In Siquijor Is. three 2nd order Zn anomalies are scattered in southern part of Is. and anomaly zone is not recognized.

Ag; Several 1st and 2nd order of Ag anomalies are distributed at west branch stream of Manaba River, east side of Anonang around Mt. Binaloo in southern part and around Mt. Calmanoc in west coast of Bohol Is. These anomalies are observed in Carmen formation, Sierra Bullones limestone and Maribojoc limestone. In Siquijor Is. all samples are under detection limit, therefore, anomalous value not obtain.

Ni; Anomaly zone which consist many 1st and 2nd Ni anomalies are distribute from Guindalman to Kansuhay (NW-SE 7km, NE-SW 15 km in scale), west side of Tambo in east coast, around Alicia in east part, and northern part of Anda Peninsula.

Almost all anomalies distribute in Boctol serpentinite.

In West and South of Bohol Is., Ni analysis is not carried out, therefore, details are unknown . In Siquijor Is. few 2nd order Ni anomalies are scattered in sothern part of Is. there is no accumulation zone.

Co; Concentration of 1st and 2nd order Co anomalies are located at Boctol serpentinite distributed area in south-eastern part, at Jagna andesite distributed area in east side Anda Peninsula.

At Ubay volcanics distributed area in west side Tambo, in north-eastern side of Alicia and south-eastern side of Ubay.

In west and south of Bohol Is. Co analysis is not carried out, therefore, details are unknown.

In Siquijor Is. only one 2nd order anomaly locate at middle of Is.

Mn; Anomaly zone which consist several 1st and 2nd order Mn anomalies are distributed at Ubay volcanics distributed area in south-eastern side of Ubay, at Jagna andesite distributed area in east side of Anda Peninsula, at Carmen formation distributed area in northern side of Lila and south-eastern side of Tigbao and at Maribojoc limestone distributed area around Mt. Kalmanoc.

In Siquijor Is., over ten 1st and 2nd order Mn anomalies are accumulated in broad scale (10 km E-W x 8 km N-S) at west part of Is.

As; Several 1st and 2nd order As anomalies are concentrated at around and southern part of Carmen, where Carmen formation and Maribojoc limestone distribute, at Maribojoc limestone distributed around Cangtacis and Sagbayan and at Sierra Bullones limestone distributed area in south-western part of Anda Peninsula.

In Siquijor Is., two anomalies are scattered at middle and south-eastern parts of Is.

Hg; Anomaly zone which consist 1st and 2nd order Hg anomalies are located at Maribojoc limestone distributed area from Mt. Calmanoc to Canlaas in west coast. At Carmen formation and Maribojoc limestone distributed area in southern side Tigbao and at Sierra Bullones limestone distributed area north-eastern side of Anas and middle-south part of Anda Peninsula.

In Siquijor Is., over ten 1st and 2nd anomalies accumulate in broad scale (10 km E-W x 8 km N-S) at west part of Is.

Mo; Big anomaly zone which consist many 1st and 2nd Mo anomalies are located from Carmen to Batuan in broad scale (15 km in NE 8km in NW), where Maribojoc limestone distributed, and another anomaly zones are located at Carmen formation distributed area in north side Dimlao (south coast) and from Cortes (west coast) to Baliliham (middle west).

In south and east part of Bohol Is., and Siquijor Is. Mo analysis is not carried out, therefore, details are unknown.

Ba; Big anomaly zone which consist many 1st and 2nd Ba anomalies are located form Liloan (north-west side) to Calape (west coast) in broad scale (30 km in NE 4 km in NW) accompanied Carmen formation distributed area.

Another anomaly zone is not recognized.

In south and east of Bohol Is. and Siquijor Is. Ba analysis is not carried out, therefore, details are unknown.

4-3-3 Results of Analysis for Heavy Mineral Samples

1) Analitical Method

Total 134 analytical results of heavy mineral samples were used for heavy mineral sample analysis. Those samples were taken from down side of junction of streams, they were concentrated from 3 kg to 50 grams in each place by panning.

On these heavy mineral samples microchemical analysis for Au, Ga, Cu, Pb, Ag, Zn, Ni, Co, Mn, As, Mo, Hg were carried out by atomic absorption method as like of stream sediment samples.

The result of that are shown in Applendix 7. According to the assumption that those data have shown logarithmic normal disperssion, mean values, standard deviations are calculated, and the data are classified by threshold value ($\bar{x}$+1.5σ value), and $\bar{x}$+2.0σ value into first and second order of anomalies.

These statistical values are shwon in Table 14.

Table 14 Statistical Values on Geochemical Analysis of Heavy Mineral in Bohol·Siquijor Area

Unit : ppm

	Au*2	Ga	Cu	Zn	Ni	Co	Mn	As	Mo	Remarks
$\bar{x}$	-	14.5	35.1	17.04	41.9	38.5	1,079.6	19.6	4.7	
$\bar{x}+1.0\sigma$	-	25.4	62.6	299.3	83.5	64.0	1,786.5	59.6	8.7	
$\bar{x}+1.5\sigma$	-	33.5	83.7	384.8	117.8	82.5	2,298.1	103.8	11.9	Threshold value
$\bar{x}+2.0\sigma$	-	44.4	118.8	504.8	166.3	106.4	2,956.3	181.0	16.2	Over this value 1st order anomaly
Max. Value	1.1	52	191	570	290	141	63,000	200	25	
Min. Value	0.02	4	4	9	4	4	79	0.6	2	
Valid*1 Number	8	85	134	134	134	134	134	101	65	

*1 Valid number mean that analysis number minus under detection limit number.

*2 1st anomaly of Au estimate over 0.1 ppm value because valid number are very small.

* Analysis for Pb, Ag, Hg were carried out but they except from statistical analysis because valid number show under 10% of sample number.

2) Characteristic distribution of anomalous value.

Distribution of anomalous values in each element are shown in PL8-1 ~ 8-2.

Hereinafter characteristic distribution of anomalous values in each elements are described.

Au; The first order of anomalies (over 0.5 ppm Au) near Cambangay Norte, west part of Maribaribod in northeast of Bohol Is., and southern part of Clarin in northwest part of the Is. those anomalies are seen in Carmen formation.

Second order of anomalies (over 0.1 ppm Au) are observed in west parts of Cangtasis, near Dimlao southern coast, northern part of Sierra Bullones, the mouth of Cabulao river in east coast and north east side of Cambangai Norten northeast parts of Bohol Is.

Ga; The first order of anomalies (over 44.4 ppm Ga) are seen at southern part of Carmen and Balilliham in middle and western Bohol Is.

Second order of anomalies are seen east side of San Isidro. (South-western Bohol Is.)

Cu; The first order of anomalies (over 111.8 ppm Cu) are seen at near Bilar, the mouth of Coconition River of south coast and southwestern part of Balilliham in south and west parts of Bohol Is., all of them have concerned Carmen formation and Sierra Bullones limestone.

Second order of anomalies (over 83.7 ppm Cu) are distributed at the mouth of Cablao River in east coast Bayacabac in west coast and Dimlao in south coast Bohol Is.

Zn; The first order of anomalies (over 504. 8 ppm Zn) are seen at near Carmen in middle part of Bohol Is., concerned Carmen formation orignated in middle and upper miocene.

Second anomalies (over 384.8 ppm Zn) are situated at south side of Calpe in north western coast and Valenecia in south coast of Bohol Is., concerned Carmen formation.

Ni; The first order of anomalies (over 166.3 ppm Ni) are distributed two places at the west side of Gurndulman in south east coast of Bohol Is. Bohol serpentine at west side of here provide some influence to these anomalies.

Second order of anomalies (over 117.8 ppm Ni) are seen at south side of Loyowaig located west side above mentioned serpentine tntrusive, and near Balilliham, San Isidro in western part of Bohol Is.

Co; The first order of anomalies (over 106.4 ppm Co) are located at south side of Bilar in middle south part and south side of Pondol in north-west coast of Bohol Is., either of them are accompanied Carmen formation.

Second order of anomalies (over 82.5 ppm Co) are seen at near Mt Candangao in north west Bohol Is.

Mn; The first order of anomalies (over 2956.3 ppm Mn) are situated at near Carmen and Biral in middle south Bohol Is. And north east coast of Siquijol Is., the later showed 63,000 ppm (6.3%) content of Mn. Those anomalies are originated from Cangrasac Volcanics which distributed in north eastern highland of Siquijol Is. As;The first class of anomalies (over 181 ppm As) are located at south east side San Isidro in western Bohol Is. In this area, Malybohog limestone mainly have distributed and mineralizatiuon are unknown yet.

Second order of anomalies (over 103.8 ppm As) are observed at south side of Carmen and south side of Loyowaig in middle south of Bohol Is., in these area Carmen formation and Sierra Bulones limestone which orignated in middle and late miocene are commonly observed.

Mo; The first order of anomalies (over 16.2 ppm Mo) are located at south side of Carmen.

Second order of anomalies (over 11.9 ppm Mo) are seen at near Biral, San Isidro and up stream of Sinigawan River in middle and West parts of Bohol Is.

4-4 Synthetic Evaluation for each Anomaly Zone

Up to former chapter, each element anomaly zone is described. The main purpose of this survey is to exptract promissing area through the synthetic evaluation for each anomaly zone. For this purpose, score corresponding to each anomaly rank of each element is given to each samples, and each element score is piled up as total score for each samples.

Total score which calculate such manner is regarded to represent mineral potential of each sampling point according to this assumption, evaluation on each sampling point is carried out.

The score which give to each analytical value (Z) is as follows.

Analitical Value (Z)	Score
$\bar{x} + 1\sigma \leqq Z < \bar{x} + 2\sigma$	2
$\bar{x} + 2\sigma \leqq Z < \bar{x} + 3\sigma$	3
$\bar{x} + 3\sigma \leqq Z < \bar{x} + 4\sigma$	4
$\bar{x} + 4\sigma \leqq Z$	5

These total score is classified following rule and result of that is drawn by symbol on maps.

Total Score (V)	Symbol
$2 \leqq V < 5$	○
$5 \leqq V < 8$	●
$8 \leqq V < 10$	▲
$10 \leqq V$	■

Total scores of southern Sierra Madre·Polillo Area are shown in PL5-1∿ 5-3 and Bohol·Siquijor area are shown in PL7-1∿ 7-2.

From these maps high grade total score zone is selected. In former area, the north and north-eastern part of Mt. Caladang (up stream site of Umiray River) is extracted as 1st class mineral potential zone, and in the later area southern part of Carmen (middle part of Bohol Is.) is extracted as same means.

2nd class mineral potential zones are as follows.

Southern Sierra madre·Polillo Area

i) Estern part of Santa Ines Iron Mine
ii) Around Mt. Maon (southern part of Umpacan Quadrangle)
iii) Up stream part of Magsaong River (north-western corner of Ulalikan Point Quadrangle)

Bohol·Siquijor Area

i) Around Mt. Calmanoc (West coast of Boho Is.)
ii) Around Anda Peninsula
iii) Around Tigbao (mid-west of Bohol Is.)

5 Summary and Consideration

5-1 Summary of Survey

5-1-1 Geology and Structure

Southern Sierra Madre·Polillo Area and Bohol·Siquijor area which are target areas for this survey are belonging to Philippine mobil belt, and pre-tirtiary schists and optiolitic terraines which originated from Mesozoic to Paleogene are underlain as basement to all Neogene calcarous member in both areas.

But tectonic movements which have influenced on both areas are quite different, especially after Miocene.

Southern Sierra Madre·Polillo Area was not only divided into two parts by the Philippine fault which assumed after Miocene movement, but also was cut to numerous blocks by derived faults from former one, then diorite intruded western part of this area and present mountain range was raising up as horst style. As the results such strong Orogenic movement the Neogene member situate only west side Southern Sierra Madre Mountain Range and east and north-west side of Polillo Is., in present time.

On the other hand in Bohol and Siquijor Area basement member as above mentioned were tilted and lifted up by the side pressure from east, and these ophiolite terraines were surrounded by calcareous Neogene member which folded gently and controlled by NE direction of folding axis. The structure of Bohol·Siquijor are very simple such as mentioned. And they have not Neogene intrusive rocks in large scale.

5-1-2 Mineralization

The different styles of mineralization are observed in both areas, because they have experienced quite change tectonic movement. Almost all ore deposits in Southern Sierra Madre·Polillo Area have relation to Neogene intrusive rocks especially diorite.

Contact metamorphic deposits as Santa Ines Iron Mine, not recognize in Boho·Siquijor Area.

Mineralization types of later area are mainly porphyry copper type and vein type which were influenced by Talibon diorite assumed Cretaceous intrusion. Another mineralizations are orthomagmatic Ni deposits concerned Boctol serpentinite and residual Mn deposit as cavity filling and accumulated in low ground of limestone.

5-1-3 Relationship between Geochemical Survey and Mineralization

Results of geochemical analysis for stream sediment and heavy mineral samples express fairly correspondence to above mentioned geological structures and mineralization data. For instance Boctol serpentinite distribution in south-eastern Bohol Is. is quite similar to Ni anomaly zone, and at northern part of Mt. Caladang in Southern Sierra Madre area many elements 1st order anomalies have accompanied, and in just same place Marcopper Matani Au prospect and Lumbay Collosal Cu prospect are known, on the other hand, in east side of Santa Ines Iron Mine, 1st order Ag anomaly of stream sediment accompany with maximum Au anomaly (64.4 g/t) of heavy mineral samples.

Each indicate elements of stream sediment sample used to show duplicated anomalous value in mineralization are as shown in above mentioned instance. This is suitable condition that the evaluation of mineral potential on each sampling point is carried out by using total score.

The influences of primary abundant elements in each rocks are removed by using lithological code.

5-1-4 Conclusion of Survey

This survey have carried out as the first year field work for Impremental Agreement which concluded 26th of September 1984. And Southern Sieramadre•Polillo Area (4,770 km^2) and Bohol•Siquijor Area (4,450 km^2) are selected for target areas.

Actual Survey were carried out by seven Japanese side member and over twenty Phlippine side member from 10th of April to 15th of July in 1985.

As for geology of both area a lot of new results were supplied to former data, on the other hand 4,306 stream sediment samples and 171 heavy mineral samples are collected in Southern Sierra Madre•Polillo area and 3,130 stream sediment samples 120 heavy mineral samples are collected Bohol•Siquijor Area.

Microchemical analysis of Southern Sierra Madre•Polillo Area stream sediment samples and both area heavy mineral samples were taken place in PETROLAB of BMG on Au, Ga, Cu, Pb, Zn, Ag, Ni, Co, Mn, As, Hg, and Mo, Bohol•Siquijor stream sediment samples were analized by Chemex Co., in Canada on Cu, Pb,Zn, Ag, Ni, Co, Mn, As, Hg, Mo, and Ba using atomic absorption method in both. Analytical work have finished 13th August 1985.

This Report is summarized results of field survey and results of statistical analysis on microchemical analysis data. Statistical analysis is carried out by using computer and univarious analysis method.

Following items are clearfied by synthetic consideration on these results.

1) Pre-Tertiary schist and up to Paleogene ophiolitic terraine have underlain as basement and Neogene member have overlain on these basement in both area.

2) After Miocene quite different tectonic movement have controlled on both area, namely, Bohol•Siquijor basement have uplifted by side pressure from east, then Neogene calcareous member have surrounded around these movement, yonger member have controlledd gently folding which has NE-SW axis. On the other hand Southern Sierra Madre•Polillo Area have controlled strong block movement concerned Philippine and adjacent faults, their diorite intruded western part of this area and present mountain range (Southern Sierra Madre Mountain Range) was uplifting as horst style as the result of such strong tectonic movement Neogene member situated only west side of mountain range and east and north-west side of Polillo Is.

3) Many mineralizations in Southern Sierra Madre•Polillo Area have concerned to these Neogene intruded diorite group and some times express high content of gold.

   In Bohol•Siquijor Area many mineralization have concerned to Mesozoic intruded diorit, but in Anda Peninsula Miocene Jagna andesite show some mineralization.

4) The results of analysis for geochemical data show fairly correspondence to above 1)~3) geology, tectonics and mineralization. Especially in mineralization area several

indicate elements used to express duplicated anomalies, therefore, the evaluation for mineral potential of each sample point is possible to use total score of each sample.

5) From the results of above mentioned evaluation, several promising areas are extracted, these areas as follows.

Southern Sierra Madre·Polillo Area

i) North and north-eastern part of Mt. Caladang (up stream part of Umiray River) this zone contains Marcopper Matani Prospect and Lumbay Collosal showing.

ii) East side of Santa Ines Iron Mine (maximum Au; 64.4% content of heavy mineral samples locate in this zone.)

iii) Around Mt. Maon southern part of Umpakan Quadrangle. (Cu, Pb, Zn, anomalies accumulate around diorite intrusive body)

Bohol·Siquijor Area

Mineralization area around Talibon diorite not include survey area, therefore, the relationship between results of analysis on geochemical data and mineralization is somewhat unclear, but Carmen formation is selected as high mineral potential member, this formation has many anomaly zones, for intstance southern part of Carmen town (middle part of Bohol) Dimlao (south coast) Tigbao (south-western part) Clarin (north-west part).

In Bohol Is. after Miocene mineralization is unknown but according to this results the necessity of following survey on Carmen formation seems to increase.

6) PH and electric conductivity of water at sampling point were measured in field survey. In Southern Sierra Madre·Polillo Area generally pH shown 7∿8.5 weak alkaline values but middle of Southern Sierra Madre mountain range, it shown 6.4∿6.9 weak acidic values. As for electric conductivity it shown usually 200∿500 μs/cm but near seashore it changed over 1,000 μs/cm.

In Bohol and Siquijor Area, pH shown 7∿8 weak alkaline value usually but north-eastern part of Alicia it changed to 6.9 weak acidic value, electric conductivity value in the area expressed 400 μs/cm in general, at near seashore it changed up to 20,000 μs/cm in maximum.

5-2 Recommendation for Following Work

In this survey, above mentioned summary are introduced by the result of statistical analysis about 8,000 geochemical data. But in this process many side evidences are necessary for correct decision, fortunately in this survey, high level geological survey were carried out simultaneously. Such geological data gave good help for statistical analysis on geochemical data. In future, it is desirable that more high level geological survey will carry out simultaneously, especially dating for rocks is important to decide mineralization age, scale, and character.

As for indication elements, in this survey over 10 elements are adopted for the purpose to check the regional character on each elements but some of them show under detection limit contents and the problem on statistical procedure is happend.

In future, adoption of such elements have to avoid and several basic element definite and 2-3 element put on for the purpose to response local character. On the method of statistical analysis, the main purpose of this survey is extraction of promissing area by statistical analysis on multi elements geochemical data, therefore, maltivarious analysis method seems to be rather efficient than univarious analysis method which use in this report.

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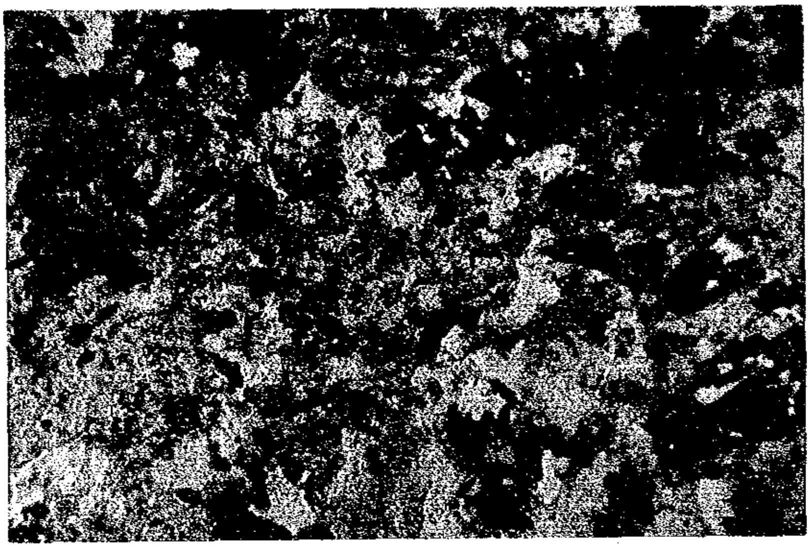
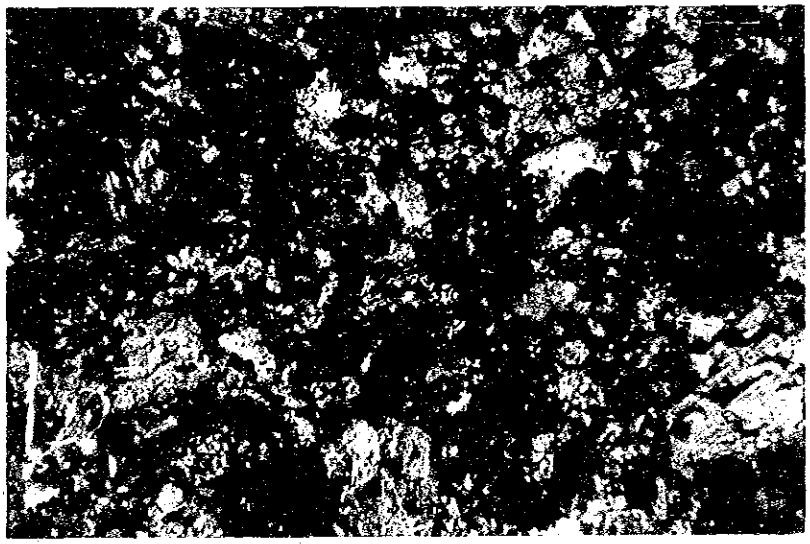
Appendix 1
Microphotographs (Thin section)



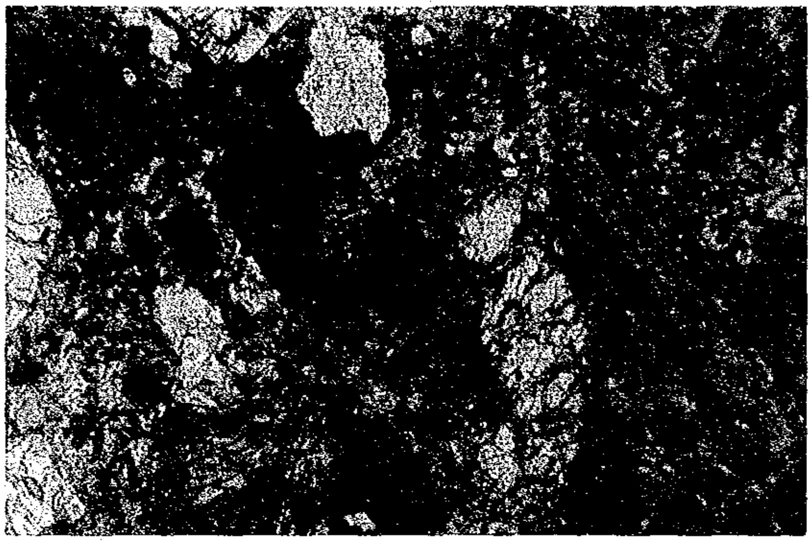


No. H524-1

Hornblende andesite

Phenocrysts are composed of plagioclase (andesine to labradorite) and hornblende. * Foliated chlorite is scattered in matrix of fine grained plagioclase and glass. Magnetite is present.

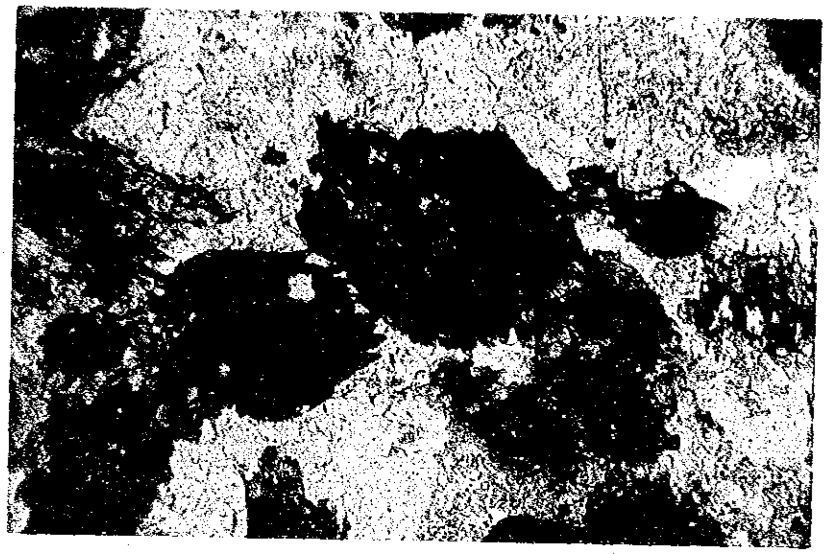
* The latter shows strong anisotropy.

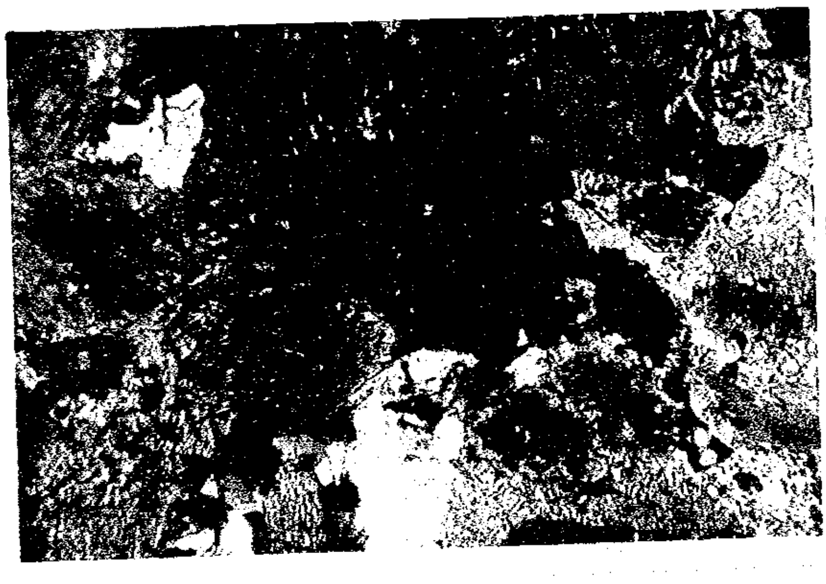


No. J514-9

Two pyroxene andesite

The rock shows hyaloophitic texture. Phenocrysts is plagioclase and augite. Chlorite replaces augite. Matrix contains abundantly magnetite.

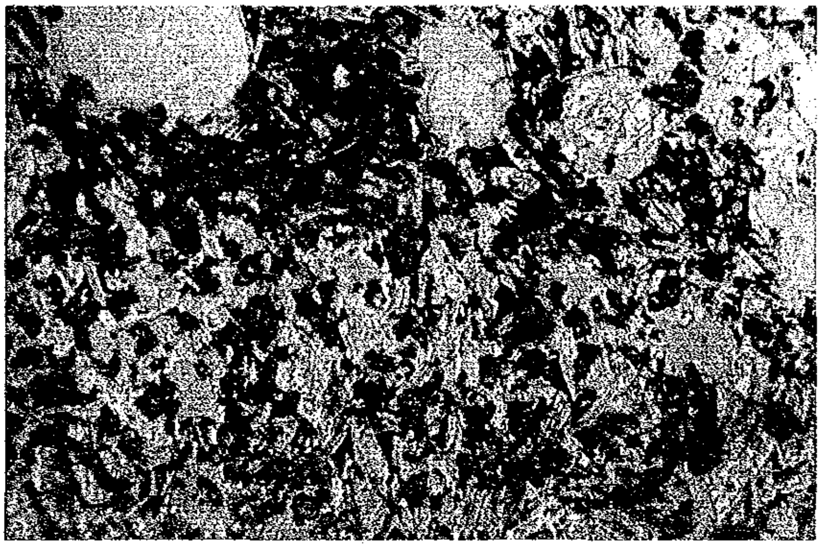




No. B517-2

Augite andesite

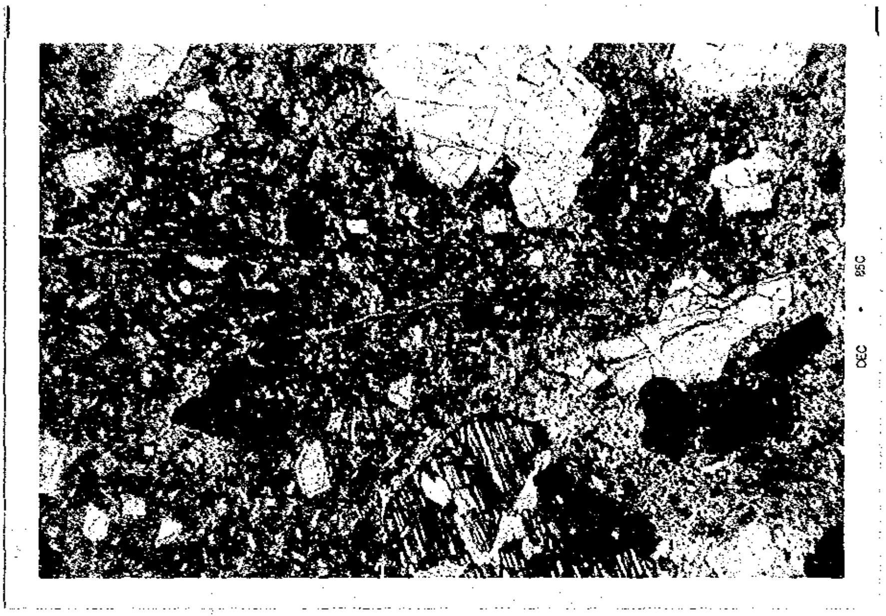
The rock shows porphyritic texture. Phenocrysts are composed of plagioclase and augite. As a whole alteration product is chlorite. Many augite is largely replaced by chlorite.



No. B617-1

Pyroxene andesite

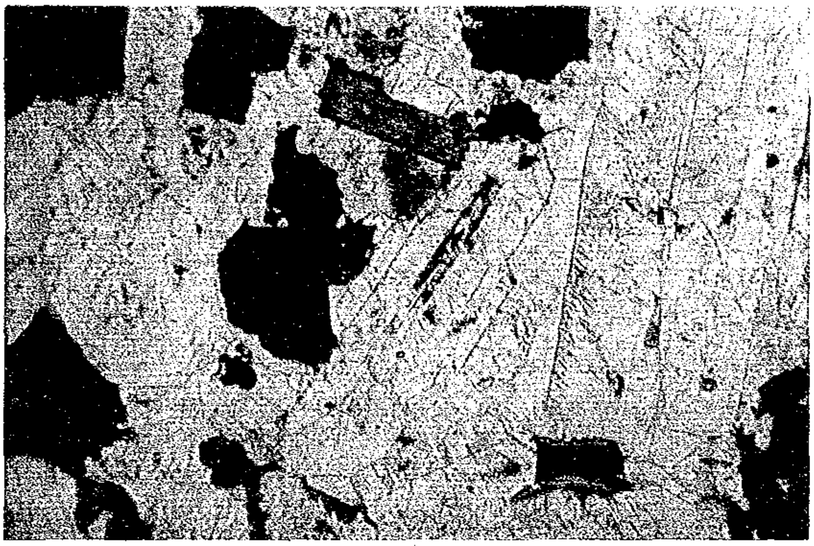
The rock shows fairly flow texture. Phenocrysts are composed of flesh plagioclase and subhedral to anhedral augite. Matrix of lath shaped crystals of plagioclase with glass in an intergranular.



No. Ao 529-36

Basalt

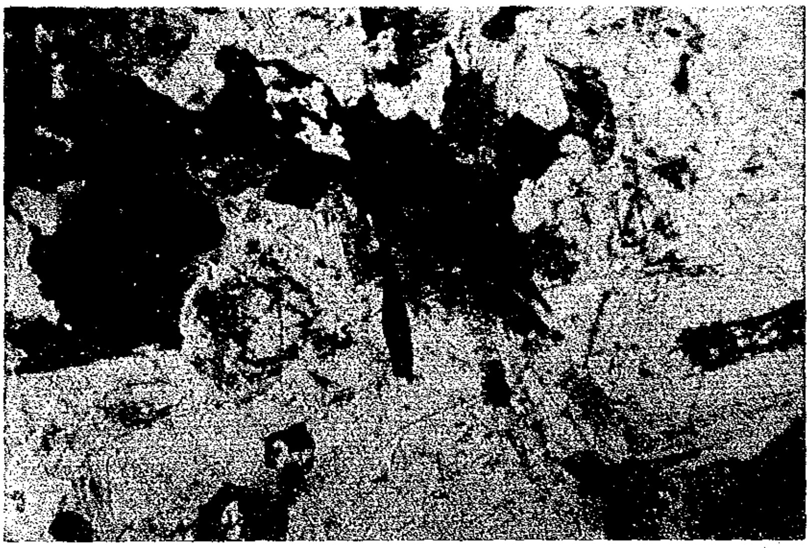
Phenocrysts are composed of plagioclase (mainly andesine) and augite. Foliated chlorite fills in an intergranular matrix. Magnetite is present.

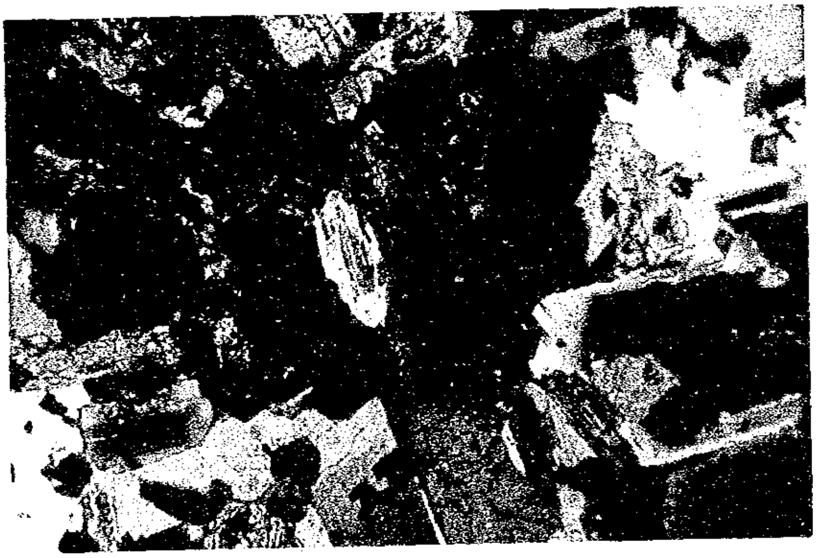


No. CO/2785

Quartz diorite

Phenocryst is composed of plagioclase (mainly andesine), amphibole, biotite and quartz. Small amount of sphene, zircon and apatite are present.





NO. I54-3264 II

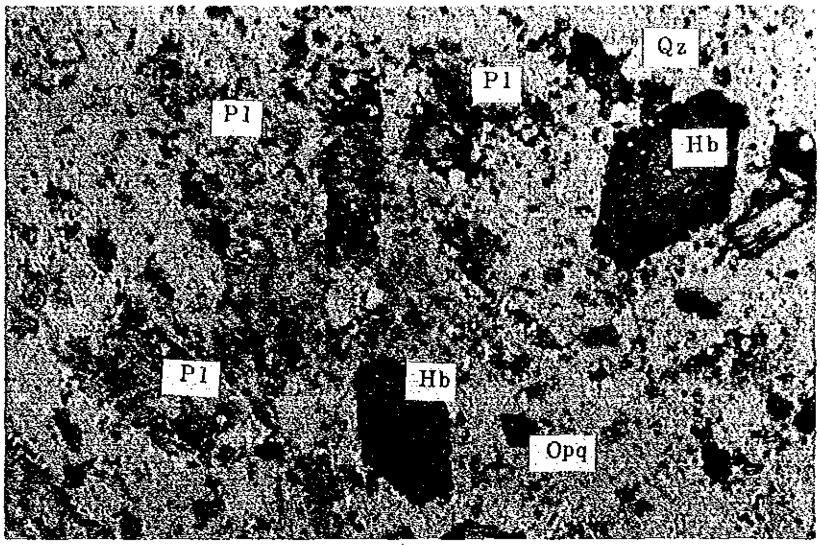
Hornblende quartz diorite

The rock is holocrystalline and flesh. Plagioclase is large crystal with basic center mainly and containing sometimes hornblende fragment. Hornblende shows sametimes poikilitic texture and anisotropy. Quartz is abandant as an intergranular filling. Mafic minerals are altered partly to chlorite. Magnetite is present.

Bonakan

Altered andesite

Containing phenocryst of plagioclase in skelton crystal and opacitized amphibole.



Open nicol

0 0.5mm

Crossed nicols

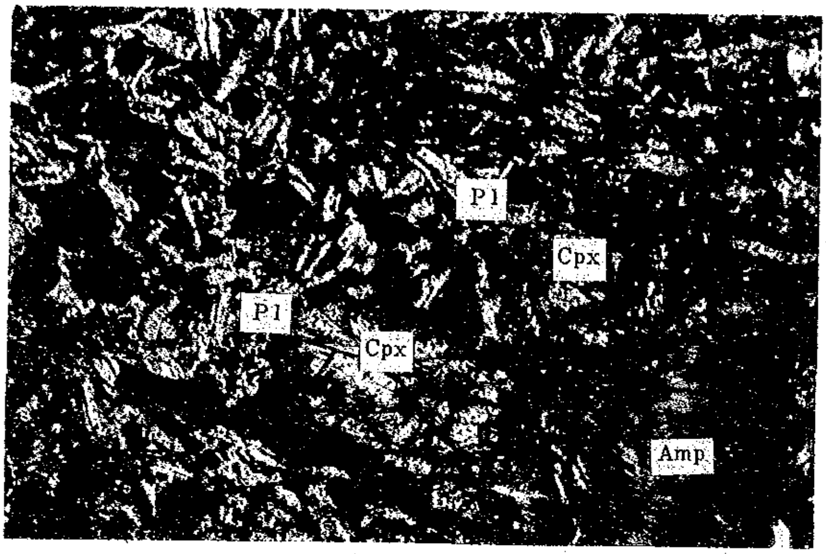
0 0.5mm

Pl : Plagioclase
Hb : Hornblende
Qz : Quartz
Opq : Opaque mineral

R-15

Altered andesite

Strongly amphibolitized.



Open nicol

0 0.5mm

Crossed nicols

0 0.5mm

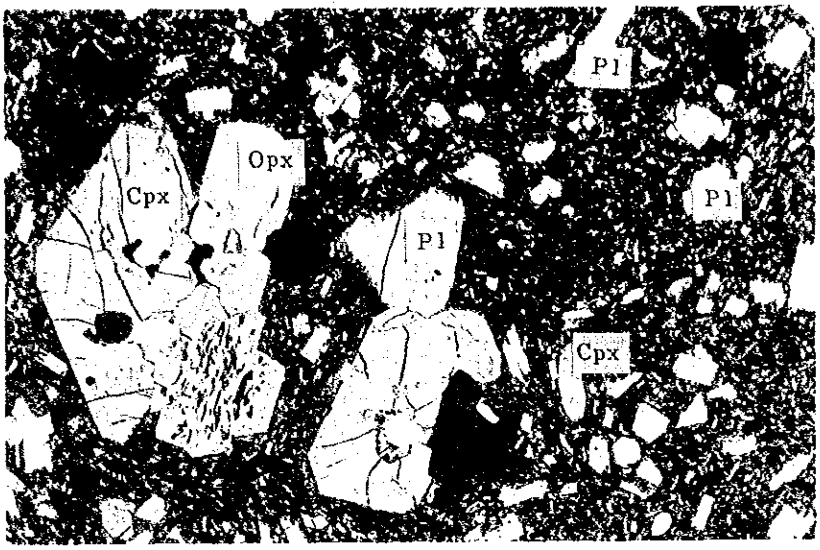
Pl : Plagioclase
Cpx : Clinopyroxne
Amp : Amphibole

CR-16

Two pyroxene andesite

The rock shows clearly porphyritic texture.

Phenocrysts are composed of plagioclase and clino and orthopyroxene.



Open nicol

0 0.5mm

Crossed nicols

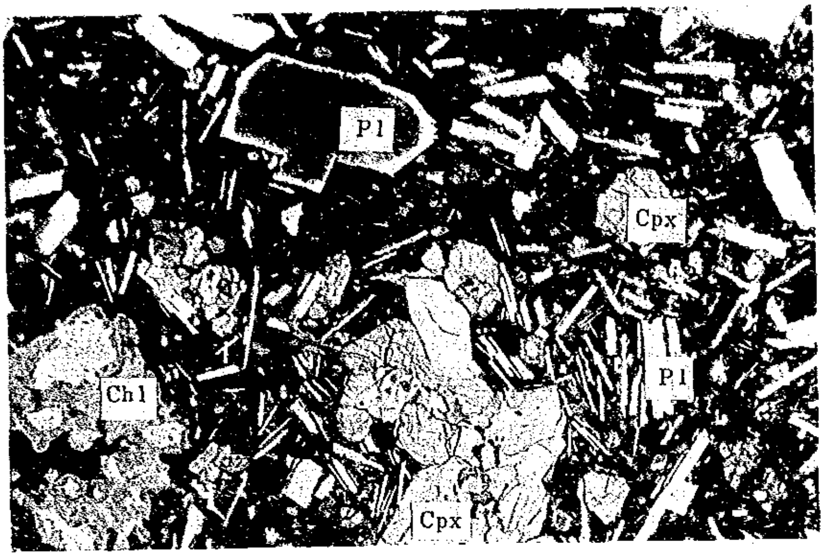
0 0.5mm

Cpx : Clinopyroxene
Opx : Orthopyroxene
Pl : Plagioclase

AR-17

Basalt

Phenocryst is enhedral plagioclase lath. Matrix and cavity parts are filled with chlorite - serpentine like minerals.



Open nicol

0 0.5mm

Crossed nicols

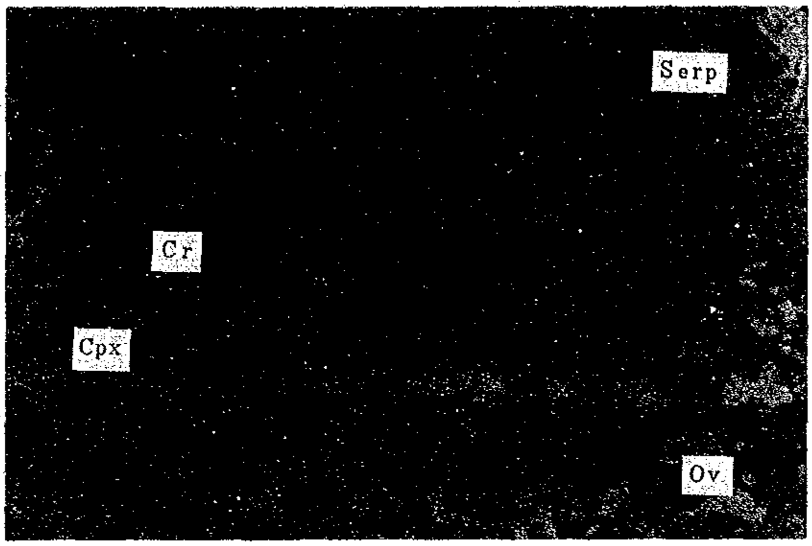
0 0.5mm

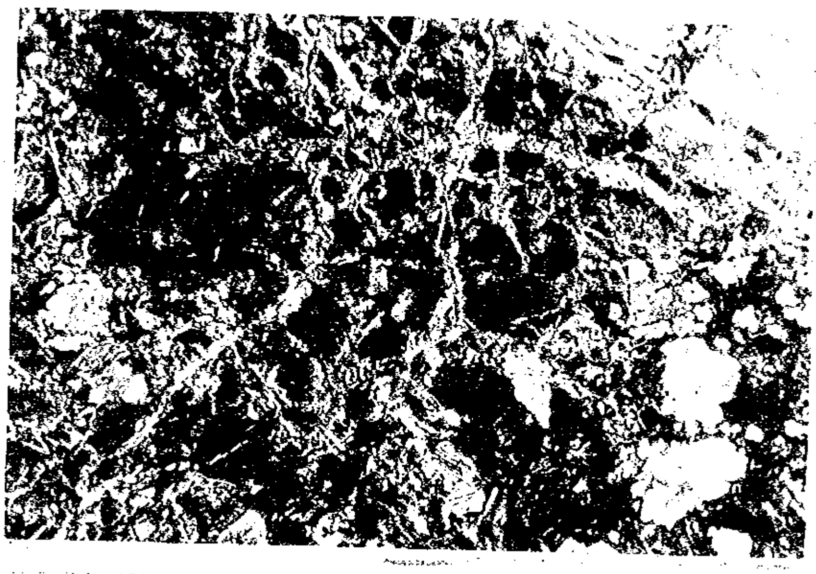
Cpx : Clinopyroxene
Chl : Chlorite
Pl : Plagioclase

R-19

Serpentinite

Serpentine shows a mesh like texture in which relicts of olivine, clinopyroxne and chromite occur.



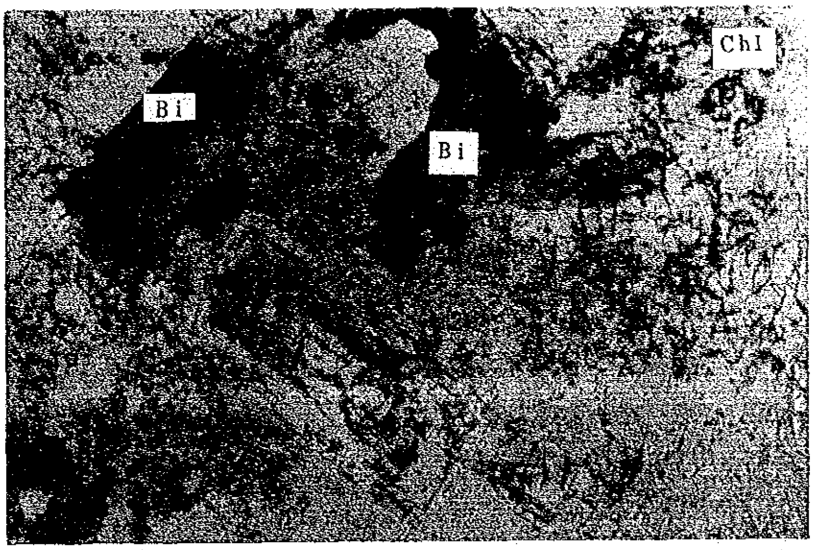


Serp : Serpentine
Cr : Chromite
Cpx : Clinopyroxene
Ov : Olivine

R-29

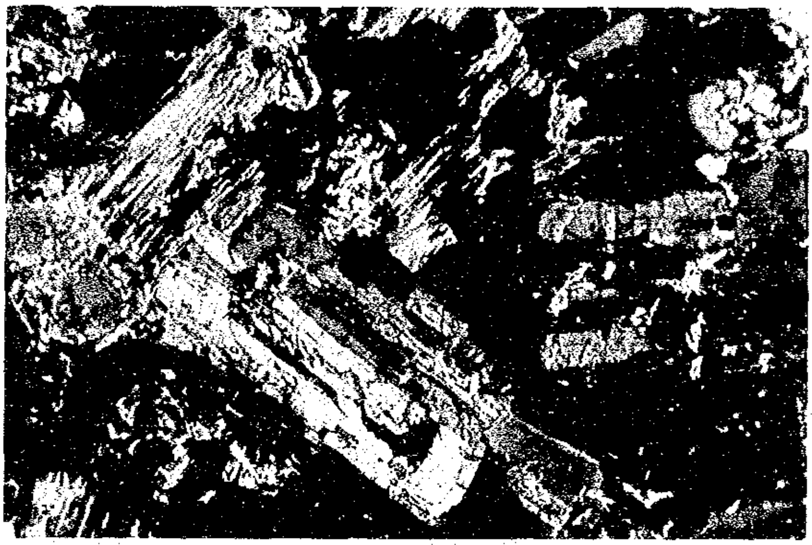
Quartz diorite

The rock is composed of enhedral plagioclase, chloritized biotite and anhedral coarse grained quartz.



Open nicol

0 0.5mm



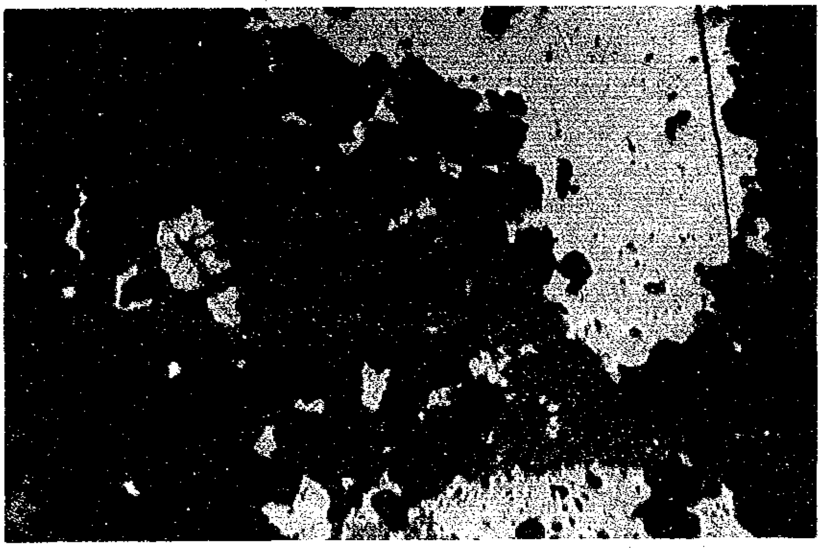
Crossed nicols

0 0.5mm

Bi : Biotite
Chl : Chlorite
Pl : Plagioclase
Qz : Quartz

Appendix 2 Microphotographs (Polished Section)

E-150-2 Ibuna



Pyrite and Chalcopyrite Dissemination in Andesite. Ore consist almost Chalcopyrite only. Bornite and Chalcocite are visible as secondary minerals.

Chalcopyrite (Cp) in polish section showed veinlet and disseminated shape. Bornite (Bo) observed in polish section alternated at margin and along cracks of Chalcopyrite.

Chalcocite (Cc) observed in polish section alternated at margine and along cracks of Chalcopyrite and bornite.

C0329485

Polillo Is. Mascopper Prospect

Pyrite and Molybdenite dissemination accompanied Diorite.

Ore minerals consist Magnetite (Mag) = Pyrite (Py) > molybdenite (Mo) > Chalcopyrithe (Cp).

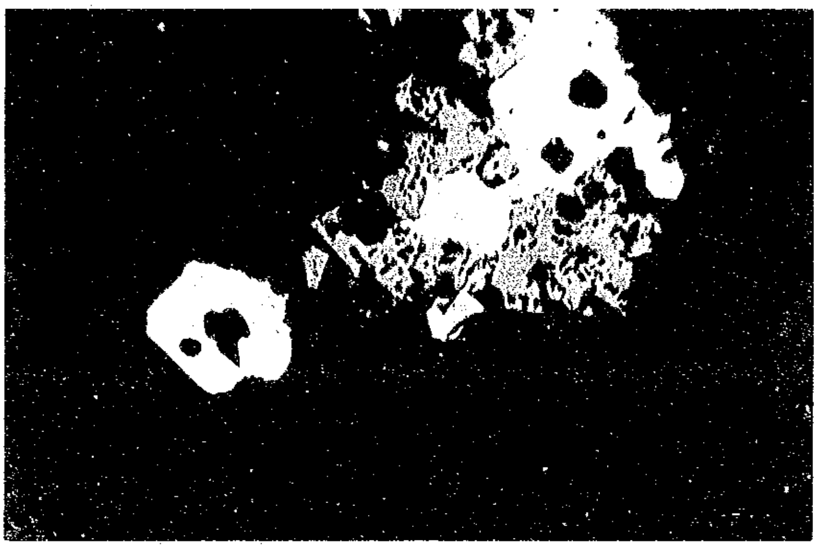
Magnetite: 0.05 - 0.3 mm
xenomorphic granular, spot dissemination in quartz.

Pyrite; 0.1 - 1 mm
semiautomorphic and xenomorphic crystal including magnetite dots very common.

Chalcopyrite; 0.2 - 0.5 mm
xenomorphic, fill up inter grain space among magnetite and pyrite.

Molybdenite; 0.3 - 3 mm
fill up inter grain space among magnetite, pyrite and chalcopyrite.

B504-3 Santa Ines



Contact metasomatic Ore

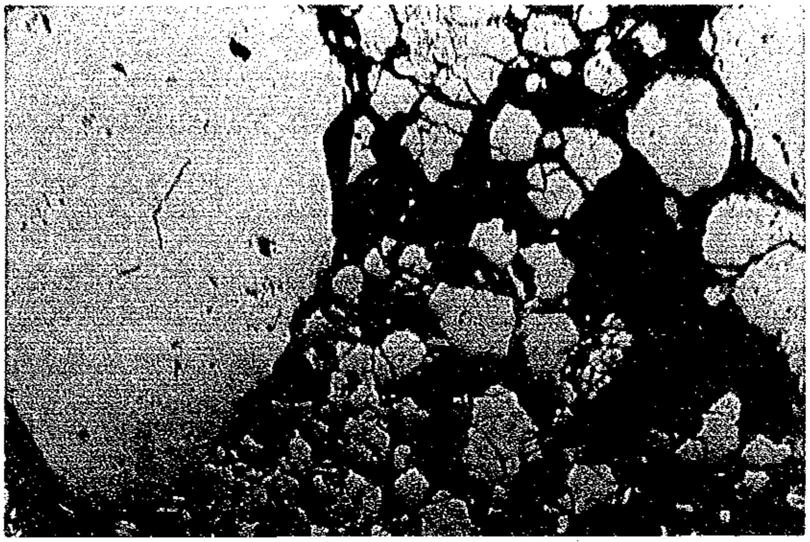
Ore minerals consist Magnetite (Mag) Pyrite (Py) Chalcopy rite

Magnetite; coarse grain over 1 mm semiauto-morphic and xenomor-phic crystals occured in quartz as disseminated or massive shape.

Pyrite; 0.5 - 4 mm semiautomorphic and xenomorphic granular. Bearing chalcopyrite dot in rare case.

Chalcopyrite; 0.01 - 0.1 mm fill up inter grain space magnetite and pyrite

Pur-1 Puray



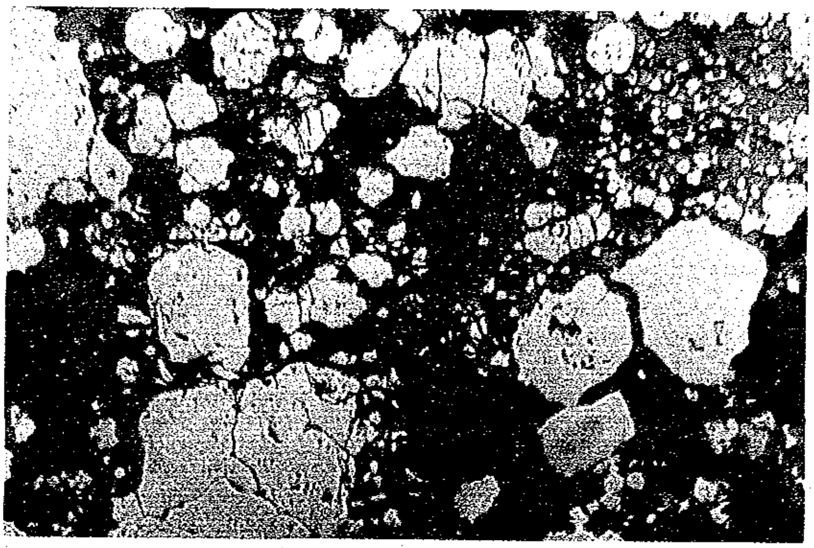
Fe-Cu-Zn strata bond sulphide deposit.

Ore minerals consist pyrite (Py) > Chalcopyrite. Chalcopyrite aletered partical to bornite (Bo) and chalcocite (Cc).

Pyrite: 0.1 - 1 mm semiautomorphic granular crystal, partially brecciated and crashed.

Chalcopyrite; fill up inter grain space of pyrite, altered almost to Bonite.

Chalcocite; alternated from bornite at margine and along cracks, drop shape alternated dtots sometimes observed.



Buenavista

Psilomelane (Ps) and δ-MnO_2?
in manganese oxide

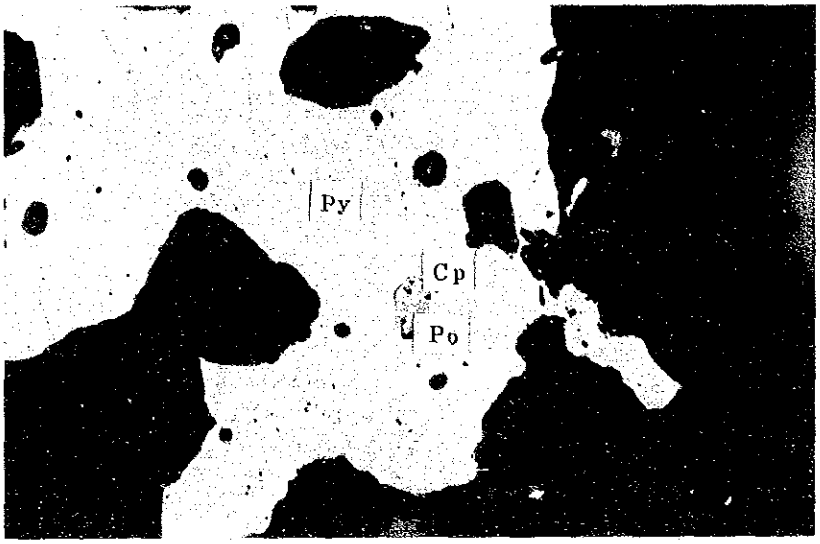
0 0.1mm

Crossed nicols

Showing anisotropy.

0 0.1mm

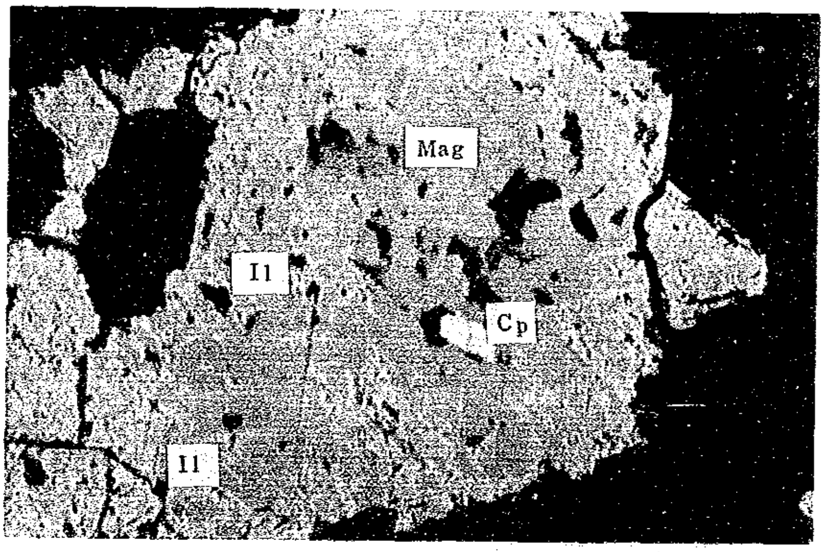
Compacot



Pyrite (Py) containing micro chalcopyrite (CP) and pyrrhotite (Po) in silicified andesite

0 0.1mm

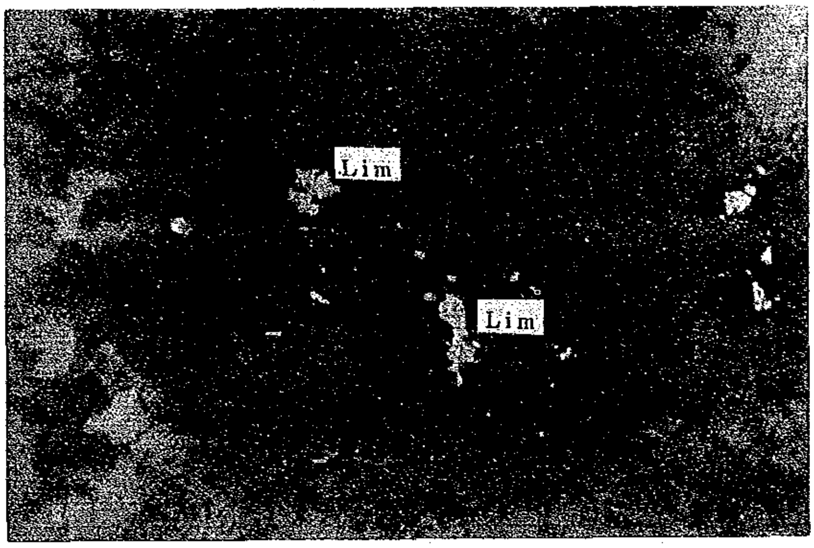
Bonakan



Magnetite (Mag) containing small grained chalopyrite (Cp) and foliated ilmenite showing exsolution (Il) in altered andesite

0 0.05mm

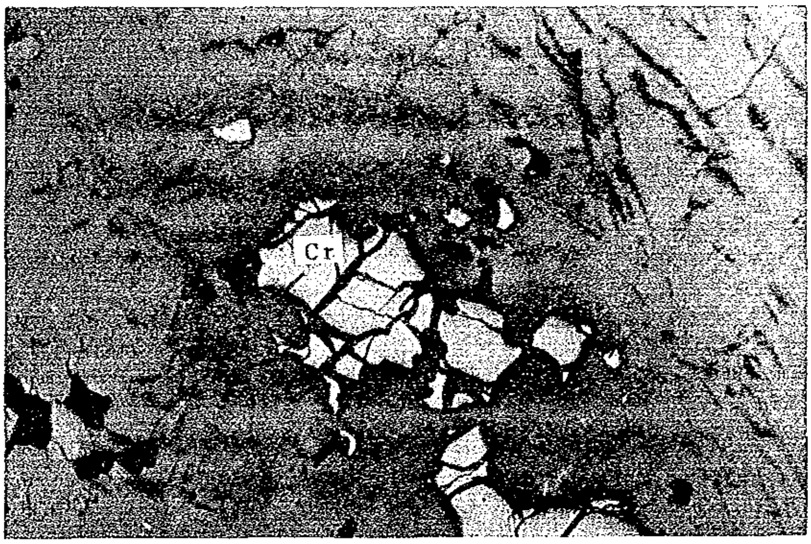
Boyog



Scattered micro limonite (Lim) in altered andesite

0 0.1mm

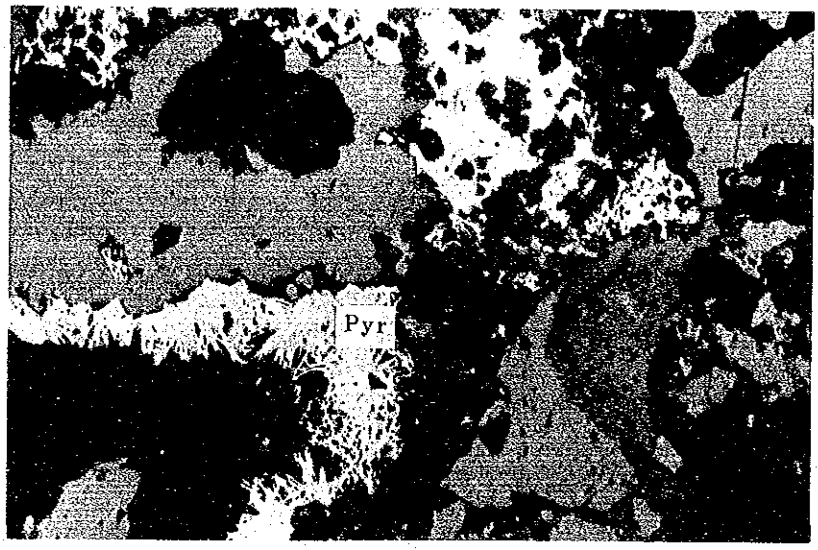
R-19



Disseminated chromite in brecciated serpentinite

0 0.2mm

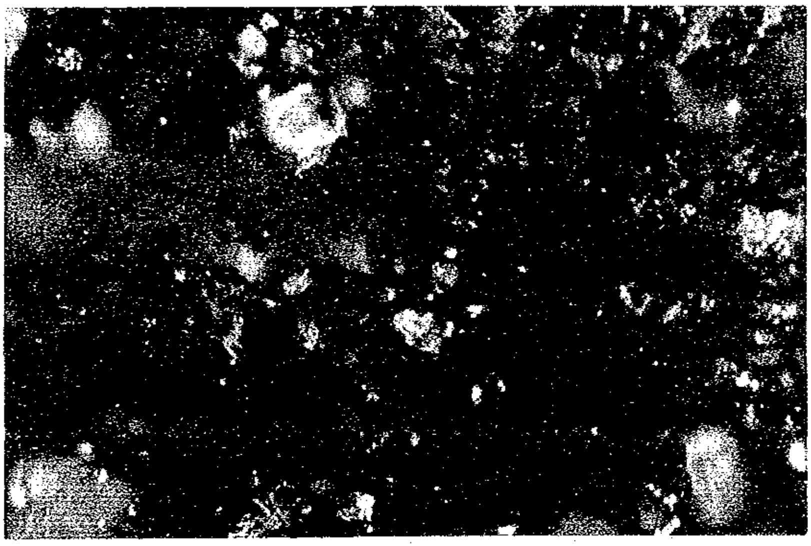
Anda ore



Needle-like Pyrolusite (Pyr) in magnganese nodule

0 0.1mm

Crossed nicols



Showing anisotropy.

0 0.1mm

Ar-16

Fibrous pyrolusite in manganese oxide

0 0.1mm

Crossed nicols

Showing anisotropy

0 0.1mm

Appendix 3 Microfossil Correlation Table

Southern Sierra Madre · Polillo Area

JMA-4

Sample	Nannoplakton	Radiolaria	Remarks
B 615-3, Red shale	Barren	Barren	
M9851485, Red shale	Barren	Rare	Very poor preserved Holocryptocanium sp. Cryptocephalic or Cryptothoracic Nassellaria Age; Upper Jurassic to Lower Cretaceous
B426-5, Calcareous black shale	Common	Barren	Heavy overgrown coccoliths; Watznaueria(?) sp. Cretarhabdus(?) sp. Age; Cretaceous
M15451985, Red shale	Barren	Rare	Recrystallized radiolaria
B620-1, Pale brown micritic limestone	Barren	Barren	
I19-3265II, Gray limestone	Barren	Barren	
J620-3, Pale brown limestone	Barren	Barren	
N-156P.L., Gray linestone	Barren	Barren	
H530-IB, Gray limestone	Barren	Barren	
A-0531-138, Pale brown limestone	Barren	Barren	
H502-3, Pale brown micritic limestone	Barren	Barren	
H507-1, Pale brown limestone	Barren	Barren	
A-0528-117, Conglomerate with limy matrix	Barren	Barren	
K-90, Pale brownish white limestone	Barren	Barren	
I-25, Pale brownish white limestone	Barren	Barren	
C0617585, Pale brownish gray micritic limestone	Barren	Barren	
K332, White limestone	Barren	Barren	
J67-1, Pale brown micritic limestone	Barren	Barren	
CO318585, Pale brown limestone	Barren	Barren	
B426-4, Gray micritic limestone	Barren	Barren	

Bohol・Siguijor Area

JMA-2 (Code name) Radiolarian analysis

R-2,	1-3.	Radiolarians;	Barren	Age; Unknown
R-5,	1-3.		Barren	Unknown
R-5,	1-4.		Barren	Unknown
R-12,	1		Barren	Unknown
R-14,	1-2.		Barren	Unknown
R-20,	1-2.		Rare	Unknown
R-32,	1-5.		Barren	Unknown
AR-04,	1-2.		Barren	Unknown
AR-05,	1-2.		Barren	Unknown
AR-06,	1-3.		Barren	Unknown
AR-10,	1-2.		Barren	Unknown
AR-13,	1-2.		Sponge spicules	
ER-01,	1-3		Planktonic foraminifera	
ER-02,	1-3.		Planktonic foraminifera	
ER-04,	1-3.		Barren	Unknown
ER-07,	1-3.		Barren	Unknown
Overland shale			Barren	Unknown
Buenavista-minami, A-G.			Barren	Unknown
Buenavista-2, A-B.			Few poor preserved radiolarians	Unknown
DR-05,	1-3.		Barren	Unknown

JSM-3, Foraminifera

R-2,		Barren	Unknown
R-5,		Barren	Unknown
R-5'		Globigerinoides quadrilobatus immerturus Globoquadrina dehiscens Age and Zones; Miocene and N4 to N19	
R-12		Barren	Unknown
R-20		Barren	Unknown
AR-04		Barren	Unknown
AR-05		Barren	Unknown
AR-06	Poor preserved forams.	Globigerina sp.	
AR-10		Barren	Unknown
AR-13	Poor preserved forams.	Globigerina apertura Globigerinoides quadrilobatus Age; Upper Miocene	
ER-01	Poor preserved forams.		Unknown
ER-02	Poor preserved forams.		Unknown
ER-04		Barren	Unknown
ER-07		Orbulina universa Globigerinoides obliquus Age; Middle to Upper Miocene	
Overland shale		Barren	Unknown
Buenavista-minami		Biorbulina bilobata Orbulina universa Globigerinoides obliquus Age; Miocene to Pliocene	
Buenavista-2		Barren	Unknown
DR-05	Barren	Unknown	

p

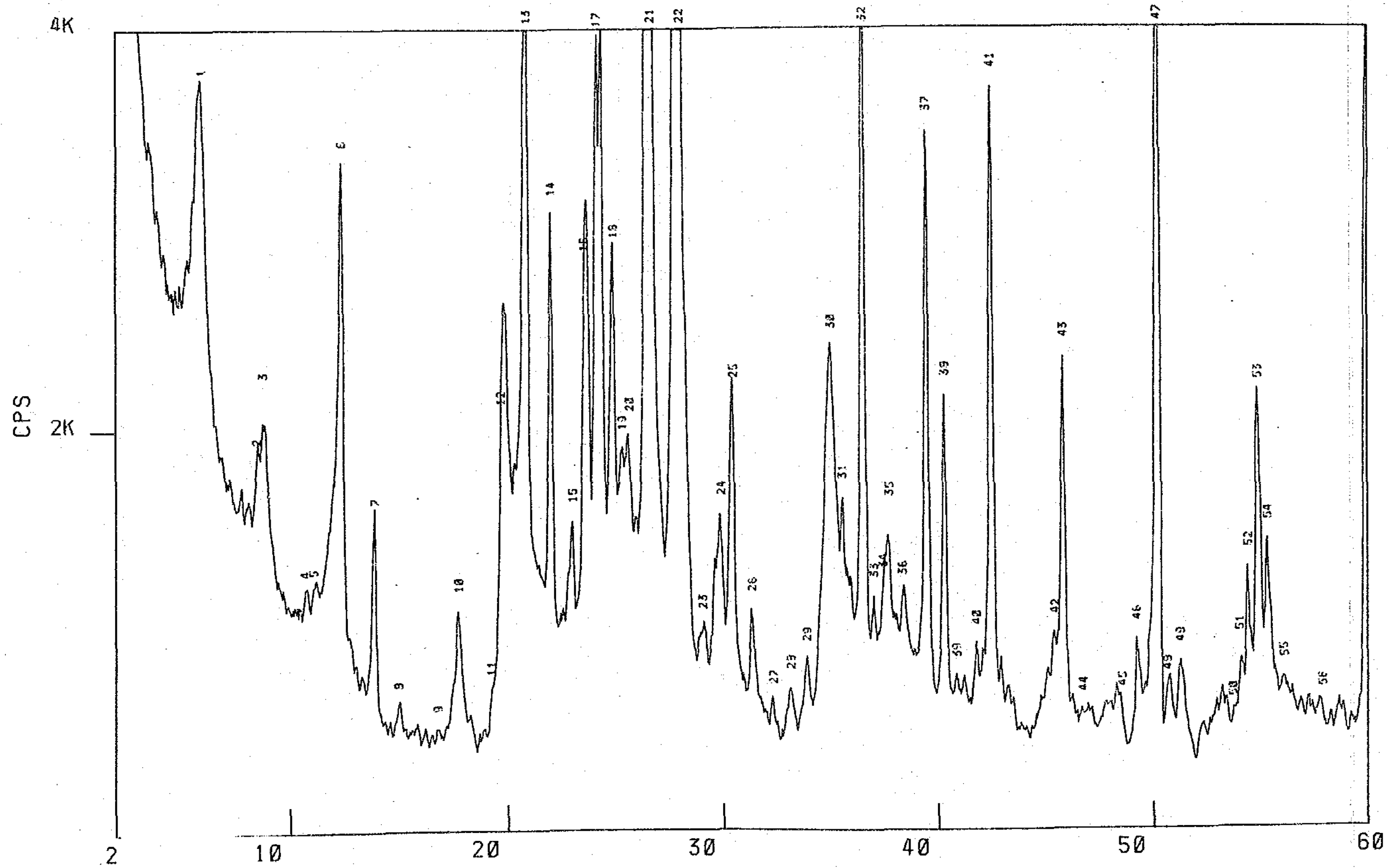
JMA,	1	(Code name) Calcareous nannoplankton analysis		
R-2,	1.	Black calcite vein bearing shale.	Barren	Unknown
	2.		Barren	Unknown
	3.		Barren	Unknown
R-5,	1.	Sandy siltstone.	Barren	Unknown
	2.		Barren	Unknown
	3.		Barren	Unknown
R-5,	1.	Grayish mudstone. Age; Uppermost Miocene to Lower Pliocene (NN 12 to NN15 Zone) Taxa; Micrantholithus sp., Reticulofenestra pseudoumbilica, Sphenolithus sp., Cyclolithus sp., Helicosphaera carterii, Sphenolithus abies, Discoaster brouwerii, D. exilis, D. pentaradiatus.		
	2.	the same.		
	3.	the same.		
	4.	the same.		
R-12,	1.	Grayish calcareous mudstone. Age; Miocene to Pliocene Taxa; Discolithina multipora, Coccolithus pelagicus, Sphenolithus sp., Discoaster sp.		
R-14,	1.	Yellowish gray calcareous mudstone.	Barren	Unknown
	2.		Barren	Unknown
R-20	1.	Yellowish calcareous siltstone.	Barren	Unknown
	2.		Barren	Unknown
R-32	1.	Limestone.	Barren	Unknown
	2.		Barren	Unknown
	3.		Barren	Unknown
	4.		Barren	Unknown
	5.		Barren	Unknown
AR-04,	1.	Recrystallized calcareous claystone.	Barren	Unknown
	2.		Barren	Unknown
	3.		Barren	Unknown
AR-05,	1.	Calcareous sandy siltstone.	Barren	Unknown
	2.		Barren	Unknown
AR-06,	1.	Calcareous siltstone.	Barren	Unknown
	2.		Barren	Unknown
	3.		Barren	Unknown
AR-10,	1.	Recrystallized calcareous claystone.	Barren	Unknown
	2.		Barren	Unknown
AR-13,	1.	Recrystallized calcareous claystone. Age; Unknown Taxa; Coccolithus sp.		
	2.	Age; Unknown Taxa; Coccolithus sp., Sphenolithus sp., Discoaster sp.		
ER-01,	1.	Recrystallized calcareous claystone. Age; Unknown Taxa; Coccolithus sp.		
	2.		Barren	Unknown
	3.		Barren	Unknown
ER-02,	1.	Grayish white foraminiferal mudstone. Age; Middle Miocene to Lower Pliocene. Taxa; Discoaster sp., D. variabilis(?), Sphenolithus sp., S. cf. heteromorphus(?) by maximum range.		
	2.	the same.		
	3.	the same.		
ER-04,	1.	Siliceous medium grained sandstone.	Barren	Unknown
	2.		Barren	Unknown
	3.		Barren	Unknown

ER-07,	1.	Grayish brown mudstone. Age; Lower Middle Miocene Taxa; Coccolithus pelagicus, Discoaster variabilis, D. deflandreii, D. challengerii, Sphenolithus heteromorphous.		
	2.	the same.		
	3.	the same.		
Overland shale,	1.	Black shale.	Barren	Unknown
	2.		Barren	Unknown
	3.		Barren	Unknown
	4.		Barren	Unknown
	5.		Barren	Unknown
	6.		Barren	Unknown
	7.		Barren	Unknown
Buenavista-minami-	A.	Grayish calcareous mudstone. Age; Uppermost Miocene to Lower Pliocene Taxa; Coccolithus pelagicus, Discoaster variabilis(?), D. pentaraduatus, D. challengerii, Sphenolithus sp., Sphenolithus abies, Discolithina multipora, Helicosphaera sp.		
	B.	the same.		
	C.	the same.		
	D.	the same.		
	E.	the same.		
	F.	the same.		
	G.	the same.		
Buenavista-2,	A.	yellowish brown mudstone.	Barren	Unknown
	B.		Barren	Unknown
DR-05,	1.	Calcite and pyrite bearing sandstone.	Barren	Unknown

FILE NAME:K922100 DATE:08-28-1985
TARGET/FILTER(MONOCHRO):Cu
VOLTAGE/CURRENT: 40KV 150mA
SLITS:DS 1 RS .3
SCAN SPEED: 8 DEG/MIN.
STEP/SAMPLING: .02 DEG
PRESET TIME: 0 SEC
SMOOTHING: 0
OPERATOR:ASAI
COMMENT:

SMOOTHING: 13
DIFFERENTIAL: 11
PEAK HEIGHT: 35
PEAK WIDTH: .25
BACK GROUND (SAMPLING): 0
BACK GROUND (REPEAT): 0

Sample Name : B5163A

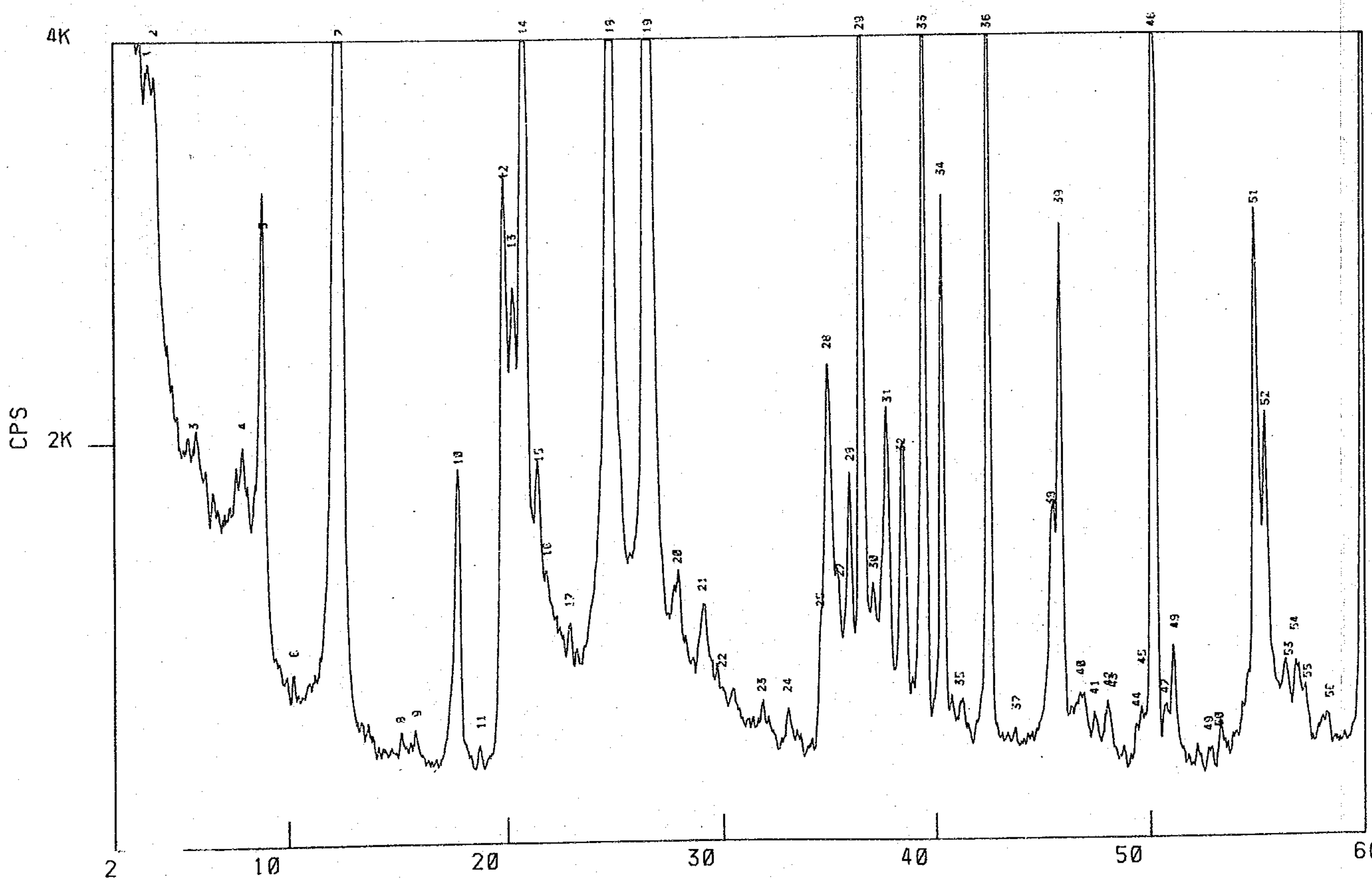


No.	2 Theta	INTEN	d	FWHM	I/I0
1	5.96	3682	14.616	.345	7
2	8.48	1638	10.418	.375	3
3	8.76	2041	10.085***		4
4	10.68	1123	8.276	.375	2
5	11.06	1181	7.992	.375	2
6	12.36	3320	7.154	.3	7
7	13.88	1535	6.374	.345	3
8	14.96	612	5.916	.315	1
9	16.76	495	5.285	.315	1
10	17.72	1093	5	.285	2
11	19.22	679	4.613	.315	1
12	19.68	2030	4.507	.555	4
13	20.86	10998	4.254	.285	23
14	22.02	3073	4.033	.315	6
15	23	1540	3.863	.27	3
16	23.56	2795	3.772	.57	5
17	24.16	3921	3.68	.27	8
18	24.92	2862	3.569	.315	6
19	25.32	1903	3.514	.255	4
20	25.66	1870	3.468	.3	4
21	26.64	46737	3.343	.3	100
22	27.98	10378	3.186	.285	22
23	29.06	1008	3.07	.33	2
24	29.88	1575	2.987	.375	3
25	30.46	2162	2.932	.39	4
26	31.34	1093	2.851	.435	2
27	32.3	631	2.769	.285	1
28	33.14	705	2.7	.285	1
29	33.92	844	2.64	.315	1
30	35.04	2407	2.558	.435	5
31	35.6	1655	2.519***		3
32	36.54	4838	2.456	.405	10
33	37.06	1164	2.423***		2
34	37.48	1211	2.397	.345	2
35	37.76	1444	2.38	.255	3
36	38.38	1173	2.343	.255	2
37	39.46	3488	2.281	.435	7
38	40.28	2168	2.237	.405	4
39	40.84	763	2.207	.315	1
40	41.78	926	2.16	.315	1
41	42.44	3705	2.128	.375	7
42	45.4	980	1.995	.255	2
43	45.78	2358	1.98	.435	5
44	46.7	594	1.943	.285	1
45	48.52	615	1.874	.285	1
46	49.2	945	1.85	.285	2
47	50.12	5747	1.818	.48	12
48	50.6	695	1.802	.435	1
49	51.22	837	1.781	.285	1
50	53.7	561	1.705	.255	1
51	54.02	763	1.696	.3	1
52	54.4	1305	1.685***		2
53	54.84	2144	1.672	.465	4
54	55.3	1444	1.659	.315	3
55	56.08	752	1.638	.255	1
56	57.86	606	1.592	.255	1

FILE NAME:K923100　　DATE:08-28-1985
TARGET/FILTER(MONOCHRO):Cu
VOLTAGE/CURRENT: 40KV 150mA
SLITS:DS 1 RS .3
SCAN SPEED: 8 DEG/MIN.
STEP/SAMPLING: .02 DEG
PRESET TIME: 0 SEC
SMOOTHING: 0
OPERATOR:ASAI
COMMENT:

SMOOTHING: 13
DIFFERENTIAL: 11
PEAK HEIGHT: 35
PEAK WIDTH: .25
BACK GROUND (SAMPLING): 0
BACK GROUND (REPEAT): 0

Sample Name : B517-3



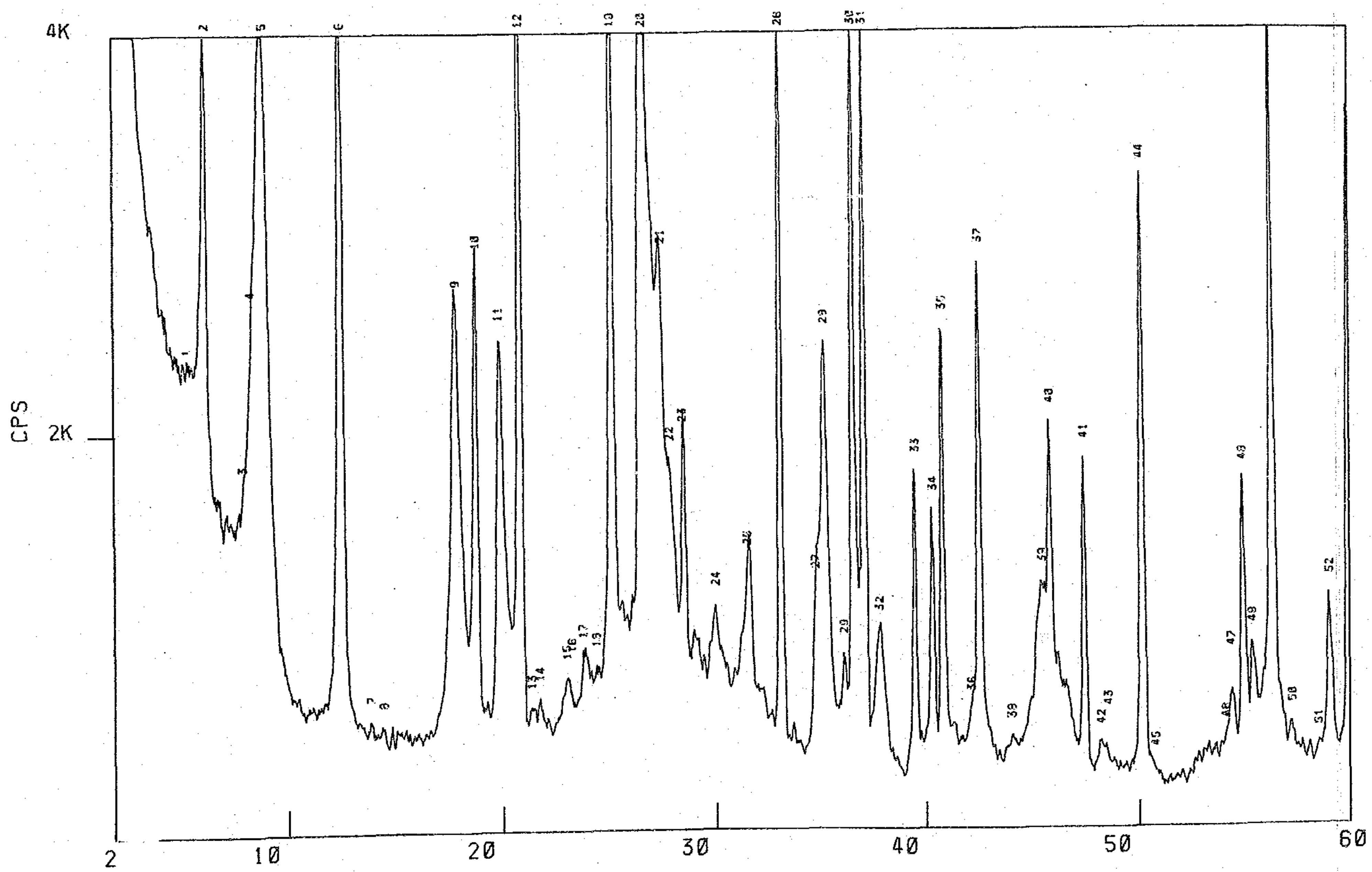
No.	2 Theta	INTEN	d	FWHM	I/I0
1	3.56	3836	24.797	.3	5
2	3.66	3828	22.67	.27	5
3	5.66	1980	15.6	.315	2
4	7.9	1980	11.181***		2
5	8.88	2977	9.949	.435	4
6	10.22	844	8.647***		1
7	12.36	17079	7.154	.33	25
8	15.08	509	5.869	.375	0
9	15.82	537	5.597	.315	0
10	17.78	1790	4.984	.39	2
11	18.74	473	4.73	.3	0
12	19.92	3213	4.453	.345	4
13	20.26	2743	4.379	.315	4
14	20.84	18023	4.258	.285	26
15	21.48	1800	4.133	.435	2
16	21.64	1327	4.065	.285	1
17	22.88	1072	3.683	.285	1
18	24.9	13010	3.572	.39	19
19	26.64	67081	3.343	.3	100
20	27.88	1282	3.197	.315	1
21	29.06	1147	3.07	.555	1
22	29.96	763	2.979	.255	1
23	31.76	640	2.814	.255	0
24	32.98	637	2.713	.315	0
25	34.6	1064	2.59	.285	1
26	34.96	2352	2.564	.435	3
27	35.52	1211	2.525	.27	1
28	36.02	1790	2.491	.345	2
29	36.54	7098	2.456	.33	10
30	37.08	1251	2.422	.255	1
31	37.74	2081	2.381	.39	3
32	38.38	1832	2.343	.615	2
33	39.46	5067	2.281	.39	7
34	40.28	3206	2.237	.405	4
35	41.08	666	2.195	.285	0
36	42.44	4209	2.128	.405	7
37	43.72	546	2.068	.285	0
38	45.36	1560	1.997	.375	2
39	45.78	3059	1.98	.375	4
40	46.74	715	1.941	.285	1
41	47.36	616	1.917	.27	0
42	47.98	659	1.894	.405	0
43	48.22	526	1.885	.315	0
44	49.3	555	1.846	.255	0
45	49.56	640	1.837	.255	0
46	50.12	8212	1.816	.48	12
47	50.6	621	1.802	.315	0
48	51.08	941	1.786	.315	1
49	52.64	433	1.737	.255	0
50	53.14	454	1.722	.315	0
51	54.84	3052	1.672	.375	4
52	55.34	2047	1.658	.375	3
53	56.38	798	1.63	.465	1
54	56.66	801	1.623	.285	1
55	57.26	685	1.607	.315	1
56	58.32	585	1.58	.315	0

FILE NAME:K924100　　DATE:08-28-1985
TARGET/FILTER(MONOCHRO):Cu
VOLTAGE/CURRENT: 40KV 150mA
SLITS:DS 1 RS .3
SCAN SPEED: 8 DEG/MIN.
STEP/SAMPLING: .02 DEG
PRESET TIME: 0 SEC
SMOOTHING: 0
OPERATOR:ASAI
COMMENT:

SMOOTHING: 13
DIFFERENTIAL: 11
PEAK HEIGHT: 35
PEAK WIDTH: .25
BACK GROUND (SAMPLING): 0
BACK GROUND (REPEAT): 0

No.	2 Theta	INTEN	d	FWHM	I/I0
1	5.36	2310	16.473	.255	7
2	6.26	4000	14.106	.315	13
3	7.94	1717	11.125	.405	5
4	8.36	2594	10.567	.255	8
5	8.94	4136	9.882	.51	14
6	12.5	6250	7.075	.3	21
7	13.78	558	6.42	.27	1
8	14.36	526	6.162	.285	1
9	17.88	2639	4.956	.465	9
10	18.8	2828	4.716	.375	9
11	19.86	2462	4.466	.465	8
12	20.86	10634	4.254	.27	36
13	21.3	615	4.167	.315	2
14	21.7	656	4.091	.405	2
15	22.98	763	3.866	.255	2
16	23.22	672	3.827	.255	2
17	23.74	870	3.744	.375	2
18	24.36	822	3.65	.3	2
19	25.16	4514	3.536	.39	15
20	26.64	29112	3.343	.3	100
21	27.48	2848	3.242	.345	9
22	27.86	1859	3.199	.27	6
23	28.48	1952	3.131	.315	6
24	29.98	1126	2.927	.315	3
25	31.48	1332	2.839	.435	4
26	33.06	4489	2.707	.345	15
27	34.66	1207	2.585	.435	4
28	35.16	2437	2.55	.495	8
29	36.08	881	2.487	.255	3
30	36.56	4463	2.455	.315	15
31	37.1	4438	2.421	.33	15
32	37.78	996	2.379	.555	3
33	39.48	1790	2.28	.3	6
34	40.32	1595	2.234	.36	5
35	40.78	2500	2.21	.345	8
36	42.06	594	2.146	.255	2
37	42.46	2835	2.127	.345	9
38	43.98	459	2.057	.345	1
39	45.4	1233	1.995	.315	4
40	45.8	2030	1.979	.375	6
41	47.42	1654	1.915	.45	6
42	48.18	422	1.887	.435	1
43	48.52	392	1.874	.255	1
44	50.12	3249	1.818	.465	11
45	50.74	308	1.797	.255	1
46	54.04	448	1.695	.255	1
47	54.32	682	1.687	.39	2
48	54.86	1737	1.672	.315	5
49	55.32	922	1.659	.345	3
50	57.22	520	1.608	.255	1
51	58.5	405	1.576	.315	1
52	59.02	1164	1.563	.315	3

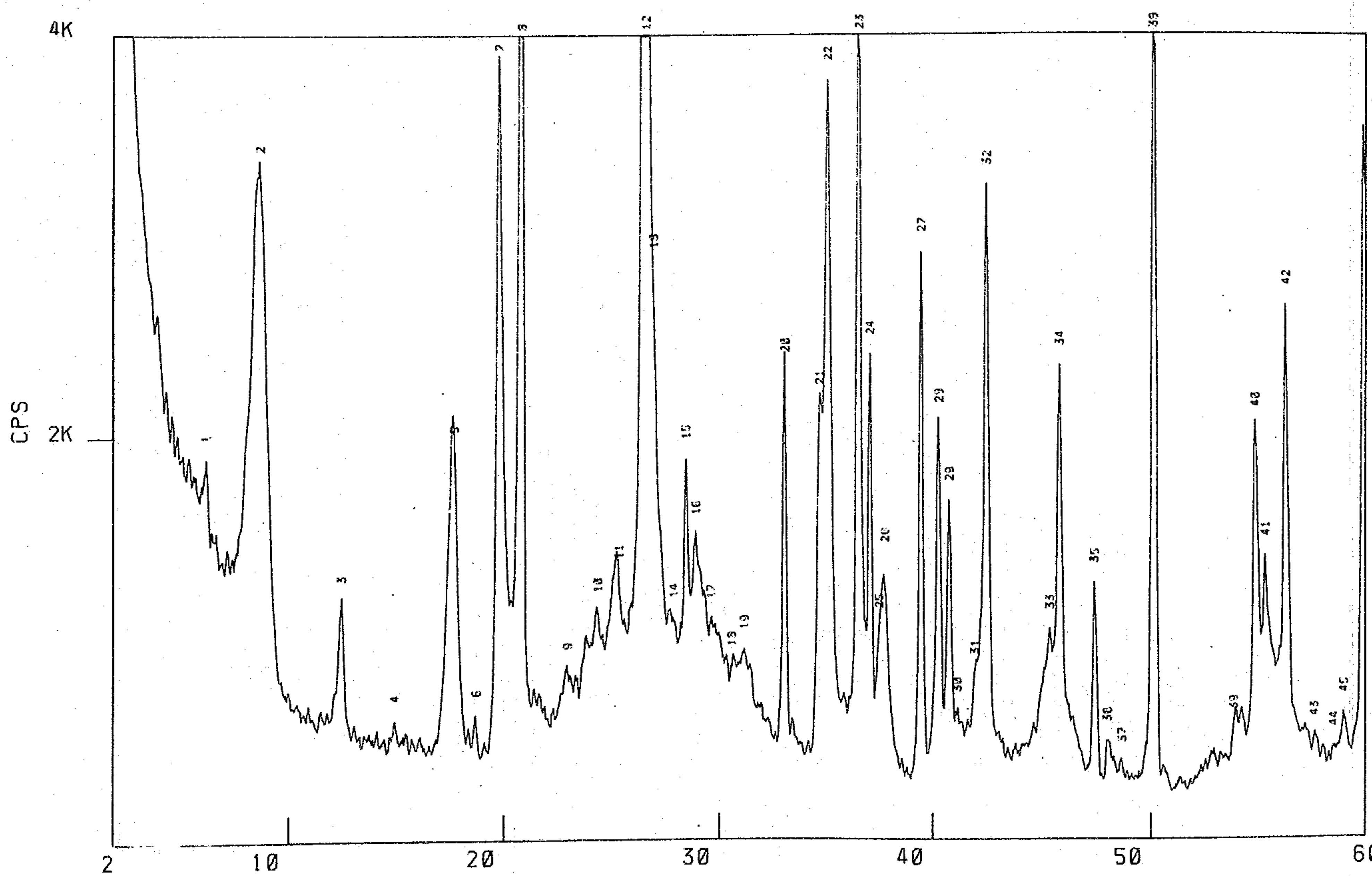
Sample Name : B527-3



FILE NAME:K925100 DATE:08-28-1985
TARGET/FILTER(MONOCHRO):Cu
VOLTAGE/CURRENT: 40KV 150mA
SLITS:DS 1 RS .3
SCAN SPEED: 8 DEG/MIN.
STEP/SAMPLING: .02 DEG
PRESET TIME: 0 SEC
SMOOTHING: 0
OPERATOR:ASAI
COMMENT:

SMOOTHING: 13
DIFFERENTIAL: 11
PEAK HEIGHT: 35
PEAK WIDTH: .25
BACK GROUND (SAMPLING): 0
BACK GROUND (REPEAT): 0

Sample Name : B601-3

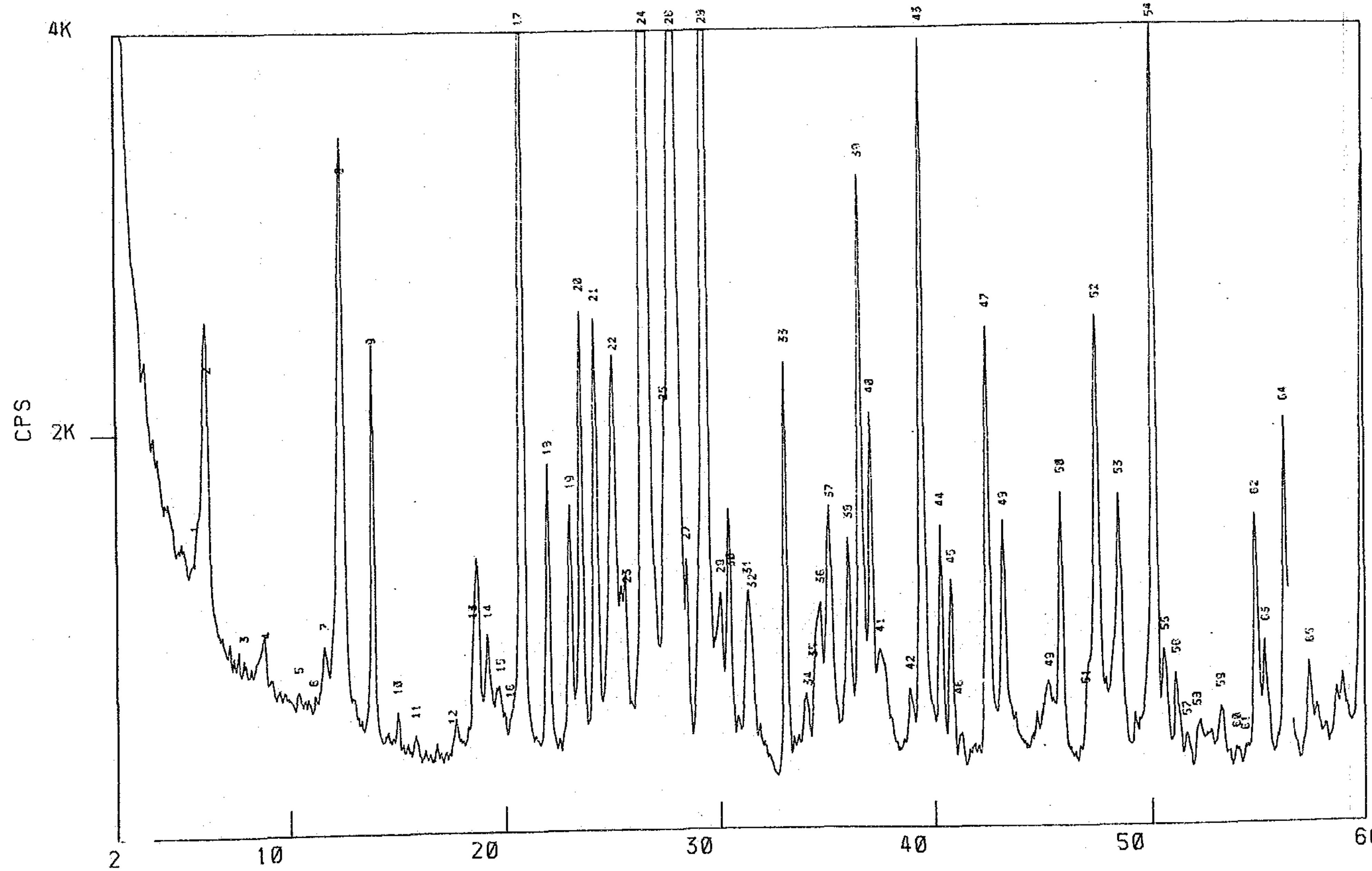


No.	2 Theta	INTEN	d	FWHM	I/I0
1	6.22	1892	14.197***		4
2	8.68	3327	10.178	.405	7
3	12.46	1165	7.097	.375	2
4	14.92	591	5.932	.285	1
5	17.74	1930	4.995	.495	4
6	18.72	615	4.736	.255	1
7	19.8	3836	4.48	.495	8
8	20.84	10855	4.258	.3	24
9	22.92	848	3.876	.255	1
10	24.36	1134	3.65	.255	2
11	25.34	1300	3.511	.315	2
12	26.62	43524	3.345	.3	100
13	26.96	2723	3.304	.255	6
14	27.88	1105	3.197	.255	2
15	28.5	1697	3.129	.27	4
16	28.96	1521	3.08	.255	3
17	29.64	1101	3.011	.315	2
18	30.58	866	2.92	.255	1
19	31.18	949	2.866	.285	2
20	33.04	2328	2.708	.33	5
21	34.62	2168	2.588	.345	4
22	35.02	3782	2.56	.495	8
23	36.52	4666	2.458	.345	10
24	37.06	2413	2.423	.3	5
25	37.48	1052	2.397	.405	2
26	37.76	1255	2.38	.345	2
27	39.44	2922	2.282	.345	6
28	40.26	2075	2.238	.345	4
29	40.74	1686	2.212	.405	3
30	41.12	637	2.193	.285	1
31	41.9	822	2.154	.315	1
32	42.42	3256	2.129	.345	7
33	45.32	1048	1.999***		2
34	45.76	2358	1.981	.375	5
35	47.38	1278	1.917	.48	2
36	47.98	492	1.894	.375	1
37	48.66	387	1.869	.315	0
38	50.1	4952	1.819	.45	11
39	53.82	549	1.701	.315	1
40	54.82	2053	1.673	.345	4
41	55.3	1410	1.659***		3
42	56.24	2658	1.634	.315	6
43	57.62	514	1.598	.255	1
44	58.52	462	1.575	.315	1
45	59	628	1.564	.285	1

FILE NAME:K926100 DATE:08-28-1985
TARGET/FILTER(MONOCHRO):Cu
VOLTAGE/CURRENT: 40KV 150mA
SLITS:DS 1 RS .3
SCAN SPEED: 8 DEG/MIN.
STEP/SAMPLING: .02 DEG
PRESET TIME: 0 SEC
SMOOTHING: 0
OPERATOR:ASAI
COMMENT:

SMOOTHING: 13
DIFFERENTIAL: 11
PEAK HEIGHT: 35
PEAK WIDTH: .25
BACK GROUND (SAMPLING): 0
BACK GROUND (REPEAT): 0

Sample Name : E136

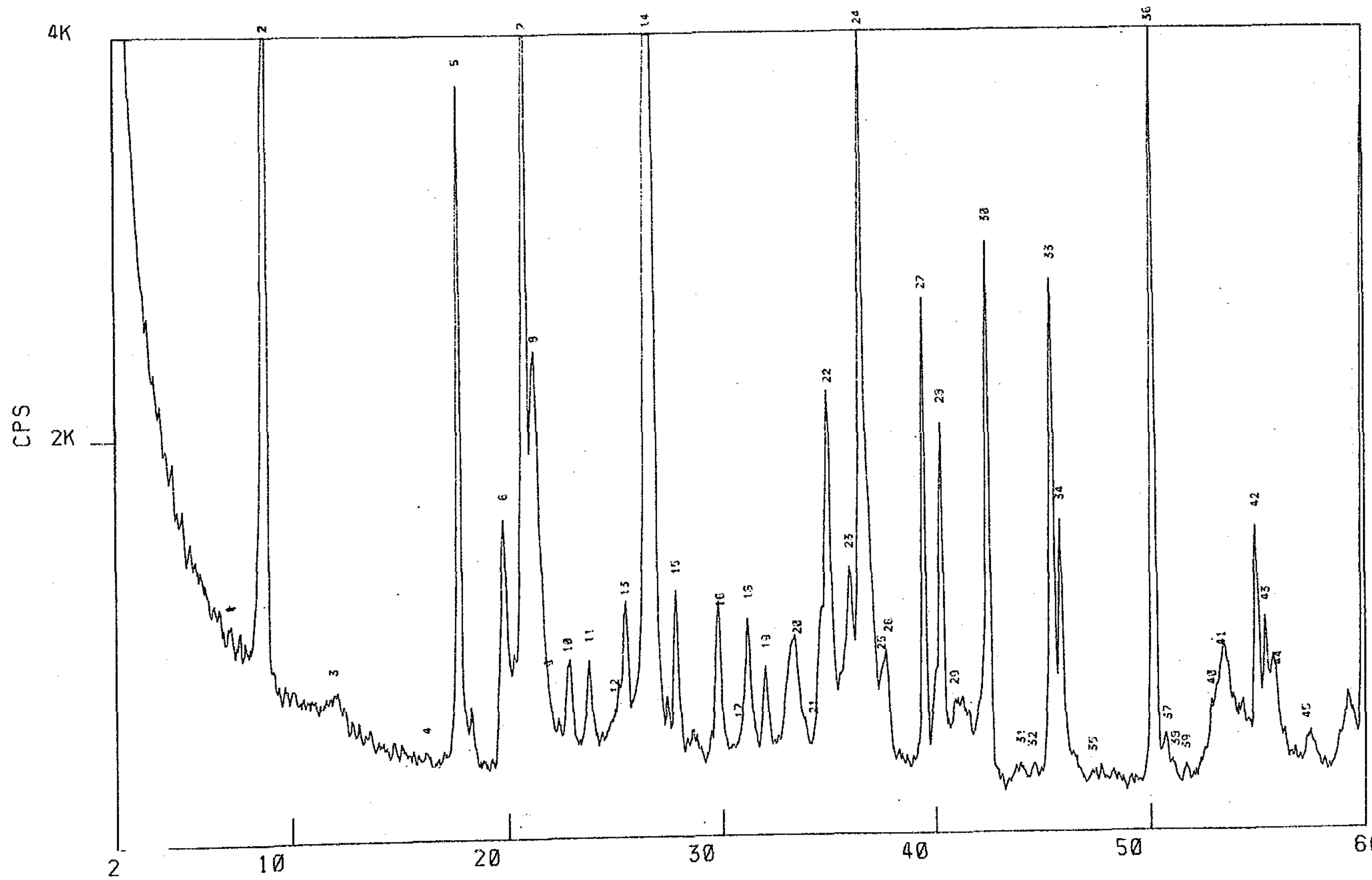


No.	2 Theta	INTEN	d	FWHM	I/10
1	5.66	1425	15.6	.27	3
2	6.24	2214	14.151	.495	5
3	7.66	870	11.238	.315	2
4	8.9	885	9.927	.255	2
5	10.4	708	8.498	.285	1
6	11.1	643	7.964	.285	1
7	11.58	922	7.635	.375	2
8	12.46	3206	7.092	.435	8
9	13.86	2352	6.383	.22	6
10	14.98	597	5.908	.255	1
11	15.78	473	5.611	.345	1
12	17.52	443	5.057	.255	1
13	18.5	968	4.791	.585	2
14	19.2	968	4.618	.435	2
15	19.76	698	4.489	.345	1
16	20.22	570	4.387	.375	1
17	20.84	7898	4.258	.3	21
18	22.02	1785	4.033	.315	4
19	23.04	1610	3.856	.315	4
20	23.54	2601	3.776	.3	6
21	24.22	2550	3.671	.405	6
22	25.1	2304	3.544	.45	6
23	25.66	1139	3.468	.255	3
24	26.62	37466	3.345	.33	100
25	27.46	2053	3.245	.255	5
26	27.92	22537	3.192	.3	60
27	28.48	1350	3.131***		3
28	29.4	10738	3.035	.33	28
29	30.04	1181	2.972***		3
30	30.54	1211	2.924	.33	3
31	31.28	1177	2.857	.435	3
32	31.48	980	2.839	.315	2
33	33.04	2334	2.708	.33	6
34	34.04	612	2.631	.315	1
35	34.26	631	2.615	.465	1
36	34.62	1126	2.588***		3
37	35.1	1550	2.554	.495	4
38	35.96	1448	2.495	.315	3
39	36.54	3256	2.456	.375	8
40	37.06	2075	2.423	.315	5
41	37.44	877	2.399	.315	2
42	38.86	692	2.315	.405	1
43	39.44	3945	2.282	.375	10
44	40.28	1506	2.237	.405	4
45	40.76	1220	2.211	.42	3
46	41.1	443	2.194	.42	1
47	42.44	2493	2.128	.345	6
48	43.18	1506	2.093	.375	4
49	45.24	702	2.002	.255	1
50	45.78	1665	1.98	.435	4
51	46.94	612	1.933	.315	1
52	47.48	2537	1.913	.375	6
53	48.5	1655	1.875	.435	4
54	50.1	4176	1.819	.435	11
55	50.6	873	1.802	.42	2
56	51.14	759	1.784	.375	2
57	51.62	448	1.769	.375	1
58	52.12	495	1.753	.465	1
59	53.2	588	1.72	.405	1
60	53.9	385	1.699	.255	1
61	54.32	370	1.687	.345	0
62	54.86	1545	1.672	.465	4
63	55.32	911	1.659	.285	2
64	56.24	2013	1.634	.27	5
65	57.4	801	1.603	.315	2

FILE NAME:K927100 DATE:08-28-1985
TARGET/FILTER(MONOCHRO):Cu
VOLTAGE/CURRENT: 40KV 150mA
SLITS:DS 1 RS .3
SCAN SPEED: 8 DEG/MIN.
STEP/SAMPLING: .02 DEG
PRESET TIME: 0 SEC
SMOOTHING: 0
OPERATOR:ASAI
COMMENT:

SMOOTHING: 13
DIFFERENTIAL: 11
PEAK HEIGHT: 35
PEAK WIDTH: .25
BACK GROUND (SAMPLING): 0
BACK GROUND (REPEAT): 0

Sample Name : E42903

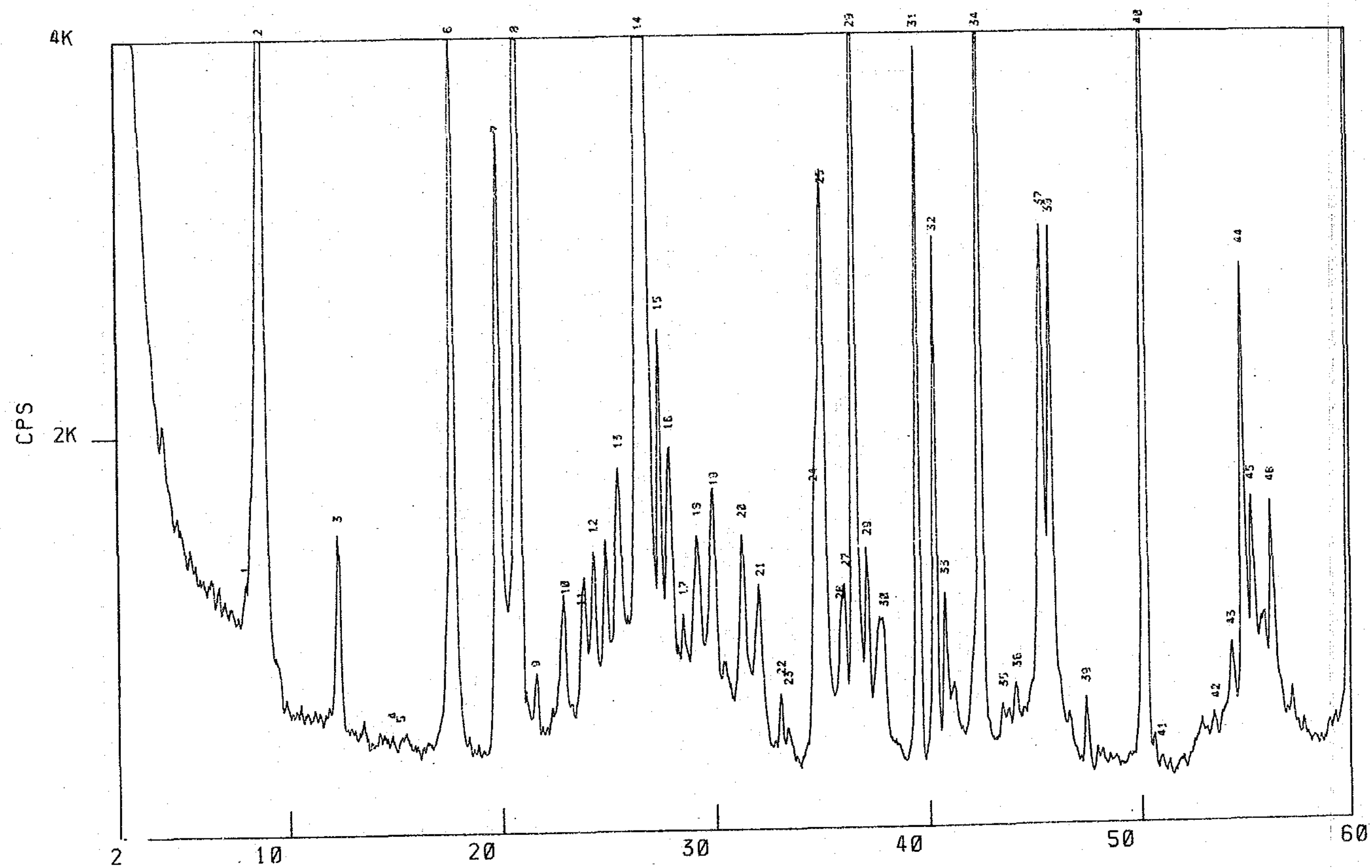


No.	2 Theta	INTEN	d	FWHM	I/I0
1	7.18	1056	12.301	.255	2
2	8.84	9252	9.994	.3	22
3	11.94	729	7.405	.345	1
4	16.18	430	5.473	.255	1
5	17.74	3759	4.995	.27	8
6	19.82	1590	4.475	.33	3
7	20.84	8871	4.258	.27	21
8	21.28	2376	4.171	.435	5
9	21.88	759	4.058	.255	1
10	22.76	826	3.903	.555	1
11	23.76	873	3.741	.435	2
12	24.92	621	3.569	.255	1
13	25.4	1105	3.503	.45	2
14	26.62	41845	3.345	.3	100
15	27.82	1211	3.204	.435	2
16	29.9	1044	2.985	.495	2
17	30.74	489	2.906	.615	1
18	31.2	1080	2.864	.345	2
19	32.02	833	2.792	.375	1
20	33.48	903	2.674	.435	2
21	34.2	506	2.619	.495	1
22	34.96	2156	2.564	.375	5
23	35.94	1327	2.496	.405	3
24	36.52	4040	2.458	.315	9
25	37.46	819	2.398	.255	1
26	37.78	780	2.379	.27	1
27	39.44	2613	2.282	.36	6
28	40.28	2047	2.237	.315	4
29	40.88	643	2.205	.435	1
30	42.44	2943	2.128	.405	7
31	43.9	346	2.06	.315	0
32	44.44	330	2.036	.375	0
33	45.4	2756	1.995	.375	6
34	45.78	1555	1.98	.345	3
35	47.24	304	1.922	.255	0
36	50.1	4000	1.819	.435	9
37	50.76	456	1.797	.255	1
38	51.12	328	1.785	.285	0
39	51.6	310	1.769	.345	0
40	52.82	631	1.731	.525	1
41	53.24	822	1.719	.255	1
42	54.84	1511	1.672	.255	3
43	55.3	1044	1.659	.255	2
44	55.86	722	1.644	.285	1
45	57.16	456	1.61	.315	1

FILE NAME:K928100　　DATE:08-28-1985
TARGET/FILTER(MONOCHRO):Cu
VOLTAGE/CURRENT: 40KV 150mA
SLITS:DS 1 RS .3
SCAN SPEED: 8 DEG/MIN.
STEP/SAMPLING: .02 DEG
PRESET TIME: 0 SEC
SMOOTHING: 0
OPERATOR:ASAI
COMMENT:

SMOOTHING: 13
DIFFERENTIAL: 11
PEAK HEIGHT: 35
PEAK WIDTH: .25
BACK GROUND (SAMPLING): 0
BACK GROUND (REPEAT): 0

Sample Name : E50202



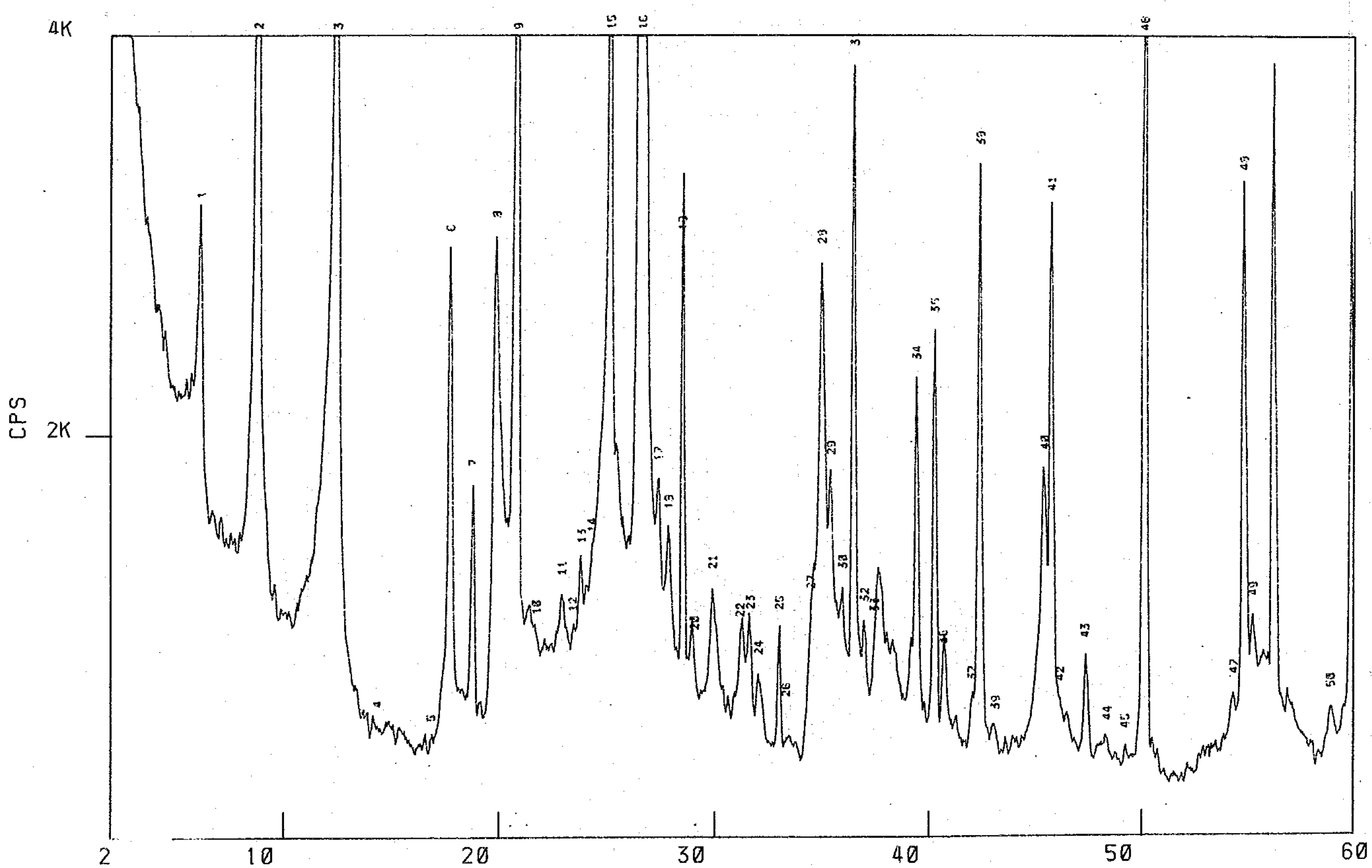
No.	2 Theta	INTEN	d	FWHM	I/I0
1	7.98	1229	11.069	.255	1
2	8.64	8533	9.994	.3	13
3	12.34	1482	7.166	.375	2
4	14.82	486	5.972	.315	0
5	15.22	467	5.816	.285	0
6	17.76	4104	4.989	.36	6
7	19.9	3436	4.457	.435	5
8	20.86	18039	4.254	.3	28
9	21.58	739	4.114	.345	1
10	22.98	1101	3.866	.375	1
11	23.72	1044	3.747	.405	1
12	24.32	1410	3.656	.39	2
13	25.5	1832	3.49	***	2
14	26.64	63567	3.343	.315	100
15	27.42	2525	3.249	.285	3
16	27.86	1925	3.199	.525	3
17	28.5	1089	3.129	***	1
18	29.16	1487	3.059	***	2
19	29.96	1640	2.979	.48	2
20	31.28	1477	2.857	.435	2
21	32.08	1181	2.787	.345	1
22	33.06	682	2.707	.285	1
23	33.38	506	2.681	.255	0
24	34.64	1650	2.587	.375	2
25	35.1	3150	2.554	.495	4
26	35.66	1056	2.501	.285	1
27	36.12	1093	2.484	.27	1
28	36.56	6899	2.455	.315	10
29	37.14	1378	2.418	.33	2
30	37.68	1016	2.373	.555	1
31	39.48	3937	2.28	.375	6
32	40.3	2909	2.235	.345	4
33	40.76	1177	2.211	.375	1
34	42.46	5076	2.127	.345	7
35	43.5	603	2.078	.255	0
36	44.16	698	2.049	.285	1
37	45.38	3025	1.996	.405	4
38	45.8	2990	1.979	.375	4
39	47.38	618	1.917	.375	0
40	50.12	6775	1.818	.45	10
41	50.96	335	1.79	.315	0
42	53.52	526	1.71	.3	0
43	54.3	892	1.687	.36	1
44	54.86	2822	1.672	.285	4
45	55.3	1625	1.659	.255	2
46	56.24	1615	1.634	.285	2

FILE NAME:K929100 DATE:08-28-1985
TARGET/FILTER(MONOCHRO):Cu
VOLTAGE/CURRENT: 40KV 150mA
SLITS.DS 1 RS .3
SCAN SPEED: 8 DEG/MIN.
STEP/SAMPLING: .02 DEG
PRESET TIME: 0 SEC
SMOOTHING: 0
OPERATOR:ASAI
COMMENT:

SMOOTHING: 13
DIFFERENTIAL: 11
PEAK HEIGHT: 35
PEAK WIDTH: .25
BACK GROUND (SAMPLING): 0
BACK GROUND (REPEAT): 0

Sample Name : E50806

No.	2 Theta	INTEN	d	FWHM	I/I0
1	6.22	3094	14.197	.3	5
2	8.62	6265	10.017	.3	11
3	12.48	7363	7.086	.3	12
4	14.38	552	6.154	.315	0
5	16.84	481	5.26	.27	0
6	17.74	2929	4.995	.315	4
7	18.78	1758	4.721	.33	2
8	19.86	2997	4.466	.345	5
9	20.82	10725	4.262	.27	18
10	21.7	1016	4.091	.255	1
11	22.9	1211	3.88	.315	2
12	23.42	1032	3.795	.285	1
13	23.82	1373	3.732	.285	2
14	24.32	1429	3.656	.285	2
15	25.16	4943	3.536	.3	8
16	26.6	58957	3.348	.27	100
17	27.38	1785	3.254	.345	3
18	27.88	1545	3.199	.315	2
19	28.48	2936	3.131	.27	4
20	29.04	937	3.072	.3	1
21	29.88	1242	2.987	.405	2
22	31.18	1004	2.866	.315	1
23	31.66	1044	2.823	.345	1
24	32.04	815	2.791	.255	1
25	33	1040	2.712	.33	1
26	33.32	481	2.686	.285	0
27	34.5	1143	2.597	.285	1
28	35	2868	2.561	.405	4
29	35.44	1816	2.53	.255	3
30	35.98	1246	2.493***		2
31	36.5	3859	2.459	.33	6
32	37	1080	2.427***		1
33	37.48	1032	2.397	.675	1
34	39.4	2292	2.284	.375	3
35	40.24	2525	2.239	.42	4
36	40.64	870	2.218	.45	1
37	42.02	692	2.148	.285	1
38	42.38	3364	2.13	.375	5
39	43.16	543	2.094	.465	0
40	45.42	1843	1.995	.315	3
41	45.74	3136	1.981	.345	5
42	46.18	685	1.964	.255	1
43	47.36	900	1.917	.435	1
44	48.38	489	1.879	.255	0
45	49.2	448	1.85	.255	0
46	50.08	5967	1.819	.465	10
47	54.36	718	1.686	.255	1
48	54.82	3241	1.673	.315	5
49	55.28	1109	1.66	.345	1
50	58.94	647	1.565	.255	1



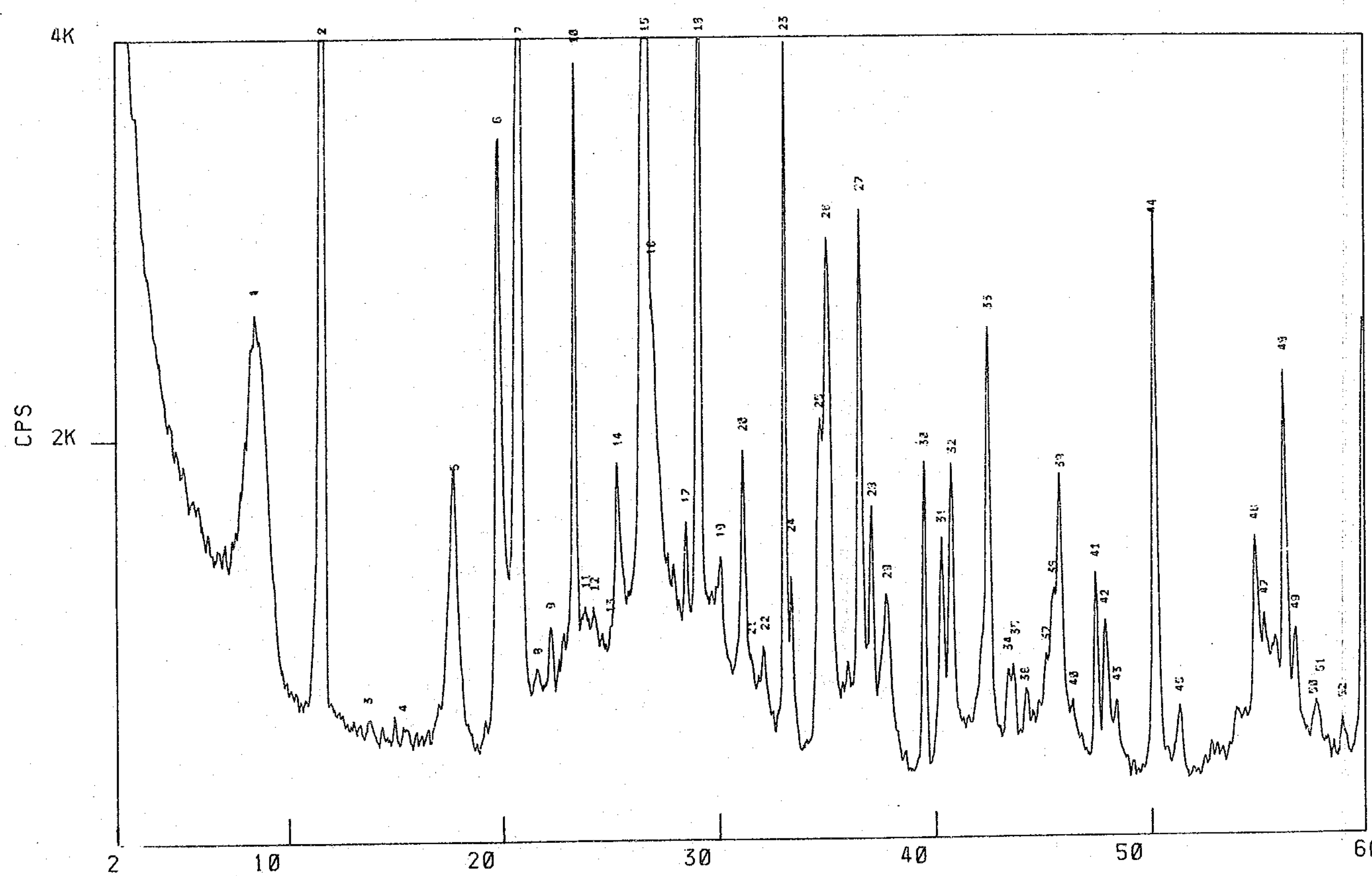
MML:K921100 DATE:08-28-1985

TARGET/FILTER(MONOCHRO):Cu
VOLTAGE/CURRENT: 40KV 150mA
SLITS:DS 1 RS .3
SCAN SPEED: 8 DEG/MIN.
STEP/SAMPLING: .02 DEG
PRESET TIME: 0 SEC
SMOOTHING: 0
OPERATOR:ASAI
COMMENT:

SMOOTHING: 13
DIFFERENTIAL: 11
PEAK HEIGHT: 35
PEAK WIDTH: .25
BACK GROUND (SAMPLING): 0
BACK GROUND (REPEAT): 0

No.	2 Theta	INTEN	d	FWHM	I/I0
1	8.46	2632	10.442***		9
2	11.62	16304	7.608	.22	58
3	13.68	597	6.467	.465	2
4	15.3	558	5.786	.375	2
5	17.72	1758	5	.345	6
6	19.8	3488	4.48	.495	12
7	20.84	8777	4.258	.45	31
8	21.6	837	4.11	.465	3
9	22.2	1060	4	.36	3
10	23.38	3882	3.801	.27	14
11	23.86	1164	3.726	.375	4
12	24.26	1147	3.665	.285	4
13	24.96	1040	3.564	.255	3
14	25.32	1870	3.514	.315	6
15	26.64	27701	3.343	.3	100
16	26.92	2697	3.309***		9
17	28.48	1585	3.131	.27	5
18	29.12	5606	3.063	.33	20
19	30.06	1410	2.97	***	5
20	31.1	1941	2.873	.315	7
21	31.46	922	2.841	.27	3
22	32.08	945	2.782	.285	3
23	33.06	3976	2.707	.3	14
24	33.34	1309	2.685***		4
25	34.64	2053	2.587	.375	7
26	35.02	2997	2.56	.465	10
27	36.54	3136	2.456	.36	11
28	37.08	1610	2.422	.315	5
29	37.76	1198	2.38	.345	4
30	39.46	1859	2.281	.375	6
31	40.26	1472	2.238	.285	5
32	40.76	1622	2.211	.375	6
33	42.46	2537	2.127	.375	9
34	43.36	830	2.085	.345	2
35	43.68	784	2.07	.285	2
36	44.14	679	2.049	.345	2
37	45.12	881	2.007	.255	3
38	45.46	1211	1.993	.255	4
39	45.8	1743	1.979	.405	6
40	46.4	653	1.955	.255	2
41	47.4	1296	1.916	.405	4
42	47.82	1060	1.9	.435	3
43	48.38	676	1.879***		2
44	50.1	3011	1.819	.465	10
45	51.28	618	1.78	.405	2
46	54.84	1477	1.672	.345	5
47	55.3	1101	1.659***		3
48	56.24	2322	1.634	.285	8
49	56.76	1024	1.62	.405	3
50	57.56	597	1.599	.375	2
51	57.88	582	1.591	.345	2
52	58.96	576	1.565	.285	2

Sample Name : T-294



FILE NAME:K920100 DATE:08-28-1985
TARGET/FILTER(MONOCHRO):Cu
VOLTAGE/CURRENT: 40KV 150mA
SLITS:DS 1 RS .3
SCAN SPEED: 8 DEG/MIN.
STEP/SAMPLING: .02 DEG
PRESET TIME: 0 SEC
SMOOTHING: 0
OPERATOR:ASAI
COMMENT:

SMOOTHING: 13
DIFFERENTIAL: 11
PEAK HEIGHT: 35
PEAK WIDTH: .25
BACK GROUND (SAMPLING): 0
BACK GROUND (REPEAT): 0

No.	2 Theta	INTEN	d	FWHM	I/I0
1	5.36	1732	16.473	.255	2
2	5.78	2581	15.277	.285	3
3	8.66	1444	10.201	.465	1
4	9.58	14716	9.224	.285	18
5	11.66	631	7.582	.255	0
6	12.28	2889	7.201	.285	3
7	15.66	422	5.583	.255	0
8	17.68	1147	5.012	.465	1
9	19.24	8965	4.609	.3	11
10	19.66	2997	4.466	.315	3
11	20.82	23485	4.262	.3	30
12	23.8	725	3.735	.315	0
13	24.8	2250	3.586	.345	2
14	25.38	972	3.506	.255	1
15	26.6	78050	3.348	.33	100
16	27.4	1113	3.252	.27	1
17	29.08	16564	3.068	.33	23
18	30.62	597	2.917	.255	0
19	31.26	634	2.858	.405	0
20	31.74	529	2.616	.345	0
21	34.04	454	2.631	.255	0
22	35.4	2042	2.533	.285	2
23	35.9	705	2.499	.255	0
24	36.5	7887	2.459	.33	10
25	37.04	2047	2.424	.51	2
26	37.7	585	2.383	.255	0
27	38.38	640	2.343	.315	0
28	39.44	5411	2.282	.345	6
29	40.26	3349	2.238	.375	4
30	42.02	972	2.148	.255	1
31	42.4	5121	2.129	.405	6
32	43.32	1056	2.086	.375	1
33	44.06	934	2.053	.675	1
34	45.28	666	2	.285	0
35	45.74	3364	1.981	.405	4
36	48.06	647	1.691	.465	0
37	49.5	2008	1.639	.435	2
38	50.08	8556	1.619	.465	10
39	50.62	666	1.601	.315	0
40	54.16	672	1.691	.255	0
41	54.82	2949	1.673	.48	3
42	55.28	1630	1.66	.315	2
43	55.76	1143	1.647	.555	1
44	56.38	961	1.63	.285	1
45	57.22	591	1.608	.345	0

Sample Name : X74-1