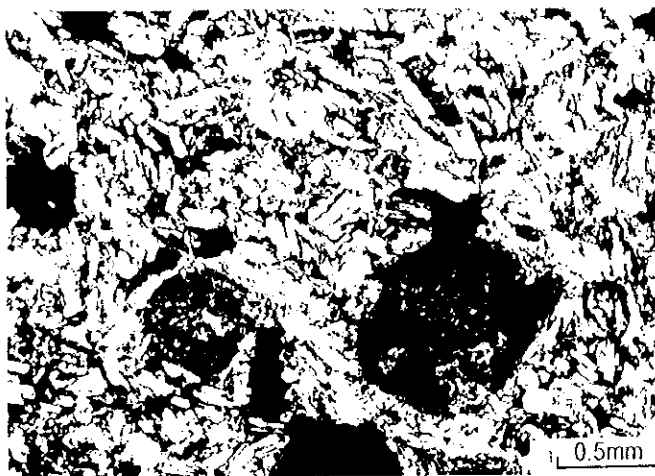
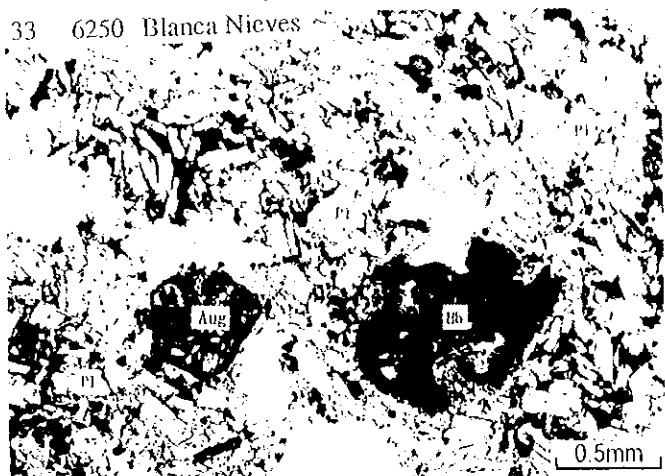


Photomicrographs of Thin Sections

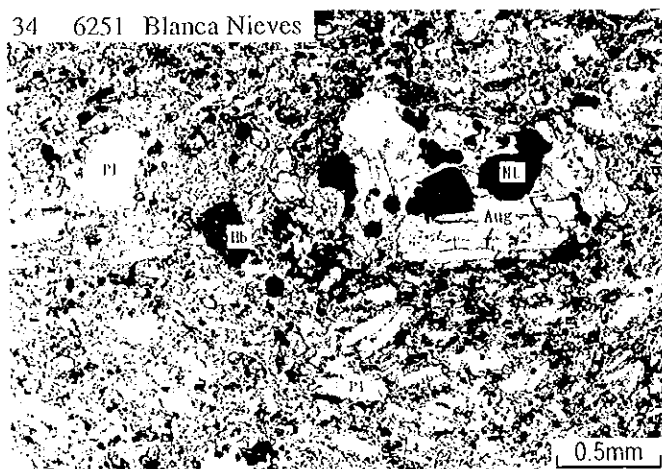
Plane polarized light

Crossed polarized light

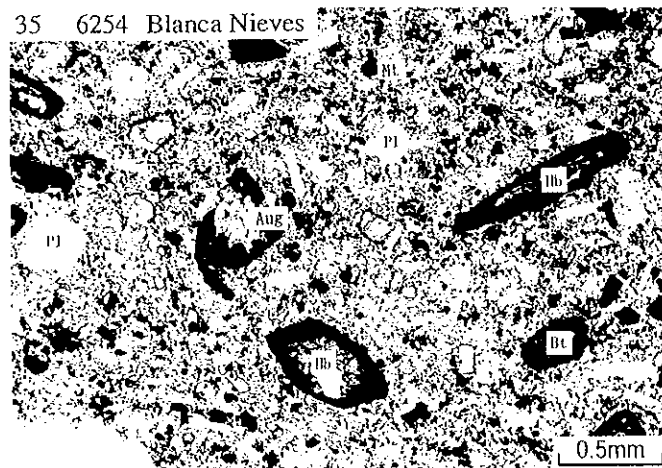
33 6250 Blanca Nieves



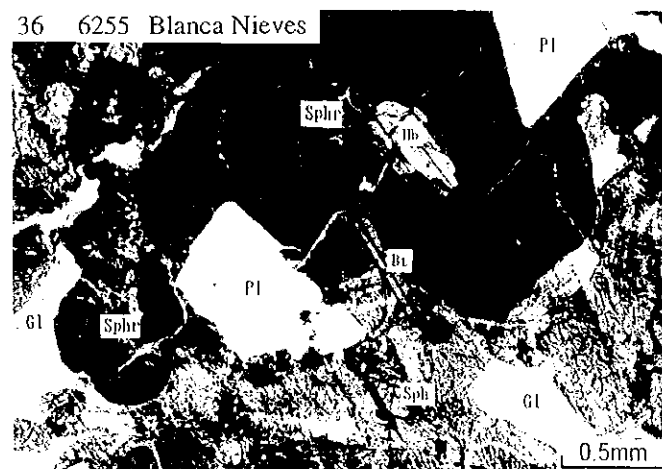
34 6251 Blanca Nieves



35 6254 Blanca Nieves



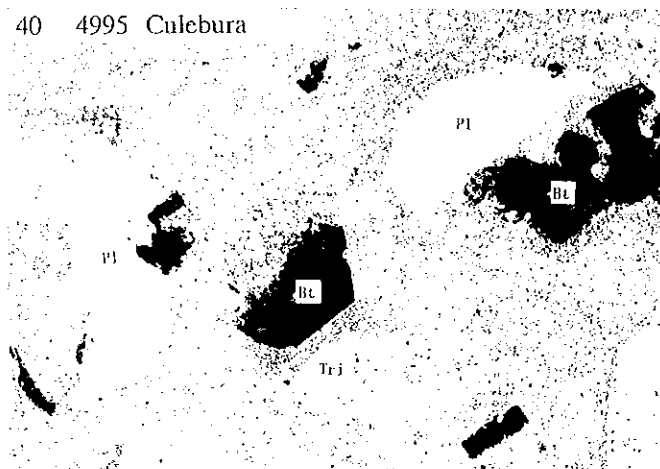
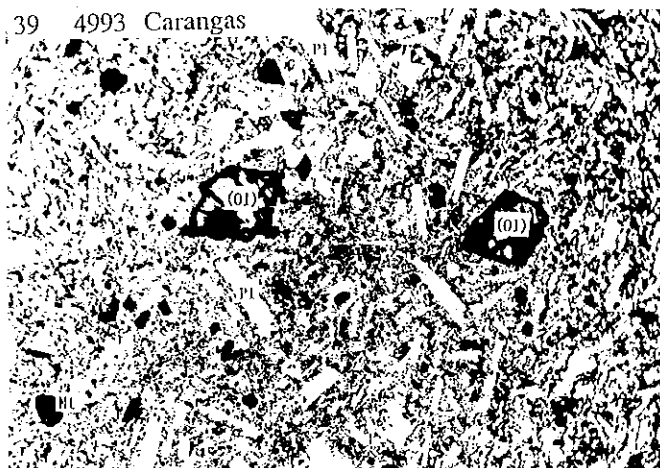
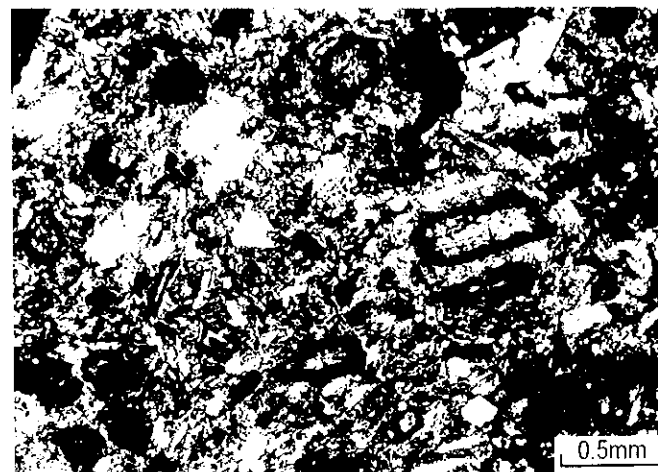
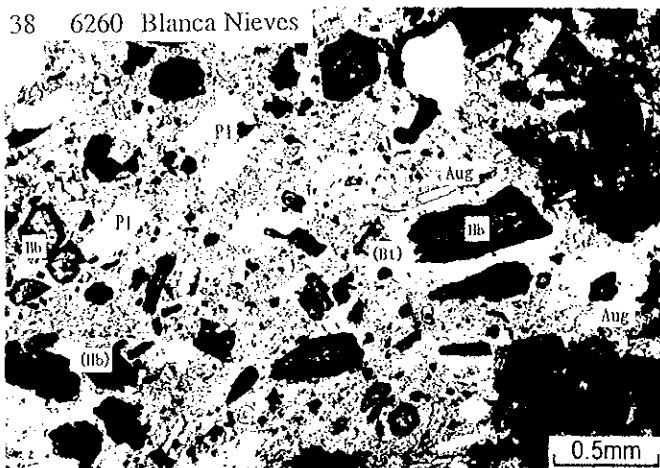
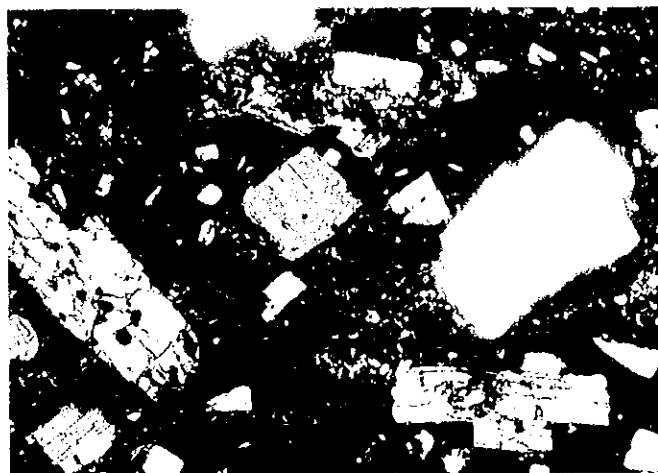
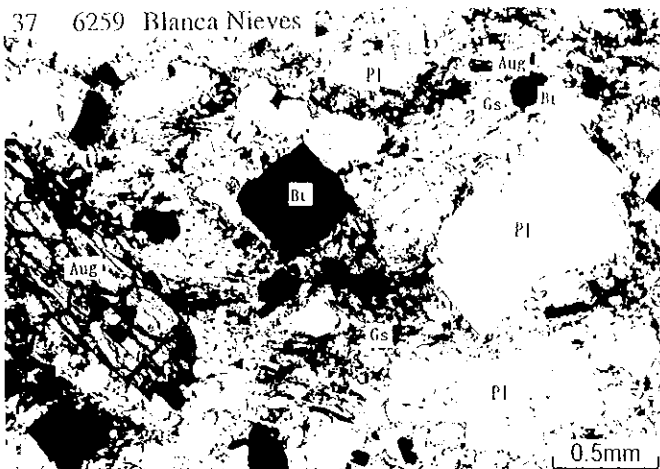
36 6255 Blanca Nieves



Photomicrographs of Thin Sections

Plane polarized light

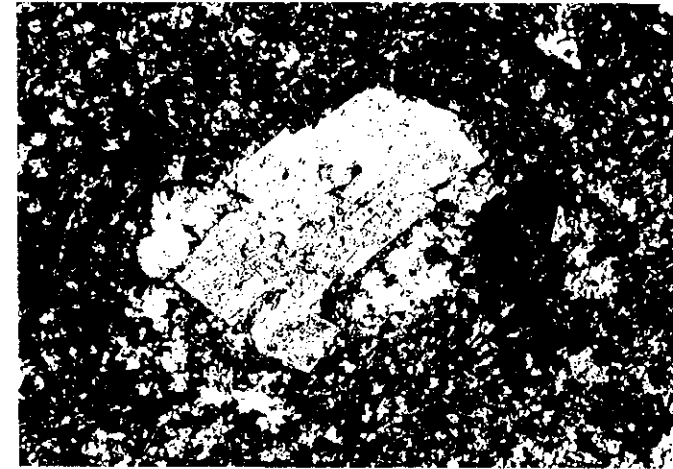
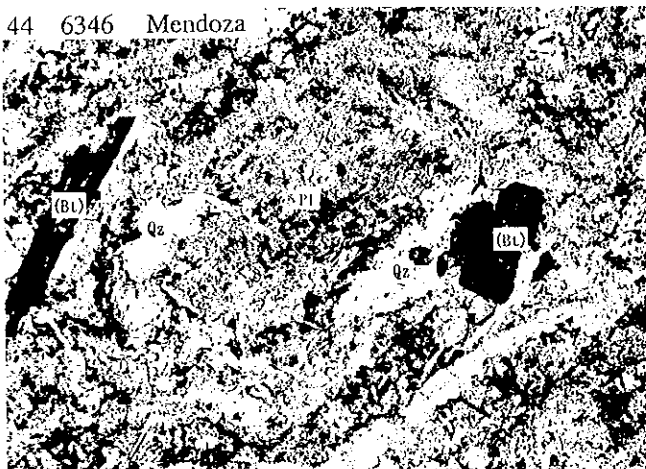
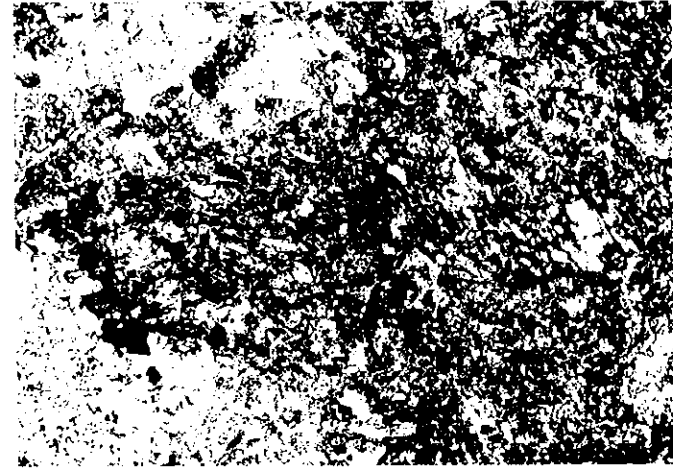
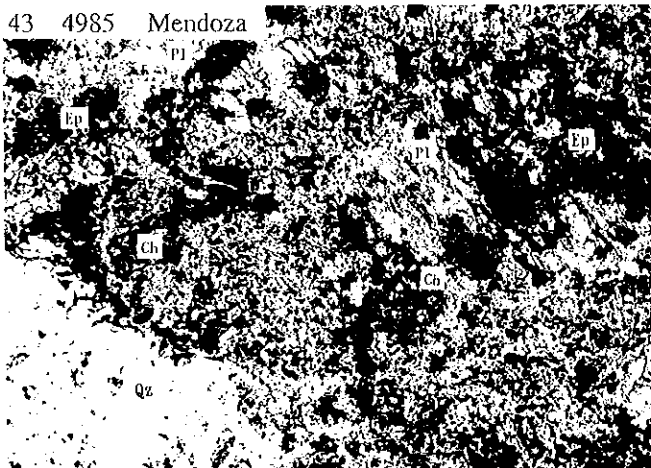
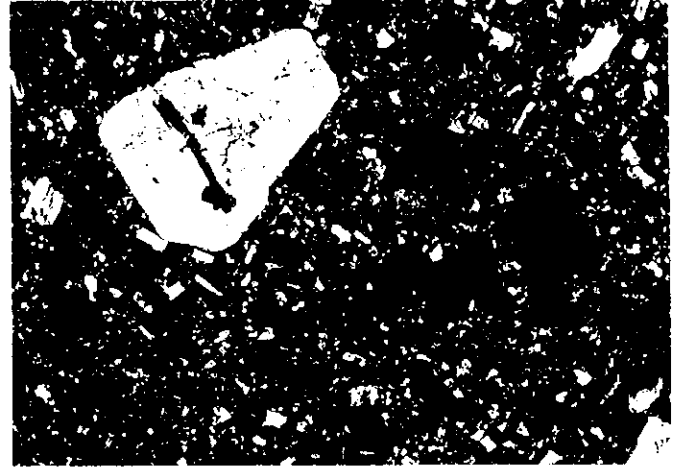
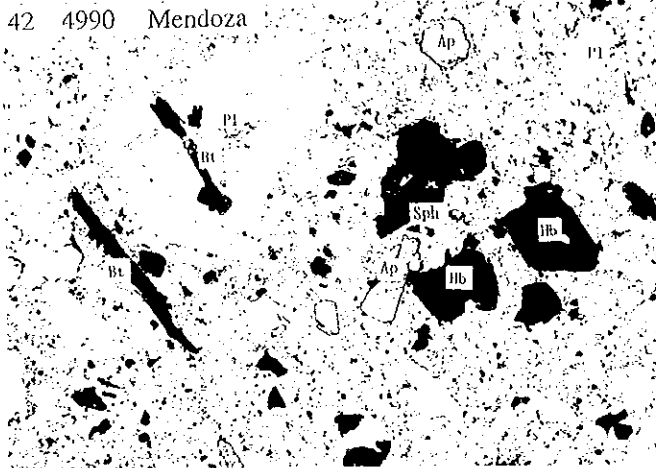
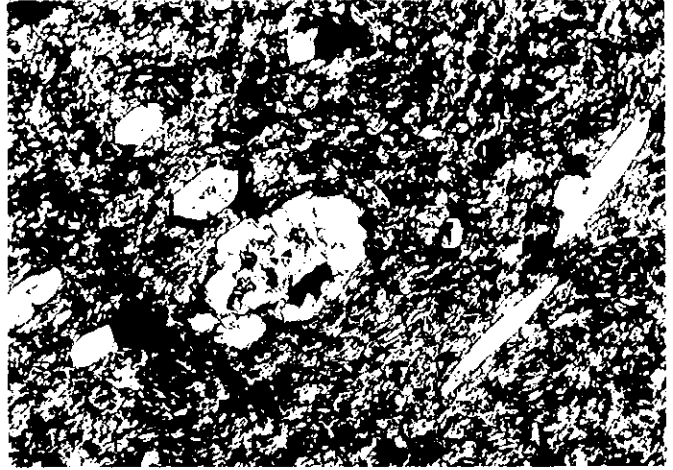
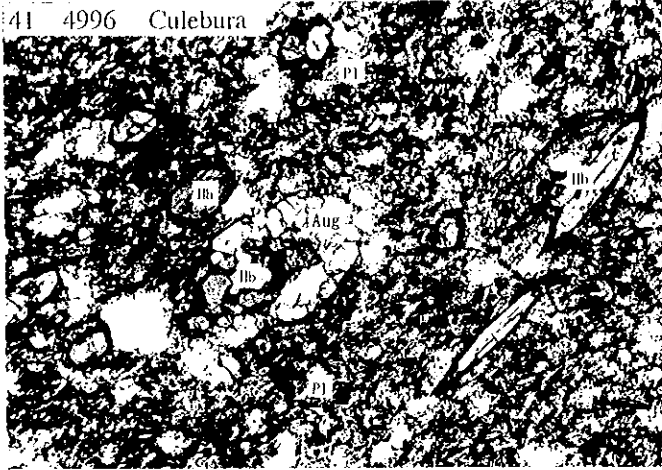
Crossed polarized light



Photomicrographs of Thin Sections

Plane polarized light

Crossed polarized light

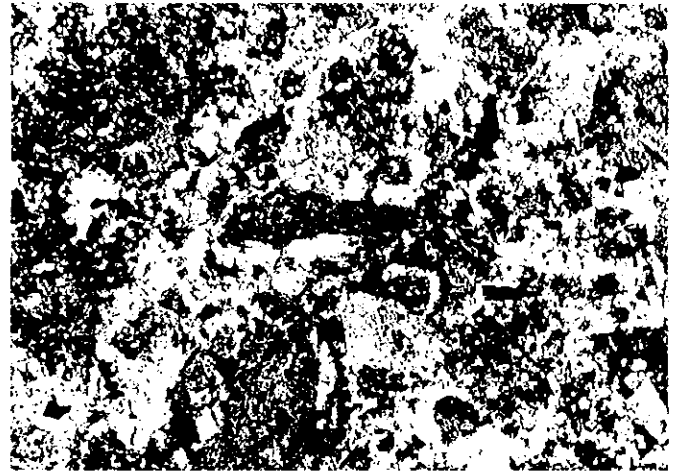


Photomicrographs of Thin Sections

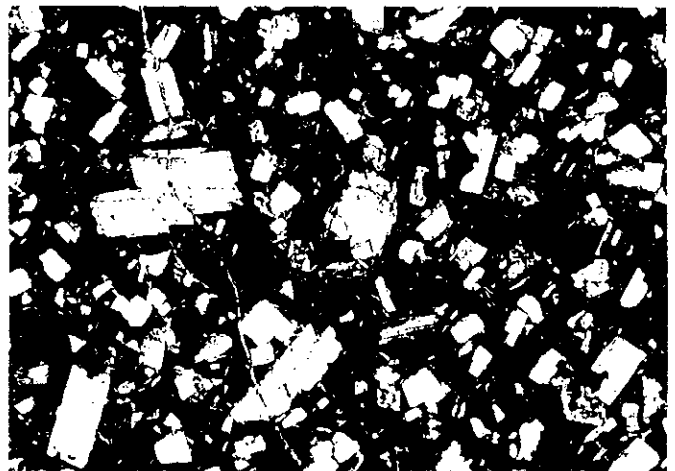
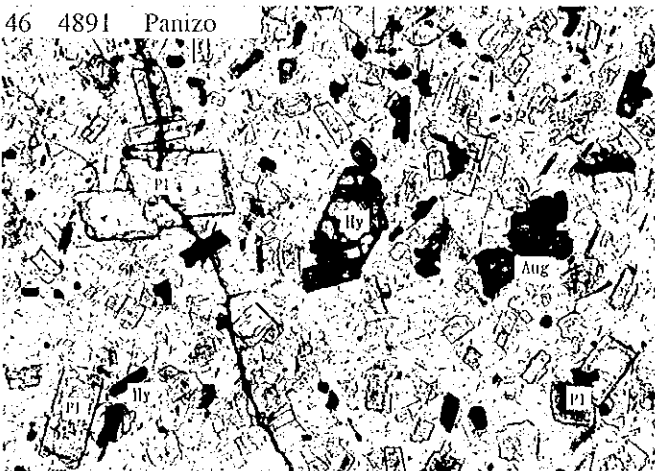
Plane polarized light

Crossed polarized light

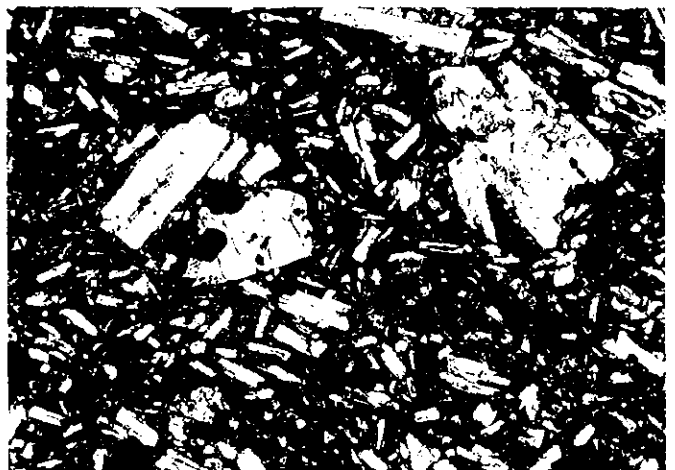
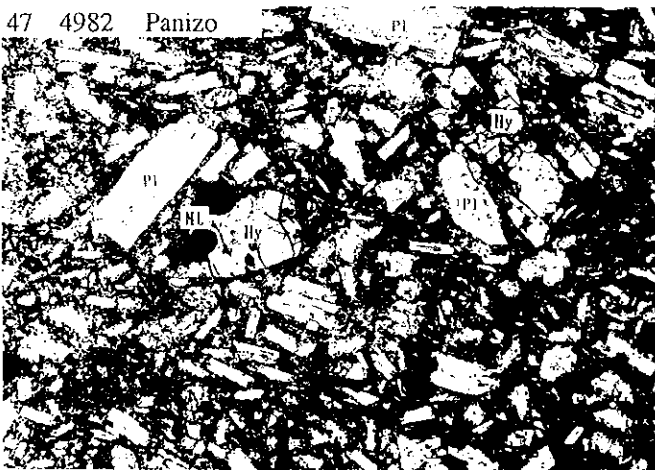
45 6373 Mendoza



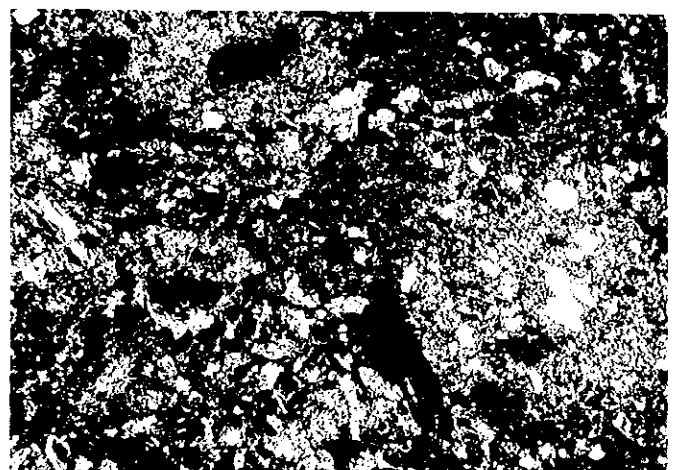
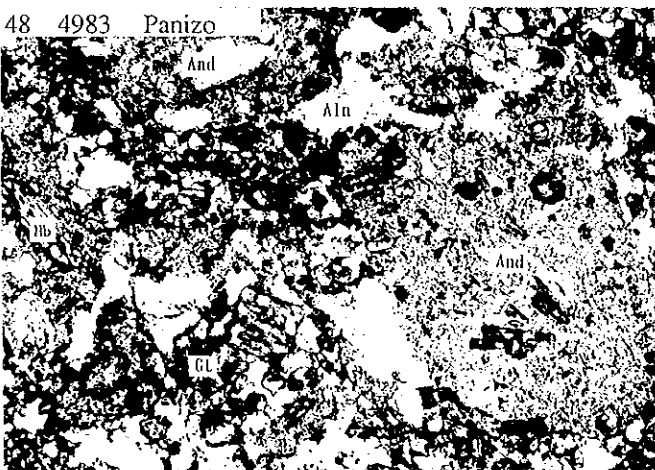
46 4891 Panizo



47 4982 Panizo



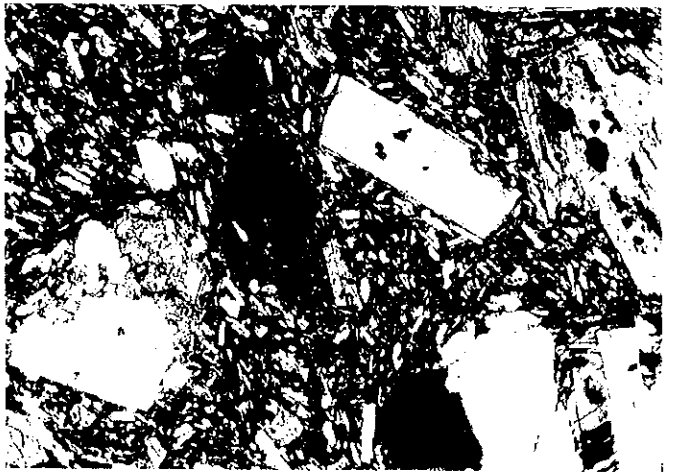
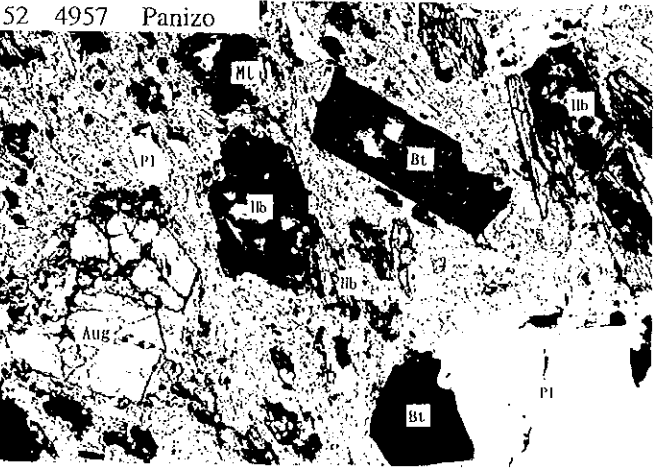
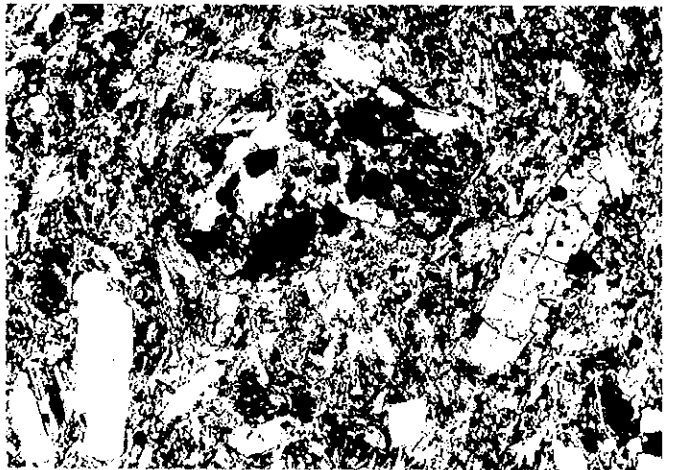
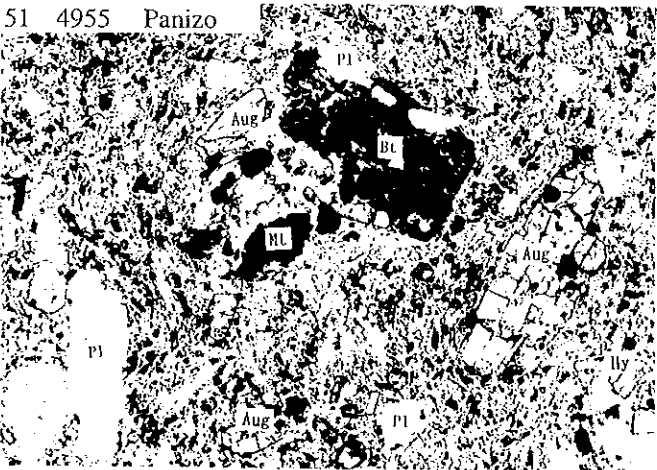
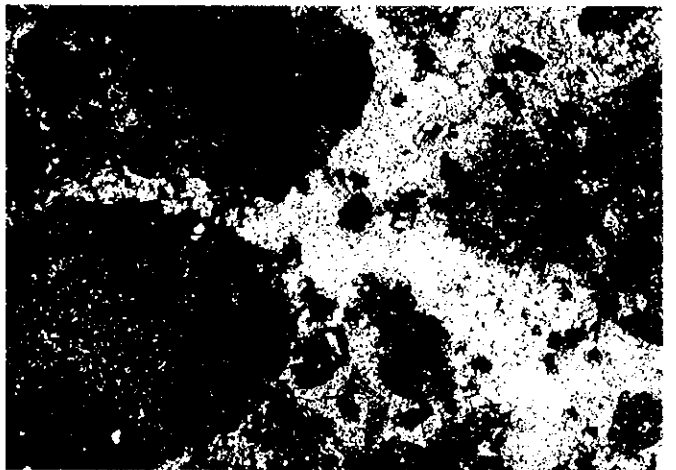
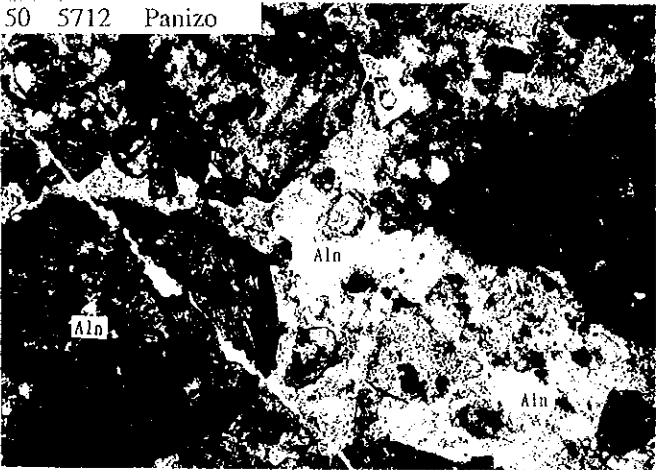
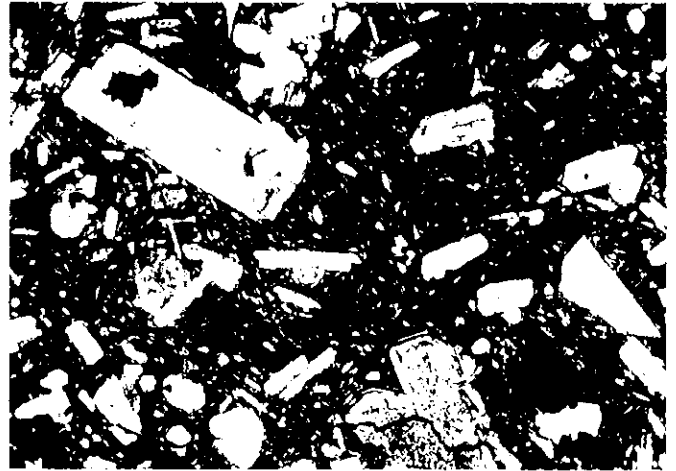
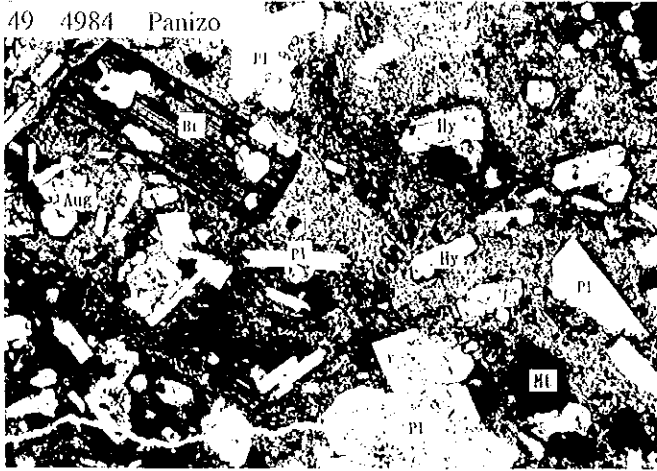
48 4983 Panizo



Photomicrographs of Thin Sections

Plane polarized light

Crossed polarized light

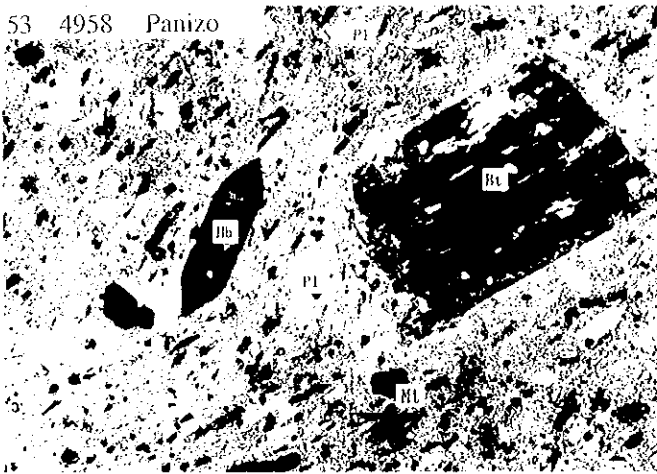


Photomicrographs of Thin Sections

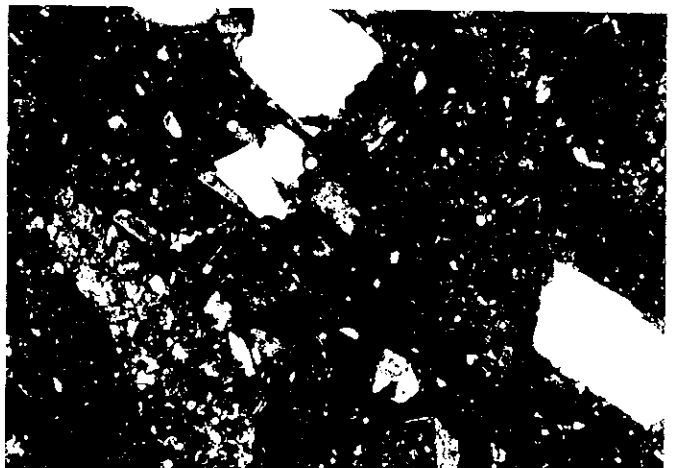
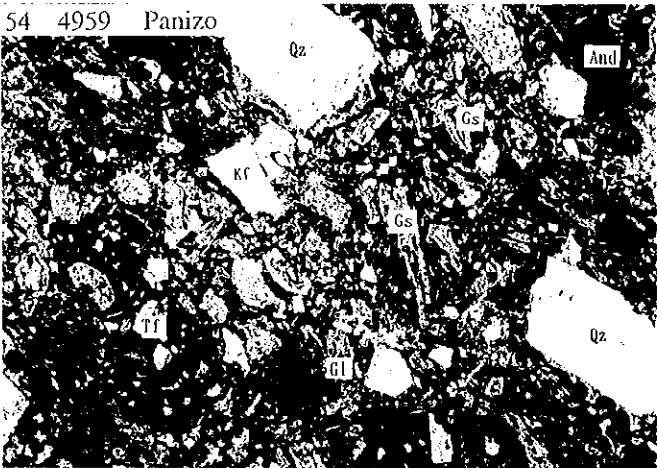
Plane polarized light

Crossed polarized light

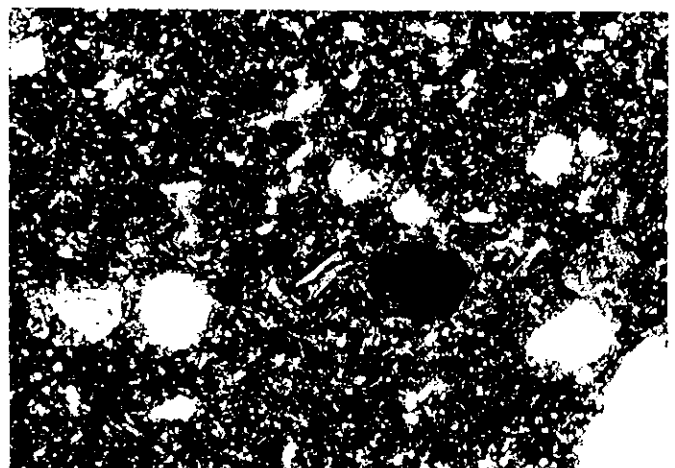
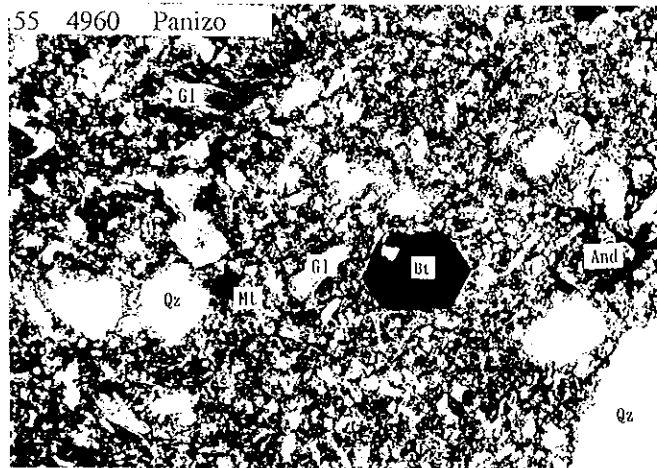
53 4958 Panizo



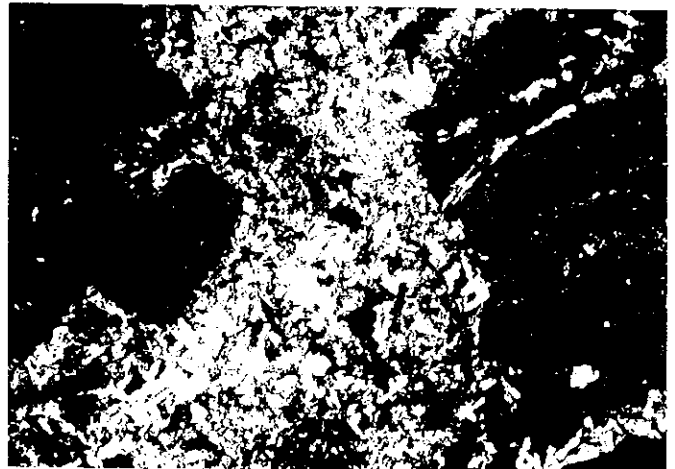
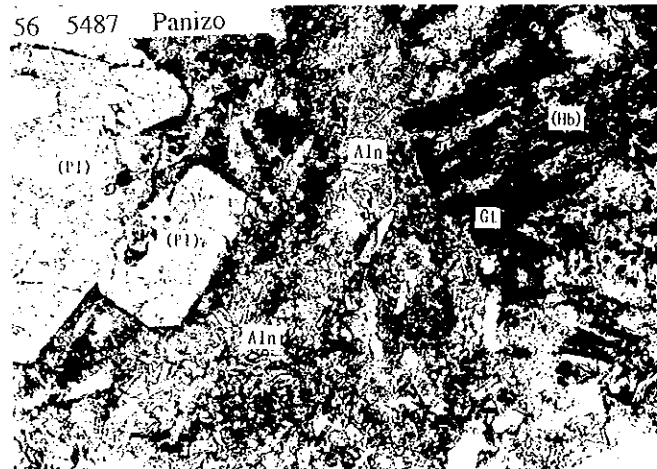
54 4959 Panizo



55 4960 Panizo



56 5487 Panizo

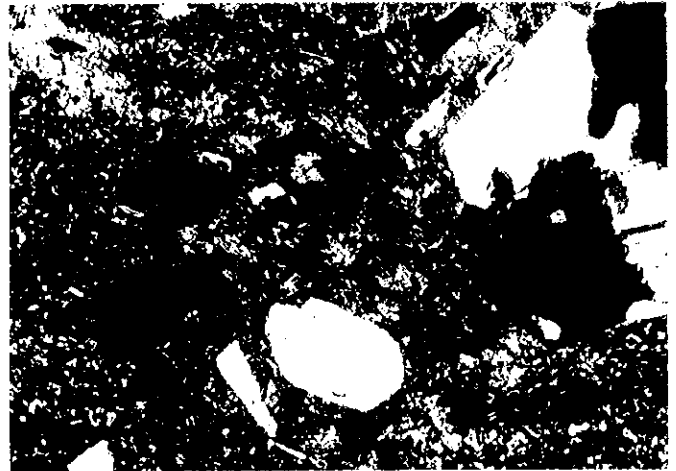
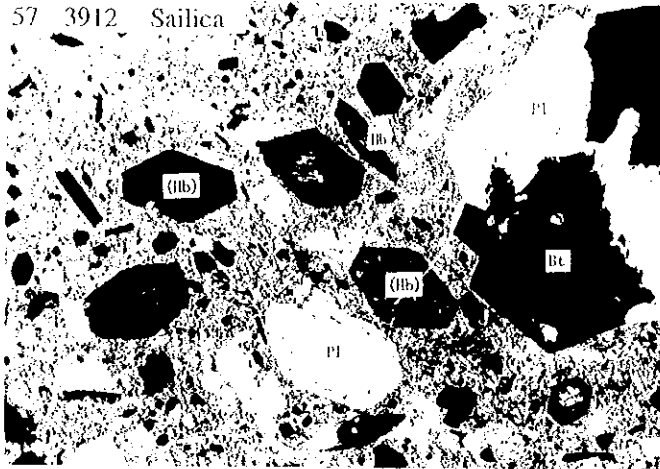


Photomicrographs of Thin Sections

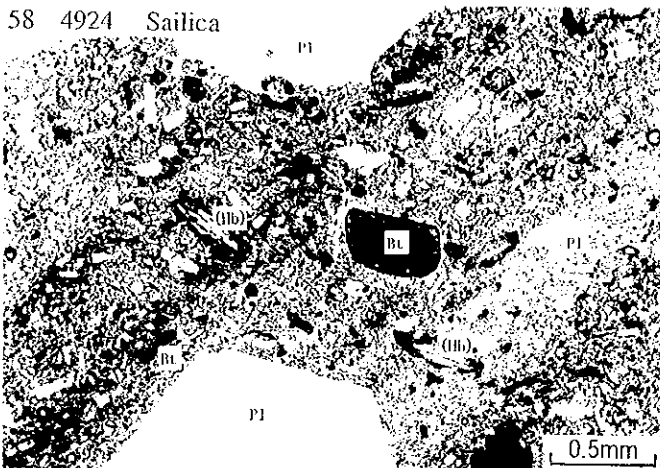
Plane polarized light

Crossed polarized light

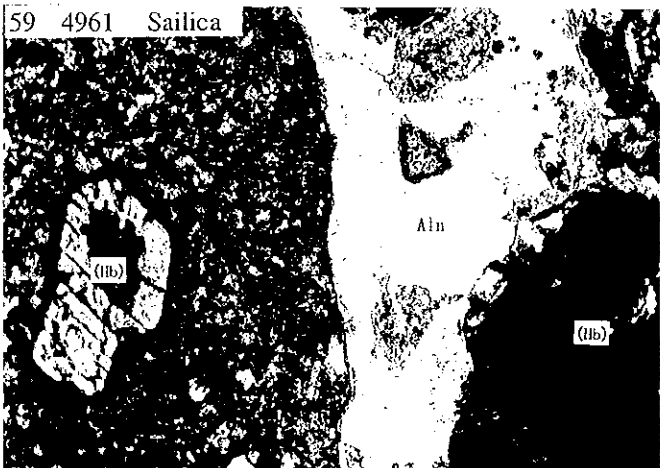
57 3912 Sailica



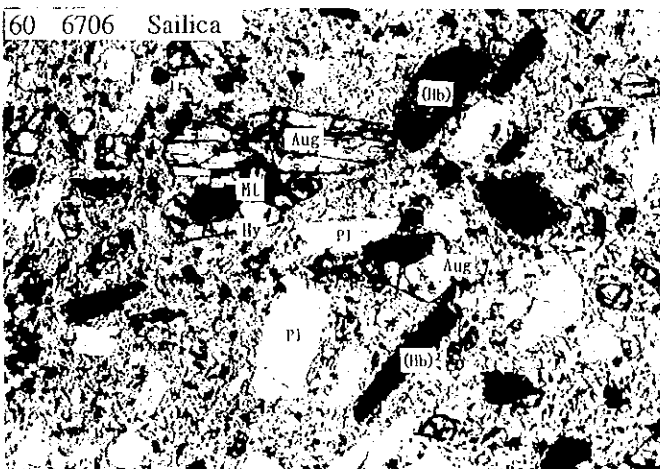
58 4924 Sailica



59 4961 Sailica



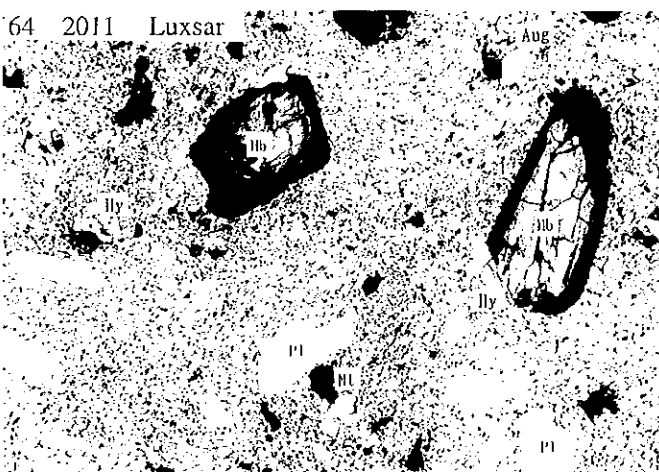
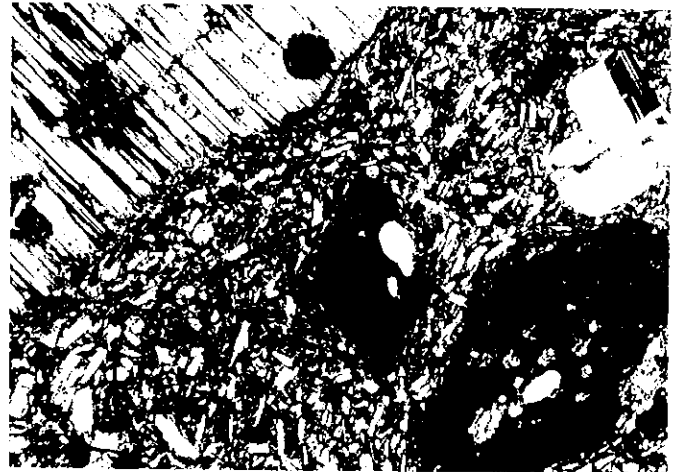
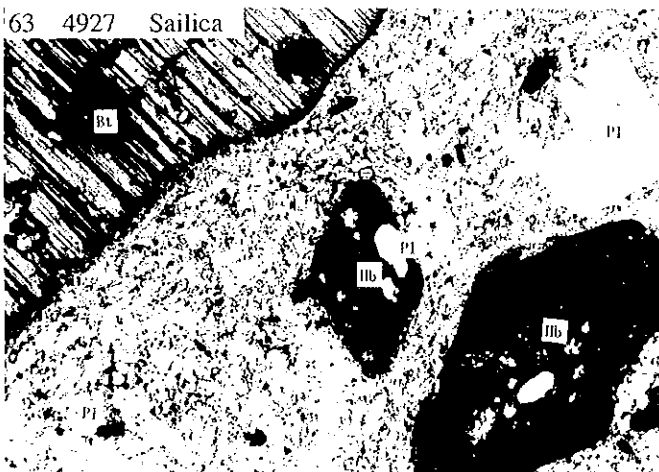
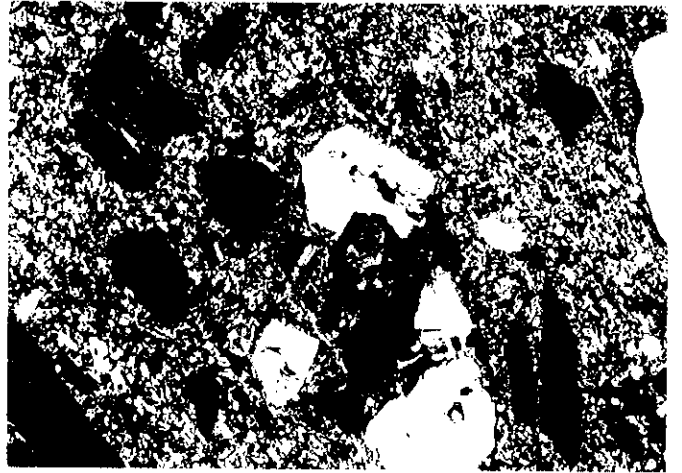
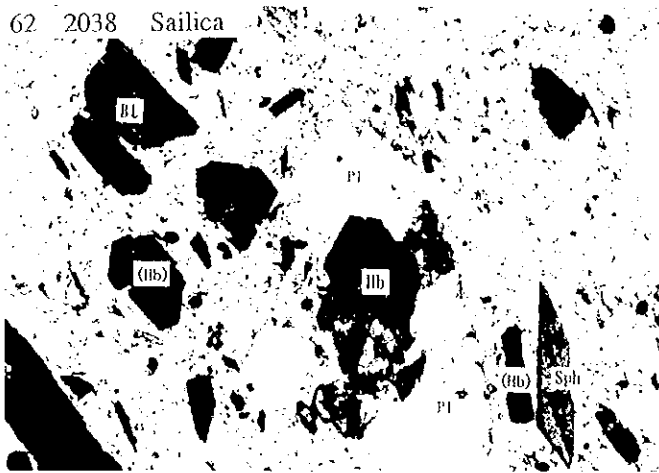
60 6706 Sailica



Photomicrographs of Thin Sections

Plane polarized light

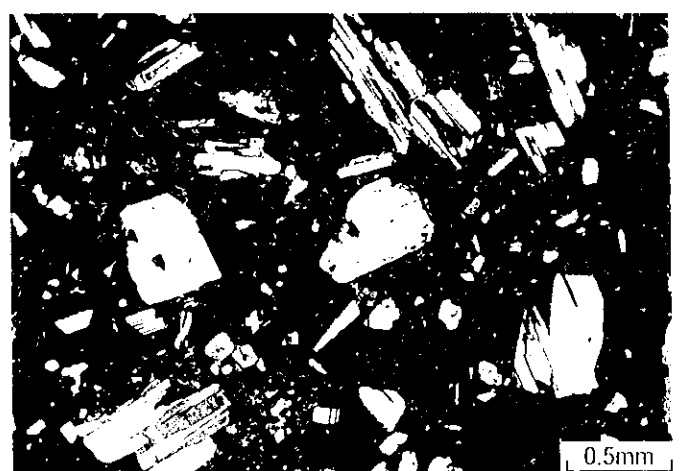
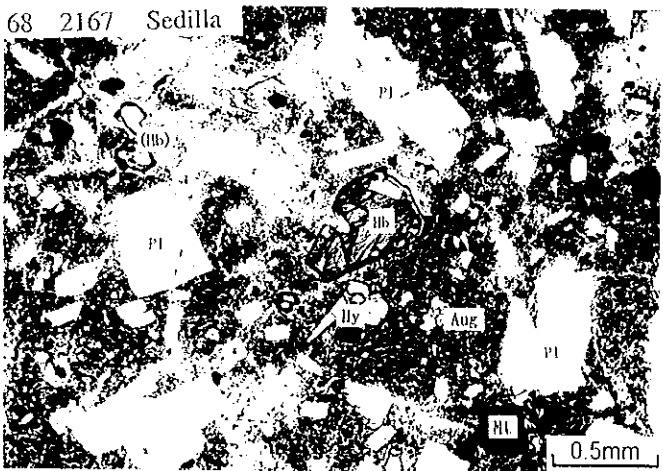
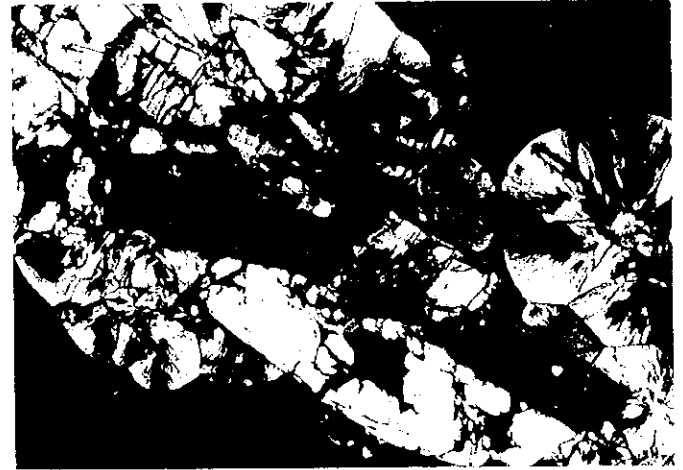
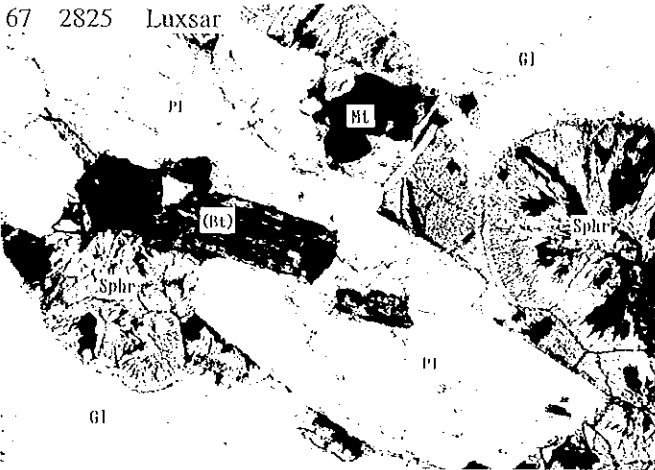
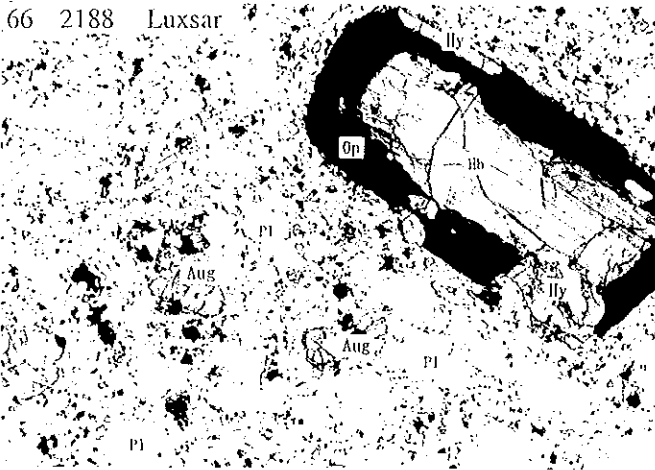
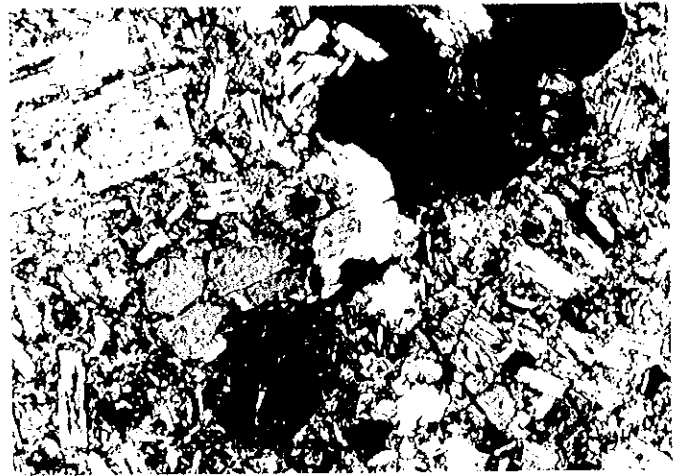
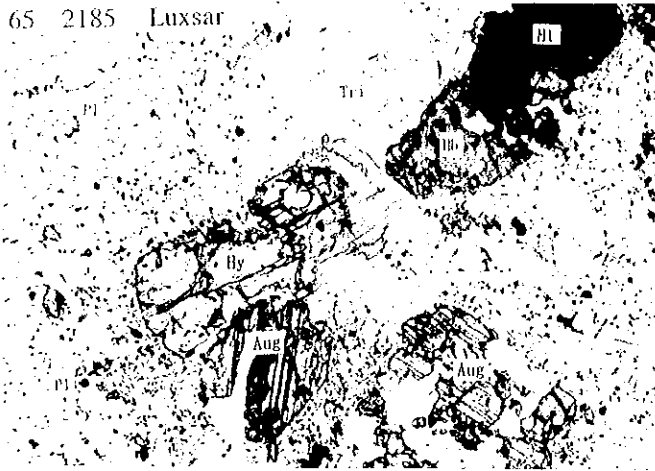
Crossed polarized light



Photomicrographs of Thin Sections

Plane polarized light

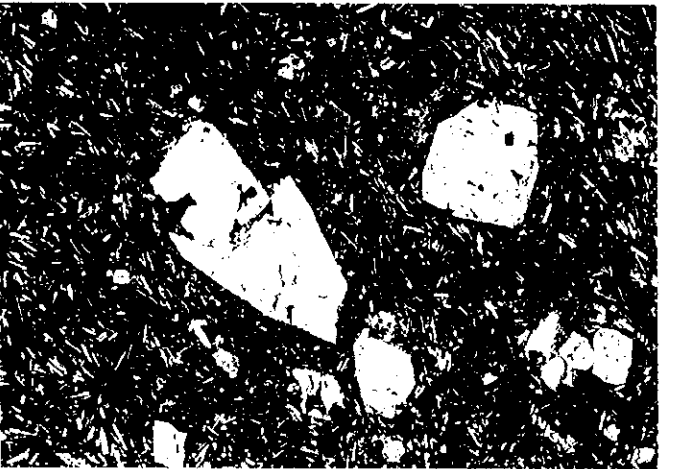
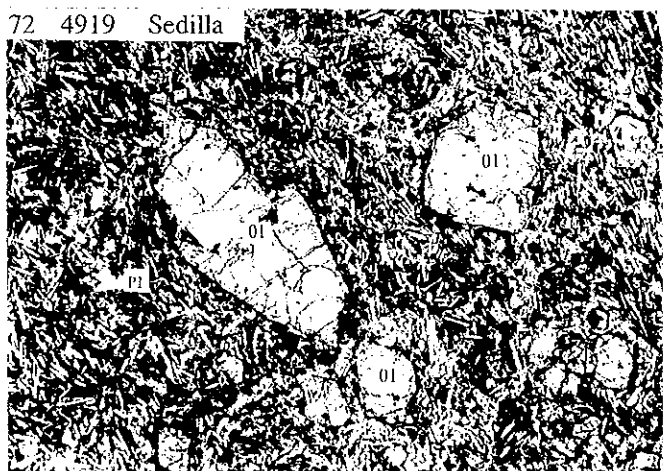
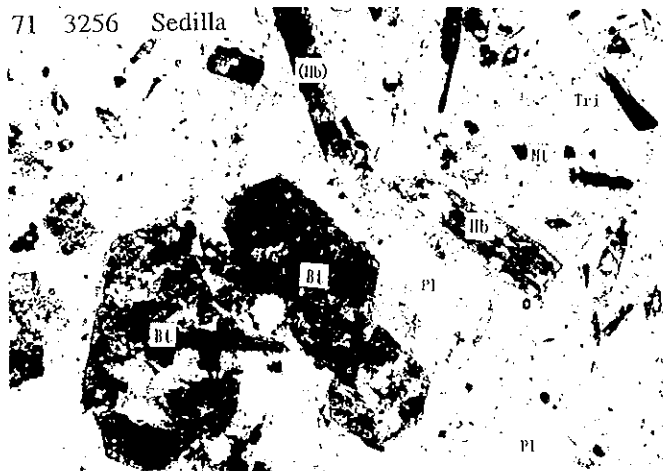
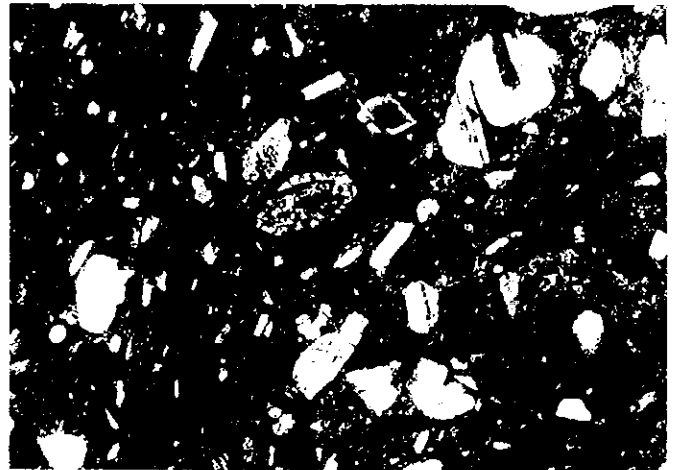
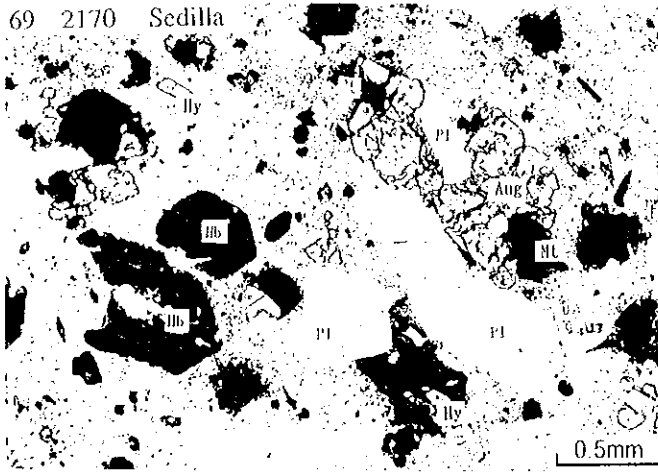
Crossed polarized light



Photomicrographs of Thin Sections

Plane polarized light

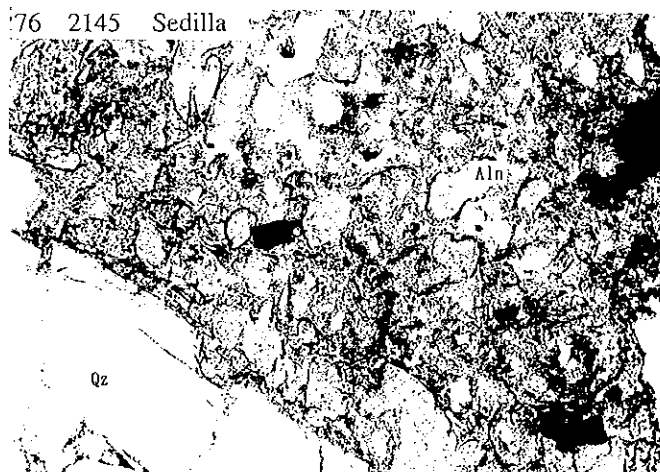
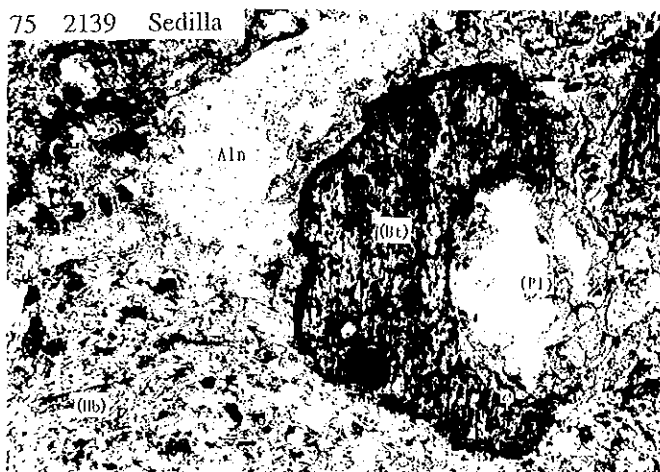
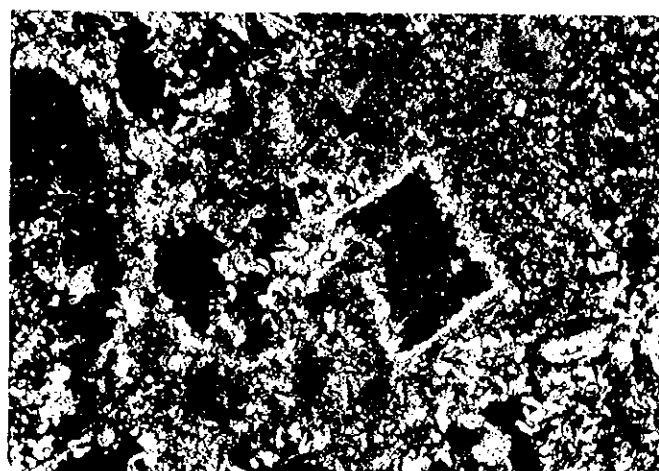
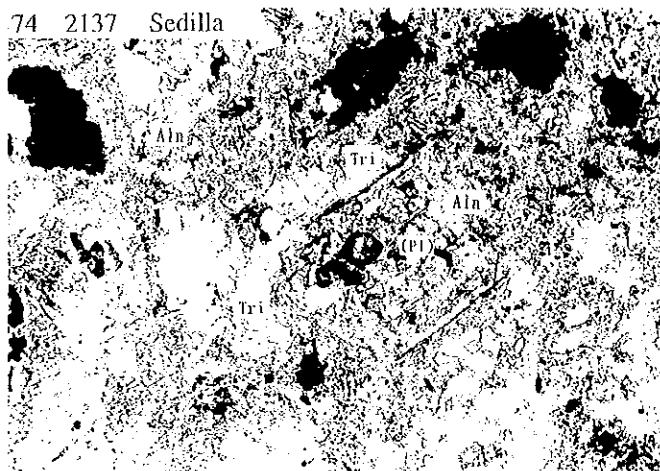
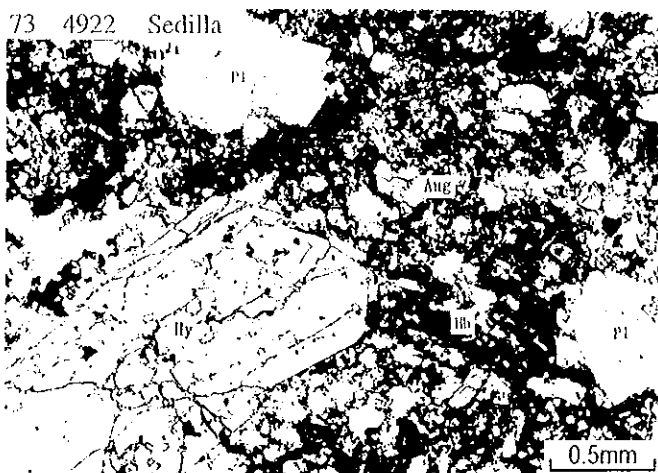
Crossed polarized light



Photomicrographs of Thin Sections

Plane polarized light

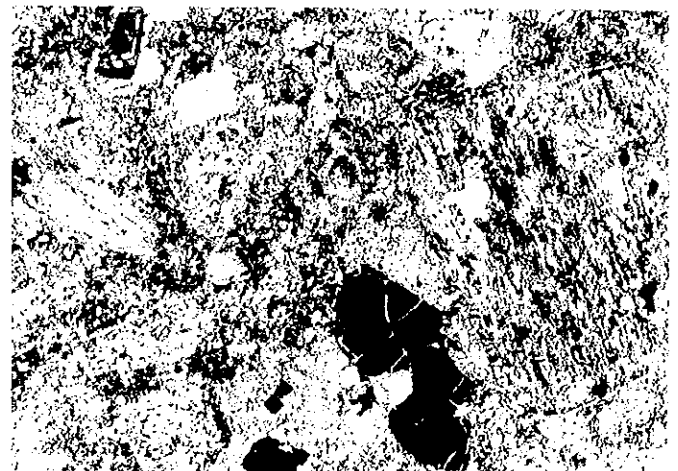
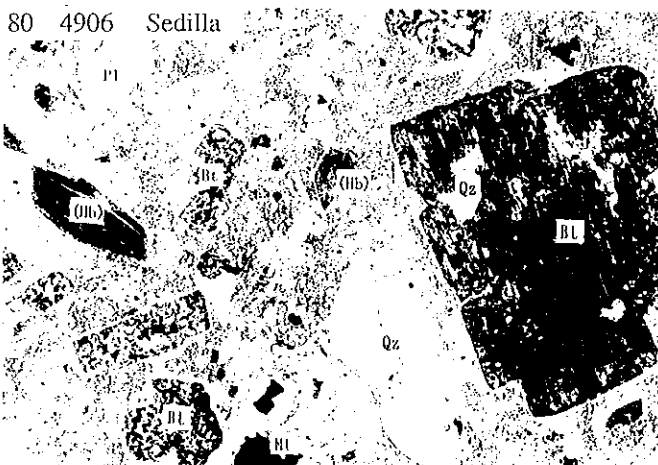
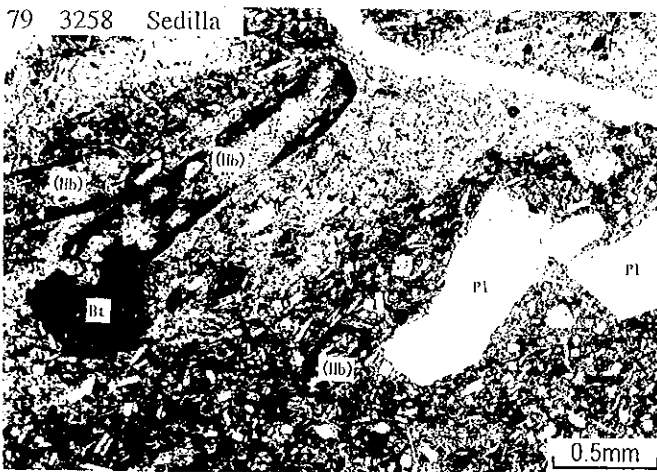
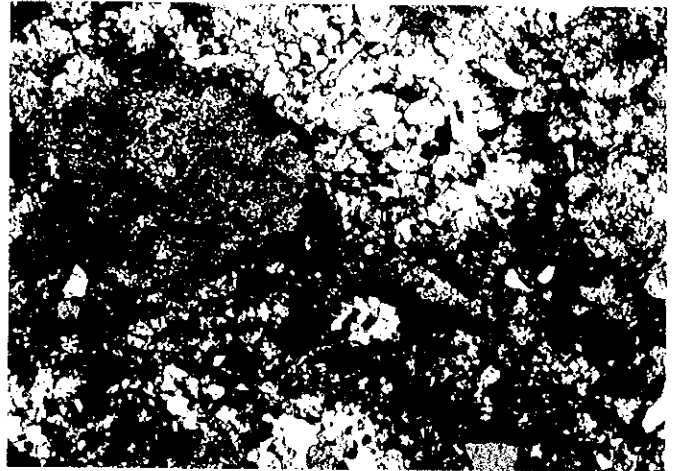
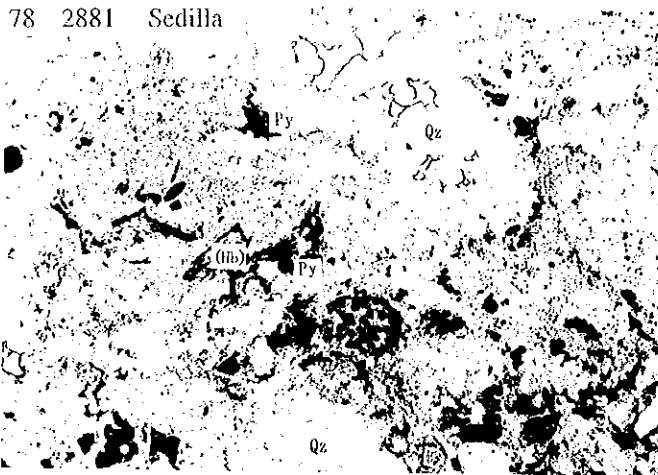
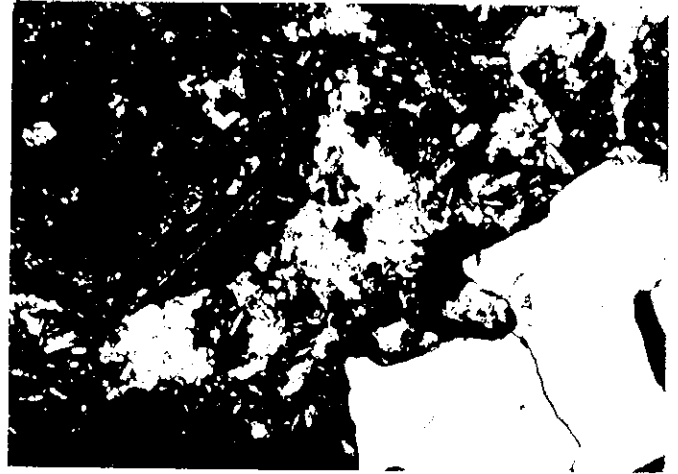
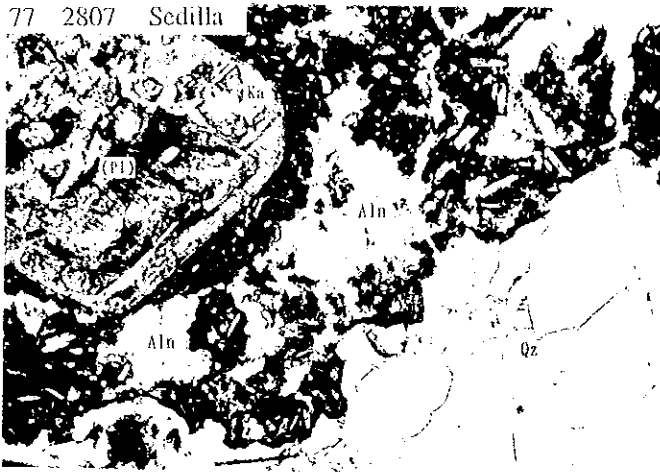
Crossed polarized light



Photomicrographs of Thin Sections

Plane polarized light

Crossed polarized light



Appendix 3

Microscopic Observation of Polished Sections

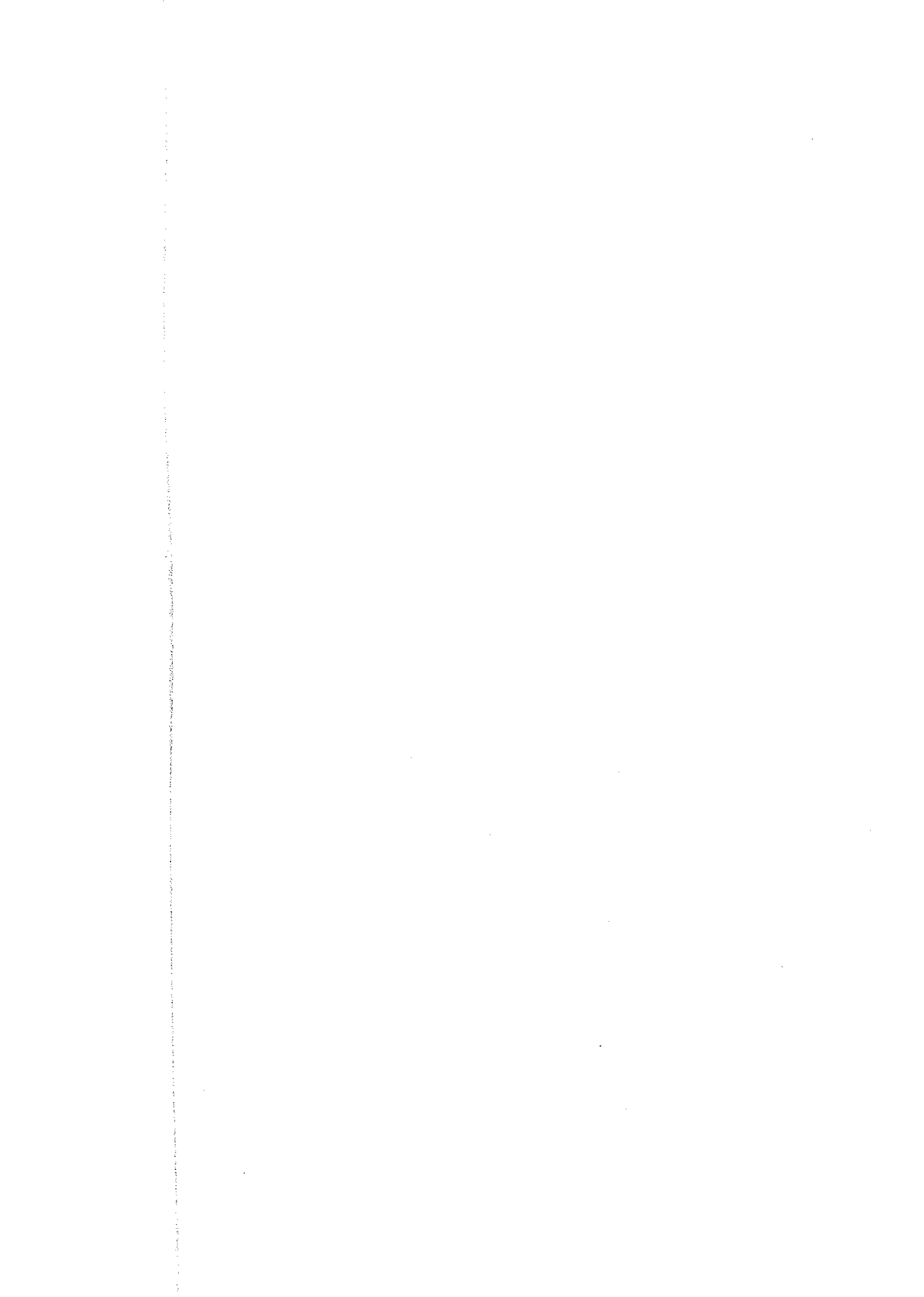
| No. | Sample No. | District | Location | UTM (Zone 19) | | Au ppb | Ag ppm | Cu ppm | Pb ppm | Zn ppm | As ppm | Sb ppm | Hg ppm | Mo ppm | Ba ppm | Sn ppm |
|-----|------------|---------------|--------------------------|---------------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | | N | E | | | | | | | | | | | |
| 1 | 5256 | Turaquiri | | 7,994,672 | 560,575 | <2 | 10.2 | 47 | 1298 | 3638 | 30 | <5 | <1 | <1 | 479 | <5 |
| 2 | 6173 | Turaquiri | | 7,994,834 | 561,012 | 30 | 150 | 106 | 9308 | 940 | 101 | 19 | <1 | 11 | 7963 | <5 |
| 3 | 5951 | Chullcani | | 7,975,940 | 518,637 | 172 | 4 | 9 | 189 | <2 | 20 | 6 | <1 | 6 | 577 | 7 |
| 4 | 5954 | Chullcani | | 7,975,615 | 518,000 | <2 | <5 | 13 | 20 | 3 | 13 | 8 | <1 | 2 | 1514 | <5 |
| 5 | 6141 | Chullcani | | 7,977,141 | 519,939 | 9 | 0.9 | 13 | 13 | 4 | 24 | <5 | <1 | 12 | 728 | <5 |
| 6 | 6451 | Chullcani | | 7,977,120 | 520,423 | <2 | 0.6 | 156 | 129 | 47 | 443 | 5 | <1 | 21 | 648 | <5 |
| 7 | 6938 | Chullcani | | 7,975,631 | 519,282 | <2 | <5 | 18 | 5 | 3 | <5 | <5 | <1 | 15 | 681 | <5 |
| 8 | 6945 | Chullcani | | 7,976,955 | 518,959 | 16 | <5 | 27 | 114 | 19 | 23 | <5 | <1 | 4 | 147 | <5 |
| 9 | 5000 | Sonia Susana | | 7,915,836 | 517,608 | | | | | | | | | | | |
| 10 | 5913 | Sonia Susana | | 7,917,176 | 517,492 | 11 | 2.1 | 133 | 73 | 130 | 119 | 8 | <1 | 36 | 926 | 8 |
| 11 | 5946 | Sonia Susana | | 7,915,702 | 517,776 | 25 | 2.3 | 230 | 8 | 141 | 12 | <5 | <1 | 1 | 487 | 16 |
| 12 | 6042 | Sonia Susana | | 7,917,464 | 518,747 | <2 | <5 | 44 | 51 | 174 | 14 | <5 | <1 | 4 | 1542 | <5 |
| 13 | 4209 | Calorno | | 7,761,977 | 546,364 | 2 | <5 | 127 | 9 | 209 | 8 | 9 | <1 | 1 | 1666 | <5 |
| 14 | 4786 | Calorno | | 7,759,852 | 545,574 | <2 | <5 | 28 | 35 | 27 | 1226 | <5 | <1 | <1 | 517 | <5 |
| 15 | 5682 | Calorno | | 7,765,429 | 547,756 | <2 | <5 | 41 | 55 | 50 | 59 | 25 | <1 | 6 | 542 | <5 |
| 16 | 6910 | Blanca Nieves | Blanca Nieves | 8,010,077 | 505,117 | <2 | <5 | 10 | 5 | 3 | 11 | <5 | <1 | 21 | 100 | <5 |
| 17 | 6178 | Blanca Nieves | Titicayo | 8,016,995 | 521,124 | <2 | <5 | 13 | 201 | 15 | <5 | <5 | <1 | 2 | 1321 | <5 |
| 18 | 6182 | Blanca Nieves | Titicayo | 8,017,091 | 520,984 | <2 | <5 | 33 | 1889 | 27 | 16 | <5 | <1 | <1 | 925 | <5 |
| 19 | 6271 | Blanca Nieves | Titicayo | 8,016,810 | 521,278 | <2 | 134.1 | 38 | 2020 | 40 | 1442 | 16 | <1 | 6 | 1156 | 6 |
| 20 | 6272 | Blanca Nieves | Titicayo | 8,016,810 | 521,278 | <2 | 30.3 | 53 | 1908 | 24 | 23 | <5 | <1 | 6 | 581 | 9 |
| 21 | 7092 | Blanca Nieves | Titicayo | 8,017,189 | 520,936 | <2 | <5 | 7 | 21 | 12 | 7 | 6 | <1 | <1 | 1966 | <5 |
| 22 | 12361 | Blanca Nieves | Titicayo | | | <2 | 10.3 | 16 | 605 | 23 | 73 | <5 | <1 | 14 | 4433 | 10 |
| 23 | 6006 | Carangas | Espiritu | 7,905,897 | 539,256 | 2 | 84.2 | 225 | 92700 | 60970 | 74 | 85 | <1 | 155 | 547 | <5 |
| 24 | 5787 | Carangas | San Antonio | 7,905,683 | 539,547 | <2 | 1104 | 761 | 15268 | 223602 | 106 | 360 | <1 | 128 | 115 | <5 |
| 25 | 5794 | Carangas | San Antonio | 7,905,744 | 539,698 | <2 | 208.8 | 413 | 10937 | 12251 | 112 | 176 | <1 | 1 | 576 | <5 |
| 26 | 4992 | Carangas | San Francisco | 7,913,612 | 537,344 | | | | | | | | | | | |
| 27 | 5749 | Mendoza | Mina La Deseada | 7,824,459 | 634,620 | 40 | 246.4 | 196 | 4283 | 248 | 87 | 34 | <1 | 10 | 127 | <5 |
| 28 | 5751 | Mendoza | Mina La Deseada | 7,824,508 | 634,972 | 88 | 949 | 581 | 6188 | 4565 | 65 | 38 | <1 | 17 | 48 | <5 |
| 29 | 5754 | Mendoza | Mina La Deseada | 7,824,488 | 635,461 | 1044 | 104 | 2649 | 185800 | 139206 | 73 | 46 | <1 | 11 | 37 | <5 |
| 30 | 5755 | Mendoza | Mina La Deseada | 7,824,487 | 635,506 | 1062 | 104.3 | 3886 | 109100 | 147627 | 125 | 37 | <1 | 24 | 57 | <5 |
| 31 | 6344 | Mendoza | Mina Guadalupe | 7,822,610 | 635,382 | 1197 | 674 | 65650 | 727 | 232 | 28934 | 1050 | 7.7992 | 4 | 40 | 421 |
| 32 | 6385 | Mendoza | Mina Maria Luisa | 7,820,252 | 634,770 | 1422 | 1240 | 2390 | 33400 | 55825 | 351 | 130 | <1 | 14 | 69 | 15 |
| 33 | 6332 | Mendoza | Iranuta | 7,820,909 | 626,414 | <2 | <5 | 9 | 13 | 44 | 15 | <5 | <1 | <1 | 847 | <5 |
| 34 | 6336 | Mendoza | Iranuta | 7,822,183 | 624,333 | 19 | 76.7 | 438 | 241100 | 14246 | 82 | 100 | <1 | 10 | 582 | <5 |
| 35 | 5488 | Panizo | Chinchiluma San Salvador | 7,791,850 | 567,019 | 1305 | 79.8 | 361 | 59000 | 40275 | 1949 | 51 | <1 | 107 | 72 | <5 |
| 36 | 5489 | Panizo | Chinchiluma San Salvador | 7,791,850 | 567,019 | 348 | 83.8 | 1358 | 37700 | 279334 | 274 | 58 | <1 | 1 | 189 | <5 |
| 37 | 5490 | Panizo | Chinchiluma San Salvador | 7,791,850 | 567,019 | 284 | 171.1 | 4097 | 89500 | 229006 | 553 | 350 | <1 | 18 | 85 | <5 |
| 38 | 5491 | Panizo | Chinchiluma San Salvador | 7,791,850 | 567,019 | 225 | 209.5 | 5051 | 116800 | 354923 | 549 | 387 | <1 | 33 | 89 | <5 |
| 39 | 5492 | Panizo | Chinchiluma San Salvador | 7,791,850 | 567,019 | 460 | 982 | 5402 | 82600 | 292821 | 1125 | 368 | <1 | 53 | 203 | <5 |
| 40 | 5495 | Panizo | Chinchiluma Aguilani | 7,790,791 | 567,217 | 549 | 338 | 26705 | 5613 | 65781 | 510 | 93 | <1 | 10 | 39 | 31 |
| 41 | 5496 | Panizo | Chinchiluma Aguilani | 7,790,791 | 567,217 | 1197 | 678 | 47279 | 1688 | 35657 | 888 | 446 | <1 | 15 | <2 | 83 |
| 42 | 5497 | Panizo | Chinchiluma Aguilani | 7,790,791 | 567,217 | 660 | 470 | 23476 | 29500 | 107054 | 1271 | 193 | <1 | 15 | 25 | 39 |
| 43 | 2897 | Sailica | Mina Plasumar | 7,712,955 | 638,256 | <2 | <5 | 11 | 12 | 30 | 10 | <5 | <1 | 8 | 1133 | <5 |
| 44 | 2900 | Sailica | Mina Plasumar | 7,713,150 | 638,462 | <2 | <5 | 22 | 31 | 60 | 23 | <5 | <1 | 2 | 1301 | <5 |
| 45 | 2035 | Sailica | Mina Solucion | 7,712,783 | 631,549 | 4 | 11.3 | 1186 | 1285 | 1315 | 252 | 35 | <1 | 35 | 20 | <5 |
| 46 | 2118 | Cachi Unu | | 7,671,625 | 616,020 | <2 | <5 | 6 | 15 | 15 | 7 | <5 | <1 | 2 | 1014 | <5 |
| 47 | 2119 | Cachi Unu | | 7,671,543 | 616,050 | <2 | <5 | 6 | 44 | 18 | 56 | <5 | <1 | 2 | 802 | <5 |
| 48 | 2012 | Sedilla | Eskapa | 7,652,176 | 635,205 | <2 | 15.5 | 60406 | <3 | 139 | <5 | <5 | <1 | 1 | 1453 | <5 |
| 49 | 2194 | Sedilla | Eskapa | 7,648,751 | 634,086 | <2 | <5 | 7 | 18 | 27 | 8 | <5 | <1 | 4 | 1437 | <5 |
| 50 | 2856 | Sedilla | Eskapa | 7,648,741 | 633,776 | <2 | <5 | 5 | 33 | 38 | 21 | <5 | <1 | 2 | 1277 | <5 |

Appendix 3-1 Sample List of Labratry Works (Polished Section)

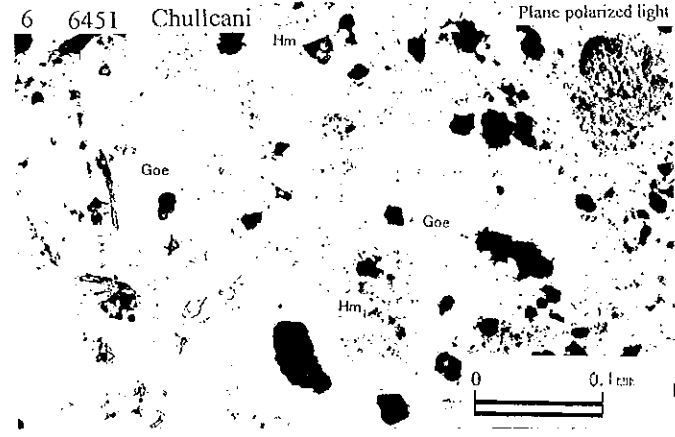
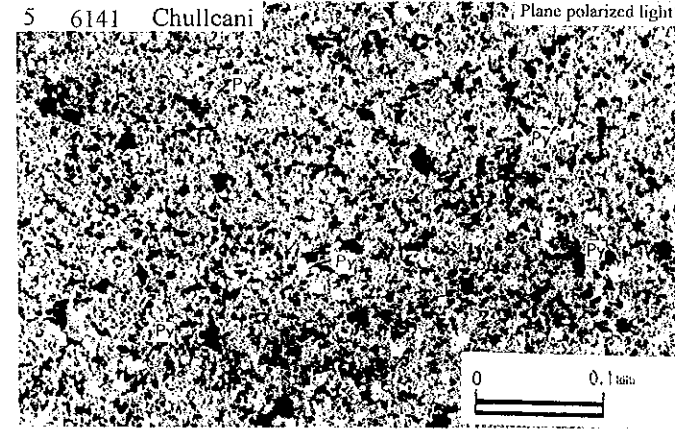
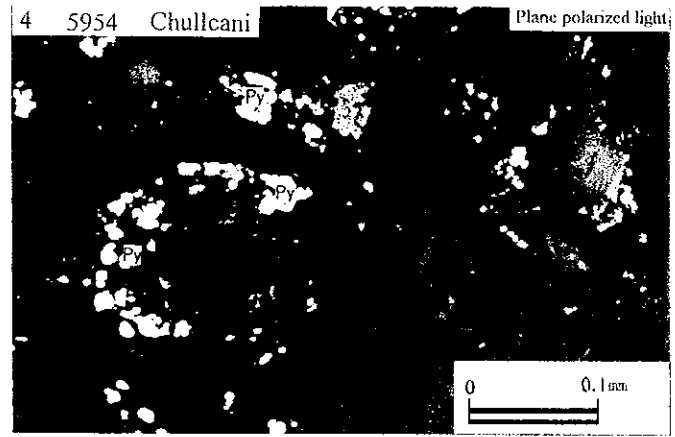
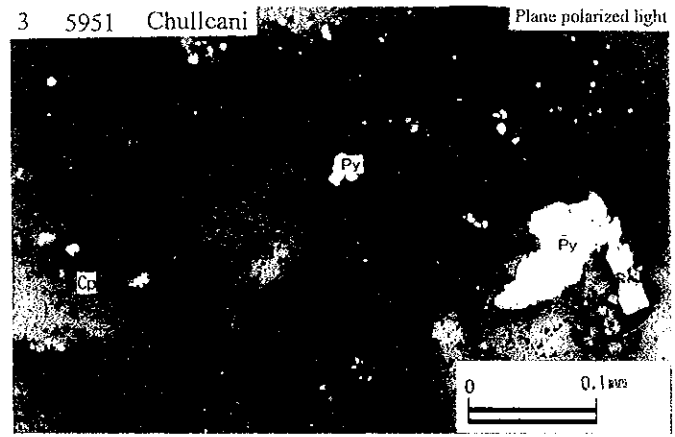
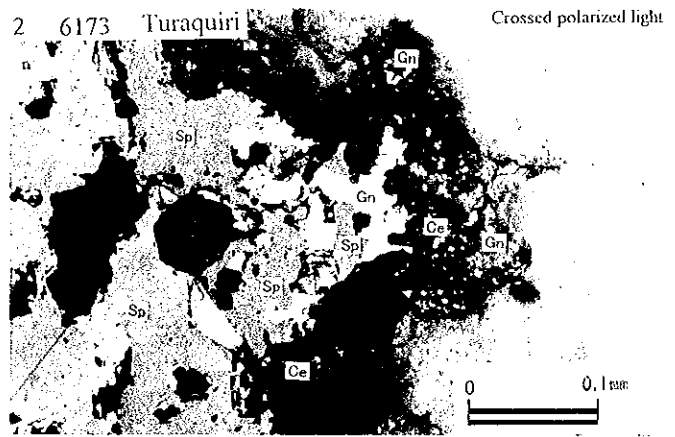
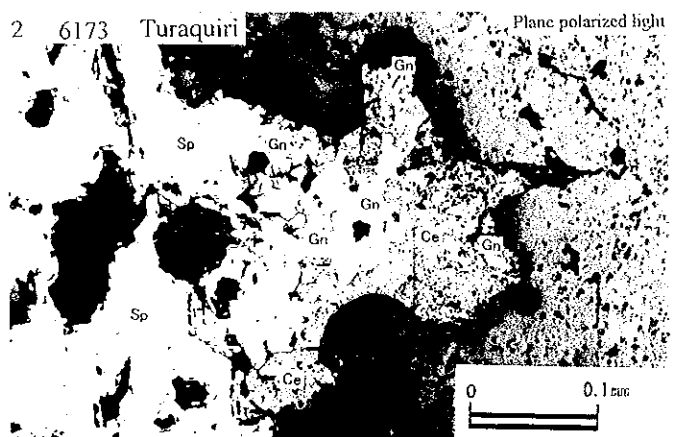
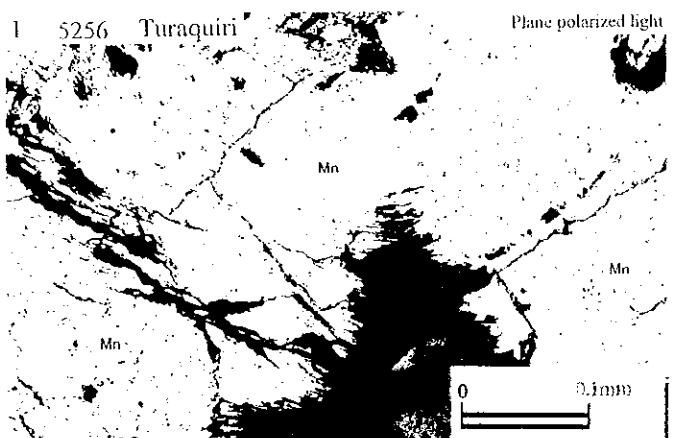
| No. | Location | Sample No. | Sample Name | Pyrite | Chalcopyrite | Sphalerite | Galena | Bornite | Covellite | Molybdenite | Enargite | Pyrrhotite | Polybasite | Psarocite? | Tetrahedrite | Tennantite | Freibergite | Electrum | Magnetite | Hematite | Goethite | Mangan oxide | Titanium oxide | Cuprite | Tenonite | Chrysocolla | Canusite | Remarks | |
|-----|---------------|---------------|------------------------|---------------------------|--------------|------------|--------|---------|-----------|-------------|----------|------------|------------|------------|--------------|------------|-------------|----------|-----------|----------|----------|--------------|----------------|---------|----------|-------------|-----------|-------------------------|-------------|
| 1 | Turaguirí | 5256 | wk-arg v wd:0.4m Mn | x | x | x | | | | | | | | | | | | | | | x | ⊙ | | | | | N60E.Mn v | | |
| 2 | Turaguirí | 6173 | gn-Ba ore | x | x | x | ○ | | | | | | | | | | | | | | | | | | | | ○ | Pb-Ba dump sample | |
| 3 | Chullcani | 5951 | vs-sil and | x | x | | | | | | | | | | | | | | | x | | | | | | | | py imp | |
| 4 | Chullcani | 5954 | vs-sil tf(an?) | ○ | x | | | | | | | | | | | | | | | | | | | | | | | py imp | |
| 5 | Chullcani | 6141 | s-sil lens wth qz | △ | | | | | | | | | | | | | | | | | x | | | | | | | sil z:N70E.py imp | |
| 6 | Chullcani | 6451 | hyd br | | | | | | | | | | | | | | | | | x | | ⊙ | | | | | | Fe oxd in mtrx | |
| 7 | Chullcani | 6638 | vs-sil alt r | x | | | | | | | | | | | | | | | | | | | | | | | | py imp | |
| 8 | Chullcani | 6945 | sil v with hem | △ | | | | | | | | | | | | | | | | x | | | | | | | | py imp in part | |
| 9 | Sonia Susana | 5000 | s-sil tf | △ | △ | x | | | | x | | | | | | | | | | | | | | | | | | grn Cu py imp | |
| 10 | Sonia Susana | 5913 | m-sil wk-arg alt-an | ○ | | | | | | | | | | | | | | | | | | | | | | | | py imp | |
| 11 | Sonia Susana | 5946 | m-arg sil z in prpy an | ○ | | | | | | | | | | | | | | | | | | | x | | | | | py imp | |
| 12 | Sonia Susana | 6042 | wk-sil m-arg da | △ | x | | | | | | | | | | | | | | | | △ | | | | | | | py hem imp | |
| 13 | Calorno | 4209 | an with m-chl vit | | | | | | | | | | | | | | | | ○ | △ | x | △ | | | | | | | |
| 14 | Calorno | 4786 | goss in s-arg r | x | | | | | | | | | | | | | | | | ⊙ | ○ | | | | | | | py imp | |
| 15 | Calorno | 5682 | vs-sil v | △ | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | Blanca Nieves | Blanca Nieves | 6910 | vs-sil hyd-br pipe | | | | | | | | | | | | | | | | | | | ⊙ | | | | | | |
| 17 | Blanca Nieves | Titicayo | 6178 | m-arg v | △ | | | | | | | | | | | | | | | x | | | | | | | | py imp | |
| 18 | Blanca Nieves | Titicayo | 6182 | m-sil hyd br | x | | | | | | | | | | | | | | | x | | | | | | | | py imp | |
| 19 | Blanca Nieves | Titicayo | 6271 | vs-arg vg s-limobr-lptf | | | | | | | | | | | | | | | | x | △ | | | | | | | at trench, gossan | |
| 20 | Blanca Nieves | Titicayo | 6272 | vs-sil lptf | △ | | | | | | | | | | | | | | | | | | | | | | | at trench, py imp | |
| 21 | Blanca Nieves | Titicayo | 7092 | vs-sil vit | △ | | | | | | | | | | | | | | | x | | | | | | | | py imp | |
| 22 | Blanca Nieves | Titicayo | 12361 | gossan(hyd-br) | | | | | | | | | | | | | | | | △ | ○ | | | | | | | | |
| 23 | Carangas | Espiritu | 6006 | gn sp py cp ore | x | x | ⊙ | x | x | x | | x | x | | | | x | | | | | | | | | | | dump sample | |
| 24 | Carangas | San Antonio | 5787 | sp crystal | x | x | ⊙ | ○ | | | | | | | x | | | | | | | | ⊙ | | | | | dump sample | |
| 25 | Carangas | San Antonio | 5794 | Mn ore | △ | | | | | | | | | | | | | | | | | | ⊙ | | | | | dump sample | |
| 26 | Carangas | San Francisco | 4992 | bk qz with py cp | ○ | ○ | x | x | x | x | x | | | | | | x | | | | x | | | | | | | dump sample | |
| 27 | Mendoza | La Deseada | 5749 | py qz v | ○ | | x | | | | | x | | | | | | | | | | | | | | | | | |
| 28 | Mendoza | La Deseada | 5751 | py qz v | ⊙ | | x | x | x | | | x | | | x | | | | | | | | | | | | | dump sample | |
| 29 | Mendoza | La Deseada | 5754 | gn sp ore | x | | ○ | ⊙ | | | | | | | | | | | | | | | | | | | | dump sample | |
| 30 | Mendoza | La Deseada | 5755 | gn sp ore | △ | x | ○ | ⊙ | | | x | x | | | | | | | | x | | | | | | | | dump sample | |
| 31 | Mendoza | Guadalupe | 6344 | en py pb ore | △ | x | x | | x | | ⊙ | | | x | | | | | | | x | | △ | | | | | dump sample | |
| 32 | Mendoza | Maria Luisa | 6385 | cp py gn st ore | △ | x | ⊙ | ○ | | | | | | | x | x | | x | | | | | | | | | | dump sample | |
| 33 | Mendoza | Iranuta | 6332 | alt an | ○ | | | | | | | | | | | | | | | | | x | | | | | | py imp ep qz cal | |
| 34 | Mendoza | Iranuta | 6336 | gn ore | x | | ○ | | x | | | | | | | | | | | | | ○ | | | | | | ○ | dump sample |
| 35 | Panizo | Chinchiluma | 5488 | sp gn v in s-arg m-sil da | ⊙ | x | ⊙ | △ | x | | | | | | x | | | | | | | | | | | | | py imp | |
| 36 | Panizo | Chinchiluma | 5489 | sp gn v in m-arg s-sil da | △ | x | ⊙ | △ | | | | | | | x | | | | | | | | | | | | | py imp | |
| 37 | Panizo | Chinchiluma | 5490 | sp gn v in s-arg da | x | x | ⊙ | ⊙ | | | | | | | x | | | | | | | | | | | | | py imp | |
| 38 | Panizo | Chinchiluma | 5491 | gn sp v in da | ○ | ○ | ⊙ | △ | | | | | | | △ | | | | | | | | | | | | | py imp | |
| 39 | Panizo | Chinchiluma | 5492 | gn sp v | △ | x | ⊙ | △ | | | | | | | x | | | | | | | | | | | | | py imp | |
| 40 | Panizo | Chinchiluma | 5495 | cp py ore | ⊙ | ○ | x | x | x | x | | | | | △ | x | | | | | | | | x | | | | dump sample | |
| 41 | Panizo | Chinchiluma | 5498 | sp cp py ore | ⊙ | ⊙ | ⊙ | x | x | | | | | | x | x | | x | | | | | | | | | | dump sample | |
| 42 | Panizo | Chinchiluma | 5497 | gn sp ore | △ | x | ⊙ | △ | | x | | | | | x | x | | x | | | | | | | | | | dump sample | |
| 43 | Saïica | Plasmar | 2897 | s-sil an | x | | | | | | | | | | | | | | | | | | | | | | | py imp dump sample | |
| 44 | Saïica | Plasmar | 2900 | s-arg an | ⊙ | | | | | | | | | | | | | | | | | | | | | | | py imp,E-W,40S/N15W,80E | |
| 45 | Saïica | Solucion | 2035 | s-sil goss v | x | | | | | | | | | | | | | | | △ | △ | | | | | | | skarn? | |
| 46 | Cachi Unu | | 2118 | m-sil fng an | x | | | | | | | | | | | | | | | | | | | | | | | py imp | |
| 47 | Cachi Unu | | 2119 | m-arg an | x | | | | | | | | | | | | | | | | | | | | | | | py imp | |
| 48 | Sedilla | Eskapa | 2012 | m-arg an | x | | | | | | | | | | | | | | | | | | | x | △ | △ | | green Cu imp | |
| 49 | Sedilla | Eskapa | 2194 | s-(m)-arg bt da | △ | | | | | | | | | | | | | | | x | | | | | | | | py imp | |
| 50 | Sedilla | Eskapa | 2856 | s-sil hyd br | △ | | | | | | | | | | | | | | | | | | | | | | | py imp | |

⊙:Abundant, ○:Common △:poor ×:Trace

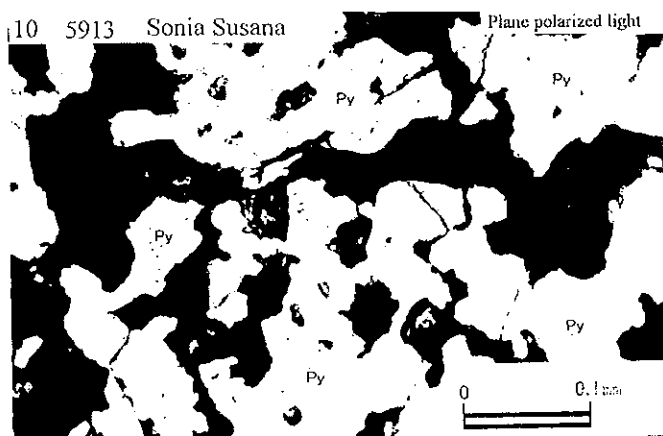
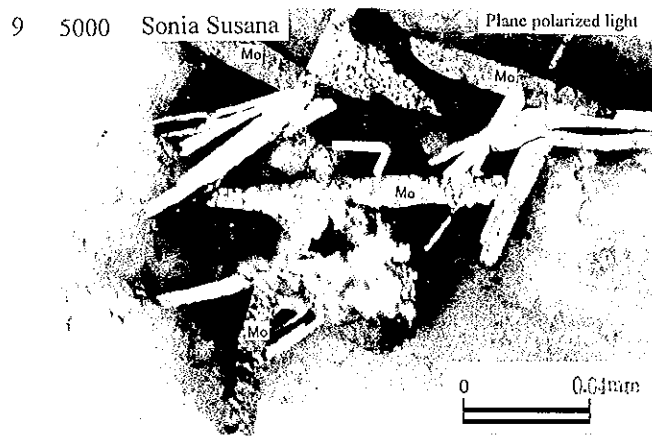
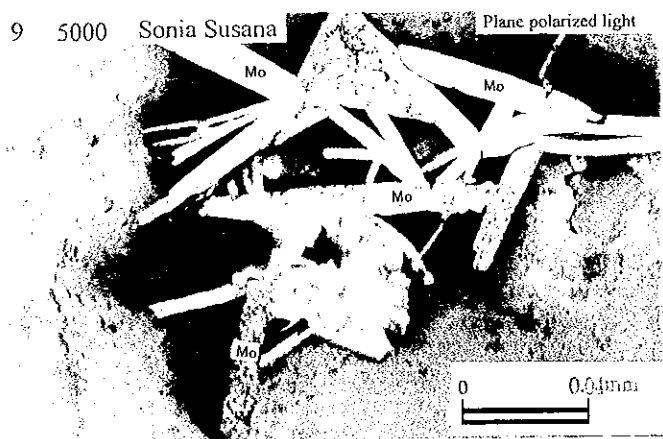
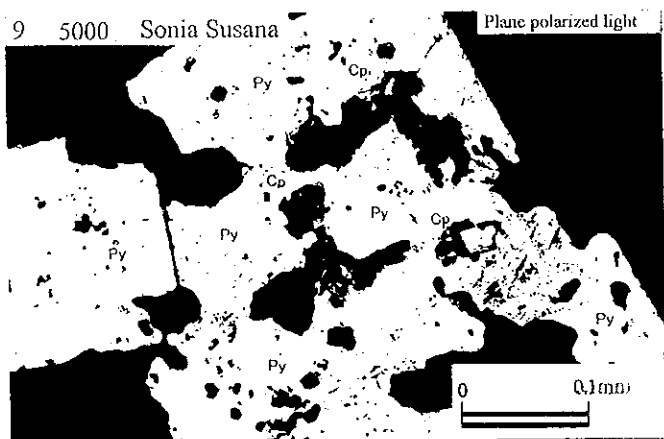
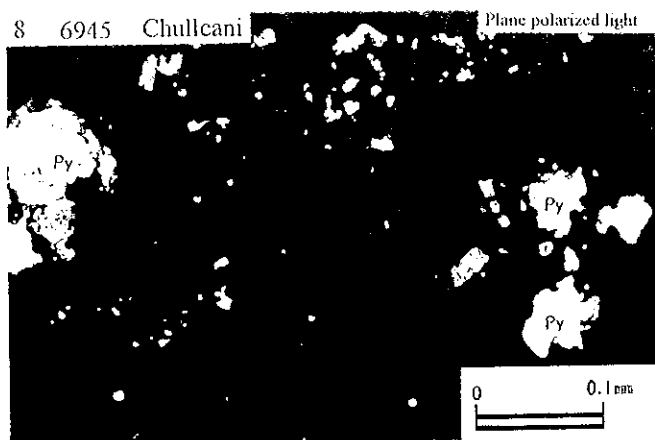
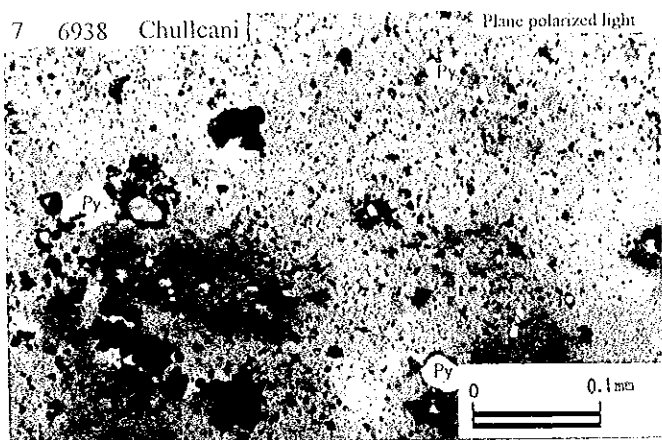
Appendix 3-2 Results of Microscopic Observations of Polished Sections



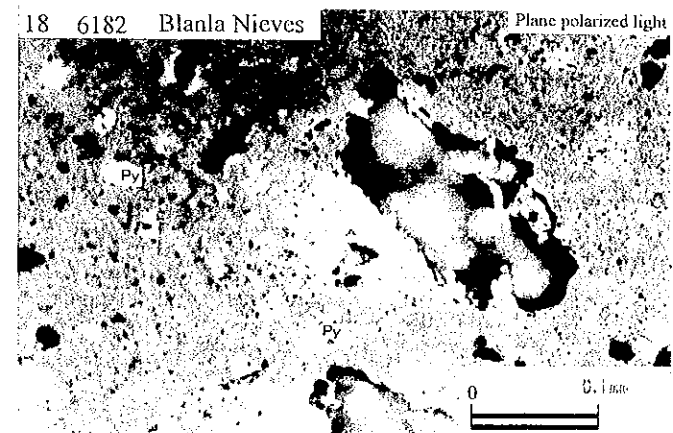
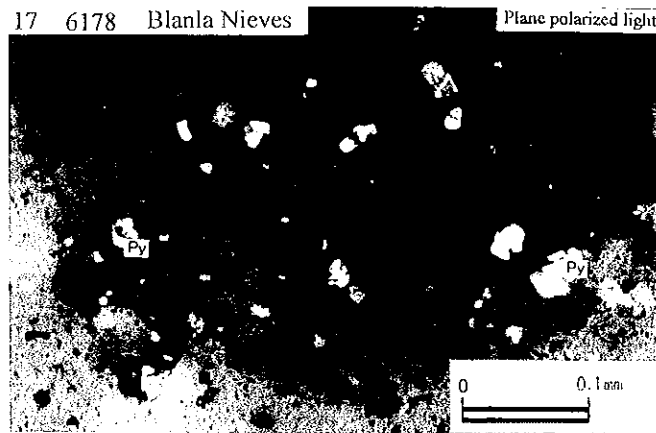
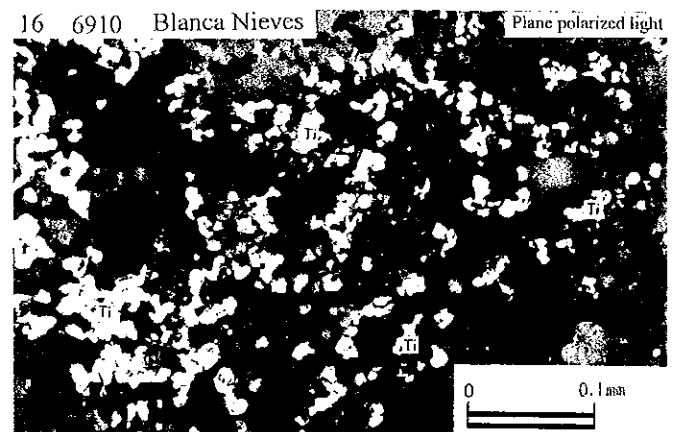
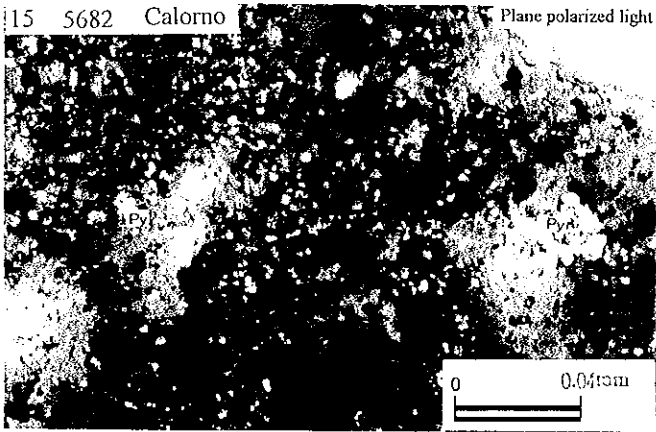
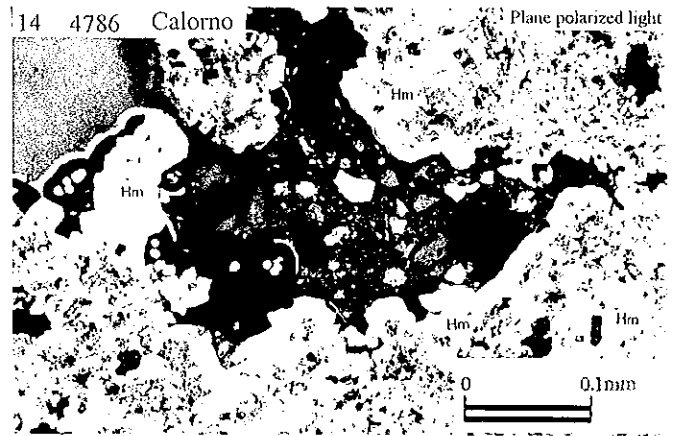
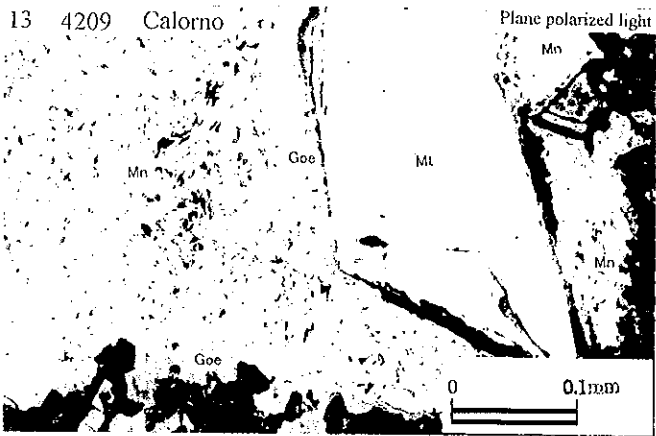
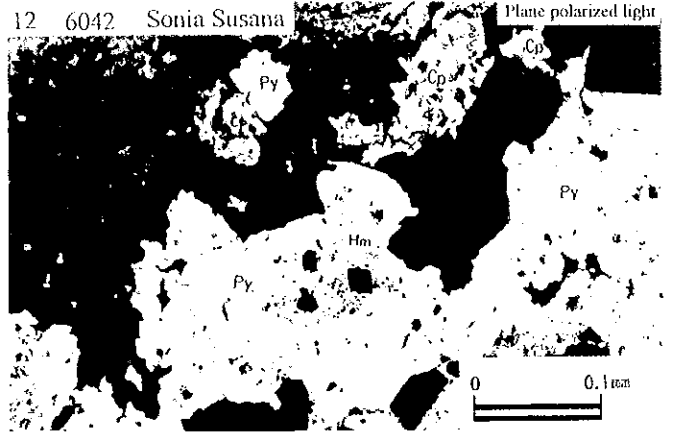
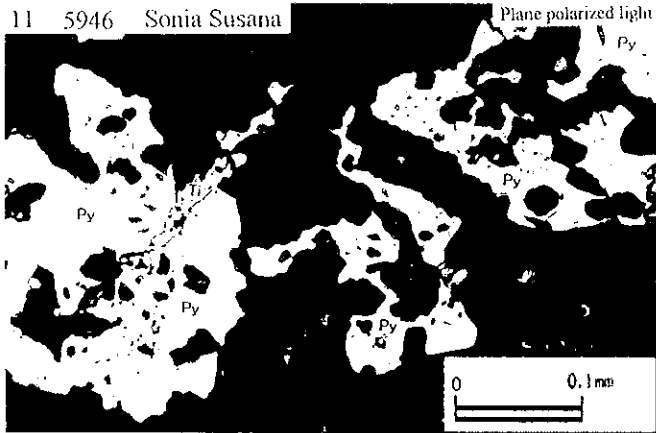
Photomicrographs of Polished Sections



Photomicrographs of Polished Sections



Photomicrographs of Polished Sections



Photomicrographs of Polished Sections

