

5-3 考察

本孔は、断面図 (Fig. 1-7, Fig. 2-5-2) に示すように、基盤凸部の頂部付近に位置している。

本孔の "Ore Shale 層準" がドロマイトに富むこと、及び "Footwall Formation" の層厚が極めて薄いことから、この基盤は鉱床生成当時の古丘陵 (Palaeo Basement High) であったと推定される。また、本孔の鉱床は、硫化鉱物の帯状分布の中では斑銅鉱帯に属するとみられる (Fig. 1-9) が、その発達が悪いことから、海岸線に極めて近い所で生成されたと考えられる。

断面図 (Fig. 1-7) によれば、本孔付近の基盤岩と "Ore Shale 層準" 以上の地層は調和的に褶曲していることから、現在認められる基盤の凹凸の形成には "Upper Roan Group" 埋積以降の褶曲運動が大きくかかわっていると考えられる。

Table 2-6-1 Results of Microscopic Observation of Thin Sections

Sample No.	Locality Depth (m)	Formation	Rock Name	Phenocryst/ Crystal Fragment																Texture
				Qz	Kf	Pl	Ca	Do	Mg	Bi	Mc	Hb	To	Ti	Ap	Ep	Ch	Zr	Op	
T-101	MJZC-1, 639.20	BSG	Granite	●	○	○	△				○	○			○	△	△	△	△	granular
T-102	MJZC-1, 645.20	GB	Amphibolite							●										granular to poikiritic
T-103	MJZC-1, 648.70	BSG	Granite	●						○	○				○					granular
T-501	MJZC-5, 716.00	UIL	Magnesite-talc-rock							○	○									equigranular
T-502	MJZC-5, 879.00	UIB	Argillaceous Quartzite	●	○	○	○			○	△									clastic
T-601	MJZC-6, 764.80	UIL	Dolomite	○						○										equigranular
T-602	MJZC-6, 828.80	UIL	Metasandstone	●	○	○	△			○	○									clastic to granular
T-603	MJZC-6, 1010.70	BSG	Granite	●	△	○	△			○	○									granular
T-701	MJZC-7, 909.50	LH1	Metasandstone	●	○	○	△			△	△									clastic to granular
T-702	MJZC-7, 964.00	LFC	Argillite*	○	△	△				○										

Abbreviations

Abundance of minerals: ● ; abundant, ○ ; common, △ ; a few, · ; trace

Mineral : Qz:Quartz, Kf:Alkali feldspar, Pl:Plagioclase, Ca:Carbonate, Do:Dolomite, Mg:Magnesite, Bi:Biotite, Mc:Muscovite, Hb:Hornblende, To:Tourmaline, Ti:Titanite, Ap:Apatite, Ep:Epidote, Ch:Chlorite, Zr:Zircon, Op:Opaque minerals, Tc:Talc

*: Biotite matrix of conglomerate

Table 2-6-2 Results of Microscopic Observation of Polished Thin Sections (2)

Hole No.	MJZC-1	MJZC-5	MJZC-5	MJZC-6	MJZC-6
Sample No.	P102	P501	P504	P603	P608
wt. %					
S	33.29	32.45	33.43	32.99	33.14
Fe	0.51	6.79	9.24	0.33	3.69
Cu	1.75	0.13	0.19	0.44	10.42
Co	63.28	52.46	51.22	65.94	50.23
Zn	0.14	0.11	nd	nd	0.56
As	nd	nd	nd	nd	0.31
Ni	1.24	7.17	6.49	0.45	0.92
Total	100.21	99.11	100.57	100.15	99.27
Atom. %					
S	47.80	47.08	47.59	47.45	48.20
Fe	0.42	5.66	7.55	0.27	3.08
Cu	1.27	0.10	0.14	0.32	7.65
Co	49.44	41.41	39.67	51.60	39.75
Zn	0.10	0.08	0.00	0.00	0.40
As	0.00	0.00	0.00	0.00	0.19
Ni	0.97	5.68	5.05	0.35	0.73
Mineral	*Co-Pen	*Co-Pen	*Co-Pen	*Co-Pen	*Co-Pen

by EDS of Link Systems

* Co-Pen: Cobalt Pentlandite

Table 2-6-3 Results of Chemical Analysis of Ore Samples (1)

MJZC-1

Sample No.	Depth (m)	T-Cu (%)	AS-Cu (%)	T-Co (%)	Width (m)	Depth (m)	T-Cu (%)	AS-Cu (%)	T-Co (%)
LC14323	499.53 ~ 500.03	<0.01	<0.01	<0.01	2.85	522.18 ~ 525.03	0.62	<0.01	<0.01
LC14324	500.03 ~ 500.53	<0.01	<0.01	<0.01					
LC14325	500.53 ~ 501.03	<0.01	<0.01	<0.01					
LC14326	501.03 ~ 501.53	<0.01	<0.01	<0.01					
LC14327	501.53 ~ 502.03	<0.01	<0.01	<0.01					
LC14328	502.03 ~ 502.53	<0.01	<0.01	<0.01					
LC14329	502.53 ~ 502.90	<0.01	<0.01	<0.01					
LC14330	502.90 ~ 503.40	<0.01	<0.01	<0.01					
LC14331	503.40 ~ 503.90	<0.01	<0.01	<0.01					
LC14332	503.90 ~ 504.40	<0.01	<0.01	<0.01					
LC14333	504.40 ~ 504.90	<0.01	<0.01	<0.01					
LC14334	504.90 ~ 505.53	<0.01	<0.01	<0.01					
LC14335	505.53 ~ 506.03	<0.01	<0.01	0.02					
LC14336	506.03 ~ 506.53	<0.01	<0.01	0.02					
LC14337	506.53 ~ 507.03	<0.01	<0.01	0.03					
LC14338	507.03 ~ 507.53	0.02	<0.01	0.06					
LC14339	507.53 ~ 508.03	0.01	<0.01	0.02					
LC14340	508.03 ~ 508.20	<0.01	<0.01	0.03					
LC14341	508.20 ~ 508.70	<0.01	<0.01	0.05					
LC14342	508.70 ~ 509.20	<0.01	<0.01	0.03					
LC14343	509.20 ~ 509.70	<0.01	<0.01	0.03					
LC14344	509.70 ~ 510.20	0.01	<0.01	0.03					
LC14345	510.20 ~ 510.70	<0.01	<0.01	0.03					
LC14346	510.70 ~ 511.20	0.02	<0.01	0.04					
LC14347	511.20 ~ 511.53	0.02	<0.01	0.04					
LC14348	511.53 ~ 512.03	0.07	<0.01	0.05					
LC14349	512.03 ~ 512.53	0.05	<0.01	0.02					
LC14350	512.53 ~ 513.03	0.32	<0.01	0.02					
LC14351	513.03 ~ 513.53	0.32	<0.01	0.01					
LC14352	513.53 ~ 514.03	0.11	<0.01	<0.01					
LC14353	514.03 ~ 514.53	0.11	<0.01	<0.01					
LC14354	514.53 ~ 515.03	0.13	<0.01	0.01					
LC14355	515.03 ~ 515.26	0.07	<0.01	<0.01					
LC14356	515.26 ~ 516.76	0.25	<0.01	0.02					
LC14357	515.76 ~ 516.26	0.10	<0.01	0.01					
LC14358	516.26 ~ 516.76	0.19	<0.01	0.01					
LC14359	516.76 ~ 516.99	0.21	<0.01	0.05					
LC14360	516.99 ~ 517.53	0.92	<0.01	0.02					
LC14361	517.53 ~ 518.03	0.19	<0.01	0.02					
LC14362	518.03 ~ 518.53	0.12	<0.01	0.05					
LC14363	518.53 ~ 519.03	0.31	<0.01	0.06					
LC14364	519.03 ~ 519.53	0.23	<0.01	0.11					
LC14365	519.53 ~ 520.03	0.07	<0.01	0.07					
LC14366	520.03 ~ 520.53	0.05	<0.01	0.04					
LC14367	520.53 ~ 520.93	0.02	<0.01	0.02					
LC14368	520.93 ~ 521.18	0.02	<0.01	0.04					
LC14369	521.18 ~ 521.69	0.38	<0.01	0.01					
LC14370	521.69 ~ 522.18	0.48	<0.01	0.01					
LC14371	522.18 ~ 522.68	0.59	<0.01	0.01					
LC14372	522.68 ~ 523.18	0.61	<0.01	<0.01					
LC14373	523.18 ~ 523.53	0.41	<0.01	<0.01					
LC14374	523.53 ~ 524.03	0.88	<0.01	<0.01					
LC14375	524.03 ~ 524.23	0.72	<0.01	<0.01					
LC14376	524.23 ~ 524.53	0.59	<0.01	0.01					
LC14377	524.53 ~ 525.03	0.55	<0.01	0.02					
LC14378	525.03 ~ 525.53	0.40	<0.01	<0.01					
LC14379	525.53 ~ 526.03	0.25	<0.01	<0.01					
LC14380	526.03 ~ 526.53	0.24	<0.01	<0.01					
LC14381	526.53 ~ 527.03	0.24	<0.01	<0.01					
LC14382	527.03 ~ 527.53	0.31	<0.01	0.01					
LC14383	527.53 ~ 528.03	0.23	<0.01	0.01					
LC14384	528.03 ~ 528.53	0.06	<0.01	<0.01					
LC14385	528.53 ~ 529.03	0.09	<0.01	<0.01					
LC14386	529.03 ~ 529.53	0.08	<0.01	<0.01					
LC14387	529.53 ~ 530.03	0.09	<0.01	<0.01					
LC14388	530.03 ~ 530.53	0.07	<0.01	<0.01					
LC14389	530.53 ~ 530.83	0.02	<0.01	<0.01					

Table 2-6-3 Results of Chemical Analysis of Ore Samples (2)

MJZC-5

Sample No.	Depth (m)	T-Cu (%)	AS-Cu (%)	T-Co (%)	Sample No.	Depth (m)	T-Cu (%)	AS-Cu (%)	T-Co (%)
LC14390	962.91 ~ 963.41	0.02	0.02	<0.01	LC18070	1001.97 ~ 1002.47	1.99	<0.01	0.03
LC14391	963.41 ~ 963.91	<0.01	<0.01	<0.01	LC18071	1002.47 ~ 1003.46	2.68	<0.01	0.05
LC14392	963.91 ~ 964.41	<0.01	<0.01	<0.01	LC18072	1003.46 ~ 1003.96	0.42	<0.01	0.02
LC14393	964.41 ~ 964.91	<0.01	<0.01	<0.01	LC18073	1003.96 ~ 1004.23	0.87	<0.01	0.03
LC14394	964.91 ~ 965.41	<0.01	<0.01	<0.01	LC18074	1004.23 ~ 1004.73	2.00	<0.01	0.14
LC14395	965.41 ~ 965.91	<0.01	<0.01	<0.01	LC18075	1004.73 ~ 1005.03	0.42	<0.01	0.32
LC14396	965.91 ~ 966.41	<0.01	<0.01	<0.01	LC18076	1005.03 ~ 1005.13	0.06	<0.01	0.08
LC14397	966.41 ~ 966.91	<0.01	<0.01	<0.01	LC18077	1005.13 ~ 1005.68	0.06	<0.01	0.02
LC14398	966.91 ~ 967.21	<0.01	<0.01	<0.01	LC18078	1005.68 ~ 1006.23	0.06	<0.01	<0.01
LC14399	967.21 ~ 967.77	<0.01	<0.01	<0.01	LC18079	1006.23 ~ 1006.78	0.06	<0.01	<0.01
LC14400	967.77 ~ 968.15	<0.01	<0.01	<0.01	LC18080	1006.78 ~ 1007.33	0.06	<0.01	<0.01
LC18001	968.15 ~ 968.65	<0.01	<0.01	<0.01	LC18081	1007.33 ~ 1007.88	0.06	<0.01	<0.01
LC18002	968.65 ~ 969.15	<0.01	<0.01	<0.01	LC18082	1007.88 ~ 1008.43	0.07	<0.01	<0.01
LC18003	969.15 ~ 969.65	<0.01	<0.01	<0.01	LC18083	1008.43 ~ 1008.98	0.13	<0.01	<0.01
LC18004	969.65 ~ 970.15	<0.01	<0.01	<0.01	LC18084	1008.98 ~ 1009.13	0.07	<0.01	<0.01
LC18005	970.15 ~ 970.65	<0.01	<0.01	<0.01					
LC18006	970.65 ~ 971.15	<0.01	<0.01	<0.01					
LC18007	971.15 ~ 971.65	0.02	<0.01	<0.01					
LC18008	971.65 ~ 972.15	0.05	<0.01	<0.01					
LC18009	972.15 ~ 972.65	0.14	<0.01	<0.01					
LC18010	972.65 ~ 973.15	1.01	<0.01	<0.01					
LC18011	973.15 ~ 974.15	0.71	<0.01	0.03					
LC18012	974.15 ~ 974.69	0.10	<0.01	0.02					
LC18013	974.69 ~ 975.23	0.07	<0.01	0.02					
LC18014	975.23 ~ 975.77	0.02	<0.01	0.02					
LC18015	975.77 ~ 976.31	0.12	<0.01	0.01					
LC18016	976.31 ~ 976.85	0.42	<0.01	0.01					
LC18017	976.85 ~ 977.39	0.06	<0.01	0.02					
LC18018	977.39 ~ 977.93	0.24	<0.01	0.01					
LC18019	977.93 ~ 978.47	0.02	<0.01	0.02					
LC18020	978.47 ~ 979.01	0.13	<0.01	0.02					
LC18021	979.01 ~ 979.55	0.04	<0.01	0.04					
LC18022	979.55 ~ 980.09	2.26	0.02	0.03					
LC18023	980.09 ~ 980.15	0.37	<0.01	0.10					
LC18024	980.15 ~ 980.65	1.25	1.25	0.02					
LC18025	980.65 ~ 981.15	1.52	0.01	0.03					
LC18026	981.15 ~ 981.65	2.38	0.02	0.04					
LC18027	981.65 ~ 982.15	2.51	0.03	0.03					
LC18028	982.15 ~ 982.65	1.80	0.02	0.03					
LC18029	982.65 ~ 983.15	0.67	<0.01	0.03					
LC18030	983.15 ~ 983.65	1.15	0.01	0.03					
LC18031	983.65 ~ 984.15	0.12	<0.01	0.03					
LC18032	984.15 ~ 984.65	0.02	<0.01	0.03					
LC18033	984.65 ~ 985.15	0.03	<0.01	0.03					
LC18034	985.15 ~ 985.31	0.65	<0.01	0.03					
LC18035	985.31 ~ 985.84	1.08	0.01	0.04					
LC18036	985.84 ~ 986.37	1.22	<0.01	0.02					
LC18037	986.37 ~ 986.90	1.23	0.01	0.02					
LC18038	986.90 ~ 987.43	0.73	<0.01	0.01					
LC18039	987.43 ~ 987.96	0.13	<0.01	<0.01					
LC18040	987.96 ~ 988.49	0.30	<0.01	<0.01					
LC18041	988.49 ~ 989.02	0.14	<0.01	0.01					
LC18042	989.02 ~ 989.55	0.09	<0.01	<0.01					
LC18043	989.55 ~ 990.08	0.10	<0.01	0.01					
LC18044	990.08 ~ 990.61	0.10	<0.01	<0.01					
LC18045	990.61 ~ 991.14	0.08	<0.01	<0.01					
LC18046	991.14 ~ 991.31	0.17	<0.01	<0.01					
LC18047	991.31 ~ 991.81	0.09	<0.01	<0.01					
LC18048	991.81 ~ 992.31	0.04	<0.01	<0.01					
LC18049	992.31 ~ 992.81	0.07	<0.01	<0.01					
LC18050	992.81 ~ 993.31	0.10	<0.01	<0.01					
LC18051	993.31 ~ 993.81	0.06	<0.01	0.01					
LC18052	993.81 ~ 994.31	0.05	<0.01	<0.01					
LC18053	994.31 ~ 994.81	0.06	<0.01	<0.01					
LC18054	994.81 ~ 995.31	0.05	<0.01	<0.01					
LC18055	995.31 ~ 995.81	0.06	<0.01	0.01					
LC18056	995.81 ~ 996.31	0.04	<0.01	<0.01					
LC18057	996.31 ~ 996.81	0.06	<0.01	<0.01					
LC18058	996.81 ~ 997.31	0.06	<0.01	<0.01					
LC18059	997.31 ~ 997.81	0.05	<0.01	<0.01					
LC18060	997.81 ~ 998.31	0.03	<0.01	<0.01					
LC18061	998.31 ~ 998.81	0.16	<0.01	0.02					
LC18062	998.81 ~ 999.17	0.09	<0.01	<0.01					
LC18063	999.17 ~ 999.47	0.14	<0.01	0.01					
LC18064	999.47 ~ 999.97	0.23	<0.01	0.01					
LC18065	999.97 ~ 1000.47	0.56	<0.01	<0.01					
LC18066	1000.47 ~ 1000.82	0.90	<0.01	<0.01					
LC18067	1000.82 ~ 1001.12	2.74	<0.01	0.02					
LC18068	1001.12 ~ 1001.47	1.61	<0.01	0.02					
LC18069	1001.47 ~ 1001.97	2.16	<0.01	0.02					

Width (m)	Depth (m)	T-Cu (%)	AS-Cu (%)	T-Co (%)
3.10	979.55	982.65	1.93	0.02 0.03
7.88	979.55	987.43	1.18	0.01 0.03
2.64	1000.82	1003.46	2.32	<0.01 0.03
3.91	1000.82	1004.73	1.93	<0.01 0.04
4.76	999.97	1004.73	1.71	<0.01 0.04

Table 2-6-3 Results of Chemical Analysis of Ore Samples (3)

MJZC-6

Sample No.	Depth (m)	T-Cu (%)	AS-Cu (%)	T-Co (%)	Sample No.	Depth (m)	T-Cu (%)	AS-Cu (%)	T-Co (%)
LC19794	873.77 ~ 874.38	0.51	0.01	<0.01	LC14274	988.85 ~ 989.53	0.10	<0.01	<0.01
LC19795	874.38 ~ 874.73	0.47	0.02	0.01	LC14275	989.53 ~ 990.03	0.25	<0.01	<0.01
LC19796	874.73 ~ 875.23	0.18	0.03	0.01	LC14276	990.03 ~ 990.53	0.16	<0.01	<0.01
LC19797	875.23 ~ 875.73	0.01	0.01	0.01	LC14277	990.53 ~ 990.96	0.11	<0.01	<0.01
LC19798	875.73 ~ 876.23	0.01	<0.01	0.01	LC14278	990.96 ~ 991.46	0.42	<0.01	<0.01
LC19799	876.23 ~ 876.73	0.03	<0.01	0.01	LC14279	991.46 ~ 991.96	0.29	<0.01	<0.01
LC19800	876.73 ~ 877.23	0.01	<0.01	<0.01	LC14280	991.96 ~ 992.46	0.32	<0.01	<0.01
LC14201	877.23 ~ 877.60	0.19	0.03	0.03	LC14281	992.46 ~ 992.79	0.32	<0.01	<0.01
LC14202	877.60 ~ 878.05	0.07	0.04	<0.01	LC14282	992.79 ~ 993.29	0.38	<0.01	<0.01
LC14203	955.15 ~ 955.65	0.01	<0.01	<0.01	LC14283	993.29 ~ 993.79	0.17	<0.01	<0.01
LC14204	955.65 ~ 956.15	0.01	<0.01	<0.01	LC14284	993.79 ~ 994.29	0.41	<0.01	<0.01
LC14205	956.15 ~ 956.65	0.02	0.01	<0.01	LC14285	994.29 ~ 994.79	0.50	<0.01	<0.01
LC14206	956.65 ~ 957.15	<0.01	<0.01	<0.01	LC14286	994.79 ~ 995.00	0.58	0.01	0.02
LC14207	957.15 ~ 957.65	0.04	0.02	<0.01	LC14287	995.00 ~ 995.68	1.28	<0.01	<0.01
LC14208	957.65 ~ 958.15	0.05	0.02	<0.01	LC14288	995.68 ~ 996.18	0.40	<0.01	<0.01
LC14209	958.15 ~ 958.65	0.01	0.01	<0.01	LC14289	996.18 ~ 996.68	0.05	<0.01	<0.01
LC14210	958.65 ~ 959.15	0.12	0.01	<0.01	LC14290	996.68 ~ 996.96	0.75	0.01	<0.01
LC14211	959.15 ~ 959.35	0.10	0.01	<0.01	LC14291	996.96 ~ 997.46	0.61	0.01	<0.01
LC14212	959.35 ~ 959.73	1.84	0.04	<0.01	LC14292	997.46 ~ 997.96	0.03	<0.01	<0.01
LC14213	959.73 ~ 961.15	0.02	<0.01	<0.01	LC14293	997.96 ~ 998.46	0.05	<0.01	<0.01
LC14214	961.15 ~ 961.65	<0.01	<0.01	<0.01	LC14294	998.46 ~ 998.96	0.02	<0.01	<0.01
LC14215	961.65 ~ 962.15	<0.01	<0.01	<0.01	LC14295	998.96 ~ 999.46	0.15	<0.01	<0.01
LC14216	962.15 ~ 962.65	<0.01	<0.01	<0.01	LC14296	999.46 ~ 999.96	0.03	<0.01	<0.01
LC14217	962.65 ~ 963.15	<0.01	<0.01	<0.01	LC14297	999.96 ~ 1000.46	0.11	<0.01	<0.01
LC14218	963.15 ~ 963.65	<0.01	<0.01	<0.01	LC14298	1000.46 ~ 1001.05	0.02	<0.01	<0.01
LC14219	963.65 ~ 964.15	<0.01	<0.01	<0.01	LC14299	1001.05 ~ 1001.55	0.27	<0.01	0.02
LC14220	964.15 ~ 964.65	<0.01	<0.01	<0.01	LC14300	1001.55 ~ 1002.05	0.10	<0.01	0.01
LC14221	964.65 ~ 965.15	0.13	<0.01	<0.01	LC15901	1002.05 ~ 1002.96	0.04	<0.01	0.02
LC14222	965.15 ~ 965.65	0.38	<0.01	<0.01	LC15902	1002.96 ~ 1003.10	0.08	<0.01	0.01
LC14223	965.65 ~ 966.15	<0.01	<0.01	<0.01	LC15903	1003.10 ~ 1003.60	0.10	<0.01	0.01
LC14224	966.15 ~ 966.65	0.01	<0.01	<0.01	LC15904	1003.60 ~ 1004.10	0.13	<0.01	<0.01
LC14225	966.65 ~ 966.95	0.01	<0.01	<0.01	LC15905	1004.10 ~ 1004.60	0.19	<0.01	<0.01
LC14226	966.95 ~ 967.45	<0.01	<0.01	<0.01	LC15906	1004.60 ~ 1005.10	0.19	<0.01	<0.01
LC14227	967.45 ~ 967.95	<0.01	<0.01	<0.01	LC15907	1005.10 ~ 1005.60	0.08	<0.01	<0.01
LC14228	967.95 ~ 968.45	<0.01	<0.01	<0.01	LC15908	1005.60 ~ 1006.10	0.08	<0.01	<0.01
LC14229	968.45 ~ 968.95	0.04	<0.01	<0.01	LC15909	1006.10 ~ 1006.60	0.18	<0.01	<0.01
LC14230	968.95 ~ 969.45	<0.01	<0.01	<0.01	LC15910	1006.60 ~ 1006.43	0.21	<0.01	<0.01
LC14231	969.45 ~ 969.56	<0.01	<0.01	0.01	LC15911	1006.43 ~ 1006.93	0.15	<0.01	0.01
LC14232	969.56 ~ 970.06	<0.01	<0.01	<0.01	LC15912	1006.93 ~ 1007.35	0.11	<0.01	0.01
LC14233	970.06 ~ 970.56	0.01	<0.01	<0.01	LC15913	1007.35 ~ 1007.85	0.02	<0.01	<0.01
LC14234	970.56 ~ 971.06	<0.01	<0.01	<0.01	LC15914	1007.85 ~ 1008.35	0.01	<0.01	<0.01
LC14235	971.06 ~ 971.56	<0.01	<0.01	<0.01	LC15915	1008.35 ~ 1008.96	<0.01	<0.01	<0.01
LC14236	971.56 ~ 972.06	<0.01	<0.01	<0.01					
LC14237	972.06 ~ 972.56	0.04	<0.01	<0.01					
LC14238	972.56 ~ 972.96	0.04	0.01	<0.01					
LC14239	972.96 ~ 973.46	0.07	0.01	0.01					
LC14240	973.46 ~ 973.76	0.08	0.01	<0.01					
LC14241	973.76 ~ 974.06	0.08	<0.01	<0.01					
LC14242	974.06 ~ 974.36	0.26	<0.01	<0.01					
LC14243	974.36 ~ 974.86	0.29	<0.01	<0.01					
LC14244	974.86 ~ 975.36	0.21	<0.01	<0.01					
LC14245	975.36 ~ 975.86	0.27	<0.01	<0.01					
LC14246	975.86 ~ 976.36	0.41	<0.01	<0.01					
LC14247	976.36 ~ 976.86	0.22	<0.01	<0.01					
LC14248	976.86 ~ 977.36	0.62	<0.01	<0.01					
LC14249	977.36 ~ 977.86	0.63	<0.01	<0.01					
LC14250	977.86 ~ 978.16	0.52	<0.01	<0.01					
LC14251	978.16 ~ 978.46	0.14	<0.01	<0.01					
LC14252	978.46 ~ 978.95	0.12	<0.01	<0.01					
LC14253	978.95 ~ 979.45	0.43	<0.01	0.01					
LC14254	979.45 ~ 979.95	0.16	<0.01	0.01					
LC14255	979.95 ~ 980.45	0.22	<0.01	<0.01					
LC14256	980.45 ~ 980.95	0.47	<0.01	0.01					
LC14257	980.95 ~ 981.10	0.31	<0.01	<0.01					
LC14258	981.10 ~ 981.40	0.54	0.02	<0.01					
LC14259	981.40 ~ 981.90	1.22	<0.01	<0.01					
LC14260	981.90 ~ 982.40	1.13	0.02	<0.01					
LC14261	982.40 ~ 982.90	1.46	<0.01	<0.01					
LC14262	982.90 ~ 983.40	1.67	<0.01	0.02					
LC14263	983.40 ~ 983.95	1.02	<0.01	<0.01					
LC14264	983.95 ~ 984.45	0.84	<0.01	<0.01					
LC14265	984.45 ~ 984.96	0.44	<0.01	<0.01					
LC14266	984.96 ~ 985.46	0.29	<0.01	<0.01					
LC14267	985.46 ~ 985.85	0.67	<0.01	0.01					
LC14268	985.85 ~ 986.35	0.16	<0.01	<0.01					
LC14269	986.35 ~ 986.85	0.05	<0.01	<0.01					
LC14270	986.85 ~ 987.35	0.06	<0.01	<0.01					
LC14271	987.35 ~ 987.85	0.21	<0.01	<0.01					
LC14272	987.85 ~ 988.35	0.16	<0.01	<0.01					
LC14273	988.35 ~ 988.85	0.52	<0.01	<0.01					

Width (m)	Depth (m)	T-Cu (%)	AS-Cu (%)	T-Co (%)
3.35	981.10	984.45	1.14	<0.01
1.39	994.29	995.68	0.89	<0.01

Table 2-6-3 Results of Chemical Analysis of Ore Samples (4)

MJZC-7

Sample No.	Depth (m)	T-Cu (%)	AS-Cu (%)	T-Co (%)	Sample No.	Depth (m)	T-Cu (%)	AS-Cu (%)	T-Co (%)
LC15917	918.96 ~ 919.46	<0.01	<0.01	<0.01	LC15997	954.96 ~ 955.48	0.82	<0.01	<0.01
LC15918	919.46 ~ 919.96	<0.01	<0.01	<0.01	LC15998	955.48 ~ 956.00	0.36	<0.01	<0.01
LC15919	919.96 ~ 920.46	<0.01	<0.01	<0.01	LC15999	956.00 ~ 956.52	0.51	<0.01	0.01
LC15920	920.46 ~ 920.96	<0.01	<0.01	<0.01	LC16000	956.52 ~ 957.04	0.28	<0.01	<0.01
LC15921	920.96 ~ 921.46	<0.01	<0.01	<0.01	LC14301	957.04 ~ 957.56	0.11	<0.01	<0.01
LC15922	921.46 ~ 921.96	<0.01	<0.01	<0.01	LC14302	957.56 ~ 958.08	0.41	<0.01	<0.01
LC15923	921.96 ~ 922.46	<0.01	<0.01	<0.01	LC14303	958.08 ~ 958.60	0.50	<0.01	<0.01
LC15924	922.46 ~ 922.96	0.12	<0.01	<0.01	LC14304	958.60 ~ 959.12	0.14	<0.01	<0.01
LC15925	922.96 ~ 923.46	0.19	<0.01	<0.01	LC14305	959.12 ~ 959.64	0.57	<0.01	<0.01
LC15926	923.46 ~ 923.96	0.40	<0.01	<0.01	LC14306	959.64 ~ 960.16	0.19	<0.01	<0.01
LC15927	923.96 ~ 924.46	0.17	<0.01	0.01	LC14307	960.16 ~ 960.68	0.12	<0.01	<0.01
LC15928	924.46 ~ 924.96	0.24	<0.01	<0.01	LC14308	960.68 ~ 961.20	0.03	<0.01	<0.01
LC15929	924.96 ~ 925.46	0.23	<0.01	<0.01	LC14309	961.20 ~ 961.72	<0.01	<0.01	<0.01
LC15930	925.46 ~ 925.96	0.10	<0.01	<0.01	LC14310	961.72 ~ 962.24	<0.01	<0.01	<0.01
LC15931	925.96 ~ 926.46	0.05	<0.01	<0.01	LC14311	962.24 ~ 962.76	0.26	<0.01	<0.01
LC15932	926.46 ~ 926.96	0.04	<0.01	<0.01	LC14312	962.76 ~ 963.28	0.06	<0.01	<0.01
LC15933	926.96 ~ 927.46	0.12	<0.01	<0.01	LC14313	963.28 ~ 963.80	0.28	<0.01	<0.01
LC15934	927.46 ~ 927.96	0.13	<0.01	<0.01	LC14314	963.80 ~ 964.32	0.02	<0.01	<0.01
LC15935	927.96 ~ 928.46	0.09	<0.01	<0.01	LC14315	964.32 ~ 964.84	<0.01	<0.01	<0.01
LC15936	928.46 ~ 928.96	0.09	<0.01	<0.01	LC14316	964.84 ~ 965.36	<0.01	<0.01	<0.01
LC15937	928.96 ~ 929.46	0.13	<0.01	<0.01	LC14317	965.36 ~ 965.88	<0.01	<0.01	<0.01
LC15938	929.46 ~ 929.96	0.08	<0.01	<0.01	LC14318	965.88 ~ 966.40	<0.01	<0.01	<0.01
LC15939	929.96 ~ 930.46	0.10	<0.01	<0.01	LC14319	966.40 ~ 966.92	<0.01	<0.01	<0.01
LC15940	930.46 ~ 930.96	0.04	<0.01	<0.01	LC14320	966.92 ~ 967.44	<0.01	<0.01	<0.01
LC15941	930.96 ~ 931.46	0.04	<0.01	<0.01					
LC15942	931.46 ~ 931.96	0.06	<0.01	<0.01					
LC15943	931.96 ~ 932.46	0.07	<0.01	<0.01					
LC15944	932.46 ~ 932.96	0.06	<0.01	<0.01					
LC15945	932.96 ~ 933.46	0.10	<0.01	<0.01					
LC15946	933.46 ~ 933.96	0.07	<0.01	<0.01					
LC15947	933.96 ~ 934.46	0.04	<0.01	<0.01					
LC15948	934.46 ~ 934.96	0.12	<0.01	<0.01					
LC15949	934.96 ~ 935.46	0.02	<0.01	<0.01					
LC15950	935.46 ~ 935.96	0.15	<0.01	<0.01					
LC15951	935.96 ~ 936.46	0.08	<0.01	<0.01					
LC15952	936.46 ~ 936.96	0.12	<0.01	<0.01					
LC15953	936.96 ~ 937.46	<0.01	<0.01	<0.01					
LC15954	937.46 ~ 937.96	<0.01	<0.01	<0.01					
LC15955	937.96 ~ 938.46	<0.01	<0.01	<0.01					
LC15956	938.46 ~ 938.96	<0.01	<0.01	<0.01					
LC15957	938.96 ~ 939.46	<0.01	<0.01	<0.01					
LC15958	939.46 ~ 939.96	<0.01	<0.01	<0.01					
LC15959	939.96 ~ 940.46	<0.01	<0.01	<0.01					
LC15960	940.46 ~ 940.96	<0.01	<0.01	<0.01					
LC15961	940.96 ~ 941.46	<0.01	<0.01	<0.01					
LC15962	941.46 ~ 941.96	<0.01	<0.01	<0.01					
LC15963	941.96 ~ 942.46	<0.01	<0.01	<0.01					
LC15964	942.46 ~ 942.96	<0.01	<0.01	<0.01					
LC15965	942.96 ~ 943.46	0.01	<0.01	<0.01					
LC15966	943.46 ~ 943.96	0.03	<0.01	<0.01					
LC15967	943.96 ~ 944.46	<0.01	<0.01	<0.01					
LC15968	944.46 ~ 944.96	<0.01	<0.01	<0.01					
LC15969	944.96 ~ 945.46	<0.01	<0.01	<0.01					
LC15970	945.46 ~ 945.96	0.02	<0.01	<0.01					
LC15971	945.96 ~ 946.46	0.02	<0.01	<0.01					
LC15972	946.46 ~ 946.96	0.03	<0.01	<0.01					
LC15973	946.96 ~ 947.46	0.02	<0.01	<0.01					
LC15974	947.46 ~ 947.96	<0.01	<0.01	<0.01					
LC15975	947.96 ~ 948.46	<0.01	<0.01	<0.01					
LC15976	948.46 ~ 948.96	<0.01	<0.01	<0.01					
LC15977	948.96 ~ 949.46	<0.01	<0.01	<0.01					
LC15978	949.46 ~ 949.96	<0.01	<0.01	<0.01					
LC15979	949.96 ~ 950.46	0.14	<0.01	0.04					
LC15980	950.46 ~ 950.96	1.30	<0.01	0.02					
LC15981	950.96 ~ 951.46	1.81	<0.01	0.02					
LC15982	951.46 ~ 951.96	1.90	<0.01	0.04					
LC15983	951.96 ~ 952.46	0.61	<0.01	0.01					
LC15984	952.46 ~ 952.96	1.45	<0.01	0.02					
LC15985	952.96 ~ 953.46	2.42	<0.01	0.03					
LC15986	953.46 ~ 953.96	2.14	<0.01	0.02					
LC15987	953.96 ~ 954.46	0.55	<0.01	<0.01					
LC15988	954.46 ~ 954.96	1.81	<0.01	0.02					
LC15989	954.96 ~ 955.46	0.57	<0.01	<0.01					
LC15990	955.46 ~ 955.96	0.46	<0.01	<0.01					
LC15991	955.96 ~ 956.46	0.75	<0.01	<0.01					
LC15992	956.46 ~ 956.96	1.20	<0.01	0.01					
LC15993	956.96 ~ 957.46	0.70	<0.01	<0.01					
LC15994	957.46 ~ 957.96	0.95	<0.01	<0.01					
LC15995	957.96 ~ 958.46	1.32	<0.01	<0.01					
LC15996	958.46 ~ 958.96	0.47	<0.01	<0.01					

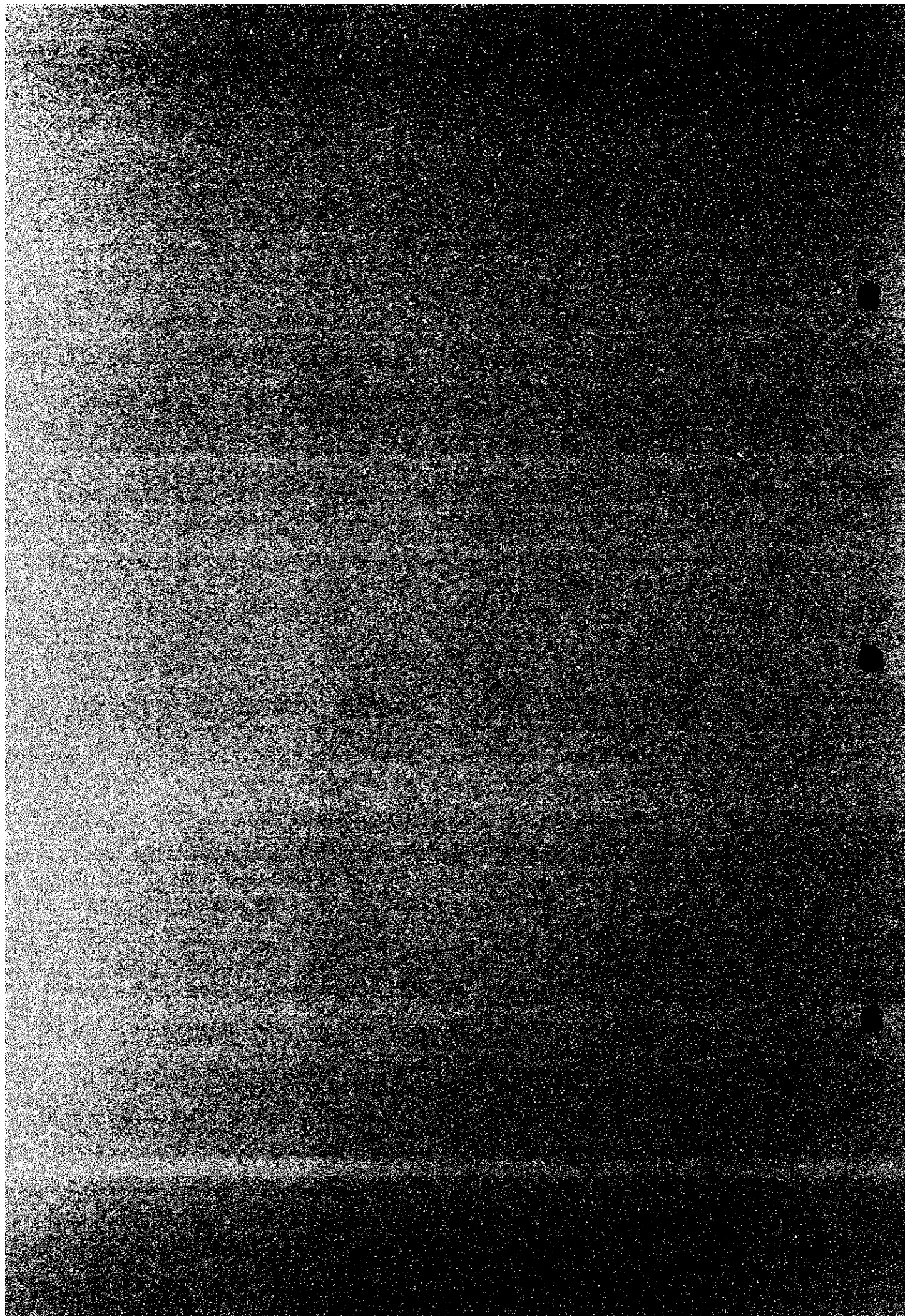
Width (m)	Depth (m)	T-Cu (%)	AS-Cu (%)	T-Co (%)
2.98	948.45	951.43	1.78	<0.01 0.02
8.07	948.45	956.52	1.13	<0.01 0.01

1000

1000

1000

第Ⅲ部 結論及び提言



第Ⅲ部 結論及び提言

第1章 結論

チャンピシ南東地域における第2年次調査として、ボーリング調査が実施された。本年度実施された5孔のボーリング(MJZC-1, MJZC-5, MJZC-6, MJZC-7, MJZC-8)は、いずれも目的とした鉱床層準を貫いた。そのうち、基盤データ入手を目的とした4孔は、いずれも基盤中まで到達した。これにより、既知鉱床周辺部の地質状況及び鉱床賦存状況が明らかになり以下の結論が得られた。

1. 本地域北西部で掘削された MJZC-5 は、比較的良好な鉱石(① 着鉱幅 3.10m, 品位 T-Cu 1.93% T-Co 0.03%, ② 着鉱幅 2.64m, 品位 T-Cu 2.32% T-Co 0.03%)を捕捉した。この鉱石は、本地域の主要な鉱床富鉱部である Northern Area Shoot の北西延長部に相当するものと考えられ、同富鉱部の北部は西北西方向に向かって延びる可能性がでてきた。
2. MJZC-5 の西側で掘削された MJZC-6 及び MJZC-7 は、比較的低品位な鉱石を捕捉した。両孔は、鉱床生成当時の古丘陵の近傍に位置していると考えられ、両孔の中間部にある NN-75 によって既に把握されている富鉱部は、古丘陵の南側翼部、即ち、NN-75 以南の地域及び両孔の南方域に存在すると推定される局地的盆状構造部に発達していると考えられる。
3. 本地域南部で掘削された MJZC-1 は、比較的低品位な鉱石を捕捉したが、この鉱化帯は、“Ore Shale”直下に発達しており、現在稼行されている Chibuluma 鉱山の鉱床と同じタイプのものと考えられる。MJZC-1 の東方では、昨年度掘削された MJZC-2 が比較的良好な鉱石に着鉱している。これら両孔の南側未探鉱域には富鉱部が賦存する可能性がある。
4. Northern Area Shoot の南東部で掘削された MJZC-8 は、微弱な鉱化帯を把握したに過ぎない。本地点は、鉱床生成当時の古丘陵の上に位置していると推定されることから、不毛帯であると考えられる。

第2章 第3年次調査への提言

これまでに実施されたボーリング探鉱の結果、本地域で新鉱床が発見される可能性が最も高い地区は Northern Area Shoot の北西地区、即ち、NN-75 以南、MJZC-6 の南方及び

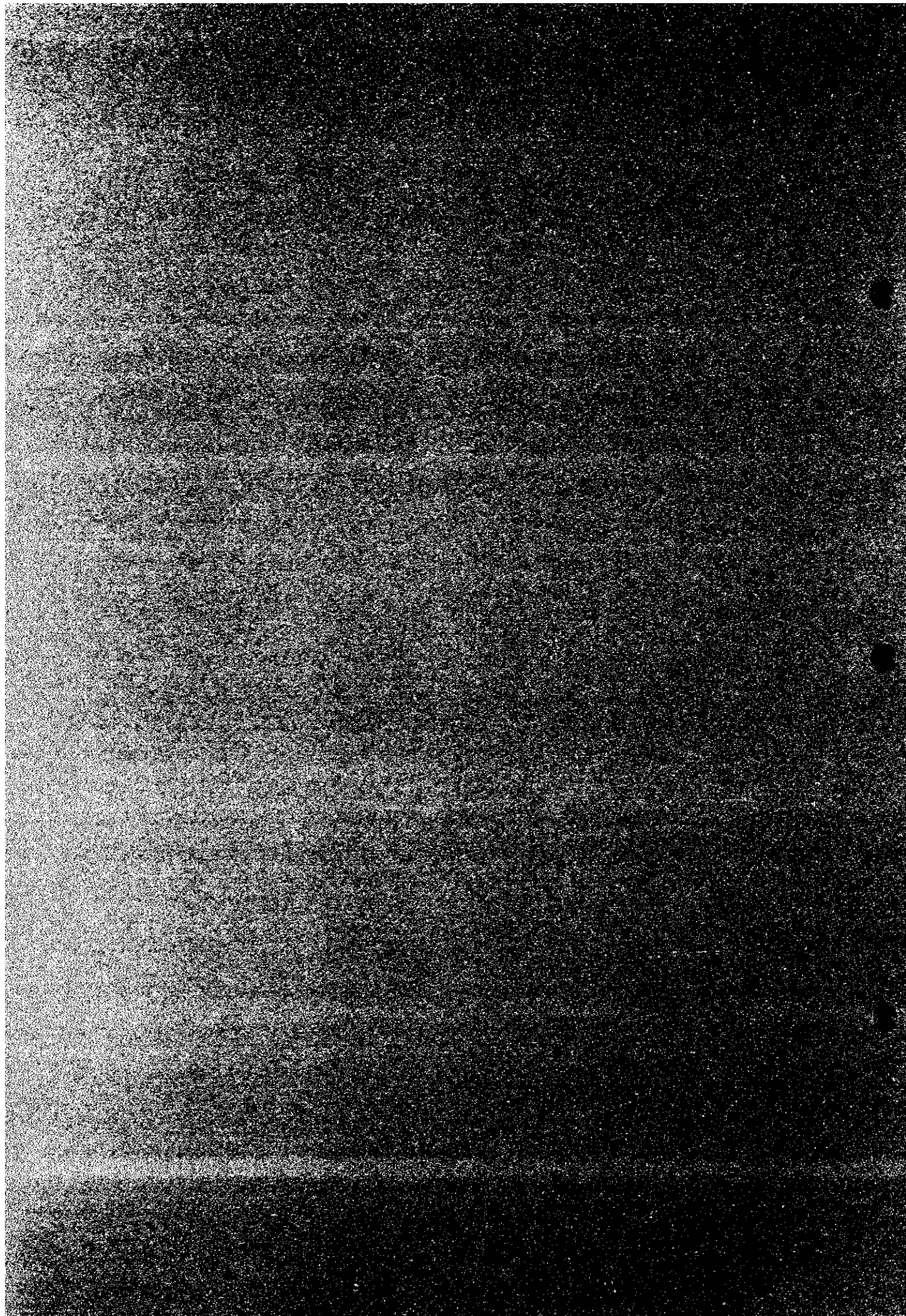
MJZC-7 の南方の各地区である。次に可能性が高い地区は、MJZC-1 及び MJZC-2 の南方地区である。

また、本地域の主要鉱床である Northern Area Shoot の鉱量を正確に評価するには現在の鉱床の輪郭部付近でさらにボーリングを実施する必要がある。

以上の観点から、Fig. 1-12 に示すように第3年次分のボーリング探鉱を計画した。ボーリングの計画深度は、ボーリングの前線地域では基盤まで到達することを期待した数字としたが、計画ボーリングの周辺で既に基盤深度が把握されている場合は鉱床層準下盤までとした。

第3年次調査として、上記計画にのっとり新鉱床探鉱を優先課題としてボーリング探鉱を実施すること、及びボーリング調査結果をとりまとめて本地域の鉱量評価を実施することを提言する。

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写 真



①

0 2 cm



②

0 2 cm



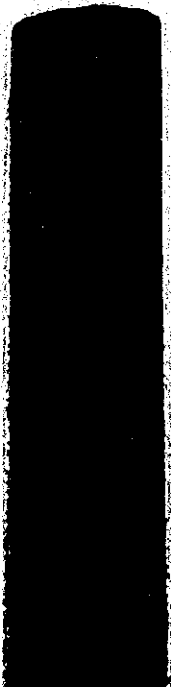
③

0 2 cm



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⑧

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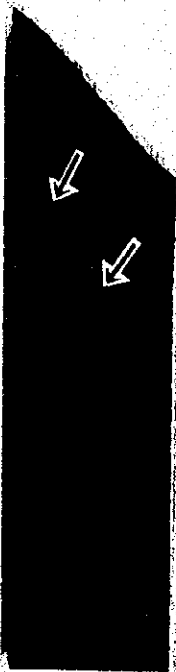
Photo 1. Photograph of Drilling Cores (1)





⑨

0 2 cm



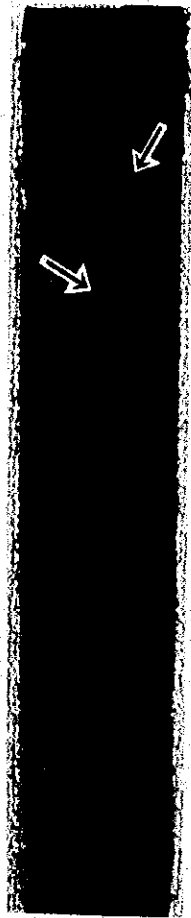
⑩

0 2 cm



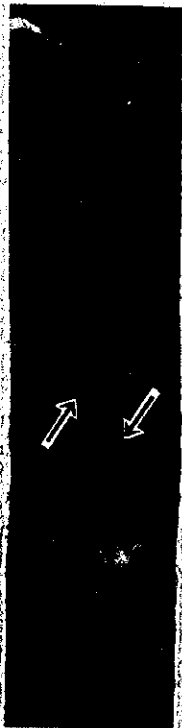
⑪

0 2 cm



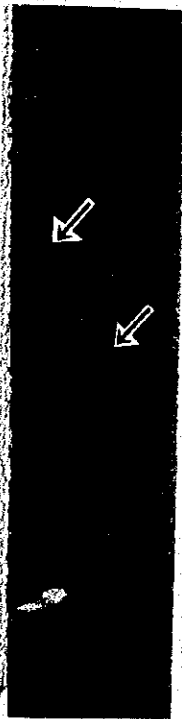
⑫

0 2 cm



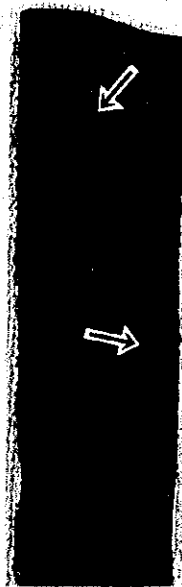
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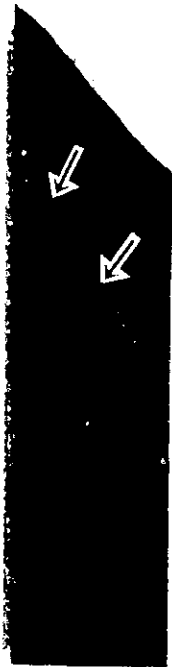
⑮

0 2 cm

Photo 1 Photograph of Drilling Cores (2)



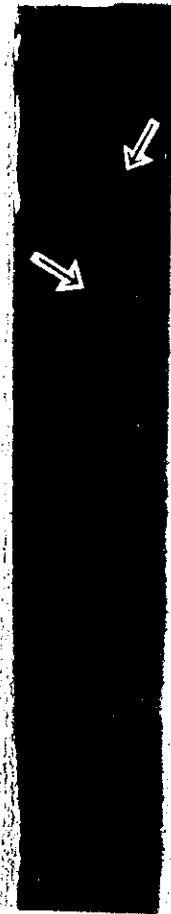
9



10



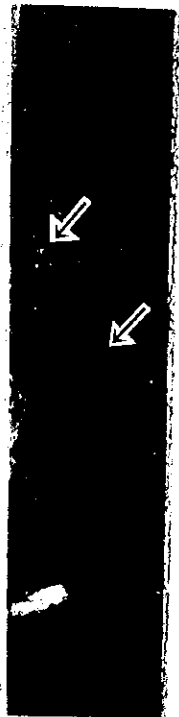
11



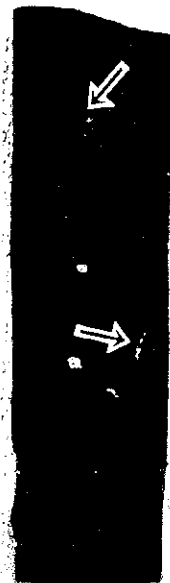
12



13



14



15

Fig. 3. The same as in Fig. 2.

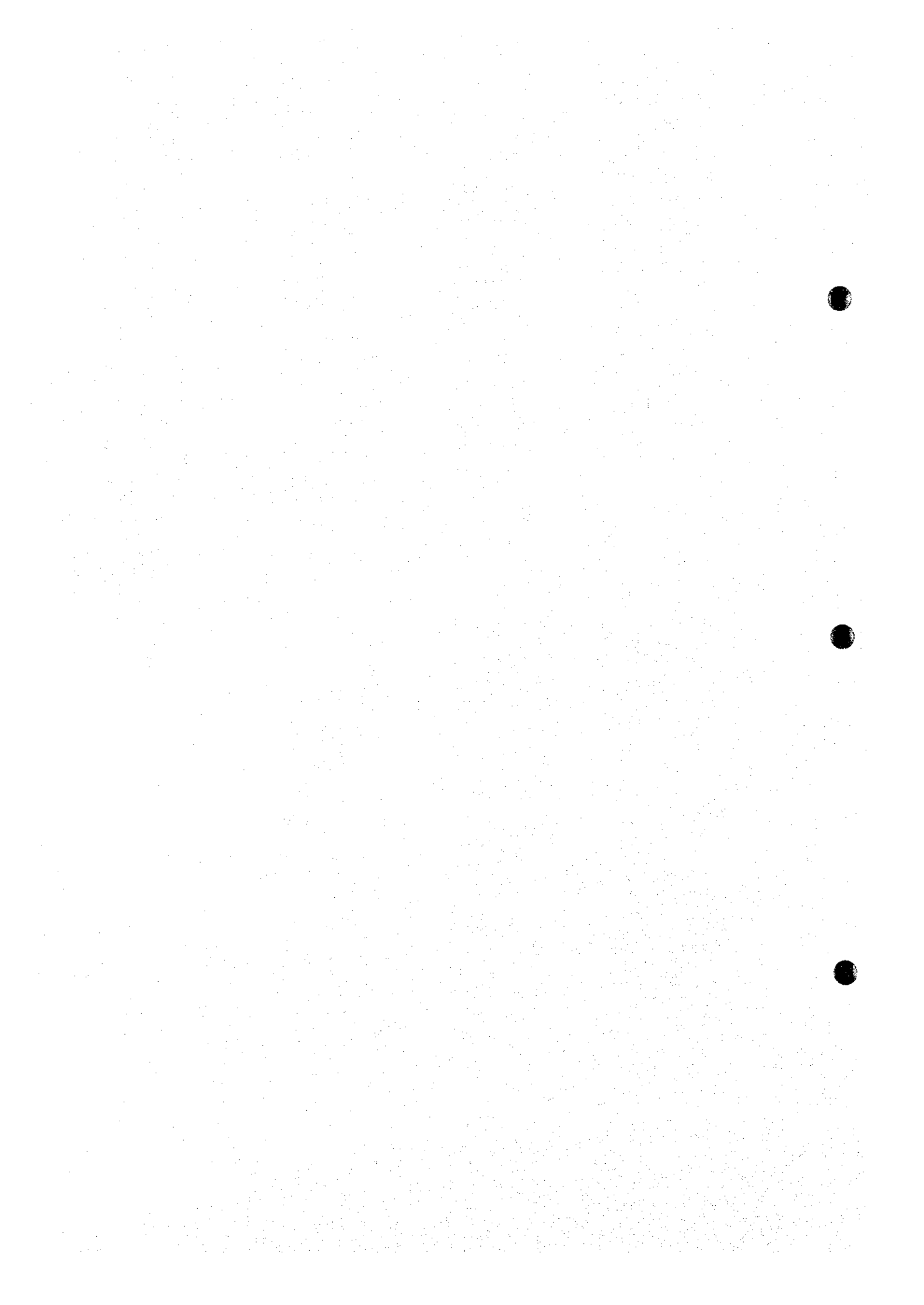
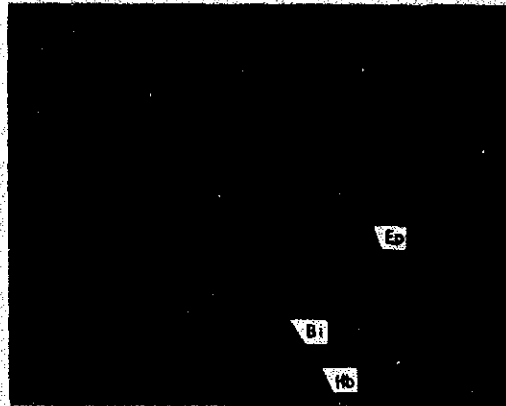


PHOTO CAPTIONS

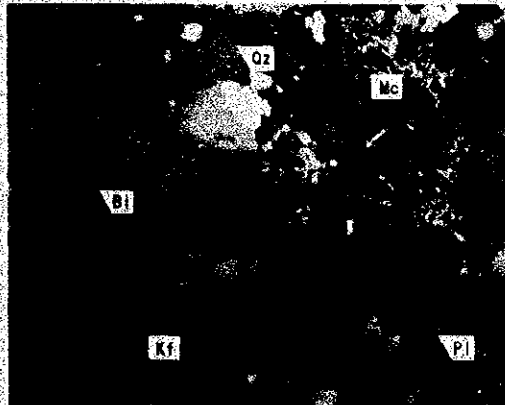
- ① Dissemination of chalcopyrite in pebbly quartzite (MJZC-1, 523.8m, LFQ).
- ② Conglomerate consisting of granite pebbles (MJZC-1, 589.3m, LQG).
- ③ Pelitic rock with thin dolomitic bands (MJZC-1, 617.3m, LQG).
- ④ Brecciated granite (MJZC-1, 631.4m, BSG).
- ⑤ Amphibolite (MJZC-1, 646.5m, GB?).
- ⑥ Granite (MJZC-1, 648.3m, BSG).
- ⑦ Anhydritic dolomite (MJZC-5, 701.5m, UIL).
- ⑧ Dish structure developed in sandy and dolomitic pelitic rock (MJZC-5, 708.4m, UIL).
- ⑨ Lenses to laminations of chalcopyrite-pyrrhotite-dolomite in Ore Shale (MJZC-5, 987.2m, LOS).
- ⑩ Lenses to laminations of chalcopyrite-pyrrhotite-pyrite and dolomite lenses with chalcopyrite-pyrrhotite-pyrite (MJZC-5, 1002.4m, LOS).
- ⑪ Laminated dolomite considered to be stromatolite (MJZC-6, 758.1m, UIL).
- ⑫ Dissemination of minute chalcopyrite grains in dolomitic sandstone (MJZC-6, 983.7m, LOS).
- ⑬ Segregation vein of dolomite. Pyrite-chalcopyrite occur in the vein (MJZC-7, 858.4m, UIB).
- ⑭ Dissemination of chalcopyrite in Ore Shale (MJZC-7, 958.4m, LOS).
- ⑮ Dissemination of euhedral pyrite and chalcopyrite in sandy pelitic rock (MJZC-8, 444.7m, UIL).



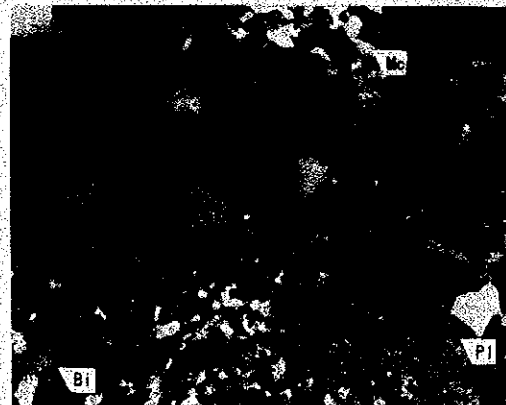
Sample No.: T-102, Locality: MJZC-1, 645.20m



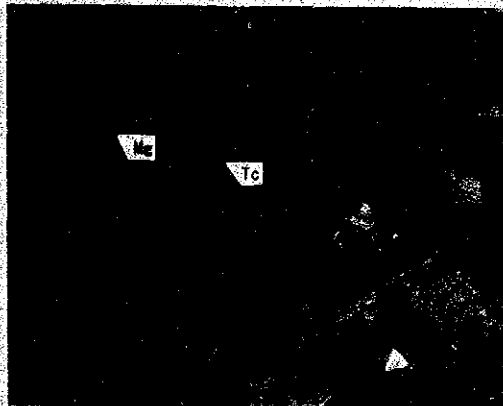
(Opened nicols)



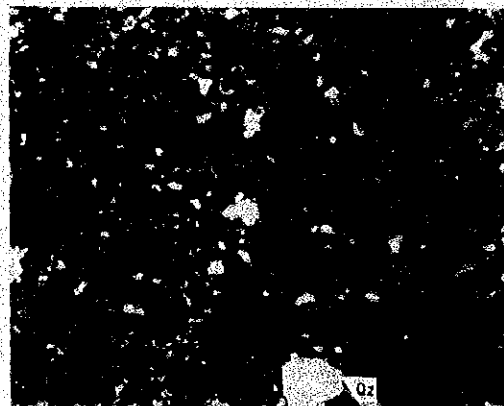
Sample No.: T-101, Locality: MJZC-1, 633.20m



Sample No.: T-103, Locality: MJZC-1, 648.70m



Sample No.: T-501, Locality: MJZC-5, 716.00m



Sample No.: T-502, Locality: MJZC-5, 879.00m

Abbreviations:

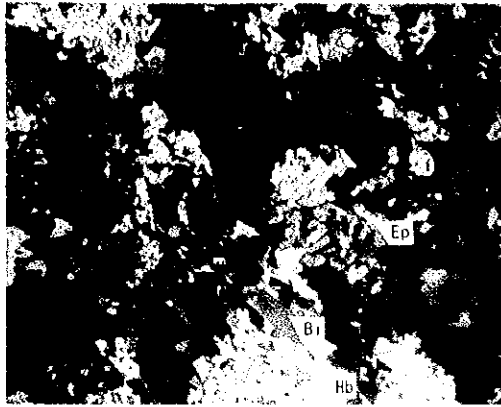
Bi: Biotite, Ca: Carbonate, Do: Dolomite, Ep: Epidote, Hb: Hornblende,

Kf: Alkali feldspar, Mc: Muscovite, Mg: Magnesite, Pl: Plagioclase, Qz: Quartz,

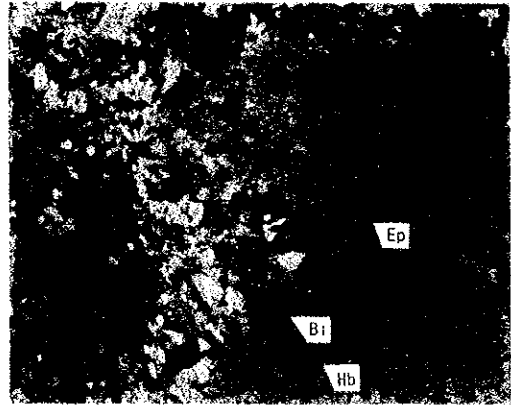
Tc: Talc, Zr: Zircon.



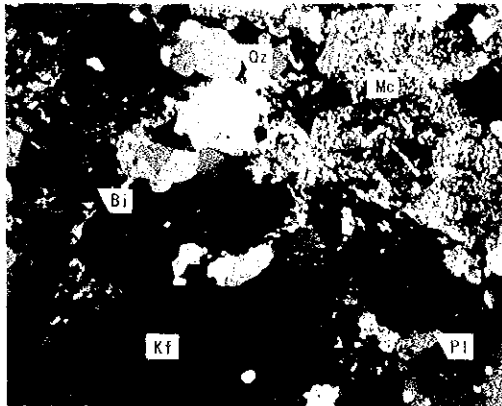
Photo 2 Microscopic Photograph of Thin Sections (1)
(Crossed nicols)



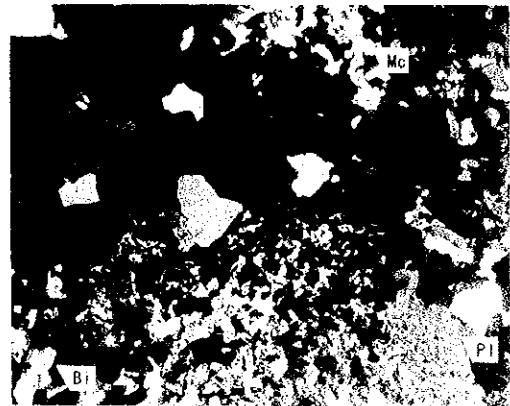
Sample No.: T-102, Locality: MJZC-1, 645.20m



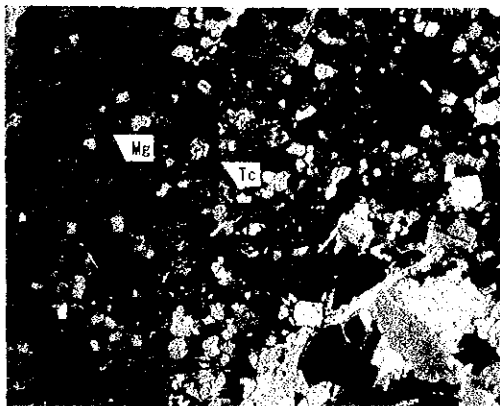
(Opened nicols)



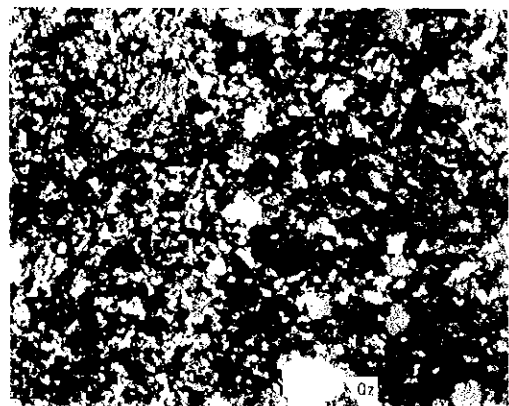
Sample No.: T-101, Locality: MJZC-1, 633.20m



Sample No.: T-103, Locality: MJZC-1, 648.70m



Sample No.: T-501, Locality: MJZC-5, 716.00m



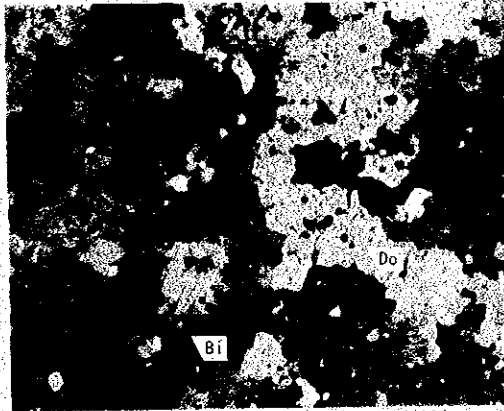
Sample No.: T-502, Locality: MJZC-5, 879.00m

Abbreviations:

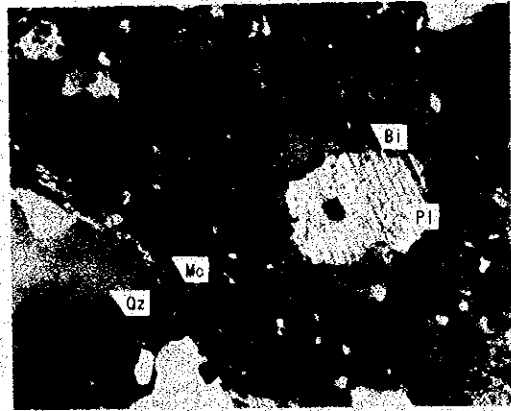
Bi: Biotite, Ca: Carbonate, Do: Dolomite, Ep: Epidote, Hb: Hornblende,
 Kf: Alkali feldspar, Mc: Muscovite, Mg: Magnesite, Pl: Plagioclase, Oz: Quartz,
 Tc: Talc, Zr: Zircon



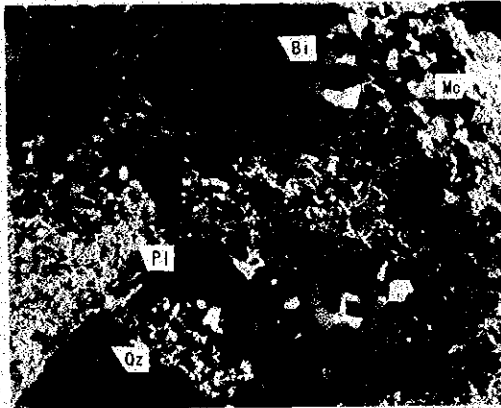
Photo 2 Microscopic Photograph of Thin Sections (1)
 (Crossed nicols)



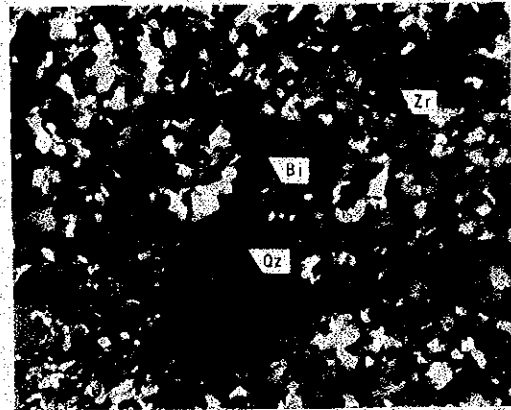
Sample No.: T-601, Locality: MJZC-6, 764.80m



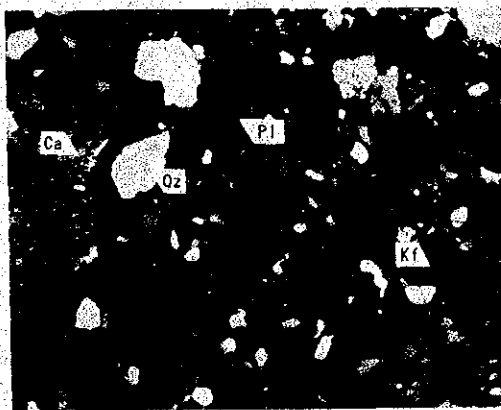
Sample No.: T-602, Locality: MJZC-6, 828.80m



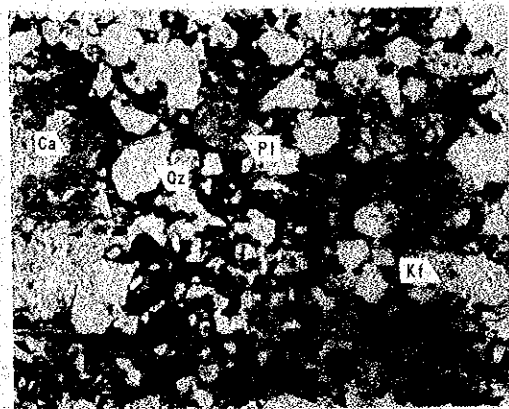
Sample No.: T-603, Locality: MJZC-6, 1010.70m



Sample No.: T-702, Locality: MJZC-7, 964.00m



Sample No.: T-701, Locality: MJZC-7, 909.50m



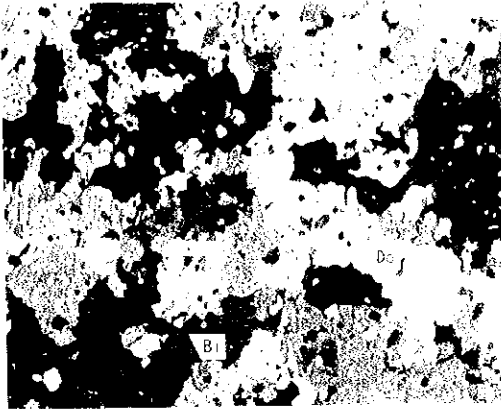
(Opened nicols)

Abbreviations:

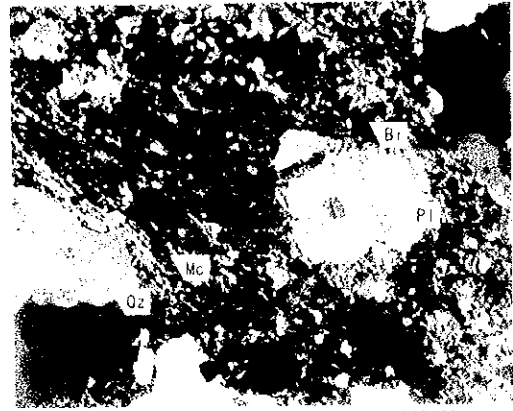
Bi: Biotite, Ca: Carbonate, Do: Dolomite, Ep: Epidote, Hb: Hornblende,
 Kf: Alkali feldspar, Mc: Muscovite, Mg: Magnesite, Pl: Plagioclase, Qz: Quartz,
 Tc: Talc, Zr: Zircon



Photo 2. Microscopic Photograph of Thin Sections (2).
 (Crossed nicols)



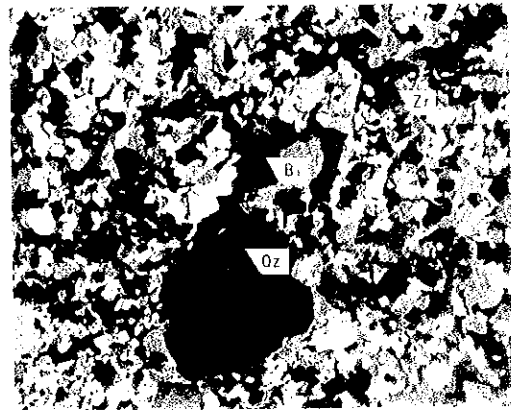
Sample No.: T-601. Locality: MJZC C. 764.80r



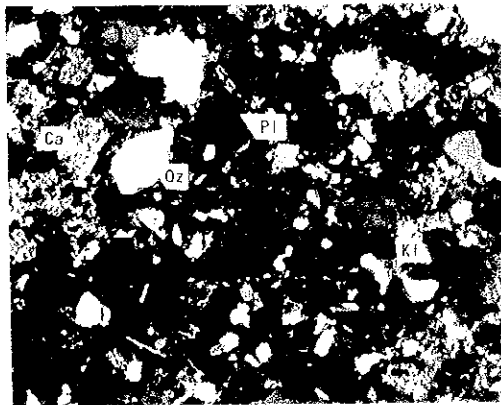
Sample No.: T-602. Locality: MJZC G. 828.80r



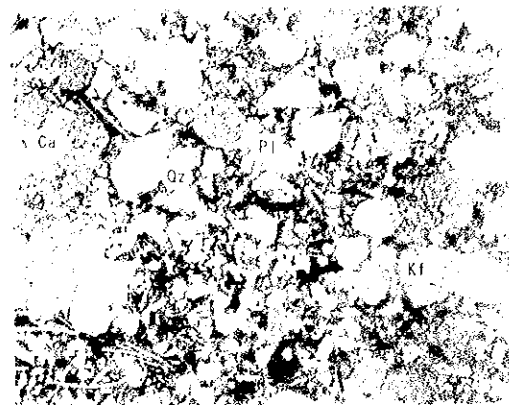
Sample No.: T-603. Locality: MJZC G. 1010.70r



Sample No.: T-604. Locality: MJZC T. 964.00r



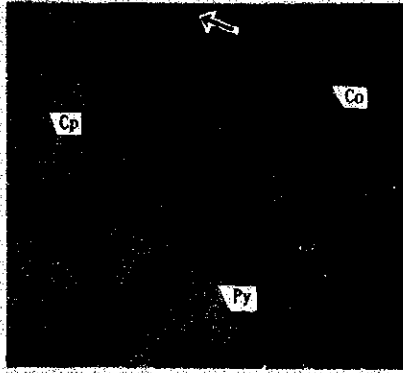
Sample No.: T-701. Locality: MJZC T. 900.50r



Sample No.: T-702. Locality: MJZC T. 900.50r

Abbreviations: Br = Biotite; Pl = Plagioclase; Do = Dolomite; Oz = Ozone; Ca = Calcite; Kf = K-feldspar; Qtz = Quartz; An = Anorthite; Py = Pyrite; Mn = Manganese; Fe = Iron; Mg = Magnesium; Si = Silicon; Al = Aluminum; Ti = Titanium; Zr = Zirconium; Hf = Hafnium; Nb = Niobium; Ta = Tantalum; W = Tungsten; Mo = Molybdenum; Cr = Chromium; Co = Cobalt; Ni = Nickel; Cu = Copper; Zn = Zinc; Ga = Gallium; Ge = Germanium; As = Arsenic; Se = Selenium; Br = Bromine; Kr = Krypton; Rb = Rubidium; Sr = Strontium; Y = Yttrium; Zr = Zirconium; Nb = Niobium; Mo = Molybdenum; Tc = Technetium; Ru = Ruthenium; Rh = Rhodium; Pd = Palladium; Ag = Silver; Cd = Cadmium; In = Indium; Sn = Tin; Sb = Antimony; Te = Tellurium; I = Iodine; Xe = Xenon; Ba = Barium; La = Lanthanum; Ce = Cerium; Pr = Praseodymium; Nd = Neodymium; Pm = Promethium; Sm = Samarium; Eu = Europium; Gd = Gadolinium; Tb = Terbium; Dy = Dysprosium; Ho = Holmium; Er = Erbium; Tm = Thulium; Yb = Ytterbium; Lu = Lutetium; Hf = Hafnium; Ta = Tantalum; W = Tungsten; Re = Rhenium; Os = Osmium; Ir = Iridium; Pt = Platinum; Au = Gold; Hg = Mercury; Tl = Thallium; Pb = Lead; Bi = Bismuth; Po = Polonium; At = Astatine; Rn = Radon; Fr = Francium; Ra = Radium; Ac = Actinium; Th = Thorium; Pa = Protactinium; U = Uranium; Np = Neptunium; Pu = Plutonium; Am = Americium; Cm = Curium; Bk = Berkelium; Cf = Californium; Es = Einsteinium; Fm = Fermium; Md = Mendelevium; No = Nobelium; Lr = Lawrencium.

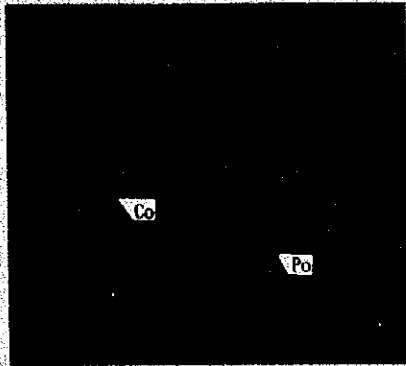
Photomicrographs of thin sections of the above samples, showing the mineral grains and their distribution.



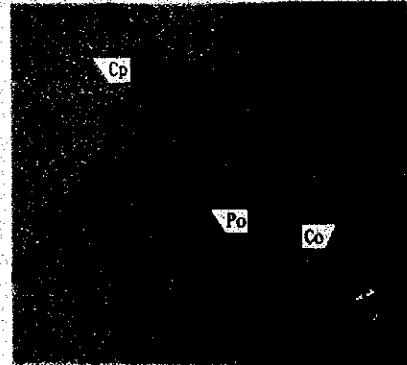
Sample No. : P-102, Locality: MJZC-1



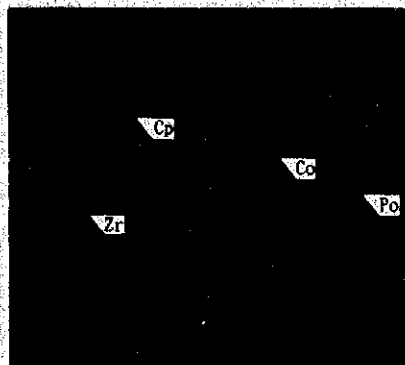
Sample No. : P-501, Locality: MJZC-5



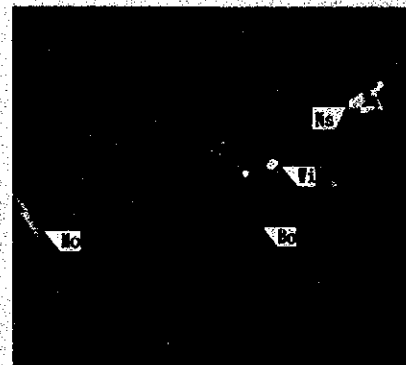
Sample No. : P-503, Locality: MJZC-5



Sample No. : P-504, Locality: MJZC-5



Sample No. : P-505, Locality: MJZC-5

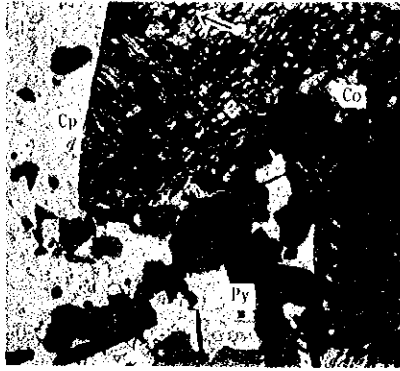


Sample No. : P-602, Locality: MJZC-6

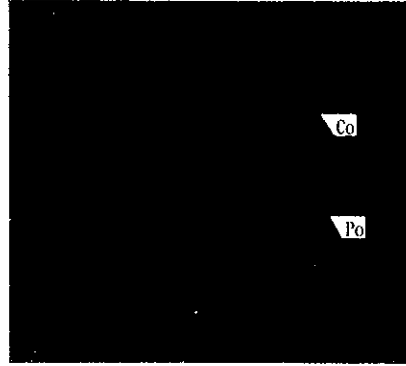
Abbreviation:

At: Ag-Te mineral, Bo: Bornite, Bs: Native bismuth, Co: Cobalt pentlandite,
 Cp: Chalcopyrite, Gn: Galena, Mo: Molybdenite, Mz: Monazite, Po: Pyrrhotite,
 Py: Pyrite, Wi: Wittichenite, Xn: Xenotime, Zr: Zircon
 X: Point analyzed quantitatively by electron probe microanalysis (←)

Photo 3 Microscopic Photograph of Polished Sections (1)



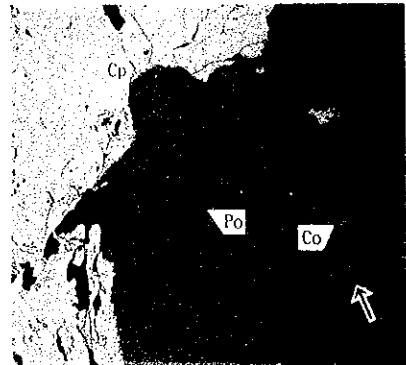
Sample No. : P-192, Locality: MJZC-1



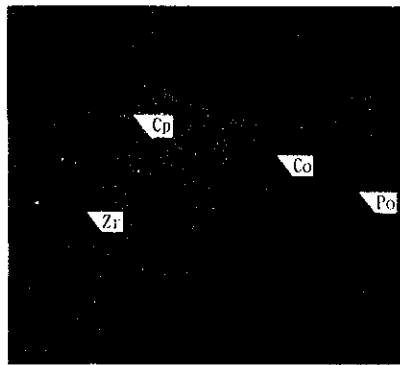
Sample No. : P-501, Locality: MJZC-5



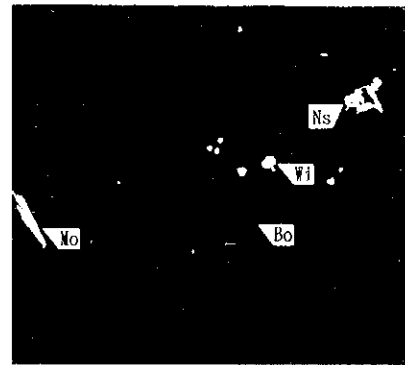
Sample No. : P-503, Locality: MJZC-5



Sample No. : P-504, Locality: MJZC-5



Sample No. : P-505, Locality: MJZC-5

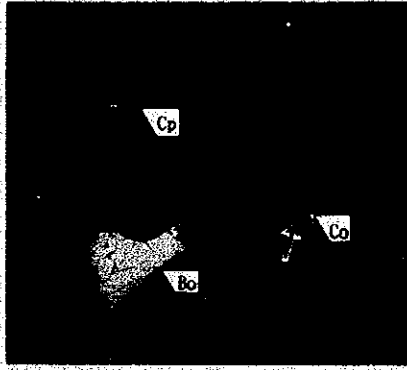


Sample No. : P-602, Locality: MJZC-6

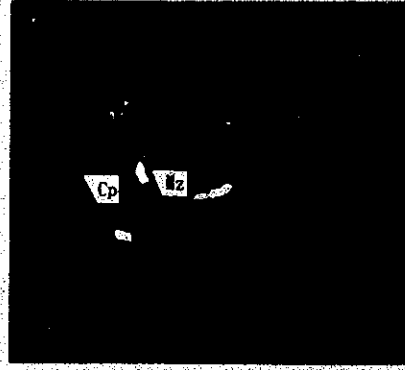
Abbreviation:

At: Ag-Te mineral, Bo: Bornite, Bs: Native bismuth, Co: Cobalt pentlandite,
 Cp: Chalcopyrite, Ga: Galena, Mo: Molybdenite, Mz: Monazite, Po: Pyrrhotite,
 Py: Pyrite, Wj: Wittichenite, Xn: Xenotime, Zr: Zircon
 ×: Point analyzed quantitatively by electron probe microanalysis (←)

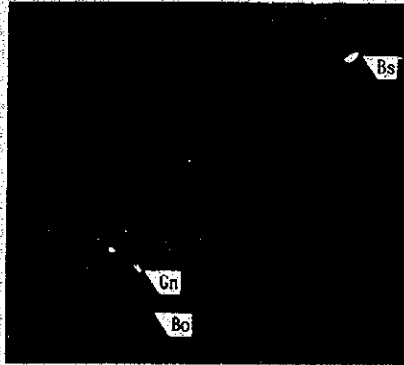
Photo 3 Microscopic Photograph of Polished Sections (1)



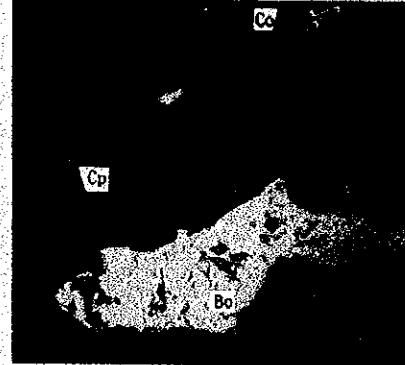
Sample No. : P-603, Locality: MJZC-6



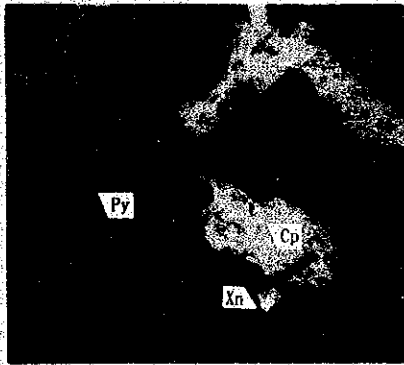
Sample No. : P-604, Locality: MJZC-6



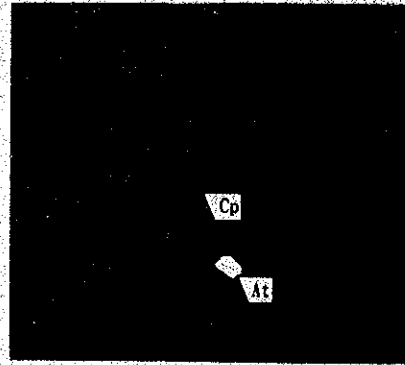
Sample No. : P-605, Locality: MJZC-6



Sample No. : P-608, Locality: MJZC-6



Sample No. : P-701, Locality: MJZC-7



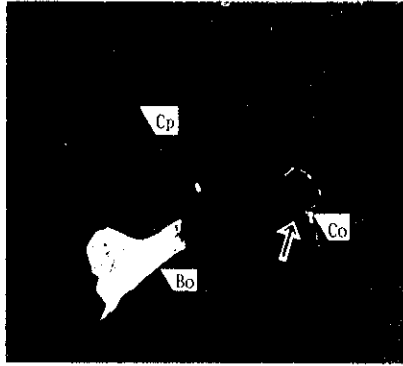
Sample No. : P-704, Locality: MJZC-7

Abbreviation:

At: Ag-Te mineral, Bo: Bornite, Bs: Native bismuth, Co: Cobalt pentlandite,
 Cp: Chalcopyrite, Gn: Galena, Mo: Molybdenite, Mz: Monazite, Po: Pyrrhotite,
 Py: Pyrite, Wt: Wittichenite, Xn: Xenotime, Zr: Zircon

X: Point analyzed quantitatively by electron probe microanalysis (←)

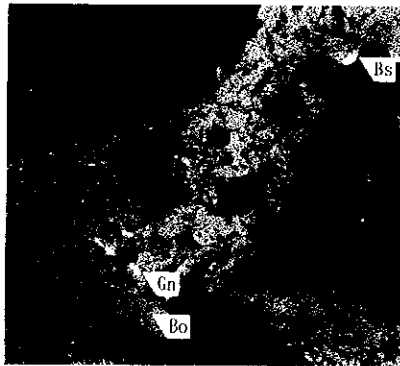
Photo 3 Microscopic Photograph of Polished Sections (2)



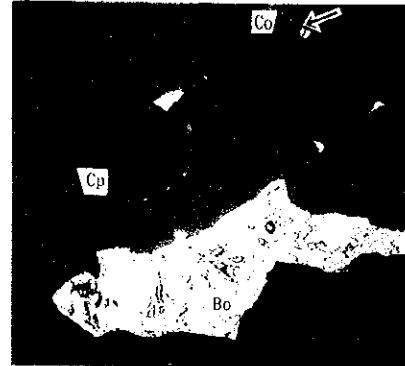
Sample No. : P-603. Locality: MJZC-6



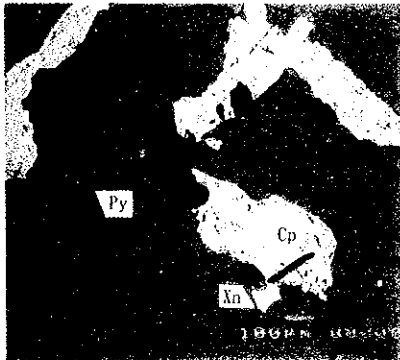
Sample No. : P-604. Locality: MJZC-6



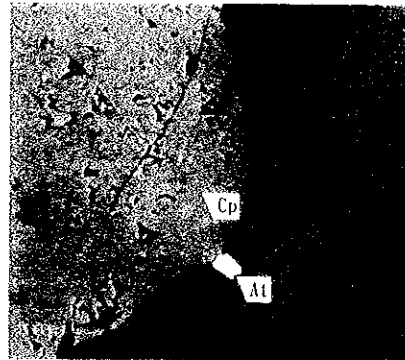
Sample No. : P-605. Locality: MJZC-6



Sample No. : P-608. Locality: MJZC-6



Sample No. : P-701. Locality: MJZC-7



Sample No. : P-704. Locality: MJZC-7

Abbreviation:

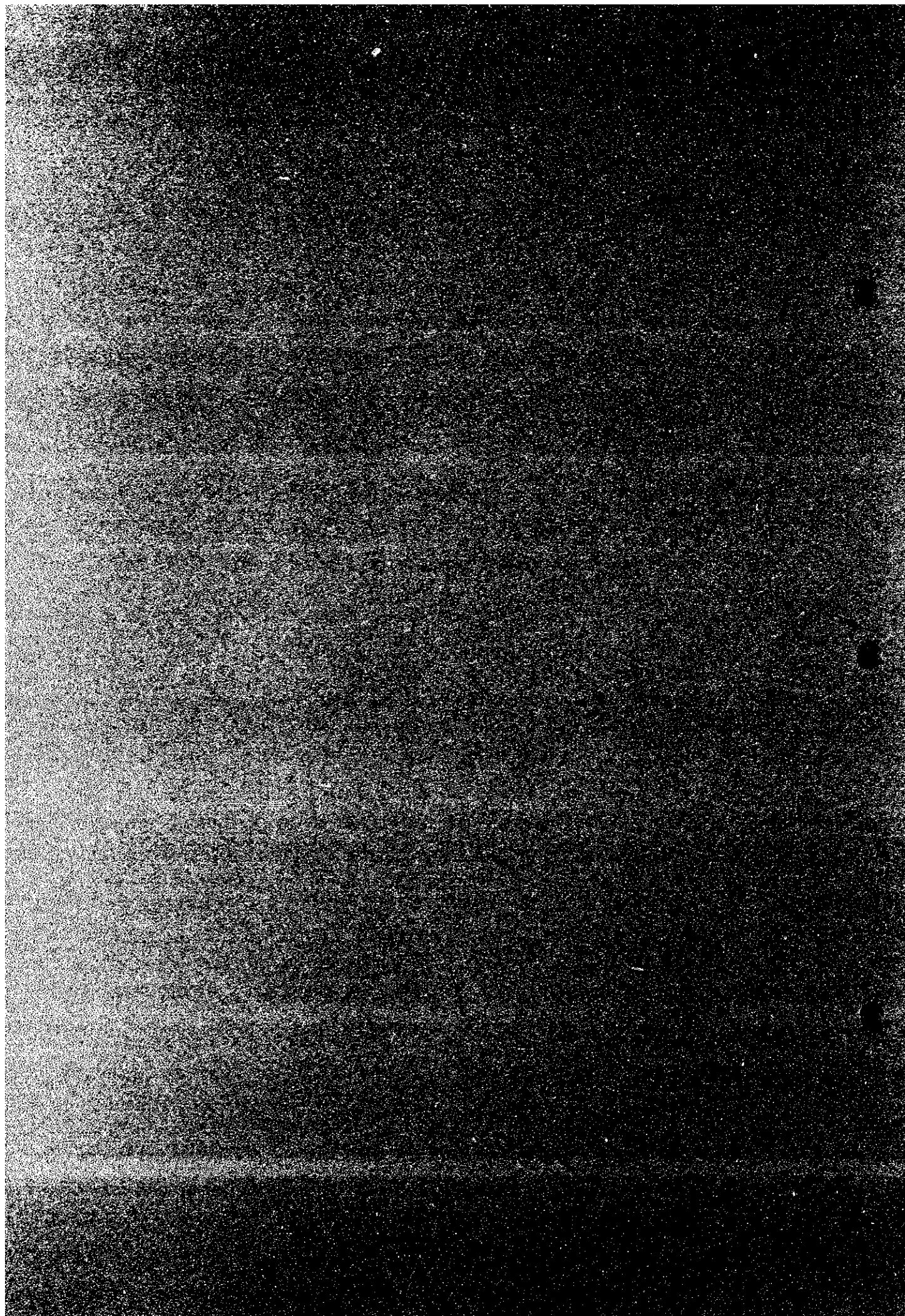
At: Ag-Te mineral, Bo: Bornite, Bs: Native bismuth, Co: Cobalt pentlandite,
 Cp: Chalcopyrite, Gn: Galena, Mo: Molybdenite, Mz: Monazite, Pn: Pyrrhotite,
 Py: Pyrite, Wt: Wittichenite, Xn: Xenotime, Zr: Zircon

×: Point analyzed quantitatively by electron probe microanalysis (←)

Photo 3 Microscopic Photograph of Polished Sections (2)



卷末資料



Geologic Log of MJZC-1, 5~8

Abbreviations

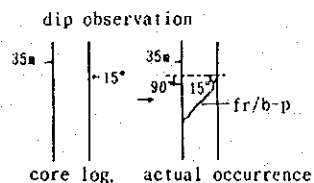
Lithology

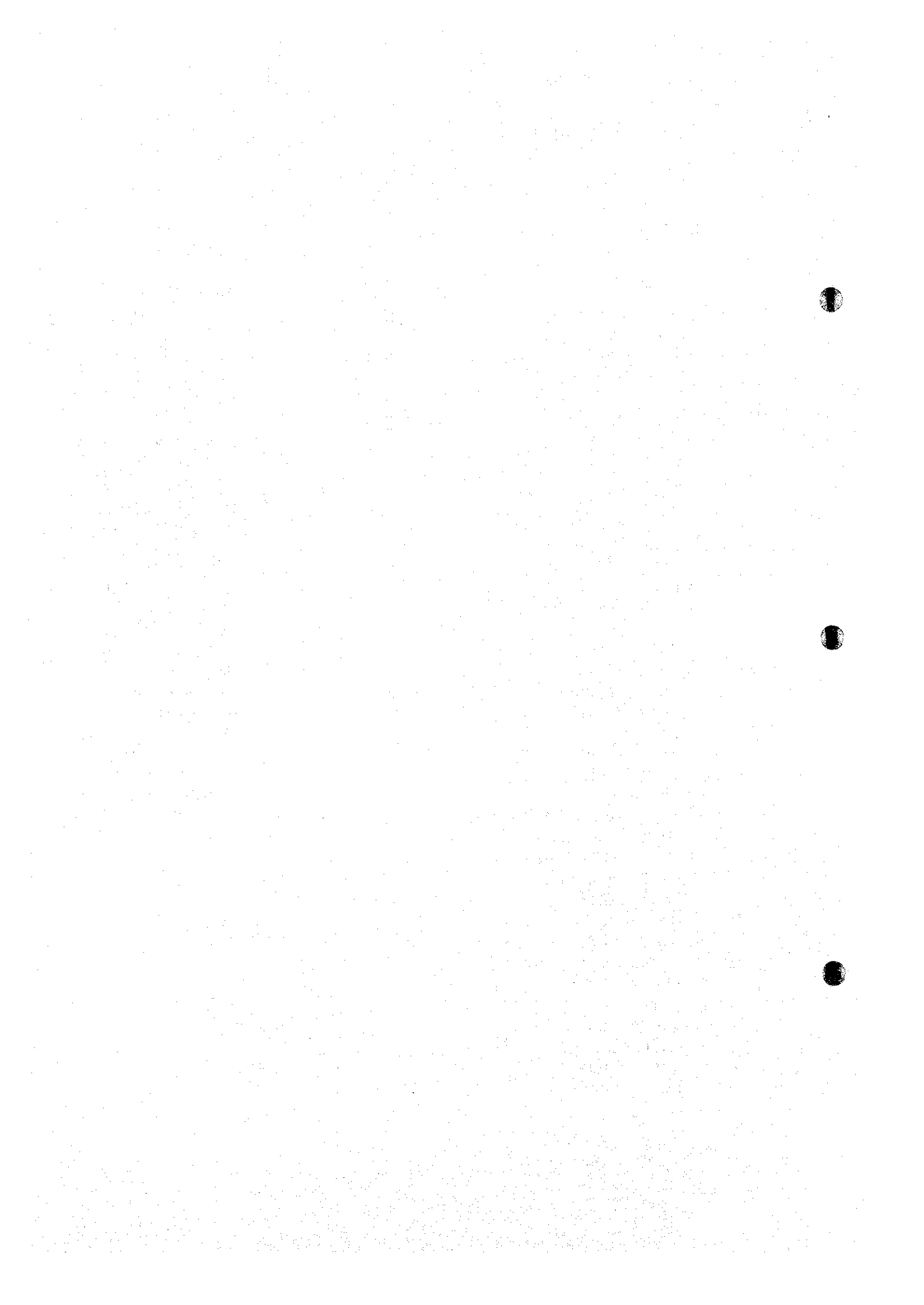
AGL: argillite
 alt: altered
 AMP: amphibolite
 aren: arenaceous
 arg: argillaceous
 ark: arkose
 b: bedding
 bk: black
 b-p: bedding plane
 bre: breccia
 brwn: brown
 CGL: conglomerate
 comp: compact
 conv: convolute
 cos: coarse
 cryst: crystalline
 dk: dark
 dol: dolomitic
 DM: dolomite
 feld: feldspar
 fr(s): fracture(s)
 Gab: gabbro
 grn: green
 gry: gray
 hd: hard
 ig.r: igneous rock
 la/l: lamination
 LAT: laterite
 LS: limestone
 mass: massive
 medi: medium
 mdy: muddy
 mica: micaceous
 peb: pebble
 QZT/Q: quartzite
 qzose: quartzose
 r: rock
 sdy: sandy
 seri: sericitic

SH: shale
 sh: sheared
 sil: siliceous
 SS: sandstone
 str: structure
 whi: white
 yel: yellow

Mineralization / Alteration

Anhyd: anhydrite
 Bio: biotite
 Bo: bornite
 Cal: calcite
 carb: carbonate
 circ: circulation
 Cp: chalcopyrite
 diss: dissemination
 f: fine
 F/W: footwall
 Gyp: gypsum
 Hem: hematite
 Ho: hornblende
 H/W: hangingwall
 irreg: irregular
 Limo: limonite
 m: mineral
 oxi: oxidized
 Po: pyrrhotite
 Py: pyrite
 Qz: quartz
 sca: scapolite
 str: strong
 tex: texture
 tremo: tremolite
 v: very
 w: weak





Drill hole No. : MJZC- /

Direction : (true north)

Inclination : -

Latitude :

Longitude :

Elevation :

(/)

Depth (m)	Core Log.	Lithology	Mineralization / Alteration	Samp No.	Depth (m)	Au ppm	T.Cu %	S.Cu %	Co %	Zn %
0m	L	<Cuttings>								
	L	red laterite with bio. feldspar	Limonite							
5m	L	yel-brown LAT.								
10m	L	brown-red LAT								
15m	L	brown LAT.								
20m	L	w-weathered partly bio. rich. AG& or SS								
25m	L	brown LAT								
30m	L									
35m	Gab	Coring dk. grn-gry. v. hd. Gabbrro/Amphibolite	weathered along fracture							
	Gab	no sh. fr.								
40m	Gab	75 sh. fr.								
45m	Gab	alt. zone whi. clayey								
	DM	Bioblized brownish whi. mass. silicified DM.	cal. vlt's							
50m		82 v.	cal. v.							

Drill hole No. : MJZC- /

Direction : (true north)

Inclination : -

Latitude :

Longitude :

Elevation :

(3)

Depth (m)	Core Log.	Lithology	Mineralization / Alteration	Samp. No.	Depth (m)	Au ppm	T.Cu %	S.Cu %	Co %	Zn %
100m	Gab	gy. dk. grn Gab. carbonate rich	Bio. irreg. films.							
105m	Gab	DM gy. sili, K45 v.	large cryst. cal vlt (3cm)							
110m			Bio irreg. vlt cal. film							
115m	Gab		carbonate irreg. patch vlt. Bio. irreg. vlt.							
120m	Gab		large cryst. cal-Bio > py vlt.							
125m	Gab		cal-Bio. film met							
130m	DM	brownish, DM partly silicified muscov. - DM.	Qz-limo, film act. weathered z. limo. diss. porous. str. weathered.							
135m	SS AGL	gy. hd. SS. greenish gy. dol. AAL	cal-limo, irreg. vlt. limonitized dol. vlt-lens.							
140m		DM parting dol. lens. conv. l.								
145m	Gab	brown-whi. DM gy. dol-sil, alt, GAB.	silicified partly. limonitized Cal. large cryst. vlt.							
150m	Gab		cal vlt. dol. irreg. vlt with limo. diss. dol. film met.							

Drill hole No. : MJZC- /

Direction : (true north)

Inclination : -

Latitude :

Longitude :

Elevation :

(4)

Depth (m)	Core Log.	Lithology	Mineralization / Alteration	Samp. No.	Depth (m)	Au ppm	T.Cu %	S.Cu %	Co %	Zn %
150m	Gab	dk. grs alt. Gab.	silica film net.							
		bleached zone	cal. film net.							
155m	Gab	gr. alt. partly	silicified large cryst. cal vlt. with py-limo.							
			silica-cal film net.							
160m	Gab	gr. alt.								
			silica, cal films							
165m	Gab	alt. gr. altered z.	dol. net.							
			cal. films.							
170m	Gab		silica films net.							
			cal. vlt.							
			silica film							
175m	Gab	gr. bleached alt. z.	Bio-dol. irreg. films							
180m	Gab	gr. whi. alt. Gab.	cal. vlt.							
		gr. sil. bleached Gab	silicification (H.)							
			Bio. irreg. films							
185m	Gab	whi. str sil. bleached	str. sili. with limo. diss.							
		dk. grn. mica-AGL	dol. film irreg. lens.							
190m	Q	grn. whi. alt.								
		pol. parting	Limo-(Q ₂) film net. weathered.							
		dol-SS with pore								
		whi. DM.								
195m	AGL	grn. AGL	weath. limo.							
		gr. f-m. Q ₂								
		whi-gr. dol-SS	Limo-dol-Q ₂ in frs.							
		Q ₂ partly.	carb.-Q ₂ -limo vlt.							
200m	SS	Gab.	cal-Bio. vlt.							

Drill hole No. : MJZC- /

Direction : (true north)

Inclination : -

Latitude :

Longitude :

Elevation :

(5)

Depth (m)	Core Log.	Lithology	Mineralization / Alteration	Samp. No.	Depth (m)	Au ppm	T.Cu %	S.Cu %	Co %	Zn %
200m	Gab	dk. grn. alt. GAB.								
	Gab	40 v. 15 v.	cal.-bio. vlt. (30cm)							
205m	Gab	bleached alt. GAB								
	Gab	15 v. 60 v.	silicified - cal vlt. (10cm)							
210m	Gab									
	alt	whi. spotted altered r.	str. sil. - calcitized, limo. diss							
	Gab	bleached GAB.	cal. vlt.							
215m	Gab	dk. grn. alt. GAB.								
	alt	whi. altered GAB	sil. - cal - bio. - limo. cal vlt.							
220m	Gab									
	Gab	70 fis.	limo. in fis.							
225m	alt	gradually altered.	cal-bio. vlt.							
	alt	70 v. str. alt. sil.-cal + str. limo. porous	large cryst. cal-limo drusy vlt. irreg. silica vlt. patches							
230m	alt	brownish gry alt. r.	str. sil. - cal.							
	alt	v.	cal vein (20cm), limo. diss.							
	alt	comp. hd. alt. r.	cal vlt.							
235m	DM	sil.-limo. - DM. brecciated.								
	alt	v. sil. - bio. alt. r.								
	DM	brown sil.-DM								
	alt	str. sil. r. limo. diss.								
	Xo	dk grn brecciated Alt	limonitization							
240m	AGL	grn. alt. bio. rich								
	AGL	as b.	str. sil.							
	DM	with grn ang. layers brecciated, drusy partly								
245m	AGL	gry. v. sil. r. (ang. sil.) partly dolomitized	limo. - cal. vlt.							
	AGL	AGL (AGL pebbles) cemented by limonite	str. sil.							
	AGL	gry sil. r. (AGL)								
250m	DM	brown-whi. DM. AGL sil.	limo. diss.							

Drill hole No. : MJZC- /

Direction : (true north)

Inclination : -

Latitude :

Longitude :

Elevation :

(6)

Depth (m)	Core Log	Lithology	Mineralization / Alteration	Samp. No.	Depth (m)	Au ppm	T.Cu %	S.Cu %	Co %	Zn %
250m	AGL	← 30.6. grnish qtz. sil-AGL	str. sil.							
		DM parting.	Limo-dol. vls.							
	X _a		Limo. diss. mat							
	X _a		associated by silicification.							
255m	AGL									
	X _a									
	X _a	← 45.6. laminated								
	X _a	qtz. sil. AGL								
260m		← 45.6. with Qtzitic layers								
	DM									
	AGL	← 40 AGL								
	AGL	← 20 qtz sil. r. (DM?)	Limo. diss.							
	alt (DM?)	qtz-whi. sil. r.								
265m	AGL	grn-whi. w. sil. AGL								
	DM	brown porous DM	str. limo.							
	DM	qtz. mass. DM with muscov.								
270m										
	alt	str. sil.	limo. str.							
		whi. fractured AGL w-sil. limo-dol								
275m	AGL									
			limo. fibrous							
280m	alt	← 15.6. qtz. str. sil.								
	AGL	grnish qtz w-sil. AGL								
	DM	← 20.6. brown oxi. DM	str. limo.							
	AGL	olive grn. mica-AGL								
285m		DM								
	AGL									
	AGL	alt. porous sil. r								
	AGL	← 5.6. brown oxi. DM with small dense partly sil. arg. partly.	str. limo.							
290m	DM									
	AGL	← 5.6. grn. soft. mica-AGL	Limo. diss.							
295m	DM	brownish whi. oxi. DM with sil. lens. patch								
	AGL	str. sil. partly								
	AGL	grn. AGL								
	DM	oxi-sil. DM								
300m	AGL	← 5.6. grn. AGL with dol. layer	Limo. partly.							

Drill hole No. : MJ2C- /

Direction : (true north)

Inclination : -

Latitude :

Longitude :

Elevation :

(9)

Depth (m)	Core Log.	Lithology	Mineralization / Alteration	Samp No.	Depth (m)	Au ppm	T.Cu %	S.Cu %	Co %	Zn %
400m	SS AGL	dol-ss th. gm-gry. sdy. AGL with sdy. dol. QZtic part. ← s.b. dol. & anhyd. layers	Anhyd. lens v. vlt.							
405m	DM AGL DM AGL DM AGL	← s.b. sdy. AGL	Anhyd. gyp. layers v. vlt.							
410m	DM, mg. ← s-o AGL	gritty AGL	Anhyd. vlt.							
415m		with dol-sdy. layers QZT parting. AGL ← s.b. ← s. fr. - gyp. DM ← s.b.								
420m	AGL	gritty AGL interbedded SS-AGL	Anhyd. layers							
425m		← s. with cos. grit. ss. layers								
430m		← s.b. cos. QZtic layer								
435m	DM AGL DM	whi. mass. DM. gm-gry. AGL with silica lens whi. pure DM. with silica lens, Anhyd.								
440m		← s-o.b. arg-DM.								
445m		whi. muscov. -DM.	442.5-443.0 ± minute py. cp. w. d. ss. Anhyd. patch ~ lens.							
450m	AGL SS	interbedded AGL-dol-SS gm-gry dol-SS with arg. layers	gyp. vlt.							

