Sample No.	Duplication	E-UTM	N-UTM	Au ppm	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm
ED-001		463323	1570759	0.006	0.33	3.65	1.2	<10	120.0	0.81	0.11	0.13	0.01
ED-002		463165	1570756	0.011	0.19	3.51	1.4	<10	89.7	0.82	0.12	0.08	0.01
ED-003		463071	1570750	0.002	0.15	4.12	4.2	<10	70.3	1.11	0.07	0.06	0.02
ED-004		462930	1570752	0.004	0.11	4.43	6.9	<10	88.6	0.83	0.21	0.12	0.03
ED-005		463175	1570661	0.003	0.11	4.09	2.2	<10	81.5	1.26	0.08	0.05	0.01
ED-006		463194	1570588	0.004	0.59	3.45	7.0	<10	120.0	0.82	0.10	0.11	0.03
ED-007		463194	1570499	0.026	0.35	4.28	5.8	<10	90.4	0.58	0.25	0.07	0.02
ED-008		463346	1570653	0.010	0.26	3.54	1.9	<10	120.0	0.94	0.10	0.05	0.02
ED-009		463339	1570565	0.013	0.17	3.34	6.8	<10	100.0	1.11	0.14	0.07	0.02
ED-010		463349	1570488	0.029	0.13	3.47	4.4	<10	90.0	0.69	0.24	0.14	0.02
ED-011		463356	1570415	0.005	0.11	4.54	5.5	<10	100.0	1.26	0.23	0.03	0.01
ED-012	copy	463356	1570415	0.040	0.09	4.54	4.6	<10	90.5	1.45	0.19	0.07	0.02
ED-013		463193	1570414	0.141	0.09	3.65	3.4	<10	70.8	0.70	0.21	0.08	0.01
ED-014		463351	1570353	0.040	0.08	2.77	4.2	<10	88.6	0.97	0.34	0.10	0.02
ED-015	copy	463356	1570281	0.011	0.07	4.81	4.1	<10	120.0	0.81	0.31	0.10	0.02
ED-016		463356	1570281	0.050	0.06	3.92	3.3	<10	76.8	0.72	0.17	0.05	0.01
ED-017		463210	1570301	0.157	0.09	4.18	10.8	<10	46.9	0.47	0.59	0.02	0.01
ED-018		463361	1570183	0.008	0.07	5.25	4.0	<10	130.0	1.16	0.31	0.02	0.01
ED-019		463207	1570218	7.550	0.10	3.82	11.2	<10	57.8	0.54	5.22	0.04	0.01
ED-020		463365	1570100	0.017	0.06	5.14	3.8	<10	100.0	0.79	0.17	0.04	0.02
ED-021		463365	1570023	0.008	0.06	3.91	11.1	<10	36.7	0.44	1.09	0.01	0.01
ED-022		463355	1569919	0.022	0.05	4.16	3.1	<10	100.0	1.09	0.40	0.05	0.02
ED-023		462955	1570659	0.004	0.05	4.38	6.8	<10	170.0	1.06	0.10	0.14	0.19
ED-024		463069	1570661	0.007	0.05	3.67	7.0	<10	88.9	0.88	0.10	0.15	0.02
ED-025		462948	1570580	0.003	0.03	3.85	4.7	<10	60.2	1.40	0.09	0.01	0.01
ED-026		463066	1570575	0.002	0.04	3.44	4.9	<10	77.7	0.66	0.15	0.12	0.05
ED-027		462948	1570502	0.002	0.50	4.04	6.8	<10	110.0	1.16	0.12	0.05	0.02
ED-028		463068	1570519	0.002	0.20	3.54	4.5	<10	88.0	0.79	0.10	0.04	0.02
ED-029		462944	1570425	0.004	0.12	3.24	3.2	<10	66.1	0.83	0.09	0.03	0.02
ED-030		463081	1570438	0.004	0.08	3.12	3.7	<10	87.1	0.72	0.13	0.09	0.05
ED-031		462941	1570364	0.007	0.08	3.49	3.2	<10	100.0	1.00	0.09	0.06	0.05
ED-032		463084	1570365	0.007	0.06	4.55	4.0	<10	39.8	1.07	0.23	0.03	0.01
ED-033		462936	1570284	0.024	0.03	4.11	5.4	<10	58.5	0.97	0.33	0.02	0.01
ED-034		463087	1570296	0.025	0.15	4.91	6.4	<10	130.0	1.15	0.18	0.03	0.01
ED-035		463209	1570120	0.167	0.08	4.75	6.2	<10	58.0	0.70	0.47	0.01	<0.01
ED-036		463092	1570215	0.199	0.05	4.72	9.0	<10	49.5	0.90	0.84	0.02	<0.01
ED-037		463094	1570157	0.081	0.01	5.52	4.3	<10	81.3	0.93	0.73	0.01	0.01
ED-038		463077	1570048	0.066	<0.01	4.49	5.5	<10	70.7	0.99	1.98	0.05	0.01
ED-039		463081	1569987	0.017	<0.01	5.69	2.4	<10	70.0	1.00	1.07	0.02	0.03
ED-040		463200	1569994	0.023	<0.01	4.31	1.7	<10	62.3	0.66	0.38	0.03	0.01
ED-041		463155	1569849	0.017	<0.01	6.90	2.2	<10	49.4	0.73	0.44	0.02	0.01
ED-042		462981	1569844	0.498	0.03	4.59	0.6	<10	110.0	<0.05	0.10	0.03	<0.01
ED-043		462814	1569847	0.007	0.01	4.64	0.1	<10	1.9	<0.05	<0.01	0.02	<0.01
ED-044		462681	1569864	0.033	<0.01	5.95	0.1	<10	2.0	<0.05	<0.01	0.04	<0.01
ED-045		462450	1569863	0.020	<0.01	3.76	0.1	<10	1.8	<0.05	<0.01	0.05	<0.01
EF-001		462776	1570737	0.003	<0.01	3.85	0.2	<10	1.0	<0.05	<0.01	0.02	<0.01
EF-002		462587	1570730	0.002	<0.01	3.32	0.2	<10	2.6	<0.05	<0.01	0.04	<0.01
EF-003		462455	1570713	0.002	<0.01	3.64	0.1	<10	0.9	<0.05	<0.01	0.01	<0.01
EF-004		462350	1570709	0.055	<0.01	3.87	1.2	<10	2.4	<0.05	0.05	0.01	<0.01
EF-005		462350	1570596	0.003	<0.01	3.46	0.1	<10	130.0	<0.05	<0.01	0.03	<0.01
EF-006		462482	1570612	0.006	<0.01	4.52	0.3	<10	3.7	<0.05	0.01	0.04	0.06
EF-007		462624	1570616	0.015	<0.01	2.67	0.5	<10	1.6	<0.05	0.02	0.02	<0.01
EF-008		462785	1570615	0.076	<0.01	3.58	0.5	<10	1.6	<0.05	0.02	0.01	<0.01
EF-009		462789	1570493	0.008	<0.01	5.95	0.1	<10	1.7	<0.05	<0.01	0.03	<0.01
EF-010		462793	1570379	0.019	<0.01	4.77	0.2	<10	2.2	<0.05	0.02	0.02	<0.01
EF-011		462639	1570482	0.007	<0.01	5.56	0.2	<10	100.0	<0.05	<0.01	0.03	<0.01
EF-012		462492	1570480	0.004	<0.01	4.36	0.1	<10	2.1	<0.05	<0.01	0.01	<0.01
EF-013		462346	1570465	0.010	<0.01	4.03	0.3	<10	1.2	<0.05	0.01	0.02	<0.01
EF-014		462349	1570363	0.003	<0.01	3.68	0.2	<10	0.7	<0.05	<0.01	0.02	<0.01
EF-015		462352	1570244	0.005	<0.01	3.14	0.2	<10	1.2	<0.05	<0.01	0.02	<0.01
EF-016		462481	1570225	0.003	<0.01	3.88	0.2	<10	1.7	<0.05	<0.01	0.01	<0.01
EF-017		462597	1570225	0.002	<0.01	3.31	0.1	<10	2.3	0.05	<0.01	0.02	<0.01
EF-018		462720	1570224	0.025	<0.01	4.81	0.1	<10	1.4	<0.05	<0.01	0.03	<0.01
EF-019		462672	1570376	0.005	<0.01	4.50	0.2	<10	1.2	<0.05	0.01	0.01	<0.01
EF-020		462736	1570116	0.012	<0.01	5.29	0.2	<10	2.2	0.05	0.01	0.02	<0.01
EF-021		462591	1570097	0.001	<0.01	5.44	0.2	<10	1.9	0.08	<0.01	0.01	<0.01
EF-022		462464	1570090	0.001	<0.01	4.82	0.1	<10	3.3	0.05	<0.01	0.02	<0.01
EF-023		462368	1570080	0.003	<0.01	6.06	0.2	<10	3.3	<0.05	<0.01	0.02	<0.01

Sample No.	Ce ppm	Co ppm	Cr ppm	Cs ppm	Cu ppm	Fe %	Ga ppm	Ge ppm	Hf ppm	Hg ppm	In ppm	K %	La ppm	Li ppm	Mg %	Mn ppm	Mo ppm	Na %	Nb ppm	Ni ppm	P ppm	Pb ppm	Rb ppm	Re ppm	S %
ED-001	47.00	15.20	55	0.7	222.0	4.65	12.70	<0.05	0.20	0.08	0.05	0.38	17.4	3.8	0.73	608	0.84	0.01	0.74	17.3	290	3.6	24.9	0.001	0.02
ED-002	36.30	13.70	22	0.7	116.0	4.38	12.75	<0.05	0.14	0.07	0.05	0.31	11.5	4.1	0.61	584	0.63	0.01	0.51	8.5	360	4.0	21.5	<0.001	0.02
ED-003	61.50	21.50	7	0.9	62.0	4.66	14.05	<0.05	0.17	0.05	0.05	0.04	24.2	11.8	0.54	1255	0.36	0.01	0.32	5.8	490	11.2	3.7	0.001	0.02
ED-004	41.30	16.30	5	2.4	36.0	4.33	11.35	<0.05	0.13	0.08	0.05	0.07	10.5	7.2	0.33	1340	0.62	0.01	0.13	3.6	520	11.3	9.9	<0.001	0.03
ED-005	53.40	24.00	11	1.0	85.3	4.83	14.15	<0.05	0.22	0.04	0.07	0.05	15.5	6.2	0.44	698	0.29	<0.01	0.36	4.9	360	9.2	4.3	<0.001	0.02
ED-006	33.90	15.30	4	2.2	37.5	3.35	11.10	<0.05	0.15	0.06	0.04	0.04	10.0	10.2	0.32	1335	0.45	<0.01	0.14	3.2	410	11.3	15.9	<0.001	0.02
ED-007	39.20	9.40	7	1.7	26.3	3.74	13.20	<0.05	0.18	0.08	0.07	0.05	9.3	4.1	0.42	779	1.25	<0.01	0.24	4.9	530	7.0	8.1	0.001	0.02
ED-008	46.30	17.70	11	0.9	212.0	4.67	13.80	<0.05	0.13	0.05	0.06	0.49	17.1	4.4	0.74	487	1.11	0.01	0.69	7.9	310	3.5	29.7	0.001	0.01
ED-009	28.80	16.30	4	0.8	79.2	4.73	14.20	<0.05	0.35	0.06	0.07	0.13	9.4	5.9	0.57	701	0.49	0.01	0.37	3.4	360	13.2	12.7	0.001	0.01
ED-010	36.30	13.20	4	1.2	51.6	3.94	12.90	<0.05	0.16	0.06	0.07	0.18	9.3	7.3	0.63	737	0.41	0.01	0.27	3.2	320	9.2	15.7	0.001	0.01
ED-011	83.00	10.30	<1	2.5	29.9	3.77	14.65	0.06	0.16	0.03	0.08	0.26	30.7	5.4	0.82	461	0.84	<0.01	0.20	0.9	440	4.8	28.2	0.001	0.02
ED-012	86.20	9.70	1	2.2	21.3	3.72	13.85	0.07	0.13	0.06	0.08	0.21	32.5	6.1	0.79	592	0.77	0.01	0.14	1.0	610	4.6	25.4	0.001	0.02
ED-013	16.60	9.40	2	2.4	34.1	3.36	12.65	<0.05	0.08	0.07	0.06	0.16	5.8	6.3	0.58	650	0.66	0.01	0.15	1.9	480	4.2	22.0	<0.001	0.02
ED-014	40.40	9.00	<1	2.0	25.8	2.69	8.74	<0.05	0.24	0.06	0.05	0.21	10.5	4.7	0.48	691	1.33	0.01	0.11	0.9	620	2.7	21.1	0.001	0.01
ED-015	81.00	8.80	1	3.3	32.9	3.63	14.40	0.10	0.25	0.08	0.09	0.29	26.6	3.9	0.51	397	1.03	<0.01	0.20	1.6	340	6.7	24.9	0.001	0.02
ED-016	28.10	6.40	<1	3.0	25.7	3.34	11.70	<0.05	0.20	0.08	0.06	0.33	12.6	3.3	0.53	318	1.02	<0.01	0.17	1.1	410	5.3	26.3	<0.001	0.02
ED-017	32.90	3.10	7	1.1	42.1	5.52	14.85	0.06	0.16	0.09	0.18	0.05	7.7	1.7	0.13	201	2.04	<0.01	0.32	3.9	490	7.2	6.2	<0.001	0.03
ED-018	68.40	13.40	1	2.8	36.3	3.67	13.60	0.09	0.17	0.07	0.08	0.30	19.3	3.2	0.41	346	2.11	<0.01	0.16	1.0	500	4.4	29.8	0.001	0.02
ED-019	21.10	5.10	11	1.3	104.0	6.32	13.50	0.10	0.13	0.07	0.52	0.15	6.9	2.5	0.29	202	1.47	0.01	0.18	2.9	670	5.6	12.9	<0.001	0.04
ED-020	64.50	8.60	1	1.7	23.5	3.55	14.10	0.09	0.13	0.08	0.06	0.28	15.8	3.4	0.39	556	1.49	<0.01	0.35	1.3	470	6.2	23.7	0.001	0.03
ED-021	52.30	2.80	10	0.9	64.4	4.38	15.20	0.05	0.10	0.08	0.13	0.08	9.9	1.8	0.17	87	1.5	<0.01	0.24	2.1	310	5.4	7.3	<0.001	0.03
ED-022	59.40	11.20	1	1.7	48.2	3.85	11.70	0.07	0.10	0.06	0.07	0.28	20.4	3.3	0.49	579	1.84	<0.01	0.18	1.5	510	5.8	23.2	0.001	0.03
ED-023	74.20	12.40	<1	1.9	28.0	4.21	12.20	0.11	0.11	0.09	0.06	0.05	28.2	4.9	0.37	2450	1.05	0.01	0.10	1.2	890	12.7	6.1	0.001	0.02
ED-024	40.60	25.80	23	1.1	66.2	4.70	12.10	0.05	0.10	0.06	0.05	0.03	12.6	12.0	0.63	1460	0.38	<0.01	0.06	11.2	450	28.1	4.4	<0.001	0.02
ED-025	80.10	10.70	<1	2.4	23.0	3.63	13.70	0.14	0.13	0.04	0.05	0.03	37.7	4.1	0.24	855	0.72	<0.01	<0.05	0.6	290	10.2	10.7	0.001	0.02
ED-026	36.00	15.50	6	1.9	43.4	3.63	10.05	<0.05	0.14	0.09	0.05	0.06	9.5	7.0	0.41	1265	0.67	<0.01	0.09	6.3	650	11.9	8.8	<0.001	0.02
ED-027	76.90	10.20	<1	0.9	24.4	4.48	14.05	0.11	0.15	0.08	0.05	0.03	26.3	3.4	0.25	872	1.19	<0.01	0.08	2.3	530	10.6	4.7	0.001	0.03
ED-028	58.70	7.70	14	1.4	21.4	3.25	10.70	<0.05	0.11	0.07	0.04	0.04	14.1	5.1	0.30	833	0.8	<0.01	<0.05	1.0	510	7.1	4.7	<0.001	0.02
ED-029	36.30	9.10	1	0.8	16.9	3.54	9.63	<0.05	0.07	0.06	0.04	0.03	8.5	1.6	0.16	952	1.02	<0.01	0.07	1.3	420	7.2	5.3	0.001	0.02
ED-030	30.30	10.40	1	1.1	19.1	3.35	9.60	<0.05	0.08	0.05	0.04	0.05	7.9	2.6	0.27	1030	1.32	<0.01	<0.05	1.1	590	5.8	5.5	<0.001	0.02
ED-031	44.10	8.10	1	1.4	19.0	3.62	11.40	<0.05	0.06	0.05	0.05	0.10	12.0	2.9	0.37	1135	1.12	0.01	<0.05	1.2	590	5.0	17.4	0.001	0.02
ED-032	48.10	3.00	1	1.3	19.5	3.88	12.60	<0.05	0.11	0.04	0.06	0.04	15.7	1.5	0.12	147	1	<0.01	0.05	0.7	250	5.4	7.3	<0.001	0.02
ED-033	62.00	6.60	1	1.2	24.4	3.98	15.60	0.17	0.21	0.10	0.10	0.08	16.9	2.6	0.37	465	1.35	<0.01	0.21	2.3	380	3.9	13.1	<0.001	0.02
ED-034	66.80	8.30	<1	2.5	30.6	4.02	15.75	0.08	0.18	0.07	0.09	0.20	18.8	2.6	0.39	451	1.23	<0.01	0.08	1.0	430	4.1	46.0	0.001	0.02
ED-035	44.20	3.50	3	2.2	40.3	4.11	15.05	0.07	0.12	0.06	0.11	0.23	11.4	2.3	0.34	119	1.43	<0.01	0.15	1.3	280	4.5	25.0	<0.001	0.03
ED-036	80.90	2.90	1	1.6	61.1	4.35	16.50	0.10	0.09	0.04	0.12	0.21	20.7	1.9	0.29	119	0.99	<0.01	0.05	1.5	300	4.7	26.1	<0.001	0.02
ED-037	102.00	5.70	1	1.8	48.7	4.80	20.80	0.13	0.13	0.07	0.13	0.23	24.4	3.0	0.36	161	1.34	<0.01	0.09	1.1	380	4.6	22.3	<0.001	0.02
ED-038	71.70	6.50	14	1.5	112.0	4.99	15.25	0.12	0.15	0.05	0.14	0.22	17.9	2.5	0.36	136	0.91	<0.01	0.14	2.9	380	5.2	33.0	<0.001	0.02
ED-039	72.20	7.90	1	2.3	57.8	5.37	17.15	0.10	0.18	0.06	0.11	0.26	19.4	2.7	0.40	168	1.12	<0.01	0.34	1.1	430	5.0	30.5	0.001	0.03
ED-040	66.10	5.40	1	0.9	48.5	3.66	13.65	0.08	0.09	0.06	0.08	0.17	17.2	1.9	0.32	146	2.06	<0.01	0.26	1.2	380	3.8	17.3	0.001	0.02
ED-041	60.50	3.40	2	0.6	112.0	4.90	20.70	0.09	0.16	0.07	0.07	0.05	12.0	1.9	0.13	53	1.32	<0.01	0.39	1.8	430	5.2	4.9	<0.001	0.03
ED-042	0.49	<0.1	3	<0.05	189.0	6.38	0.40	<0.05	<0.02	<0.01	<0.005	0.02	0.2	<0.1	0.02	29	0.21	<0.01	<0.05	<0.2	370	2.0	0.1	<0.001	0.04
ED-043	3.56	0.63	2	<0.05	1.4	3.71	0.58	<0.05	<0.02	<0.01	<0.005	0.05	1.0	0.2	0.43	837	<0.05	<0.01	<0.05	<0.2	280	0.3	0.2	<0.001	0.02
ED-044	0.82	1.20	59	<0.05	2.6	7.88	0.52	<0.05	<0.02	<0.01	<0.005	0.03	0.2	0.1	0.30	1125	<0.05	0.01	<0.05	0.6	360	0.3	0.1	<0.001	0.03
ED-045	1.29	0.30	2	<0.05	1.0	4.05	0.35	<0.05	<0.02	<0.01	<0.005	0.05	0.4	0.1	0.59	1025	<0.05	<0.01	<0.05	<0.2	410	0.2	0.5	<0.001	0.02
EF-001	2.25	0.10	3	<0.05	1.3	5.30	0.54	<0.05	<0.02	<0.01	<0.005	0.03	0.6	0.1	0.15	218	<0.05	<0.01	<0.05	<0.2	380	0.2	0.2	<0.001	0.03
EF-002	2.25	0.30	<1	<0.05	0.8	3.69	0.46	<0.05	<0.02	<0.01	<0.005	0.05	0.8	0.1	0.40	1050	<0.05	<0.01	<0.05	<0.2	600	0.3	0.2	<0.001	0.02
EF-003	2.51	0.20	4	<0.05	1.4	5.65	0.49	<0.05	<0.02	<0.01	<0.005	0.02	0.7	0.1	0.13	341	<0.05	<0.01	<0.05	<0.2	340	0.4	0.1	<0.001	0.04
EF-004	2.17	0.10	5	<0.05	1.7	4.78	0.45	<0.05	<0.02	<0.01	<0.005	0.03	0.4	0.1	0.07	216	0.05	<0.01	<0.05	<0.2	310	0.8	0.1	<0.001	0.04
EF-005	2.70	0.30	3	0.1	0.8	2.67	0.33	<0.05	<0.02	<0.01	<0.005	0.06	1.5	0.2	0.27	875	<0.05	<0.01	<0.05	0.2	290	0.3	1.0	<0.001	0.02
EF-006	2.69	0.60	<1	<0.05	1.7	4.21	0.61	<0.05	0.03	<0.01	<0.005	0.04	0.8	0.2	0.29	2310	0.05	0.01	<0.05	<0.2	550	0.8	0.4	<0.001	0.02
EF-007	1.92	0.30	1	<0.05	1.2	4.41	0.42	<0.05	<0.02	<0.01	<0.005	0.04	0.6	0.1	0.07	340	0.06	<0.01	<0.05	<0.2	460	1.0	0.2	<0.001	0.02
EF-008	2.03	0.50	<1	<0.05	147.0	4.00	0.35	<0.05	<0.02	<0.01	<0.005	0.08	0.5	0.1	0.19	1160	0.1	<0.01	<0.05	<0.2	570	0.3	0.2	<0.001	0.02
EF-009	1.53	0.40	1	<0.05	1.6	4.89	0.56	<0.05	<0.02	<0.01	<0.005	0.03	0.3	0.1	0.27	799	0.05	<0.01	<0.05	<0.2	540	0.3	0.1	<0.001	0.03
EF-010	2.17	0.40	3	<0.05	1.0	6.00	0.61	<0.05	<0.02	<0.01	<0.005	0.02	0.3	<0.1	0.05	949	0.06	<0.01	<0.05	0.2	520	0.2	0.1	<0.001	0.04
EF-011	1.97	0.40	1	<0.05	0.9	5.05	0.69	<0.05	<0.02	<0.01	<0.005	0.02	0.3	0.3	0.66	1120	0.06	<0.01	<0.05	<0.2	600	0.2	0.1	<0.001	0.03
EF-012	2.03	0.50	2	<0.05	1.2	4.44	0.46	<0.05	<0.02	<0.01	<0.005	0.07	0.6	0.2	0.64	1035	<0.05	<0.01	<0.05	<0.2	460	0.3	0.2	<0.001	0.02
EF-013	2.73	0.40	4	<0.05	1.6	5.43	0.60	<0.05	<0.02	<0.01	<0.005	0.04	0.5	0.1	0.11	530	<0.05	<0.01	<0.05	<0.2	390	0.8	0.2	<0.001	0.04
EF-014	2.87	0.20	25	<0.05	2.0	7.09	0.67	<0.05	0.02	<0.01	<0.005	0.01	0.5	0.1	0.07	437	<0.05	<0.01	<0.05	<0.2	350	0.7	0.1	<0.001	0.06
EF-015	2.81	0.39	5	<0.05	1.1	4.47	0.55	<0.05	<0.02	<0.01	<0.005	0.01	1.0	0.1	0.07	376	<0.05	<0.01	<0.05	<0.2	290	0.9	0.1	<0.001	0.03
EF-016	3.50	0.30	4	<0.05	1.3	5.66	0.72	<0.05	0.02	<0.01	<0.005	0.02	0.6	0.1	0.12	319	<0.05	<0.01	<0.05	<0.2	390	0.5	0.1	<0.001	0.04
EF-017	2.57	0.50	1	0.1	1.3	4.13	0.49	<0.05	<0.02	<0.01	<0.005	0.06	0.8	0.2	0.36	591	<0.05	<0.01	<0.05	<0.2	310	0.6	1.9	<0.001	0.02
EF-018	1.84	1.10	38	<0.05	3.0	7.55	0.67	<0.05	0.02	<0.01	<0.005	0.02	0.5	0.2	0.42	569	<0.05	0.01	<0.05	0.5	270	0.4	0.1	<0.001	0.03
EF-019	3.95	0.20	2	<0.05	0.9	5.74	0.71	<0.05	<0.02	<0.01	<0.005	0.01	<0.2	0.1	0.04	380	0.07	<0.01	<0.05	<0.2	430	0.3	<0.1	<0.001	0.05
EF-020	2.53	0.60	5	<0.05	1.9	4.94	0.60	<0.05	<0.02	<0.01	<0.005	0.07	0.7	0.2	0.37	620	<0.05	<0.01	<0.05	<0.2	390	0.3	0.3	<0.001	0.02
EF-021	2.17	0.70	2	<0.05	2.2	4.55	0.56	<0.05	<0.02	<0.01	<0.005	0.05	0.8	0.6	0.81	982	<0.05	<0.01	<0.05	<0.2	500	0.5	0.2	<0.001	0.02
EF-022	1.88	0.50	1	<0.05	1.4	4.42	0.62	<0.05	<0.02	<0.01	<0.005	0.04	0.9	0.3	0.64	1180	<0.05	<0.01	<0.05	<0.2	400	0.8	0.6	<0.001	0.02
EF-023	3.28	0.80	4	0.1	1.5	4.67	0.71	<0.05	<0.02	<0.01	<0.005	0.03	1.5	0.3	0.25	1185	<0.05	<0.01	<0.05	<0.2	440	1.0	0.2	<0.001	0.03

Sample No.	Sb ppm	Sc ppm	Se ppm	Sn ppm	Sr ppm	Ta ppm	Te ppm	Th ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
ED-001	<0.05	12.8	1.5	1.1	18.0	<0.01	0.13	2.5	0.10	0.21	0.55	134	0.06	20.30	29	1.0
ED-002	<0.05	10.7	1.1	1.0	11.0	<0.01	0.11	1.8	0.08	0.22	0.49	104	<0.05	15.50	31	<0.5
ED-003	<0.05	13.4	1.2	0.7	9.1	<0.01	0.04	1.1	0.04	0.13	0.92	133	<0.05	27.20	70	1.7
ED-004	<0.05	7.4	1.3	0.5	21.4	<0.01	0.15	0.7	0.01	0.16	0.46	89	<0.05	9.53	62	0.6
ED-005	<0.05	16.7	1.4	0.9	9.8	<0.01	0.10	1.1	0.06	0.14	1.26	158	<0.05	14.55	48	4.0
ED-006	0.05	5.8	0.9	0.6	25.3	<0.01	0.08	1.0	0.01	0.13	0.41	65	0.09	8.43	86	1.6
ED-007	0.06	7.4	1.0	0.6	13.4	<0.01	0.30	1.0	0.02	0.18	0.34	70	0.09	10.55	50	1.2
ED-008	<0.05	13.2	1.7	1.2	7.9	<0.01	0.13	2.2	0.15	0.31	0.51	124	0.07	20.60	27	<0.5
ED-009	0.06	10.9	1.4	1.1	21.3	<0.01	0.08	2.1	0.08	0.15	0.70	116	<0.05	12.35	58	8.2
ED-010	0.05	9.2	0.9	0.9	28.7	<0.01	0.10	1.2	0.03	0.21	0.50	90	<0.05	13.35	53	1.3
ED-011	0.06	8.5	1.6	0.8	7.3	<0.01	0.10	1.7	0.03	0.42	0.57	73	0.06	32.20	33	1.3
ED-012	0.05	8.2	2.0	0.8	10.6	<0.01	0.13	1.4	0.02	0.35	0.47	66	0.06	37.30	35	<0.5
ED-013	<0.05	6.4	1.3	0.7	11.9	<0.01	0.16	0.9	0.03	0.26	0.31	74	<0.05	6.06	43	<0.5
ED-014	<0.05	5.4	0.9	0.5	12.2	<0.01	0.17	0.8	0.03	0.22	0.34	52	<0.05	13.05	22	<0.5
ED-015	<0.05	10.6	1.3	0.7	23.9	<0.01	0.19	2.1	0.05	0.45	0.60	70	0.05	20.30	22	2.3
ED-016	<0.05	7.4	1.3	0.6	7.0	<0.01	0.11	1.2	0.05	0.37	0.43	64	<0.05	12.50	22	0.8
ED-017	0.08	13.6	1.7	0.8	6.5	<0.01	0.32	2.2	0.03	0.24	0.55	115	0.05	6.56	15	2.5
ED-018	0.06	9.8	1.2	0.6	6.7	<0.01	0.20	1.9	0.04	0.44	0.58	62	0.05	22.30	19	1.3
ED-019	0.13	12.5	1.5	1.3	6.1	<0.01	2.26	1.4	0.02	0.22	0.33	84	0.05	7.86	15	0.7
ED-020	<0.05	8.6	1.9	0.8	7.8	<0.01	0.18	1.2	0.06	0.25	0.70	67	<0.05	19.05	33	1.5
ED-021	0.06	12.8	1.9	0.8	4.1	<0.01	0.75	1.9	0.05	0.24	0.72	116	<0.05	8.79	11	1.3
ED-022	<0.05	8.8	1.2	0.6	6.8	<0.01	0.21	1.4	0.04	0.31	0.49	59	0.07	31.80	26	<0.5
ED-023	<0.05	12.7	1.6	0.6	30.4	<0.01	0.07	1.4	0.01	0.24	0.55	62	0.06	37.20	67	1.3
ED-024	0.05	15.2	1.0	0.5	20.9	<0.01	0.10	0.9	0.03	0.14	0.54	140	<0.05	9.42	125	1.7
ED-025	<0.05	8.9	1.5	0.6	4.4	<0.01	0.06	2.0	<0.01	0.25	0.49	59	0.05	44.80	64	2.6
ED-026	<0.05	7.4	1.1	0.5	18.1	<0.01	0.13	0.9	0.01	0.15	0.59	77	<0.05	11.40	78	2.3
ED-027	0.06	10.1	1.8	0.7	12.0	<0.01	0.12	2.4	0.01	0.29	0.64	70	0.12	35.00	64	3.4
ED-028	<0.05	6.4	0.9	0.5	6.8	<0.01	0.07	1.1	0.01	0.13	0.35	59	0.06	16.30	64	1.7
ED-029	<0.05	6.9	1.0	0.5	7.2	<0.01	0.09	1.1	0.02	0.16	0.32	78	<0.05	9.50	47	0.6
ED-030	0.06	5.2	1.1	0.5	13.1	<0.01	0.10	0.8	0.01	0.13	0.27	66	<0.05	7.38	41	0.7
ED-031	<0.05	7.9	0.8	0.5	8.6	<0.01	0.05	1.1	0.02	0.11	0.31	62	<0.05	15.35	63	<0.5
ED-032	<0.05	9.8	0.7	0.6	7.3	<0.01	0.07	1.9	0.02	0.19	0.46	81	<0.05	15.40	26	2.7
ED-033	0.06	9.4	1.0	0.5	4.9	<0.01	0.03	2.0	0.02	0.29	0.61	64	0.05	23.50	29	1.6
ED-034	0.10	15.2	0.6	0.7	9.8	<0.01	<0.01	2.6	0.03	0.51	0.50	73	0.05	24.80	34	1.0
ED-035	<0.05	17.2	0.9	0.8	4.3	<0.01	0.17	2.9	0.05	0.33	0.45	86	<0.05	12.10	18	2.1
ED-036	<0.05	18.2	1.2	0.8	5.5	<0.01	0.28	2.9	0.05	0.48	0.46	66	<0.05	24.90	15	0.6
ED-037	<0.05	21.4	1.3	0.8	4.7	<0.01	0.24	3.5	0.06	0.43	0.48	68	<0.05	31.30	17	2.1
ED-038	<0.05	27.3	1.3	1.3	13.9	<0.01	0.71	2.7	0.06	0.61	0.73	122	<0.05	32.40	17	2.5
ED-039	<0.05	22.1	1.0	1.2	6.7	<0.01	0.26	3.1	0.10	0.50	0.70	104	<0.05	29.50	16	3.4
ED-040	<0.05	14.3	1.2	1.7	5.4	<0.01	0.19	2.4	0.06	0.27	0.57	71	<0.05	20.10	14	<0.5
ED-041	<0.05	24.2	1.3	1.4	7.8	<0.01	0.15	3.9	0.08	0.19	0.68	109	<0.05	11.65	6	4.3
ED-042	<0.05	0.5	0.2	<0.2	0.3	<0.01	0.10	<0.2	0.02	<0.02	<0.05	49	<0.05	0.10	36	<0.5
ED-043	<0.05	0.6	<0.2	<0.2	0.2	<0.01	<0.01	<0.2	0.01	<0.02	<0.05	75	<0.05	1.33	71	<0.5
ED-044	<0.05	1.4	<0.2	<0.2	0.3	<0.01	<0.01	<0.2	0.09	<0.02	<0.05	316	<0.05	0.58	64	<0.5
ED-045	<0.05	0.4	<0.2	<0.2	0.5	<0.01	<0.01	<0.2	0.02	<0.02	<0.05	85	<0.05	0.41	63	<0.5
EF-001	<0.05	0.6	<0.2	<0.2	0.2	<0.01	<0.01	<0.2	0.01	<0.02	<0.05	123	<0.05	0.53	30	<0.5
EF-002	<0.05	0.3	<0.2	<0.2	0.3	<0.01	<0.01	<0.2	0.01	<0.02	<0.05	62	<0.05	1.08	74	<0.5
EF-003	<0.05	0.7	<0.2	<0.2	0.3	<0.01	<0.01	<0.2	0.05	<0.02	<0.05	138	<0.05	1.12	33	<0.5
EF-004	<0.05	0.5	<0.2	<0.2	0.5	<0.01	<0.01	<0.2	0.01	<0.02	<0.05	87	<0.05	0.36	26	<0.5
EF-005	<0.05	0.4	<0.2	<0.2	0.3	<0.01	<0.01	<0.2	0.06	<0.02	<0.05	44	<0.05	1.63	112	<0.5
EF-006	<0.05	0.4	<0.2	<0.2	0.3	<0.01	<0.01	<0.2	<0.01	<0.02	<0.05	68	<0.05	1.53	77	<0.5
EF-007	<0.05	0.4	<0.2	<0.2	0.2	<0.01	<0.01	<0.2	0.01	<0.02	<0.05	81	<0.05	0.64	27	<0.5
EF-008	<0.05	0.3	<0.2	<0.2	<0.2	<0.01	<0.01	<0.2	<0.01	<0.02	<0.05	64	<0.05	0.36	23	<0.5
EF-009	<0.05	0.4	<0.2	<0.2	0.2	<0.01	<0.01	<0.2	0.03	<0.02	<0.05	109	<0.05	0.31	42	<0.5
EF-010	<0.05	0.5	<0.2	<0.2	<0.2	<0.01	0.01	<0.2	0.02	<0.02	<0.05	98	<0.05	0.27	10	<0.5
EF-011	<0.05	0.4	<0.2	<0.2	0.3	<0.01	<0.01	<0.2	0.02	<0.02	<0.05	83	<0.05	0.25	67	<0.5
EF-012	<0.05	0.4	<0.2	<0.2	<0.2	<0.01	<0.01	<0.2	0.06	<0.02	<0.05	96	<0.05	0.64	81	<0.5
EF-013	<0.05	0.7	<0.2	<0.2	0.2	<0.01	0.01	<0.2	0.03	<0.02	<0.05	126	<0.05	0.25	27	<0.5
EF-014	<0.05	1.4	<0.2	<0.2	0.2	<0.01	<0.01	<0.2	0.04	<0.02	<0.05	256	<0.05	0.44	25	0.6
EF-015	<0.05	0.7	<0.2	<0.2	0.2	<0.01	<0.01	<0.2	0.02	<0.02	<0.05	101	<0.05	0.83	30	<0.5
EF-016	<0.05	0.9	<0.2	<0.2	0.3	<0.01	<0.01	<0.2	0.04	<0.02	0.06	146	<0.05	0.67	32	0.5
EF-017	<0.05	0.7	<0.2	<0.2	0.9	<0.01	<0.01	<0.2	0.03	<0.02	0.05	89	<0.05	1.31	117	<0.5
EF-018	<0.05	1.4	<0.2	<0.2	0.2	<0.01	<0.01	<0.2	0.11	<0.02	<0.05	281	<0.05	1.40	71	0.6
EF-019	<0.05	0.5	<0.2	<0.2	<0.2	<0.01	<0.01	<0.2	0.01	<0.02	<0.05	89	<0.05	0.10	16	<0.5
EF-020	<0.05	0.5	<0.2	<0.2	0.2	<0.01	0.01	<0.2	0.01	<0.02	<0.05	103	<0.05	0.93	68	<0.5
EF-021	<0.05	0.5	<0.2	<0.2	0.3	<0.01	<0.01	<0.2	0.01	<0.02	<0.05	107	<0.05	0.49	185	<0.5
EF-022	<0.05	0.6	<0.2	<0.2	0.2	<0.01	<0.01	<0.2	0.14	<0.02	0.06	89	<0.05	1.26	118	0.5
EF-023	<0.05	0.7	<0.2	<0.2	0.3	<0.01	<0.01	<0.2	0.03	<0.02	0.05	100	<0.05	1.43	76	<0.5

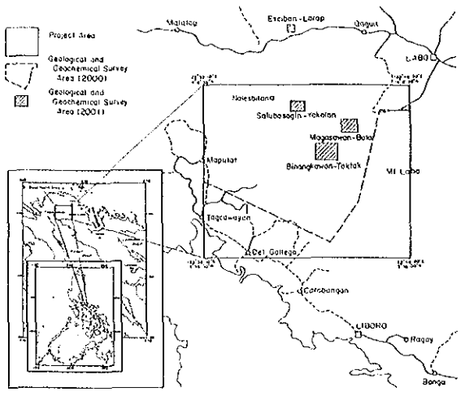
PL-1

MINERAL EXPLORATION OF BICOL NORTH AREA, PHILIPPINES PHASE II

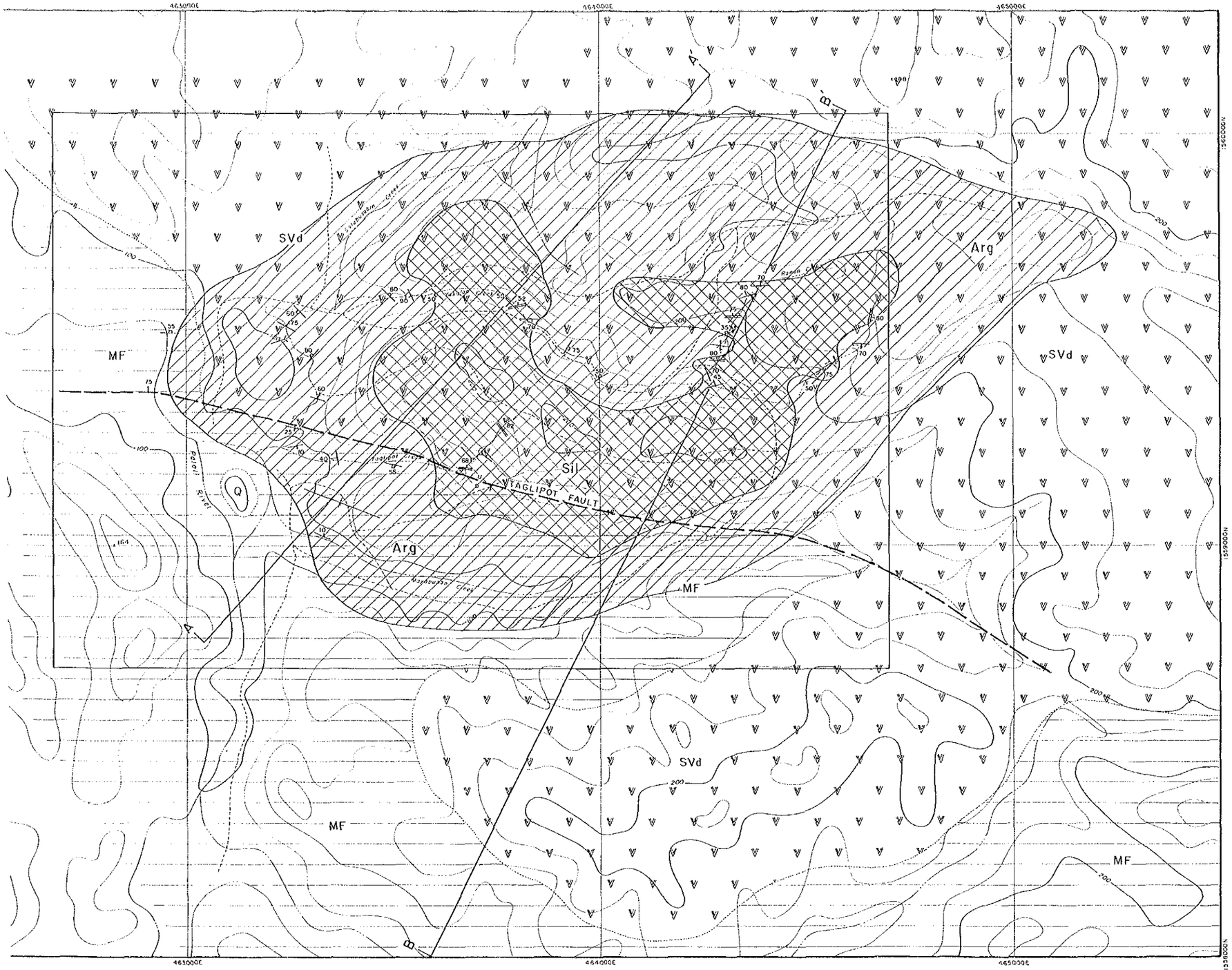
Geologic Map of the Salubosogin-Yakalan area

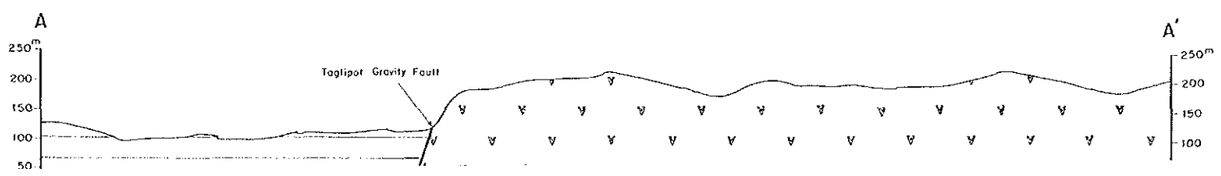
Scale 1 : 5,000

0 50 100 200 300 400 500m



JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN
Mar. 2002





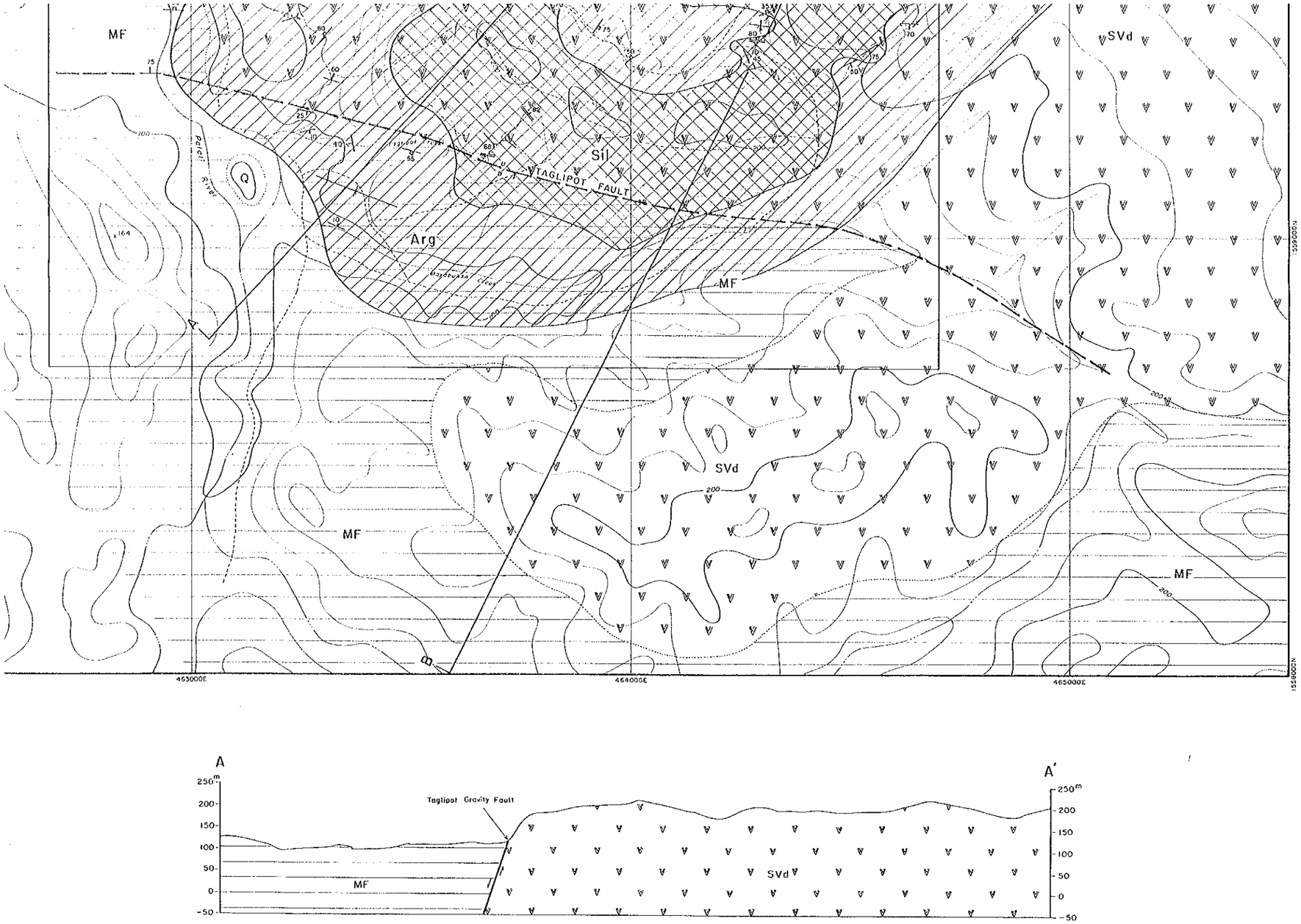
LEGEND

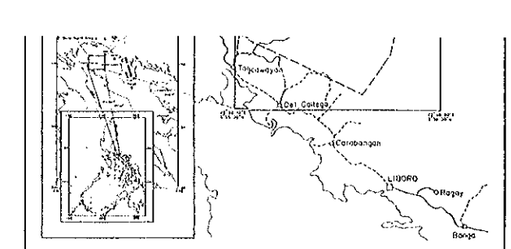
QUATERNARY	Alluvium	Sand and gravel	
	Lobo Volcanics	Pyroclastic flow	
		Andesitic and dacitic lava	
		Andesitic and dacitic pyroclastics	
		Andesitic and dacitic plug dome	
TERTIARY Pliocene	Susungdalaga Volcanics	Dacitic lava	
		Dacitic tuff and pyroclastics	
		Dacitic plug dome	
	Macagon F.	Andesitic pyroclastics and tuffaceous black shale with minor basaltic flow	
Miocene	Sta Elena F.	Conglomerate, sandstion, shale and minor limestone	
	Bosigon F.	Basaltic flows, volcanic wackes, tuff breccia, chert and limestone	
		Conglomerate, sandstion, black calcareous shale and limestone	
Pliocene?	Universal F	Limestone, marl and calcareous shale	
CRETACEOUS	Tigbinan F	Gray-wacke, siltite, chert, andesite, cherty limestone, black tuffaceous shale and arkosic sandstone	
PRE-CRET.	Schists	Green schist and quartzite	
Tamisan Diorite		Diorite and dacite porphyry	
Paracale Granodiorite		Granitic granodiorite	
Ultramafic Complex		Peridotite, gabbro and epidiorite	

- Fault
- Thrust
- Syncline
- Anticline
- Geologic contact
- Bedding
- Fault
- Vein or veinlet
- Joint
- Adit
- Profile

Alteration zone

- Arg : Argillization
- Chl : Chloritization
- Sil : Silicification
- Prop : Propylitization





JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN

Mar. 2002

LEGEND

QUATERNARY
- Alluvium — Q — Sand and gravel
- Lobo Volcanics — QLVd — Pyroclastic flow
- QLVl — Andesitic and dacitic lava
- QLVv — Andesitic and dacitic pyroclastics
- QLVd — Andesitic and dacitic plug dome

TERTIARY
Pliocene
- Susungdalaga Volcanics — PSVv-l — Dacitic lava
- PSVv-p — Dacitic tuff and pyroclastics
- PSVd — Dacitic plug dome
- Macagon F. — MF — Andesitic pyroclastics and tuffaceous black shale with minor basaltic flow
- Sta. Elena F. — PSEF — Conglomerate, sandstone, shale and minor limestone

Miocene
- Bosigon F. — MBF — Dacitic flows, volcanic wackes, tuff breccia, chert and limestone
- MBFc — Conglomerate, sandstone, black calcareous shale and limestone

Paleogene?
- Universal F. — PUL — Limestone, marl and calcareous shale

CRETACEOUS
- Tigbinan F. — KTF — Graywacke, spilite, chert, andesite, cherty limestone, black tuffaceous shale and arkosic sandstone

PRE-CRET.
- Schists — PSC — Green schist and quartzite

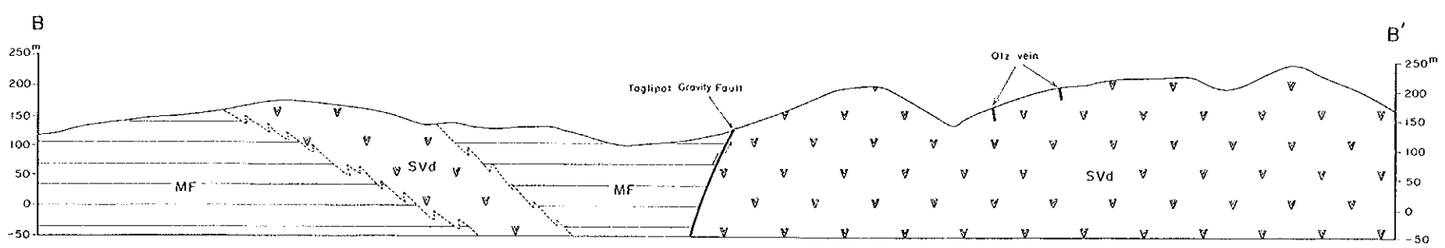
Tomisan Diorite — TD — Diorite and dacite porphyry

Paracale Granodiorite — PG — Gneissic granodiorite

Ultramafic Complex — UC — Peridotite, gabbro and epidiorite

- Fault
- Thrust
- Syncline
- Anticline
- Geologic contact
- Bedding
- Fault
- Vein or veinlet
- Joint
- Adit
- A A' Profile

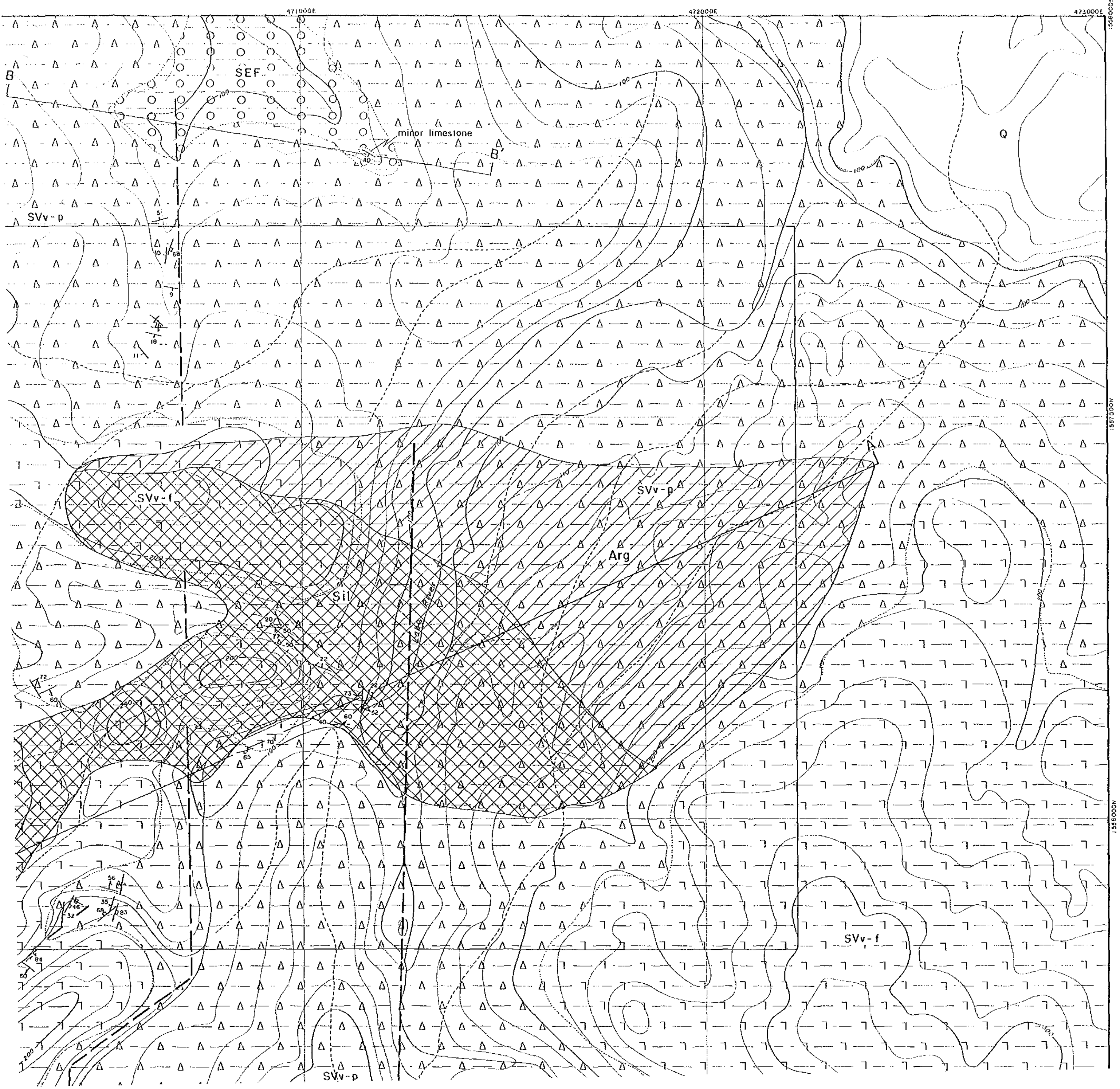
Alteration zone
- Arg : Argillization
- Chl : Chloritization
- Sil : Silicification
- Prop : Propylitization



Scale 1 : 5,000

0 100 200 300 400 500 1,000m

469000E
470000E
471000E
472000E
473000E
1558000N
1557000N
1556000N
SEF
B
B'
minor limestone
SVv-p
Q
SVv-f
Sil
Arg
A
A'



PL-2

MINERAL EXPLORATION
OF
BICOL NORTH AREA, PHILIPPINES
PHASE III

Geologic Map of the Magasawan-Bato area

Scale 1 : 5,000

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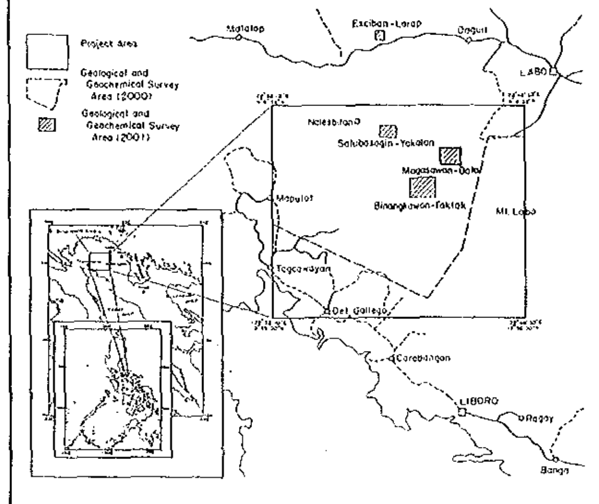


JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN

Mar. 2002

LEGEND

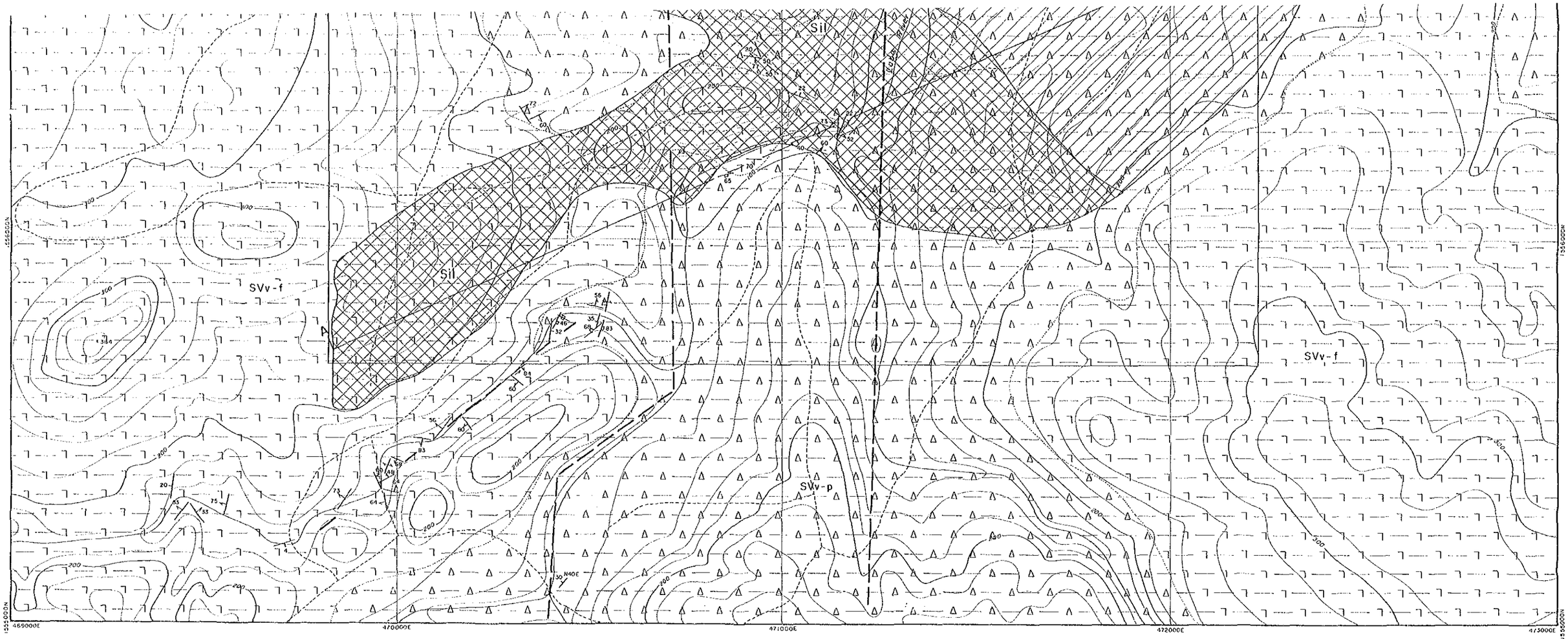
QUATERNARY	Alluvium	Q	Sand and gravel	
	Labo Volcanics	LVp	Pyroclastic flow	
		LVf	Andesitic and dacitic lava	
		LVv	Andesitic and dacitic pyroclastics	
		LVd	Andesitic and dacitic plug dome	
TERTIARY Pliocene	Susungdalaga Volcanics	SVv-f	Dacitic lava	
		SVv-p	Dacitic tuff and pyroclastics	
		SVd	Dacitic plug dome	
	Macagon F.	MF	Andesitic pyroclastics and tuffaceous black shale with minor basaltic flow	
	Sta. Elena F.	SEF	Conglomerate, sandston, shale and minor limestone	Tamisan Diorite — TD — Diorite and dacite porphyry
Miocene	Basigon F.	BF	Basaltic flows, volcanic wackes, tuff breccia, chert and limestone	
		BFs	Conglomerate, sandston, black calcareous shale and limestone	Paracale Granodiorite — PG — Gneissic granodiorite
Paleogene	Universal F.	UF	Limestone, marl and calcreous shale	
CRETACEOUS	Tigbinan F.	TF	Graywacke, spilite, chert, andesite, cherty limestone, black tuffaceous shale and arkosic sandstone	Ultramafic Complex — UC — Peridotite, gabbro and epidiorite
PRE-CRET.	Schists	SC	Green schist and quartzite	

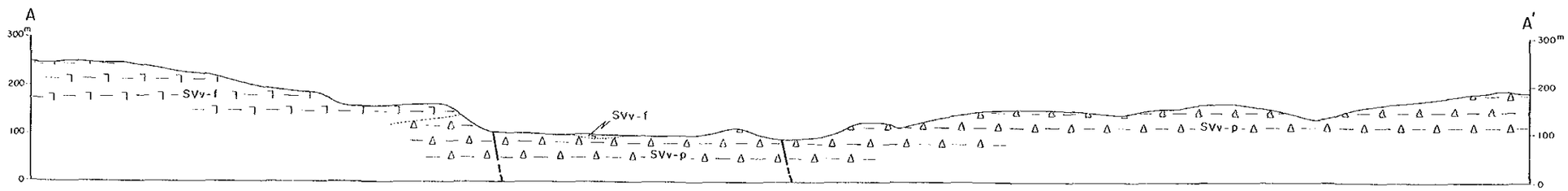
Fault
Thrust
Syncline
Anticline

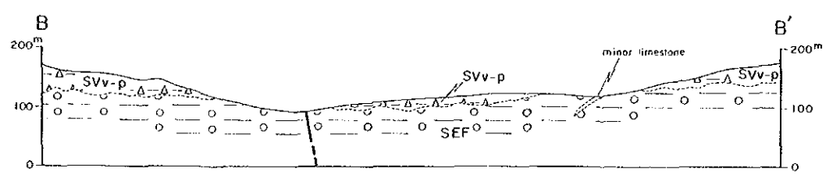
Geologic contact
Bedding
Fault
Vein or veinlet
Joint
Adit
Profile

Alteration zone

Arg : Argillization
Chl : Chloritization







Scale 1 : 5,000

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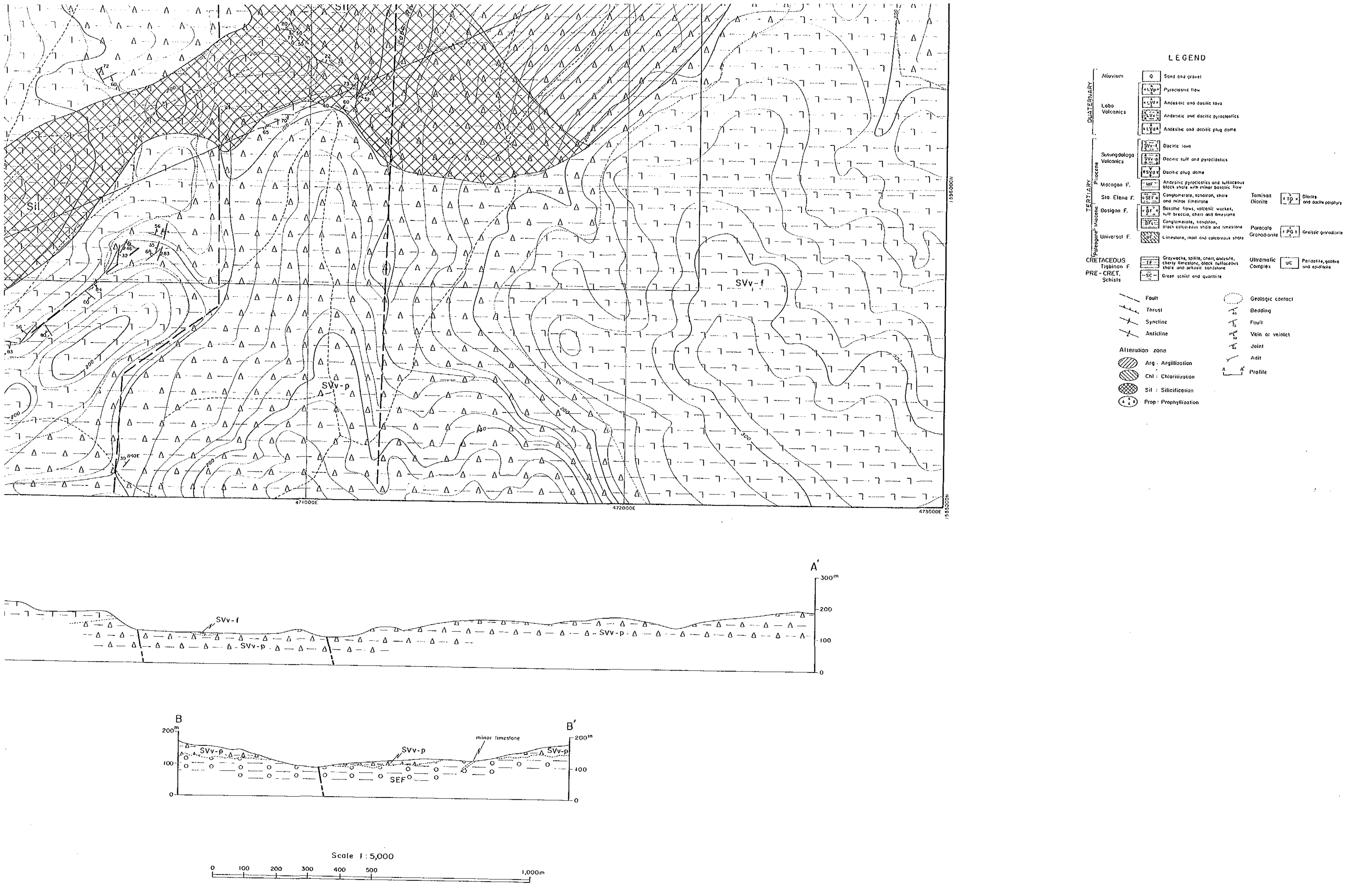
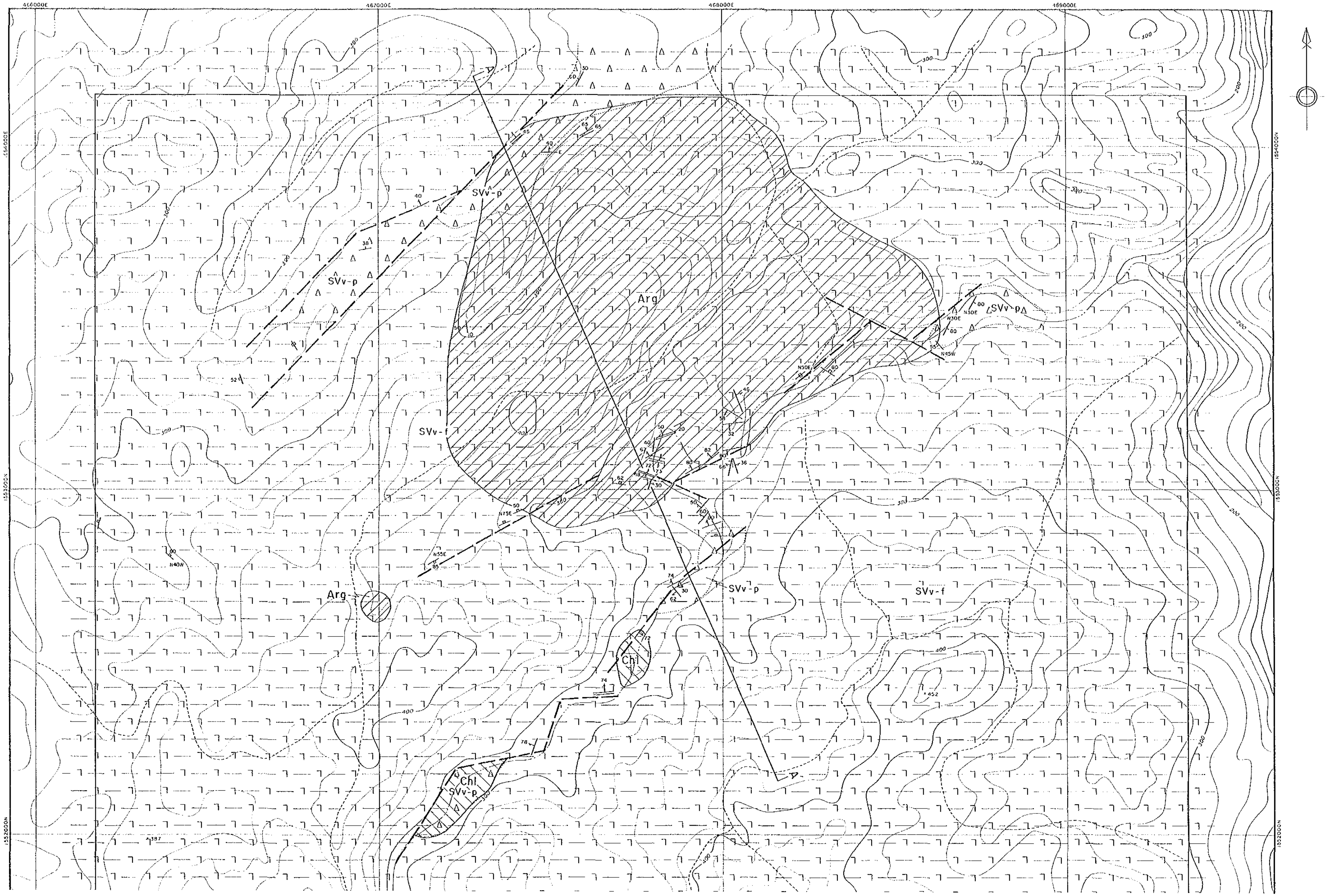

Sil
SVv-p
SVv-f
471000E
472000E
473000E
1555000N
1556000N
LEGEND
QUATERNARY
Alluvium
Q
Sand and gravel
Lobo Volcanics
LVp
Pyroclastic flow
LVf
Andesitic and dacitic lava
LVv
Andesitic and dacitic pyroclastics
LVd
Andesitic and dacitic plug dome
TERTIARY
Pliocene
Susungdalaga Volcanics
SVv-f
Dacitic lava
SVv-p
Dacitic tuff and pyroclastics
SVd
Dacitic plug dome
Macogon F.
MF
Andesitic pyroclastics and tuffaceous black shale with minor basaltic flow
Sta. Elena F.
SEF
Conglomerate, sandstone, shale and minor limestone
Miocene
Basigan F.
BF
Basaltic flows, volcanic wackes, tuff breccia, chert and limestone
BFs
Conglomerate, sandstone, black calcareous shale and limestone
Paleogene
Universal F.
UF
Limestone, marl and calcareous shale
Tamisan Diorite
TD
Diorite and dacite porphyry
Paracale Granodiorite
PG
Gneissic granodiorite
CRETACEOUS
Tigbinan F.
TF
Graywacke, spilite, chert, andesite, cherty limestone, black tuffaceous shale and arkosic sandstone
Ultramafic Complex
UC
Peridotite, gabbro and epidiorite
PRE-CRET.
Schists
SC
Green schist and quartzite
Fault
Thrust
Syncline
Anticline
Geologic contact
Bedding
Fault
Vein or veinlet
Joint
Adit
Profile
Alteration zone
Arg : Argillization
Chl : Chloritization
Sil : Silicification
Prop : Prophyllization
A′
300m
200
100
0
SVv-f
SVv-p
B
B′
200m
100
0
SVv-p
SEF
minor limestone
Scale 1 : 5,000
0
100
200
300
400
500
1,000m

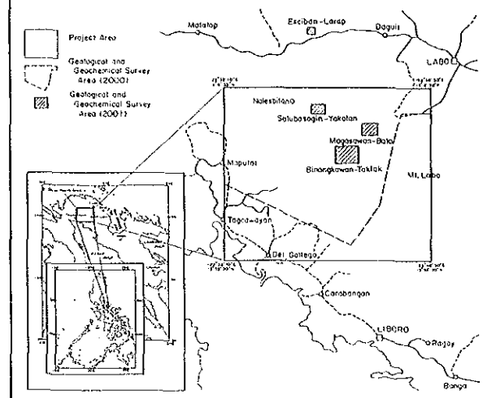

466000E
467000E
468000E
469000E
1554000N
1553000N
1552000N
SVv-p
SVv-p
Arg
SVv-f
SVv-p
Arg
SVv-p
SVv-f
Chl
Chl
SVv-p
N30E
N45W
N55E
N40W
300
200
400

MINERAL EXPLORATION OF BICOL NORTH AREA, PHILIPPINES PHASE III

Geologic Map of the Binangkawan - Taktak area

Scale 1 : 5,000

0 50 100 200 300 400 500m



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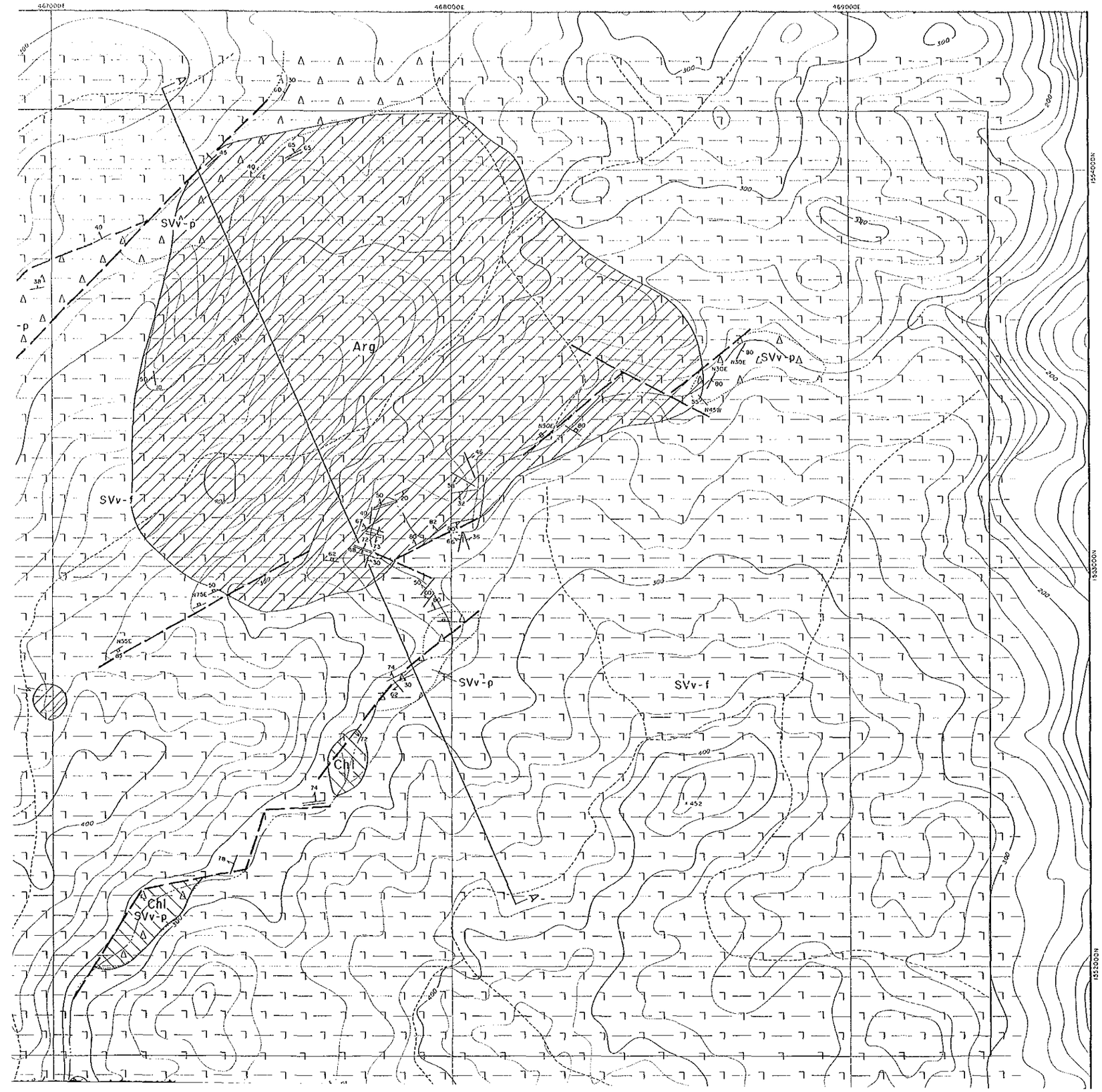
METAL MINING AGENCY OF JAPAN
Mar. 2002



LEGEND

- QUATERNARY
  - Alluvium — Sand and gravel
  - Labo Volcanics — Pyroclastic flow
  - Andesitic and dacitic lava
  - Andesitic and dacitic pyroclastics
  - Andesitic and dacitic plug dome
- TERTIARY
  - Pliocene
    - Susungdalaga Volcanics — Dacitic lava
    - Dacitic tuff and pyroclastics
    - Dacitic plug dome
    - Macagon F. — Andesitic pyroclastics and tuffaceous black shale with minor basaltic flow
    - Sto. Elena F. — Conglomerate, sandstone, shale and minor limestone
  - Miocene
    - Basigon F. — Basaltic flows, volcanic wacke, tuff breccia, chert and limestone
    - Conglomerate, sandstone, black calcareous shale and limestone
  - Paleogene?
    - Universal F. — Limestone, marl and calcareous shale
- CRETACEOUS
  - Tigbinan F. — Graywacke, spilite, chert, andesite, cherty limestone, black tuffaceous shale and arkosic sandstone
- PRE-CRET.
  - Schists — Green schist and quartzite

Tamison Diorite — Diorite and dacite porphyry

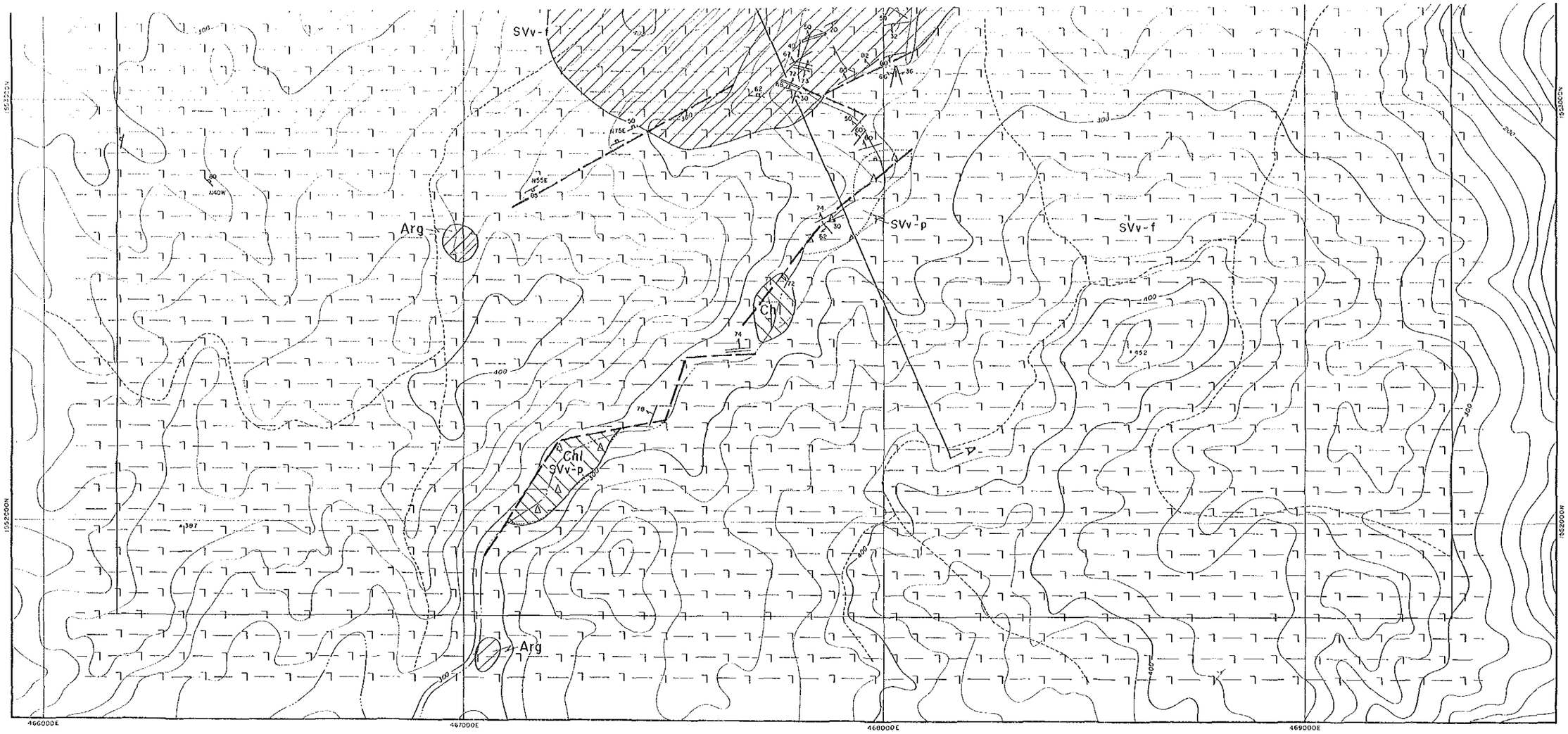
Paracale Granodiorite — Gneissic granodiorite

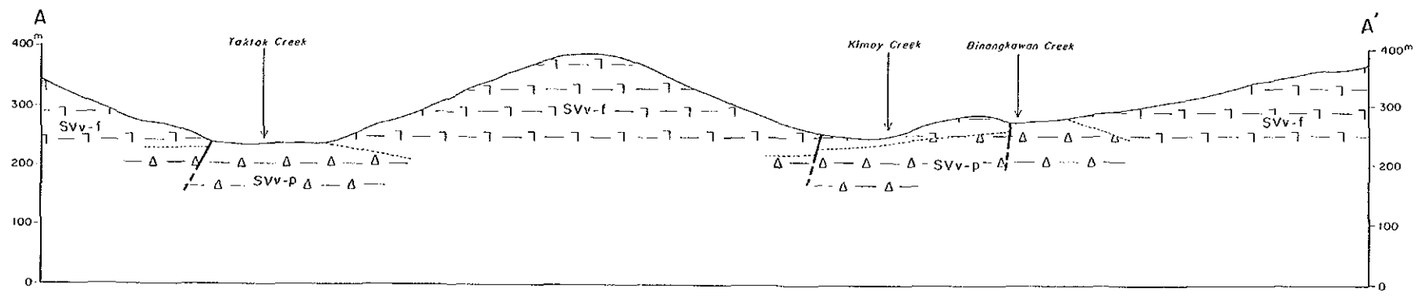
Ultramafic Complex — Peridotite, gabbro and epidiorite

- Fault
- Thrust
- Syncline
- Anticline
- Geologic contact
- Bedding
- Fault
- Vein or veinlet
- Joint
- Adit
- Profile

Alteration zone

- Arg : Argillization
- Chl : Chloritization
- Sil : Silicification
- Prop : Propylitization



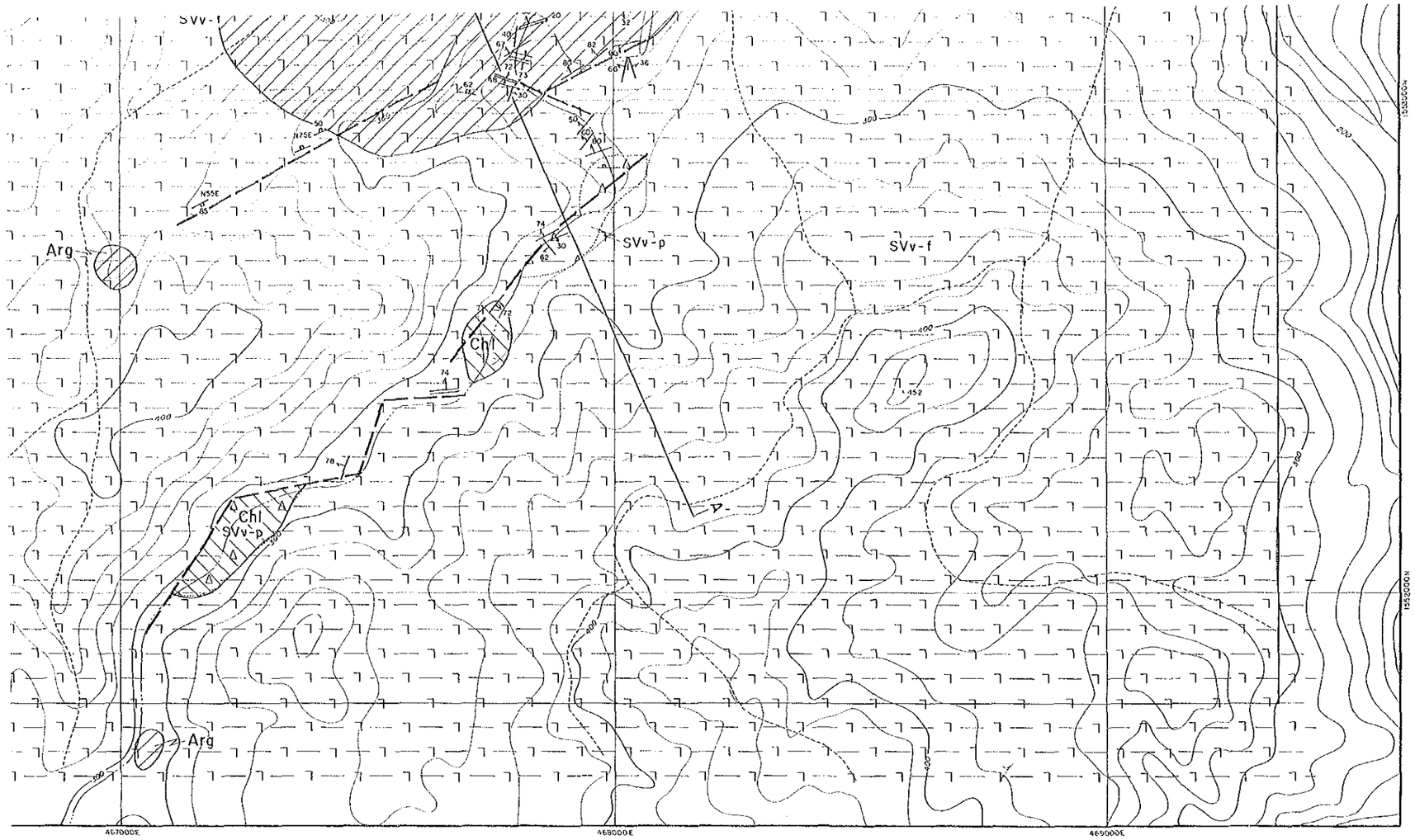


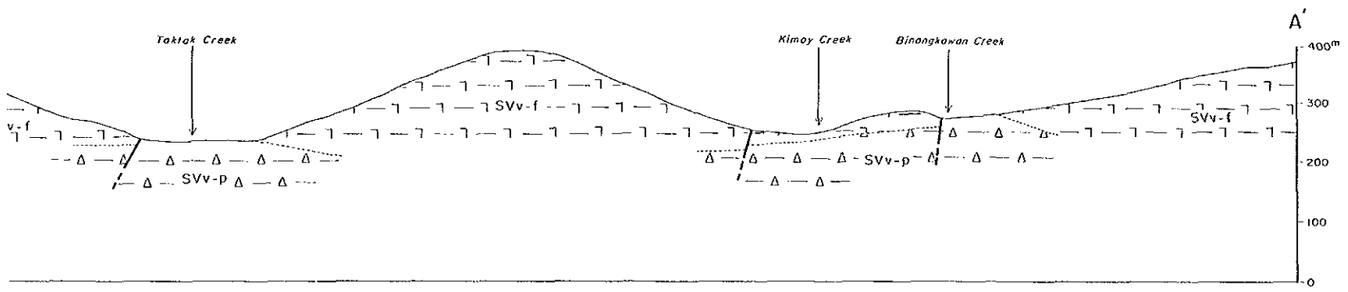
Scale 1:5,000

0 100 200 300 400 500 1,000m

JAPAN INTERNATIONAL COOPERATION AGENCY
METAL MINING AGENCY OF JAPAN

Mar. 2002





Scale 1 : 5,000

0 100 200 300 400 500 1,000m

LEGEND

- QUATERNARY
  - Alluvium — Q — Sand and gravel
  - Lobo Volcanics — LVpA — Pyroclastic flow
  - LVlA — Andesitic and dacitic lava
  - LVfA — Andesitic and dacitic pyroclastics
  - LVgA — Andesitic and dacitic plug dome
  - Susungdalaga Volcanics — SVv-l — Dacitic lava
  - SVv-p — Dacitic tuff and pyroclastics
  - SVdy — Dacitic plug dome
- TERTIARY
  - Pliocene — Macagon F. — MF — Andesitic pyroclastics and tuffaceous black shale with minor basaltic flow
  - Pliocene/Miocene — Sta. Elena F. — SEF — Conglomerate, sandstone, shale and minor limestone
  - Miocene — Bosigon F. — BF — Basaltic flows, volcanic wackes, tuff breccia, chert and limestone
  - BFs — Conglomerate, sandstone, black calcareous shale and limestone
  - Miocene/Oligocene — Universal F. — UL — Limestone, marl and calcareous shale
  - Tonisan Diorite — TO — Diorite and dacite porphyry
  - Paracale Granodiorite — PG — Gneissic granodiorite
- CRETACEOUS — Tigbinan F. — TF — Graywacke, tuffite, chert, andesite, cherty limestone, black tuffaceous shale and arkosic sandstone
- PRE-CRET. Schists — SC — Green schist and quartzite
- Ultramafic Complex — UC — Peridotite, gabbro and epidiorite

- Fault
- Thrust
- Syncline
- Anticline
- Geologic contact
- Bedding
- Fault
- Vein or veinlet
- Joint
- Adit
- A — A' Profile

Alteration zone

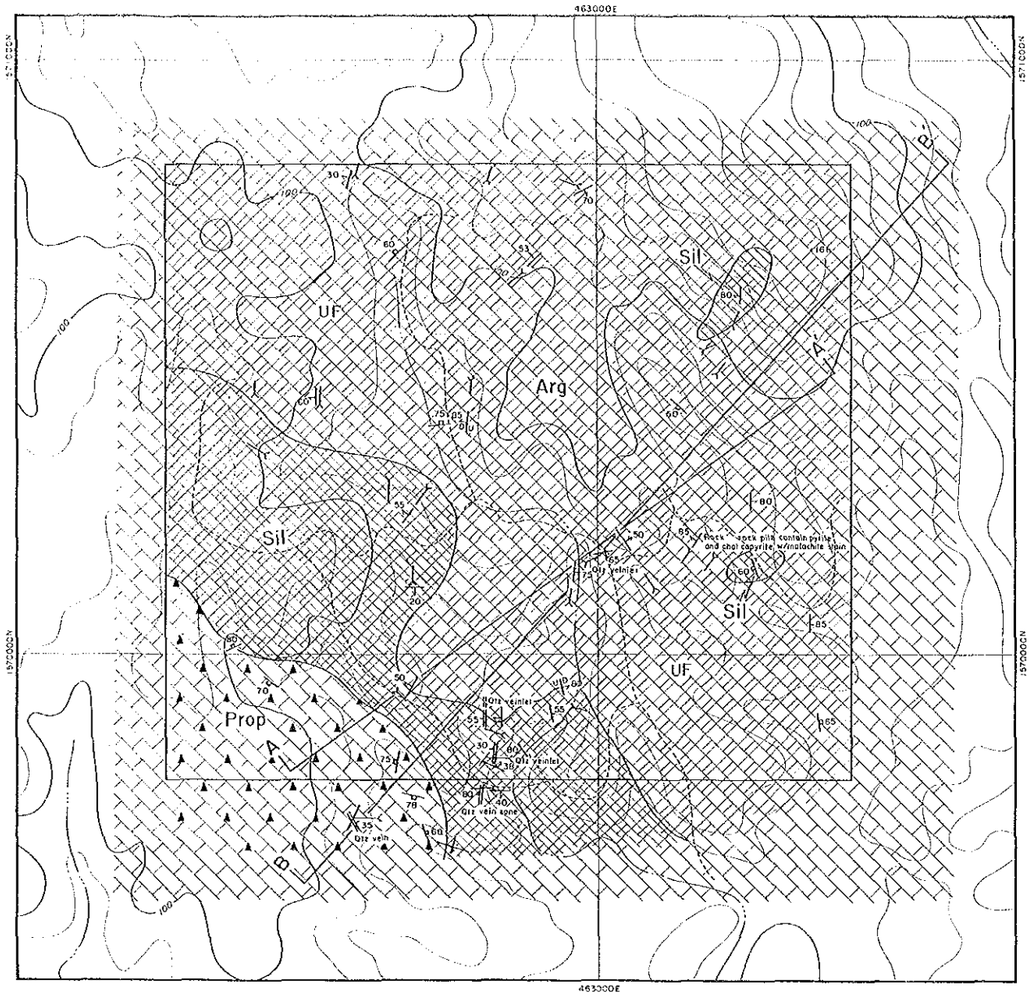
- Arg : Argillization
- Chl : Chloritization
- Sil : Silicification
- Prop : Prophyllization

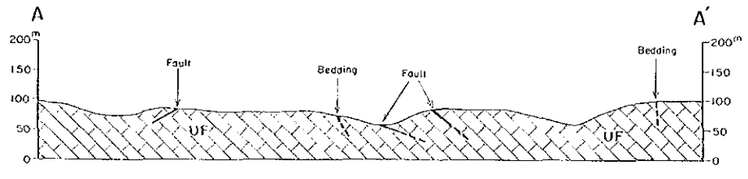
MINERAL EXPLORATION OF BICOL NORTH AREA, PHILIPPINES PHASE III

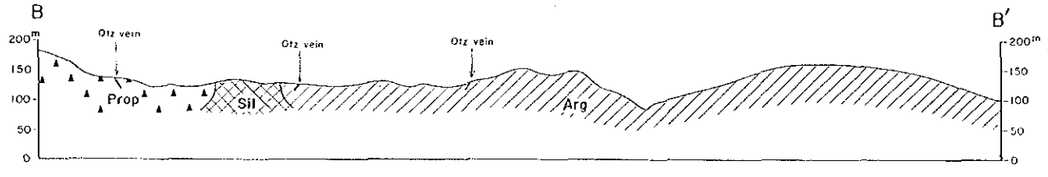
Geologic Map of the Exciban - Larap area

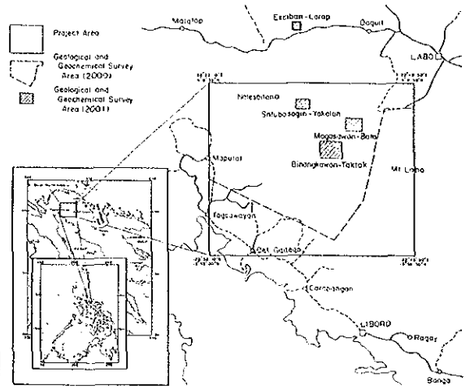
Scale 1 : 5,000

0 50 100 200 300 400 500m









JAPAN INTERNATIONAL COOPERATION AGENCY
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LEGEND

QUATERNARY
- Alluvium — Q — Sand and gravel
- Labo Volcanics — QLVp — Pyroclastic flow
- QLVa — Andesitic and dacitic lava
- QLVv — Andesitic and dacitic pyroclastics
- QLVda — Andesitic and dacitic plug dome

TERTIARY
Pliocene
- Susungdalaga Volcanics — SVv-l — Dacitic lava
- SVv-p — Dacitic tuff and pyroclastics
- SVd — Dacitic plug dome
- Macagon F. — MF — Andesitic pyroclastics and tuffaceous black shale with minor basaltic flow
- Sta. Elena F. — SEF — Conglomerate, sandstone, shale and minor limestone

Miocene
- Bosigon F. — BF — Basaltic flows, volcanic wacke, tuff breccia, chert and limestone
- BFc — Conglomerate, sandstone, black calcareous shale and limestone
- Universal F. — UF — Limestone, marl and calcareous shale

Paleogene
- CRETACEOUS Tigbinan F. — TF — Graywacke, spilite, chert, andesite, cherty limestone, black tuffaceous shale and grayish sandstone
- PRE-CRET. Schists — SC — Green schist and quartzite

Tamisan Diorite — TD — Diorite and dacite porphyry

Paracale Granodiorite — PG — Gneissic granodiorite

Ultramafic Complex — UC — Peridotite, gabbro and epidiorite

- Fault
- Thrust
- Syncline
- Anticline
- Geologic contact
- Bedding
- Fault
- Vein or veinlet
- Joint
- Adit
- Profile

Alteration zone
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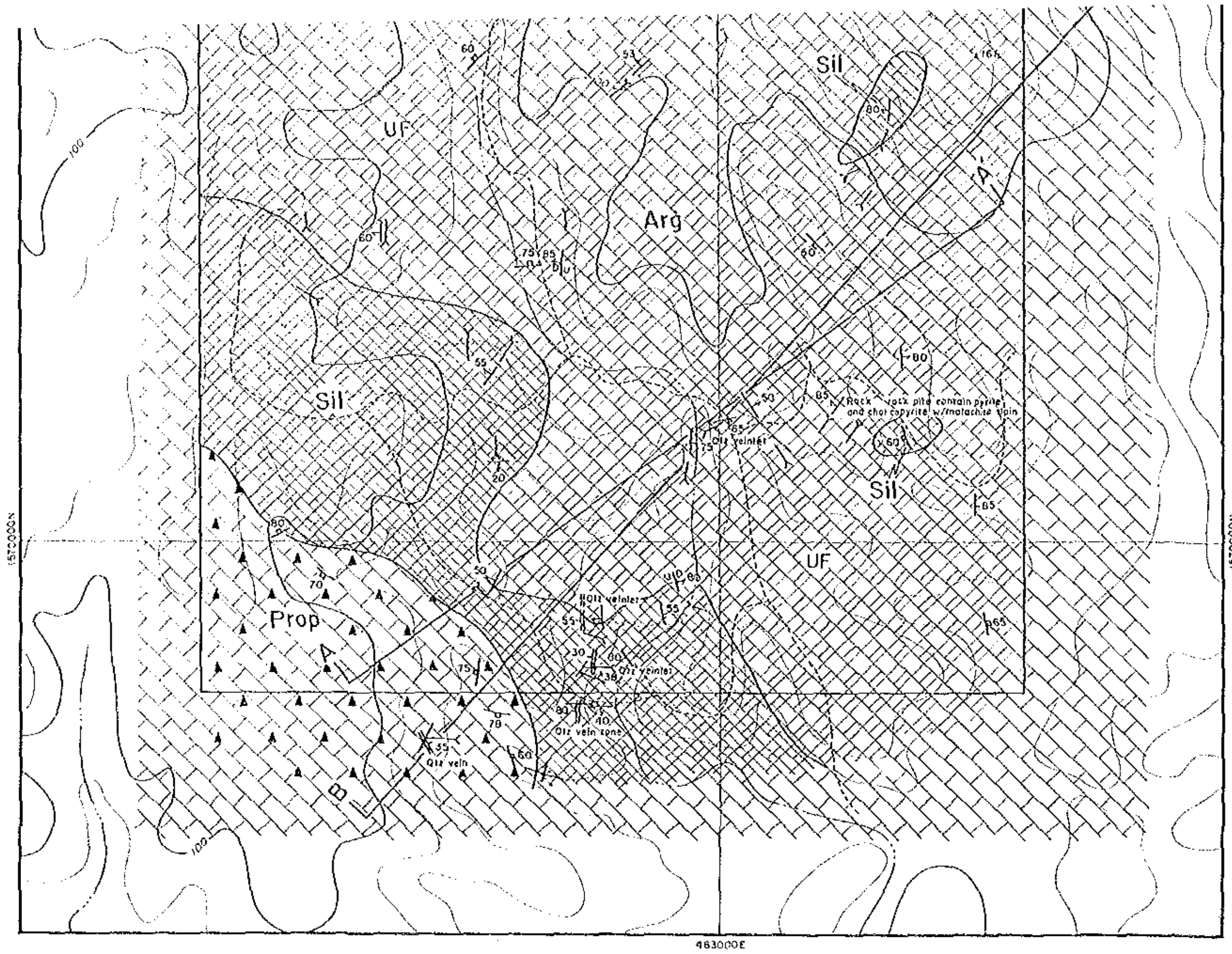
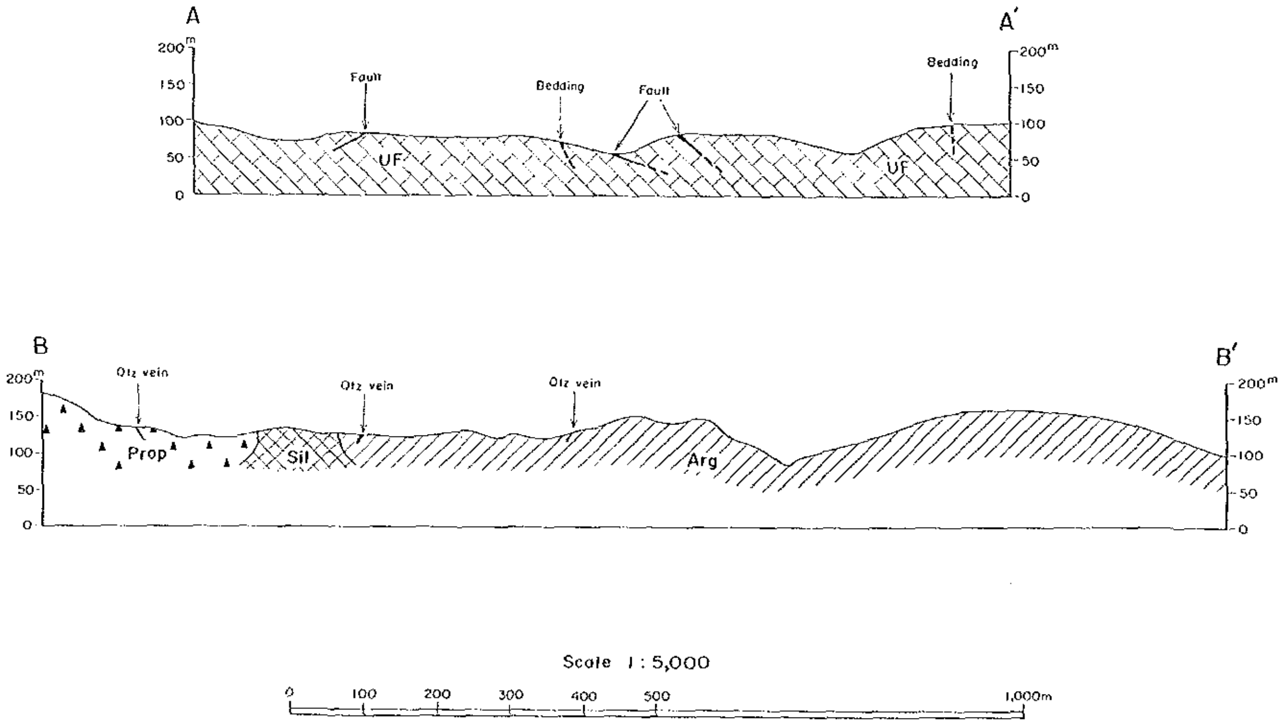
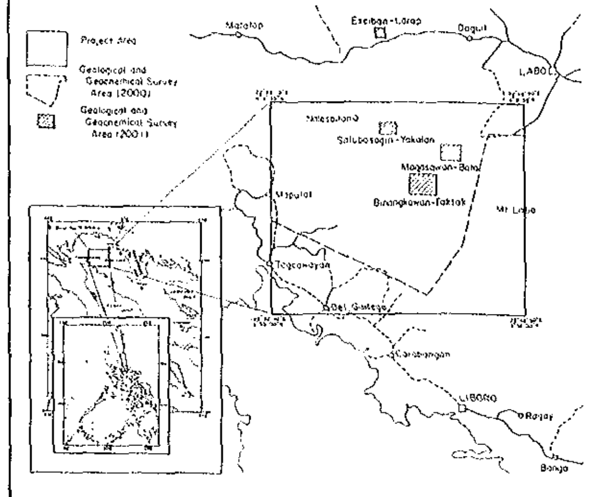
- Chl : Chloritization
- Sil : Silicification







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