Appendix

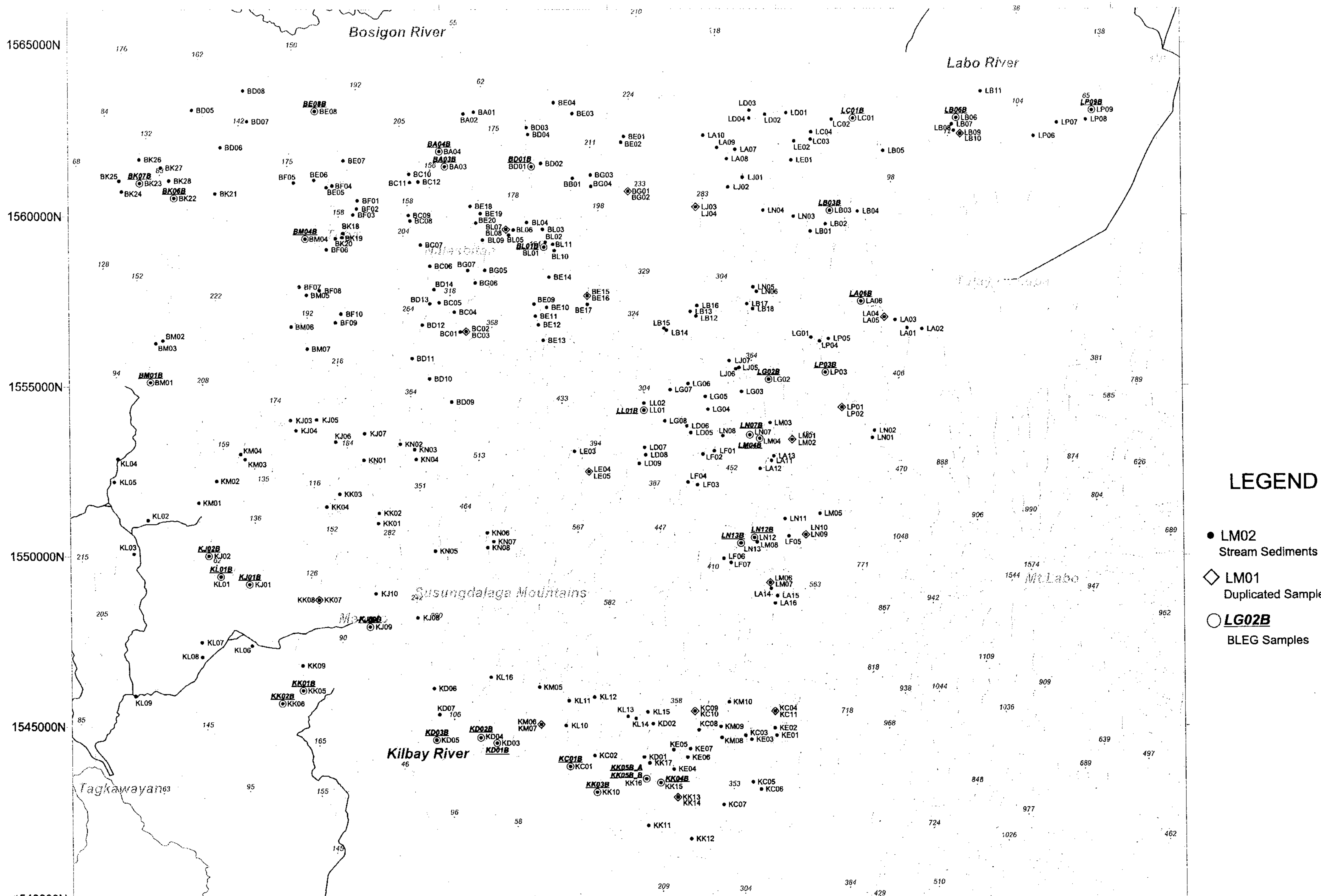
Scale 1:100,000

LEGEND

- Outcrop Sample
- Float Sample

(A) Ore Analysis
(X) X-ray
(T) Thin Section
(P) Polished Thin Section
(B) Whole Rock
(F) Fluid Inclusion
(K) K-Ar Dating

Appendix 1 Location Map of Rock Samples



Appendix 2 Location Map of the Stream Sediments Samples and the BLEG Samples

Appendix 3 Microscopic Observation of Rock Thin Section

No.	Area	Sample No.	Coordination		Locality	Rock Type	Texture	Rock forming minerals																Alteration minerals								Remarks
								phenocryst								groundmass																
			E-UTM	N-UTM				Qz	Or	Pl	Bi	Ho	Ol	Au	Hy	Qz	Or	Pl	Ho	Au	Hy	G	Fe	Mon	Ch	Se	Ka	Ep	Ca	Qz	Al	
1	Bosigon River	BC01	460733	1556677	2.5km south of Nalesbitan	dk gn propy glsy 2px and	intergranular							○	○			◎		○	○				△							
2		BC05	459904	1557503	1.5km south of Nalesbitan	dk gy-bk propy px basaltic and	intergranular			○			·	○	○			◎		○	○				△				·			
3		BD03	460097	1554773	4km south of Nalesbitan	gy fresh m-grained bt-hb dac	hyalo, porphy	△		◎	○					△		◎				○										
4		BE02	461422	1557485	1.5km south of Nalesbitan	gy (lithic rich) glsy and	intersertal			△								◎		○	○				○							Float
5		BE04	462711	1557072	3km southeast of Nalesbitan	gy c bt bearing dac	intergra, porphy			◎				○	○			◎		○	○				○							
6		BE05	463033	1556343	4km southeast of Nalesbitan	gy c grained bt bearing dac	hyalo, porphy			◎	○	△		○	○			◎		○	○											Float
7		BE03	462711	1557072	3km southeast of Nalesbitan	gy fresh f-grained hb(max5mm) dac	hyalo, porphy	△		◎						△		○														Float
8		BF02	457055	1560273	Tuba alteration zone	lt gn mid arg and	intergranular	·								○									◎				○			
9		BL01	462015	1559629	Macogon F.	slightly weathered gy bt porp dac	intergra, porphy	·		◎	○	○		△	△	○		○														
10		BL06	461111	1559290	Nalesbitan	dk gy glsy and	intergranular	△		◎						△		◎							○	○			○			
11		BM01	451486	1555404	Paracale granite	epidote rich m-grain granodiorite	granitic	◎	○	◎															△			○				
12		BM03	455896	1557358	2km south of Tuba	dk green 2 px andesite	intergranular							○	○	△		◎		△	△				◎	○			○			
13		BM05	455683	1557148	3km south of Tuba	dk gy glsy lava (silicified+py) aphanitic in conglo	intersertal							○	○			◎		△	△											
14		BA01	460310	1562069	Macogon F.	dacitic tuff	clastic	△		○						◎		△						○					○			
15	Kilbay River	KJ01	455636	1553897	Katakian alteration zone	dk grn py diss skarnized, Mt rich rk	granular																		◎			◎		○		
16		KJ04	456480	1554032	Katakian alteration zone	slightly sheared chloritized mid-gr granite	granitic	◎	◎	◎															·	△						
17		KJ10	459296	1548168	Near Baliwag alteration zone	lt gy fresh bt<hb dacite	hyalo, porphy			◎	△			○	○	○		○														
18		KJ11	457942	1547679	Near Baliwag alteration zone	gy fresh bt dacite, rich in lithic 3-4cm	hyalo, porphy	·		◎	○			·	·	△		○														
19		KK04	458006	1551726	South of Katakian alteration zone	porp and	intergranular			◎				○	○			○		△	△											
20		KK07	464478	1543059	South of Kilbay river	fresh bt dac	hyalo-ophitic			◎	△			○	○	△		○														
21		KL01A	463739	1544470	float(Layaton Malaki Creek)	2px basalt	intergranular			·		○		○	○			◎		·	·				△				○			Float
22		KL10	463869	1545372	Layaton Malaki alteration zone	mid sil pl-arg pl porp and	porphy									◎		·		·	·			○	○							
23		KL15	465488	1545074	Layaton Mallit alteration zone	bt bearing propy lithic rich dac, pl porp	intergra, porphy			◎	○				·	◎		△							△							
24		KL20	461205	1545775	Susungdalaga F.(Kampusta)	bt dac	interser, porphy			◎	○	○		○	○							○	·									
25		KM04	462855	1546255	Maniknik akteration zone	alunitized dac (qtz porp)	porphy	○								◎														○	◎	
26		KM07	462963	1545186	Susungdalaga F.(Maniknik)	bt bearing dac	intergra, porphy			◎	○							○							△							
27		KM11	468449	1545362	Alawihaw alteration zone	gn propy dac (qtz 1-2mm)	porphy	○		△						◎						○			◎							
28		KN01	457696	1552845	South of Katakian alteration zone	gy fresh hb, pl porp dacite	intergranular			◎		·		△	△	◎									○				△			
29		KN02	457696	1552845	South of Katakian alteration zone	gy fresh hb, pl porp andesite	intergra, porphy			◎	△	△				◎									○				△			Float
30		KN06	459697	1550125	Upper stream of Tonton River	dk gy glsy pl porp and	intersertal	○		◎				·	·			◎		○	○		·									Float
31		KN07	459697	1550125	Upper stream of Tonton River	gy~purple andesite, flow tex	intergranular	○		◎	○	·		·	·			◎		○	○	△	·									Float
32	Labo River	LA01	468757	1561953	Bosigon F.	dk gn msv hb bearing basalt	intergranular			△		○		○	○			◎		○					△							
33		LA02	469659	1552697	Upper stream of Labo river(float)	gy pl porp(2-3cm) glsy and~dac(pl olive)	intergra, porphy	·		◎				·	·			◎		○	○		·									Float
34		LA06	469850	1548800	Uppermost of Labo river	lt purple~gy pl porp bt dac	intersertal	·		◎	△					○						△			○				○			
35		LE03	463922	1553083	Upper stream of Labo river	gy bt-hb pl porp dacite	interser, porphy	·		◎	○	○				○						△	·									
36		LE04	463922	1553083	Upper stream of Labo river	bk pl glsy and	intersertal			◎				·	·			○							○							
37		LF01	469407	1553707	Upper stream of Labo river	gy pl porp (1-2cm) dac	intersertal			◎				·	·			○				△			○							
38		LJ01	468582	1560825	Macogon F.	gn br slightly porous and	intergranular			◎				○	○			◎					·		○							
39		LJ02	467670	1560223	Macogon F.	gy gn slightly sil and	intergranular	·		○		△		△	△			◎					·									
40		LJ04	469838	1559920	Susungdalaga V?	tuffaceous siltstone	clastic																		◎				○			
41		LJ05	470513	1559811	Susungdalaga V?	purple stg sil and	hyalo, porphy	○		○						○						○										
42		LJ06	468799	1555425	Middle of Labo river	bk basaltic glsy and	intergranular							◎	◎			◎		△	△											Float
43		LL01	466075	1554459	Upper stream of Labo river	gy bt porp(0.5-1cm) glsy and	porphyritic	·		◎	△			·	·	○		○							○							
44		LN01-1	472828	1553668	North west of Mt. Labo	dk grn and	intergranular			△				◎	◎			◎		△	△				△							Float
45		LN01-2	472828	1553668	North west of Mt. Labo	lt gy bt-hb dac	hyalo-ophitic			◎	○	○						△				○										
46		LN02	470555	1560023	Bosigon F.	dk grn and	intergranular							◎	◎			◎		△	△											
47		LN04	469400	1560050	Susungdalaga V.	lt gy coarse bt-hb(3-4mm) andesite	interser, porphy	·		◎	○	○						○				○										
48		LP06	477589	1562215	South of Benit	gy f-grained granodiorite	granitic	◎	◎	◎		○																				

[Symbols] ◎ : abundant ○ : commom △ : small amount · : rare

[Texture] intergra : intergranular interser : intersertal porphy : porphyritic hyalo : hyalo-ophitic

Qz:Quartz Or:Orthoclase Pl:Plagioclase Bi:Biotite Ho:Hornblende Ol: Olivine Au:Augite Hy:Hypersthene G:Glass Fe:Fe-oxide Mon:Montmorillonite Ch:Chlorite Se:Sericite Ka:Kaolinite Ep:Epidote Ca:Calcite Al:Alunite

Appendix 4 Microscopic Observation of Polished Thin Section

No.	Sample No.	Coordination		Locality	Rock Type	Ore minerals														Alteration minerals								Remarks
		E-UTM	N-UTM			Bo	Cp	Th	En	Cc	Sp	Gn	Py	Mg	He	Ge	Co	Ag	El	Clay	Ch	Se	Ka	Ep	Ca	Al	Qz	
1	BC14(1)	460300	1559150	Nalesbitan ore deposit	Gossaneous rk, inside py-clay					△			◎		△												◎	Cc-He
2	BC14(2)	460300	1559150	Nalesbitan ore deposit	Gossaneous rk, inside py-clay		·			·			△		○	○											◎	Cp in Py
3	BC21	460375	1559108	Nalesbitan ore deposit	brecciated msv py ore					○			◎														○	
4	BC22	460375	1559108	Nalesbitan ore deposit	QV with py-cpy(cov) ore	△	△	·	·	△			○		△		·										◎	Cp-Py, Bo-Cc-He
5	BC23	460563	1558984	Nalesbitan ore deposit	QV with py-cpy(cov) ore	△	·		·	△			△		△												◎	
6	BD08	460408	1558987	Nalesbitan ore deposit	sil vein with py (vuggy sil)										○	○											◎	
7	BD09	460910	1558991	Nalesbitan ore deposit	stg sil veinlets with py								·				△			○							◎	
8	BD10	460952	1559011	Nalesbitan ore deposit	qtz-bornite-brochantite veinlets with visible gold	○		△	△	◎			△				○										◎	
9	BF04	456574	1559799	Tuba alteration zone	gy stg sil with QV3cm, halo rich in py		·						○							○							◎	Float
10	BK13	456671	1560046	Tuba alteration zone	py rich sil vein in py diss pale grn stg arg and								○							◎		·					◎	fine Py
11	BK14	457112	1559489	Tuba alteration zone	qz veinlets(max 10cm+) with lt gn clay								○	·					·	◎		△					◎	El in Py
12	KC02-1	469547	1545525	Mansalipak alteration zone	stg sil rk with qtz vein								△							○		·					◎	
13	KC02-2	469547	1545525	Mansalipak alteration zone	banded py vein								◎			△				△							△	Ge→Py
14	KC13	467340	1545576	Katigbigan alteration zone	stg sil rk with py diss, qtz in vug								△							○							◎	Fe-Ti-Oxide: △
15	KE05	467407	1544484	Kiblay river(float)	sil rk with py vein		·				·		△							△							◎	Float
16	KE06	467303	1544352	Kiblay river(float)	py>cpy-qtz-clay vein		△	·			·		○					·		○							◎	Float
17	KK12	467310	1541704	South of Kilbay area	stg sil rk with py								△							○							◎	
18	KL12	463943	1545615	Layaton Malaki alteration zone	stg sil rk (msv) with py								△														◎	Fe-Ti-Oxide: △
19	KL13	463943	1545615	Layaton Malaki alteration zone	stg sil rk with py, rich in alunite								○			△				○						○	◎	
20	KL22	461171	1545978	Kampusta alteration zone	olive gn pl porp and								○							◎			?					
21	KL23	461479	1546657	Kampusta alteration zone	sil-py vein in clay								○							○				·			◎	
22	KL24	461552	1546768	Kampusta alteration zone	py diss stg sil rk msc, rich in alunite	·	·						○			△										○	◎	
23	KM03	462843	1546025	Maniknik alteration zone	msc sil rl with enargite				○	△			·														◎	
24	KM15	468328	1545627	Alawihaw alteration zone	sil vein with banded py						·	△	○							○		△					◎	
25	LA03	469756	1552802	Upper stream of Labo river(float)	bk stg welded tuff(obsidian, opalin silica+py)								○			○											△	Float, Glass:◎
26	LB03	467503	1557231	west of Labo river	stg amorpous sil and with py diss								○											·			○	Glass:○
27	LD05	467293	1553854	Taktak alteration zone	dk gy silicified tuff+py diss								○							△							◎	Glass:△
28	LN05	469226	1553645	Junction between Labo and Binagkawan	QV w3-4cm in stg sil rk with py								○							○							◎	
29	LP08	477599	1562711	Near Benit alteration zone(float)	msv magnetite float									◎	○	△											△	Float
30	LP09	476751	1563454	Benit alteration zone	Green Cu, with 2cm QV		△			·			△			○	◎										◎	
31	LP10	476751	1563358	Benit alteration zone	limo color sil rk, Cu-ox					△					○	○	○	·	△								◎	

[Symbols] ◎ : abundant ○ : commom △ : small amount · : rare

Bo:Bornite Cp:Chalcopyrite Th:Tetrahedrite En:Enargite Cc:Chalcocite Sp:Sphalerite Gn:Galena Py:Pyrite Mg:Magnetie He:Hematite Ge:Goethite Co:Cu-oxide Ag:Ag-minerals El:Electrum

Clay:Clay minerals Ch:Chlorite Se:Sericite Ka:Kaolinite Ep:Epidote Ca:Calcite Al:Alunite Qz:Quartz

Appendix 5 Whole Rock Analysis Data

Sample No.	BL06	KJ10	KK07	KL01A	KL20	KN01	KN06	KN07	LA01	LA02	LE03	LN04	LP06
Location	Nalesbitan	Baliwag	South Kilbay	Layaton	Kampusta	Katakian	Tonton	Tonton	Labo River	Labo River	Labo	Labo	Manit
Description	Andesite	Dacite	Dacite	Basalt	Dacite	Dacite	Andesite	Andesite	Basalt	Andesite	Dacite	Andesite	Granodiorite
SiO_2	53.67	60.16	60.07	48.32	61.57	61.01	53.37	58.48	51.71	55.18	61.21	57.5	61.55
TiO_2	0.71	0.45	0.47	0.99	0.45	0.43	0.57	0.52	0.80	0.57	0.39	0.51	0.45
Al_2O_3	16.53	16.82	16.79	14.46	17.91	16.61	16.64	17.22	16.41	16.51	16.63	18.23	17.00
Fe_2O_3	3.98	3.69	3.97	5.45	4.10	2.01	4.22	4.41	4.07	3.99	3.50	3.12	2.16
FeO	2.90	0.99	0.57	3.84	0.17	2.42	2.15	0.76	3.50	1.97	0.74	1.30	2.17
MnO	0.15	0.43	0.10	0.18	0.05	0.14	0.12	0.10	0.19	0.12	0.05	0.08	0.11
MgO	4.07	2.44	1.40	4.86	1.21	2.65	5.29	2.63	4.43	4.3	2.04	2.92	2.04
CaO	7.46	4.78	4.43	10.51	3.50	4.14	8.37	6.00	9.23	7.74	4.61	6.10	5.40
Na_2O	2.73	3.77	3.25	2.67	3.37	4.16	2.92	3.77	3.11	3.68	3.80	3.78	4.21
K_2O	1.51	3.02	2.48	1.14	2.51	2.07	1.15	2.33	2.70	1.88	1.98	1.03	2.43
P_2O_5	0.30	0.31	0.25	0.24	0.12	0.21	0.28	0.28	0.40	0.39	0.20	0.22	0.21
Total	94.01	96.86	93.78	92.66	94.96	95.85	95.08	96.50	96.55	96.33	95.15	94.79	97.73
LOI	4.66	1.70	5.02	5.18	3.65	2.61	3.71	1.74	1.90	1.76	3.29	3.41	0.89
CIPW.NORM													
Q	11.72	14.02	20.80	4.48	23.40	15.60	9.28	12.67	1.47	7.46	19.17	14.77	14.09
C	0.00	0.00	1.30	0.00	3.57	0.50	0.00	0.00	0.00	0.00	0.33	0.33	0.00
or	8.92	17.85	14.66	6.74	14.83	12.23	6.80	13.77	15.96	11.11	11.70	6.09	14.36
ab	23.10	31.90	27.50	22.59	28.52	35.20	24.71	31.90	26.32	31.14	32.15	31.99	35.62
an	28.39	20.05	20.34	24.10	16.58	19.17	28.90	23.18	22.84	22.98	21.56	28.83	20.31
di	4.77	1.27	0.00	19.10	0.00	0.00	8.40	3.70	13.83	10.02	0.00	0.00	3.18
hd	0.47	0.00	0.00	1.72	0.00	0.00	0.00	0.00	2.29	0.00	0.00	0.00	0.91
en	7.92	5.49	3.49	3.25	3.01	6.60	9.28	4.83	4.62	6.07	5.08	7.27	3.61
fs	0.89	0.00	0.00	0.34	0.00	2.33	0.00	0.00	0.88	0.00	0.00	0.00	1.18
mt	5.77	3.29	0.80	7.90	0.00	2.91	5.67	1.27	5.90	5.09	1.42	2.97	3.13
ht	0.00	1.42	3.42	0.00	4.10	0.00	0.31	3.53	0.00	0.48	2.52	1.07	0.00
il	1.35	0.85	0.89	1.88	0.47	0.82	1.08	0.99	1.52	1.08	0.74	0.97	0.85
ru	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ap	0.70	0.72	0.58	0.56	0.28	0.49	0.65	0.65	0.93	0.90	0.46	0.51	0.49
Total	94.01	96.86	93.78	92.66	94.96	95.85	95.08	96.50	96.55	96.33	95.15	94.79	97.73
Felsic	72.14	83.82	84.60	57.92	86.90	82.70	69.69	81.53	66.58	72.69	84.93	82.00	84.38
Mafic	21.87	13.04	9.18	34.74	8.06	13.15	25.39	14.97	29.97	23.64	10.22	12.79	13.35

Appendix 6 BLEG Analysis of the Stream Sediments Samples

No.	Sample No.	Coordination		Au	Cu
		E-UTM	N-UTM	ppb	ppm
1	BA03B	460133	1561444	455.0	0.49
2	BA04B	459971	1561886	479.0	4.89
3	BD01B	462710	1561445	1.6	0.55
4	BE08B	456311	1563058	75.5	0.65
5	BK06B	452127	1560532	1.6	0.37
6	BK07B	451116	1560975	29.0	0.23
7	BL01B	463069	1559096	0.4	0.23
8	BM01B	451397	1555133	0.2	0.07
9	BM04B	456002	1559335	53.0	0.38
10	KC01B	463713	1543840	2.3	0.63
11	KD01B	461563	1544514	2.5	0.80
12	KD02B	461084	1544666	3.3	0.21
13	KD03B	459776	1544599	0.8	0.77
14	KJ01B	454285	1549164	1.5	0.58
15	KJ02B	453081	1550002	6.5	0.36
16	KJ09B	457835	1547920	0.8	0.18
17	KK01B	455845	1546049	1.2	0.26
18	KK02B	455222	1545668	1.1	0.17
19	KK03B	464511	1543089	0.2	0.18
20	KK04B	466407	1543356	0.1	0.16
21	KK05B_A	465987	1543471	46.0	0.77
22	KK05B_B	465987	1543471	109.0	0.54
23	KL01B	453435	1549390	4.7	1.03
24	LA06B	472461	1557488	0.6	0.28
25	LB03B	471568	1560148	3.0	0.30
26	LB06B	475339	1562852	0.5	0.25
27	LC01B	472266	1562834	0.2	0.26
28	LG02B	469698	1555191	0.4	0.04
29	LL01B	466011	1554294	0.1	0.02
30	LM04B	469415	1553451	0.2	0.33
31	LN07B	469117	1553555	1.2	0.09
32	LN12B	469231	1550530	0.2	0.20
33	LN13B	468834	1550365	0.5	0.21
34	LP03B	471400	1555399	0.1	0.78
35	LP09B	479406	1563070	6.7	0.43

Appendix 7 Geochemical Data of the Stream Sediments Samples

No.	Sample No.	Coordination		Duplication	Au	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr	Ti	Tl	U	V	W	Zn
		E-UTM	N-UTM	(=Sp_No)	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppb	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
1	BA01	461002	1563030		29	<0.2	3.28	12	<10	170	1.0	<2	0.36	<0.5	19	33	66	5.66	<10	90	0.04	<10	0.37	570	<1	0.01	16	720	20	0.04	<2	6	87	0.06	<10	<10	180	<10	56
2	BA02	460691	1562982		2480	1.4	0.91	330	<10	110	0.5	18	0.15	<0.5	19	105	706	8.13	<10	330	0.03	<10	0.19	375	17	0.01	30	380	40	0.47	90	3	40	0.09	<10	<10	193	<10	108
3	BA03	460133	1561444		2000	<0.2	1.19	78	<10	120	0.5	<2	0.19	<0.5	23	140	67	7.59	<10	280	0.04	<10	0.29	510	9	0.01	41	430	32	0.20	10	4	46	0.12	<10	<10	218	<10	94
4	BA04	459971	1561886		540	2.2	1.15	336	<10	160	<0.5	24	0.19	<0.5	9	35	943	4.45	<10	740	0.04	<10	0.18	200	13	0.01	17	390	44	0.27	94	3	52	0.02	<10	<10	65	<10	38
5	BB01	463926	1561104		<1	<0.2	2.60	10	<10	180	1.0	4	0.58	<0.5	29	128	75	6.71	10	20	0.04	<10	0.34	790	<1	0.02	54	690	10	0.01	<2	9	127	0.19	<10	<10	257	<10	98
6	BC01	460567	1556599		7	<0.2	3.91	8	<10	360	1.0	<2	0.52	<0.5	50	165	51	7.10	<10	20	0.05	<10	0.55	1145	1	0.01	100	640	8	0.07	<2	15	125	0.11	<10	<10	221	<10	104
7	BC02	460740	1556611		2	<0.2	3.48	12	<10	320	0.5	<2	0.53	<0.5	39	244	47	6.07	<10	<10	0.05	10	0.75	960	<1	0.01	110	540	6	0.03	<2	13	131	0.17	<10	<10	215	<10	84
8	BC03	460740	1556611	BC02	2	<0.2	3.73	10	<10	350	0.5	<2	0.53	<0.5	42	235	49	6.01	<10	10	0.06	10	0.74	1065	<1	0.02	112	640	6	0.01	<2	14	128	0.17	<10	<10	205	<10	84
9	BC04	460398	1557185		<1	<0.2	2.14	52	<10	90	0.5	<2	0.17	<0.5	20	88	39	5.71	<10	250	0.06	<10	0.39	250	1	0.02	45	390	8	0.26	<2	8	44	0.03	<10	<10	131	<10	46
10	BC05	459946	1557460		2	<0.2	2.37	22	<10	200	0.5	<2	0.43	0.5	38	300	50	8.09	<10	150	0.05	<10	0.58	800	1	0.02	91	570	10	0.25	2	8	81	0.23	<10	<10	312	<10	214
11	BC06	459683	1558533		870	0.2	0.63	108	<10	90	<0.5	<2	0.05	<0.5	8	36	101	4.93	<10	740	0.03	<10	0.14	175	12	<0.01	15	270	38	0.45	24	2	22	0.01	<10	<10	67	<10	38
12	BC07	459406	1559155		220	1.2	2.03	38	<10	190	0.5	<2	0.41	<0.5	25	79	75	5.67	<10	280	0.07	<10	0.49	610	4	0.01	46	740	22	0.67	2	7	87	0.04	<10	<10	104	<10	80
13	BC08	459101	1559861		3580	0.2	0.90	106	<10	70	0.5	<2	0.19	<0.5	34	184	84	12.85	<10	310	0.04	<10	0.28	675	9	0.01	53	500	30	2.28	18	4	40	0.18	<10	<10	345	<10	154
14	BC09	459053	1560023		510	<0.2	1.94	14	<10	140	0.5	<2	0.40	<0.5	23	100	41	8.28	<10	80	0.05	10	0.42	720	1	0.01	33	600	16	0.04	<2	5	80	0.12	<10	<10	247	<10	90
15	BC10	459075	1561225		820	<0.2	3.74	8	<10	300	1.0	<2	0.48	<0.5	39	153	43	6.07	<10	170	0.04	<10	0.62	1130	<1	0.03	78	650	8	0.01	<2	12	113	0.15	<10	<10	171	<10	92
16	BC11	459098	1560983		2280	2.0	1.03	104	<10	110	0.5	<2	0.21	<0.5	26	141	126	10.05	<10	760	0.04	<10	0.28	530	12	0.01	44	540	32	0.95	16	4	44	0.13	<10	<10	248	<10	148
17	BC12	459347	1561000		14	<0.2	2.94	14	<10	230	1.5	<2	0.49	<0.5	38	100	43	7.13	<10	950	0.04	<10	0.35	1000	1	0.01	41	610	8	0.03	<2	10	105	0.17	<10	<10	245	<10	108
18	BD01	462710	1561445		2	<0.2	2.68	8	<10	210	0.5	<2	0.46	<0.5	21	84	22	3.75	<10	30	0.07	<10	0.45	515	<1	0.02	43	420	6	0.03	<2	6	115	0.07	<10	<10	113	<10	52
19	BD02	462992	1561538		1	<0.2	2.44	10	<10	220	1.0	<2	0.64	<0.5	27	95	58	5.50	<10	10	0.04	10	0.30	720	<1	0.01	46	750	8	<0.01	<2	9	159	0.11	<10	<10	177	<10	80
20	BD03	462574	1562584		23	<0.2	2.40	16	<10	200	1.0	<2	0.52	<0.5	35	135	61	7.14	<10	10	0.03	<10	0.31	905	1	0.01	53	630	10	<0.01	<2	8	132	0.21	<10	<10	283	<10	110
21	BD04	462615	1562381		<1	<0.2	4.26	8	<10	230	0.5	<2	0.63	<0.5	27	73	51	6.55	<10	120	0.04	<10	0.60	1180	<1	0.02	22	560	8	0.01	<2	9	120	0.17	<10	<10	273	<10	82
22	BD05	452662	1563092		1	<0.2	2.83	8	<10	130	0.5	<2	0.46	<0.5	35	104	54	5.66	<10	20	0.04	<10	0.87	965	<1	0.01	51	360	6	<0.01	<2	14	29	0.09	<10	<10	167	<10	78
23	BD06	453500	1562003		40	<0.2	1.27	8	<10	50	<0.5	<2	0.24	<0.5	39	278	28	4.88	<10	10	0.01	<10	1.49	590	<1	0.01	356	170	<2	0.01	<2	5	24	0.11	<10	<10	137	<10	64
24	BD07	454295	1562760		76	<0.2	0.86	8	<10	30	<0.5	<2	0.22	<0.5	32	305	20	5.28	<10	<10	0.01	<10	1.58	545	<1	<0.01	309	130	2	0.01	2	4	15	0.13	<10	<10	161	<10	62
25	BD08	454184	1563651		2	<0.2	1.91	10	<10	120	0.5	<2	0.27	<0.5	41	284	32	6.18	<10	<10	0.03	<10	1.18	725	<1	0.01	247	300	6	<0.01	<2	8	41	0.15	<10	<10	195	<10	82
26	BD09	460302	1554537		<1	<0.2	3.73	10	<10	360	0.5	<2	0.30	<0.5	29	135	33	5.60	<10	10	0.07	<10	0.38	960	1	0.01	59	540	10	0.11	<2	12	86	0.12	<10	<10	154	<10	62
27	BD10	459651	1555223		<1	<0.2	2.34	10	<10	220	0.5	<2	0.24	<0.5	33	189	28	7.13	<10	20	0.05	<10	0.34	740	1	0.01	55	370	4	0.08	<2	7	69	0.16	<10	<10	273	<10	92
28	BD11	459140	1555821		1	<0.2	3.35	10	<10	250	0.5	<2	0.26	<0.5	30	152	33	6.05	<10	10	0.06	<10	0.37	675	1	0.01	60	460	6	0.13	<2	10	69	0.13	<10	<10	191	<10	70
29	BD12	459446	1556804		<1	<0.2	3.37	10	<10	270	0.5	<2	0.38	<0.5	33	145	35	6.00	<10	10	0.06	<10	0.45	740	1	0.01	62	410	4	0.07	<2	11	97	0.12	<10	<10	188	<10	76
30	BD13	459673	1557429		1	<0.2	3.45	12	<10	300	0.5	<2	0.33	<0.5	35	152	36	6.47	<10	<10	0.07	<10	0.45	885	1	0.02	63	510	8	0.07	<2	11	90	0.13	<10	<10	193	<10	76
31	BD14	459797	1557847		3	<0.2	3.32	14	<10	250	0.5	<2	0.38	<0.5	30	133	40	5.81	<10	50	0.07	<10	0.50	685	<1	0.02	64	550	8	0.13	<2	10	87	0.11	<10	<10	160	<10	86
32	BE01	465457	1562321		<1	<0.2	2.98	4	<10	210	1.0	<2	0.66	<0.5	23	39	61	5.61	<10	20	0.04	<10	0.31	930	1	0.01	20	740	8	<0.01	<2	7	151	0.11	<10	<10	215	<10	82
33	BE02	465372	1562155		<1	<0.2	4.28	6	<10	180	0.5	<2	0.45	<0.5	32	54	61	6.70	<10	20	0.03	<10	0.37	1075	<1	0.02	27	640	10	0.01	<2	9	98	0.14	<10	<10	236	<10	82
34	BE03	463930	1562990		<1	<0.2	3.47	14	<10	230	1.5	<2	0.40	<0.5	29	121	56	7.30	<10	20	0.03	<10	0.31	820	<1	0.01	45	560	12	<0.01	<2	10	100	0.19	<10	<10	268	<10	104
35	BE04	463387	1563309		10	<0.2	3.03	16	<10	200	0.5	<2	0.39	<0.5	31	57	51	7.44	<10	20	0.03	<10	0.43	885	<1	0.02	27	570	10	0.01	<2	7	88	0.26	<10	<10	329	<10	110
36	BE05	456629	1560837		<1	<0.2	3.39	8	<10	270	0.5	<2	0.61	<0.5	42	160	52	6.23	<10	30	0.04	<10	0.58	980	<1	0.01	80	370	8	<0.01	<2	13	131	0.12	<10	<10	172	<10	86
37	BE06	456276	1561049		<1	<0.2	3.12	10	<10	170	0.5	<2	0.46	<0.5	25	86	32	4.96	<10	10	0.06	<10	0.63	720	<1	0.02	33	480	8	0.01	<2	6	111	0.17	<10	<10	184	<10	72
38	BE07	457139	1561622		<1	<0.2	3.89	12	<10	220	1.0	<2	0.51	<0.5	31	77	49	6.80	<10	30	0.07	<10	0.61	875	<1	0.01	37	510	8	0.01	<2	9	118	0.22	<10	<10	282	<10	102
39	BE08	456311	1563058		33	<0.2	2.10	62	<10	90	0.5	<2	0.29	<0.5	29	87	43	6.91	<10	20	0.09	<10	0.58	715	1	0.04	56	390	6	<0.01	<2	8	92	0.23	<10	<10	289	<10	110
40	BE09	462765	1557424		<1	<0.2	3.54	2	<10	130	0.5	<2	0.25	<0.5	32	167	24	5.89	<10	10	0.02	<10	0.33	560	<1	0.01	59	230	8	0.01	<2	8	73	0.12	<10	<10	215	<10	82
41	BE10	463142	1557328		<1	<0.2	1.75	6	<10	110	<0.5	<2	0.41	<0.5	25	133	19	5.65	<10	10	0.03	<10	0.26	525	<1	0.01	35	290	4	0.03	<2	5	78	0.13	<10	<10	214	<10	68
42	BE11	462802	1557070		<1	<0.2	5.08	<2	<10	250	0.5	<2	0.37	<0.5	28	81	28	3.67	<10	10	0.03	<10	0.66	785	<1	0.01	68	240	8	<0.01	<2	10	101	0.08	<10	<10	95	<10	58
43	BE12	462892	1556820		<1	<0.2	3.32	2	<10	230	0.5	<2	0.45	<0.5	23	83	26	3.69	<10	10	0.05	<10	0.69	640	<1	0.02	56	410	6	0.01	<2	7	139	0.08	<10	<10	110	<10	50
44	BE13	463032	1556360		<1	<0.2	3.58	2	<10	260	0.5	<2	0.44	<0.5	25	74	28	3.46	<10	10	0.06	10	0.76	740	<1	0.02	59	430	6	0.01	<2	7	145	0.08	<10	<10	94	<10	50
45	BE14	463217	1558218		<1	<0.2	0.52	24	<10	60	<0.5	<2	0.18	0.5	59	403	27	13.70	<10	10	0.01	<10	0.22	1170	<1	0.01	71	310	2	<0.01	4	1	39	0.37	<10	<10	695	<10	192
46	BE15	464343	1557667		<1	<0.2	1.52	10	<10	120	<0.5	<2	0.27	<0.5	28	179	19	6.07	<10	50	0.04	<10	0.22	590	<1	0.01	42	340	6	0.01	<2	3	69	0.15	<10	<10	268	<10	78
47	BE16	464343	1557667	BE15	<1	<0.2	1.97	8	<10	170	0.5	<2	0.33	<0.5	28	169	20	5.92	<10	70	0.05	<10	0.28	670	<1	0.01	44	370	6	0.01	<2	4	90	0.14	<10	<10	249	<10	78
48	BE17	464348	1557416		<1	<0.2	1.77	2	<10	170	<0.5	<2	0.48	<0.5	12	50	18	2.63	<10	<10	0.05	<10	0.24	410	<1	0.01	19	510	2	0.03	<2	4	119	0.04	<10	<10	81	<10	34
49	BE18	460883	1560285		900	1.0	0.53	316	<10	100	0.5	4	0.10	<0.5	8	36	252	11.55	10	210	0.04	<10	0.17	230	38	<0.01	11	540	66	0.78	84	2	29	0.01	<10	<10	96	<10	66
50	BE19	461187	1560070		520	2.0	1.78	288	<10	170	0.5	18	0.28	<0.5	11	41	874	3.96	<10	2020	0.05	<10	0.27	260	9	0.01	23	450	36	0.30	78	4	75	0.02	<10	<10	61	<10	44
51	BE20	461050	1559795		420	<0.2	1.08	96	<10	140	0.5	<2	0.50	<0.5	18	40	88	6.60	<10	130	0.08	10	0.23	390	9	0.01	21	1430	24	0.39	40	4	87	0.05	<10	<10	119	<10	50
52	BF01	457553	1560456		125	3.6	1.57	60	<10	50	<0.5	<2	0.15	<0.5	15	11	19	3.50	<10	180	0.07	<10	0.29	575	<1	0.01	8	210	4	0.04	<2	3	18	<0.01	<10	<10	40	<10	62
53	BF02	457528	1560215		820	3.6	1.74	198	<10	60	0.5	<2	0.14	<0.5	20	21	46	3.96	<10	10240	0.08	<10	0.47	235	1	0.01	16	300	6	0.82	<2	3	16	0.02	<10	<10	60	<10	92
54	BF03	457420	1560043		59	0.2	2.20	46	<10	30	0.5	<2	0.15	<0.5	27	6	67	3.00	<10	520	0.05	<10	0.73	455	<1	0.01	18	250	2	0.01	<2	3	14	<0.01	<10	<10	36	<10	86
55	BF04	456801	1560884		4380	2.4	1.57	68	<10	70	<0.5	<2	0.25	<0.5	15	37	25	3.86	<10	1100	0.05	<10	0.56	340	1	0.01	28	320	6	0.12	<2	4	26	0.05	<10	<10	92	<10	70
56	BF05	455669	1560976		88	<0.2	1.62	34	<10	70	<0.5	<2	0.29	<0.5	17	44	18	3.36	<10	80	0.05	<10	0.74	485	<1	0.01	87	250	2	0.02	<2	4	20	0.03	<10	<10	69	<10	52
57	BF06	456620	1559022		19320	39.2	1.52	334	<10	50	<0.5	<2	0.44	<0.5	16	25	53	4.90	<10	10920	0.09	<10	0.88	365	1	0.01	27	670	352	1.01	<2	4	20	0.01	<10	<10	78	<10	68
58	BF07	455816	1557926		62	<0.2	1.96	10	<10	80	0.5	<2	0.38	<0.5	17	43	51	4.84	<10	60	0.04	<10	0.72	575	<1	0.01	33	330	4	0.03	<2	6	40	0.04	<10	<10	106	<10	74

Appendix 7 Geochemical Data of the Stream Sediments Samples

No.	Sample No.	Coordination E-UTM	Coordination N-UTM	Duplication (=Sp_No)	Au ppb	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppb	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
59	BF08	456410	1557823		180	<0.2	1.66	40	<10	190	0.5	<2	0.25	<0.5	22	36	26	3.79	<10	150	0.09	<10	0.34	1325	<1	0.01	26	570	8	0.03	<2	4	35	0.01	<10	<10	80	<10	66
60	BF09	456875	1556879		18	<0.2	1.96	62	<10	210	1.0	<2	0.19	<0.5	30	43	41	4.81	<10	100	0.10	<10	0.18	845	<1	0.01	23	630	10	<0.01	<2	8	33	0.02	<10	<10	121	<10	74
61	BF10	457042	1557137		21	<0.2	1.86	60	<10	200	1.0	<2	0.19	<0.5	28	45	40	4.81	<10	90	0.09	<10	0.18	745	<1	0.01	22	650	8	0.01	<2	8	33	0.02	<10	<10	127	<10	74
62	BG01	465575	1560725		2	<0.2	3.86	24	<10	240	1.0	<2	0.51	<0.5	31	78	65	5.45	<10	30	0.07	10	0.39	825	1	0.01	49	650	10	0.01	<2	10	136	0.08	<10	<10	139	<10	72
63	BG02	465575	1560725	BG01	1	<0.2	3.83	14	<10	200	1.0	<2	0.52	<0.5	28	79	65	5.12	<10	20	0.05	10	0.37	670	1	0.01	47	550	8	<0.01	<2	9	136	0.07	<10	<10	145	<10	70
64	BG03	464470	1561201		1	<0.2	2.31	22	<10	170	0.5	<2	0.51	<0.5	34	154	89	7.74	<10	30	0.04	10	0.34	830	1	0.01	56	660	10	<0.01	<2	9	119	0.23	<10	<10	313	<10	130
65	BG04	464480	1560868		<1	<0.2	3.59	10	<10	240	1.5	<2	0.62	<0.5	36	140	101	7.81	<10	30	0.05	10	0.33	950	<1	0.01	57	960	10	<0.01	<2	13	160	0.2	<10	<10	303	<10	116
66	BG05	461306	1558411		25	<0.2	2.37	12	<10	200	1.0	<2	0.42	<0.5	24	33	67	5.67	<10	530	0.08	10	0.39	660	1	0.01	29	1030	10	1.07	<2	5	79	0.01	<10	<10	78	<10	80
67	BG06	461021	1558040		18	<0.2	1.60	24	<10	50	<0.5	<2	0.26	<0.5	14	44	54	6.33	<10	1080	0.05	<10	0.27	170	3	0.01	27	690	10	2.31	<2	4	46	<0.01	<10	<10	55	<10	40
68	BG07	460797	1558404		290	0.2	0.53	80	<10	280	<0.5	10	0.01	<0.5	3	15	46	2.64	<10	230	0.04	<10	0.01	30	8	<0.01	4	310	96	0.51	22	1	34	<0.01	<10	<10	23	<10	6
69	BK18	457121	1559502		580	1.6	1.48	244	<10	50	<0.5	<2	0.89	<0.5	13	18	33	3.01	<10	660	0.11	<10	1.08	410	1	0.01	28	660	8	0.23	<2	4	23	<0.01	<10	<10	36	<10	56
70	BK19	457094	1559379		1690	15.0	1.18	298	<10	50	<0.5	<2	0.34	<0.5	13	11	38	3.17	<10	8740	0.10	<10	0.80	315	4	0.01	17	600	10	0.82	2	3	15	<0.01	<10	<10	29	<10	90
71	BK20	456887	1559343		2110	13.4	1.49	264	<10	40	<0.5	<2	0.43	<0.5	14	15	36	3.35	<10	2190	0.11	<10	1.08	465	2	0.01	25	690	8	0.40	2	4	17	<0.01	<10	<10	37	<10	66
72	BK21	453339	1560655		5	<0.2	1.88	26	<10	100	0.5	<2	0.44	<0.5	25	73	51	5.03	<10	60	0.06	<10	1.01	605	<1	0.01	112	460	6	0.06	<2	6	32	0.05	<10	<10	99	<10	80
73	BK22	452127	1560532		1	<0.2	1.41	2	<10	30	<0.5	2	0.28	<0.5	43	351	24	4.07	<10	10	0.01	<10	2.48	525	<1	0.01	508	130	<2	0.01	<2	6	22	0.05	<10	<10	67	<10	46
74	BK23	451116	1560975		65	<0.2	1.40	6	<10	70	<0.5	<2	0.20	<0.5	40	287	24	4.35	<10	30	0.03	<10	1.35	600	<1	0.01	432	160	4	<0.01	<2	4	17	0.08	<10	<10	99	<10	70
75	BK24	450583	1560732		800	<0.2	1.53	2	<10	50	<0.5	<2	0.21	<0.5	44	387	24	4.04	<10	40	0.03	<10	1.75	630	<1	0.01	509	210	6	0.01	<2	5	19	0.05	<10	<10	74	<10	60
76	BK25	450516	1561043		9	<0.2	1.57	2	<10	90	<0.5	<2	0.22	<0.5	44	225	33	4.10	<10	20	0.03	<10	1.41	745	<1	0.01	381	180	6	0.01	<2	4	21	0.04	<10	<10	76	<10	70
77	BK26	451107	1561664		2	<0.2	1.00	10	<10	40	<0.5	<2	0.24	<0.5	32	379	26	5.68	<10	<10	0.02	<10	1.83	615	<1	0.01	342	160	2	<0.01	<2	4	22	0.15	<10	<10	176	<10	66
78	BK27	451737	1561423		2	<0.2	0.60	14	<10	30	<0.5	<2	0.17	<0.5	29	344	21	7.23	<10	<10	0.01	<10	1.95	650	<1	0.01	304	130	2	<0.01	<2	4	12	0.21	<10	<10	257	<10	86
79	BK28	451982	1561039		1	<0.2	1.46	2	<10	40	<0.5	<2	0.29	<0.5	46	373	31	4.56	<10	10	0.01	<10	2.82	580	<1	0.01	534	140	2	0.04	<2	6	25	0.05	<10	<10	73	<10	48
80	BL01	463069	1559096		1	<0.2	3.24	4	<10	260	0.5	<2	0.64	<0.5	28	51	53	5.87	<10	50	0.05	10	0.44	1050	<1	0.02	30	840	10	0.01	<2	8	166	0.11	<10	<10	121	<10	80
81	BL02	463116	1559242		2	<0.2	2.27	34	<10	230	0.5	<2	0.25	<0.5	16	77	30	4.15	<10	140	0.08	<10	0.23	480	<1	0.01	36	380	6	0.02	<2	6	76	0.07	<10	<10	121	<10	46
82	BL03	463034	1559617		<1	<0.2	2.28	144	<10	160	1.0	<2	0.34	<0.5	21	54	35	5.28	<10	160	0.11	10	0.27	390	3	0.02	24	390	10	0.08	2	5	100	0.07	<10	<10	141	<10	68
83	BL04	462566	1559814		<1	<0.2	2.01	56	<10	120	0.5	<2	0.13	<0.5	11	89	31	6.15	<10	100	0.04	<10	0.18	120	2	0.01	22	400	2	0.06	<2	8	37	0.05	<10	<10	111	<10	44
84	BL05	462027	1559446		490	0.2	2.93	70	<10	110	0.5	14	0.43	<0.5	14	60	325	4.33	<10	1660	0.04	<10	0.27	215	3	0.01	25	230	8	0.29	14	6	89	0.07	<10	<10	103	<10	48
85	BL06	462164	1559594		49	<0.2	1.25	20	<10	80	<0.5	<2	0.22	<0.5	37	256	49	8.78	<10	730	0.02	<10	0.25	665	1	0.01	56	370	4	0.12	2	3	48	0.23	<10	<10	388	<10	114
86	BL07	461946	1559608		5380	11.0	0.49	1820	<10	60	0.5	118	0.03	<0.5	12	37	4730	11.00	<10	160	0.03	<10	0.08	105	35	<0.01	21	540	104	3.54	528	2	20	0.02	<10	<10	80	<10	176
87	BL08	461946	1559608	BL07	2530	5.6	0.57	864	<10	110	<0.5	80	0.03	<0.5	7	24	2200	5.94	<10	530	0.04	<10	0.09	75	21	<0.01	12	460	70	1.46	246	1	22	<0.01	<10	<10	47	<10	68
88	BL09	461246	1559295		780	5.0	0.56	842	<10	160	<0.5	56	0.01	<0.5	4	14	1995	4.03	<10	520	0.03	<10	0.05	50	17	<0.01	6	270	46	0.64	254	1	20	<0.01	<10	<10	38	<10	34
89	BL10	463376	1558997		4	0.6	2.02	64	<10	390	0.5	<2	0.30	<0.5	21	64	64	5.69	<10	280	0.12	<10	0.26	405	2	0.01	36	700	8	0.04	<2	7	55	0.01	<10	<10	91	<10	82
90	BL11	463337	1559179		1	<0.2	1.83	36	<10	230	0.5	<2	0.24	<0.5	15	55	28	3.97	<10	60	0.09	<10	0.20	480	1	0.01	27	440	8	0.01	2	4	82	0.06	<10	<10	122	<10	46
91	BM01	451397	1555133		<1	<0.2	0.65	<2	<10	10	<0.5	<2	0.04	<0.5	4	11	3	1.16	<10	<10	<0.01	<10	0.21	110	<1	<0.01	12	60	<2	<0.01	<2	1	4	0.01	<10	<10	17	<10	12
92	BM02	451770	1556356		115	<0.2	1.03	2	<10	30	<0.5	<2	0.10	<0.5	27	132	14	2.52	<10	10	0.01	<10	0.49	505	<1	0.01	160	90	<2	<0.01	<2	3	21	0.01	<10	<10	33	<10	32
93	BM03	451562	1556276		1	<0.2	1.77	2	<10	10	<0.5	<2	0.19	<0.5	23	58	5	3.54	<10	10	0.01	<10	1.01	505	<1	0.01	29	150	<2	<0.01	<2	7	14	0.08	<10	<10	85	<10	34
94	BM04	456002	1559335		125	0.2	1.63	16	<10	90	0.5	<2	0.37	<0.5	18	47	31	4.60	<10	670	0.04	<10	0.62	525	<1	0.01	35	400	2	0.06	<2	5	37	0.06	<10	<10	112	<10	74
95	BM05	456032	1557687		4	<0.2	1.71	4	<10	130	0.5	<2	0.46	<0.5	16	36	25	4.09	<10	30	0.06	<10	0.48	460	<1	0.02	24	510	2	0.03	<2	5	57	0.06	<10	<10	107	<10	62
96	BM06	455569	1556755		1	<0.2	2.11	<2	<10	160	0.5	<2	0.50	<0.5	18	52	29	3.68	<10	30	0.05	<10	0.63	370	<1	0.01	27	520	2	0.10	<2	5	80	0.02	<10	<10	80	<10	60
97	BM07	456047	1556108		2	<0.2	1.55	4	<10	140	0.5	<2	0.56	<0.5	17	52	20	4.03	<10	40	0.07	<10	0.41	475	<1	0.01	30	750	2	0.01	<2	5	67	0.07	<10	<10	111	<10	64
98	KC01	463713	1543840		2	<0.2	1.25	8	<10	110	<0.5	<2	0.30	<0.5	14	46	38	4.51	<10	30	0.04	<10	0.26	525	<1	0.01	25	550	10	0.05	<2	3	56	0.07	<10	<10	156	<10	80
99	KC02	464451	1544156		2	<0.2	1.12	10	<10	110	0.5	<2	0.28	<0.5	18	81	47	6.40	<10	10	0.05	<10	0.31	750	<1	0.01	36	430	10	0.03	<2	3	56	0.11	<10	<10	249	<10	118
100	KC03	468914	1544722		<1	<0.2	1.44	10	<10	120	<0.5	<2	0.37	<0.5	17	60	20	4.26	<10	40	0.07	<10	0.30	465	<1	0.01	27	600	4	0.10	<2	4	71	0.1	<10	<10	158	<10	56
101	KC04	469806	1545432		<1	<0.2	1.58	6	<10	130	0.5	<2	0.40	<0.5	18	62	19	4.29	<10	10	0.08	<10	0.32	510	1	0.02	27	620	2	<0.01	<2	4	84	0.11	<10	<10	170	<10	62
102	KC05	469121	1543367		<1	<0.2	2.56	8	<10	120	<0.5	<2	0.10	<0.5	15	26	12	4.40	<10	10	0.03	<10	0.11	455	<1	0.01	12	200	4	<0.01	<2	5	22	0.16	<10	<10	93	<10	44
103	KC06	469363	1543157		<1	<0.2	1.10	18	<10	70	<0.5	<2	0.17	<0.5	36	86	28	10.90	<10	10	0.03	<10	0.25	865	1	0.01	32	410	2	0.01	2	3	26	0.3	<10	<10	473	<10	156
104	KC07	468252	1542710		<1	<0.2	1.87	10	<10	100	<0.5	<2	0.17	<0.5	23	51	18	6.56	<10	10	0.04	<10	0.19	635	<1	0.01	21	400	2	0.01	<2	4	29	0.18	<10	<10	250	<10	86
105	KC08	467546	1544890		50	<0.2	0.78	30	<10	70	<0.5	<2	0.19	<0.5	14	44	47	5.35	<10	30	0.04	<10	0.13	345	4	<0.01	26	530	46	0.82	<2	1	25	0.03	<10	<10	92	<10	84
106	KC09	467436	1545435		18	0.2	1.63	22	<10	90	0.5	<2	0.28	<0.5	14	22	45	3.91	<10	50	0.04	<10	0.12	375	3	0.01	23	450	38	0.58	<2	3	40	0.01	<10	<10	49	<10	84
107	KC10	467436	1545435	KC09	230	0.2	1.44	22	<10	80	0.5	<2	0.31	<0.5	14	24	62	4.10	<10	50	0.04	<10	0.13	385	4	0.01	24	480	38	0.74	<2	2	37	0.01	<10	<10	49	<10	94
108	KC11	469806	1545432	KC04	<1	<0.2	1.62	6	<10	140	0.5	<2	0.40	<0.5	18	62	18	4.40	<10	20	0.08	10	0.34	550	<1	0.02	28	570	4	<0.01	<2	4	88	0.11	<10	<10	173	<10	60
109	KD01	465926	1544103		43	<0.2	1.54	14	<10	100	0.5	<2	0.49	<0.5	14	25	23	3.19	<10	50	0.04	<10	0.19	415	1	0.01	18	330	20	0.02	<2	3	75	0.03	<10	<10	66	<10	44
110	KD02	466197	1545075		<1	<0.2	1.57	12	<10	100	0.5	<2	0.21	<0.5	14	20	22	3.30	<10	50	0.02	<10	0.17	545	<1	0.01	14	270	16	<0.01	<2	3	42	0.07	<10	<10	96	<10	56
111	KD03	461563	1544514		3	<0.2	0.90	12	<10	110	<0.5	<2	0.19	<0.5	11	17	30	3.88	<10	10	0.04	<10	0.13	230	6	0.01	9	300	6	0.06	<2	3	54	0.04	<10	<10	90	<10	38
112	KD04	461084	1544666		1	<0.2	0.92	16	<10	90	0.5	<2	0.17	<0.5	27	81	40	11.30	<10	<10	0.04	<10	0.31	755	1	0.01	41	470	2	0.34	2	3	36	0.18	<10	<10	442	<10	146
113	KD05	459776	1544599		<1	<0.2	1.67	2	<10	250	0.5	<2	0.32	<0.5	16	14	24	3.18	<10	40	0.03	10	0.21	470	<1	0.01	13	400	8	0.01	<2	4	129	0.01	<10	<10	65	<10	32
114	KD06	459716	1546105		<1	<0.2	1.77	2	<10	140	0.5	<2	0.32	<0.5	12	17	21	3.04	<10	40	0.03	<10	0.24	320	<1	0.01	12	280	8	0.01	<2	5	86	0.02	<10	<10	74	<10	30
115	KD07	459869	1545343		2	<0.2	1.73	10	<10	110	<0.5	<2	0.13	<0.5	11	27	27	3.50	<10	100	0.02	<10	0.15	330	<1	0.01	12	230	14	0.01	<2	4	45	0.07	<10	<10	132	<10	38
116	KE01	469849	1544727		<1	<0.2	1.68	<2	<10	200	<0.5	<2	0.44	<0.5	15	29	22	4.08	<10	<10	0.07	10	0.25	615	1	0.02	16	680	2	<0.01	2	5	98	0.1	<10	<10	126	<10	54

Appendix 7 Geochemical Data of the Stream Sediments Samples

No.	Sample No.	Coordination E-UTM	Coordination N-UTM	Duplication (=Sp_No)	Au ppb	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppb	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
117	KE02	469796	1544941		<1	<0.2	1.70	2	<10	160	<0.5	<2	0.56	<0.5	15	37	17	3.95	<10	30	0.06	10	0.30	800	1	0.02	21	860	<2	0.07	<2	5	83	0.1	<10	<10	144	<10	50
118	KE03	469089	1544609		<1	<0.2	1.12	2	<10	150	<0.5	<2	0.61	<0.5	22	48	17	5.31	<10	30	0.06	10	0.30	890	<1	0.02	24	970	4	0.12	<2	4	78	0.13	<10	<10	216	<10	84
119	KE04	466797	1543747		<1	<0.2	4.19	<2	<10	230	<0.5	<2	0.09	0.5	21	27	16	6.04	10	30	0.05	<10	0.13	840	<1	0.01	17	220	2	<0.01	<2	8	32	0.16	<10	<10	194	<10	68
120	KE05	466794	1544313		4	<0.2	0.92	14	<10	110	<0.5	<2	0.62	<0.5	10	22	22	1.87	<10	20	0.06	10	0.51	440	1	0.01	31	920	2	0.17	2	3	99	0.01	<10	<10	40	<10	40
121	KE06	467207	1544089		1	<0.2	4.36	18	<10	340	0.5	<2	0.33	<0.5	17	20	30	3.88	<10	180	0.06	<10	0.33	1705	2	<0.01	19	310	14	0.01	<2	5	81	0.06	<10	<10	108	<10	68
122	KE07	467288	1544336		920	0.2	1.07	36	<10	130	<0.5	<2	0.33	<0.5	21	88	32	5.37	<10	270	0.06	<10	0.20	660	1	<0.01	31	580	22	0.27	<2	3	52	0.08	<10	<10	196	<10	72
123	KJ01	454285	1549164		33	<0.2	2.53	<2	<10	180	<0.5	<2	0.23	<0.5	19	108	19	3.65	<10	10	0.02	<10	0.27	575	1	<0.01	44	290	6	<0.01	<2	7	62	0.09	<10	<10	123	<10	44
124	KJ02	453081	1550002		360	<0.2	0.85	10	<10	30	<0.5	<2	0.07	<0.5	11	42	15	2.35	<10	<10	0.01	<10	0.19	515	<1	<0.01	16	150	12	0.01	<2	3	10	0.03	<10	<10	59	<10	32
125	KJ03	455530	1554003		59	0.6	0.98	24	<10	30	<0.5	<2	0.07	<0.5	9	36	63	3.39	<10	10	0.02	<10	0.50	275	6	<0.01	24	170	18	0.50	2	4	9	0.01	<10	<10	49	<10	84
126	KJ04	455685	1553705		135	0.2	1.75	20	<10	50	<0.5	<2	0.10	0.5	20	83	56	5.41	<10	30	0.03	<10	0.55	425	2	<0.01	74	260	12	0.91	<2	5	17	0.01	<10	<10	74	<10	102
127	KJ05	456302	1554020		35	0.2	1.03	18	<10	20	<0.5	2	0.06	<0.5	10	20	74	3.04	<10	20	0.02	<10	0.39	375	1	<0.01	12	130	16	0.64	<2	3	5	0.03	<10	<10	40	<10	86
128	KJ06	456856	1553369		230	<0.2	1.64	16	<10	80	0.5	<2	0.17	<0.5	15	51	41	4.73	<10	10	0.04	<10	0.50	345	3	<0.01	33	320	8	0.74	2	4	26	0.01	<10	<10	68	<10	64
129	KJ07	457718	1553615		39	<0.2	1.75	12	<10	80	0.5	<2	0.14	<0.5	13	36	40	4.54	<10	10	0.04	<10	0.43	290	4	<0.01	25	320	6	0.52	<2	4	24	<0.01	<10	<10	66	<10	60
130	KJ08	459249	1548180		<1	<0.2	2.82	<2	<10	200	0.5	<2	0.18	<0.5	12	16	16	3.90	<10	30	0.06	<10	0.27	520	1	0.01	11	390	4	0.01	<2	4	65	0.11	<10	<10	138	<10	50
131	KJ09	457835	1547920		<1	<0.2	1.66	<2	<10	120	<0.5	4	0.29	<0.5	28	150	24	6.70	<10	10	0.05	<10	0.35	795	<1	<0.01	43	570	6	0.03	4	4	55	0.15	<10	<10	299	<10	100
132	KJ10	458015	1548896		<1	<0.2	1.95	<2	<10	130	0.5	<2	0.20	<0.5	16	66	14	3.75	<10	<10	0.02	<10	0.20	495	1	0.01	25	280	8	0.03	<2	4	53	0.08	<10	<10	124	<10	32
133	KK01	458105	1550965		<1	<0.2	2.57	<2	<10	180	0.5	4	0.39	<0.5	23	119	21	4.40	<10	10	0.03	<10	0.52	645	1	0.01	57	550	6	<0.01	<2	7	87	0.07	<10	<10	144	<10	42
134	KK02	458131	1551265		<1	<0.2	3.42	<2	<10	220	0.5	<2	0.44	<0.5	23	106	22	3.92	<10	10	0.05	<10	0.51	710	1	0.01	64	600	4	<0.01	<2	9	84	0.06	<10	<10	106	<10	44
135	KK03	456968	1551830		59	<0.2	3.59	<2	<10	220	0.5	<2	0.39	<0.5	21	71	23	3.65	<10	20	0.03	10	0.48	780	1	0.01	45	550	6	0.01	<2	8	82	0.07	<10	<10	109	<10	42
136	KK04	456578	1551453		1	<0.2	2.63	<2	<10	190	<0.5	<2	0.34	<0.5	22	151	21	4.95	<10	20	0.04	<10	0.37	660	1	0.01	49	510	2	<0.01	<2	7	73	0.13	<10	<10	184	<10	60
137	KK05	455845	1546049		2	<0.2	1.77	<2	<10	80	<0.5	<2	0.13	<0.5	16	57	18	2.76	<10	10	0.01	<10	0.22	480	1	<0.01	26	240	6	<0.01	<2	5	34	0.05	<10	<10	81	<10	32
138	KK06	455222	1545668		1	<0.2	1.17	<2	<10	60	<0.5	<2	0.13	<0.5	19	43	17	2.83	<10	30	0.01	<10	0.20	915	1	<0.01	17	200	8	<0.01	<2	5	18	0.04	<10	<10	90	<10	30
139	KK07	456335	1548715		<1	<0.2	1.85	<2	<10	140	0.5	<2	0.19	<0.5	26	93	17	5.38	<10	30	0.01	<10	0.17	670	1	<0.01	25	360	10	0.01	<2	6	52	0.11	<10	<10	157	<10	42
140	KK08	456335	1548715	KK07	350	<0.2	1.62	<2	<10	140	<0.5	<2	0.18	<0.5	26	92	15	5.30	<10	30	0.01	<10	0.16	635	1	<0.01	24	350	8	0.01	<2	5	50	0.12	<10	<10	158	<10	40
141	KK09	455836	1546781		24	<0.2	1.77	2	<10	90	<0.5	2	0.13	<0.5	16	65	18	2.98	<10	10	0.01	<10	0.22	620	<1	<0.01	30	240	6	<0.01	<2	5	26	0.06	<10	<10	82	<10	38
142	KK10	464511	1543089		<1	0.2	1.35	<2	<10	80	<0.5	<2	0.24	<0.5	23	78	18	7.95	10	<10	0.05	<10	0.31	720	<1	0.01	26	570	6	0.01	<2	4	31	0.27	<10	<10	362	<10	118
143	KK11	466032	1542111		<1	<0.2	1.60	<2	<10	100	<0.5	<2	0.21	<0.5	17	52	14	5.27	<10	<10	0.06	<10	0.30	550	1	0.01	20	410	2	0.01	<2	4	34	0.18	<10	<10	223	<10	76
144	KK12	467299	1541718		87	0.2	1.38	<2	<10	80	<0.5	<2	0.24	<0.5	26	90	20	9.53	10	<10	0.05	<10	0.33	840	1	0.01	29	600	2	0.01	<2	4	30	0.34	<10	<10	440	<10	138
145	KK13	466905	1542926		1	<0.2	2.31	<2	<10	160	<0.5	<2	0.22	<0.5	18	44	18	5.12	<10	<10	0.06	<10	0.25	680	1	0.01	18	370	6	0.01	<2	6	45	0.15	<10	<10	182	<10	68
146	KK14	466905	1542926	KK13	<1	<0.2	1.10	<2	<10	90	<0.5	<2	0.14	<0.5	23	65	16	7.81	<10	<10	0.03	<10	0.19	730	1	<0.01	19	330	6	<0.01	<2	4	22	0.26	<10	<10	326	<10	104
147	KK15	466407	1543356		<1	<0.2	1.14	<2	<10	90	<0.5	2	0.13	<0.5	22	67	15	7.74	<10	<10	0.03	<10	0.19	710	1	<0.01	19	320	6	<0.01	<2	4	21	0.26	<10	<10	321	<10	102
148	KK16	465987	1543471		310	0.2	0.64	24	<10	100	<0.5	<2	0.43	<0.5	32	150	32	8.94	<10	580	0.04	10	0.22	885	2	<0.01	44	1420	22	0.40	2	3	40	0.21	<10	<10	381	<10	122
149	KK17	466084	1543931		3	<0.2	1.17	10	<10	100	<0.5	<2	0.34	<0.5	12	31	21	3.66	<10	60	0.05	<10	0.18	480	1	<0.01	16	270	18	0.01	<2	3	59	0.06	<10	<10	103	<10	48
150	KL01	453435	1549390		26	<0.2	0.69	<2	<10	30	<0.5	<2	0.08	<0.5	13	49	13	2.34	<10	<10	0.01	<10	0.21	370	<1	<0.01	21	160	6	<0.01	<2	3	10	0.04	<10	<10	64	<10	28
151	KL02	451293	1551064		790	<0.2	1.95	<2	<10	60	0.5	2	0.18	<0.5	21	88	35	4.33	<10	10	0.05	<10	1.14	425	3	0.01	77	350	4	0.04	2	7	17	0.01	<10	<10	86	<10	88
152	KL03	450868	1550076		4	<0.2	1.11	<2	<10	30	<0.5	<2	0.14	<0.5	21	64	25	3.30	<10	<10	0.01	<10	0.55	350	1	<0.01	34	210	2	<0.01	2	5	14	0.05	<10	<10	84	<10	40
153	KL04	450426	1552878		9	<0.2	1.02	<2	<10	50	<0.5	<2	0.14	<0.5	18	61	20	3.62	<10	170	0.01	<10	0.53	510	<1	<0.01	37	180	2	0.05	<2	6	8	0.03	<10	<10	80	<10	60
154	KL05	450314	1552196		<1	<0.2	1.54	6	<10	40	<0.5	4	0.13	<0.5	34	127	31	5.69	<10	10	0.01	<10	0.75	825	1	<0.01	72	240	2	0.03	2	9	8	0.06	<10	<10	128	<10	74
155	KL06	454345	1547358		400	<0.2	0.62	<2	<10	30	<0.5	<2	0.11	<0.5	11	35	7	1.95	<10	<10	<0.01	<10	0.16	510	<1	<0.01	10	150	2	<0.01	<2	3	10	0.04	<10	<10	60	<10	18
156	KL07	452859	1547459		2	<0.2	0.51	<2	<10	20	<0.5	<2	0.08	<0.5	10	30	7	1.55	<10	<10	<0.01	<10	0.16	255	<1	<0.01	9	110	4	<0.01	<2	2	8	0.04	<10	<10	53	<10	16
157	KL08	452869	1547029		2	<0.2	0.55	<2	<10	10	<0.5	<2	0.12	<0.5	9	29	7	1.53	<10	10	<0.01	<10	0.26	355	1	<0.01	8	70	4	<0.01	<2	2	8	0.06	<10	<10	48	<10	20
158	KL09	450888	1545897		250	<0.2	0.62	<2	<10	<10	<0.5	<2	0.16	<0.5	12	40	9	2.33	<10	<10	<0.01	<10	0.32	265	1	<0.01	13	100	66	<0.01	<2	3	10	0.08	<10	<10	72	<10	24
159	KL10	463603	1545031		6	<0.2	1.12	2	<10	130	0.5	<2	0.36	<0.5	13	39	37	4.17	<10	<10	0.05	10	0.38	450	3	<0.01	23	650	6	0.17	<2	3	67	0.03	<10	<10	116	<10	74
160	KL11	463694	1545757		7	<0.2	1.09	6	<10	100	<0.5	<2	0.17	<0.5	10	11	43	2.98	<10	<10	0.05	<10	0.31	330	3	<0.01	16	420	8	0.22	<2	1	43	<0.01	<10	<10	36	<10	42
161	KL12	464460	1545863		2	<0.2	1.21	<2	<10	160	0.5	<2	0.54	<0.5	15	45	35	4.24	<10	<10	0.06	10	0.42	555	1	<0.01	25	820	6	0.07	2	4	98	0.04	<10	<10	129	<10	78
162	KL13	465444	1545296		<1	<0.2	1.06	<2	<10	100	<0.5	<2	0.28	<0.5	20	104	42	7.02	<10	10	0.03	<10	0.28	835	<1	<0.01	39	390	8	0.01	<2	3	61	0.15	<10	<10	308	<10	128
163	KL14	465689	1545230		1	<0.2	1.49	2	<10	120	<0.5	<2	0.35	<0.5	13	49	21	4.04	<10	70	0.04	<10	0.41	455	1	<0.01	24	360	10	0.01	2	4	60	0.07	<10	<10	140	<10	64
164	KL15	466042	1545420		5	<0.2	1.24	<2	<10	100	<0.5	<2	0.28	<0.5	17	89	24	6.23	<10	40	0.03	<10	0.40	615	1	<0.01	33	350	10	0.01	<2	3	47	0.13	<10	<10	264	<10	102
165	KL16	461400	1546440		6	<0.2	1.43	4	<10	150	<0.5	<2	0.19	<0.5	11	24	28	3.54	<10	<10	0.07	<10	0.40	430	2	<0.01	18	370	6	0.20	<2	3	50	0.05	<10	<10	97	<10	48
166	KM01	452792	1551567		2	<0.2	0.37	6	<10	10	<0.5	<2	0.04	<0.5	5	15	3	1.20	<10	<10	<0.01	<10	0.09	200	<1	<0.01	4	90	2	<0.01	<2	1	3	0.03	<10	<10	33	<10	10
167	KM02	453330	1552206		7	<0.2	0.83	10	<10	10	<0.5	<2	0.07	<0.5	14	34	10	2.62	<10	<10	0.01	<10	0.22	500	<1	<0.01	9	120	12	<0.01	<2	4	6	0.04	<10	<10	72	<10	24
168	KM03	454178	1552848		8	<0.2	0.74	14	<10	10	<0.5	<2	0.04	<0.5	6	24	27	1.98	<10	<10	0.02	<10	0.35	210	<1	<0.01	11	70	10	0.07	<2	2	5	0.01	<10	<10	39	<10	40
169	KM04	454047	1552997		10	<0.2	1.11	12	<10	40	<0.5	<2	0.09	<0.5	11	43	56	2.62	<10	<10	0.02	<10	0.33	280	1	<0.01	20	130	24	0.01	<2	4	15	0.01	<10	<10	50	<10	42
170	KM05	462832	1546152		6	<0.2	0.30	36	<10	30	<0.5	<2	<0.01	<0.5	<1	6	35	3.78	<10	10	0.03	<10	0.01	25	16	<0.01	1	100	6	0.10	<2	1	13	<0.01	<10	<10	31	<10	6
171	KM06	462871	1545062		4	<0.2	0.64	12	<10	120	<0.5	<2	0.13	<0.5	3	7	32	3.27	<10	<10	0.05	<10	0.12	70	10	<0.01	5	350	8	0.20	<2	1	46	<0.01	<10	<10	32	<10	14
172	KM07	462871	1545062	KM06	4	<0.2	0.63	14	<10	120	<0.5	<2	0.13	<0.5	3	7	34	3.60	<10	<10	0.05	<10	0.12	75	12	<0.01	4	350	8	0.20	2	1	45	<0.01	<10	<10	37	<10	14
173	KM08	468216	1544660		<2	<0.2	1.02	14	<10	120	<0.5	<2	0.40	<0.5	20	69	21	5.72	<10	8300	0.06	10	0.30	665	1	0.01	26	760	6	0.21	2	4	64	0.14	<10	<10	231	<10	74
174	KM09	468188	1544982		18	<0.2	0.84	30	<10	160	<0.5	<2	0.30	<0.5	13	32	16	2.45	<10	240	0.07	10	0.15	470	1	<0.01	21	490	16	0.10	2	3	60	0.03	<10	<10	58	<10	32

Appendix 7 Geochemical Data of the Stream Sediments Samples

No.	Sample No.	Coordination		Duplication	Au	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr	Ti	Tl	U	V	W	Zn
		E-UTM	N-UTM	(=Sp_No)	ppb	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppb	%	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
175	KM10	468443	1545701		86	<0.2	0.81	34	<10	180	<0.5	<2	0.31	<0.5	18	57	14	3.38	<10	280	0.07	10	0.16	595	<1	<0.01	29	460	12	0.23	<2	4	54	0.04	<10	<10	97	<10	44
176	KN01	457692	1552829		8	<0.2	1.84	12	<10	110	0.5	<2	0.18	<0.5	17	43	45	4.66	<10	10	0.05	<10	0.63	400	3	<0.01	35	350	6	0.32	<2	4	36	<0.01	<10	<10	59	<10	62
177	KN02	458770	1553299		2	<0.2	3.04	6	<10	60	0.5	<2	0.28	<0.5	26	58	56	5.70	<10	30	0.07	<10	1.46	645	1	<0.01	87	480	8	0.04	<2	7	40	<0.01	<10	<10	62	<10	108
178	KN03	459192	1553135		<1	<0.2	2.61	4	<10	140	0.5	<2	0.39	<0.5	28	51	54	5.74	10	40	0.07	<10	0.60	1490	2	0.01	55	510	12	0.06	<2	7	63	<0.01	<10	<10	76	<10	86
179	KN04	459237	1552846		8	<0.2	2.10	4	<10	120	0.5	<2	0.27	<0.5	20	59	35	4.35	<10	10	0.06	<10	0.52	585	1	<0.01	38	430	8	0.08	<2	6	53	0.01	<10	<10	73	<10	60
180	KN05	459784	1550143		<1	<0.2	1.11	2	<10	110	<0.5	<2	0.27	<0.5	34	190	28	8.87	10	10	0.05	<10	0.39	810	<1	<0.01	50	540	6	0.04	<2	4	50	0.19	<10	<10	405	<10	132
181	KN06	461325	1550683		<1	<0.2	1.77	2	<10	140	<0.5	<2	0.36	<0.5	17	71	23	4.04	<10	<10	0.06	<10	0.42	525	1	0.01	30	530	4	0.03	<2	5	76	0.09	<10	<10	149	<10	60
182	KN07	461515	1550423		<1	<0.2	2.11	<2	<10	190	0.5	<2	0.40	<0.5	16	65	23	4.23	<10	10	0.04	10	0.34	415	<1	0.01	27	490	6	0.02	<2	4	103	0.1	<10	<10	167	<10	70
183	KN08	461333	1550246		<1	<0.2	1.81	<2	<10	160	<0.5	<2	0.33	<0.5	19	81	21	4.81	<10	10	0.05	<10	0.34	475	1	0.01	29	440	6	0.01	2	4	84	0.11	<10	<10	198	<10	74
184	LA01	473829	1556698		<1	<0.2	2.44	<2	<10	180	<0.5	<2	0.36	<0.5	15	41	17	4.23	<10	<10	0.05	<10	0.39	530	1	0.01	21	400	4	0.02	<2	5	81	0.15	<10	<10	170	<10	60
185	LA02	474281	1556668		<1	<0.2	1.71	<2	<10	110	<0.5	<2	0.43	<0.5	17	42	20	5.41	<10	<10	0.05	<10	0.31	685	<1	0.02	15	530	6	0.07	<2	4	72	0.17	<10	<10	213	<10	74
186	LA03	473477	1556940		<2	<0.2	2.01	<2	<10	130	<0.5	<2	0.41	<0.5	11	25	18	3.15	<10	<10	0.05	<10	0.29	445	<1	0.03	12	540	2	0.05	<2	4	70	0.11	<10	<10	117	<10	48
187	LA04	473152	1557020		<1	<0.2	2.27	<2	<10	190	<0.5	<2	0.34	<0.5	14	51	14	3.63	<10	<10	0.05	<10	0.33	505	<1	0.01	20	460	4	<0.01	<2	5	72	0.12	<10	<10	136	<10	50
188	LA05	473152	1557020	LA04	<1	<0.2	1.97	<2	<10	160	<0.5	<2	0.30	<0.5	14	61	13	4.29	<10	<10	0.05	<10	0.31	505	<1	0.01	20	460	2	<0.01	<2	5	61	0.15	<10	<10	173	<10	58
189	LA06	472461	1557488		<1	<0.2	1.34	<2	<10	80	<0.5	<2	0.26	<0.5	20	61	19	7.93	10	<10	0.03	<10	0.24	670	1	0.02	15	620	4	0.04	2	3	38	0.3	<10	<10	364	<10	102
190	LA07	468751	1561930		<1	<0.2	2.03	<2	<10	120	0.5	<2	0.24	<0.5	17	38	34	5.01	<10	10	0.04	<10	0.51	800	1	<0.01	21	560	6	0.01	<2	6	48	0.13	<10	<10	165	<10	90
191	LA08	468496	1561655		<1	<0.2	4.14	<2	<10	170	0.5	<2	0.31	<0.5	20	52	39	5.22	10	30	0.03	<10	0.38	670	1	<0.01	20	470	6	0.01	<2	8	80	0.12	<10	<10	181	<10	70
192	LA09	468210	1561984		<1	<0.2	2.63	<2	<10	150	<0.5	<2	0.23	<0.5	26	111	40	7.00	10	30	0.02	<10	0.34	690	1	<0.01	35	460	8	<0.01	<2	8	55	0.27	<10	<10	290	<10	80
193	LA10	467805	1562338		22	<0.2	3.33	<2	<10	250	0.5	<2	0.14	<0.5	27	130	57	7.85	10	30	0.03	<10	0.39	695	1	<0.01	46	610	10	0.01	<2	11	45	0.25	<10	<10	326	<10	96
194	LA11	469765	1552799		2	<0.2	3.40	<2	<10	220	<0.5	<2	0.23	<0.5	18	44	22	5.55	10	30	0.05	<10	0.32	655	1	0.01	20	460	6	0.01	2	6	67	0.2	<10	<10	220	<10	74
195	LA12	469422	1552562		3	<0.2	2.90	<2	<10	320	0.5	<2	0.35	<0.5	29	64	27	6.35	10	21100	0.08	<10	0.40	1050	1	0.01	37	390	8	0.01	2	8	109	0.17	<10	<10	263	<10	96
196	LA13	469838	1552935		2	<0.2	3.19	<2	<10	220	<0.5	<2	0.20	<0.5	16	29	17	5.86	10	30	0.06	<10	0.25	720	1	0.02	14	240	6	<0.01	2	5	59	0.23	<10	<10	219	<10	84
197	LA14	469722	1549031		<1	<0.2	1.24	<2	<10	200	0.5	<2	1.43	<0.5	9	32	21	2.33	<10	<10	0.05	10	0.27	710	<1	0.01	15	1170	2	<0.01	<2	4	226	0.03	<10	<10	72	<10	30
198	LA15	469913	1548819		<1	<0.2	1.02	<2	<10	80	<0.5	<2	0.37	<0.5	19	61	21	7.78	<10	<10	0.04	<10	0.29	705	1	0.01	17	660	8	0.08	2	3	40	0.27	<10	<10	344	<10	106
199	LA16	469841	1548601		3	<0.2	1.68	<2	<10	120	<0.5	<2	0.35	<0.5	23	151	35	7.13	<10	90	0.03	<10	0.26	570	<1	<0.01	41	430	8	0.03	<2	7	62	0.17	<10	<10	273	<10	102
200	LB01	470983	1559539		5	<0.2	1.80	<2	<10	160	<0.5	<2	0.11	0.5	26	51	18	10.20	10	<10	0.04	<10	0.27	985	<1	<0.01	17	220	10	<0.01	2	6	36	0.44	<10	<10	461	<10	140
201	LB02	471438	1559754		120	<0.2	3.15	<2	<10	190	0.5	<2	0.51	<0.5	18	37	32	4.49	<10	120	0.04	<10	0.57	665	1	0.01	21	290	6	<0.01	<2	7	47	0.13	<10	<10	132	<10	74
202	LB03	471568	1560148		30	<0.2	2.75	<2	<10	210	0.5	<2	0.37	<0.5	21	105	39	5.13	<10	20	0.05	<10	0.43	700	1	0.01	40	520	8	0.04	2	9	112	0.14	<10	<10	175	<10	76
203	LB04	472381	1560122		<1	<0.2	3.10	2	<10	140	<0.5	<2	0.13	<0.5	12	26	14	4.75	10	30	0.04	<10	0.17	445	1	0.01	9	310	2	<0.01	2	4	31	0.21	<10	<10	194	<10	70
204	LB05	473151	1561887		<1	<0.2	3.12	<2	<10	190	<0.5	<2	0.20	<0.5	19	40	28	7.51	10	10	0.05	<10	0.28	685	2	0.01	12	300	6	<0.01	<2	7	78	0.3	<10	<10	316	<10	112
205	LB06	475339	1562852		<1	0.2	0.72	<2	<10	30	<0.5	<2	0.08	2	31	89	15	>15.00	20	10	0.01	<10	0.25	990	17	<0.01	18	250	8	<0.01	<2	3	10	0.63	<10	<10	729	<10	200
206	LB07	475207	1562660		<1	<0.2	5.12	<2	<10	230	<0.5	<2	0.05	<0.5	22	30	30	6.59	10	30	0.03	<10	0.12	815	1	<0.01	15	210	10	0.01	<2	14	31	0.26	<10	<10	257	<10	80
207	LB08	475264	1562479		1	<0.2	2.57	<2	<10	160	<0.5	<2	0.21	<0.5	11	16	15	3.21	<10	20	0.06	<10	0.21	445	<1	0.03	9	380	2	<0.01	<2	5	42	0.14	<10	<10	118	<10	44
208	LB09	475454	1562389		<1	<0.2	1.30	<2	<10	50	<0.5	<2	0.16	<0.5	16	41	14	7.77	10	10	0.03	<10	0.19	515	1	0.01	10	410	6	0.01	<2	3	21	0.32	<10	<10	346	<10	98
209	LB10	475454	1562389	LB09	<1	<0.2	1.30	<2	<10	60	<0.5	<2	0.15	<0.5	13	32	12	6.03	<10	10	0.03	<10	0.18	415	1	0.01	9	320	2	0.01	2	3	22	0.26	<10	<10	264	<10	76
210	LB11	476075	1563620		4	<0.2	1.68	12	<10	80	<0.5	<2	0.13	<0.5	15	56	25	5.37	<10	370	0.06	<10	0.40	405	<1	0.01	23	190	4	0.07	2	4	16	0.2	<10	<10	202	<10	74
211	LB12	467564	1557053		<1	<0.2	4.14	<2	<10	320	0.5	<2	0.25	<0.5	31	105	23	4.52	10	20	0.10	10	0.36	1070	1	0.01	60	520	10	<0.01	4	11	84	0.14	<10	<10	119	<10	60
212	LB13	467401	1557188		<1	<0.2	3.65	<2	<10	260	0.5	<2	0.27	<0.5	23	98	26	4.16	<10	40	0.07	10	0.35	675	1	0.01	48	400	8	0.14	<2	8	96	0.11	<10	<10	114	<10	60
213	LB14	466692	1556643		<1	<0.2	4.33	<2	<10	270	0.5	<2	0.20	<0.5	24	118	22	4.01	10	30	0.05	10	0.31	795	1	0.01	56	350	6	0.09	<2	10	69	0.12	<10	<10	126	<10	50
214	LB15	466617	1556702		<1	<0.2	4.06	<2	<10	240	0.5	<2	0.24	<0.5	23	90	23	4.18	10	10	0.06	<10	0.36	660	2	<0.01	48	330	8	0.16	<2	10	90	0.12	<10	<10	112	<10	46
215	LB16	467595	1557357		<1	<0.2	2.20	22	<10	200	0.5	<2	0.44	<0.5	15	50	29	3.45	<10	20	0.04	10	0.28	590	4	<0.01	31	480	8	0.85	<2	5	130	0.05	<10	<10	70	<10	60
216	LB17	469059	1557413		<1	<0.2	3.07	2	<10	290	0.5	<2	0.30	<0.5	22	99	21	3.97	<10	<10	0.06	10	0.35	1195	1	0.01	53	400	6	0.03	<2	8	93	0.1	<10	<10	113	<10	60
217	LB18	469235	1557264		<1	<0.2	3.82	<2	<10	300	0.5	<2	0.18	<0.5	34	154	25	5.32	10	<10	0.07	10	0.35	1360	1	0.01	78	280	10	<0.01	<2	12	67	0.18	<10	<10	136	<10	54
218	LC01	472266	1562834		<1	<0.2	2.64	<2	<10	150	0.5	<2	0.26	<0.5	16	39	33	5.16	<10	10	0.04	<10	0.45	725	1	0.01	18	450	6	<0.01	2	8	59	0.16	<10	<10	164	<10	94
219	LC02	471640	1562800		<1	<0.2	1.95	2	<10	120	0.5	<2	0.13	<0.5	10	3	29	5.07	<10	20	0.04	<10	0.32	735	1	<0.01	2	670	8	0.01	<2	6	18	0.13	<10	<10	127	<10	108
220	LC03	471005	1562222		<1	<0.2	2.94	<2	<10	170	0.5	<2	0.23	<0.5	18	42	34	5.63	10	10	0.04	<10	0.58	880	1	0.01	19	510	8	<0.01	2	8	58	0.18	<10	<10	184	<10	102
221	LC04	471025	1562435		<1	<0.2	1.91	2	<10	110	0.5	<2	0.11	<0.5	12	10	28	4.83	<10	10	0.05	<10	0.34	680	1	<0.01	6	470	6	<0.01	2	6	20	0.16	<10	<10	153	<10	102
222	LD01	470286	1562995		<1	<0.2	2.56	2	<10	140	0.5	<2	0.10	<0.5	14	3	31	5.87	10	30	0.04	<10	0.25	1190	2	<0.01	2	600	6	0.01	<2	7	20	0.19	<10	<10	187	<10	110
223	LD02	469646	1562949		<1	<0.2	2.52	2	<10	110	0.5	<2	0.10	<0.5	14	7	45	4.67	<10	10	0.03	<10	0.30	780	1	<0.01	3	410	6	<0.01	<2	8	15	0.09	<10	<10	115	<10	92
224	LD03	469171	1563066		<1	<0.2	1.95	4	<10	130	0.5	<2	0.20	<0.5	13	16	26	4.79	<10	10	0.04	<10	0.31	805	1	<0.01	11	470	6	<0.01	<2	7	35	0.14	<10	<10	143	<10	98
225	LD04	469163	1562838		<1	<0.2	2.07	12	<10	150	0.5	<2	0.29	<0.5	18	6	51	5.80	<10	10	0.03	<10	0.46	1020	1	0.01	10	700	6	0.05	2	10	30	0.11	<10	<10	135	<10	110
226	LD05	467389	1553622		4	<0.2	1.22	72	<10	110	<0.5	<2	0.36	<0.5	15	56	24	3.18	<10	70	0.07	10	0.25	485	<1	<0.01	43	660	6	0.11	4	3	67	0.01	<10	<10	59	<10	40
227	LD06	467273	1553821		<1	<0.2	2.30	<2	<10	200	0.5	<2	0.31	<0.5	18	104	28	4.42	<10	10	0.06	10	0.49	565	2	<0.01	42	490	8	0.09	2	6	93	0.05	<10	<10	138	<10	50
228	LD07	466021	1553197		<1	<0.2	2.37	<2	<10	170	0.5	<2	0.31	<0.5	15	91	27	4.01	<10	10	0.05	10	0.44	465	3	<0.01	38	440	6	0.09	<2	6	92	0.04	<10	<10	122	<10	44
229	LD08	466053	1552976		<1	<0.2	1.85	2	<10	120	0.5	<2	0.21	<0.5	15	160	27	6.24	<10	20	0.04	<10	0.25	565	1	<0.01	44	340	8	0.01	<2	5	52	0.04	<10	<10	201	<10	70
230	LD09	465862	1552726		1	<0.2	1.86	8	<10	350	0.5	<2	0.32	<0.5	20	73	39	4.44	<10	60	0.05	10	0.38	1530	4	<0.01	39	520	10	0.35	2	5	75	0.01	<10	<10	109	<10	52
231	LE01	470427	1561622		<1	<0.2	3.02	<2	<10	150	0.5	<2	0.26	<0.5	21	62	36	5.98	10	<10	0.03	<10	0.54	775	1	0.01	25	450	6	0.01	<2	9	66	0.21	<10	<10	233	<10	96
232	LE02	470516	1562174		<1	<0.2	1.43	<2	<10	120	0.5	<2	0.10	<0.5	10	7	19	4.66	<10	10	0.04	<10	0.32	785	1	<0.01	4	450	6	<0.01	2	5	17	0.14	<10	<10	109	<10	118

Appendix 7 Geochemical Data of the Stream Sediments Samples

No.	Sample No.	Coordination E-UTM	Coordination N-UTM	Duplication (=Sp_No)	Au ppb	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppb	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
233	LE03	463921	1553092		<1	<0.2	2.49	<2	<10	290	<0.5	<2	0.23	<0.5	24	117	19	4.48	<10	<10	0.10	10	0.42	945	<1	0.01	41	380	8	<0.01	<2	6	74	0.14	<10	<10	168	<10	60
234	LE04	464355	1552495		<1	<0.2	2.11	<2	<10	190	<0.5	<2	0.19	<0.5	22	135	18	4.31	<10	<10	0.07	<10	0.36	640	1	0.01	42	380	2	<0.01	<2	5	49	0.13	<10	<10	177	<10	54
235	LE05	464355	1552495	LE04	<1	<0.2	1.21	<2	<10	140	<0.5	<2	0.16	<0.5	29	225	18	6.30	<10	<10	0.05	<10	0.30	705	1	<0.01	48	380	4	<0.01	<2	4	35	0.18	<10	<10	303	<10	82
236	LF01	468071	1553083		2	<0.2	1.98	<2	<10	240	0.5	<2	0.50	<0.5	31	119	32	6.83	<10	310	0.07	10	0.39	795	1	<0.01	62	610	8	0.04	2	5	125	0.12	<10	<10	269	<10	106
237	LF02	467734	1552987		2	<0.2	2.35	10	<10	180	0.5	<2	0.32	<0.5	20	78	23	4.46	<10	10	0.05	10	0.40	735	1	<0.01	42	380	6	0.13	2	6	77	0.07	<10	<10	145	<10	54
238	LF03	467569	1552086		<1	<0.2	1.46	6	<10	150	<0.5	<2	0.41	<0.5	7	52	13	3.15	<10	10	0.05	10	0.20	160	1	<0.01	27	180	4	0.04	2	5	86	0.02	<10	<10	91	<10	22
239	LF04	467295	1552164		<1	<0.2	2.43	4	<10	210	<0.5	<2	0.27	<0.5	22	89	25	4.75	<10	50	0.07	10	0.44	700	1	<0.01	41	440	8	0.08	4	6	64	0.1	<10	<10	169	<10	62
240	LF05	470273	1550576		<1	<0.2	1.93	<2	<10	250	<0.5	<2	0.17	<0.5	19	41	17	6.83	10	<10	0.07	<10	0.24	925	<1	0.01	15	400	6	<0.01	<2	5	40	0.25	<10	<10	291	<10	94
241	LF06	468322	1549918		<1	<0.2	2.16	<2	<10	180	<0.5	<2	0.28	<0.5	27	120	27	6.25	10	<10	0.05	<10	0.31	790	1	<0.01	40	410	6	0.04	<2	6	73	0.14	<10	<10	260	<10	82
242	LF07	468540	1549794		<1	<0.2	1.76	<2	<10	220	<0.5	<2	0.30	<0.5	30	132	23	6.66	10	10	0.05	10	0.30	910	<1	<0.01	33	230	8	<0.01	2	5	99	0.13	<10	<10	288	<10	78
243	LG01	470978	1556430		3	<0.2	2.81	18	<10	220	0.5	<2	0.21	<0.5	25	131	25	5.46	10	40	0.06	<10	0.30	855	1	<0.01	48	360	20	0.01	4	8	73	0.14	<10	<10	182	<10	80
244	LG02	469698	1555191		<1	<0.2	2.99	<2	<10	330	<0.5	<2	0.23	<0.5	32	117	28	4.11	10	<10	0.05	<10	0.36	1225	1	<0.01	61	410	8	0.04	4	10	71	0.11	<10	<10	146	<10	54
245	LG03	468885	1554831		<1	<0.2	1.97	<2	<10	220	<0.5	<2	0.28	<0.5	21	103	13	3.34	<10	<10	0.07	<10	0.37	680	1	<0.01	37	180	4	<0.01	<2	5	99	0.08	<10	<10	122	<10	40
246	LG04	467894	1554311		<1	<0.2	2.41	8	<10	210	0.5	<2	0.32	<0.5	18	62	30	3.87	<10	30	0.08	10	0.52	580	2	<0.01	39	460	8	0.06	2	6	95	0.03	<10	<10	90	<10	44
247	LG05	467818	1554685		<1	<0.2	3.00	<2	<10	470	<0.5	<2	0.15	<0.5	46	167	32	4.83	10	<10	0.10	<10	0.43	2010	1	<0.01	78	350	10	0.01	<2	10	55	0.14	<10	<10	189	<10	68
248	LG06	467318	1555065		<1	<0.2	4.27	<2	<10	420	<0.5	<2	0.06	<0.5	52	163	43	5.05	10	10	0.04	10	0.34	1855	2	<0.01	92	410	10	0.01	4	17	44	0.17	<10	<10	179	<10	64
249	LG07	466787	1554892		<1	<0.2	3.76	<2	<10	260	<0.5	<2	0.23	<0.5	33	140	22	4.59	10	10	0.05	<10	0.46	1240	1	<0.01	61	290	4	<0.01	2	9	87	0.12	<10	<10	155	<10	58
250	LG08	466622	1553975		<1	<0.2	3.30	<2	<10	330	1.5	<2	0.38	<0.5	17	88	19	3.16	<10	<10	0.11	<10	0.71	930	1	0.01	44	300	4	<0.01	<2	6	139	0.09	<10	<10	109	<10	48
251	LJ01	468957	1561112		<1	<0.2	2.55	<2	<10	140	<0.5	<2	0.32	<0.5	20	78	35	5.90	10	10	0.03	<10	0.34	535	1	<0.01	27	440	6	0.01	2	8	87	0.19	<10	<10	256	<10	74
252	LJ02	468530	1560829		<1	<0.2	2.62	<2	<10	170	0.5	<2	0.42	<0.5	22	94	36	5.88	10	90	0.02	<10	0.37	680	1	0.01	31	580	8	<0.01	2	7	95	0.2	<10	<10	232	<10	84
253	LJ03	467578	1560249		<1	<0.2	2.98	<2	<10	160	0.5	<2	0.28	<0.5	16	69	30	3.97	<10	20	0.03	<10	0.31	385	1	<0.01	32	320	6	0.01	<2	8	86	0.08	<10	<10	115	<10	48
254	LJ04	467578	1560249	LJ03	22	<0.2	3.20	<2	<10	190	0.5	<2	0.31	<0.5	18	68	31	3.99	<10	110	0.04	<10	0.35	425	1	<0.01	34	360	6	0.01	2	8	96	0.07	<10	<10	108	<10	50
255	LJ05	468822	1555537		20	<0.2	2.50	10	<10	240	0.5	<2	0.32	<0.5	25	131	22	4.27	<10	10	0.05	10	0.32	735	1	<0.01	60	300	8	<0.01	2	8	117	0.13	<10	<10	149	<10	66
256	LJ06	468725	1555500		<1	<0.2	2.59	<2	<10	180	<0.5	<2	0.14	<0.5	24	208	21	5.32	<10	10	0.03	<10	0.27	540	1	<0.01	64	230	4	<0.01	2	8	46	0.2	<10	<10	214	<10	58
257	LJ07	468529	1555742		<1	<0.2	4.22	<2	<10	280	0.5	<2	0.20	<0.5	30	195	27	4.85	10	10	0.04	<10	0.34	835	1	<0.01	89	300	6	<0.01	2	13	71	0.23	<10	<10	180	<10	58
258	LL01	466011	1554294		<1	<0.2	2.08	<2	<10	240	<0.5	<2	0.20	<0.5	20	112	19	3.77	<10	<10	0.12	<10	0.45	645	1	0.01	40	370	6	0.01	<2	5	55	0.12	<10	<10	143	<10	50
259	LL02	466011	1554501		1	<0.2	1.34	<2	<10	140	<0.5	<2	0.17	<0.5	29	361	25	9.09	10	<10	0.05	<10	0.37	870	1	<0.01	85	370	8	0.08	2	4	47	0.21	<10	<10	415	<10	134
260	LM01	470394	1553424		<1	<0.2	2.40	<2	<10	230	<0.5	<2	0.06	<0.5	18	33	14	6.89	10	<10	0.02	<10	0.13	770	1	<0.01	11	140	8	<0.01	2	7	28	0.32	<10	<10	280	<10	88
261	LM02	470394	1553424	LM01	<1	<0.2	3.42	<2	<10	260	<0.5	<2	0.06	<0.5	18	33	16	6.78	10	10	0.03	<10	0.13	685	1	<0.01	13	170	10	<0.01	2	8	31	0.31	<10	<10	270	<10	92
262	LM03	469732	1553915		26	<0.2	1.43	<2	<10	120	<0.5	<2	0.11	<0.5	21	56	17	8.39	10	<10	0.03	<10	0.20	735	1	<0.01	17	210	6	0.05	6	4	28	0.33	<10	<10	355	<10	110
263	LM04	469415	1553451		<1	<0.2	1.07	<2	<10	100	<0.5	<2	0.33	<0.5	19	58	19	7.09	<10	<10	0.04	<10	0.27	655	1	0.01	18	720	8	0.11	<2	3	44	0.23	<10	<10	312	<10	100
264	LM05	471201	1551240		1	<0.2	1.62	2	<10	100	<0.5	2	0.76	<0.5	21	49	24	6.73	<10	10	0.05	<10	0.68	730	2	0.01	25	590	4	0.48	2	6	89	0.16	<10	<10	265	<10	102
265	LM06	469694	1549205		<1	<0.2	2.95	<2	<10	300	<0.5	<2	0.31	<0.5	19	28	20	4.29	10	<10	0.09	10	0.31	1005	<1	0.01	14	200	8	<0.01	<2	5	80	0.12	<10	<10	155	<10	58
266	LM07	469694	1549205	LM06	1	<0.2	2.67	<2	<10	270	<0.5	<2	0.31	<0.5	21	32	20	4.72	<10	<10	0.09	10	0.30	970	1	0.01	14	180	8	<0.01	2	5	79	0.13	<10	<10	177	<10	64
267	LM08	469312	1550396		<1	<0.2	1.14	<2	<10	80	<0.5	<2	0.30	<0.5	13	30	14	4.78	<10	10	0.03	<10	0.23	420	<1	0.03	14	430	4	0.09	<2	3	51	0.17	<10	<10	193	<10	74
268	LN01	472768	1553468		1	<0.2	0.90	<2	<10	50	<0.5	<2	0.45	<0.5	12	31	14	4.31	<10	<10	0.03	<10	0.22	445	1	0.04	11	870	2	0.18	<2	2	51	0.15	<10	<10	181	<10	56
269	LN02	472833	1553680		<1	<0.2	2.55	<2	<10	140	<0.5	<2	0.23	<0.5	15	38	21	4.89	<10	<10	0.03	<10	0.36	510	1	0.01	23	380	4	0.01	2	4	55	0.2	<10	<10	207	<10	70
270	LN03	470483	1559976		1	<0.2	2.87	2	<10	170	2.0	<2	0.25	1.5	47	361	73	11.85	20	10	0.02	<10	0.43	1075	1	<0.01	105	850	12	0.01	2	26	61	0.35	<10	<10	379	<10	128
271	LN04	469569	1560152		<1	<0.2	1.80	<2	<10	190	<0.5	<2	0.21	<0.5	24	146	18	4.55	<10	<10	0.04	<10	0.32	945	1	<0.01	51	430	6	0.01	2	5	55	0.11	<10	<10	171	<10	60
272	LN05	469249	1557905		1	<0.2	1.28	2	<10	340	0.5	<2	0.40	<0.5	18	69	12	3.12	<10	60	0.06	10	0.26	2300	<1	0.01	30	580	4	0.02	<2	4	112	0.06	<10	<10	69	<10	44
273	LN06	469353	1557774		<1	<0.2	2.51	4	<10	200	<0.5	<2	0.19	<0.5	20	141	20	4.70	<10	10	0.04	<10	0.25	840	<1	<0.01	44	290	8	0.05	2	6	66	0.13	<10	<10	163	<10	66
274	LN07	469117	1553555		<1	<0.2	2.76	10	<10	230	0.5	<2	0.33	<0.5	22	83	28	4.84	<10	10	0.07	10	0.49	755	1	<0.01	44	470	10	0.11	2	6	82	0.09	<10	<10	164	<10	64
275	LN08	468320	1553532		<1	<0.2	2.22	6	<10	110	<0.5	<2	0.26	<0.5	13	72	16	3.58	<10	<10	0.05	10	0.28	410	1	<0.01	37	140	6	<0.01	<2	7	83	0.03	<10	<10	102	<10	28
276	LN09	470777	1550617		<1	<0.2	5.09	<2	<10	320	<0.5	<2	0.17	<0.5	16	21	23	4.35	10	<10	0.09	<10	0.21	785	1	0.03	11	500	6	<0.01	6	9	69	0.19	<10	<10	155	<10	62
277	LN10	470777	1550617	LN09	<1	<0.2	3.79	2	<10	230	<0.5	<2	0.16	<0.5	15	27	20	5.05	10	<10	0.07	<10	0.20	645	1	0.02	11	420	4	<0.01	<2	7	53	0.2	<10	<10	202	<10	70
278	LN11	470163	1551088		<1	<0.2	2.33	<2	<10	170	<0.5	<2	0.12	<0.5	23	50	21	8.91	10	<10	0.05	<10	0.23	860	1	0.01	15	400	6	<0.01	<2	5	36	0.34	<10	<10	404	<10	118
279	LN12	469231	1550530		<1	<0.2	1.42	<2	<10	110	<0.5	<2	0.44	<0.5	16	45	20	5.99	<10	<10	0.05	<10	0.32	590	1	0.03	15	830	18	0.09	<2	4	56	0.19	<10	<10	250	<10	86
280	LN13	468834	1550365		<1	0.2	0.94	<2	<10	100	<0.5	<2	0.29	1	33	127	25	11.20	10	<10	0.03	<10	0.28	925	<1	0.01	31	790	10	0.07	2	3	37	0.36	<10	<10	531	<10	152
281	LP01	471878	1554366		<1	<0.2	2.81	<2	<10	240	<0.5	<2	0.27	<0.5	15	37	19	4.89	<10	10	0.07	10	0.28	585	1	0.01	15	380	8	<0.01	<2	6	77	0.17	<10	<10	193	<10	68
282	LP02	471878	1554366	LP01	<1	<0.2	2.39	<2	<10	210	<0.5	<2	0.24	<0.5	17	42	18	5.67	10	<10	0.06	10	0.27	615	1	0.01	16	370	8	<0.01	<2	5	70	0.21	<10	<10	240	<10	78
283	LP03	471400	1555399		<1	<0.2	0.97	<2	<10	60	<0.5	<2	0.59	<0.5	8	20	14	2.86	<10	<10	0.03	<10	0.28	355	<1	0.05	11	830	2	0.12	<2	2	65	0.1	<10	<10	109	<10	40
284	LP04	471232	1556315		<1	<0.2	1.21	<2	<10	70	<0.5	<2	0.50	<0.5	9	23	17	2.70	<10	<10	0.04	<10	0.28	355	1	0.05	13	710	<2	0.10	<2	3	65	0.09	<10	<10	101	<10	38
285	LP05	471499	1556391		<1	<0.2	2.53	58	<10	250	0.5	<2	0.27	0.5	23	57	22	3.68	<10	40	0.04	<10	0.19	570	3	<0.01	37	300	78	0.35	<2	7	110	0.03	<10	<10	73	<10	250
286	LP06	477664	1562326		3	<0.2	1.15	<2	<10	60	<0.5	<2	0.04	<0.5	7	21	18	3.96	<10	20	0.02	<10	0.06	295	4	<0.01	5	160	6	<0.01	<2	3	11	0.09	<10	<10	153	<10	24
287	LP07	478353	1562713		7	<0.2	1.84	<2	<10	100	<0.5	<2	0.16	<0.5	9	17	19	3.01	<10	<10	0.04	<10	0.14	435	1	0.02	9	330	4	0.03	2	3	33	0.12	<10	<10	112	<10	42
288	LP08	479223	1562796		2	<0.2	1.34	2	<10	70	<0.5	<2	0.12	<0.5	14	41	12	7.15	10	<10	0.03	<10	0.16	570	<1	0.01	9	320	4	0.01	2	2	25	0.29	<10	<10	326	<10	94
289	LP09	479406	1563070		3	<0.2	0.89	<2	<10	50	<0.5	<2	0.11	<0.5	19	55	15	9.48	10	<10	0.02	<10	0.18	640	1	0.01	12	280	4	0.03	<2	2	17	0.37	<10	<10	432	<10	126

Appendix 8 Ore Assay Data of Rock Samples

No.	Sample No.	Coordination		Locality	Type	Au	Ag	As	Ba	Bi	Cr	Cu	Fe	Hg	Mn	Mo	Ni	P	Pb	S	Sb	Zn
		E-UTM	N-UTM			ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
1	BC06	460375	1559108	Nalesbitan	Outcrop	490	1.4	74	100	<2	239	96	5.08	10	60	32	5	190	478	0.19	10	412
2	BC21	460375	1559108	Nalesbitan	Outcrop	2910	171.0	290	10	38	56	3.77%	>15.00	150	155	179	120	210	174	>5.00	1115	374
3	BC22	460375	1559108	Nalesbitan	Outcrop	1975	23.0	120	10	2	242	3080	7.31	150	605	22	51	260	722	>5.00	48	230
4	BC23	460563	1558964	Nalesbitan	Outcrop	775	22.0	64	140	<2	162	2780	0.69	330	15	8	5	100	220	0.59	26	20
5	BD08	460408	1558987	Nalesbitan	Outcrop	3630	2.4	788	70	20	158	589	8.60	260	20	384	5	150	84	0.14	434	36
6	BD09	460910	1558991	Nalesbitan	Outcrop	6610	38.2	698	90	348	129	1.69%	0.75	950	20	35	5	80	22	0.97	420	28
7	BD10	460952	1559011	Nalesbitan	Outcrop	2620	107.0	1145	80	938	131	10.35%	0.82	<10	15	12	7	180	14	1.97	148	58
8	BD11	460851	1559148	Nalesbitan	Outcrop	151.3g/t	286.0	7670	270	1330	33	6.60%	0.69	10	5	150	3	300	16	0.64	1490	30
9	BF04	456574	1559799	Tuba	Float	1320	5.0	638	30	<2	125	196	3.91	120	100	5	15	300	14	3.43	16	40
10	BK13	456671	1560046	Tuba	Outcrop	18.08g/t	1470.0	248	10	2	77	486	1.32	160	35	25	22	320	44	1.03	102	104
11	BK14	457112	1559489	Tuba	Outcrop	122.75g/t	113.0	234	30	8	204	494	1.27	40	20	50	7	50	28	0.98	20	134
12	KC02-2	469547	1545525	Mansalipak	Outcrop	50	2.0	22	10	<2	56	24	>15.00	3270	90	13	138	110	<2	>5.00	2	50
13	KC13	467340	1545576	Katigbigan	Outcrop	95	5.8	8	80	<2	303	36	2.35	50	20	2	12	120	6	1.07	2	6
14	KE04	466803	1544430	Kilbay river	Float	220	0.6	28	2190	<2	108	51	4.12	1500	185	1	5	300	52	0.08	8	8
15	KE05	467407	1544484	Kilbay river	Float	20	1.6	40	40	<2	277	111	1.31	280	30	15	11	30	186	0.86	2	26
16	KE06	467303	1544352	Kilbay river	Float	895	130.0	886	<10	<2	63	3.67%	9.90	33700	5	<1	24	110	96	>5.00	1185	628
17	KK12	467310	1541704	Kilbay river	Outcrop	285	3.0	70	130	<2	130	152	1.87	310	30	19	3	270	26	0.15	12	24
18	KL12	463943	1545615	Layaton Malaki	Outcrop	40	0.2	2	10	<2	140	29	0.31	30	10	22	3	<10	4	0.09	2	2
19	KL13	463943	1545615	Layaton Malaki	Outcrop	10	0.6	16	150	<2	146	104	2.69	160	5	1	6	110	8	0.95	2	6
20	KL22	461171	1545978	Kampusta	Outcrop	<5	0.6	6	10	<2	43	33	5.03	10	100	46	39	70	2	>5.00	2	14
21	KL23	461479	1546657	Kampusta	Outcrop	<5	0.2	6	60	<2	130	27	2.70	130	10	7	21	90	<2	2.31	<2	4
22	KL24	461552	1546768	Kampusta	Outcrop	<5	0.4	6	10	<2	72	35	3.53	60	40	<1	27	70	<2	3.53	4	8
23	KM03	462843	1546025	Maniknik	Outcrop	30	0.8	116	<10	2	302	326	0.49	<10	15	2	6	<10	2	0.12	4	4
24	KM10	468357	1545271	Alawihaw	Outcrop	10	1.0	22	30	<2	35	63	7.04	160	25	<1	33	520	12	>5.00	<2	96
25	KM15	468328	1545627	Alawihaw	Outcrop	170	1.4	230	40	<2	178	591	3.65	980	25	5	35	300	1355	3.58	32	1505
26	LB03	467503	1557231	Magasawang Bato	Outcrop	<5	0.2	48	90	<2	64	29	3.04	840	40	7	33	90	92	2.83	<2	14
27	LD05	467293	1553854	Taktak	Outcrop	75	1.2	14	30	<2	226	86	4.18	180	110	1	102	230	14	2.04	<2	22
28	LJ09	469288	1555911	Magasawang Bato	Outcrop	430	0.4	486	10	<2	88	21	9.30	360	30	7	6	230	50	0.15	54	20
29	LN05	469226	1553645	Binangkawan	Outcrop	60	0.6	256	170	<2	435	147	1.64	60	70	3	19	220	10	0.89	8	28
30	LP09	476751	1563454	Benit	Outcrop	4130	146.0	178	10	<2	20	20.30%	3.00	<10	510	3	8	1010	100	0.22	<2	10
31	LP10	476751	1563358	Benit	Outcrop	23.39g/t	92.2	98	50	20	116	2.78%	7.81	150	415	3	16	390	<2	0.41	26	74

Appendix 9 Result of X-Ray Diffraction Analysis

No.	Sample No.	Coordination		Alteration Zone	Clay Mineral						Silica		Sulfate	Carbonate		Sulfide	Other Silicate				Remarks
		E-UTM	N-UTM		Smectite	Chl/Smec	Ser/Smec	Chlorite	Sericite	Kaolinite	Cristobalite	Quartz	Alunite	Calcite	Dolomite	Pyrite	Orthoclase	Albite	Plagioclase	Amphibole	
1	BC03	460621	1556898	(upper Nalesbitan)	5							11				1					
2	BC04	460327	1557201	(upper Nalesbitan)						16		21				2					
3	BC06	460375	1559108	Nalesbitan					1			44				2					
4	BC09	460375	1559108	Nalesbitan					2			65				< 1					
5	BC10	460375	1559108	Nalesbitan					2			57				1					
6	BC11	460375	1559108	Nalesbitan					3			60				< 1					
7	BC12	460375	1559108	Nalesbitan					1			62									
8	BC13	460300	1559150	Nalesbitan					2			65				1					
9	BC14	460300	1559150	Nalesbitan								16				14					
10	BC15	460300	1559150	Nalesbitan					2			58				1					
11	BC16	460177	1559124	Nalesbitan					2			52				1					
12	BC17	460177	1559124	Nalesbitan					3			57				1					
13	BC18	460177	1559124	Nalesbitan					3			62				1					
14	BC19	460177	1559124	Nalesbitan					1	10		50									
15	BC20	460177	1559124	Nalesbitan					1			60				1					
16	BC21	460375	1559108	Nalesbitan								49				6					
17	BC24	460375	1559108	Nalesbitan					2			63				< 1					
18	BD04	459847	1555220	(upper Nalesbitan)	8				< 1			1							6		
19	BD05	459779	1555204	(upper Nalesbitan)	4						12	1					3		8		
20	BD07	460387	1559007	Nalesbitan								63				1					
21	BD08	460408	1558987	Nalesbitan								63				1					
22	BD11	460851	1559148	Nalesbitan								72									
23	BD12	460634	1559424	Nalesbitan	2							28									
24	BD13	460528	1559450	Nalesbitan	1							35				1					
25	BD14	460528	1559450	Nalesbitan	2							9				4					
26	BD15	460528	1559450	Nalesbitan	3							32									
27	BF01	457076	1560351	Tuba				3				34							4		
28	BF04	456574	1559799	Tuba					1			48				2					
29	BK12	456587	1560125	Tuba				1	1			20		5	12	< 1		3			
30	BK13	456671	1560046	Tuba					1			36						6			
31	BK14	457112	1559489	Tuba					2			43				2					
32	BK15	456366	1560217	(near Tuba)								66									
33	BL02	463257	1559182	Salobosogin-Yakalan	3			1				26							5		
34	BL04	463502	1559241	Salobosogin-Yakalan	3				1			25									
35	BL07	460663	1559345	Nalesbitan	1			< 1				30				4					

Appendix 9 Result of X-Ray Diffraction Analysis

No.	Sample No.	Coordination		Alteration Zone	Clay Mineral						Silica		Sulfate	Carbonate		Sulfide	Other Silicate				Remarks
		E-UTM	N-UTM		Smectite	Chl/Smec	Ser/Smec	Chlorite	Sericite	Kaolinite	Cristobalite	Quartz	Alunite	Calcite	Dolomite	Pyrite	Orthoclase	Albite	Plagioclase	Amphibole	
36	BM01	451486	1555404	(west)				2	1			36						31			
37	BM02	451550	1555765	(west)				1	< 1			47						7			
38	BM03	455896	1557358	(south Tuba)	2							1		2					15		
39	KC01	469500	1545450	Mansalipak	1				2			37			4						
40	KC02-2	469547	1545525	Mansalipak								12				9					
41	KC03	469785	1545597	Mansalipak	2					< 1		32				3					Low crystalinity sericite
42	KC04	469877	1545429	Mansalipak	2					2		37									Low crystalinity sericite
43	KC06	467560	1544873	Katigbigan	2					1		37				1					Low crystalinity sericite
44	KC07	467503	1545060	Katigbigan	1					3		31				2					Low crystalinity sericite
45	KC08	467527	1544968	Katigbigan	1					2		36						7			Low crystalinity sericite
46	KC09	467465	1545222	Katigbigan	1					1		38				2					Low crystalinity sericite
47	KC10	467479	1545155	Katigbigan	2					1		37						3			Low crystalinity sericite
48	KC11	470438	1545599	Mansalipak	1					3		38				< 1					Low crystalinity sericite
49	KC12	467407	1545464	Katigbigan	1					2		36						11			Low crystalinity sericite
50	KC13	467340	1545576	Katigbigan						5		85				1					
51	KE01	470243	1544952	Mansalipak	2					1		37				1					
52	KE02	469542	1544781	Mansalipak						< 1		34				3					
53	KE03	469123	1544639	Mansalipak					1	< 1		31		4		< 1		1			
54	KE06	467303	1544352	(Kilbay River)						1		53		8		3					
55	KJ01	455636	1553897	Katakian				24				9						1			
56	KJ02	455995	1554088	Katakian					2			42				3					
57	KJ07	457186	1553020	Katakian					2			64				1					
58	KJ08	457186	1553020	Katakian					5			40									
59	KK03	458083	1551282	(south Katakian)	2				2			2				1			15	1	
60	KK05	457702	1551565	(south Katakian)						2	7	1									
61	KK10	468160	1542659	(south Kiblay)						3	18										
62	KK11	466947	1542891	(south Kiblay)						4	9										
63	KL01B	463739	1544470	Layaton Malaki	3					< 1		31						3			
64	KL03	463770	1544676	Layaton Malaki	1					1		35				2					
65	KL04	463673	1544627	Layaton Malaki						3		42				2					
66	KL05	463613	1544826	Layaton Malaki					1	1		43									
67	KL07	463555	1545005	Layaton Malaki					2	1		47									
68	KL09	463632	1545294	Layaton Malaki						8		42									
69	KL10	463869	1545372	Layaton Malaki	< 1				1	1		31				1		13			
70	KL13	463943	1545615	Layaton Malaki								47	11			< 1					

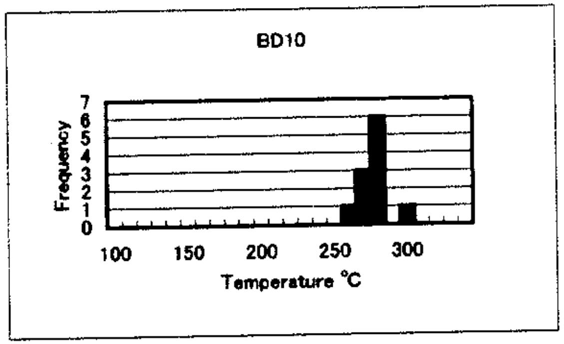
Appendix 9 Result of X-Ray Diffraction Analysis

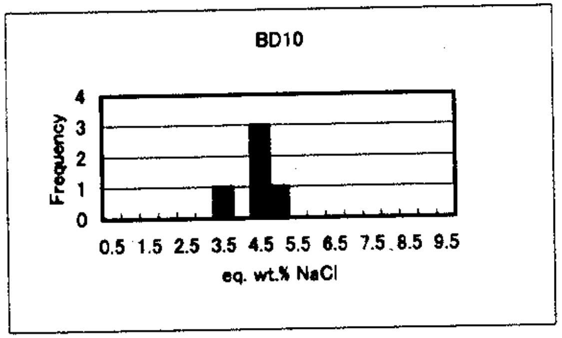
No.	Sample No.	Coordination		Alteration Zone	Clay Mineral						Silica		Sulfate	Carbonate		Sulfide	Other Silicate				Remarks
		E-UTM	N-UTM		Smectite	Chl/Smec	Ser/Smec	Chlorite	Sericite	Kaolinite	Cristobalite	Quartz	Alunite	Calcite	Dolomite	Pyrite	Orthoclase	Albite	Plagioclase	Amphibole	
71	KL14	464083	1545828	Layaton Malaki	< 1					3		24		3				12			
72	KL16	465114	1544642	Layaton Maliit	2		2					35									
73	KL17	464732	1544447	Layaton Maliit	1					3		16				1			8		
74	KL23	461479	1546657	Kampusta	1					1		36									
75	KL26	450513	1545759	(near Tagkawayan)	2					1		37						24			
76	KM02	462964	1545972	Maniknik					3			35									
77	KM04	462855	1546255	Maniknik								53	21								
78	KM05	462915	1545235	Maniknik	3						3	10									
79	KM06	462868	1545268	Maniknik	2					1		27				1			5		
80	KM08	462789	1545064	Maniknik	2					1		8		1		2			5		
81	KM09	468232	1545092	Alawihaw					2	1		35						7			
82	KM10	468357	1545271	Alawihaw					2			15				6					
83	KM11	468449	1545362	Alawihaw				3	1			32						9			
84	KM12	468328	1545627	Alawihaw					3	5		37									
85	KM13	468328	1545627	Alawihaw					1			52				1					
86	KM18	468328	1545627	Alawihaw					2	5		38									
87	KM19	468328	1545627	Alawihaw					3	3		35									
88	KM20	468310	1545458	Alawihaw					3	1		36				1					
89	KN04	459252	1552785	upper Katakian				3				30				1		9			
90	LA03	469756	1552802	(upper Labo River)							13	21				3					
91	LA05	469645	1552607	(upper Labo River)						13	16	2									
92	LB02	476113	1563591	Benit					2	5		35									
93	LD04	467422	1553722	Taktak	1					1		35				1					
94	LD06	466973	1553620	Taktak	4					1		34									
95	LE01	470622	1562383	(lower Labo River)								100									
96	LE02	464675	1552926	(center)						14		41									
97	LF03	467394	1552185	Binangkawan	1		1					8				3					
98	LF04	467571	1552511	Binangkawan	3		2					22				3					
99	LJ05	470513	1559811	(lower Labo River)								26					6	7			
100	LJ08	469288	1555911	(near Magasawang Bato)						8		37									
101	LJ10	470387	1556761	Magasawang Bato								85									
102	LN06	468325	1553550	(near Binangkawan)	2		2					35									
103	LP01	471907	1554125	Bilas	3					2											
104	LP02	471363	1556424	Magasawang Bato						32		10				2					
105	LP04	471730	1556263	Magasawang Bato						11		8									

Appendix 10 Homogenized Temperature and Salinity of Fluid Inclusion

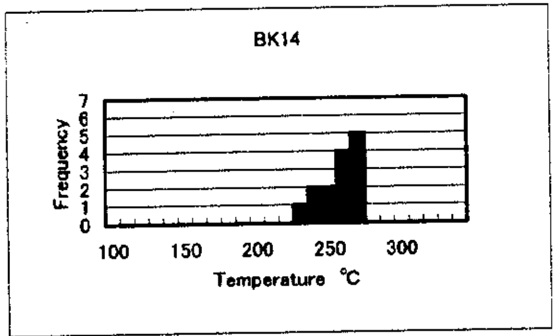
No.	Sample No.	Coordination E-UTM	Coordination N-UTM	Description	Mineral	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	BC22	460375	1559108	Nalesbitan	Quartz	chalcedony quartz (no fluid inclusion)														
2	BD10	460952	1559011	Nalesbitan	Quartz	265 3.5	272 4.8	272	275 5.2	280	283	284	284 4.5	288 4.9	289	302				
3	BK14	457112	1559489	Tuba	Quartz	235	245 1.2	248 1.8	252 1.8	254 3.2	260	263	264 2.3	267 3.1	270 1.8	271 3.6	272	275	275	
4	KC13	467340	1545576	Katigbigan	Quartz	chalcedony quartz (no fluid inclusion)														
5	KE06	467303	1544352	Kilbay River (float)	Quartz	202	205	208	223	227 1.2	228 1.2	238 1.5	244	245 1.0	268	273 1.5	284	286 1.8		

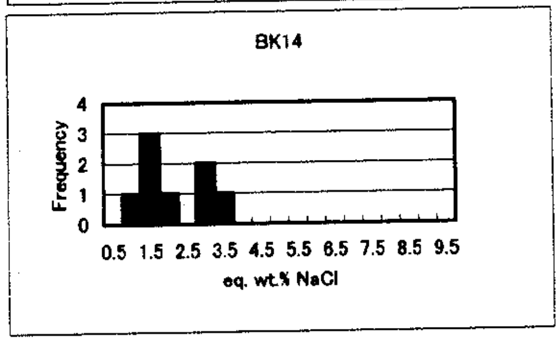
Upper : Homogenized Temperature Unit : ℃
Lower : Salinity Unit : wt% NaCl equivalent



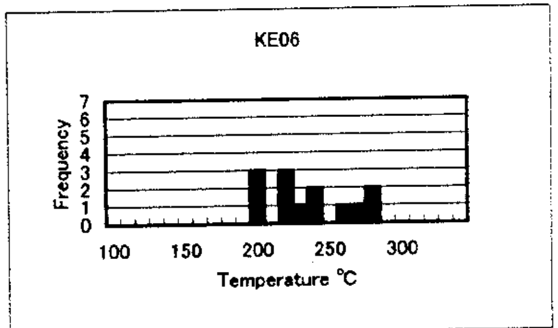


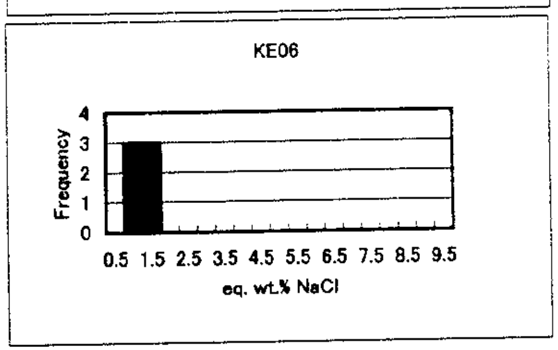
Nalesbitan





Tuba





Kilbay River (float)

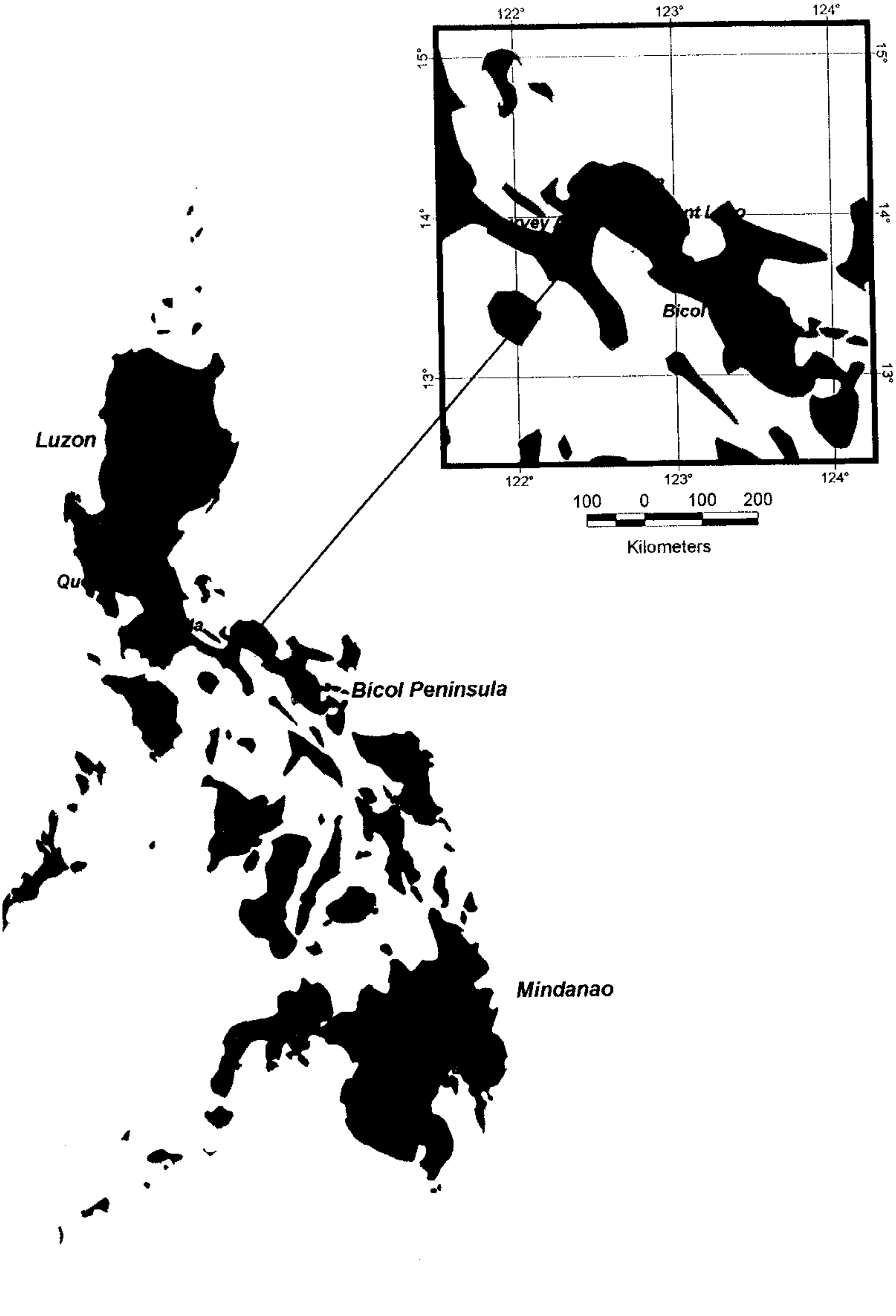
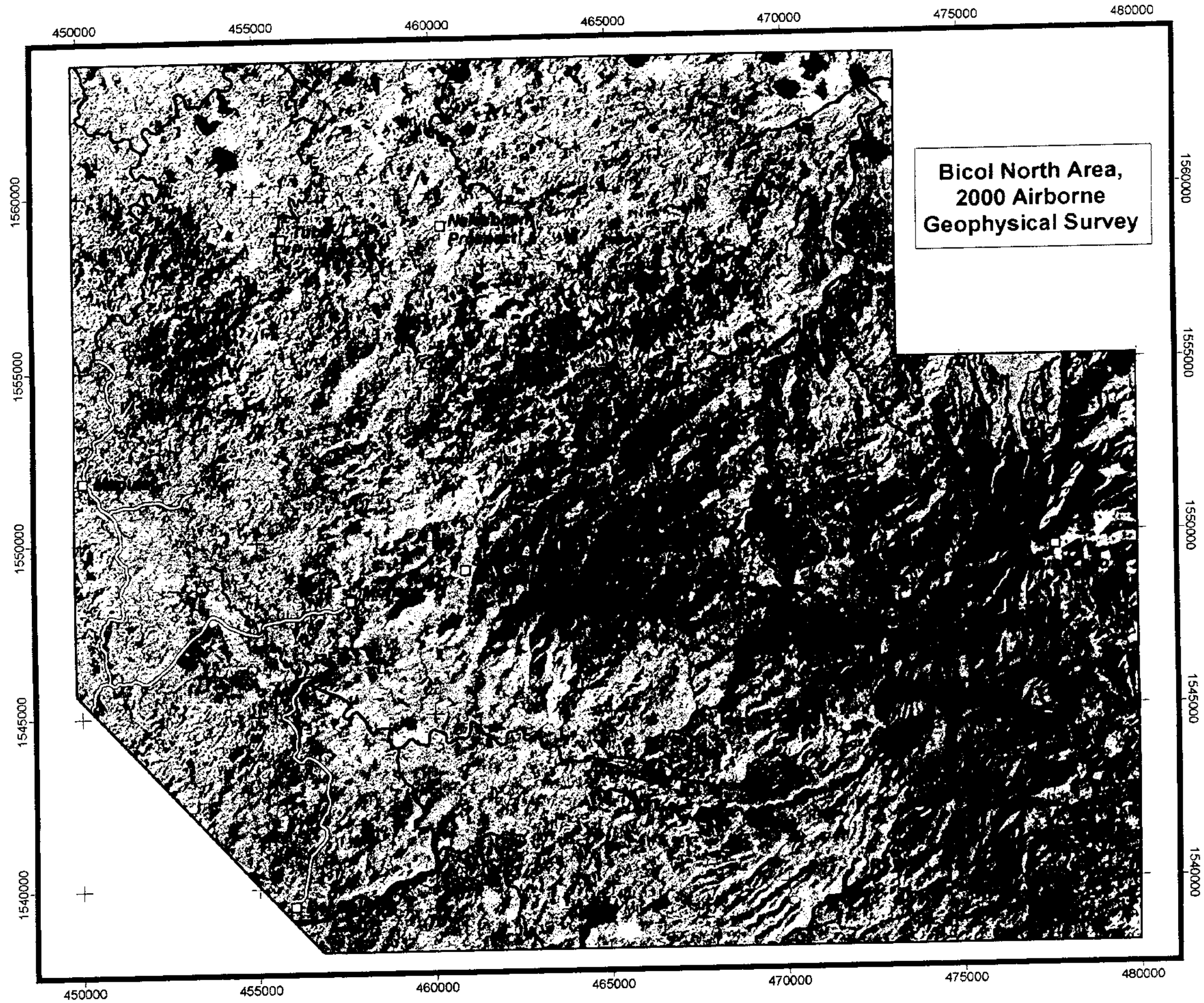


Figure 1 : Location Map for the Bicol North 2000 Airborne Geophysical Survey



Legend

- Localities
- Roads
- Major Drainage

Projection Details
UTM Zone 51N
Datum Luzon11

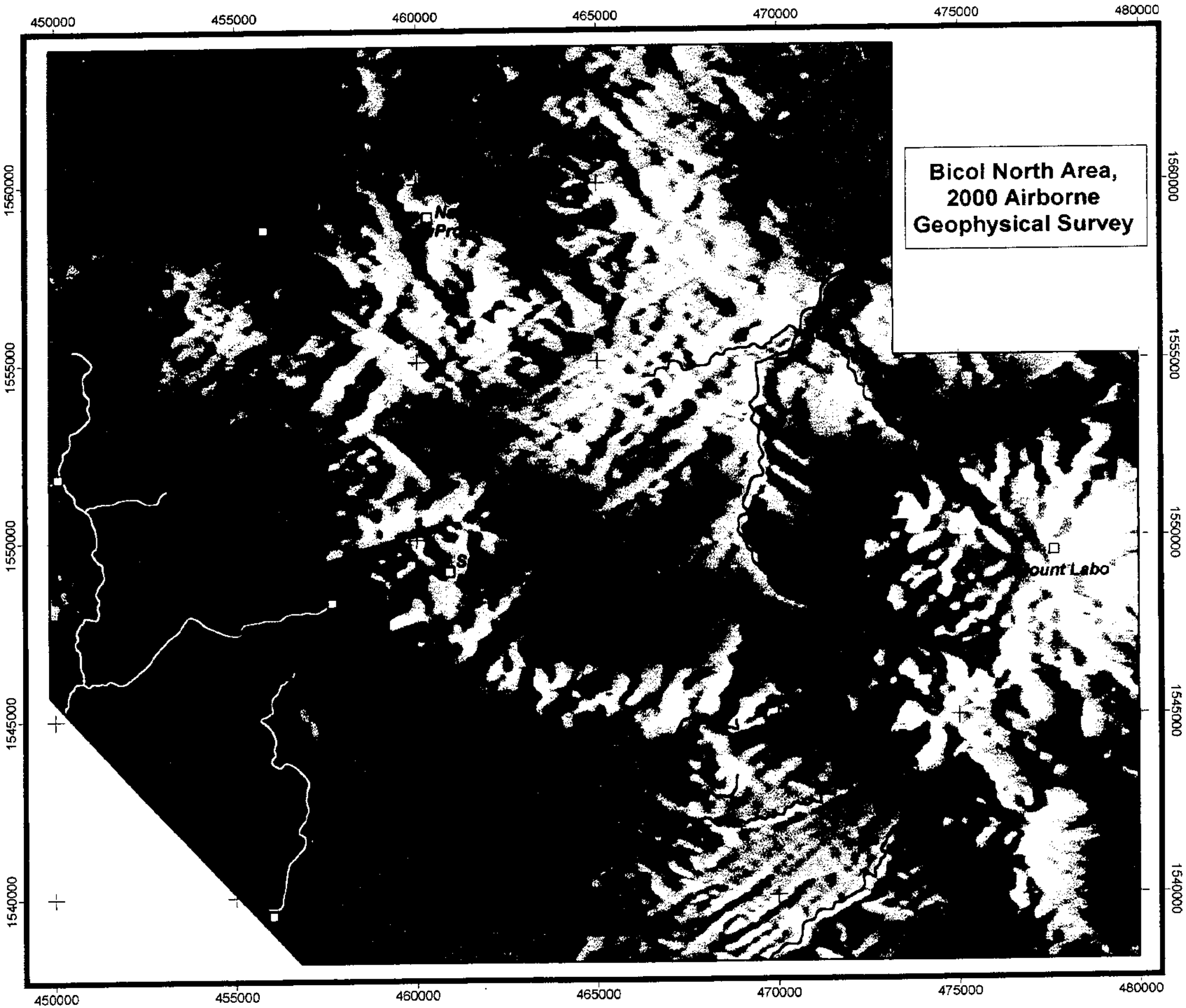
Scale 1 : 150 000

1 0 1 2 3 4 5

Kilometers

Figure 2 : Landsat TM Bands 543 and L7 Pan Merged in RGB

FUGRO



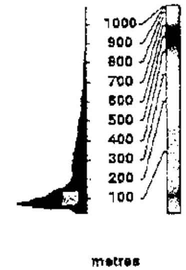
Legend

Localities

Roads

Major Drainage

Projection Details
UTM Zone 51N
Datum Luzon11



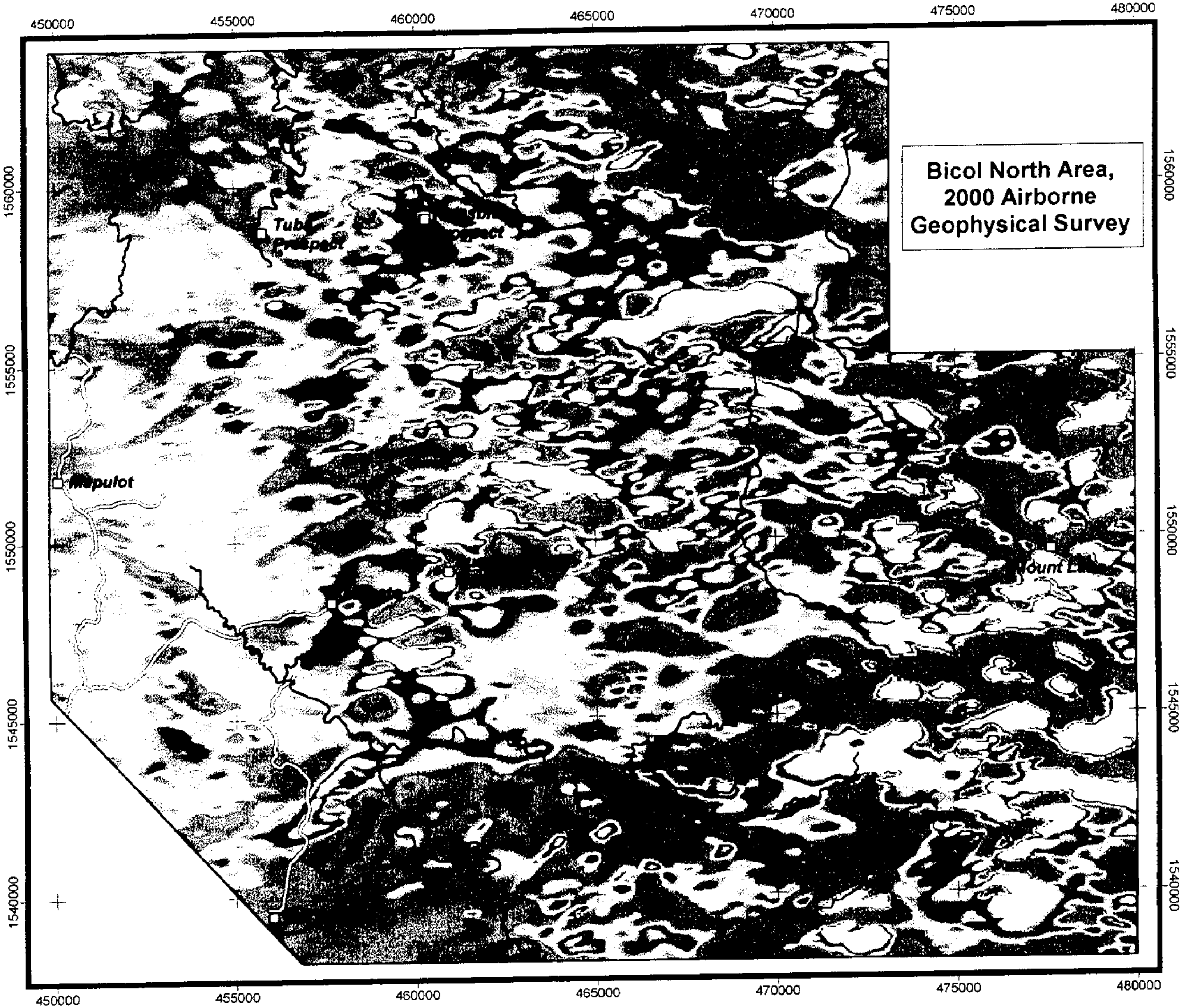
Scale 1 : 150 000

1 0 1 2 3 4 5

Kilometers

Figure 3
Digital Terrain Model
E Illumination

FUGRO



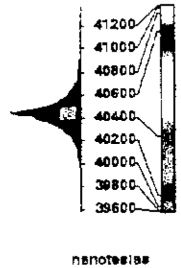
Legend

□ Localities

Roads

Major Drainage

Projection Details
UTM Zone 51N
Datum Luzon11



Scale 1 : 150 000

1 0 1 2 3 4 5

Kilometers

Figure 4
Total Magnetic Intensity

FUGRO

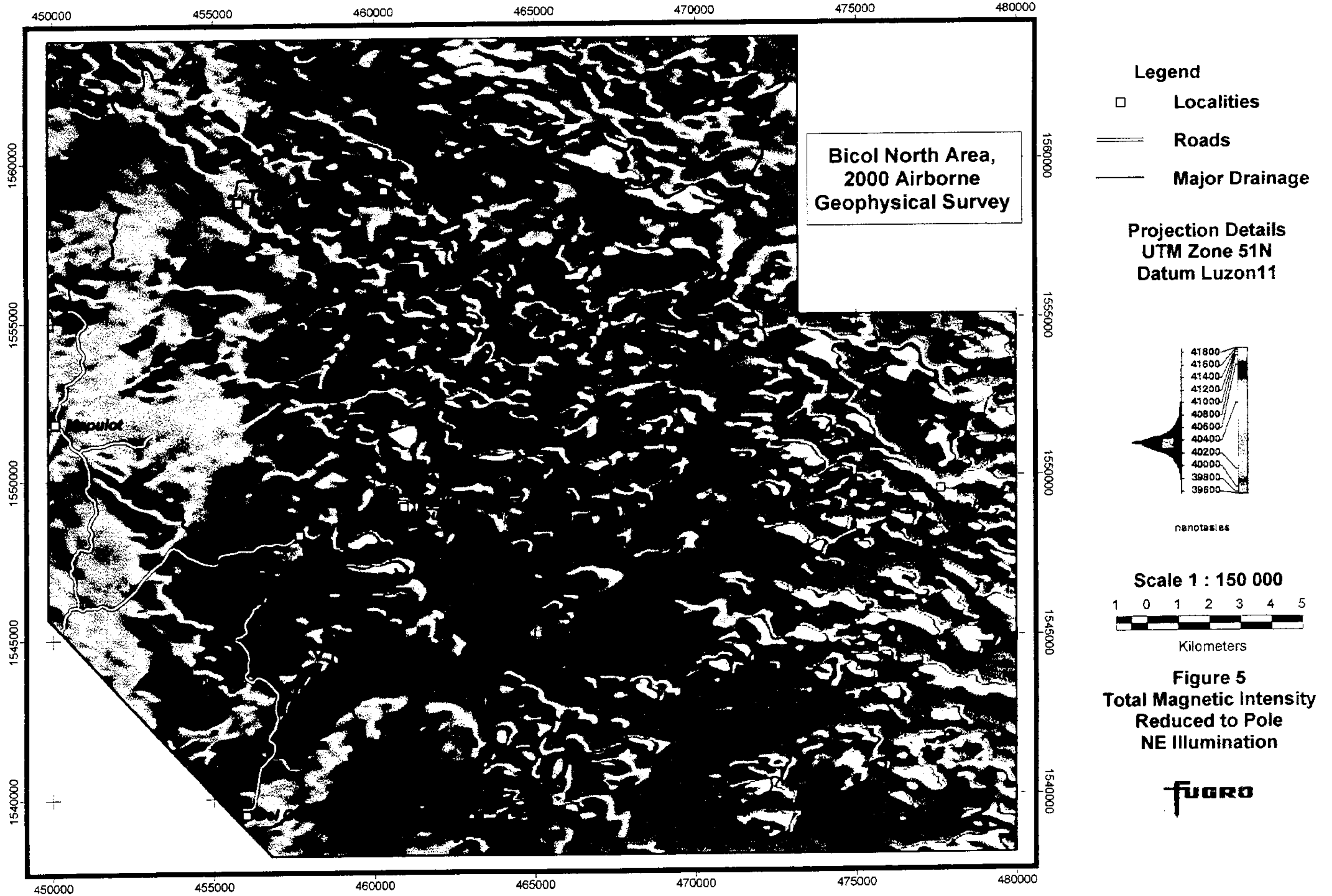
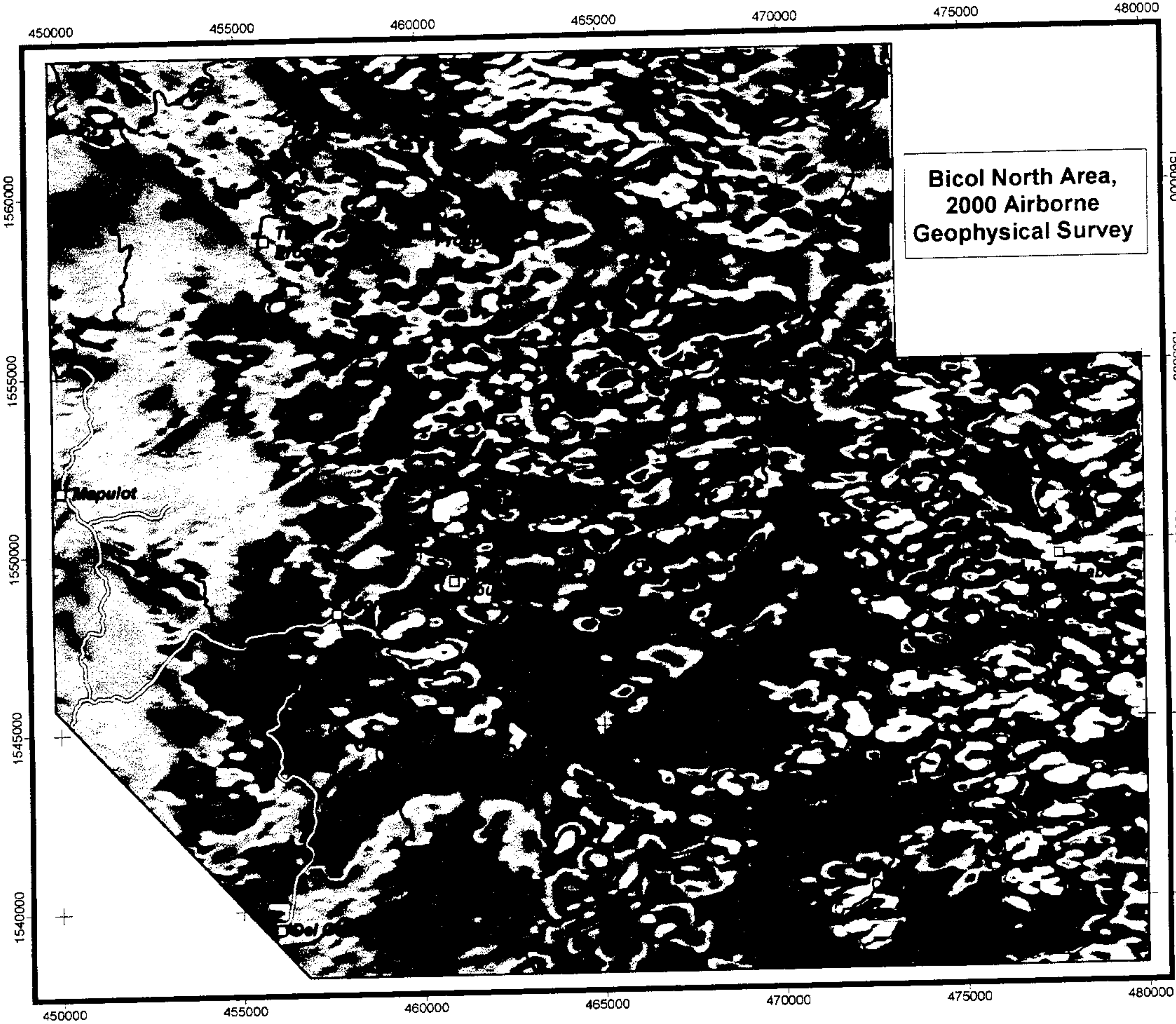


Figure 5
Total Magnetic Intensity
Reduced to Pole
NE Illumination



Legend

Localities

Roads

Major Drainage

Projection Details
UTM Zone 51N
Datum Luzon11

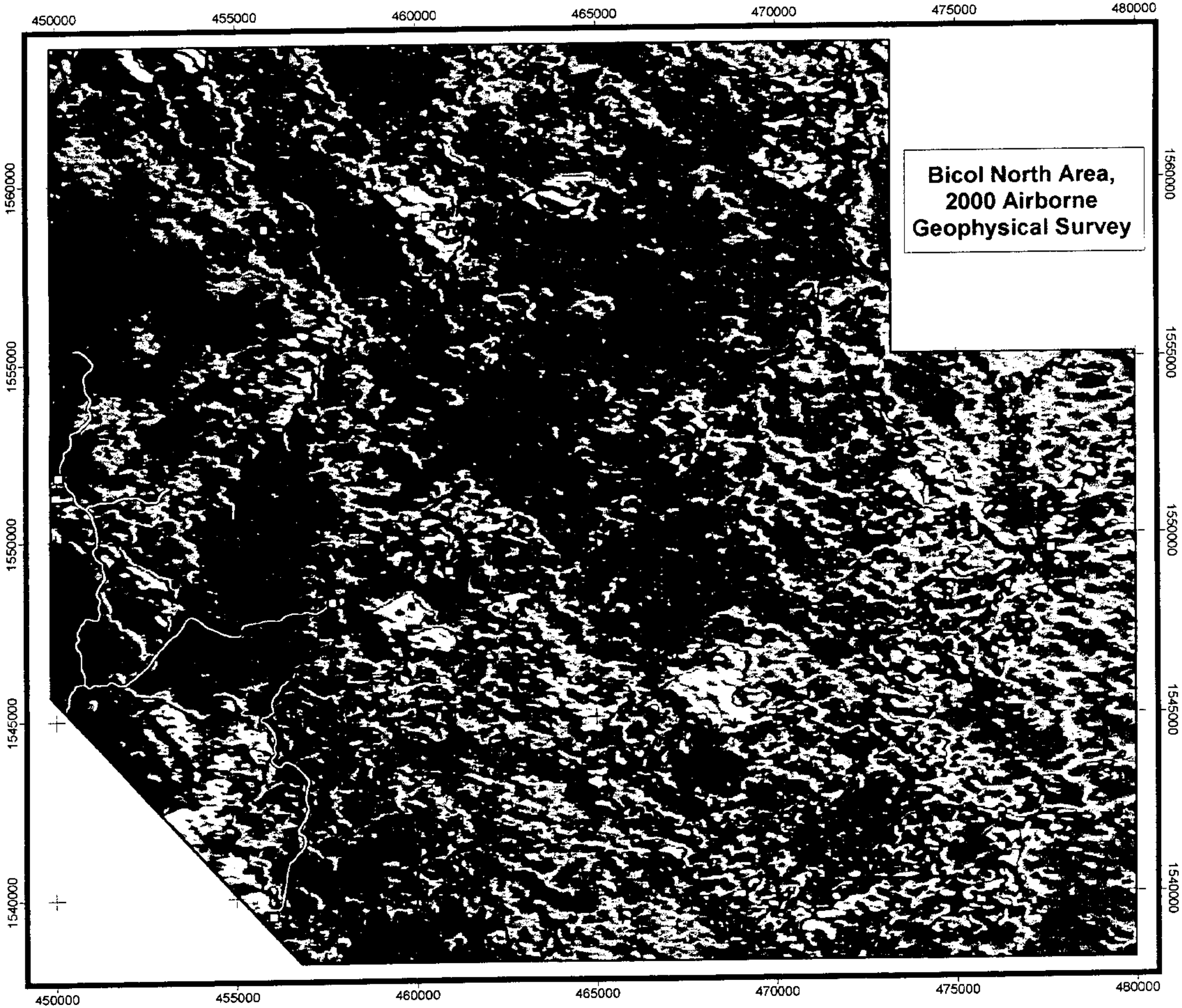
Scale 1 : 150 000

1 0 1 2 3 4 5

Kilometers

Figure 6
First Vertical Derivative of Total Magnetic Intensity (Reduced to Pole)

FUGRO



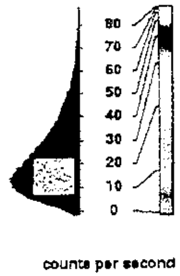
Legend

□ Localities

Roads

Major Drainage

Projection Details
UTM Zone 51N
Datum Luzon11



Scale 1 : 150 000

1 0 1 2 3 4 5

Kilometers

Figure 7
Potassium Gamma-ray
Spectral Image
NE Illumination

FUGRO

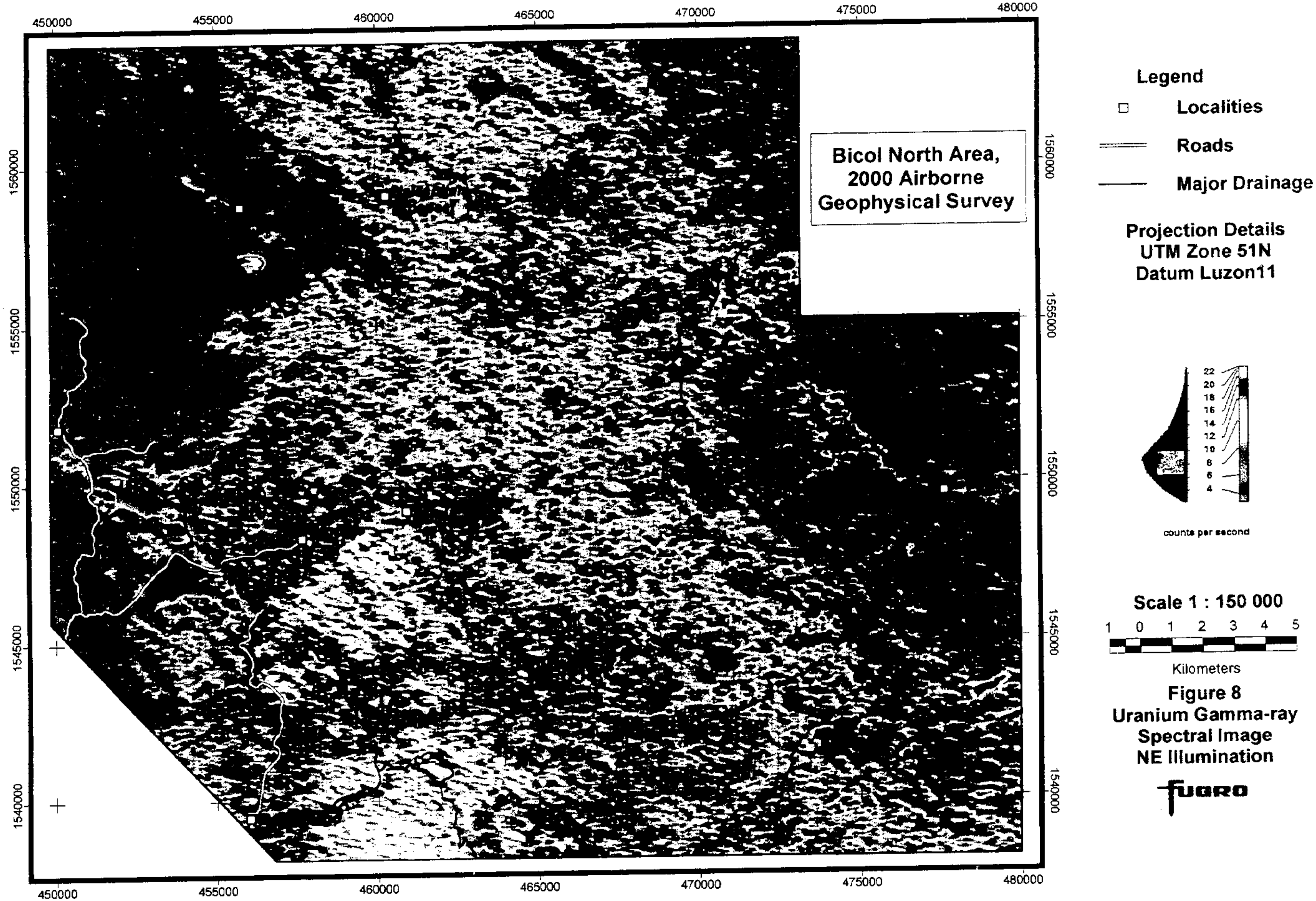
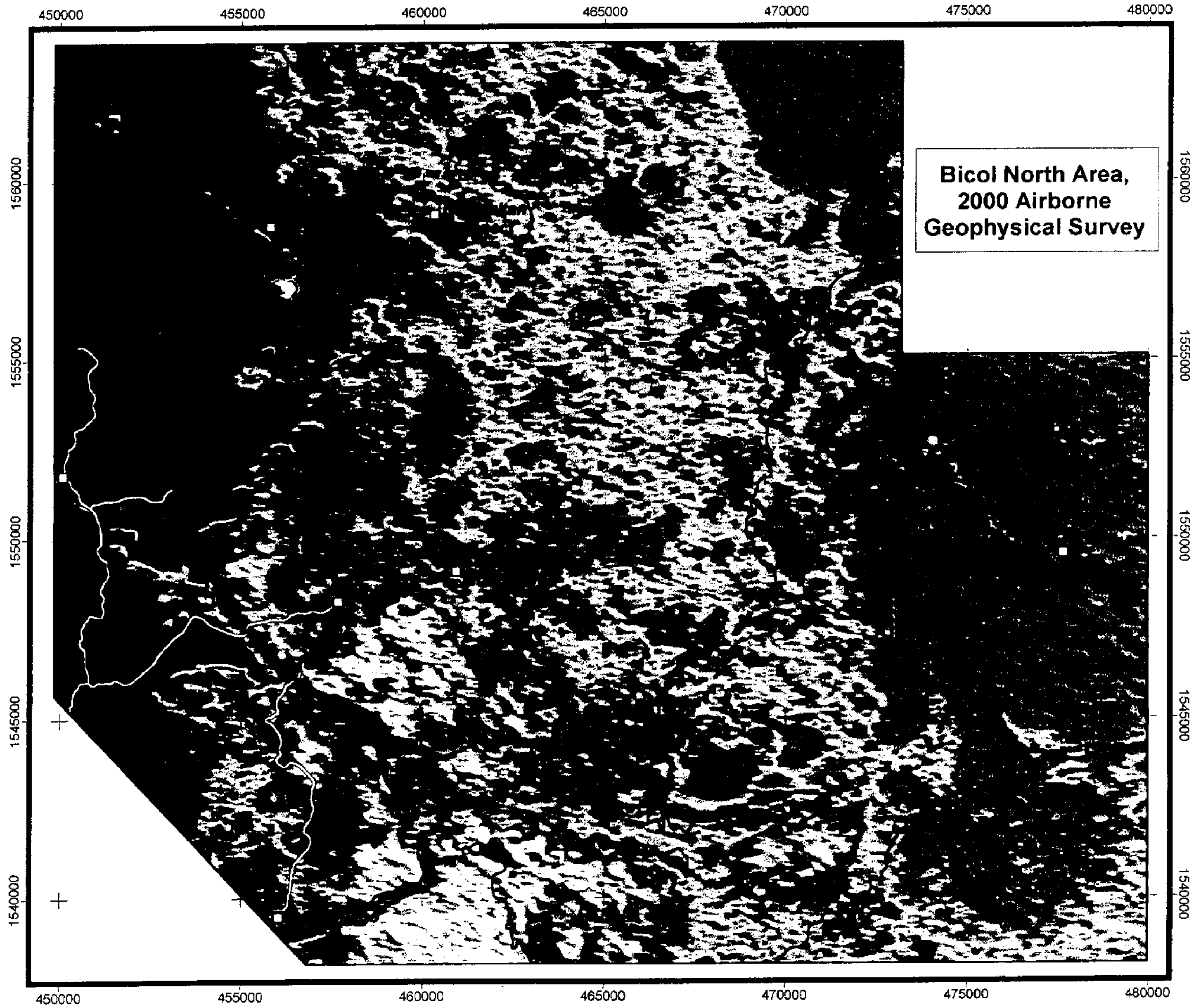


Figure 8
Uranium Gamma-ray
Spectral Image
NE Illumination

FUGRO



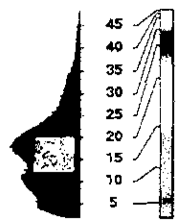
Legend

Localities

Roads

Major Drainage

Projection Details
UTM Zone 51N
Datum Luzon11



Scale 1 : 150 000

1 0 1 2 3 4 5

Kilometers

Figure 9
Thorium Gamma-ray
Spectral Image
NE Illumination

FUGRO

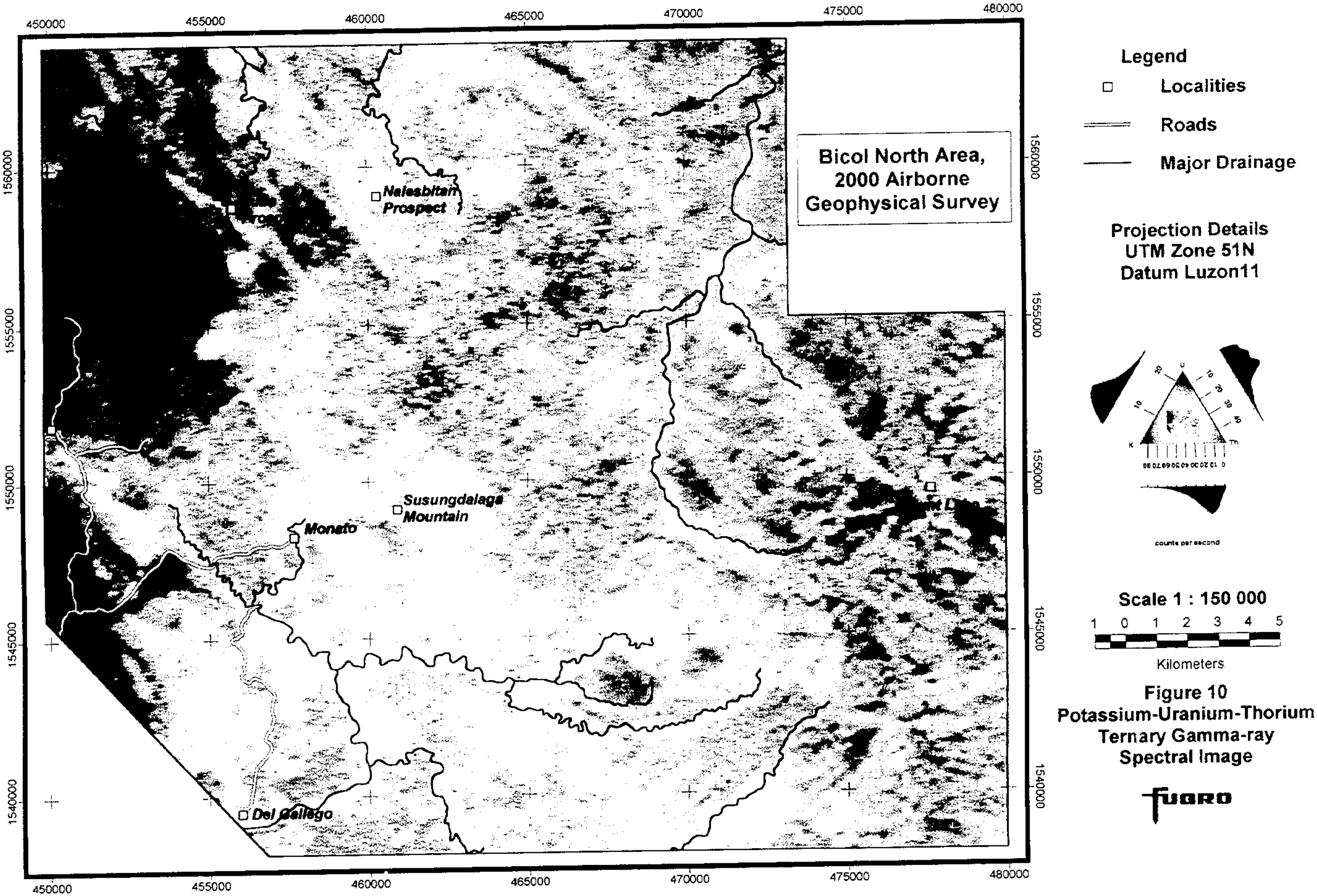
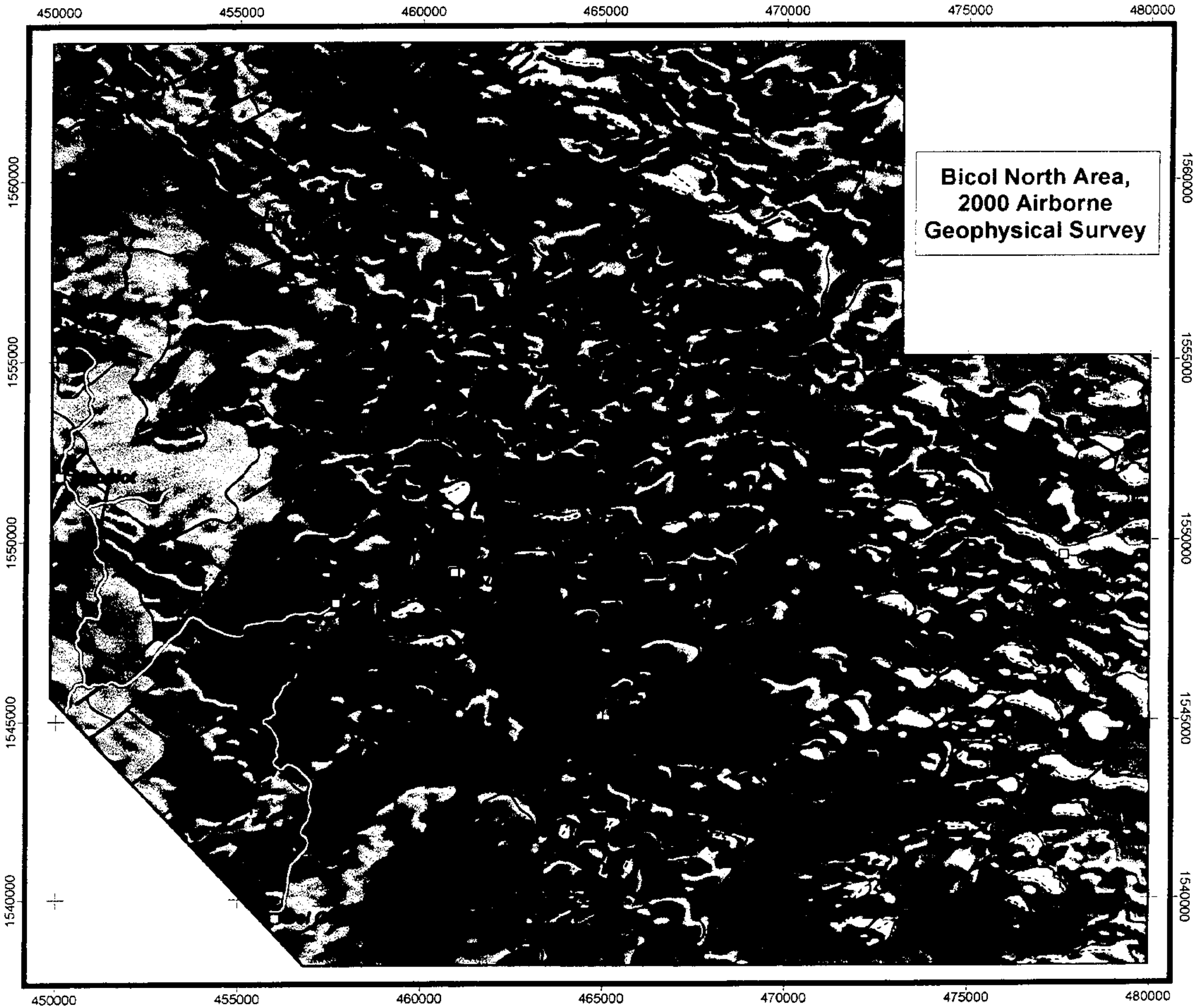


Figure 10
Potassium-Uranium-Thorium Ternary Gamma-ray Spectral Image



Legend

Localities

Roads

Major Drainage

Projection Details
UTM Zone 51N
Datum Luzon11

Geological - Geophysical
Boundaries

Geological - Geophysical Contact

Fault

Dyke

Topographic Linear

Magnetic Trend

Survey Boundary

Scale 1 : 150 000

1 0 1 2 3 4 5

Kilometers

Figure 11
TMI-RTP with Superimposed Geophysical Interpretation

FUGRO

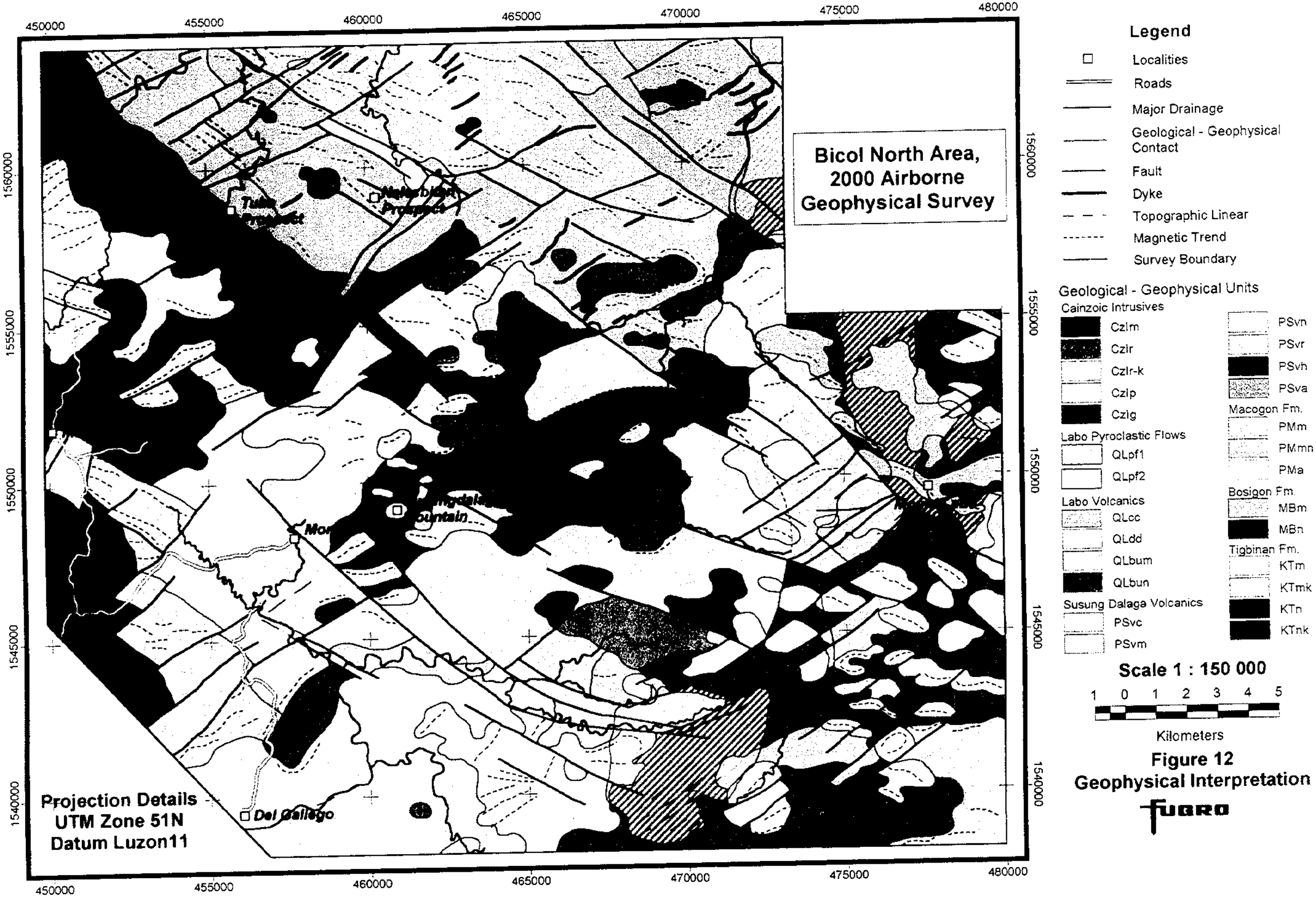


Figure 12
Geophysical Interpretation

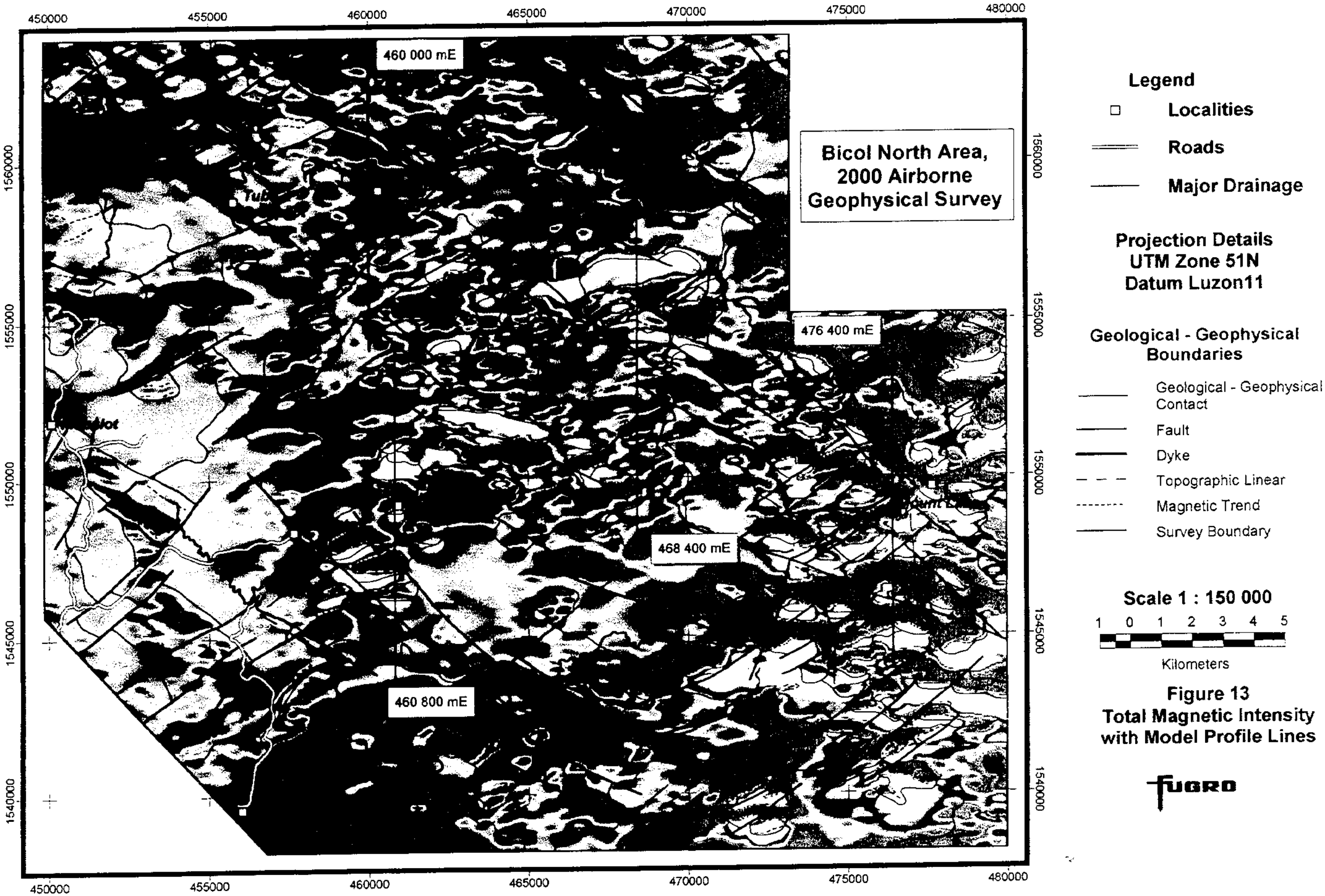


Figure 13
Total Magnetic Intensity with Model Profile Lines

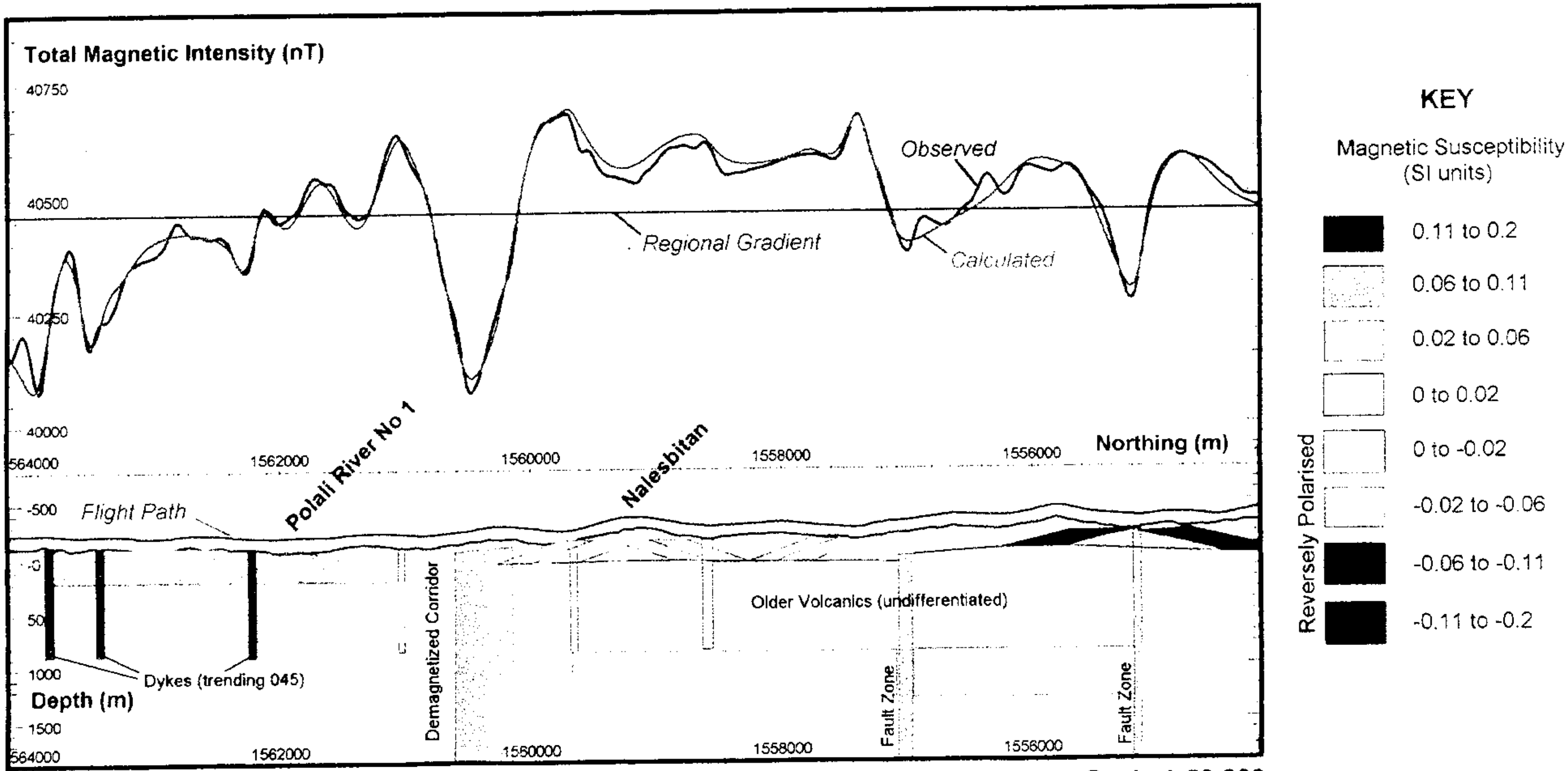


Figure 14: Interpreted magnetic model, Line 460000mE

Scale 1:50 000

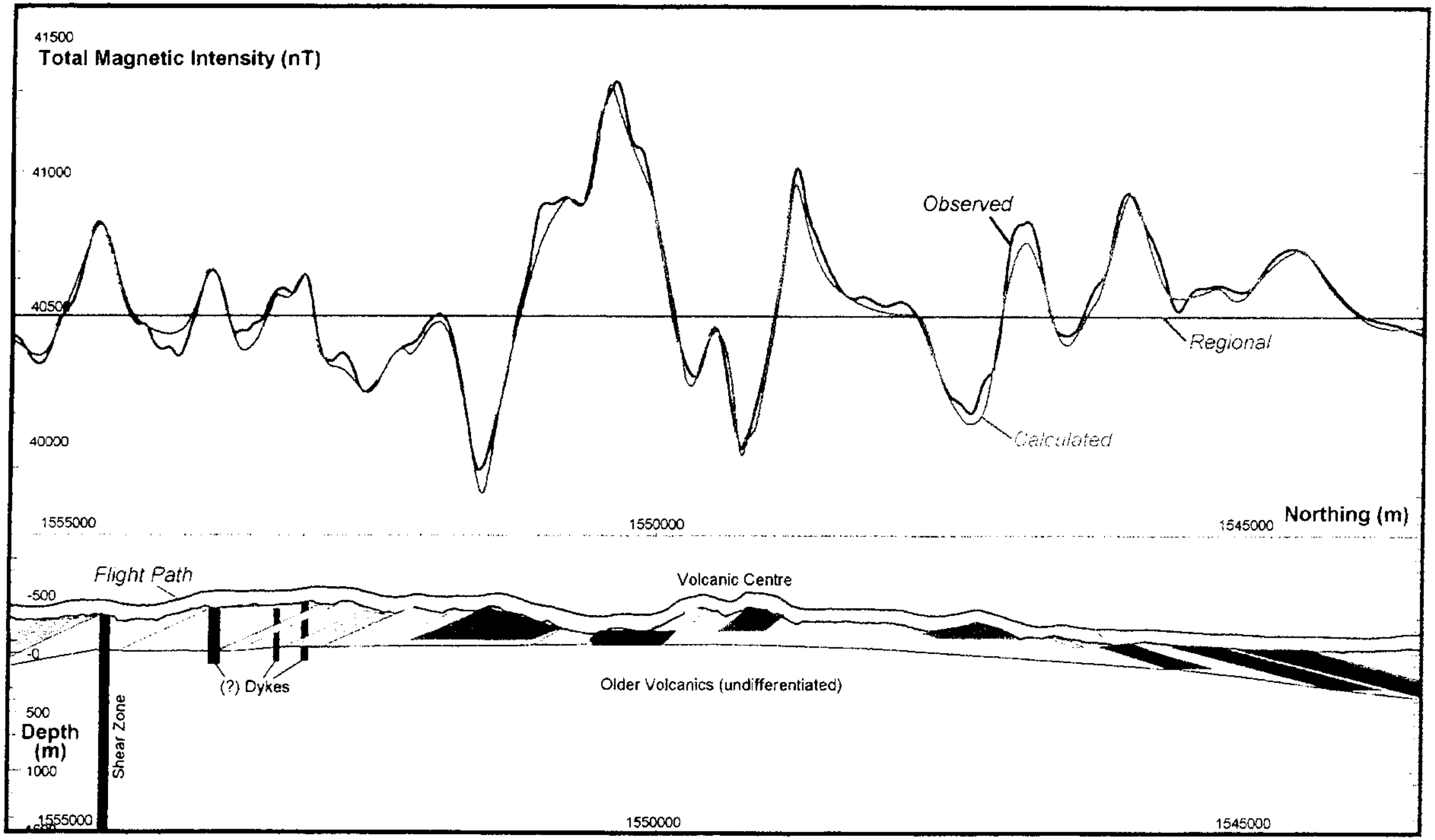


Figure 15: Interpreted magnetic model, Line 460800mE (see Fig. 14 for key to model colours) **Scale 1:50 000**

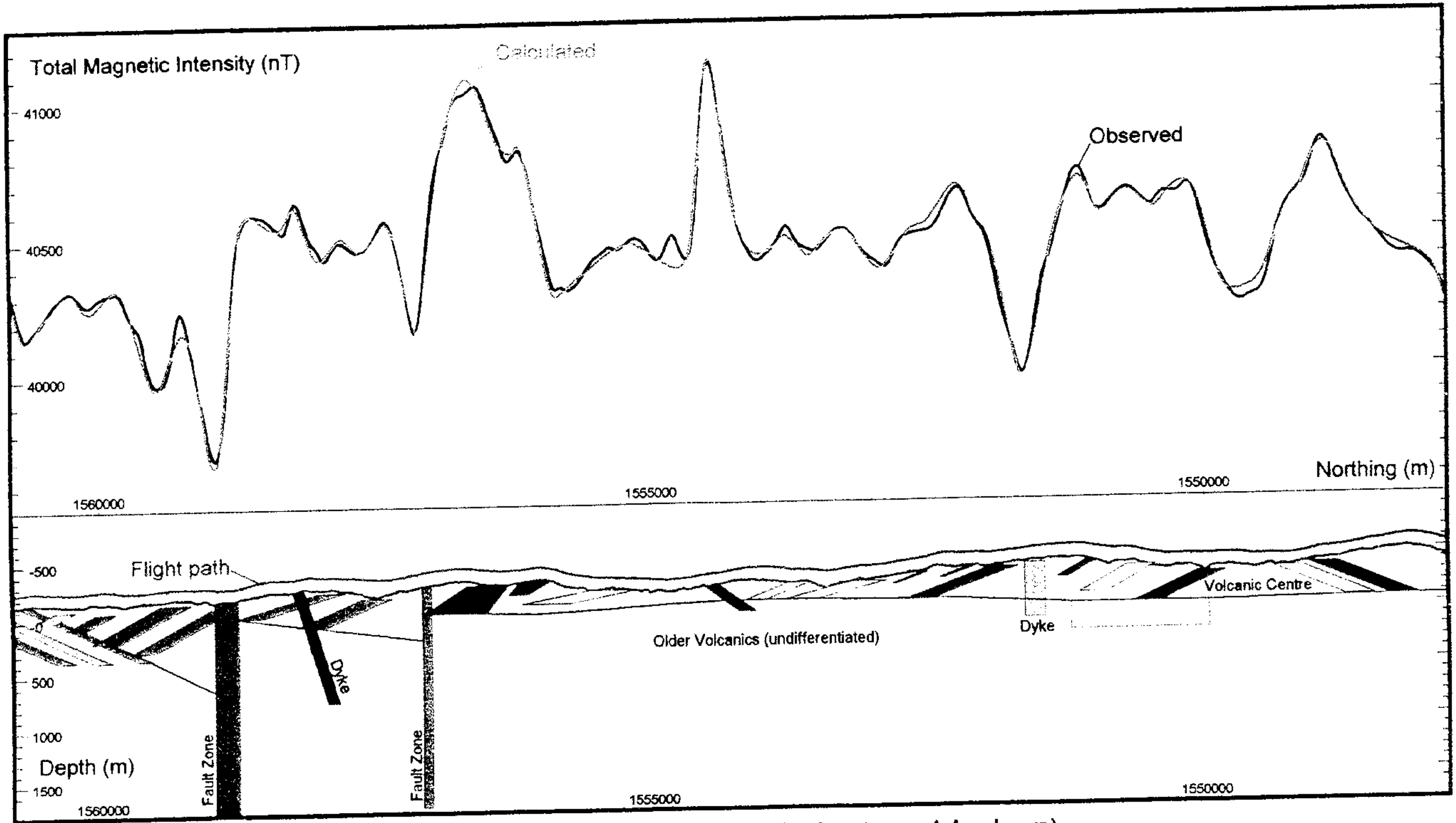


Figure 16: Interpreted magnetic model, Line 468400mE (see Fig. 14 for key to model colours)

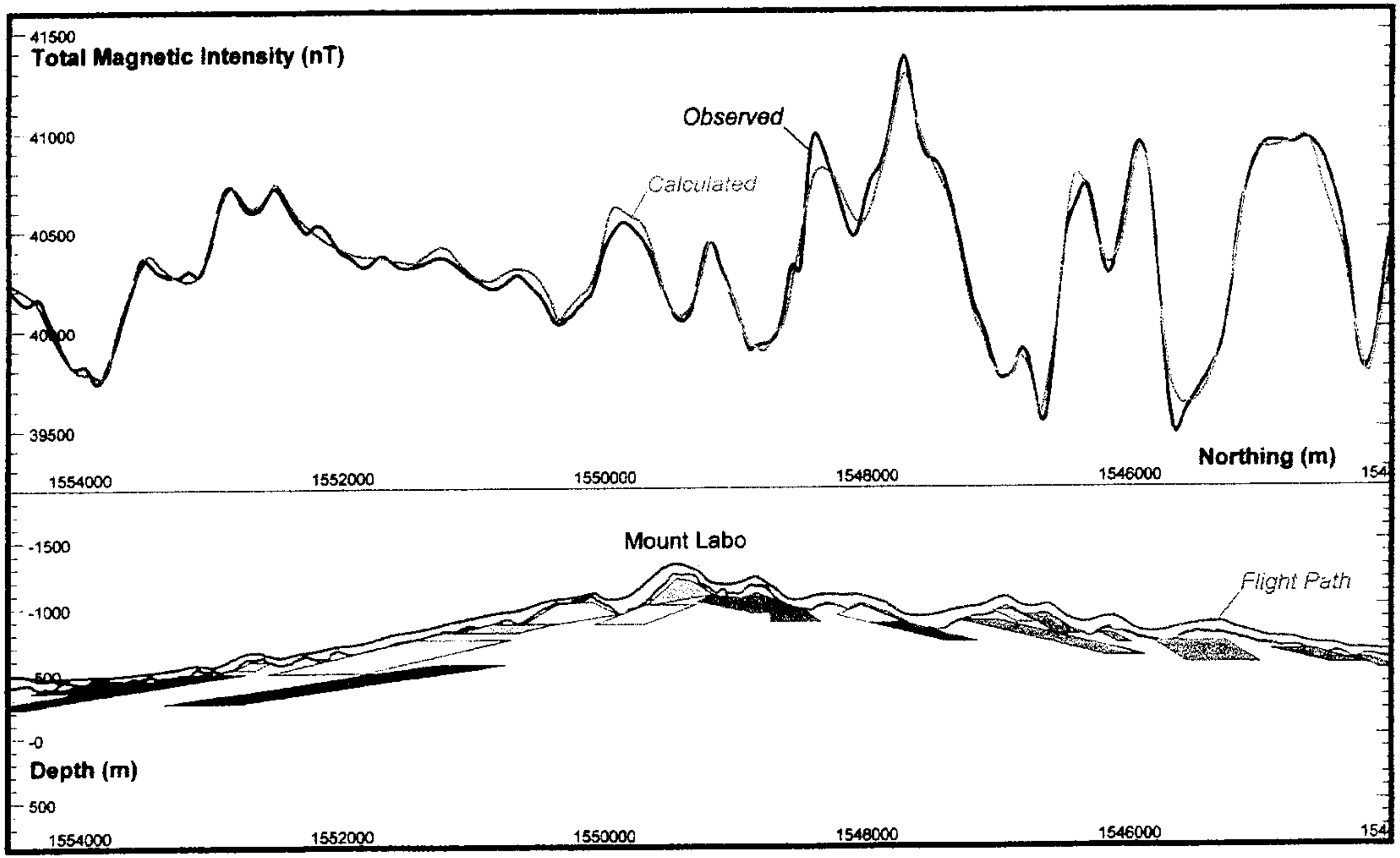


Figure 17: Interpreted magnetic model, Line 476400mE (see Fig. 14 for key to model colours)

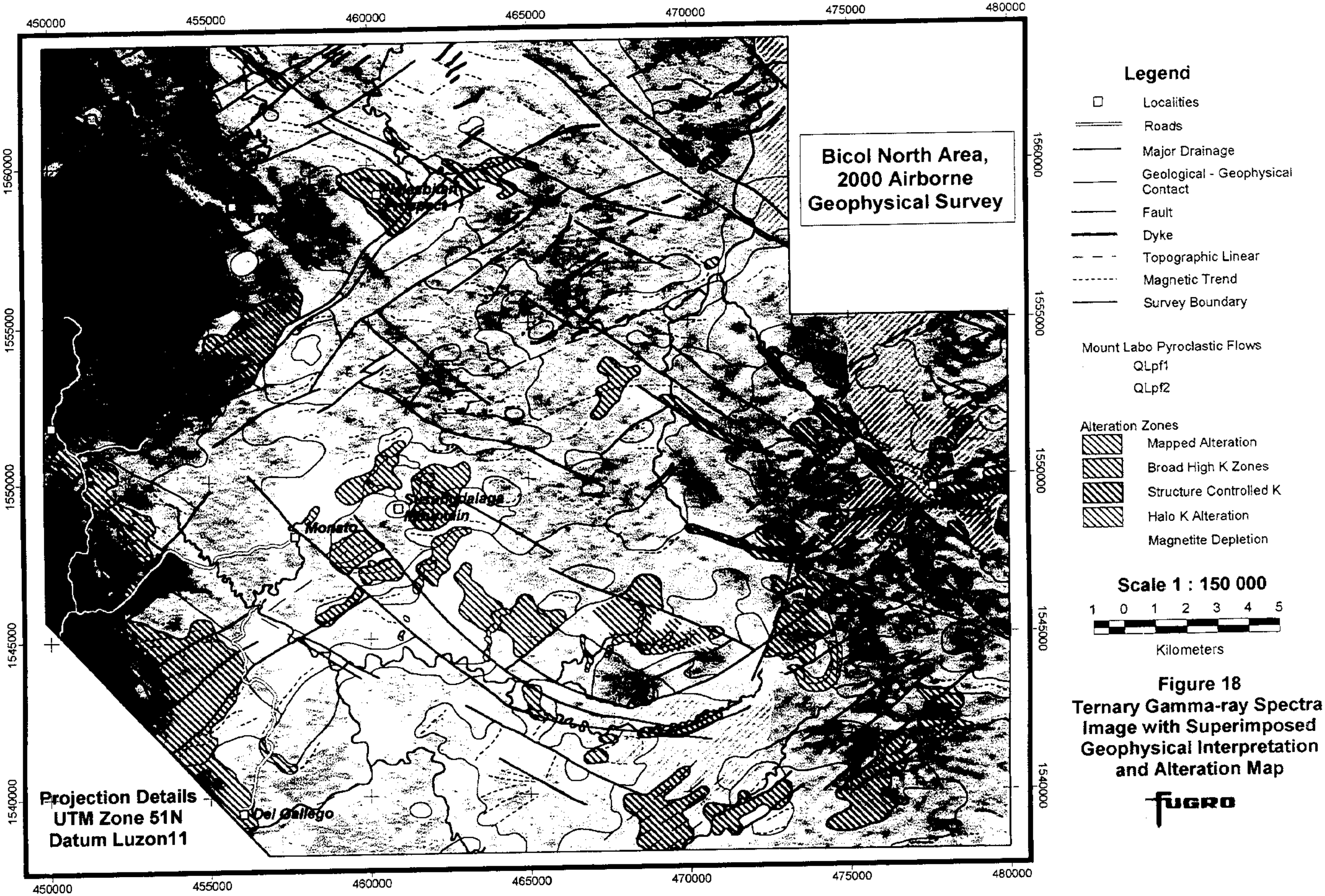
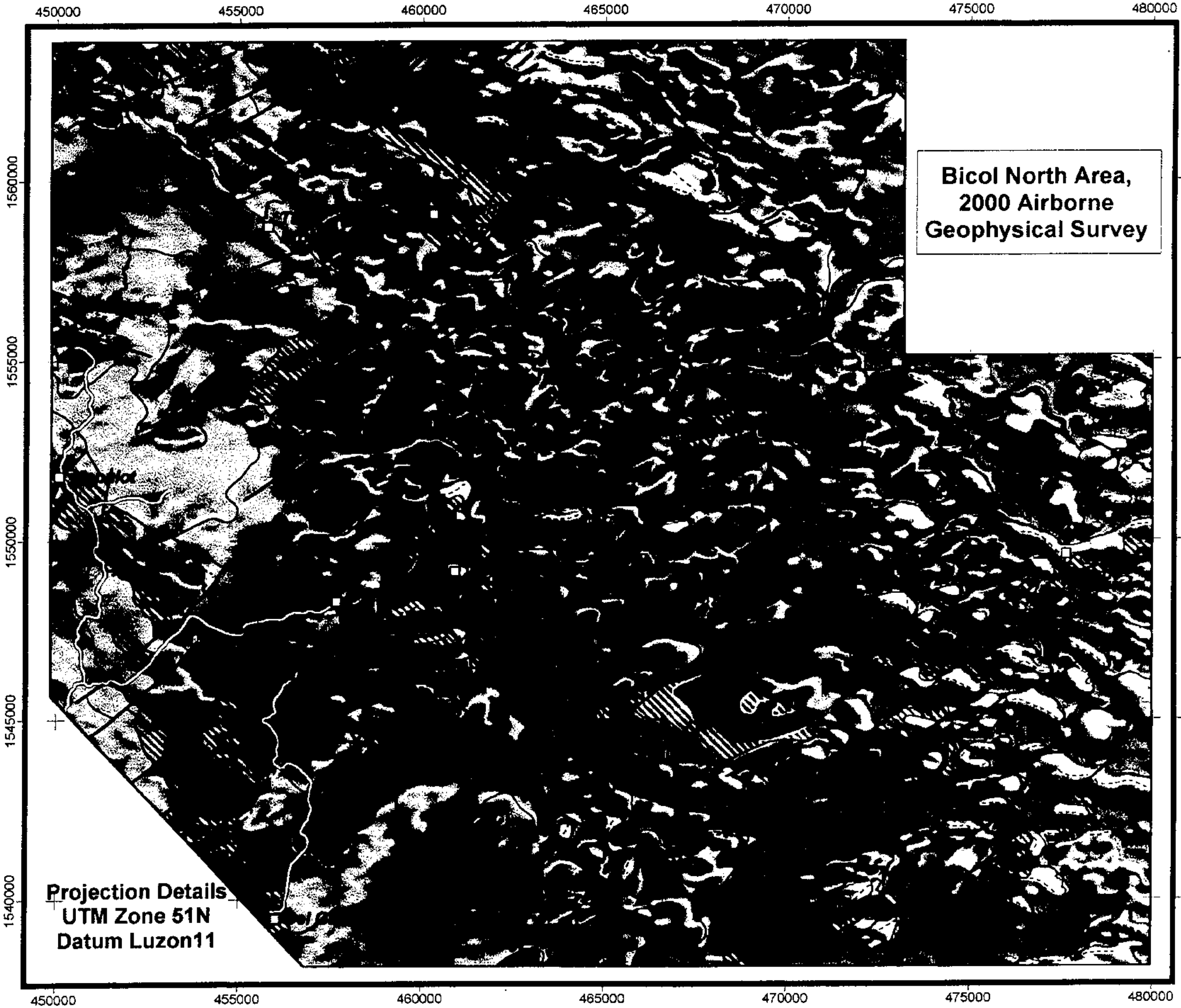


Figure 18
Ternary Gamma-ray Spectra Image with Superimposed Geophysical Interpretation and Alteration Map

FUGRO



Legend

Localities
Roads
Major Drainage
Geological - Geophysical Contact
Fault
Dyke
Topographic Linear
Magnetic Trend
Survey Boundary

Mount Labo Pyroclastic Flows
QLpf1
QLpf2

Alteration Zones
Mapped Alteration
Broad High K Zones
Structure Controlled K
Halo K Alteration
Magnetite Depletion

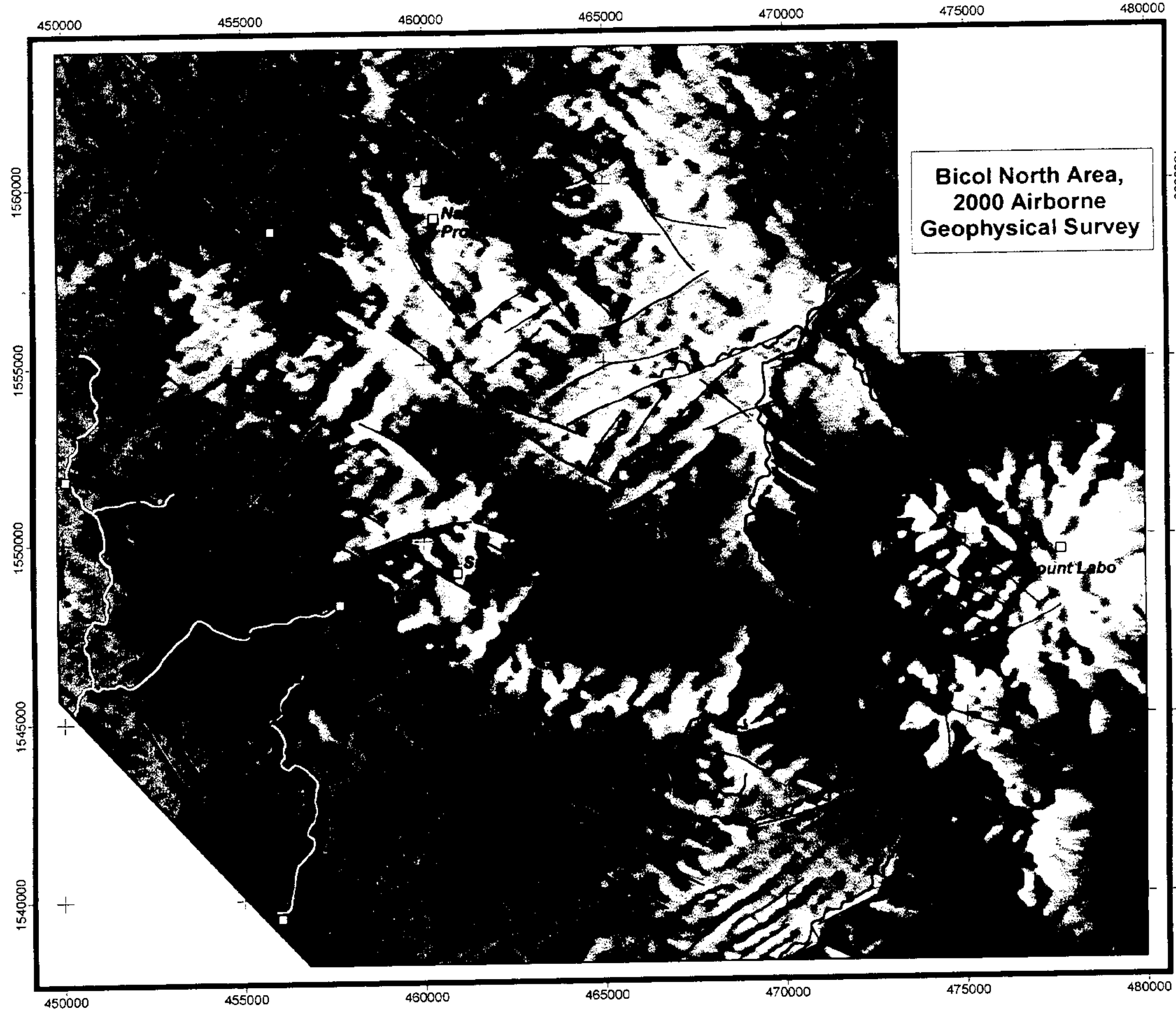
Scale 1 : 150 000

1 0 1 2 3 4 5

Kilometers

Figure 19
TMI-RTP with Superimposed Geophysical Interpretation and Alteration Map

FUGRO



Legend

- Localities
- Roads
- Major Drainage

Projection Details
UTM Zone 51N
Datum Luzon11

Scale 1 : 150 000

1 0 1 2 3 4 5

Kilometers

Figure 20
Digital Terrain Model
E Illumination with
Prominent Topographic
Linears

FUGRO

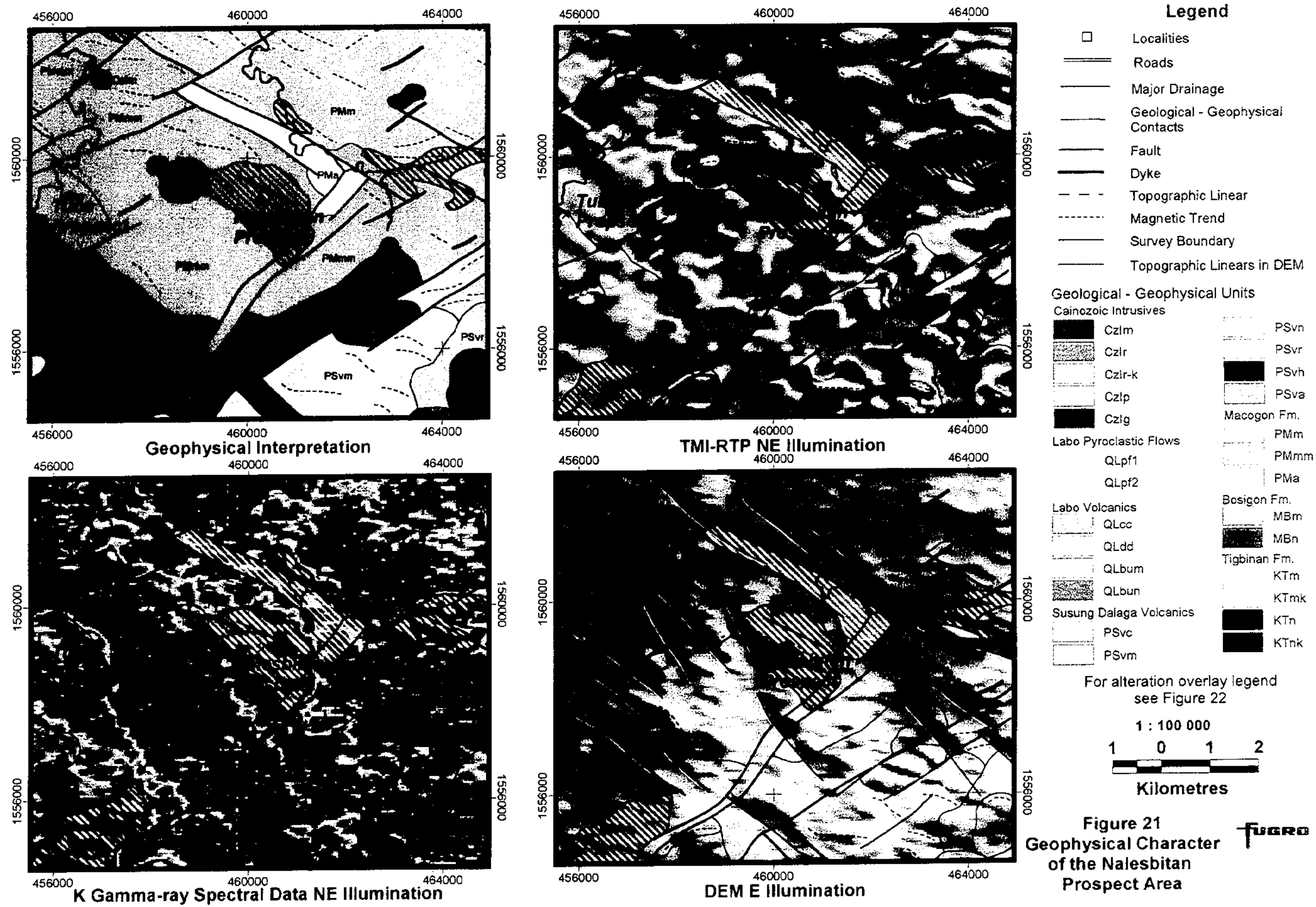


Figure 21
Geophysical Character of the Nalesbitan Prospect Area

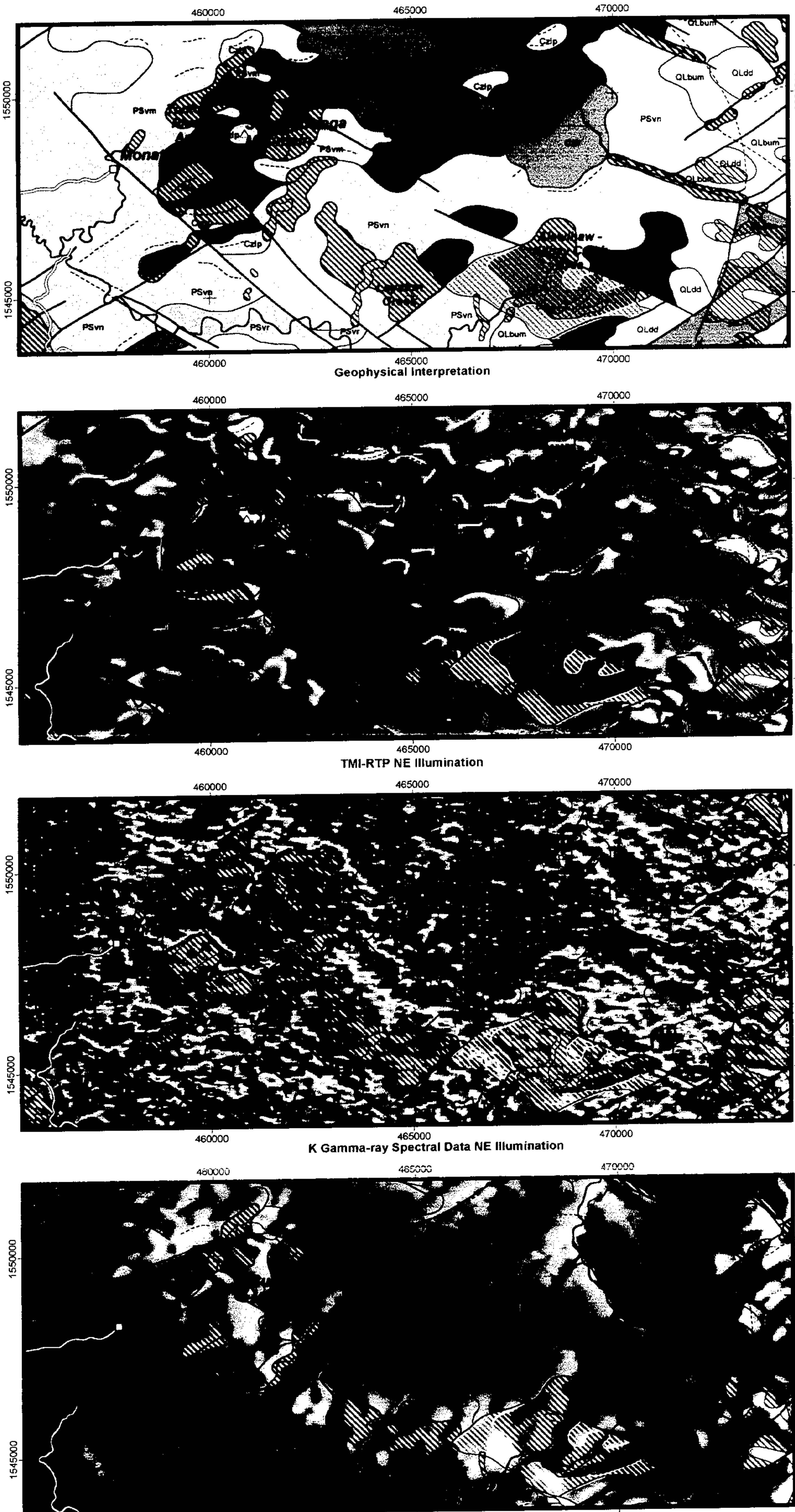


Figure 22
Geophysical Character of the Alawihaw - Kilbay Creek Area to Susungdalaga Mountain

FUGRO

1 Magnetic Modelling

1.1 Introduction

Magnetic modelling was completed over four profiles (Fig. 13). The profiles correspond with surveyed flight lines and were selected in order to give coverage over the main geologic regions and units within the study area, as well as covering the Nalesbitan Prospect. Due to the dominant northeast and northwest structural trends within the area, modelling on north-south profiles was considered most appropriate.

The resultant models generated (Figs 14-17) all show calculated and observed total magnetic intensity in the upper pane, and the modelled magnetic bodies with topographic profile in the lower pane. There is no vertical exaggeration for the modelled profiles. All models were generated using Model Vision Pro software (Version 3.10.16) using the corrected total magnetic intensity data. Modelled bodies are colour coded according to interpreted magnetic susceptibility values (Fig. 14). Only magnetic units are depicted in the modelled profiles. Each model uses the same IGRF values of field strength of 40535 nT, inclination of 13.8° and declination of −1.1°.

Several general parameters and features of magnetic modelling are significant in the interpretation of data for the Mount Labo area. Strongly magnetic strata which are exposed or present at shallow depths, have a much greater effect of the magnetic response than if the same strata are present at moderate depths. Thus the recognition of near surface, highly magnetic units in rugged topographic terrain is important in accounting for magnetic anomalies of high amplitude and low wavelength which dominate this dataset.

In volcanic dominated terrains such as the Mount Labo area, the presence of remanent magnetisation also has an impact of the observed magnetic response. Remanence may result from magmatic rocks cooling and crystallising in a magnetic field in a differed orientation from the earth痴 current magnetic field. If strong remanent magnetisation exists in a body, the total magnetisation is computed as the vector sum of the remanent and induced magnetisation components. Since specific information on remanent magnetisation of rocks from the Mount Labo area is not available, pure induction has been assumed and dominant remanent magnetisation has been modelled as negative susceptibilities. Remanent magnetisation in various volcanic units in the Mount Labo area is interpreted in both the geophysical interpretation discussed above and in the magnetic modelling described below.

1.2 *Line 460 000 mE*

This profile covers the Nalesbitan mineralisation, the volcanic sequence of the Macogon Formation, and the Susung Dalaga Volcanics at the south end. Modelling confirms these units as comprising sets of exposed or near-surface shallowly dipping magnetic sheets (presumably lavas) which produce the high-frequency anomalies in the magnetic data. The magnetic sheets are predominantly normally polarised in the north (Unit PMmm), reversely or negatively polarised in the south (Units PMmm and PSvh/PSvm), and rarely extend to depths beyond 300m. At greater depth the volcanic units can no longer be distinguished as individual units. The modelled volcanic sheets have generally not been shown individually within the interpretation map (Enclosure 1), but are more commonly represented as trend lines. Modelling across Nalesbitan suggests that the volcanics are gently folded. The most striking features along the profile are the three intense magnetic lows at 1555220 mN, 1557010 mN and 1560480 mN. All have been modelled as sub-vertical fault zones of moderate magnetic intensity (7500-9000 SI units). The main northern fault zone is 900 m wide and is modelled as a moderately magnetic zone on the southern side and a non-magnetic zone on the northern side. It trends 120° parallel to a set of smaller structures through Nalesbitan. The model also identifies NE-trending dykes intruding the Macogon Formation.

1.3 *Line 460 800 mE*

This profile represents an extension of 460000 mE, offset to the east by 800 m (Fig.13). Modelling suggests a series of shallow northerly-dipping units in the north and shallow southerly dipping units on the southern end of the modelled profile. The dips are similar or slightly steeper than those of units on Mount Labo, and are generally less than 25°. These may represent the primary dips of lava flows on the flanks of a now eroded strato-volcano with an eruptive centre just north of Susungdalaga Mountain. Interpreted intrusives modelled south of Susungdalaga Mountain (Unit Czlp) appear to be both dome- and sheet-like in form. A possible dome is also modelled at the inferred volcanic centre corresponding to a mapped 犳intrusive", and corresponds to Susungdalaga Mountain itself.

Volcanic sheets north of the interpreted volcanic centre have been interpreted to a depth of 300 m which puts the base of the volcanic pile near Mean Sea Level. By contrast the sheets south of the volcanic centre extend to below MSL reflecting a former topographic low to the south (?marine environment).

As for profile 460000 mE, exposed and near-surface modelled bodies largely account for the observed magnetic response.

1.4 Line 468 400 mE

As for the other profiles, modelling for line 468400 mE has indicated a series of shallow dipping (less than 30°) volcanic sheets which give rise to numerous short wavelength magnetic anomalies. The northern end of this line suggests a shallow S-dipping structural contact (?thrust) between the N-dipping Macogan Formation and older underlying units of the Bosigan Formation, with units of the latter dipping south beneath the interpreted volcanic sheets of the Macogon Formation. As on line 460000 mE, major faults are represented by intense magnetic lows (1551630 mN, 1557130 mN and 1558940 mN). The latter is strongly magnetic (~13000 SI units), 200 m wide and trends 115° parallel to the narrower body at 1557130 mN which represents a continuation of the major fault zone at 1560480 mN on line 460000 mE. The structure at 1551630 mN trends 055° and may be a mafic dyke rather than a magnetically altered fault zone.

Other more dyke-like bodies have been identified at 1554440 mN and 1558180 mN and are reversely polarised.. As for the above two profiles, most of the magnetic response is derived from units of limited depth extent. Both normal and reversely polarised volcanic units are present, with the latter being older and closer to the volcanic centre. An inferred reversely polarised intrusive body located near 1556500 mN, has been modelled as two shallow bodies, possibly separated by an 055° trending fault. Geometry is complicated by the fault present on the north side.

A volcanic centre is interpreted at ~1549600 mN and is characterised by a magnetic low with reversely polarised sheets dipping away from this centre on either side. This centre corresponds to a subtle topographic 田rater" or depression in the DEM (Fig. 3).

1.5 Line 476 400 mE

This profile is located just west of the summit of Mount Labo and models a number of thin volcanic sheets dipping largely parallel to the present topographic surface. Most are normally magnetised consistent with the current state of the earth痴 magnetic field. More equi-dimensional bodies on the south flank of Mount Labo (e.g. 1545500 mN) correspond to some of the lava domes. However, they appear to have little depth extent, and correspond to ridges and topographic highs suggesting that alternatively they may represent the dissected remnants of former flows now isolated by erosion along drainages. At the northern end of the profile, a deeper modelled tabular sheet represents an older volcanic unit which contributes to the overall magnetic response in this area, but again the higher frequency magnetic anomalies are due to near or at surface features of limited depth extent.

Results of K-Ar Age Determination

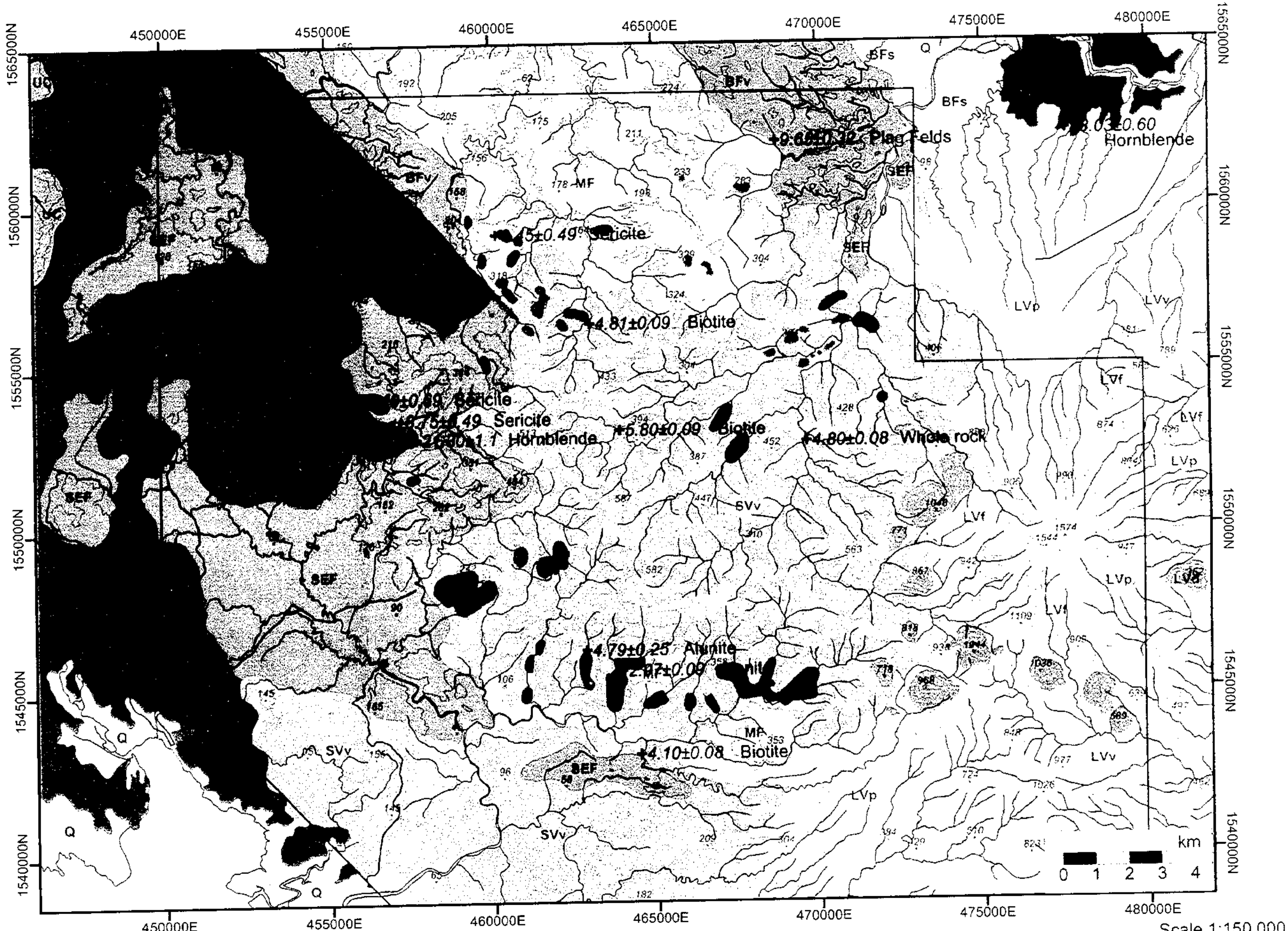
No.	Sample No.	Coordination		Rock Type	Location	Minerals	Potassium (K wt%)	Rad. ^{40}Ar (10^{-8}cc/g)	K-Ar Age (Ma)	Air Cont. (%)	Average of K-Ar Age (Ma)
		E-UTM	N-UTM								
1	BC18	460177	1559124	wt sericite-quartz argillic rocks with limonite network	Nalesbitan depposit	Sericite					8.45±0.49
2	BE05	463033	1556343	gy c grained bt bearing dac	Southeast of Nalesbitan	Biotite					4.81±0.09
3	KJ02	455995	1554088	wt sericite-quartz argillic rock	Katakian alteration zone	Sericite					9.10±0.69
4	KJ08	457186	1553020	wt sericite -quartz clay	Katakian alteration zone	Sericite					8.75±0.49
5	KK07	464478	1543059	fresh bt dac	South of Kilbay River	Biotite					4.10±0.08
6	KL13	463943	1545615	stg silicified rock with alunite-pyrite	Layaton Malaki alteration zone	Alunite					2.97±0.09
7	KM04	462855	1546255	altered dacite rich in alunite	Maniknik alteration zone	Alunite					4.79±0.25
8	KN01	457696	1552845	gy fresh hb, pl porp dacite	Near Katakian alteration zone	Hornblende					21.30±1.1
9	LA01	468757	1561953	dk gn msv hb bearing basalt	Lower Labo River	Plag Felds					9.65±0.32
10	LA02	469659	1552697	gy pl porp(2-3cm) glsy and ~dac	Upper Labo River	Whole rock					4.80±0.08
11	LE03	463922	1553083	gy fresh bt-hb pl porp dacite	West of Taktak alteration zone	Biotite					5.80±0.09
12	LP06	477589	1562215	gy f-grained granodiorite	Near Manit Occurrence	Hornblende					13.03±0.60

Dating was done by Research School of Earth Sciences, Australian National University.
Decay Constant (after Steiger and Jaeger,1977):

$\lambda e = 0.581 \times 10^{-10}$ /yr

$\lambda \beta = 4.962 \times 10^{-10}$ /yr

^{40}Ar coontent in K : $^{40}K/K = 0.01167$ atom %



K-Ar Age Determination and Analyzed Mineral