

卷末資料

Table 1 Results of Microscopic Observation of Thin Sections

Sample No.	Rock Name	Rock unit	Texture	Phenocryst										Groundmass								Alteration			
				Qz	Kf	Pl	Bi	Bo	Au	Hy	Mf	Op	Qz	Pl	Bi	Bo	Au	Hy	Mf	Op	G				
EB211	Andesite(Balcılar V.)	Mba	porphyritic		⊙			○	○										⊙					Ch. (vs arg)	
BS217	Dacite(Dededag V.)	Pdd	ditto		⊙		○						△						⊙			○	○	Ch. (vs arg)	
AK036	Andesite(Osmanlar V.)	Pod	ditto		⊙		○						△						⊙				○		
TS093	Andesite(Şapçı V.)	Msa	ditto	□	⊙		○						○						⊙			○	○		
TS078	Andesite(Şapçı V.)	Msa	ditto		⊙		○						○						⊙			○	○		
HS099	Andesite(Şapçı V.)	Msa	ditto		⊙		○						○	○					⊙			○	○	Mafic→Ch. Ep.	
AK026	Andesite(Çanyayla V.)	Eça	ditto	□	⊙		○						△	○					⊙			△	⊙	Mafic→Ch. Ep.	
ES128	Andesite(Çanyayla V.)	Eça	ditto		⊙		○						□						⊙			○	○		
ES062	Andesite(Çanyayla V.)	Eça	ditto	□	⊙		○						△						⊙			□	⊙	Ch. Ep.	
ES190	Granodiorite	Int	holocrystalline	○	⊙		○																	Ch.	
EB023	Dikmen Granite	Int	ditto	○	⊙		○						□												
EB041	ditto	Int	ditto	⊙	⊙		○						□											Kf→Ch. Ep.	
EB036	ditto	Int	ditto	⊙	⊙		○						△											Kf→Ch. Ep.	
IS005	Ovacak Granite	Int	ditto	⊙	⊙		○						△											Kf→Ch. Ep.	
IS015	ditto	Int	ditto	⊙	⊙		○						△											Kf→Ch. Ep.	
S405	Fresh basaltic andesite	Msa	porphyritic		⊙		○			□	□								⊙			○	○	○	Ch. Ep
M419	Massive silicified rock	Msa	granular																⊙			△	□		silicified. Ch
S415	Fresh basaltic andesite	Msa	porphyritic		⊙		○			□	□								⊙			⊙	○		Ch. Ep
S463	Porous silicified rock	Msa	granular																⊙			⊙	○	△	Ch. vs Ep
M460	Alunitic silicified rock	Msa	granular																⊙						
T485	Porous silicified rock	Msa	granular																⊙			○	□		
M378	Massive silicified rock	Msa	granular	○															⊙			○	△		Ser (Ch?)
S373	Fresh andesite	Msa	porphyritic		⊙		○												⊙			○	○		Ch
K328	Dikmen granodiorite	Int	hypidiomorphic	⊙	⊙		○			△	△								⊙						Ser
Y309	Dikmen granodiorite	Int	hypidiomorphic	⊙	⊙		○			△	△								⊙						Ser (Ch?)
156	Dark grey andesite	Msa	porphyritic	□	⊙		○			□	□								⊙			⊙	○		
256	Fractured andesite	Msa	porphyritic	○	⊙								□	□					⊙			⊙	○		phenocryst Mf-relict
356	Silicified rock	Msa	granular																⊙			□			silicified
457	Silicified rock	Msa	granular																⊙			○			vs silicified.
556	Silicified rock	Msa	porphyritic																⊙			⊙	○		Ch. Ep
656	Silicified rock	Msa	porphyritic																⊙			⊙	○		Ch
C679	Basaltic andesite	Msa	porphyritic		⊙		○			□	□								⊙			⊙	○		Ch. Ep
M605	Massive silicified rock	Msa	granular	○															⊙						vs Ser. Ch. Mf-relict
M610	Massive silicified rock	Msa	granular	○	○														⊙						vs Ser. Ch
P703	Granodiorite	Int	holocrystalline	⊙	⊙		○			□	□														
P706	Andesite	Msa	porphyritic	□	⊙		○			□	□								⊙			○	⊙		Ch. Mf-relict
S663	Basaltic andesite	Msa	porphyritic		⊙		○												⊙			⊙	○		Ch. Ep
S699	Granodiorite	Int	holocrystalline	○	□		○			○	○														Ch. Ep
S735	Biotite andesite	Msa	porphyritic	□	⊙		○			□	□								⊙			⊙			Ch. Bi-relict
Y630	Massive silicified rock	Msa	granular	□															⊙			△			vs Ser. Ch. qz veinlet
Y682	Massive silicified rock	Msa	granular	□															⊙			□			vs Ser. Ch
16110	Altered andesite	Msa	granular	□															⊙			△	⊙		vs Ser. Ch. Mf-relict
16135	Unaltered andesite	Msa	porphyritic		⊙		○			△	△								⊙			□			Ch. Ep
17694	Altered andesite	Msa	porphyritic	○	○		○			△	△								⊙			○			Ser. Ch
D151	Altered rock	Tev	granular																⊙			○			Ch. Mf-Ep veinlet
D152	Altered rock	Tev	granular																⊙			○	○		Ch. Ep. Op-pyrite?
D153	Altered rock	Tev	granular																⊙			○	○		Ch. Ep. Op-pyrite?
D154	Altered rock	Tev	granular																⊙			⊙	○		Ch. Ep
D155	Altered rock	Tev	granular																⊙			⊙	○		Ch. Ep. Op-pyrite?

Abbreviations

S405, M419 : Arlık Stream S415, S463 : Karabrahizler K328, Y309 : Dikmen

156 : MJTC-1 126.00 Dark grey andesite 256 : MJTC-2 96.60 Dark green fractured andesite

356 : MJTC-3 129.30 L. grey vs silicified rock with py diss 457 : MJTC-4 62.20 L. grey massive silicified rock

556 : MJTC-5 63.40 Grey porous silicified rock 656 : MJTC-6 67.80 Light brown porous s silicified rock

16110 : MJTC-16 11.0m 151 : MJTC-15 56.6m 154 : MJTC-15 135.0m

16135 : MJTC-16 135.0m 152 : MJTC-15 68.5m 155 : MJTC-15 149.5m

17694 : MJTC-17 69.4m 153 : MJTC-15 119.8m

⊙:Abundant ○:Common □:Few △:Rare

Qz:Quartz, Kf:Potassium feldspar, Pl:Plagioclase, Bi:Biotite, Bo:hornblende, Au:Augite, Hy:Hypersthene, Py:Pyroxene, Mf:Mafic mineral

Op:Opaque minerals Ser:Sericitic Ch:Chlorite Ep:Epidote C:Calcite An:Anhydrite G:Glass

vs:very strong arg:argillization, Int:Intrusive rock

Tev:Eneçe Formation, Eça:Çanyayla Volcanics, Msa:Şapçı Volcanics, Mba:Balcılar Volcanics, Pod:Osmanlar Volcanics, Pdd:Dededag Volcanics

Table 2 Chemical Analysis and CIPW Norms for Volcanics (1)

Sample No.	1 AK026	2 AK036	3 HB211	4 HS099	5 HS217	6 KS062	7 KS128	8 KS190	9 TS078	10 TS093
SiO ₂ %	66.08	64.50	51.35	55.51	73.19	66.01	57.58	63.66	61.21	58.40
TiO ₂ %	0.43	0.58	0.87	0.65	0.20	0.39	0.73	0.53	0.61	0.70
Al ₂ O ₃ %	15.66	17.45	19.60	16.95	13.97	15.03	17.23	15.57	16.60	18.10
Fe ₂ O ₃ %	1.27	2.36	6.48	2.42	1.32	1.59	3.83	2.25	5.21	5.52
FeO%	1.66	0.54	0.42	2.99	0.10	1.32	2.50	2.03	0.64	0.81
MnO%	0.11	0.08	0.05	0.15	0.04	0.08	0.13	0.12	0.17	0.05
MgO%	1.28	0.93	1.04	1.86	0.32	1.27	3.19	1.92	1.83	0.75
CaO%	2.83	3.34	6.50	5.85	0.94	1.92	6.64	4.52	5.42	3.49
Na ₂ O%	3.07	3.82	4.45	4.82	4.09	2.07	3.27	3.20	3.49	2.78
K ₂ O%	4.22	5.27	0.39	0.26	4.00	5.85	2.92	2.42	2.75	2.74
P ₂ O ₅ %	0.18	0.23	0.21	0.18	0.05	0.09	0.27	0.18	0.21	0.16
BaO%	0.09	0.12	0.02	0.02	0.09	0.16	0.08	0.07	0.09	0.08
LOI%	4.36	2.10	7.56	7.01	1.50	3.93	1.72	1.26	1.65	6.23
Total%	101.24	101.32	98.94	98.67	99.81	99.71	100.09	97.73	99.88	99.81
Q	23.94	14.27	9.37	11.33	31.79	25.55	10.20	23.26	17.52	23.61
C	1.33	0.00	0.99	0.00	1.38	2.02	0.00	0.00	0.00	4.60
or	24.94	31.15	2.30	1.54	23.64	34.57	17.26	14.30	16.25	16.19
ab	25.96	32.30	37.63	40.76	34.59	17.51	27.65	27.06	29.51	23.51
an	12.87	14.91	29.67	23.86	4.19	8.94	23.72	20.98	21.51	16.27
di-wo	0.00	0.07	0.00	1.67	0.00	0.00	3.12	0.11	1.67	0.00
di-en	0.00	0.06	0.00	1.00	0.00	0.00	2.40	0.08	1.45	0.00
di-fs	0.00	0.00	0.00	0.58	0.00	0.00	0.39	0.02	0.00	0.00
hy-en	3.19	2.25	2.59	3.63	0.80	3.16	5.54	4.70	3.11	1.87
hy-fs	1.49	0.00	0.00	2.12	0.00	0.62	0.91	1.20	0.00	0.00
mt	1.84	0.32	0.00	3.51	0.00	2.29	4.09	3.25	0.85	0.74
hm	0.00	2.14	6.47	0.00	1.32	0.00	0.00	0.00	4.62	5.00
il	0.82	1.10	0.99	1.23	0.30	0.74	1.39	1.01	1.16	1.33
tn	0.00	0.00	0.85	0.00	0.11	0.00	0.00	0.00	0.00	0.00
ap	0.43	0.54	0.50	0.43	0.12	0.21	0.64	0.43	0.50	0.38
S. I.	11.26	7.33	8.58	15.36	3.30	10.65	22.12	16.57	13.66	6.22
D. I.	74.84	77.72	49.30	53.63	90.02	77.63	55.11	64.62	63.28	63.31

Area No.	Sample No.	Rock Name	Coordinates	Rock Unit	Location
B 1	AK026	Andesite	73700 38950	Çamyayla V.	NW Osmanlar Vil
B 2	AK036	Unaltered andesite	72050 37350	Osmanlar V.	SW Osmanlar Vil
A 3	HB211	Unaltered andesite	88400 48300	Balcılar V.	Çam Hill
B 4	HS099	Andesite	73100 24700	Şapçı V.	N Aşağışapçı
A 5	HS217	Unaltered dacite	85050 51900	Dededag V.	Dededag
B 6	KS062	Andesite	85550 36100	Çamyayla V.	NW Alan Hill
B 7	KS128	Andesite	80900 31550	Çamyayla V.	Kocaçakıl Hill
B 8	KS190	Granodiorite	79950 30300	Akpınar Gr.	Cemiyet alanı
B 9	TS078	Andesite	76800 20400	Şapçı V.	Kemut Hill
B10	TS093	Andesite	76100 21550	Şapçı V.	NE Gökçeşme Vil

Table 2 Chemical Analysis and CIPW Norms for Şapçı Volcanics (2)
(unaltered)

Sample No.	11 S405	12 559	13 S415	14 S373	15 159	16 259	17* C679	18* P706	19* S663	20* S735	21* 16135	ACC A
SiO ₂ %	58.58	54.17	54.44	57.54	53.32	55.50	51.26	59.03	55.32	62.35	58.07	56.86
TiO ₂ %	0.71	0.71	0.88	0.86	0.88	0.96	1.20	0.71	0.77	0.60	0.60	0.78
Al ₂ O ₃ %	16.74	17.53	17.65	17.53	18.03	18.45	18.99	16.81	17.45	17.29	16.55	17.52
Fe ₂ O ₃ %	3.59	5.05	3.79	4.80	4.50	5.40	5.78	3.83	3.87	5.00	3.58	4.61
FeO%	3.07	0.14	4.79	2.03	4.07	1.30	2.66	0.96	3.05	0.13	2.19	1.99
MnO%	0.15	0.19	0.24	0.09	0.24	0.93	0.16	0.07	0.20	0.04	0.38	0.16
MgO%	2.78	2.50	2.57	2.61	2.62	0.77	3.16	2.87	1.72	0.56	0.93	1.97
CaO%	6.04	1.27	6.79	6.82	7.40	4.41	8.45	5.51	7.92	3.93	4.15	5.51
Na ₂ O%	3.07	0.84	3.21	3.27	3.13	3.06	3.55	2.96	3.97	3.40	2.95	3.05
K ₂ O%	3.29	2.70	2.58	2.41	2.15	2.21	1.85	2.67	0.60	3.47	4.08	2.58
P ₂ O ₅ %	0.35	0.24	0.35	0.27	0.32	0.24	0.38	0.22	0.28	0.22	0.20	0.26
BaO%	0.13	0.07	0.11	0.10	0.12	0.09	0.07	0.09	0.05	0.08	0.07	0.09
LOI%	1.70	15.24	2.71	2.64	3.66	8.92	3.45	3.55	3.88	2.50	4.79	4.69
Total%	100.20	100.65	100.11	100.97	100.44	101.34	100.96	99.28	99.08	99.57	98.54	100.07
Q	13.23	33.18	9.53	12.87	9.30	19.33	3.75	16.40	12.56	20.98	15.24	
C	0.00	11.49	0.00	0.00	0.00	3.58	0.00	0.00	0.00	1.85	0.21	
or	19.44	15.96	15.25	14.24	12.71	13.06	10.93	15.78	3.55	20.51	24.11	
ab	25.96	7.10	27.15	27.65	26.47	25.88	30.02	25.03	33.57	28.75	24.95	
an	22.19	4.75	26.14	26.04	28.80	20.32	30.42	24.70	28.03	16.64	19.29	
di-wo	2.30	0.00	2.20	2.52	2.43	0.00	3.77	0.50	3.94	0.00	0.00	
di-en	1.99	0.00	1.85	2.18	2.10	0.00	3.26	0.43	2.69	0.00	0.00	
di-fs	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.94	0.00	0.00	
hy-en	4.93	6.22	4.55	4.32	4.42	1.92	4.61	6.71	1.59	1.39	2.32	
hy-fs	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.56	0.00	0.78	
mt	8.33	0.14	13.20	4.34	11.35	1.51	5.62	1.26	5.61	0.00	5.19	
hb	1.26	5.49	0.00	4.05	1.19	5.80	1.91	2.96	0.00	4.99	0.00	
il	1.35	1.35	1.67	1.63	1.67	1.82	2.28	1.35	1.46	0.36	1.14	
tn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01	0.00	
ap	0.83	0.57	0.83	0.64	0.76	0.57	0.90	0.52	0.66	0.52	0.47	
S. I.	17.59	21.59	15.17	17.27	15.90	6.04	18.59	21.60	13.02	4.46	6.79	
D. I.	58.63	56.24	51.93	54.76	48.48	58.27	44.70	57.21	49.68	70.24	64.30	

*Sample of third phase

Area No.	Sample No.	Rock Name	Coordinates	Rock Unit	Location
B11	S405	Basaltic andesite	82010 31055	Şapçı V.	Arlık Stream
B12	559	Andesite	82620 30220	Şapçı V.	MJTC-5(114.25m)
B13	S415	Basaltic andesite	80585 27755	Şapçı V.	Karabrahimlirt
B14	S373	Andesite	79395 22330	Şapçı V.	Piren Hill
B15	159	Andesite	79150 20760	Şapçı V.	MJTC-1(126.00m)
B16	259	Fractured andesite	79580 20920	Şapçı V.	MJTC-2(96.60m)
E17*	C679	Basaltic andesite	90040 20630	Şapçı V.	Davulga Hill
E18*	P706	Andesite	90070 24240	Şapçı V.	Davulga Hill
E19*	S663	Basaltic andesite	96550 21710	Şapçı V.	Ardıç Hill
E20*	S735	Biotite andesite	97330 26100	Şapçı V.	Küçükpaşa
E21*	16135	Andesite	88338 20785	Şapçı V.	MJTC-16(135.00m)

Table 2 Chemical Analysis and CIPW Norms for Altered Şapçı Volcanics (3)

Sample No.	22 158	23 358	24 359	25 460	26 S463	27 558	28 656	29 M460	30*	ACC C
SiO ₂ %	78.00	60.72	70.16	65.33	83.38	56.23	57.90	47.75	60.23	64.41
TiO ₂ %	0.74	0.90	0.81	0.72	0.61	0.57	0.64	0.95	0.74	0.74
Al ₂ O ₃ %	2.54	19.08	14.23	17.36	12.06	14.45	15.32	19.74	20.34	15.02
Fe ₂ O ₃ %	9.14	6.44	3.56	5.48	0.17	4.55	0.04	0.47	3.38	3.69
FeO%	0.94	0.20	0.10	0.12	0.18	0.14	0.06	0.12	0.68	0.28
MnO%	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
MgO%	0.06	0.55	0.02	0.10	0.01	0.03	<0.01	0.01	0.28	0.12
CaO%	0.12	0.36	0.17	0.13	0.11	0.15	0.24	0.21	0.46	0.22
Na ₂ O%	0.22	0.58	0.38	0.16	0.19	1.22	0.49	0.91	0.78	0.50
K ₂ O%	0.04	2.99	1.00	2.13	0.50	2.16	4.04	4.09	3.82	2.31
P ₂ O ₅ %	0.15	0.39	0.12	0.35	0.17	0.33	0.18	0.38	0.24	0.26
BaO%	0.08	0.16	0.04	0.07	<0.01	0.09	0.11	0.31	0.06	0.10
LOI%	8.08	7.98	9.76	8.19	3.13	20.92	22.48	26.00	8.96	12.84
Total%	100.12	100.36	100.36	100.15	100.53	100.85	101.52	100.95	99.98	100.49

Sample No.	31 M419	32 T485	33 M378	34 258	35*	36*	37*	38*	39*	ACC B
SiO ₂ %	96.51	95.41	96.98	95.41	97.17	96.61	96.70	98.29	94.43	96.39
TiO ₂ %	1.81	0.71	0.81	0.74	0.86	0.54	0.59	0.59	0.61	0.81
Al ₂ O ₃ %	0.29	0.29	0.32	0.31	0.26	0.15	0.15	0.47	0.40	0.29
Fe ₂ O ₃ %	0.68	1.44	0.39	0.30	0.01	0.05	0.03	0.13	2.48	0.61
FeO%	0.71	0.26	0.50	0.16	0.09	0.06	0.06	0.03	0.30	0.24
MnO%	<0.01	0.01	0.01	<0.01	0.01	0.01	0.01	0.01	<0.01	0.01
MgO%	<0.01	0.01	0.01	<0.01	0.08	0.04	0.03	0.04	0.05	0.03
CaO%	0.04	0.10	0.09	0.05	0.22	0.19	0.19	0.25	0.19	0.15
Na ₂ O%	0.11	0.15	0.15	0.10	0.14	0.12	0.12	0.11	0.01	0.12
K ₂ O%	0.05	0.10	0.05	0.06	0.06	0.04	0.04	0.08	0.04	0.06
P ₂ O ₅ %	0.07	0.09	0.10	0.06	0.03	0.02	0.03	0.03	0.06	0.05
BaO%	<0.01	0.01	<0.01	0.08	0.03	0.11	0.09	0.02	0.08	0.05
LOI%	<0.01	1.10	1.36	1.43	0.40	0.40	0.35	0.41	0.89	0.70
Total%	100.31	99.68	100.78	98.72	99.36	98.34	98.39	100.46	99.55	99.51

* Sample of third phase

Area No.	Sample No.	Rock Name	Coordinates	Rock Unit	Location
B22	158	Porous sil rock	79150 20760	Şapçı V.	MJTC-1(42.20m)
B23	358	Arg rock	82980 30790	Şapçı V.	MJTC-3(30.00m)
B24	359	Massive rock	82980 30790	Şapçı V.	MJTC-3(140.20m)
B25	460	Arg rock	83400 30790	Şapçı V.	MJTC-4(100.00m)
B26	S463	Porous sil rock	80645 27570	Şapçı V.	Karabrahimler
B27	558	Porous sil rock	82620 30220	Şapçı V.	MJTC-5(63.40m)
B28	658	Porous s sil rock	82340 30170	Şapçı V.	MJTC-6(77.80m)
B29	M460	Alunitic sil rock	76585 29075	Şapçı V.	Kestane Mt.
E30*	17694	Altered andesite	88338 20785	Şapçı V.	MJTC-17(69.40m)
B31	M419	Massive sil rock	82855 29790	Şapçı V.	Arlık Stream
B32	T485	Porous sil rock	75870 30160	Şapçı V.	Kestane Mt.
B33	M378	Massive sil rock	80720 21890	Şapçı V.	Piren Hill
B34	258	Massive sil rock	79580 20920	Şapçı V.	MJTC-2(5.70m)
E35*	M605	Massive sil rock	93850 24090	Şapçı V.	Bağ Hill
E36*	M610	Massive sil rock	93835 24055	Şapçı V.	Bağ Hill
E37*	Y630	Massive sil rock	94110 25175	Şapçı V.	Hamam Hill
E38*	Y682	Massive sil rock	93980 25090	Şapçı V.	Haman Hill
E39*	17110	Altered andesite	88338 20785	Şapçı V.	MJTC-16(11.00m)

Table 2 Chemical Analysis and CIPW Norms
for Granitic Rocks and Altered Rock(4)

Sample No.	40 HB036	41 KB023	42 KB041	43 KS005	44 KS015	45 K328	46 Y309	47* P703	48* S699	49* D151	50* D152	51* D153	52* D154	53* D155
SiO ₂ %	67.91%	64.70%	67.42%	66.19%	64.90%	67.09%	67.64%	66.59	65.48	73.06	69.38	70.62	69.17	70.95
TiO ₂ %	0.28	0.35	0.25	0.26	0.30	0.33	0.33	0.40	0.42	0.25	0.23	0.24	0.24	0.25
Al ₂ O ₃ %	16.06	17.94	16.91	17.72	17.70	17.98	17.24	15.53	15.15	12.12	11.49	12.27	12.19	12.45
Fe ₂ O ₃ %	1.41	1.19	0.84	0.75	1.16	1.06	1.11	1.98	1.84	1.38	2.46	2.51	0.87	1.30
FeO%	0.74	1.55	1.09	0.98	1.20	1.62	1.66	1.70	2.06	0.13	0.50	0.19	0.67	0.36
MnO%	0.04	0.09	0.06	0.05	0.07	0.07	0.08	0.07	0.04	0.01	0.02	0.02	0.03	0.02
MgO%	0.67	1.58	0.83	0.84	1.32	1.12	0.83	1.46	1.81	0.50	1.04	0.71	1.24	1.03
CaO%	3.60	4.53	3.41	4.68	4.86	4.19	4.11	3.60	3.31	3.25	2.21	1.86	3.70	2.68
Na ₂ O%	3.96	4.85	4.32	4.90	4.80	5.08	4.32	3.65	2.86	0.25	0.21	0.25	0.24	0.27
K ₂ O%	2.67	1.38	2.54	1.21	1.49	1.40	1.88	3.52	4.12	3.43	3.67	4.04	3.14	4.34
P ₂ O ₅ %	0.11	0.14	0.13	0.12	0.12	0.18	0.23	0.25	0.19	0.12	0.15	0.14	0.16	0.15
BaO%	0.04	0.04	0.06	0.04	0.04	0.05	0.09	0.05	0.12	0.05	0.04	0.08	0.03	0.05
LOI%	1.51	0.93	1.69	1.90	1.08	1.10	0.67	0.56	1.61	5.70	6.08	5.11	7.59	5.93
Total%	99.00	99.27	99.55	99.64	99.04	101.27	100.19	99.36	99.01	100.25	97.48	98.04	99.27	99.78
Q	26.27	18.90	23.95	21.75	19.07	21.97	25.84	22.42	23.09	51.18	48.25	49.06	46.35	45.92
C	0.38	0.57	1.17	0.13	0.00	0.92	1.18	0.00	0.42	2.49	3.51	4.44	2.05	2.79
or	15.78	8.16	15.01	7.15	8.81	8.27	11.11	20.80	24.35	20.27	21.69	23.88	18.56	25.65
ab	33.49	41.02	36.53	41.44	40.59	42.96	36.53	30.87	24.19	2.11	1.78	2.11	2.03	2.28
an	17.14	21.56	16.07	22.43	22.36	19.62	18.90	15.60	15.19	15.01	9.99	8.30	17.32	12.32
di-wo	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00
di-en	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00
di-fs	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
hy-en	1.67	3.93	2.07	2.09	3.00	2.79	2.07	3.44	4.51	1.25	2.59	1.77	3.09	2.56
hy-fs	0.00	1.45	1.01	0.84	0.80	0.20	0.22	0.91	1.64	0.00	0.00	0.00	0.18	0.00
mt	1.70	1.72	1.22	1.09	1.68	4.15	4.28	2.87	2.67	0.00	1.01	0.00	1.25	0.50
hm	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.38	1.77	2.51	0.00	0.95
il	0.53	0.66	0.47	0.49	0.57	0.63	0.63	0.76	0.80	0.30	0.44	0.44	0.46	0.48
tn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.02	0.00	0.00
ap	0.26	0.33	0.31	0.28	0.28	0.43	0.55	0.59	0.45	0.28	0.36	0.33	0.38	0.36
S.I.	7.20	15.15	8.70	9.76	13.40	10.85	8.47	11.86	14.26	8.79	13.20	9.22	20.13	14.11
D.I.	75.54	68.08	75.49	70.34	68.47	73.20	73.48	74.09	71.63	73.56	71.72	75.05	66.94	73.85

* Sample of third phase

Area No.	Sample No.	Rock Name	Coordinates	Rock Unit	Location
C40	HB036	Granodiorite	14750 43200	Dikmen Gr.	Sıgırırek Stream
C41	KB023	Granodiorite	14440 42750	Dikmen Gr.	Domuzdamı Stream
C42	KB041	Granodiorite	14750 42950	Dikmen Gr.	ditto
C43	KS005	Granodiorite	14800 44450	Ovacık Gr.	S Karagedik Hill
C44	KS015	Granodiorite	15200 46900	Ovacık Gr.	SE Çüçül Hill
C45	K328	Granodiorite	14440 42755	Dikmen Gr.	Domuzdamı Hill
C46	Y309	Granodiorite	13960 42980	Dikmen Gr.	Sıgırırek Hill
E47*	P703	Granodiorite	89240 15300	Çavuş Gr.	Bahçeler Hill
E48*	S699	Granodiorite	86870 17580	Çavuş Gr.	Darı Hill
C49*	D151	Altered rock	13062 41280	Emeşe F.	MJTC-15(56.80m)
C50*	D152	Altered rock	13062 41280	Emeşe F.	MJTC-15(68.50m)
C51*	D153	Altered rock	13062 41280	Emeşe F.	MJTC-15(119.80m)
C52*	D154	Altered rock	13062 41280	Emeşe F.	MJTC-15(135.00m)
C53*	D155	Altered rock	13062 41280	Emeşe F.	MJTC-15(149.50m)

arg:argillized, sil:silicified rock, limo:limonite, diss:dissemination

ACC*:Average of Şapçı Volcanics

A: Unaltered andesite (Sample Nos. from No.9 to No.21)

B: Altered andesite (Sample Nos. from No.31 to No.39)

C: Altered andesite (Sample Nos. from No.22 to No.30)

Table 3 Results of X-ray Diffractive Analysis(5)

Zone B and C

Sample No.	Altered Rock	Rock unit	Location	Clay Mineral								Sulfate n.			Carbonate			Silicate		Feld.		Miscellaneous n.							
				Mo	Ch	Se	Mu	Ea	Pr	Da	Al	Gy	An	Ca	Do	Si	Cr	Qz	Pl	Kf	Py	Ma	Be	Ep	Bo	Tr	Bi		
HS186	An (v sil. n arg)	Msa	Çatalkaya T.	.	.	△	.	.	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.	.
HS192	Al tuff(n sil. n arg)	Msa	Çatalkaya T.	.	.	△	.	.	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.	.
HS193	Al an(n sil. n arg & py)	Msa	Kestanedağ	.	.	△	.	.	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.	.
HS195	Al rock(vs sil. hematite)	Msa	Kestanedağ	.	.	△	.	.	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.	.
HS200	Al tuff(n sil. n arg)	Msa	Kirazlı dağı	.	.	△	.	.	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.	.
AK018	Al an(n arg)	Eça	Çanakçı D.	.	.	.	.	.	.	.	.	.	.	.	.	.	⊙	△	.	.	.	.	.	.	.	.
AK032	Qz vein in the an	Eça	E. Usanlar Mah.	.	.	.	.	.	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.	.
AK045	Al an(n arg)	Eça	N. Karacalar	.	.	.	.	.	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.	.
AK072	Al rock with li	Msa	S. Kök T.	.	.	.	.	.	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.	.
AK078	Al rock with li(s arg)	Msa	S. Kök T.	.	.	.	.	.	.	.	.	.	.	.	.	.	⊙	⊙	.	.	.	.	.	.	.	.
AK083	Al an with li(n arg)	Eça	N. Kök T.	.	.	.	.	.	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.	.
SR060	Al rock(vs arg)	Eça	Sarıkaya T.	.	.	.	.	△	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.	.
SR075	White clay	Msa	Karaçan T.	.	.	.	.	△	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.	.
SR098	Al rock with li(s sil)	Msa	Lawsara T.	.	.	.	.	.	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.	.
SR129	Al rock with li(s arg)	Msa	E. Route 60	.	.	.	.	.	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.	.
EM004	Dacitic tuff	Pad	Akkayarak Köyü	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
KB003	Metamor rock(skarn zone)	Res	Dikmenkorusu T.	.	.	.	.	.	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.	.
KB005	Granite(potassic zone)	dg	E. Dikmenkorusu	.	.	.	.	.	.	.	.	.	.	.	.	.	⊙	⊙	.	.	△	.	.	.	△?	.
KB012	Green schist	Res	S. Şakir T.	.	.	.	.	.	.	.	.	.	.	.	.	.	△	.	.	.	.	.	.	.	.	.
KB018	Pelitic schist	Res	SE. Lalebiten T.	.	.	.	.	.	.	.	.	.	.	.	.	.	△	.	.	.	.	.	.	.	.	.
KB040	Granite(phylic zone)	dg	SW. Lalebiten T.	.	.	.	.	.	.	.	.	.	.	.	.	.	△	.	.	.	.	.	.	.	.	.
KB048	Qz porphyry with py diss	Po	SW. Lalebiten T.	.	.	.	.	.	.	.	.	.	.	.	.	.	△	.	.	.	.	.	.	.	.	.
KB056	Green schist with hem	Res	S. Lalebiten T.	.	.	.	.	.	.	.	.	.	.	.	.	.	△	.	.	.	.	.	.	.	.	.
TS026	Al rock with qz(s arg)	Res	F. Ortaburun	.	.	.	.	.	.	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.
TS038	Meta-volcanic rock	Res	NV. İzbasmacı	.	.	.	.	.	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.	.
KS017	Limonitized porphyry	Po	Dikmen	.	.	.	.	.	.	.	.	.	.	.	.	.	△	.	.	.	.	.	.	.	.	.
KS031	Granite with qz veinlet	dg	Uzumburun T.	.	.	.	.	.	.	.	.	.	.	.	.	.	△	.	.	.	.	.	.	.	.	.
KS040	Limonitized granite	dg	Uzumburun T.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.
KS048	Silicified meta-vol rock	Res	Karaleylek T.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.
EB015	Al rock(s arg)	Res	Domuzdamı D.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	△	.	.	.	.	.	.	.	.
EB019	Granite(phylic zone)	dg	Domuzdamı D.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.
SR023	Limonitized meta-vol rock	Res	Karaleylek T.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	⊙	.	.	.	.	.	.	.	.

Abbreviations: ⊙: Abundant ○: Common △: Few ·: Rare Mo: Montmorillonite, Ch: Chlorite, Se: Sericite, Mu: Muscovite, Ea: Erolite, Pr: Pyrophyllite, Da: Diaspore, Al: Alunite, Gy: Gypsum, An: Anhydrite, Ca: Calcite, Do: Dolomite, Si: Siderite, Cr: α-Cristobalite, Qz: Quartz, Pl: Plagioclase, Kf: Potassium feldspar, Py: Pyrite, Ma: Magnetite, Be: Benatite, Ep: Epidote, Bo: Bornblende, Bd: Beulandite, Tr: Tridymite, Cy: Chrysocolla, Rh: Rhodochrosite, Pb: Galena, Zn: Sphalerite, Mg: Magnetite, Bi: Biotite, Al: altered, Unal: unaltered, arg: argillized, sil: silicified, li: limonite, an: andesite/andesitic, agg: agglomerate, bre: brecciated, vs: very strong, s: strong, n: moderate, w: weak, T: Hill, Mah: Village, D: Stream, N: North, S: South, E: East, W: West.

Eça: Çanyayla Volcanics, Msa: Şapçı Volcanics, Mba: Balçılar Volcanics, Bag: Akpınar granite

Table 3 Results of X-ray Diffractive Analysis(10)

Drill Cores

Sample No.	Altered Rock	Drill Hole		Clay Mineral							Sulfate n.			Carbonate			Silicate		Feld.		Miscellaneous n.						
		No.	Depth	Ko	Ch	Se	Ba	Ka	Pr	Da	Al	Gy	Ja	Ca	Do	Si	Cr	Qz	Pl	Kf	Py	Mo	Re	Co	Mg	Bi	Bo
071	Linonitic s arg rock	MJTC-7	9.50													⊙											
072	Grey s arg rock with py diss		47.00	Δ												Δ											
073	ditto		70.00													Δ											
074	Grey n arg fine tuff		96.50	Δ									Δ			Δ											
081	L. reddish-brown n arg andesite	MJTC-8	7.00													⊙											
082	L. grey s arg rock		33.00													○											
083	L. grey n arg andesite with py diss		87.00													○											
084	ditto		113.00													○											
091	White-l. brown s-s sil rock	MJTC-9	10.00								Δ					⊙											
092	L. grey n sil rock		32.00								○					⊙											
093	L. grey sil fine tuff		76.00								Δ					⊙											
094	L. grey n sil rock with py diss		151.00								Δ					⊙											
101	L. grey s sil rock	MJTC-10	40.00													⊙											
102	White brecciated sil rock		83.80													⊙											
103	Grey vs massive sil rock with clay		125.00													⊙											
104	L. grey brecciated sil rock		147.00								○					⊙											
111	Grey vs sil rock with alunite	MJTC-11	56.00													Δ											
112	ditto		71.40								⊙					○											
113	Grey n-s arg rock with py diss		114.00								Δ					Δ											
114	L. grey s arg rock with py diss		149.00								Δ					○											
121	Linonitic s arg rock	MJTC-12	16.00								Δ					⊙											
122	Reddish grey s arg rock		59.50								Δ					○											
123	Grey-red massive vs sil rock		94.60													⊙											
124	Grey s arg rock with py diss		148.00													○											
131	White clay	MJTC-13	40.80													⊙											
132	L. grey fine-grained rock		44.70													⊙											
133	Fractured s sil rock		90.30													⊙											
134	L. grey fractured s arg rock		117.80													⊙											

Table 3 Results of X-ray Diffractive Analysis(11)

Drill Cores

Sample No.	Altered Rock	Drill Hole		Clay Mineral							Sulfate n.			Carbonate			Silicate		Feld.		Miscellaneous n.						
		No.	Depth	Ko	Ch	Se	Ba	Ka	Pr	Da	Al	Gy	Ja	Ca	Do	Si	Cr	Qz	Pl	Kf	Py	Mo	Re	Co	Mg	Bi	Bo
141	White grey s arg rock	MJTC-14	38.80								Δ					⊙											
142	White s arg rock		57.30								Δ					⊙											
143	L. green n arg andesite		61.20								Δ					○											
144	Fractured rock with liponite		119.80													Δ											
151	Altered porphyry	MJTC-15	44.20													⊙											
152	Grey fault clay		52.70													⊙											
153	Silicified rock		68.50													⊙											
154	L. grey n arg porphyry		119.80													⊙											
155	ditto		131.80													⊙											
156	ditto		149.00													⊙											
161	Grey n arg andesite	MJTC-16	17.10	Δ												Δ											
162	L. grey-green w alt andesite		64.00	○												Δ											
163	ditto		83.50	Δ												Δ											
164	Dark green auto-brecciated andesite		150.00	Δ												Δ											
171	Grey n arg andesite	MJTC-17	13.80	Δ												Δ											
172	ditto		70.00													Δ											
173	L. grey w arg andesite		96.50													⊙											
174	Green yellow s arg rock		142.50													○											Δ

Abbreviations: ⊙: Abundant ○: Common Δ: Few ·: Rare, Mo: Montmorillonite, Ch: Chlorite, Mu: Muscovite, Se: Sericite, Ka: Kaoline, Pr: Pyrophyllite, Ba: Baaloyssite, Al: Alunite, Gy: Gypsum, Ja: Jarosite, Ca: Calcite, Do: Dolomite, Si: Siderite, Cr: α-Cristobalite, Tr: Tridymite, Qz: Quartz, Pl: Plagioclase, Kf: Potassium feldspar, Py: Pyrite, Ma: Magnetite, Re: Renatite, Bi: Biotite, Bo: Boroblende, Tss: Sakar Dagı Formation, Mga: Gicikler Volcanics, Msa: Sapeı Volcanics

Table 4 Summary of Heavy Mineral Study(1)

Name of Area	Sample No.	Gold No.	Size of Gold Grain					Heavy Minerals																Analytical	Distance from Outcrops			
			A	B	C	D	E	Ba	Gr	Ep	Bi	Px	Mz	Cl	Il	Zr	Mg	Hn	Py	Sp	Ga	Sc	Sb			Eu	Ch	
Karaibrahimler	TA069D ¹	22			9		13	⊙	○			□	△	1	△	□	□	⊙					□			Au-Ba	1.5kn	
	TA099D	5	2	2	1			○	△		□	△					□	□							○	Au-Pb-Bg		
	TA113D	57	51	2	1	1	2	⊙				□	△				□	□								Au-Ba	0.5kn	
	TA114D	6	6					⊙				□	△	1				□	□								Au-Ba	0.5kn
	TA115D	74	70	2	1	1		□	○									□	□	○	△		△	△	□		Au-Ba	0.5kn
	TA116T ²	27	20	4	1	1	1	⊙										□	□	△	△						Au-Ba	0.5kn
Kestane Mt.	TA026D	16	7	7	2			□								□	△	⊙	□								Au	2kn
	TA075D	16	6				10	□		○				⊙		○	□	□	○						○		Au	1.5kn
	TA076D	20	16		2	1	1	□						□			□	□	○						□		Au-Pb	1kn
	TA111D	8	3	2	2		1	□	⊙	○			□	□			○	□	○						○	△	Au-Pb-Bg	2.5kn
	TA112D	13	1	2	2	4	4	□									○	⊙	□						○		Au-Pb	2kn
Kocatas Hill	TA083D	85	43	5	5	3	4	△	○	⊙						□	△	○							○		Au	2kn
Arlık Stream	TA037D	25	22	2		1		⊙			○	⊙								△		△			□		Au	1.4kn
South of Karacaören Hill	TA039D	9	1	8				○			○	⊙	□				⊙	⊙	△								Au-Ba	2kn
	TA095D	10	8	2				△									△		□	□							Au	
Kirazlıçantepe Armutçuk Esarcılar Çeşme-tepe Caltıkara	TA009D	9	9					○				△					□	○	○								Au	
	TA013D	13	12		1			△			○	⊙					□	△	△	△							Au	1.5kn
	TA014D	13	13					△	△								□	○	△	△							Au	1kn
	TA049D	6	2	1	1	1	1	△								□	□	⊙									Au	1kn
	TA065D	16	12	2	2			○	□		○		△					⊙									Au-Ba	
Madendagi Kartaldagi	TA006D	14		4	5	5		□									□	□	□								Au-W	
	TA007D	18	11	7				□									△	△	○								Au	
	TA010D	16	11		4	1		□	○	○		⊙					△	⊙	⊙	△							Au	
	TA011D	109	102	3	1	1		△					△				⊙	⊙	△								Au	2kn~
	TA012D	59	46	10	1			○	□			□	△				□	⊙	⊙	□							Au	2.5kn
TA016D	4	2			1		△										△	□	⊙	○	△					Au		
Dededag	TA091D	10	9		1			⊙				⊙					△	⊙	△						○		Au-Ba	2kn

Name of Area	Sample No.	Coordinates	Locality	kn ²	Conditions of Sample						Geology	Weight%		Gravel					Remarks				
					SD	ED	S	IC	AC	TS		-2mm	-1mm	Li	Si	Ar	Py	Be					
Karaibrahimler	TA069D	8070 2719	S. Karaibrahimler	3.5	×			×			Şapçı V.	7	100		□	□	△					2C izabe	
	TA099D	7890 2696	Sarp D.	3.0		×		×			Şapçı V.	5	50			□							
	TA113D	8095 2765	NE. Karaibrahimler	0.5			×			×	Şapçı Vol.	3	60		△	○	△						
	TA114D	8060 2770	K. Karaibrahimler	0.5			×			×	Şapçı Vol.	3	35			○	○						
	TA115D	8030 2765	Ese D.	1.0		×				×	Şapçı Vol.	3	90			△	○	△					
	TA116T	8070 2760	Karaibrahimler	1.0							Şapçı Vol.	3	30			○	○	△					
Kestane Mt.	TA026D	7682 3229	N. Karakuz T.	2.0			×		×		Şapçı V.	8	45		□	□	□	□					
	TA075D	7408 2990	Hacıkar D.	2.0							Şapçı V.	6	105		□	□	□						
	TA076D	7412 3000	V. Kestane Dağı	1.5		×		×			Şapçı V.	6	50		□	□	□	□				2A izabe	
	TA111D	7825 3091	Karakoz D.	3.0	×				×		Şapçı V.	6	130		□	□	○	△				Spinel△, Pb□	
	TA112D	7802 3100	Topallar D.	2.0		×		×			Şapçı V.	6	105		□	□	○						
Kocatas Hill	TA083D	8297 2946	İncirlik D.	1.0		×		×			Şapçı V.	5	50		□							Scheelite	
Arlık Stream	TA037D	8447 3265	Arlık D.	4.0		×		×			Şapçı V.	6	65									1A izabe	
South of Karacaören Hill	TA039D	7810 2410	S. Gökçekan D.	2.0			×		×		Şapçı V.	5	165			○		△				1A izabe	
	TA095D	7524 2596	Egri D.	2.5	×			×			Şapçı V.	6	55		□	□	□						
Kirazlıçantepe Armutçuk Esarcılar Çeşme-tepe Caltıkara	TA009D	7302 3195	Kirazlıçantepe D.	5.0		×		×			Şapçı V.	5	75				□						
	TA013D	7054 3413	Armutçuk Çay	13		×		×			Out of area	8	95										
	TA014D	7390 3621	Kavgaç D.	30		×			×		Çamyayla V.	8	90										
	TA049D	7170 1990	E. Çeşme-tepe	1.5		×		×			Out of area	6	60		□	□						1E 500;	
	TA065D	8350 2538	S. Taşagal T.	0.5			×		×		Şapçı V.	4.5	40		□	△						2B izabe	
Madendagi Kartaldagi	TA096D	6810 3197	N. Sarp D.	2.0		×			×		Out of area	5	65		○		○	○					Scheelite○
	TA007D	6858 3160	N. İseret T.	2.0		×			×		Out of area	5	35				□	□	□				
	TA010D	6280 3488	Koca D.	3.5		×			×		Out of area	10	265										
	TA011D	6252 3422	Kocaçay D.	7.0		×		×			Out of area	12	115									1A izabe	
	TA012D	6590 3321	Ekişçay	18	×				×		Out of area	10	445			□		□					2B izabe
TA016D	6670 3038	S. Fırmallı T.	9.0		×			×		Out of area	8	130		⊙	⊙	⊙	○					1A izabe	
Dededag	TA091D	8317 5533	Asi Dere Yanı	3.0		×		×			Out of area	7	120		□		□						Biopside⊙

Table 4 List of Heavy Mineral Study (3)

Sample No.	Gold No.	Size of Gold Grain					Heavy Minerals											Remarks		
		A	B	C	D	E	Ba	Gr	Ep	Bi	Px	Ci	Zr	Mg	Re	Py	Sp		Ga	Ti
P355D	7	3	3	1			△				○				○	○				
P356D								△						△	△	□				△
P357T										•	•		△		•					
P358D	2	1	1				△								□	□	△			
P360T							△						△		□	□	○			
P363T															□	□	○			
P364T														△	□	□	△			
P365T								△			△				□	□				
P366D														△	□	□				
P369D	12	12					○						△							PbCO ₃
P370T	7	6	1				○						△							PbCO ₃
P371D									△	△			△			□				
P372T							△													
P373D	4	3	1				△		□	△				△		□				Arsenopyrite
P374T							□								○					
P375T	2	2					□		○	•			△							
P376T	32	31			1						□					△				E:1,000μ
P377T							□								△	△	△			
P378D							○								△	△	△		△	
P379D	6	6							□	△				△	○					
P380D	2	2					□		○	△					△	△				
P381T															□					
E 2T	1	1														□				
E 5T	3	3												△		□				
E 7T	4	4								△				□	□	□				
E 9T	5	4	1				□			△	△				○	□				
E 11T	15	15					○								□	□				

Locality	Sample No.	Coordinates	kg ² %	Conditions of Sample					Geology	Weight%	Gravel				
				SD	ED	S	IC	AC			TS	Li	Si	Ar	Py	Re
Karaibrahimler	P355D	80170 27680	0.5			×		×	Taşdibek F	6		△		△	
	P356D	80395 28100	0.25			×		×	Taşdibek F	6		△		△	
	P357T	80610 27790							Sapçı V	3	△	△	□		
	P358D	80980 27800	0.25			×		×	Taşdibek F	6	△	△	□		□
	P360T	80890 27550							Sapçı V	2	△	△	□	□	△
	P363T	79585 28170							Sapçı V	5	□	□	□		
	P364T	79380 27975							Taşdibek F	3	□	□		△	△
	P365T	79555 27950							Taşdibek F	3	□	□		□	
	P366D	79590 27950	0.06			×		×	Taşdibek F	6	△	△		□	
	P369D	80650 27630	0.03			×		×	Sapçı V	6	△	△	□	○	
	P370T	80685 27590							Sapçı V	5	△	△	□		
	P371D	80960 27725	0.01			×		×	Sapçı V	5	○	△	○		
	P372T	80935 27660							Sapçı V	3	□	△	□		
	P373D	80890 27605	0.01			×		×	Sapçı V	5	□	△	□		
	P374T	80845 27565							Sapçı V	3	□	△	□		
	P375T	80800 27540							Sapçı V	3	□	□	□		
	P376T	80500 27615							Sapçı V	3		△			
	P377T	80500 27685							Sapçı V	3		△	□		
	P378D	80915 27350	0.01			×		×	Sapçı V	6	□	□	□		
	P379D	81810 27275	0.25			×		×	Sapçı V	6	△	△			
P380D	81485 27320	0.25	×		×			Sapçı V	6		□				
P381T	81265 27610						×	Sapçı V	3		○	□			
Etili	E 2T	93825 25070							Sapçı V	6	△	○		△	
	E 5T	93980 25070							Sapçı V	6	△	○			
	E 7T	93960 24920							Sapçı V	6	△	○	△		
	E 9T	93950 24850							Sapçı V	8	○	○	△		○
	E 11T	94000 24860							Sapçı V	8	○	○	△		○

Qualitative amount: Abundant ○, Common □, Few △, Rare △, Trace •; *1: Stream sediment *2: Soil sample
 Size of gold grain: A:50μ, B:50-100μ, C:100-150μ, D:200-300μ, E:300μ; ☆: Malachite/scheelite/sleg
 Heavy mineral: Ba: barite, Gr: garnet, Ep: epidote, Bi: biotite, Px: pyroxene, Mz: monazite, Ci: cinnabar, Il: ilmenite, Zr: zircon, Mg: magnetite, En: hematite,
 *1: Area of stream,
 *2: SD: stream sediment (sulu dere), ED: dry stream sediment (kuru dere), S: flood sediment (sellenneli)
 IC: fine-grained sediment (iyi kansantre), AC: coarse-grained sediment (orta kansantre), TS: blend sediment of stream and soil (topraklı kansantre)
 *3: weight of sample, Qualitative amount: Abundant ○, Common □, Few △, Izabe: melted gold

Table 5 Consumables Used(1)

Description	Specification	Unit	Quantity					
			MJTC-1	MJTC-2	MJTC-3	MJTC-4	MJTC-5	MJTC-6
Light oil		ℓ	2,800	3,020	2,680	2,280	2,120	3,080
Petrol		ℓ	950	1,280	680	660	510	690
Engine oil		ℓ	40	60	40	40	40	60
Hydraulic oil		ℓ	20	20	20	20	20	20
Grease		Kg	20	20	20	20	20	20
Cement		Kg	1,500	2,500	1,000	1,000	1,000	2,500
Bentonite		Kg	2,900	5,500	2,900	2,600	2,750	8,350
C. M. C		Kg	-	50	60	60	60	160
Telcoat-L		ℓ	-	-	-	-	-	-
Diamond bit	NQ/BQ	pcs	5/0	9/0	4/3	7/4	4/0	3/3
Diamond reamer	NQ/BQ	pcs	3/0	5/0	2/2	3/2	2/0	2/2
Casing diamond shoe	NX/BW	pcs	1/0	6/0	1/0	6/1	1/0	-
Casing metal shoe	HW/NW/BW	pcs	1/0/0	2/5/0	1/1/0	1/5/0	1/1/3	0/1/0
Core barrel Ass'y	NQ/BQ-WL	set	1/0	2/0	1/1	1/1	1/0	1/1
Inner tube	NQ/BQ-WL	pcs	2/0	2/0	2/2	2/2	2/0	2/2
Core lifter case	NQ/BQ-WL	pcs	4/0	6/0	4/4	4/4	4/0	4/4
Core lifter	NQ/BQ-WL	pcs	6/0	8/0	4/4	4/4	4/0	4/4
Thrust ball bearing	NQ/BQ-WL	pcs	4/0	6/0	4/4	4/4	4/0	4/4
Chuck piece	NQ/BQ-WL	set	1/0	1/0	1/0	1/0	1/0	1/1
Cylinder liner	535-RQ	pcs	3	6	3	3	3	6
Valve seat	535-RQ	pcs	3	6	3	3	3	6
Steel ball	535-RQ	pcs	6	12	6	6	6	6
Piston rubber	535-RQ	pcs	9	9	6	6	6	12
Core box	NQ & BQ	pcs	31	28	30	22	33	28

Table 5 Consumables Used(2)

Description	Specification	Unit	Quantity					
			MJTC-7	MJTC-8	MJTC-9	MJTC-10	MJTC-11	MJTC-12
Light oil		ℓ	15,980	1,900	4,020	3,700	4,660	3,700
Petrol		ℓ	4,770	720	1,560	1,530	1,920	930
Engine oil		ℓ	280	40	40	60	80	60
Hydraulic oil		ℓ	120	20	20	20	20	20
Grease		Kg	120	20	20	20	20	20
Cement		Kg	9,500	1,000	1,000	1,000	1,000	1,000
Bentonite		Kg	25,000	1,800	5,300	6,050	2,550	3,600
C. M. C		Kg	290	20	60	60	30	30
Telcoat-L		ℓ	-	-	10	-	-	-
Diamond bit	NQ/BQ	pcs	32/10	4/0	3/4	8/9	7/6	3/3
Diamond reamer	NQ/BQ	pcs	17/6	2/0	2/2	4/4	3/3	2/2
Casing diamond shoe	NX/BW	pcs	15/1	0/0	1/2	3/2	1/1	1/1
Casing metal shoe	HW/NW/BW	pcs	6/13/3	0/1/0	0/1/1	1/3/2	1/3/4	1/2/0
Core barrel Ass'y	NQ/BQ-WL	set	7/3	1/0	1/1	1/1	1/1	1/1
Inner tube	NQ/BQ-WL	pcs	12/6	2/0	2/2	2/2	2/2	2/2
Core lifter case	NQ/BQ-WL	pcs	26/12	4/0	4/4	6/4	4/4	4/4
Core lifter	NQ/BQ-WL	pcs	30/12	4/0	4/4	6/4	4/4	4/4
Thrust ball bearing	NQ/BQ-WL	pcs	26/12	2/0	4/4	4/4	4/4	4/4
Chuck piece	NQ/BQ-WL	set	6/1	1/0	1/1	1/1	1/1	1/1
Cylinder liner	535-RQ	pcs	24	3	3	6	6	3
Valve seat	535-RQ	pcs	24	3	3	6	6	3
Steel ball	535-RQ	pcs	42	3	6	6	6	3
Piston rubber	535-RQ	pcs	45	6	9	12	12	9
Core box	NQ & BQ	pcs	172	32	26	25	28	28

Table 5 Consumables Used(3)

Description	Specification	Unit	Quantity				Total
			MJTC-13	MJTC-14	MJTC-16	MJTC-17	
Light oil		ℓ	3,200	3,100	3,160	2,900	50,070
Petrol		ℓ	1,320	1,290	1,110	1,020	17,460
Engine oil		ℓ	40	40	40	40	760
Hydraulic oil		ℓ	20	20	20	20	320
Grease		Kg	20	20	20	20	320
Cement		Kg	1,000	1,000	1,000	1,000	19,500
Bentonite		Kg	2,600	2,500	2,300	4,600	59,000
C. M. C		Kg	60	60	30	50	580
Telcoat-L		ℓ	-	-	10	10	40
Diamond bit	NQ/BQ	pcs	8/0	8/0	4/1	3/2	85/35
Diamond reamer	NQ/BQ	pcs	4/0	4/0	2/1	2/1	45/19
Casing diamond shoe	NX/BW	pcs	3/0	3/0	1/1	1/1	30/9
Casing metal shoe	HW/NW/BW	pcs	1/3/0	1/3/0	1/1/0	1/0/0	13/27/10
Core barrel Ass'y	NQ/BQ-WL	set	1/0	1/0	1/1	1/1	17/9
Inner tube	NQ/BQ-WL	pcs	2/0	2/0	2/2	2/2	32/18
Core lifter case	NQ/BQ-WL	pcs	6/0	6/0	4/4	4/4	72/32
Core lifter	NQ/BQ-WL	pcs	6/0	6/0	4/4	4/4	78/36
Thrust ball bearing	NQ/BQ-WL	pcs	4/0	4/0	2/2	2/2	60/28
Chuck piece	NQ/BQ-WL	set	1/0	1/0	1/1	1/1	15/7
Cylinder liner	535-RQ	pcs	3	3	3	3	60
Valve seat	535-RQ	pcs	3	3	3	3	60
Steel ball	535-RQ	pcs	3	3	3	3	81
Piston rubber	535-RQ	pcs	9	9	9	9	138
Core box	NQ & BQ	pcs	31	27	27	25	452

Table 6 Drilling Meterage of Diamond Bit, Reamer and Casing Shoe Bit Used(1)

Size	Drilling Meterage by Unit												
	MJTC-1		MJTC-2		MJTC-3		MJTC-4		MJTC-5		MJTC-6		
	Diam.	m	Diam.	m	Diam.	m	Diam.	m	Diam.	m	Diam.	m	
NQ Bit	NT-1	10.95	NT-2	4.40	NT-23	11.40	NT-22	9.50	NT-13	33.65	NT-18	32.75	
	NT-3	31.85	NT-4	5.45	NT-25	17.75	NT-24	10.55	NT-15	28.75	NT-20	23.35	
	NT-5	29.15	NT-6	6.10	NT-30	28.25	NT-25	12.60	NT-17	39.65	NT-21	13.95	
	NT-7	40.50	NT-8	15.95	NT-31	12.80	NT-26	9.80	NT-19	48.95			
	NT-9	38.55	NT-10	11.50			NT-27	16.85					
			NT-11	17.10			NT-28	6.50					
			NT-12	26.00			NT-29	7.40					
			NT-14	30.70									
			NT-16	33.80									
	BQ Bit					BT- 8	23.05	BT- 4	8.40			BT- 1	26.15
						BT- 9	30.15	BT- 5	20.70			BT- 2	28.55
						BT-10	27.60	BT- 6	19.35			BT- 3	26.25
								BT- 7	29.45				
	m/pc	30.20		16.78		21.57		13.74		37.75		25.17	
	NQ Reamer	NR-1	42.80	NR-2	4.40	NR-15	29.15	TR-13	20.05	TR- 9	62.40	TR-10	56.10
		NR-3	69.65	NR-4	11.55	NR-17	41.05	TR-14	22.40	TR-11	88.60	TR-12	13.95
NR-5		38.55	NR-6	27.45			TR-16	30.75					
			NR-7	43.10									
			NR-8	64.50									
BQ Reamer					BR- 5	53.20	BR- 3	29.10			BR- 1	54.70	
					BR- 6	27.60	BR- 4	48.80			BR- 2	26.70	
m/pc	50.33		30.20		37.75		30.22		75.59		37.75		
Casing	NX	1pc	NX	3pcs	NX	1pc	NX	3pcs	NX	1pc	NX	1pc	
Shoe					BW	1pc	BW	1pc			BW	2pcs	

Table 6 Drilling Meterage of Diamond Bit, Reamer and Casing Shoe Bit Used(2)

Size	Drilling Meterage by Unit									
	MJTC-7		MJTC-8		MJTC-9		MJTC-10		MJTC-11	
	Diam.	m	Diam.	m	Diam.	m	Diam.	m	Diam.	m
NQ Bit	NT-35	31.80	NT-31	35.15	NT-43	31.80	NT- 1	17.15	NT- 2	21.10
	NT-36	31.75	NT-32	45.75	NT-44	25.90	NT- 3	22.90	NT- 4	10.95
	NT-37	33.50	NT-33	45.55	NT-45	18.95	NT- 5	21.20	NT- 6	9.20
	NT-38	27.45	NT-34	24.55			NT- 7	21.25	NT- 8	5.55
	NT-39	26.50					NT- 9	20.65	NT-10	9.70
							NT-11	2.90	NT-12	6.10
							NT-13	4.15	NT-14	8.80
							NT-15	6.20		
BQ Bit					BT-20	15.75	BT- 1	1.80	BT- 2	11.80
					BT-21	19.15	BT- 3	2.15	BT- 4	12.95
					BT-22	24.55	BT- 5	4.10	BT- 6	6.10
					BT-23	14.90	BT- 7	5.55	BT- 8	12.00
							BT- 9	2.55	BT-10	18.50
							BT-11	6.10	BT-12	18.25
							BT-13	2.35		
							BT-14	1.75		
						BT-15	8.25			
m/pc	5pcs	30.20	4pcs	37.75	7pcs	21.57	17pcs	8.88	13pcs	11.62
NQ Reamer	NR-18	63.55	NR-16	80.90	NR-23	31.80	NR- 1	40.05	NR- 2	32.05
	NR-19	60.95	NR-17	70.10	NR-25	44.85	NR- 3	42.45	NR- 4	24.45
	NR-20	26.50					NR- 5	23.50	NR- 6	14.90
						NR- 7	10.40			
BQ Reamer					BR-11	34.90	BR- 1	3.95	BR- 2	24.75
					BR-12	39.45	BR- 3	9.65	BR- 4	18.10
							BR- 5	11.00	BR- 7	36.75
							BR- 6	10.00		
m/pc	3pcs	50.33	2pcs	75.50	4pcs	37.35	8pcs	18.88	6pcs	25.17
Casing shoe	NW	1pc	NW	1pc	NW	1pc	NW	3pcs	NW	1pc
					BW	2pcs	BW	2pcs	BW	1pc

Table 6 Drilling Meterage of Diamond Bit, Reamer and Casing Shoe Bit Used(3)

Size	Drilling Meterage by Unit									
	MJTC-12		MJTC-13		MJTC-14		MJTC-16		MJTC-17	
	Diam.	m	Diam.	m	Diam.	m	Diam.	m	Diam.	m
NQ Bit	NT-40	31.65	NT-19	22.45	NT-15	8.50	NT-46	22.95	NT-50	24.40
	NT-41	26.55	NT-20	19.85	NT-16	17.25	NT-47	37.60	NT-51	29.05
	NT-42	21.25	NT-24	25.90	NT-17	17.40	NT-48	30.35	NT-53	31.95
			NT-25	25.40	NT-18	23.30	NT-49	21.05		
			NT-27	20.35	NT-21	18.90				
			NT-28	12.90	NT-22	25.40				
			NT-29	15.35	NT-23	17.65				
			NT-30	8.80	NT-26	22.60				
BQ Bit	BT-16	16.80					BT-19	39.05	BT-24	35.05
	BT-17	23.95						BT-25	30.55	
	BT-18	30.80								
m/pc	6pcs	25.17	8pcs	18.90	8pcs	18.90	5pcs	30.20	5pcs	30.20
NQ Reamer	NR-21	31.65	NR-10	42.30	NR- 8	25.75	NR-24	60.55	NR-27	53.45
	NR-22	47.80	NR-11	51.30	NR- 9	40.70	NR-26	51.40	NR-28	31.95
			NR-14	33.25	NR-12	44.30				
				NR-15	24.15	NR-13	40.25			
BQ Reamer	BR- 8	40.75					BR-10	39.05	BR-13	65.60
	BR- 9	30.80								
m/pc	4pcs	37.75	4pcs	37.75	4pcs	37.75	3pcs	50.33	3pcs	50.33
Casing shoe	NW	1pc	NW	3pcs	NW	3pcs	NW	1pc	NW	1pc
	BW	1pc					BW	1pc	BW	1pc

Table 7 Working Time Breakdown of the Drilling Operation

Hole No.	Drilling			Shift		Men Working		Working Time						
	Bit size	Drilling length m	Core m	Drilling shift	Total shift	Engi- neer	Worker	Drill- ing h	Other work h	Reco- very h	Total h	Remo- val h	Road con- struction and others h	G. Total h
MJTC- 1	NQ	151.00	145.75	34	42	53	152	152	120	8	280	24	40	344
MJTC- 2	NQ	151.00	130.05	54	58	63	244	202	190	40	432	16	16	464
MJTC- 3	NQ/BQ	151.00	139.55	25	36	48	180	155	73	-	228	40	48	316
MJTC- 4	NQ/BQ	151.10	113.80	25	32	32	156	148	76	-	224	16	16	256
MJTC- 5	NQ	151.00	151.00	19	27	27	140	133	57	-	190	16	48	254
MJTC- 6	NQ/BQ	151.00	138.75	32	44	44	200	183	125	-	308	16	48	372
Average	NQ/BQ	151.10	136.48	32	40	45	179	162	107	8	277	21	36	334
MJTC- 7	NQ	151.00	140.55	37	43	55	165	174	122	8	304	24	16	344
MJTC- 8	NQ	151.00	150.80	19	24	33	99	93	59	-	152	16	16	184
MJTC- 9	NQ/BQ	151.00	138.55	48	54	69	207	155	229	-	384	24	24	432
MJTC- 10	NQ/BQ	151.10	119.95	44	51	68	204	180	188	-	368	16	24	408
MJTC- 11	NQ/BQ	151.00	150.70	57	64	83	249	188	164	112	464	24	24	512
MJTC- 12	NQ/BQ	151.00	142.70	26	32	42	126	141	75	-	216	24	16	256
MJTC- 13	NQ	151.00	126.50	40	44	56	168	162	158	-	320	16	16	352
MJTC- 14	NQ	151.00	121.95	38	43	54	162	134	178	-	312	16	16	344
Average	NQ/BQ	151.00	136.46	39	44	58	173	153	147	15	315	20	19	354
MJTC- 16	NQ/BQ	151.00	136.45	32	37	48	144	154	101	-	255	24	16	295
MJTC- 17	NQ/BQ	151.10	135.40	29	34	45	135	138	94	-	232	16	24	272
Average	NQ/BQ	151.00	818.90	189	239	267	1,072	973			1,662	128	216	2,006

Table 8 Significant Analytical Results of Core(1)

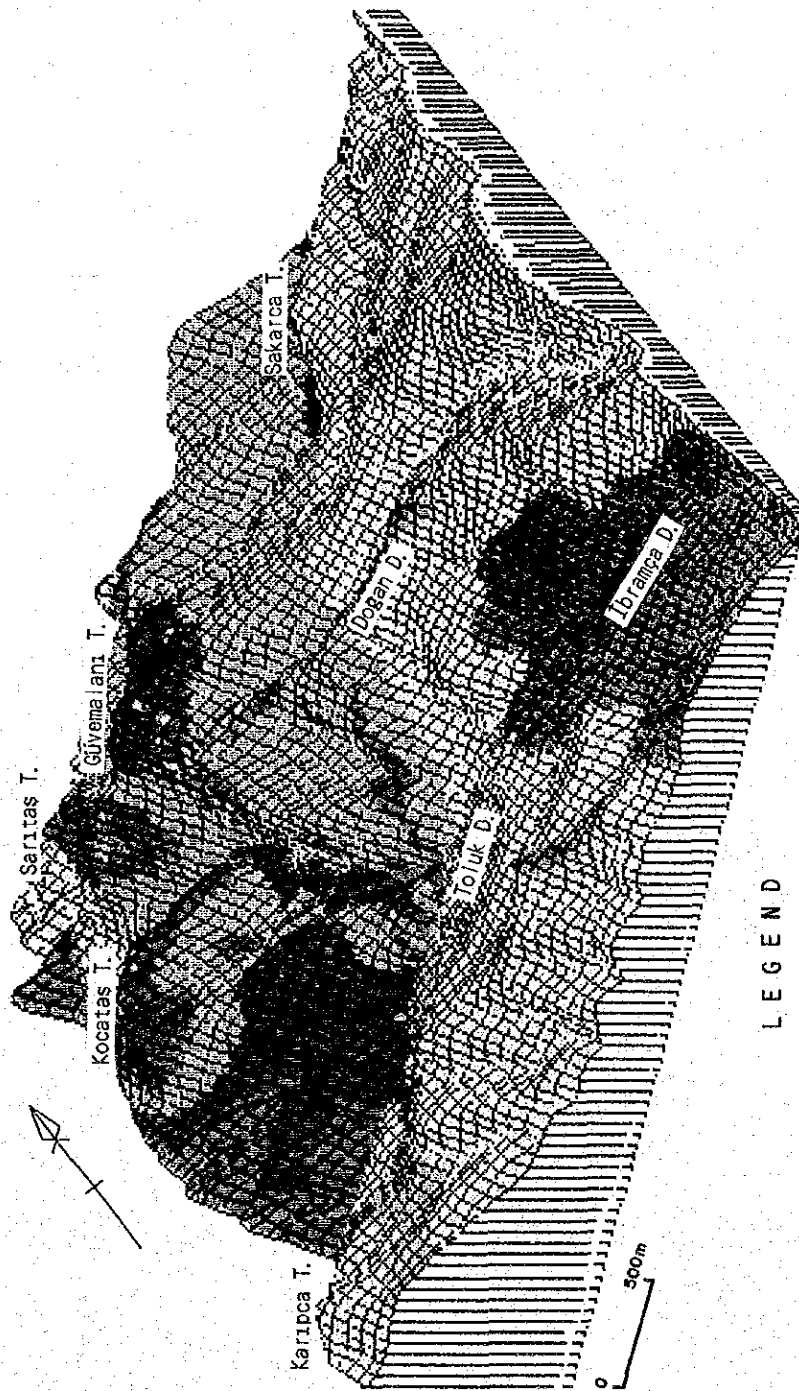
Drill No.	Sample No.	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Sb ppm	Hg ppb	Mo ppm
MJTC-10	1003	110	<0.2	10	5	4	0.2	30	60
	1004	105	<0.2	16	8	4	0.4	20	50
	1032	155	10.5	28	58	12	740	310	77
	1033	120	6.2	24	20	4	150	380	20
	1035	135	3.4	30	7	2	30.0	240	13
	1036	165	5.5	26	8	2	29.0	250	18
	1037	145	5.3	150	7	4	15.2	360	5
	1038	190	2.3	70	17	4	14.6	180	10
	1041	340	8.2	2600	33	30	150	330	12
	1042	105	<0.2	164	50	4	3.0	70	9
	1043	105	0.2	190	30	8	3.6	60	8
	1045	160	2.2	1800	42	14	14.4	110	10
1046	420	1.7	3200	30	20	115	220	8	
MJTC-11	1147	110	<0.2	12	26	40	0.6	20	26
	1148	120	<0.2	38	18	14	0.4	20	26
	1149	100	<0.2	8	15	6	1.6	20	33
MJTC-12	1236	820	<0.2	20	9	7	11.0	10	55
	1237	165	<0.2	42	10	12	9.8	10	70
	1244	110	<0.2	6	35	4	1.6	10	7
MJTC-13	1303	175	<0.2	220	6	178	0.2	20	7
	1324	105	<0.2	1	49	5	0.8	20	16
	1325	110	<0.2	1	30	4	0.4	20	10
	1328	110	<0.2	2	136	4	1.2	10	72
	1329	215	<0.2	2	160	3	1.8	10	70
	1330	130	<0.2	2	102	4	1.0	10	14
	1331	130	<0.2	3	32	5	0.4	10	4
	1332	125	<0.2	2	19	4	0.2	10	2
	1333	105	<0.2	5	7	4	4.2	20	16
	1334	200	<0.2	3	115	4	7.0	10	95
1350	315	<0.2	1	30	4	0.4	20	9	
MJTC-14	1402	180	<0.2	9	5	6	0.2	20	3
	1403	130	<0.2	48	3	26	0.2	20	3
	1405	180	18.2	86	4	26	0.2	20	2
	1406	110	0.4	24	3	16	0.4	20	4
	1407	145	<0.2	4	2	4	0.2	20	2
	1408	195	10.5	126	6	80	0.4	20	3
	1411	170	0.8	104	7	80	1.2	10	8
	1412	145	<0.2	6	93	8	2.4	20	17
	1413	110	0.3	96	12	56	0.8	20	9
	1414	220	<0.2	8	32	6	1.2	20	4
	1415	200	9.6	56	48	26	0.8	20	41
	1416	155	0.7	10	10	8	3.2	20	12
	1417	260	<0.2	6	40	4	2.6	20	38
	1418	105	<0.2	6	22	2	0.4	20	2
	1419	205	<0.2	6	24	2	1.8	20	20
	1420	240	<0.2	4	39	2	1.8	20	7
	1424	220	<0.2	4	28	2	2.0	10	7
	1426	800	<0.2	2	28	2	0.8	10	8
1427	180	<0.2	2	18	2	2.4	5	28	
1429	360	<0.2	2	72	2	1.6	10	30	
1433	200	<0.2	4	23	2	1.0	10	10	
1448	100	<0.2	2	31	2	3.6	10	15	

Table 8 Significant Analytical Results of Core(2)

Drill No.	Sample No.	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Sb ppm	Hg ppb	Mo ppm
MJTC-2	207	150	<0.2	10	38	4	12.6	40	8
	209	120	2.1	30	91	12	110.0	440	2
	210	570	<0.2	20	87	14	95.0	740	2
	211	215	<0.2	8	38	6	86.0	1800	1
	212	125	<0.2	56	97	22	380.0	2100	5
	214	535	1.9	39	79	8	110.0	880	5
	215	545	6.1	40	67	14	41.0	820	4
	216	2260	9.3	28	62	14	52.0	2000	3
	217	4400	4.5	108	370	36	180.0	2400	12
218	375	0.3	25	57	8	21.0	1800	1	
MJTC-4	407	445	<0.2	38	12	12	0.8	10	130
	408	100	<0.2	2	6	4	0.2	10	10
	413	1300	<0.2	4	4	2	0.2	10	11
	414	100	<0.2	32	3	4	0.2	10	76
	416	280	<0.2	59	6	4	0.6	10	110
	417	185	<0.2	22	6	4	0.2	10	70
	418	315	<0.2	35	4	4	0.6	10	50
	420	125	<0.2	17	6	6	0.4	10	64
	423	155	<0.2	25	34	4	0.4	40	40
	429	110	<0.2	17	18	2	<0.2	10	85
	431	110	<0.2	21	46	4	0.4	10	70
	433	240	<0.2	95	26	8	0.4	20	30
	434	305	<0.2	185	32	8	0.2	70	44
	435	145	<0.2	31	20	6	0.4	190	60
	437	120	<0.2	19	14	8	0.2	80	37
	442	110	<0.2	11	22	14	0.2	20	25
	443	100	<0.2	14	18	22	0.4	20	34
446	100	<0.2	12	12	12	<0.2	10	67	
447	145	<0.2	12	10	8	0.2	20	50	
449	110	<0.2	11	12	6	0.2	20	18	
450	140	<0.2	10	12	6	0.2	10	52	
MJTC-6	620	145	<0.2	70	60	6	4.6	350	6

Table 8 Significant Analytical Results of Core(3)

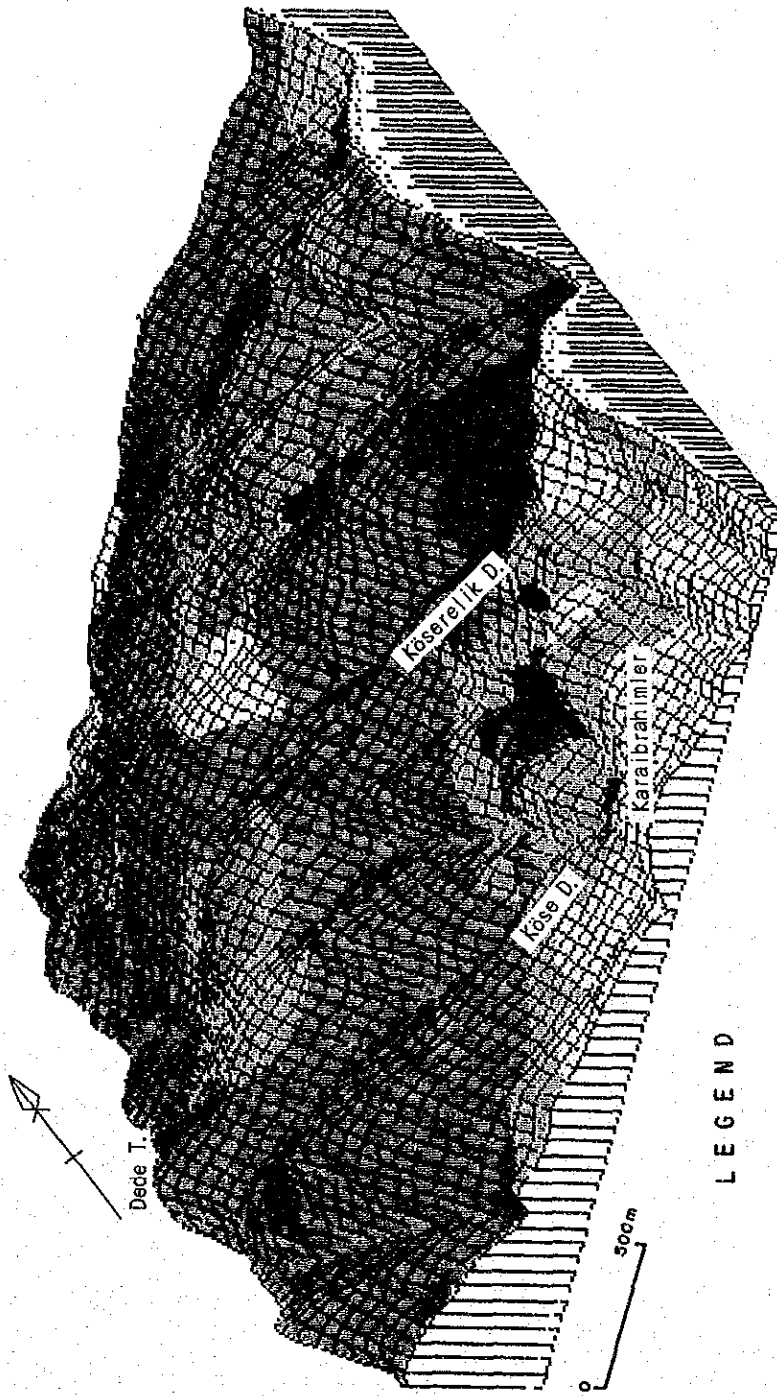
Drill No.	Sample No.	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Sb ppm	Hg ppb	Mo ppm
MJTC-16	1602	640	1.8	52	250	21	83.0	9600	15
	1603	1080	1.6	90	400	22	125.0	8800	18
	1604	575	1.4	54	220	12	87.0	8100	9
	1605	295	0.9	79	510	32	53.0	5500	7
	1607	310	1.1	85	310	42	77.0	4600	15
MJTC-15	1504	30	0.5	2400	40	720	57.0	6700	136
	1506	<5	<0.2	170	19	230	27.0	1500	105
	1510	<5	<0.2	160	25	260	22.0	1200	116
	1515	<5	<0.2	32	2	38	3.6	1700	100
	1535	<5	<0.2	36	8	38	5.6	4400	320
	1536	<5	<0.2	54	9	36	13.0	5800	105
	1538	<5	<0.2	675	18	230	100.0	3400	235
	1539	<5	<0.2	62	5	48	14.8	8200	100
	1545	<5	<0.2	44	59	620	7.6	6800	110
1546	<5	<0.2	36	52	500	7.6	3500	130	



LEGEND

<p>Holocene</p> <p>Miocene</p> <p>Jurassic</p> <p>Triassic</p>	<p>Kocacaklı Basalt</p> <p>Karaköy F.</p> <p>Sapçı Vol.</p> <p>Kirazlı Conglomerate</p> <p>Taşdibek F.</p>	<p>Basalt lava</p> <p>Conglomerate, sandstone and mudstone</p> <p>Andesite lava and pyroclastics</p> <p>Conglomerate, sandstone and mudstone</p> <p>Meta-volcanics</p> <p>Moderately silicified</p> <p>Strongly silicified body</p> <p>Silicified and argillized zone</p> <p>Argillized zone</p>
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Figure 1 Topography and Geology of Arlık Stream Area



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Holocene Kocaçaklı Basalt	Basalt lava and dyke
Miocene Şapçı Vol.	Andesite lava and pyroclastics
Jurassic Kirazlı Conglomerate	Conglomerate, mudstone and sandstone
Triassic Taşdıbek F.	Akpınar granite
	Meta-volcanics and meta-sediments
Alteration	Crystalline limestone
	Strongly silicified body
	Moderately silicified, and argillized zone/or body
Mineralization	Argillized zone
	Skarn zone (garnet, hematite)

Figure 2 Topography and Geology of Karabrahimler Area

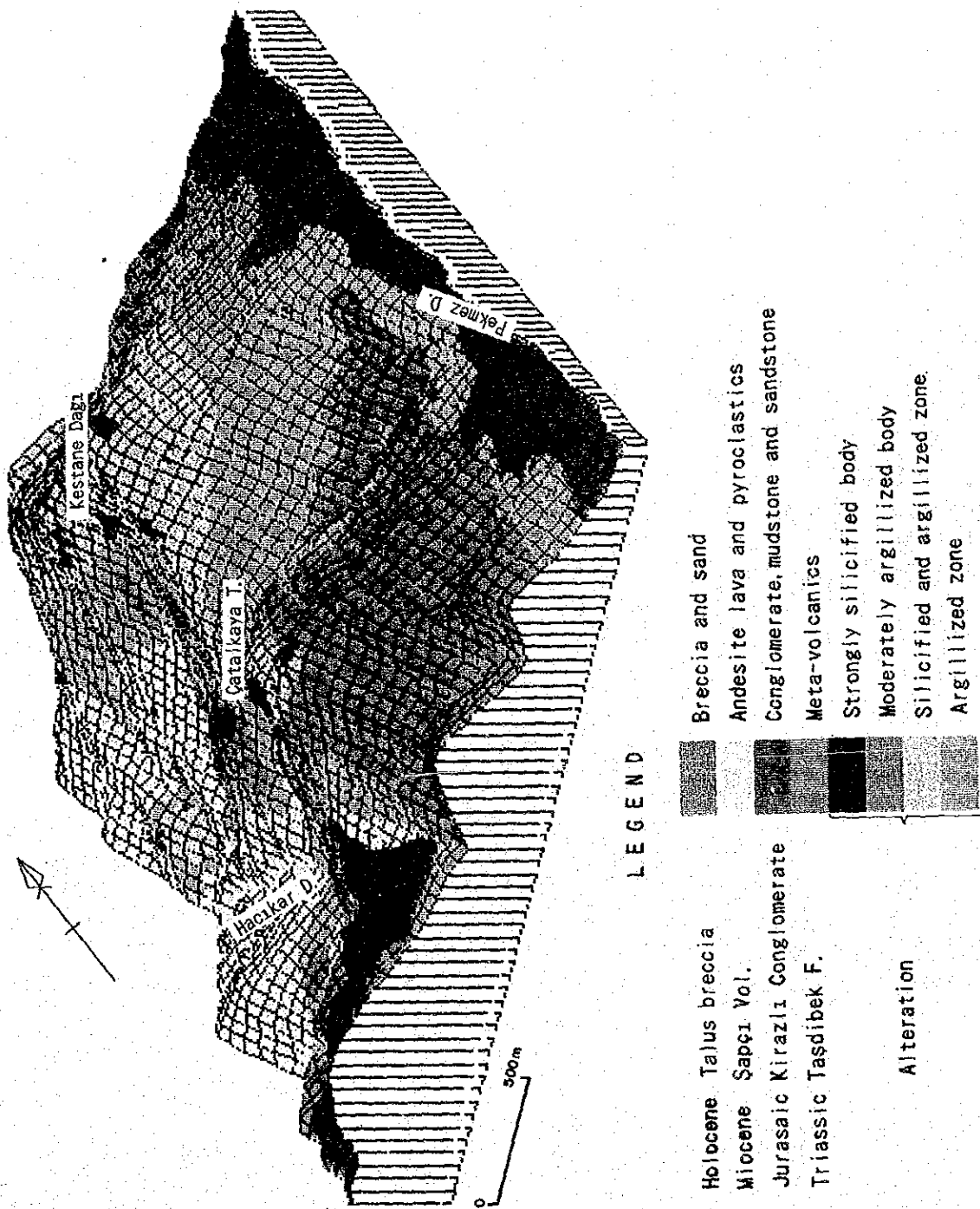
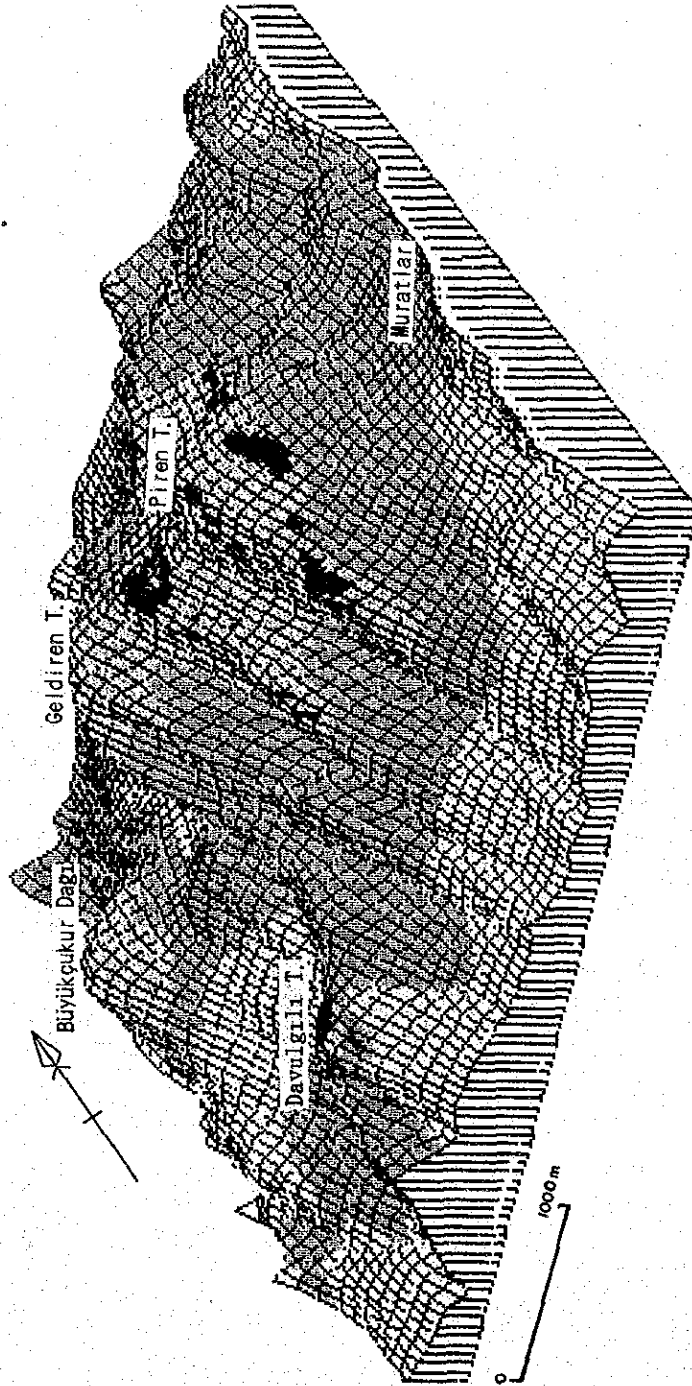


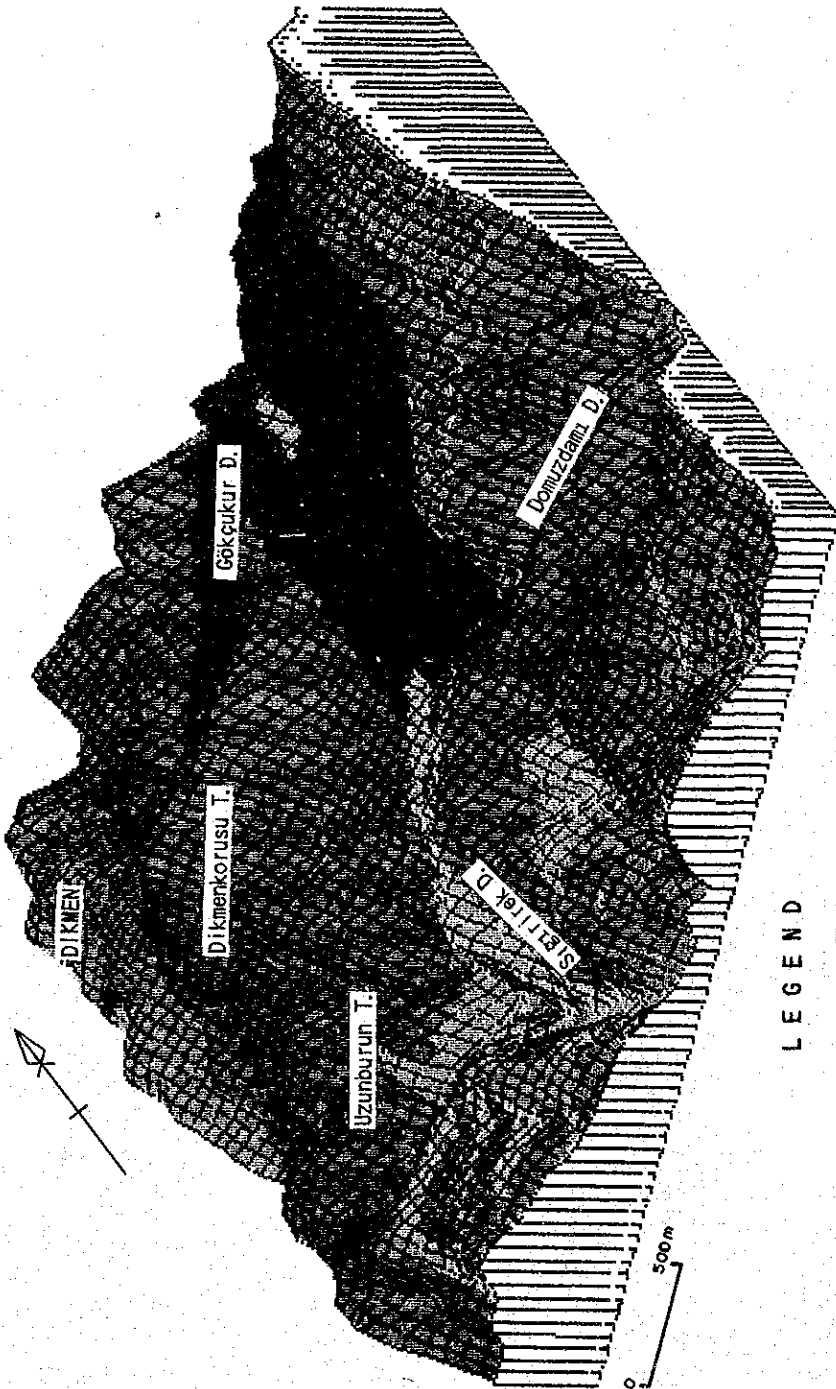
Figure 3 Topography and Geology of Kestane Mt. Area



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- Miocene Şapçı Vol. {
- Andesite lava
- Silicified and argillized zone
- Strongly silicified body
- Argillized zone

Figure 4 Topography and Geology of Piren Hill Area



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- | | |
|------------------------|-----------------------------------|
| Pliocene Akkayrak Vol. | Dacite and dacitic tuff |
| Eocene karanlık F. | Conglomerate |
| Triassic Emşe F. | Marble |
| | Meta-volcanics and meta-sediments |
| | Aplite |
| | Porphyry |
| Intrusive rocks | Dikmen granite |
| | Serpentinite |
| Mineralization | Skarn (Fe) |

Figure 5 Topography and Geology of Dikmen Area

