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L

A

M

P

I

R

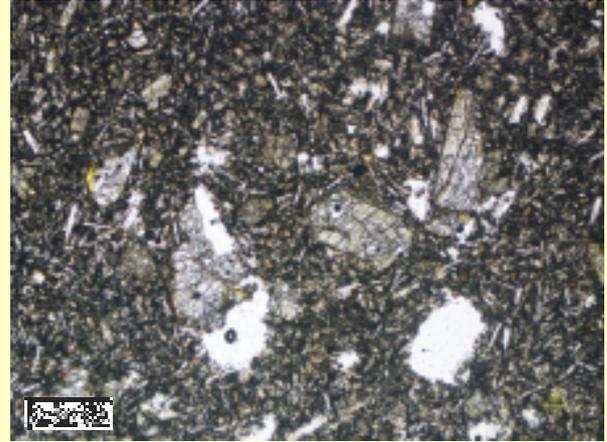
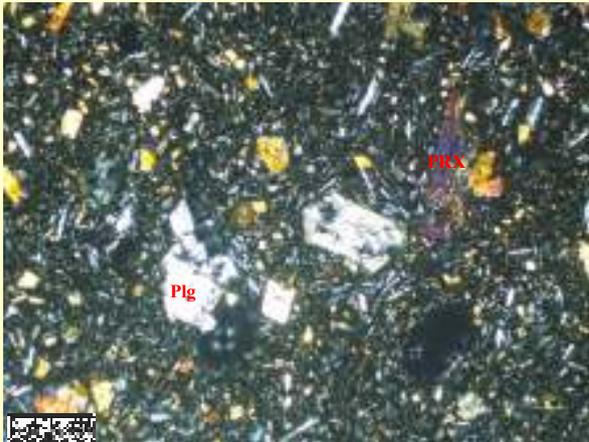
A

N

No Stasiun : ST. 2
 Lokasi : Air Terjun Simoko

Satuan : Basalt
 Nama Batuan : *Porfiri Basalt*

Foto



Lensa Okuler : 10x

Lensa Obyektif : 5x

Perbesaran Total : 50x

Tipe Batuan : Batuan Beku

Tipe Struktur : Masif

Klasifikasi : Travis, 1995

Mikroskopis :

Warna interferensi abu-abu hingga coklat Warna adsorpsi tidak berwarna, kristalinitas hipokrostatin, granularitas porfiroafanitik, bentuk mineral subhedral – anhedral, fabrik inequigranular, komposisi mineral berupa Piroksen, Plagioklas dan massadasar mikrolin plagioklas. Ukuran mineral 0,02 – 5 mm

Deskripsi Mineralogi

Komposisi Mineral	Jumlah (%)	Keterangan Optic mineral
Piroksen	35	Warna absorpsi <i>colourless</i> , warna interferensi kecoklatan. Bentuk anhedral-euhedral. Memiliki relief tinggi, pleokrisme monokroik, intensitas tinggi, belahan dua arah, kembaran tidak ada, pecahan tidak ada, ukuran 0,175 mm , sudut gelap 37 ⁰ , jenis gelap Miring
Plagioklas	15	Warna absorpsi tidak berwarna atau transparan/ <i>colourless</i> , warna interferensi abu abu. Bentuk anhedral - subhedral. Memiliki relief sedang, pleokrisme monokroik, intensitas rendah, belahan satu arah, kembaran albit, pecahan tidak rata, ukuran 0,075- 5 mm, sudut gelap 41 ⁰ , jenis gelap Miring
Massa dasar	60	Warna absorpsi <i>colourless</i> , warna interferensi putih keabu abuan. Bentuk subhedral. Memiliki relief rendah, pleokrisme monokroik, intensitas lemah, belahan satu arah, ukuran < 0,02 mm , jenis gelap Miring

Nama Batuan : *Porfiri Basalt* (Travis, 1955)

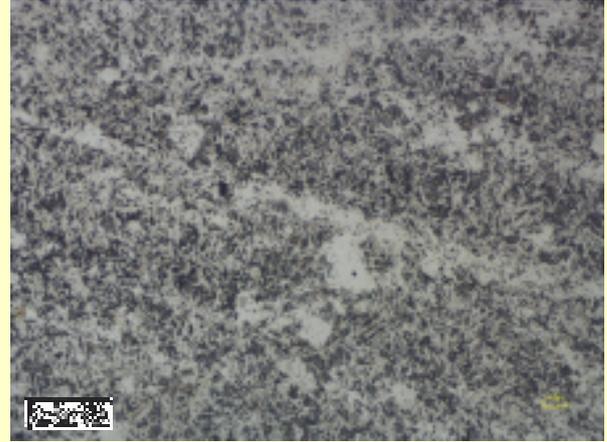
No Stasiun : ST. 3
Lokasi : Air Terjun Simoko

Satuan : Tufa
Nama Batuan : *vitric tuff*

Foto



Lensa Okuler : 10x



Lensa Obyektif : 5x

Perbesaran Total : 50x

Tipe Batuan : Batuan Beku

Tipe Struktur : -

Klasifikasi : Schmid, 1981

Mikroskopis :

Warna adsorpsi *colourless*, Warna interferensi abu-abu hingga Kehitaman, bentuk material subrounded – rounded, komposisi material berupa Kuarsa, biotit dan gelas vulkanik. Ukuran 0,02 – 0,175 mm

Deskripsi Mineralogi

Komposisi Mineral	Jumlah (%)	Keterangan Optic mineral
Kuarsa	30	Warna absorpsi <i>colourless</i> , warna interferensi putih keabu-abuan, bentuk subhedral-euhedral, relief rendah, intensitas tinggi, belahan tidak ada, pecahan tidak rata, ukuran mineral 0,02 – 0,175 mm, sudut gelapan 7°, jenis gelapan bergelombang
Biotit	15	Warna absorpsi kuning kecoklatan, warna interferensi coklat tua, bentuk anhedral, relief sedang, intensitas sedang, pleokroisme monokroik, ukuran mineral 0,06 mm - 0,10 mm, pecahan tidak rata, jenis gelapan paralel sebesar 90°
Gelas vulkanik	55	Warna Absorpsi <i>Colourless</i> , Warna Interferensi abu-abu ke cokelatan. Ukuran material <0,02 mm.

Nama Batuan : *Vitric Tuff* (Schmid,1981)

Match! Phase Analysis Report

Sample: Basalt (5-70)

Sample Data

File name Basalt.RAW
File path O:/Data XRD-Pak Agus-juli2020/Basalt
Data collected Jun 17, 2020 13:47:51
Data range 5.000° - 70.000°
Original data range 5.000° - 70.000°
Number of points 3251
Step size 0.020
Rietveld refinement converged No
Alpha2 subtracted No
Background subtr. No
Data smoothed Yes
Radiation X-rays
Wavelength 1.540600 Å

Matched Phases

Index	Amount (%)	Name	Formula sum
A	43.3	Andesine	Al _{0.735} Ca _{0.24} Na _{0.26} O ₄ Si _{1.265}
B	30.4	Calcium magnesium catena-silicate Diopside	Ca Mg O ₆ Si ₂
C	25.7	Quartz	O ₂ Si
D	0.5	Magnetite	Fe ₃ O ₄
	4.3	Unidentified peak area	

A: Andesine (43.3 %)*

Formula sum Al_{0.735} Ca_{0.24} Na_{0.26} O₄ Si_{1.265}
Entry number 96-900-1031
Figure-of-Merit (FoM) 0.676928*
Total number of peaks 251
Peaks in range 251
Peaks matched 139
Intensity scale factor 0.21*
Space group C -1
Crystal system triclinic (anorthic)
Unit cell a= 8.1790 Å b= 12.8800 Å c= 7.1120 Å α= 93.440° β= 116.210 ° γ= 90.230 °
I/Ic 0.72
Calc. density 2.673 g/cm³
Reference FitzGerald J. D., Parise J. B., Mackinnon I. D. R., "Average structure of an An₄₈ plagioclase from the Hogarth Ranges Sample: Neutron data", American Mineralogist **71**, 1399-1408 (1986)

B: Calcium magnesium catena-silicate Diopside (30.4 %)*

Formula sum Ca Mg O₆ Si₂
Entry number 96-101-1048
Figure-of-Merit (FoM) 0.828261*
Total number of peaks 226
Peaks in range 86
Peaks matched 52
Intensity scale factor 0.28*
Space group C 1 2/c 1
Crystal system monoclinic
Unit cell a= 9.7100 Å b= 8.8900 Å c= 5.2400 Å β= 74.170 °
I/Ic 1.35
Calc. density 3.305 g/cm³
Reference Warren B E, Biscoe J, "The Crystal Structure of monoclinic pyroxenes", Zeitschrift fuer Kristallographie, Kristallgeometrie, Kristallphysik, Kristallchemie (-144, 1977) **80**, 391-401 (1931)

C: Quartz (25.7 %)*

Formula sum O₂ Si
Entry number 96-900-0780
Figure-of-Merit (FoM) 0.809269*
Total number of peaks 32
Peaks in range 14
Peaks matched 11
Intensity scale factor 0.55*
Space group P 32 2 1 S
Crystal system trigonal (hexagonal axes)
Unit cell a= 4.7220 Å c= 5.2670 Å
I/Ic 3.17
Calc. density 2.943 g/cm³
Reference Levien L., Prewitt C. T., Weidner D. J., "Structure and elastic properties of quartz at pressure P = 55.8 kbar", American Mineralogist **65**, 920-930 (1980)

D: Magnetite (0.5 %)*

Formula sum	Fe ₃ O ₄
Entry number	96-900-2329
Figure-of-Merit (FoM)	0.641401*
Total number of peaks	34
Peaks in range	9
Peaks matched	5
Intensity scale factor	0.02*
Space group	F d -3 m
Crystal system	cubic
Unit cell	a= 8.1710 Å
I/Ic	6.02
Calc. density	5.638 g/cm ³
Reference	Haavik C., Stolen S., Fjellvag H., Hanfland M., Hausermann D., "Equation of state of magnetite and its high-pressure modification: Thermodynamics of the Fe-O system at high pressure Sample at P = 21.8 GPa", American Mineralogist 85 , 514-523 (2000)

(**2theta values have been shifted internally for the calculation of the amounts, the intensity scaling factors as well as the figure-of-merit (FoM), due to the active search-match option 'Automatic zero point adaption'.*

Candidates

Name	Formula	Entry No.	FoM
	Sn	96-154-0070	0.7687
Dilithium Oxide	Li ₂ O	96-151-4098	0.7611
Antimony	Sb	96-901-3012	0.7579
Antimony	Sb	96-901-3014	0.7579
Ce ₃ Ge ₅	Ce _{2.76923} Ge _{4.30769}	96-152-4792	0.7523
Titanium oxide (Anatase)	O ₂ Ti	96-101-0943	0.7478
Lithium perchlorate	Cl Li O ₄	96-431-3931	0.7449
Sr Ni _{0.5} Si _{1.5}	Ni _{0.5} Si _{1.5} Sr	96-152-9649	0.7408
	Ge Se	96-152-8769	0.7402
	Nb Ru	96-153-8201	0.7381
Gallium arsenate(V)	As Ga O ₄	96-100-9007	0.7377
Rb Al O ₂	Al O ₂ Rb	96-154-1491	0.7371
	Hg In	96-210-6114	0.7368
Wakefieldite-(Y)	O ₂ V Y	96-901-6009	0.7366
Cerium	Ce	96-900-8492	0.7361
(Ga _{0.2} Si _{0.8}) V ₃	Ga _{0.2} Si _{0.8} V ₃	96-152-2787	0.7354
Gallium arsenate(V)	As Ga O ₄	96-100-9006	0.7350
Gallium arsenate(V)	As Ga O ₄	96-100-9009	0.7350
	As Eu O ₄	96-591-0277	0.7325
Indium Vanadate	In O ₄ V	96-433-6637	0.7306
Gallium arsenate(V)	As Ga O ₄	96-100-9008	0.7296
	Y Zn	96-154-1129	0.7295
	Na ₃ Nd ₁₄ O ₃₆ Ru ₆	96-430-7163	0.7294
	D I	96-403-0190	0.7290
Srilankite	O ₂ Ti _{0.666} Zr _{0.334}	96-901-0855	0.7287
Ni _{1.29} Ti ₃	Ni _{1.29} Ti ₃	96-153-8608	0.7285
Li _{1.08} N H _{1.92}	H _{1.92} Li _{1.08} N	96-412-4007	0.7283
	Tb Zn	96-154-1250	0.7275
	Ce Li Sn ₂	96-152-5060	0.7269
Li ₂ (N H)	H Li ₂ N	96-154-1618	0.7260
Ti _{0.85} Sn _{0.15} O ₂	O ₂ Sn _{0.15} Ti _{0.85}	96-154-4414	0.7253
Helium	He	96-901-1640	0.7252
	Ge Se	96-900-8784	0.7247
	Cu Ga Te ₂	96-154-2205	0.7239
Neon	Ne	96-901-1722	0.7238
	Fe O ₄ P	96-151-8116	0.7236
	Cs ₂ O ₄ S	96-591-0153	0.7231
	Rh ₂ Sn V	96-152-2975	0.7227
Gallium arsenate(V)	As Ga O ₄	96-100-9005	0.7217
	O ₂ Zr	96-900-9052	0.7213
Si I ₄	I ₄ Si	96-152-5682	0.7212
K H ₃ (Se O ₃) ₂	H ₃ K O ₆ Se ₂	96-153-0008	0.7211
Fe (P O ₄)	Fe O ₄ P	96-153-2907	0.7211
	I ₆ Na ₂ O ₁₈ Ti	96-410-4386	0.7211
Cd ₃ Sc ₂ (Ge O ₄) ₃	Cd ₃ Ge ₃ O ₁₂ Sc ₂	96-153-0427	0.7207
Li N D ₂	D ₂ Li N	96-153-5839	0.7198
K D ₃ (Se O ₃) ₂	D ₃ K O ₆ Se ₂	96-152-7725	0.7197
Barium strontium lutetium oxide (2/1/22/36)	Ba ₂ Lu ₂₂ O ₃₆ Sr	96-200-2350	0.7193
	Ag ₃ Yb ₅	96-151-0044	0.7190
beryllium bis(hypophosphite)	Be H ₄ O ₄ P ₂	96-201-4099	0.7185
Potassium	K	96-901-1988	0.7184
Iron Fluoride	F ₃ Fe	96-210-0657	0.7177

and 3088 others...

Search-Match**Settings**

Reference database used	COD-Inorg REV248644 2020.03.03
Automatic zeropoint adaptation	Yes
Minimum figure-of-merit (FoM)	0.60
2theta window for peak corr.	0.30 deg.
Minimum rel. int. for peak corr.	1
Parameter/influence 2theta	0.50
Parameter/influence intensities	0.50
Parameter multiple/single phase(s)	0.50

Criteria for entries added by user

Reference:

Entry number: 96-100-1772;96-155-7001;96-155-7002;96-200-7565;96-900-0426;96-900-0434;96-900-0769;96-900-1784;96-900-1785;96-900-1894;96-900-1895;96-900-1896;96-900-1897;96-900-1898;96-900-1899;96-900-1900;96-900-1901;96-900-2004;96-900-2005;96-900-2006;96-900-2007;96-900-2008;96-900-2009;96-900-2010;96-900-2011;96-900-2564;96-900-2565;96-900-2566;96-900-2567;96-900-2568;96-900-3089;96-900-3090;96-900-3091;96-900-3092;96-900-3093;96-210-8238;96-210-8239;96-210-8242;96-210-8243;96-210-8244;96-901-1201;96-901-1202;96-900-1031;96-900-1032

Peak List

No.	2theta [°]	d [Å]	I/I0	FWHM	Matched
1	13.72	6.4491	60.78	0.7887	A,B
2	16.34	5.4204	52.83	1.6042	
3	19.82	4.4759	72.48	0.5622	B
4	20.62	4.3040	41.80	0.8714	
5	21.48	4.1336	105.53	0.5310	C
6	21.96	4.0443	179.17	0.4998	A
7	23.00	3.8637	89.72	1.4196	A
8	23.70	3.7512	278.17	0.3941	A
9	24.50	3.6304	152.75	0.5869	A,B
10	25.06	3.5506	179.53	0.7796	
11	25.92	3.4347	159.68	0.7796	A
12	27.74	3.2133	1000.00	0.5170	A,B,C
13	29.82	2.9938	381.95	0.3631	A,B
14	30.36	2.9417	311.76	0.4928	A,B
15	30.92	2.8897	253.88	0.4928	B,D
16	31.96	2.7980	170.97	0.6842	A
17	33.06	2.7074	36.68	0.4056	A
18	33.94	2.6392	30.50	0.4056	A
19	35.52	2.5253	496.71	0.5470	A,B
20	36.46	2.4623	120.37	0.2338	A,D
21	37.18	2.4163	37.83	0.2219	A
22	37.74	2.3817	37.12	0.4013	A,B
23	38.14	2.3577	39.19	0.9461	A,C,D
24	39.24	2.2941	41.53	1.6301	A,B
25	39.96	2.2544	59.42	1.6301	A
26	40.68	2.2161	40.58	1.6301	A,B,C
27	42.02	2.1485	89.15	1.2682	A,B,C
28	42.50	2.1253	108.02	0.9976	A,B
29	42.96	2.1036	73.55	0.9976	A,B
30	44.72	2.0248	84.45	0.6315	A,B
31	45.98	1.9722	20.65	0.1974	A,B
32	46.78	1.9404	37.47	0.4176	A,B
33	48.44	1.8777	35.19	0.2717	A,B,D
34	49.78	1.8302	68.56	0.3179	A,B
35	50.26	1.8139	28.24	0.3179	A,B
36	50.74	1.7978	50.22	0.7453	A,B
37	51.14	1.7847	65.98	0.8325	A
38	52.24	1.7497	70.49	0.3648	A,B,C
39	53.04	1.7252	34.76	0.4618	A
40	53.52	1.7108	41.40	0.3546	A,B
41	54.06	1.6950	28.76	0.1396	A
42	55.02	1.6677	46.19	0.3577	A,B,D
43	56.04	1.6397	41.78	1.0034	A
44	56.60	1.6248	80.13	1.0686	A,B
45	57.16	1.6102	46.55	1.9050	A,B,C
46	59.22	1.5590	63.80	0.4378	A,B
47	60.48	1.5295	47.90	0.6366	A,B
48	61.52	1.5061	33.07	1.4096	A,B
49	62.24	1.4904	96.39	1.6566	A,B
50	62.70	1.4806	180.93	0.5185	A,B,C
51	65.80	1.4181	90.60	0.4489	A,B
52	66.44	1.4060	90.72	0.3768	A,B,C

Integrated Profile Areas

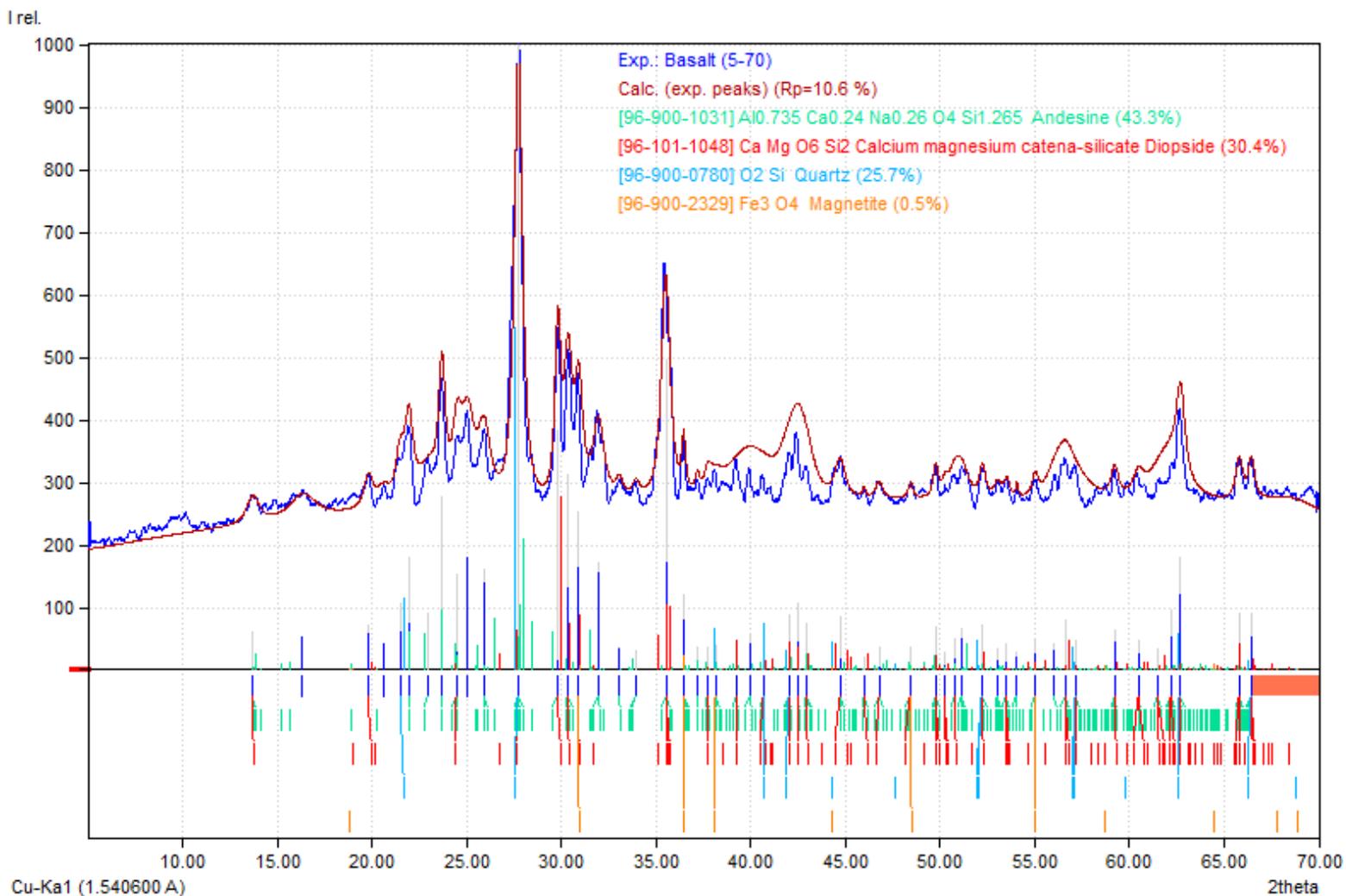
Based on calculated profile

Profile area	Counts	Amount
Overall diffraction profile	1769776	100.00%
Background radiation	1544270	87.26%
Diffraction peaks	225506	12.74%
Peak area belonging to selected phases	150244	8.49%
Peak area of phase A (<i>Andesine</i>)	66198	3.74%
Peak area of phase B (<i>Calcium magnesium catena-silicate Diopside</i>)	47319	2.67%
Peak area of phase C (<i>Quartz</i>)	35176	1.99%
Peak area of phase D (<i>Magnetite</i>)	1552	0.09%
Unidentified peak area	75262	4.25%

Peak Residuals

Peak data	Counts	Amount
Overall peak intensity	6431	100.00%
Peak intensity belonging to selected phases	4898	76.17%
Unidentified peak intensity	1532	23.83%

Diffraction Pattern Graphics



Match! Phase Analysis Report

Sample: Tufa (5-70)

Sample Data

File name Tufa.RAW
File path O:/Data XRD-Pak Agus-juli2020/Tufa
Data collected Jun 17, 2020 13:47:51
Data range 5.000° - 70.000°
Original data range 5.000° - 70.000°
Number of points 3251
Step size 0.020
Rietveld refinement converged No
Alpha2 subtracted No
Background subtr. No
Data smoothed Yes
Radiation X-rays
Wavelength 1.540600 Å

Matched Phases

Index	Amount (%)	Name	Formula sum
A	47.1	Quartz	O2 Si
B	24.0	Feldspar	Al1.74 Na0.03 O8 Si2.26 Sr0.84
C	19.8	Diopside	Al0.078 Ca Fe0.024 Mg0.976 O6 Si1.922
D	5.7	Titanium oxide Anatase	Ti O2
E	3.5	iron oxide	Fe3 O4
	3.1	Unidentified peak area	

A: Quartz (47.1 %)*

Formula sum O2 Si
Entry number 96-901-1496
Figure-of-Merit (FoM) 0.748843*
Total number of peaks 32
Peaks in range 15
Peaks matched 10
Intensity scale factor 0.81*
Space group P 31 2 1 S
Crystal system trigonal (hexagonal axes)
Unit cell a= 4.6764 Å c= 5.2475 Å
I/Ic 3.12
Calc. density 3.012 g/cm³
Reference Glinnemann J., King H. E., Schulz H., Hahn T., La Placa S. J., Dacol F., "Crystal structures of the low-temperature quartz-type phases of SiO₂ and GeO₂ at elevated pressure P = 7.2 GPa = 72 kbar", Zeitschrift für Kristallographie **198**, 177-212 (1992)

B: Feldspar (24.0 %)*

Formula sum Al1.74 Na0.03 O8 Si2.26 Sr0.84
Entry number 96-900-0426
Figure-of-Merit (FoM) 0.563428*
Total number of peaks 294
Peaks in range 164
Peaks matched 91
Intensity scale factor 0.15*
Space group C 1 2/m 1
Crystal system monoclinic
Unit cell a= 8.3282 Å b= 12.9801 Å c= 7.1358 Å β= 115.599 °
I/Ic 1.10
Calc. density 2.986 g/cm³
Reference Grundy H. D., Ito J., "The refinement of the crystal structure of a synthetic non-stoichiometric Srfeldspar", American Mineralogist **59**, 1319-1326 (1974)

C: Diopside (19.8 %)*

Formula sum Al0.078 Ca Fe0.024 Mg0.976 O6 Si1.922
Entry number 96-900-4318
Figure-of-Merit (FoM) 0.708846*
Total number of peaks 231
Peaks in range 91
Peaks matched 50
Intensity scale factor 0.14*
Space group C 1 2/c 1
Crystal system monoclinic
Unit cell a= 9.7485 Å b= 8.9179 Å c= 5.2566 Å β= 105.894 °
I/Ic 1.29
Calc. density 3.283 g/cm³
Reference Liang J., Hawthorne F. C., "Characterization of fine-grained mixtures of rock-forming minerals by Rietveld

D: Titanium oxide Anatase (5.7 %)*

Formula sum	Ti O2
Entry number	96-500-0224
Figure-of-Merit (FoM)	0.708582*
Total number of peaks	23
Peaks in range	10
Peaks matched	4
Intensity scale factor	0.17*
Space group	I 41/a m d
Crystal system	tetragonal
Unit cell	a= 3.7892 Å c= 9.5370 Å
I/Ic	5.34
Calc. density	3.874 g/cm ³
Reference	Horn M, Schwerdtfeger C F, Meagher E P, Zeitschrift fuer Kristallographie, Kristallgeometrie, Kristallphysik,Kristallchemie (-144,1977) 136 , 273-281 (1972)

E: iron oxide (3.5 %)*

Formula sum	Fe3 O4
Entry number	96-151-3305
Figure-of-Merit (FoM)	0.760740*
Total number of peaks	35
Peaks in range	11
Peaks matched	9
Intensity scale factor	0.12*
Space group	F d -3 m
Crystal system	cubic
Unit cell	a= 8.3985 Å
I/Ic	6.28
Calc. density	5.192 g/cm ³
Reference	Ferreira Fabio Furlan, Granado Eduardo, Carvalho Jr Wilson, Kycia Stefan W., Bruno Daniele, Droppa Jr Roosevelt, "X-ray powder diffraction beamline at D10B of LNLS: application to theBa2FeReO6double perovskite", Journal of Synchrotron Radiation 13(1) , 46-53 (2005)

(*)*2theta values have been shifted internally for the calculation of the amounts, the intensity scaling factors as well as the figure-of-merit (FoM), due to the active search-match option 'Automatic zero point adaption'.*

Candidates

Name	Formula	Entry No.	FoM
	Ce2 Fe O2 Se2	96-710-5871	0.7653
Lithium dihydrogenarsenate	As H2 Li O4	96-100-8336	0.7646
Pr2 Cu O4	Cu O4 Pr2	96-152-2179	0.7645
Tsaregorodtsevit	C8 Al N O12 Si5	96-900-9561	0.7644
Pr2CuO4 T-prime phase (Pr2CuO4)	Cu O4 Pr2	96-155-2369	0.7625
	C4 B Cl2 F4 N2 S4	96-411-6446	0.7582
Zinc perchlorate hexahydrate	Cl2 H12 O14 Zn	96-210-1879	0.7573
Pr2 Cu O4	Cu O4 Pr2	96-153-9849	0.7533
Selenium(II) dicyanide	C2 N2 Se	96-430-6093	0.7515
Eu W O1.58 N1.42	Eu N1.42 O1.58 W	96-152-8787	0.7494
	Li2 Pt	96-153-8006	0.7460
Ti F3	F3 Ti	96-154-0116	0.7445
Scandium	Sc	96-901-1595	0.7421
	Al0.5 La2 Li0.5 O4	96-150-0044	0.7419
Calcium diniobium tetrphosphate diphosphate oxide	Ca Nb2 O21 P6	96-100-8338	0.7406
	C6 Br2 N4 O4 S	96-155-4036	0.7398
Magnesium borohydride	B2 H8 Kr0.557 Mg	96-451-7378	0.7398
Tridymite	O2 Si	96-901-3394	0.7394
Na8 (Al6 Ge6 O24) I2	Al6 Ge6 I2 Na8 O24	96-202-0242	0.7393
	Mn5 O24 S6 Sr	96-150-8819	0.7375
(Y0.7 Yb0.3)	Y0.7 Yb0.3	96-152-8153	0.7371
Pb Ti4 Te3	Pb Te3 Ti4	96-153-9244	0.7341
aluminum phosphate	Al O4 P	96-201-0796	0.7333
	Al6 Br1.74 Cl0.26 Na8 O24 Si6	96-403-0255	0.7310
Khademite	Al F H10 O9 S	96-900-9710	0.7308
Tristrontium cyclo-hexaaluminate	Al6 O18 Sr9	96-100-8451	0.7305
	Al2 O6 Sr3	96-901-5879	0.7305
Sr ((Fe0.5 Ta0.5) O3)	Fe0.5 O3 Sr Ta0.5	96-154-2000	0.7295
	Al2 O6 Sr3	96-200-0992	0.7290
	Br In3 La5	96-810-0738	0.7286
K In (W O4)2	In K O8 W2	96-152-4300	0.7285
Cesium cyanomanganate	C6 Cs2 Mn2 N6	96-431-4776	0.7282
Magnesite	C Cd0.4 Mg0.6 O3	96-901-0225	0.7270
	Al6 Br2 Na8 O24 Si6	96-403-0256	0.7269
Si O2	O2 Si	96-412-4084	0.7267
Se O F2	F2 O Se	96-403-1234	0.7266
Bi Ti9 Te6	Bi Te6 Ti9	96-810-4111	0.7266
	Ge3 N4	96-153-2512	0.7245

Sodium bromide tecto-alumosilicate (7.8/2/1.9/6)	Ag _{0.24} Al ₆ Br _{1.88} Na _{7.76} O ₂₄ Si ₆	96-411-9062	0.7245
La ₅ Sn ₃ I	I La ₅ Sn ₃	96-153-2440	0.7231
Cerium silver silicon (1/0.67/1.33)	Ag _{0.67} Ce Si _{1.33}	96-150-9018	0.7230
La Ba ₂ Cu ₂ Ta O ₈	Ba ₂ Cu ₂ La O ₈ Ta	96-153-8939	0.7226
	Ba ₄ Ge ₂₅ Na ₂	96-810-0978	0.7225
S (C N) ₂	C ₂ N ₂ S	96-231-0376	0.7222
	Al ₆ Br _{0.98} Cl _{1.02} Na ₈ O ₂₄ Si ₆	96-403-0254	0.7219
	Al ₆ Ca ₄ O ₁₆ S	96-451-1961	0.7217
(Ba _{0.829} Sr _{0.171}) (Ti _{0.89} Ce _{0.11}) O ₃	Ba _{0.829} Ce _{0.11} O ₃ Sr _{0.171} Ti _{0.89}	96-152-2089	0.7216
Sr ₃ (Ga ₂ O ₆)	Ga ₂ O ₆ Sr ₃	96-152-6518	0.7214
	Al ₆ Br _{0.57} Cl _{1.43} Na ₈ O ₂₄ Si ₆	96-403-0253	0.7193
Sr (Sn _{0.5} Fe _{0.5}) O ₃	Fe _{0.5} O ₃ Sn _{0.5} Sr	96-153-3398	0.7192
Sr Cr Sn (P O ₄) ₃	Cr O ₁₂ P ₃ Sn Sr	96-153-2810	0.7191
	Ba _{3.97} Fe ₃ K _{1.03} O ₉	96-432-6535	0.7191

and 2594 others...

Search-Match

Settings

Reference database used	COD-Inorg REV248644 2020.03.03
Automatic zeropoint adaptation	Yes
Minimum figure-of-merit (FoM)	0.60
2theta window for peak corr.	0.30 deg.
Minimum rel. int. for peak corr.	1
Parameter/influence 2theta	0.50
Parameter/influence intensities	0.50
Parameter multiple/single phase(s)	0.50

Criteria for entries added by user

Reference:

Entry number:

96-100-1772;96-155-7001;96-155-7002;96-200-7565;96-900-0426;96-900-0434;96-900-0769;96-900-1784;96-900-1785;96-900-1894;96-900-1895;96-900-1896;96-900-1897;96-900-1898;96-900-1899;96-900-1900;96-900-1901;96-900-2004;96-900-2005;96-900-2006;96-900-2007;96-900-2008;96-900-2009;96-900-2010;96-900-2011;96-900-2564;96-900-2565;96-900-2566;96-900-2567;96-900-2568;96-900-3089;96-900-3090;96-900-3091;96-900-3092;96-900-3093;96-101-1033;96-101-1085;96-722-8111;96-900-0927;96-900-0928;96-900-0929;96-900-0930;96-900-0931;96-900-0932;96-900-0933;96-900-0934;96-900-0935;96-900-2317;96-900-2318;96-900-2319;96-900-2320;96-900-2321;96-900-2322;96-900-2323;96-900-2324;96-900-2325;96-900-2326;96-900-2327;96-900-2328;96-900-2329;96-900-2330;96-900-2331;96-900-2332;96-900-2333;96-900-2674;96-900-2675;96-900-4088;96-900-4156;96-900-4157;96-900-5813;96-900-5814;96-900-5815;96-900-5816;96-900-5817;96-900-5837;96-900-5838;96-900-5839;96-900-5840;96-900-5841;96-900-5842;96-900-5843;96-900-6185;96-900-6190;96-900-6195;96-900-6200;96-900-6243;96-900-6248;96-900-6253;96-900-6266;96-900-6921;96-900-6922;96-900-7645;96-900-7707;96-900-7708;96-900-9769;96-900-9770;96-901-0940;96-901-0941;96-901-0942;96-901-3530;96-901-3531;96-901-3532;96-901-3533;96-901-3534;96-901-3535;96-901-3536

Peak List

No.	2theta [°]	d [Å]	I/I ₀	FWHM	Matched
1	13.72	6.4491	53.30	0.4296	B,C
2	19.90	4.4580	53.53	0.5343	C
3	20.62	4.3040	33.49	0.5343	
4	21.48	4.1336	108.58	1.6799	B
5	21.96	4.0443	160.83	1.6799	A
6	22.92	3.8770	85.38	1.6799	B
7	23.70	3.7512	348.69	0.3338	B
8	24.50	3.6304	131.16	1.2778	C
9	24.98	3.5618	206.55	1.2778	B,D
10	25.76	3.4557	80.20	1.2778	B
11	26.80	3.3239	54.65	1.2778	C
12	27.74	3.2133	1000.00	0.4921	A,B,C
13	28.46	3.1337	79.68	0.4921	
14	29.90	2.9859	224.84	0.5302	B,C,E
15	30.36	2.9417	202.37	0.5302	C
16	30.84	2.8970	98.06	0.5302	B,C
17	31.56	2.8326	63.78	1.5046	C
18	31.96	2.7980	86.78	1.5046	
19	32.34	2.7660	41.90	1.5046	B
20	33.06	2.7074	22.26	1.5046	B
21	33.86	2.6452	6.14	1.5046	
22	35.36	2.5364	244.67	0.6923	B,C,E
23	36.54	2.4571	39.09	0.6923	B
24	37.26	2.4113	34.73	0.6923	B,E
25	37.90	2.3720	43.31	0.6923	C,D
26	39.24	2.2941	31.42	0.4637	B,C
27	40.52	2.2245	17.12	0.3779	B,C
28	42.10	2.1446	104.52	0.6633	A,B,C
29	42.96	2.1036	53.57	0.6703	B,C,E
30	44.56	2.0317	36.21	0.6007	A,B,C

31	45.58	1.9886	25.19	0.5741	B,E
32	46.94	1.9341	28.38	0.4266	B
33	48.52	1.8748	35.09	0.3382	B,C
34	49.24	1.8490	19.89	0.2849	B,C
35	49.70	1.8330	88.52	0.6486	A,B,C
36	50.82	1.7952	88.68	0.3091	B,C,E
37	52.32	1.7472	34.49	0.4783	C,D
38	53.28	1.7180	12.05	0.4200	B
39	54.86	1.6721	25.31	0.3618	B,C
40	55.74	1.6478	87.52	0.3887	A,B,C,E
41	56.68	1.6227	47.53	0.4983	A,B,C
42	57.16	1.6102	24.87	0.3492	B,C,D,E
43	60.72	1.5240	126.49	0.6331	B,C
44	62.32	1.4887	10.89	0.8542	B,C,E
45	64.38	1.4460	40.16	0.6188	A,B,C
46	65.88	1.4166	19.86	1.7736	B
47	66.52	1.4045	23.32	0.4413	
48	69.44	1.3524			

Integrated Profile Areas

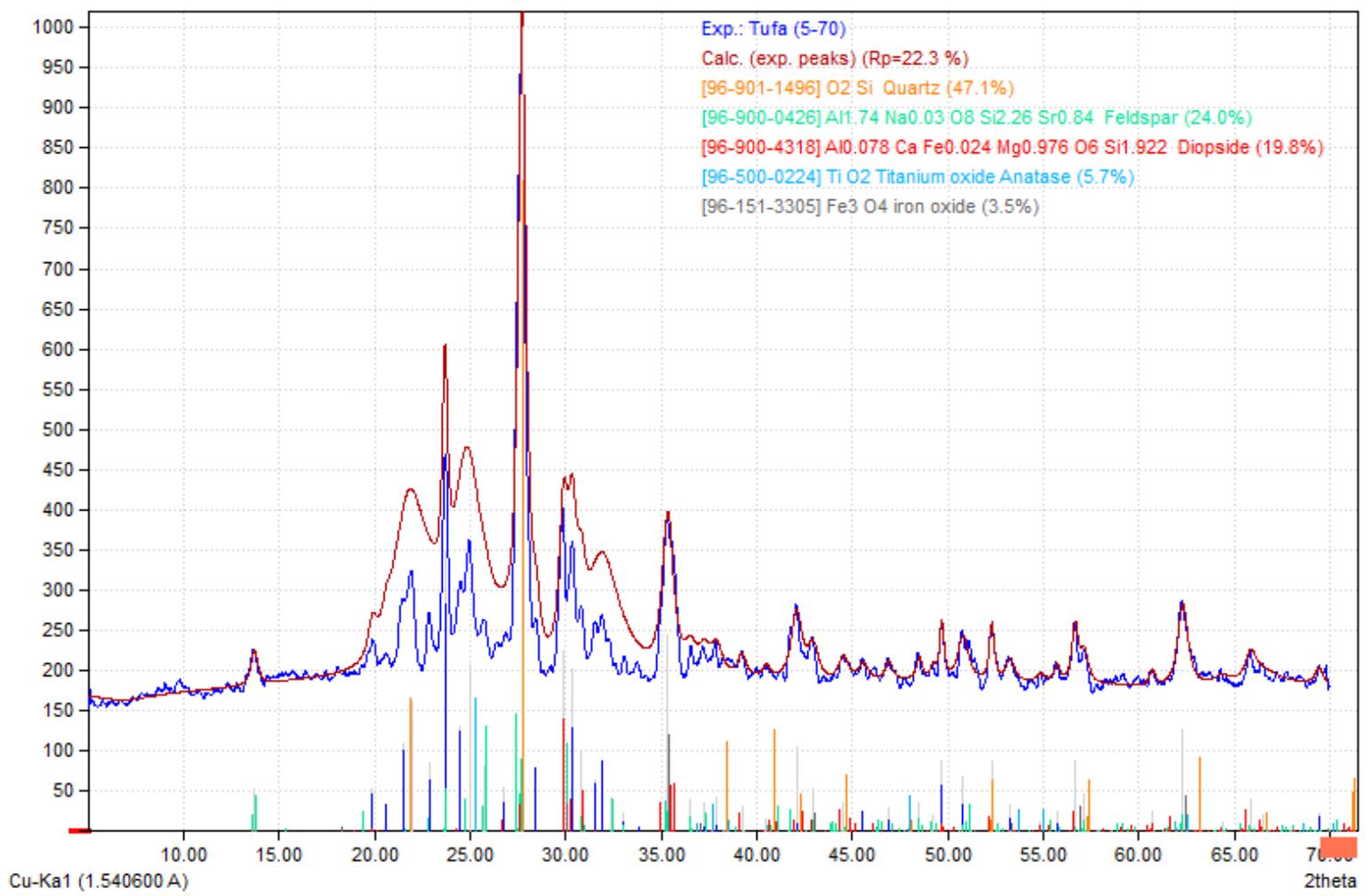
Based on calculated profile

Profile area	Counts	Amount
Overall diffraction profile	1641389	100.00%
Background radiation	1423163	86.70%
Diffraction peaks	218227	13.30%
Peak area belonging to selected phases	167449	10.20%
<i>Peak area of phase A (Quartz)</i>	55674	3.39%
<i>Peak area of phase B (Feldspar)</i>	58492	3.56%
<i>Peak area of phase C (Diopside)</i>	31072	1.89%
<i>Peak area of phase D (Titanium oxide Anatase)</i>	10968	0.67%
<i>Peak area of phase E (iron oxide)</i>	11243	0.68%
Unidentified peak area	50778	3.09%

Peak Residuals

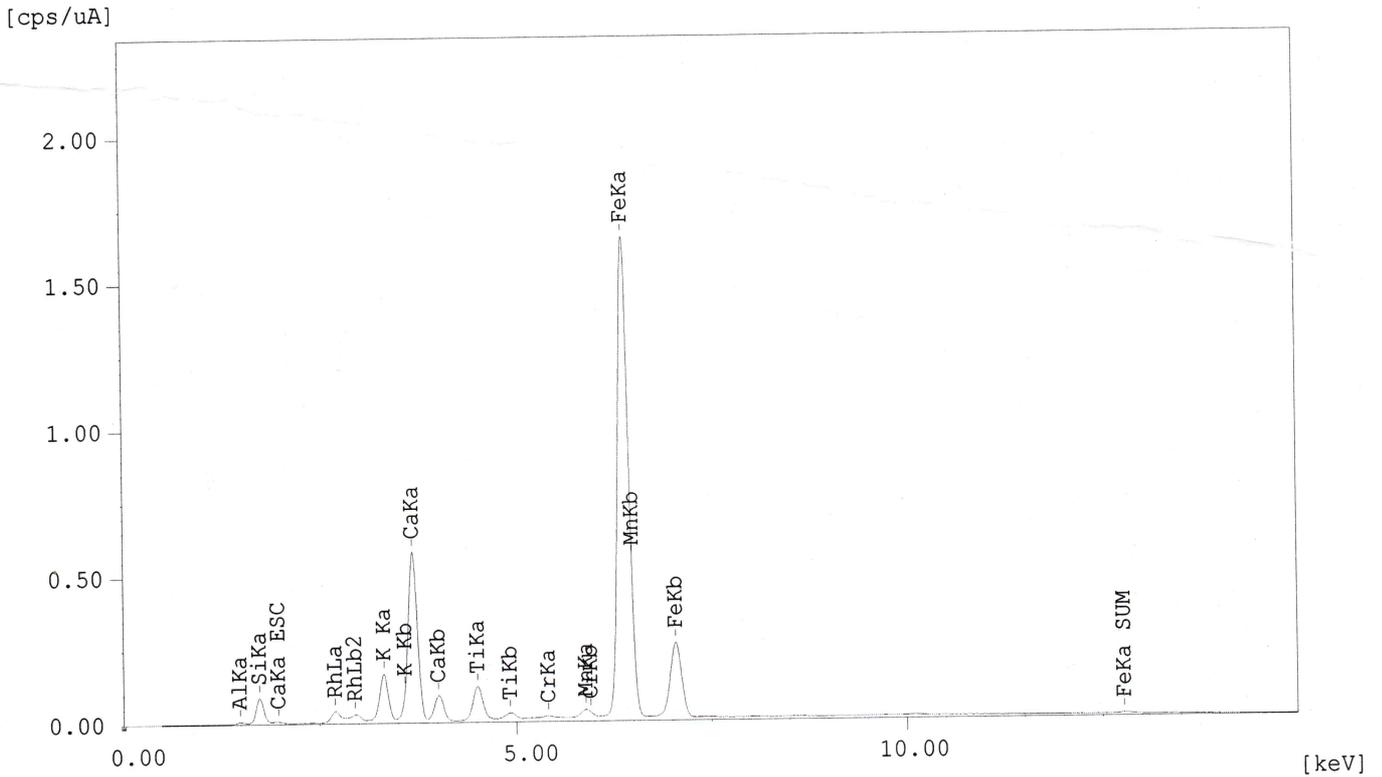
Peak data	Counts	Amount
Overall peak intensity	7948	100.00%
Peak intensity belonging to selected phases	6320	79.52%
Unidentified peak intensity	1628	20.48%

Diffraction Pattern Graphics



Match! Copyright © 2003-2020 CRYSTAL IMPACT, Bonn, Germany

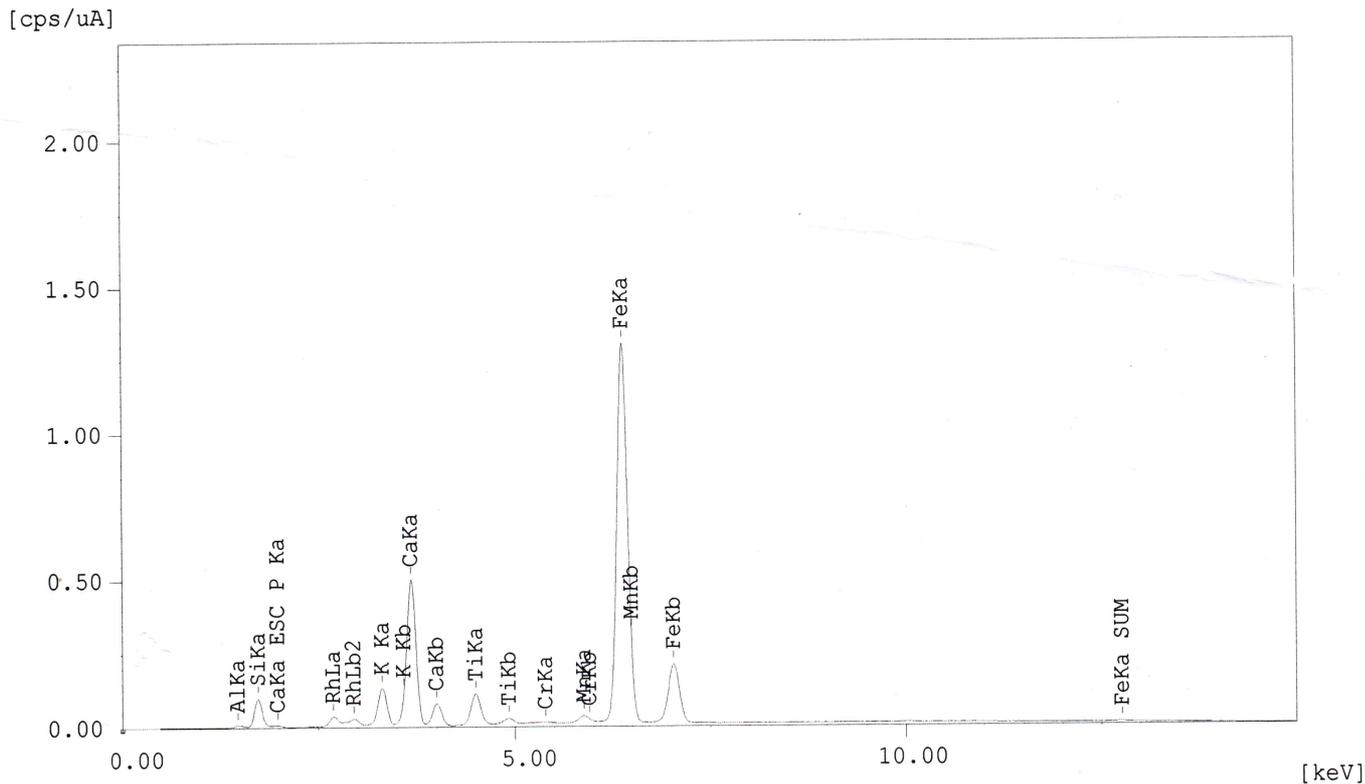
Sample : BASALT
 Operator: SUFRIADIN
 Comment : Quick&easy Air-Metal
 Group : easy-oxide
 Date : 2020-06-17 11:54:22



Quantitative Result

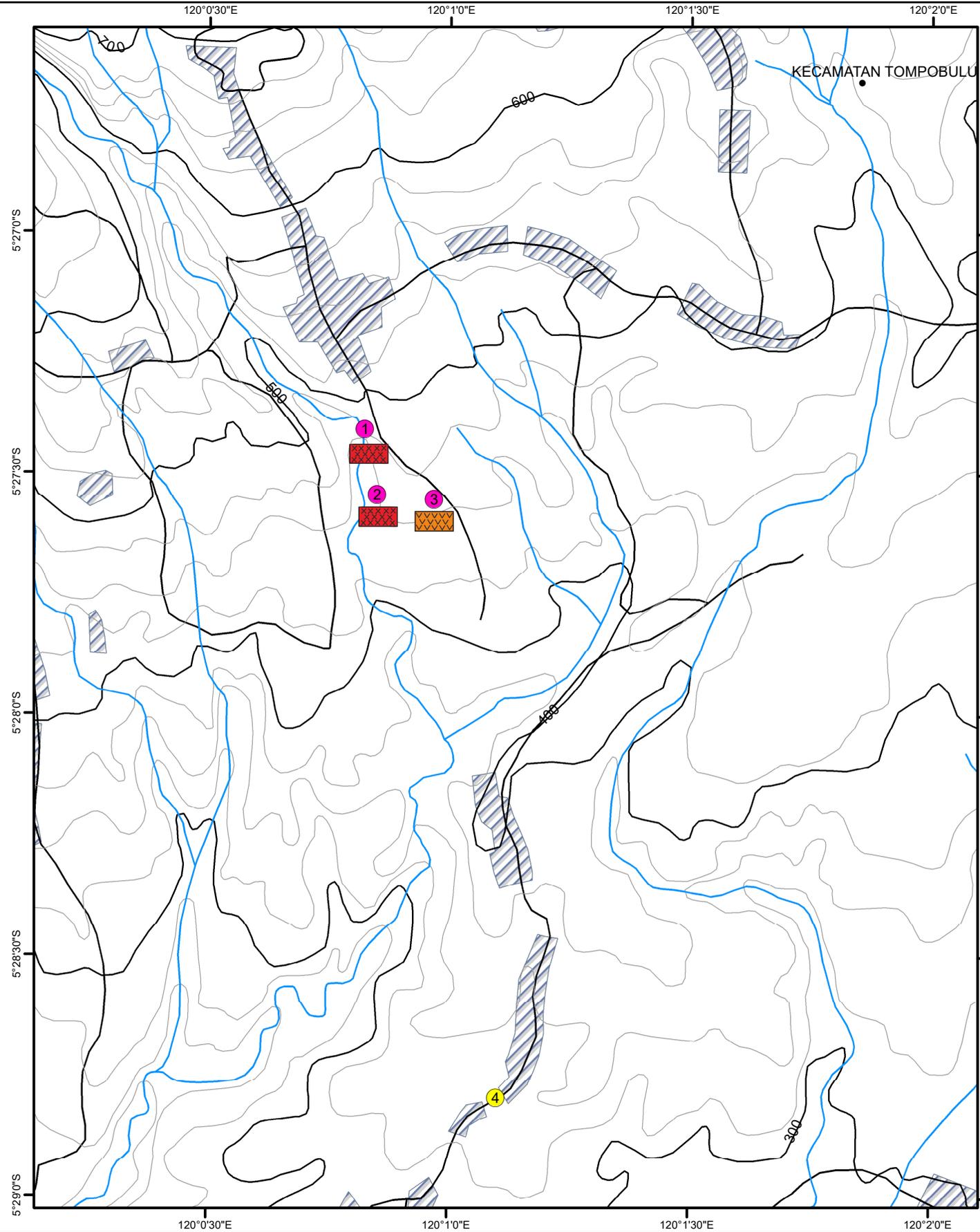
Analyte	Result	[3-sigma]	Proc.-Calc.	Line	Int. (cps/uA)
SiO2	44.420 %	[0.645]	Quan-FP	SiKa	0.9901
Al2O3	35.600 %	[1.507]	Quan-FP	AlKa	0.0818
Fe2O3	8.110 %	[0.031]	Quan-FP	FeKa	162.3996
CaO	7.472 %	[0.039]	Quan-FP	CaKa	7.5582
K2O	2.786 %	[0.027]	Quan-FP	K Ka	1.9823
TiO2	0.982 %	[0.019]	Quan-FP	TiKa	4.8938
BaO	0.222 %	[0.049]	Quan-FP	BaLa	0.5503
SrO	0.177 %	[0.002]	Quan-FP	SrKa	17.1576
MnO	0.128 %	[0.005]	Quan-FP	MnKa	2.0983
Cr2O3	0.042 %	[0.005]	Quan-FP	CrKa	0.4738
ZrO2	0.041 %	[0.002]	Quan-FP	ZrKa	4.1332
CuO	0.011 %	[0.002]	Quan-FP	CuKa	0.3173
Y2O3	0.005 %	[0.001]	Quan-FP	Y Ka	0.4953
NbO	0.005 %	[0.001]	Quan-FP	NbKa	0.5956

Sample : TUFA
 Operator: SUFRIADIN
 Comment : Quick&easy Air-Metal
 Group : easy-oxide
 Date : 2020-06-17 12:38:23



Quantitative Result

Analyte	Result	[3-sigma]	Proc.-Calc.	Line	Int.(cps/uA)
SiO2	46.530 %	[0.589]	Quan-FP	SiKa	1.1295
Al2O3	38.579 %	[1.421]	Quan-FP	AlKa	0.1009
CaO	5.864 %	[0.031]	Quan-FP	CaKa	6.5615
Fe2O3	5.410 %	[0.022]	Quan-FP	FeKa	127.0928
K2O	2.082 %	[0.021]	Quan-FP	K Ka	1.6032
TiO2	0.796 %	[0.015]	Quan-FP	TiKa	4.4975
BaO	0.209 %	[0.040]	Quan-FP	BaLa	0.5866
P2O5	0.197 %	[0.131]	Quan-FP	P Ka	0.0087
SrO	0.153 %	[0.001]	Quan-FP	SrKa	18.7838
MnO	0.091 %	[0.004]	Quan-FP	MnKa	1.7350
ZrO2	0.038 %	[0.001]	Quan-FP	ZrKa	4.8018
Ag2O	0.018 %	[0.002]	Quan-FP	AgKa	1.2444
Cr2O3	0.017 %	[0.004]	Quan-FP	CrKa	0.2190
CuO	0.010 %	[0.002]	Quan-FP	CuKa	0.3723
PdO	0.006 %	[0.002]	Quan-FP	PdKa	0.3813



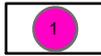
KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN
 UNIVERSITAS HASANUDDIN
 FAKULTAS TEKNIK
 DEPARTEMEN TEKNIK GEOLOGI
 PROGRAM STUDI TEKNIK GEOLOGI

PETA STASIUN
 DAERAH SIMOKO KECAMATAN TOMPOBULU
 KABUPATEN BANTAENG PROVINSI SULAWESI SELATAN



SKALA 1 : 20.000
 Interval Kontur 25 Meter
 OLEH:
 WILLYAM GERY MELLOLO
 D611 15 501
 GOWA
 2021

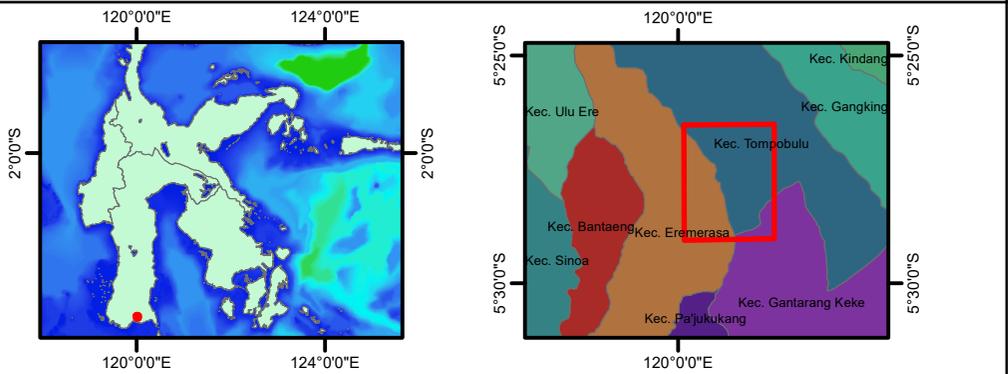
Keterangan :

-  : Stasiun Analisis Petrografi dan Geokimia
-  : Stasiun Pengamatan Geomorf
-  : Basalt
-  : Tufa
-  : Kontur
-  : Jalan
-  : Sungai
-  : Pemukiman

SUMBER PETA

Peta ini merupakan perbesaran
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 LEMBAR TANETIE 2110-41

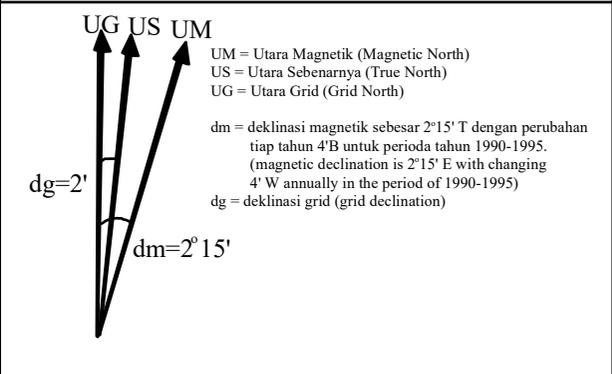
PETA TUNJUK



PETA INDEKS



PETA DEKLINASI



PETA GEOLOGI

DAERAH SIMOKO KECAMATAN TOMPOBULU
 KABUPATEN BANTAENG PROVINSI SULAWESI SELATAN



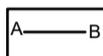
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SKALA 1 : 20.000
 Interval Kontur 25 Meter

OLEH:
 WILLYAM GERY MELLOLO
 D611 15 501

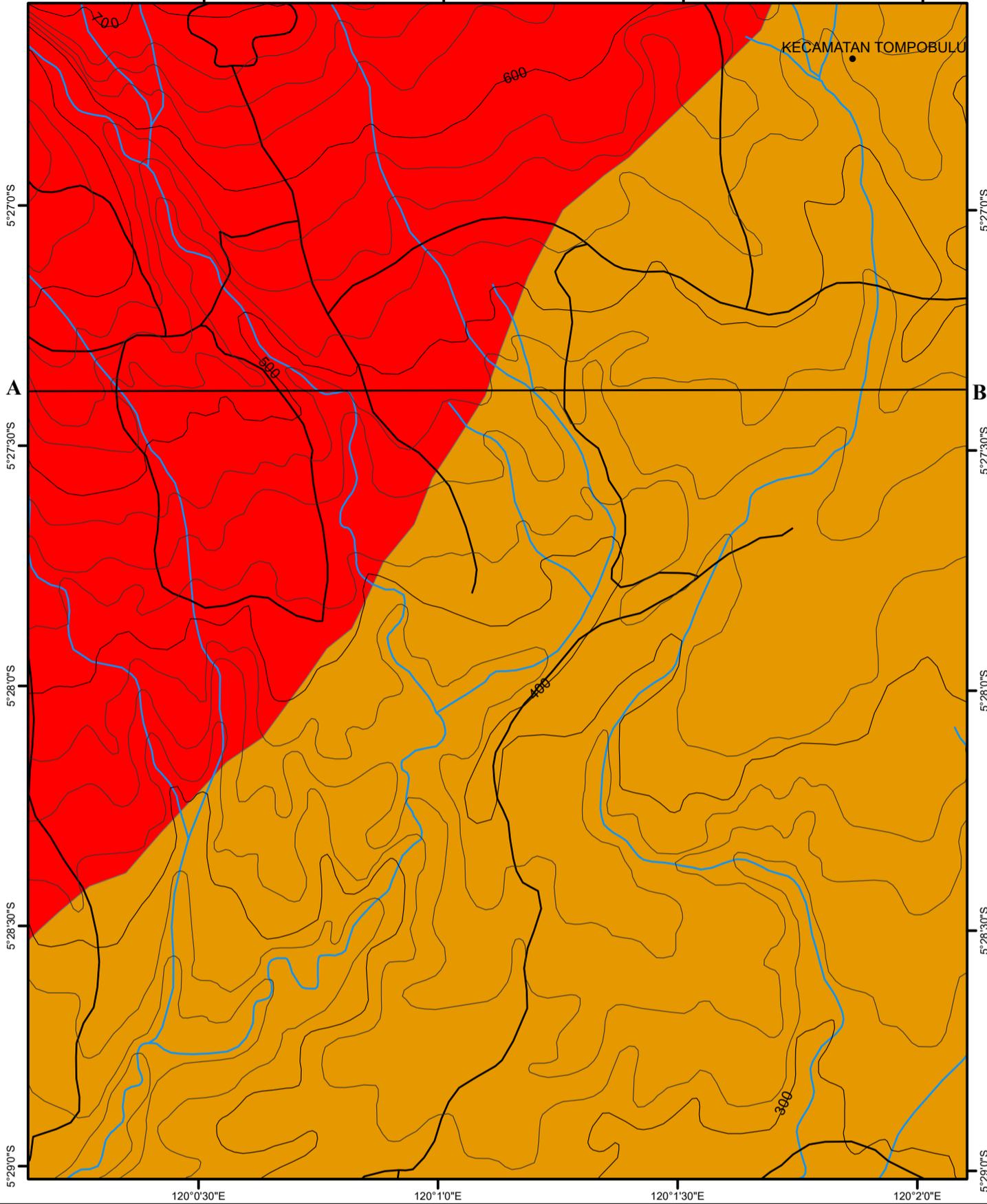
GOWA
 2021

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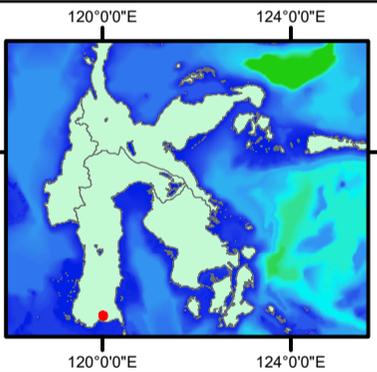
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 -  : Satuan Basalt
 -  : Garis Sayatan Penampang
 -  : Kontur
 -  : Jalan
 -  : Sungai
 -  : Pemukiman
- : Umur
Plistosen

SUMBER PETA

Peta ini merupakan perbesaran
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 LEMBAR TANETIE 2110-41



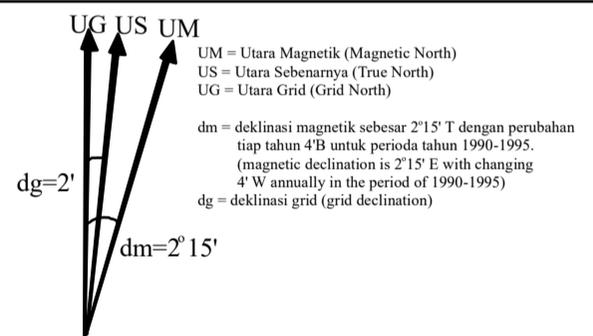
PETA TUNJUK



PETA INDEKS



PETA DEKLINASI



PENAMPANG SAYATAN A-B
 H : V = 1 : 1

