CERAMIC PETROGRAPHIC DATA FROM THE TANQUE VERDE WASH SITE, AZ BB:13:68 (ASM)

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Cite as:

Lavayen, Carlos P.
2011 Ceramic Petrographic Data from the Tanque Verde Wash site, AZ BB:13:68 (ASM). <http://www.cdarc.org/tr2007-01>.

Figure 1. Organizational chart illustrating the relationships of the nested discriminant analysis models at the Tanque Verde Wash site, AZ BB:13:68 (ASM).

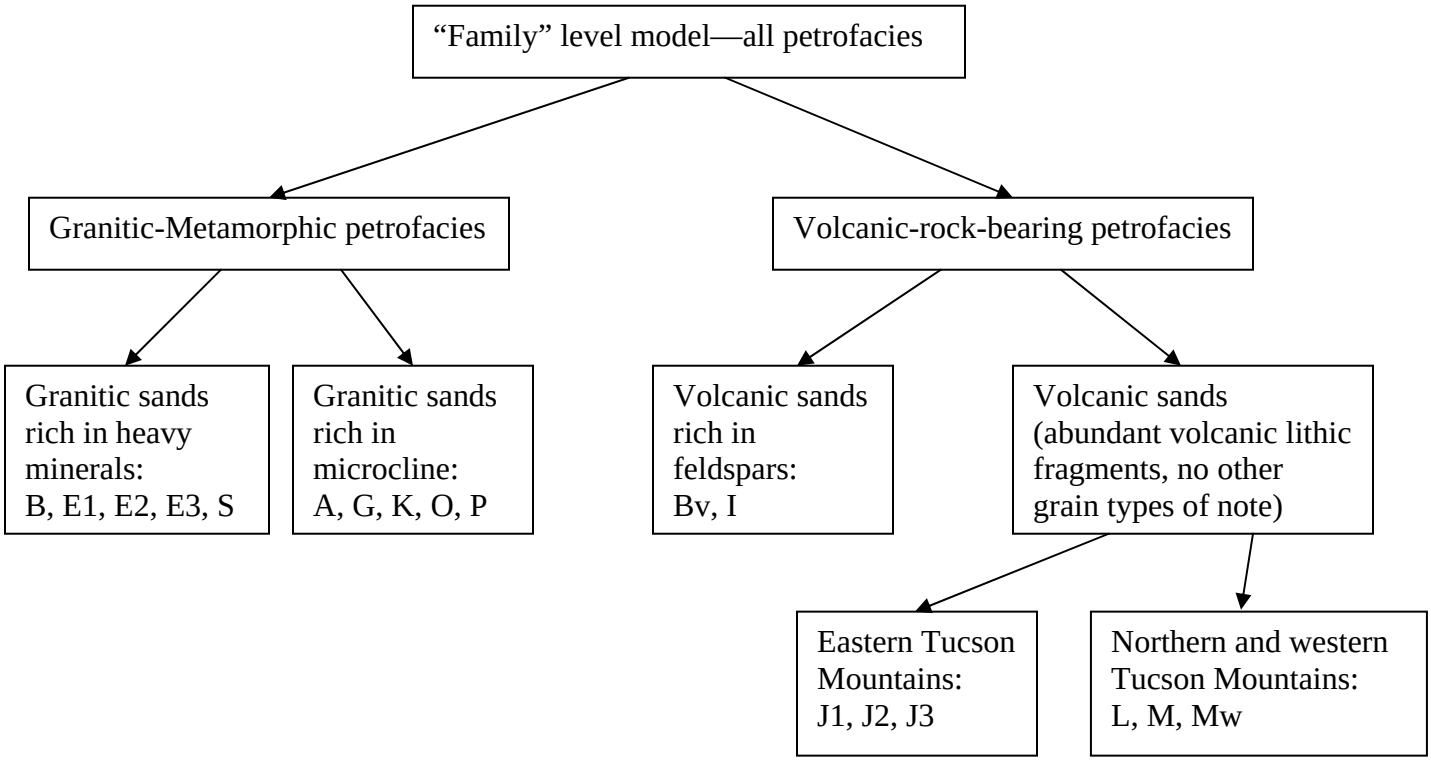

Table 1. Point-count parameters and calculated parameters used for the petrographic analysis at the Tanque Verde Wash site, AZ BB:13:68 (ASM).

Parameter	Description
Totals and Paste Parameters	
Total temper	The total number of point-counted sand-sized grains, including crushed rock, clay lumps, fiber temper, or grog.
Voids	The total number of open voids encountered in the paste, exclusive of voids with definitive fiber remnants or outline shapes. All voids were counted under this parameter unless they showed definitive "fiber void" characteristics.
Paste	The total number of points counted in the silt- to clay-sized fraction of the paste.
Grog	Sherd temper: dark, semiopaque angular-to-subround grains, with discrete margins, including silt- to sand-sized temper grains in a clay matrix, with or without iron oxides and/or micas. The grains differ in color and/or texture from the surrounding matrix of the "host" ceramic. This parameter is counted only in sherd samples.
Clay lump	Discrete "lumps," or grains, of untempered clay. These are generally in the sand-sized range. They comprise clay that lacks silt- to sand-sized grains. These grains are often similar in color to the surrounding paste, but they have well-defined, abrupt boundaries. Their internal texture is finer than the paste and has a different orientation. They are assumed to be clay that was insufficiently mixed with the surrounding clay body.
Fiber void	Voids left in the paste by the use of organic fibrous material as temper. The voids are generally rectangular, varying from prismatic to acicular. They may be surrounded by a zone of more oxidized paste. Some have fibrous terminations, remnant charred fibers, or carbonate growths within the voids. A void had to exhibit at least one of these features (shape, oxidation, fibrous terminations, fibers) to be counted as a fiber void. Voids without these characteristics were counted under "voids."
Monomineralic Grains	
Qtz	All sand-sized quartz grains, except those derived from, or contained within, coarse-foliated rocks unstained.
Kspar	Alkali feldspars, except those derived from, or contained within, coarse-foliated rocks. Potassium feldspar stained yellow, unstained plagioclase feldspar, perthite, antiperthite.
Micr	Microcline/anorthoclase: alkali feldspar, with polysynthetic (cross-hatch) twinning; stained yellow or unstained.
Sanid	Sanidine; volcanic alkali feldspar.
Plag	Plagioclase feldspar, stained pink, except grains derived from, or contained within, coarse-foliated rocks. Grains commonly have albite twinning and/or carlsbad twinning. Alteration, sericitization affect less than 10 percent of the grain.
Plagal	Altered plagioclase, except grains derived from, or contained within, coarse-foliated rocks. Alteration affects 10 percent to 90 percent of the grain; alteration products include sericite, clay minerals, carbonate, epidote.
Plaggn	Considerably altered plagioclase, except grains derived from, or contained within, coarse-foliated rocks; alteration affects more than 90 percent of the grain.
Musc	Muscovite mica.
Biot	Biotite mica.
Chlor	Chlorite group minerals.
Px	Undifferentiated members of the pyroxene group.
Amph	Undifferentiated members of the amphibole group.
Oliv	Olivine.
Opaq	Undifferentiated opaque minerals, such as magnetite/ilmenite, rutile, and iron oxides.
Epid	Undifferentiated members of the epidote family (epidote, zoisite, clinozoisite).
Sphene	Sphene.
Gar	Undifferentiated members of the garnet group.

Table 1. Continued.

Parameter	Description
Monomineralic Grains in Coarse-foliated Rocks	
Sqtz	All quartz derived from, or contained within, coarse-foliated rocks.
Skspar	Potassium feldspar derived from, or contained within, coarse-foliated rocks.
Splag	Plagioclase feldspar derived from, or contained within, coarse-foliated rocks.
Smusc	Muscovite mica derived from, or contained within, coarse-foliated rocks.
Sbiot	Biotite mica derived from, or contained within, coarse-foliated rocks.
Schlor	Undifferentiated chlorite group minerals derived from, or contained within, coarse-foliated rocks.
Sopaq	Undifferentiated opaque minerals derived from, or contained within, coarse-foliated rocks.
Metamorphic Lithic Fragments	
Lmvf	Metamorphosed volcanic rock such as rhyolite; massive-to-foliated aggregates of quartz and feldspar grains with relict phenocrysts of feldspar.
Lmss	Metamorphosed sedimentary rock, such as a meta-siltstone; massive fine-grained aggregates of quartz and feldspar, with or without relict sedimentary texture.
Lmamph	Amphibolite: a high-grade metamorphic rock, composed largely of amphibole.
Lma	Quartz-feldspar (mica) aggregate: quartz, feldspars, mica, and opaque oxides in aggregates with highly sutured grain boundaries but no planar-oriented fabric; some are schists or gneisses viewed on edge; some are metasediments or metavolcanics.
Lmt	Quartz-feldspar-mica tectonite (schists or gneisses): quartz, feldspars, micas, and opaque oxides, with strong planar oriented fabric. Often display mineral segregation with alternating quartz-felsic and mica ribbons. Grains are often extremely sutured and/or elongated.
Lmtp	Phyllite: like Lmt, but the grains are silt sized or smaller, with little or no mineral segregation. Also argillaceous grains, which exhibit growth of planar-oriented micas, silt sized or smaller.
Lmm	Microgranular quartz aggregate: non-oriented polygonal aggregates of newly grown, strain-free quartz crystallites, with sutured, planar, or curved grain boundaries.
Lmf	Foliated quartz aggregate: planar-oriented fabric developed in mostly strained quartz crystals, with sutured crystallite boundaries; quartzite.
Volcanic Lithic Fragments	
Lvf	Felsic volcanic such as rhyolite: microgranular nonfelted mosaics of submicroscopic quartz and feldspars, often with microphenocrysts of feldspar, quartz, or rarely, ferromagnesian minerals. Groundmass is fine to glassy, always has well-developed potassium feldspar (yellow) stain, may also have plagioclase (pink) stain.
Lvfb	Biotite-bearing felsic volcanic: microgranular nonfelted mosaics of submicroscopic quartz and feldspars, often with microphenocrysts of feldspar, quartz, always with phenocrysts of biotite. Groundmass is fine to glassy, always has well-developed potassium feldspar (yellow) stain.
Lvi	Intermediate volcanic rock such as rhyodacite, dacite, latite, and andesite.
Lvm	Basic volcanic: visible microlites or laths of feldspar crystals in random-to-parallel fabric, usually with glassy or devitrified or otherwise altered dark groundmass. Often with phenocrysts of opaque oxides, occasional quartz, olivine, or pyroxene. Rarely yellow stained, often very well-developed pink stain, representing intermediate-to-basic lavas, such as latite, andesite, quartz-andesite, basalt, or trachyte.
Lvv	Glassy volcanics: vitrophyric grains showing relict shards, pumiceous fabric, welding, or perlitic structures; sometimes with microphenocrysts, representing pyroclastic or glassy volcanic rocks.
Lvh	Hypabyssal volcanics (shallow igneous intrusive rocks): equigranular anhedral-to-subhedral feldspar-rich rocks, with no glassy or devitrified groundmass; coarser-grained than Lvf; most have yellow and pink stain.

Table 1. Continued.

Parameter	Description
Sedimentary Lithic Fragments	
Lss	Siltstones: granular aggregates of equant subangular-to-rounded silt-sized grains, with or without interstitial cement. May be well to poorly sorted, with or without sand-sized grains. Composition varies from quartzose to lithic-arkosic, with some mafic-rich varieties.
Lsa	Argillaceous: dark, semiopaque, extremely fine grained without visible foliation, may have mass extinction, variable amounts of silt-sized inclusions, representing shales, slates, and mudstones.
Lsch	Chert: microcrystalline aggregates of pure silica.
Lsca	Carbonate: mosaics of very fine calcite crystals, with or without interstitial clay- to sand-sized grains. Most appear to be fragments of soil carbonate (caliche) and are subround to very round.
Lsca1	Counted only in sherds: primary caliche, cohesive and with well-defined boundaries, such as that which could have come directly out of a sand or primary sedimentary deposit.
Lsca2	Counted only in sherds: caliche which cannot be definitely identified as primary (Lsca1) or secondary (Lsca2). It may have well-defined boundaries along one edge and be diffuse along others. Some may represent calcium carbonate that was in the clay rather than a temper addition.
Lsca3	Counted only in sherds: secondary caliche, often seen as coatings on the walls of voids, or as deposits in cracks. It appears to have been deposited within the vessel only after firing. Secondary caliche could result from factors inherent in the use of the vessel (i.e., as a water jug) or from postdepositional processes.
Caco	Sand-sized calcium carbonate minerals. Technically, these should be listed with the monocrystalline grains, but they most often co-occur with caliche or other sedimentary rocks.
Unknown and Indeterminate Grains	
Unkn	Grains that cannot be identified, grains that are indeterminate, and grains such as zircon and tourmaline that occur in extremely low percentages.
Calculated Parameters Used in the Statistical Analyses	
TQtz (Qm, Q)	Qtz + Sqtz
TKspar	Kspar + Skspar
K	Kspar + Skspar + Micr + Sanid
TPlag (P)	Plag + Plagal + Plaggn + Splag
F	Kspar + Skspar + Micr + Sanid + Plag + Plagal + Plaggn + Splag
TMusc	Musc + Smusc
TBiotchlor	Biot + Sbiot + Chlor + Schlor
Mica	Musc + Smusc + Biot + Sbiot + Chlor + Schlor
Pyr	Px + Amph
Plagpyr	Tplag + Pyr
TOpaq	Opaq + Sopaq
Pyrepid	Pyr + Epid
PyrOpaq	Pyr + Topaq
Hmin	Pyr + Topaq + Tbiotchlor
Lma2	Lma + Lmamph + Lmss + Lmvf + Lmepid
Lmatp	Lma2 + Lmt + Lmtp
Lmmftp	Lmm + Lmf + Lmt + Lmtp
Lmmf	Lmm + Lmf
Lm	Lmm + Lmf + Lma + Lmamph + Lmss + Lmvf + Lmepid + Lmt + Lmtp
Lm_Musc	Lm + Tmusc
Lvf2	Lvfb + Lvf

Table 1. Continued.

Parameter	Description
Calculated Parameters Used in the Statistical Analyses (continued)	
Lvm2	Lvi + Lvm
Lvmf2	Lvfb + Lvf + Lvi + Lvm
Lv	Lvfb + Lvf + Lvi + Lvm + Lvh + Lvv
Ls	Lss + Lsa + Lsch + Lsca + Caco
Lsclas	Lss + Lsa + Lsch
Lscaco	Lsca + Caco
L (Lt)	Lm + Lv + Ls

Table 2. Point–count parameters and calculated parameters used in each discriminant model analysis at the northwest locus of the Tanque Verde Wash site, AZ BB:13:68 (ASM).

Parameters	Family Level	Granitic-Metamorphic Generic Level	Granitic, Rich in Micro-cline A, G, K, O, P	Granitic, Rich in Heavy Minerals B, E1, E2, E3, S	Volcanic, Generic Level	Volcanic, Rich in Feldspars BV, I	Volcanics Only, Generic Level	Tucson Mountains East J1, J2, J3	Tucson Mountains North and West L, M, Mw
TQtz (Qm)	X	X	X	X	X	X	X	X	X
TKspar	X	–	X	–	–	–	–	X	–
Micr	X	X	X	–	–	–	–	X	–
K	–	–	–	X	–	X	–	–	X
TPlag	–	–	X	X	–	X	X	X	X
TMusc	X	–	X	X	–	–	–	–	–
TBiotchlor	X	–	X	X	X	–	X	–	–
Mica	–	–	–	–	–	X	–	X	–
Pyr	X	–	–	–	–	–	–	–	–
Plagpyr	–	X	–	–	–	–	–	–	–
TOpaq	X	–	X	–	X	–	–	X	–
Pyrepid	–	–	–	–	–	–	–	X	–
PyrOpaq	–	–	–	X	–	–	–	–	–
Epid	X	X	X	X	–	–	–	–	–
Hmin	–	–	–	–	–	X	–	–	–
Lma2	–	–	–	–	–	X	–	–	–
Lmatp	X	–	–	X	–	–	–	–	–
Lmmftp	–	–	–	–	–	X	–	–	–
Lmmf	–	–	–	X	–	–	X	–	–
Lm	–	–	X	–	X	–	–	–	–
Lm_Musc	–	X	–	–	–	–	–	–	–
Lvf2	–	–	X	–	–	X	–	–	X
Lvm2	–	–	–	–	–	X	–	–	X
Lvmf2	–	–	–	–	–	–	–	X	–
Lvv	–	–	–	–	–	–	–	X	–
Lvh	–	–	–	–	–	–	X	X	–
Lv	X	X	–	–	X	–	–	–	–
Ls	–	–	–	–	X	X	–	–	X
Lsclas	–	–	–	–	–	–	X	X	–
Lscaco	–	–	–	–	–	–	X	–	–

Table 3. Sherd point-count data for the northwest locus of the Tanque Verde Wash site, AZ BB:13:68 (ASM).

A. Inventory, totals, and paste parameters.

Sample	Final Petrofacies	Petrologist's Temper Type Characterization	Total	Paste	Voids	Grog	Clay Lump	Fiber Void	Un-known
OTA-01	Twin Hills (J2)	Sand plus 7-25% crushed rock	278	532	116	1	–	–	–
OTA-02	Central Tortolita (E2)	Sand plus 7-25% crushed rock	341	507	99	–	–	–	–
OTA-03	Central Tortolita (E2)	Sand plus 7-25% crushed rock	278	584	110	–	–	–	–
OTA-04	Catalina (B)	Sand plus 7-25% crushed rock	235	510	75	–	–	–	–
OTA-05	Beehive (J1)	Sand	207	478	105	–	–	–	–
OTA-06	Twin Hills (J2)	Sand	276	579	124	4	3	1	–
OTA-07	Twin Hills (J2)	Sand	225	455	297	2	–	–	1
OTA-08	Beehive (J1)	Sand plus 1-7% crushed rock	309	489	248	–	–	–	–
OTA-09	Beehive (J1)	Sand	343	429	113	–	–	–	1
OTA-10	Beehive (J1)	Sand	307	555	63	1	1	–	–
OTA-11	Beehive (J1)	Sand	282	541	91	–	–	–	–
OTA-12	Beehive (J1)	Sand	312	430	148	–	–	–	1
OTA-13	Beehive (J1)	Sand	325	391	202	–	–	1	–
OTA-14	Beehive (J1)	Sand	258	414	98	–	–	–	–
OTA-15	Beehive (J1)	Sand	269	378	165	–	–	–	–
OTA-16	Beehive (J1)	Sand	255	288	143	2	–	1	1
OTA-17	Beehive (J1)	Sand	244	391	189	1	–	–	–
OTA-18	Beehive (J1)	Sand	311	482	129	2	–	–	–
OTA-19	Twin Hills (J2)	Sand	382	607	90	–	–	–	1
OTA-20	Rincon (A)	Sand	435	452	125	–	–	–	–
OTA-21	Black Mountain (K)	Sand	294	356	236	2	–	–	–
OTA-22	Catalina (B)	Sand plus 7-25% crushed rock	321	489	175	–	–	–	–
OTA-23	Sierrita (O)	Sand	345	446	136	–	–	–	–
OTA-24	Rincon (A)	Sand plus grog and 7-25% crushed rock	349	519	119	–	–	–	–
OTA-25	Catalina Volcanic (Bv)	Sand	343	476	80	1	1	1	1
OTA-26	Catalina Volcanic (Bv)	Sand	276	496	153	–	–	–	–
OTA-27	Catalina Volcanic (Bv)	Sand	309	379	123	–	–	–	–
OTA-28	Catalina (B)	Sand	276	560	83	–	–	–	1
OTA-29	Catalina (B)	Sand	300	418	190	–	–	–	–
OTA-30	Catalina (B)	Sand plus grog and 7-25% crushed rock	304	520	68	6	1	–	–
OTA-31	Catalina (B)	Sand	230	587	116	–	1	–	–
OTA-32	Catalina (B)	Sand	353	539	36	–	–	–	–
OTA-33	Catalina (B)	Sand	328	435	175	1	2	–	1
OTA-34	Catalina (B)	Sand	279	491	238	–	–	–	–
OTA-35	Catalina (B)	Sand	277	355	269	1	–	–	–
OTA-36	Catalina (B)	Sand	290	334	228	1	–	–	–
OTA-37	Catalina (B)	Sand	323	310	275	–	–	–	–
OTA-38	Catalina Volcanic (Bv)	Sand	286	285	294	1	–	–	–
OTA-39	Catalina (B)	Sand	320	559	127	1	–	–	–
OTA-40	Black Mountain (K)	Sand	301	448	318	1	1	–	–
OTA-41	Black Mountain (K)	Sand	305	499	189	–	–	–	–
OTA-42	Rincon (A)	Sand	298	616	111	–	–	–	–
OTA-43	Rincon (A)	Sand plus grog	358	500	85	3	–	–	–
OTA-44	Rincon (A)	Sand	376	499	73	–	–	–	–
OTA-45	Rincon (A)	Sand plus 7-25% crushed rock	358	645	148	–	–	–	–
OTA-46	Rincon (A)	Sand	261	537	128	1	–	–	–
OTA-47	Sierrita (O)	Sand	300	715	60	–	–	–	–
OTA-48	Rincon (A)	Sand	335	710	108	–	–	–	–
OTA-49	Sierrita (O)	Sand	370	545	221	–	–	–	–
OTA-50	Central Tortolita (E2)	Sand plus >25% crushed rock	317	386	217	–	–	–	–

B. Monocrystalline grains.

Sample	Qtz	Kspar	Micr	Sanid	Plag	Plagal	Plaggn	Musc	Biot	Chlor	Px	Amph	Opaq	Epid	Sphene	Oliv	Gar
OTA-01	94	2	1	–	26	28	–	42	6	12	–	–	19	1	–	–	–
OTA-02	127	8	10	–	49	25	2	40	2	16	–	–	20	–	–	–	1
OTA-03	81	22	3	–	46	41	–	24	6	10	1	6	20	2	2	–	–
OTA-04	104	12	9	–	39	18	–	24	1	5	–	–	8	1	–	–	–
OTA-05	36	13	1	–	29	14	2	–	3	4	–	1	6	–	–	–	–
OTA-06	45	3	1	–	33	9	–	11	1	3	1	1	4	–	–	–	–
OTA-07	40	12	1	–	11	11	2	2	–	4	1	–	6	–	–	–	–
OTA-08	96	30	1	–	25	8	–	–	8	12	–	–	8	1	–	–	–
OTA-09	40	6	1	–	88	18	–	3	9	10	–	–	12	1	–	–	–
OTA-10	54	21	–	–	61	14	–	2	9	6	–	1	15	1	–	–	–
OTA-11	32	1	–	–	84	15	1	1	8	8	–	–	2	2	–	–	–
OTA-12	46	4	5	–	60	21	1	–	1	3	1	1	8	–	–	–	–
OTA-13	48	8	1	–	90	34	1	3	4	7	1	–	4	–	–	–	–
OTA-14	49	3	1	–	29	12	–	5	1	8	–	3	11	–	–	–	–
OTA-15	55	29	2	–	34	12	–	5	2	4	–	–	5	–	–	–	–
OTA-16	42	16	6	–	38	20	1	11	8	12	–	–	9	–	–	–	–
OTA-17	33	22	1	–	42	21	–	1	4	7	–	2	12	–	–	–	–
OTA-18	62	22	–	–	54	26	–	6	6	2	–	1	8	–	–	–	–
OTA-19	118	3	1	–	62	41	–	8	3	2	–	–	11	1	–	–	1
OTA-20	100	20	85	–	98	112	–	13	–	3	1	–	1	–	–	–	–
OTA-21	70	7	57	–	105	17	–	5	1	–	2	1	5	–	–	–	–
OTA-22	139	3	8	–	71	28	–	21	–	10	3	1	12	7	1	–	1
OTA-23	100	28	23	–	93	21	–	22	1	7	6	4	11	8	–	–	–
OTA-24	166	24	20	–	66	20	–	4	–	2	–	–	12	–	–	–	2
OTA-25	156	23	6	–	48	14	–	14	–	7	3	–	5	–	–	–	4
OTA-26	89	12	9	–	57	37	–	9	2	5	–	–	7	1	–	–	5
OTA-27	108	2	4	–	108	21	–	8	1	1	–	–	12	2	–	–	2
OTA-28	108	5	8	–	92	8	–	–	4	10	–	–	1	1	–	–	4
OTA-29	141	26	8	–	91	3	–	1	–	3	–	–	1	–	–	–	14
OTA-30	116	31	6	–	67	15	–	8	–	3	–	–	4	1	–	–	–
OTA-31	109	31	3	–	51	5	–	11	–	2	–	–	6	–	–	–	2
OTA-32	134	16	8	–	107	2	–	10	1	5	1	–	9	1	1	–	8
OTA-33	133	45	17	–	63	12	–	5	–	3	–	–	9	4	–	–	4
OTA-34	126	40	10	–	72	4	–	8	–	1	1	–	2	1	–	–	3
OTA-35	133	30	8	–	70	7	–	11	1	3	–	–	4	1	–	–	5
OTA-36	92	24	33	–	77	30	–	12	–	2	–	–	4	–	–	–	2
OTA-37	125	55	5	–	75	5	–	13	–	1	–	1	13	–	–	–	6
OTA-38	116	22	14	–	66	18	–	5	–	1	1	–	5	3	–	–	4
OTA-39	135	57	18	–	50	15	–	2	1	3	–	–	10	1	1	–	7
OTA-40	56	65	–	–	80	4	–	1	1	1	5	–	15	–	2	–	–
OTA-41	50	11	30	–	144	12	–	–	–	–	3	4	25	2	1	–	–
OTA-42	106	8	53	–	57	29	1	2	–	2	–	–	11	–	–	–	–
OTA-43	102	10	54	–	97	69	–	11	2	3	–	–	3	–	–	–	–
OTA-44	81	36	71	–	108	65	–	8	1	3	–	–	2	–	1	–	–
OTA-45	95	12	45	–	56	52	–	40	2	6	1	1	25	11	–	–	–
OTA-46	105	8	24	–	59	36	–	–	–	1	–	3	–	–	–	–	–
OTA-47	97	7	76	–	73	24	–	–	–	10	–	1	3	–	–	–	–
OTA-48	70	4	74	–	107	58	–	10	–	10	1	–	1	–	–	–	–
OTA-49	73	7	90	–	107	67	–	14	3	6	1	–	2	–	–	–	–
OTA-50	98	22	7	–	96	20	–	50	1	15	–	–	8	–	–	–	–

C. Monocrystalline grains in schist or gneiss and metamorphic lithic fragments.

	Monocrystalline Grains in Schist or Gneiss							Metamorphic Lithic Fragments								
Sample	Sqtz	Splag	Skspar	Smusc	Sbiot	Schlor	Sopaq	Lma	Lmvf	Lmss	Lmm	Lmamph	Lmt	Lmtp	Lmm	Lmf
OTA-01	–	–	–	6	1	5	–	–	2	–	–	–	6	–	–	–
OTA-02	–	–	–	19	–	4	–	–	1	–	–	–	13	–	–	–
OTA-03	–	–	–	–	–	1	–	–	–	–	–	–	2	1	–	–
OTA-04	–	–	–	–	1	1	1	–	–	–	–	–	11	–	–	–
OTA-05	–	–	–	–	–	–	–	–	5	–	–	–	1	1	–	–
OTA-06	–	–	–	–	–	–	–	–	1	1	–	–	3	–	–	2
OTA-07	–	–	–	–	–	–	–	–	2	3	–	–	6	–	–	1
OTA-08	–	–	–	–	–	3	–	–	2	2	–	–	3	–	–	–
OTA-09	–	–	–	–	–	–	–	–	5	–	–	–	5	–	–	1
OTA-10	–	–	–	–	–	–	–	–	1	–	–	–	1	–	–	–
OTA-11	–	–	–	–	–	–	–	–	–	–	–	–	5	–	–	–
OTA-12	–	–	–	–	–	–	–	–	7	1	–	–	6	1	–	–
OTA-13	–	–	–	–	–	–	–	2	9	–	–	–	14	–	–	–
OTA-14	–	–	–	3	–	–	–	–	1	–	–	–	6	–	–	–
OTA-15	–	–	–	1	–	2	–	–	3	–	–	–	5	1	–	–
OTA-16	–	–	–	2	1	–	–	–	5	2	–	–	13	1	–	2
OTA-17	–	–	–	–	–	–	–	–	1	2	–	–	8	–	–	–
OTA-18	–	–	–	–	–	–	1	–	2	–	–	–	1	–	–	–
OTA-19	–	–	–	–	–	–	–	–	1	–	–	–	4	–	–	–
OTA-20	–	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–
OTA-21	–	–	–	–	–	–	1	–	–	–	–	–	1	–	–	–
OTA-22	–	–	–	2	–	–	–	–	–	–	–	–	11	–	–	–
OTA-23	–	–	–	3	–	–	–	1	–	–	–	–	3	–	–	–
OTA-24	–	1	–	–	–	–	–	–	–	–	–	–	9	–	–	–
OTA-25	1	–	–	7	–	2	–	–	–	1	–	–	16	1	–	–
OTA-26	–	–	–	3	1	2	–	–	–	–	–	–	12	–	–	–
OTA-27	–	–	–	1	–	–	–	1	–	1	–	–	12	–	–	–
OTA-28	–	–	–	2	–	1	–	1	–	–	–	–	28	–	–	–
OTA-29	–	–	–	–	–	–	–	–	–	–	–	–	11	–	–	–
OTA-30	–	–	–	4	–	2	–	1	–	–	–	–	28	–	–	–
OTA-31	–	–	–	1	–	1	–	–	–	–	–	–	4	–	–	–
OTA-32	1	–	–	4	–	–	6	–	1	–	–	–	14	13	–	–
OTA-33	–	–	–	1	–	1	–	–	1	1	–	–	16	–	–	–
OTA-34	–	–	–	–	–	–	–	–	–	–	–	–	9	–	–	–
OTA-35	–	–	–	–	–	–	–	–	–	–	–	–	3	–	–	–
OTA-36	–	–	–	–	–	–	–	–	1	–	–	–	9	–	–	–
OTA-37	–	–	–	4	–	1	–	1	–	1	–	–	8	–	–	–
OTA-38	1	2	–	1	–	1	–	–	–	–	–	–	8	1	–	–
OTA-39	–	–	–	–	–	2	–	–	–	–	–	–	10	1	–	–
OTA-40	–	–	–	–	–	–	–	–	4	–	–	–	7	–	–	–
OTA-41	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
OTA-42	–	–	–	1	–	4	1	–	–	–	–	–	16	1	–	–
OTA-43	–	–	–	–	–	1	–	–	–	–	–	–	2	–	–	–
OTA-44	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–
OTA-45	1	–	–	5	–	–	–	1	–	–	–	–	3	–	–	–
OTA-46	–	–	–	–	–	–	–	–	–	–	–	–	19	–	–	–
OTA-47	–	–	–	–	–	–	–	–	–	–	–	–	9	–	–	–
OTA-48	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
OTA-49	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
OTA-50	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

D. Volcanic and sedimentary rock fragments.

	Volcanic Lithic Fragments						Sedimentary Lithic Fragments						
Sample	Lvf	Lvfb	Lvi	Lvm	Lvv	Lvh	Lss	Lsa	Lsch	Lsca1	Lsca2	Lsca3	Caco
OTA-01	4	–	2	–	2	7	–	–	7	4	–	–	–
OTA-02	–	–	–	–	–	–	–	–	–	4	–	–	–
OTA-03	–	–	–	–	–	–	–	–	–	5	–	–	3
OTA-04	–	–	–	–	–	–	–	–	–	–	–	–	–
OTA-05	45	24	1	–	8	3	–	–	4	5	–	–	1
OTA-06	39	–	3	1	8	61	–	–	13	22	–	–	3
OTA-07	37	2	8	–	38	17	–	–	16	1	–	–	1
OTA-08	54	39	1	–	6	3	–	–	7	–	–	–	–
OTA-09	72	48	4	–	7	1	–	–	9	1	–	–	1
OTA-10	59	29	3	–	4	1	–	–	16	3	–	–	4
OTA-11	56	45	3	–	2	1	–	–	10	6	–	–	4
OTA-12	73	14	–	–	11	30	–	–	12	6	–	–	–
OTA-13	48	26	2	–	3	1	–	–	16	2	–	–	1
OTA-14	69	32	2	–	4	1	–	–	9	5	–	–	4
OTA-15	64	25	1	–	–	2	–	–	5	12	–	–	–
OTA-16	28	12	1	–	1	2	–	–	11	8	–	–	–
OTA-17	45	25	–	–	4	–	–	–	8	5	–	–	–
OTA-18	59	25	7	–	3	1	–	–	13	10	–	–	–
OTA-19	23	1	–	–	6	71	–	–	2	16	–	–	6
OTA-20	–	–	–	–	–	–	–	–	–	–	–	–	–
OTA-21	7	1	1	–	–	2	–	–	9	–	–	–	–
OTA-22	–	–	–	–	–	–	–	–	1	2	–	–	–
OTA-23	–	–	–	–	–	–	–	–	–	12	–	–	–
OTA-24	6	1	4	–	–	2	–	–	2	7	–	–	–
OTA-25	10	–	8	–	–	2	–	–	7	5	–	–	1
OTA-26	3	–	2	–	–	2	–	–	7	7	–	–	1
OTA-27	11	–	6	–	1	1	–	–	4	2	–	–	–
OTA-28	–	–	–	–	–	–	–	–	1	1	–	–	–
OTA-29	–	–	–	–	–	–	–	–	–	1	–	–	–
OTA-30	2	–	3	–	–	–	1	1	1	3	–	–	–
OTA-31	1	–	–	–	–	–	–	–	2	–	–	–	–
OTA-32	–	–	–	–	–	–	–	–	1	10	–	–	–
OTA-33	1	–	–	–	–	–	1	–	5	2	–	–	–
OTA-34	–	–	–	–	–	–	–	–	–	1	–	–	1
OTA-35	–	–	–	–	–	–	–	–	–	–	–	–	–
OTA-36	–	–	–	–	–	–	–	–	2	1	–	–	–
OTA-37	2	–	–	–	–	–	–	–	5	2	–	–	–
OTA-38	10	1	3	–	–	–	–	1	1	–	–	–	–
OTA-39	1	–	–	–	–	–	–	–	5	–	–	–	–
OTA-40	14	7	1	–	–	20	–	–	3	6	–	–	7
OTA-41	–	–	–	–	–	22	–	–	–	1	–	–	–
OTA-42	1	–	–	–	1	–	–	–	–	2	–	–	2
OTA-43	–	–	–	–	–	–	–	–	–	1	–	–	–
OTA-44	–	–	–	–	–	–	–	–	–	–	–	–	–
OTA-45	–	–	–	–	–	–	–	–	1	–	–	–	–
OTA-46	–	–	–	–	–	–	–	–	2	3	–	–	–
OTA-47	–	–	–	–	–	–	–	–	–	–	–	–	–
OTA-48	–	–	–	–	–	–	–	–	–	–	–	–	–
OTA-49	–	–	–	–	–	–	–	–	–	–	–	–	–
OTA-50	–	–	–	–	–	–	–	–	–	–	–	–	–