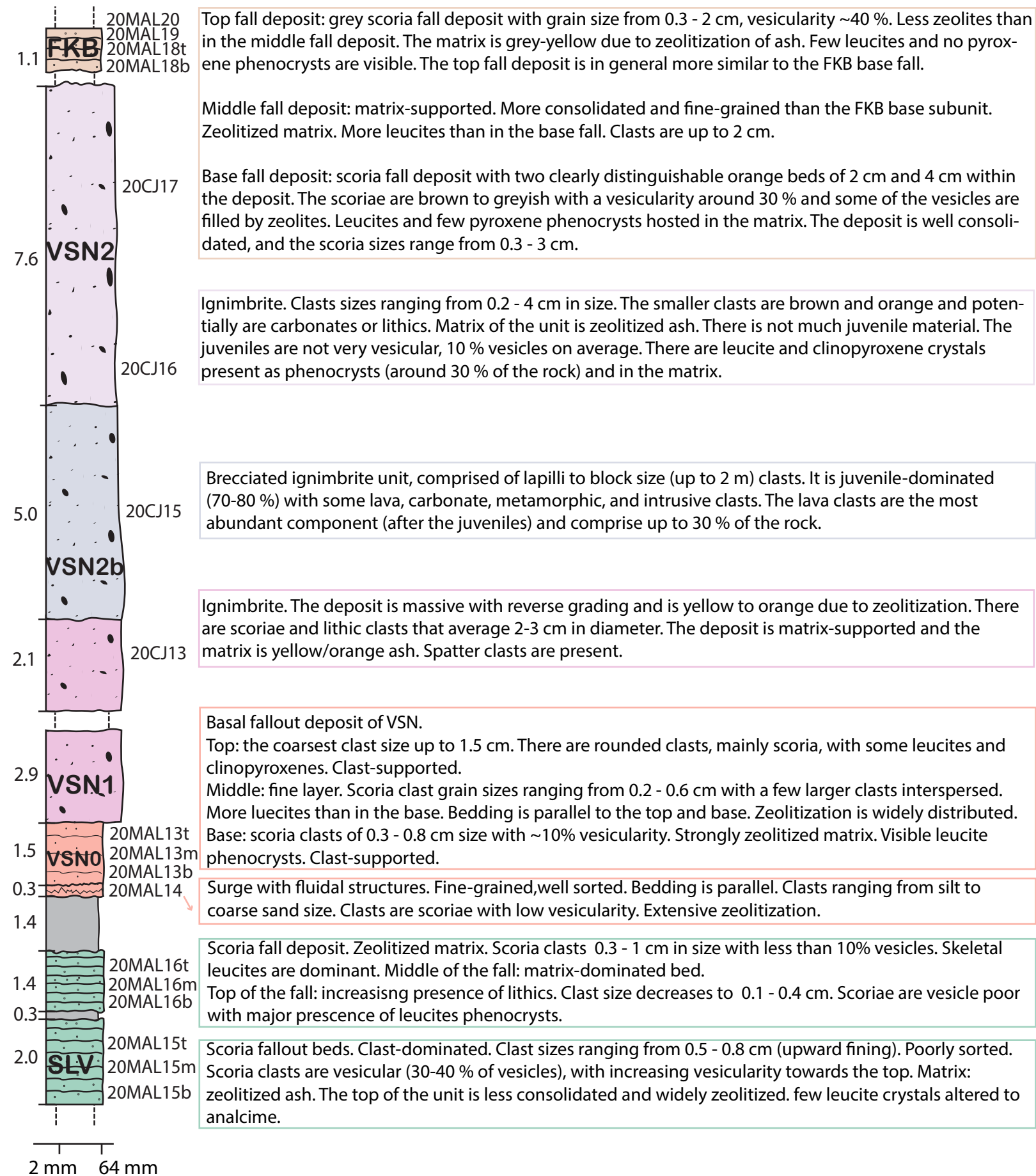


Tuscolo section

Thickness (m) Samples

General description

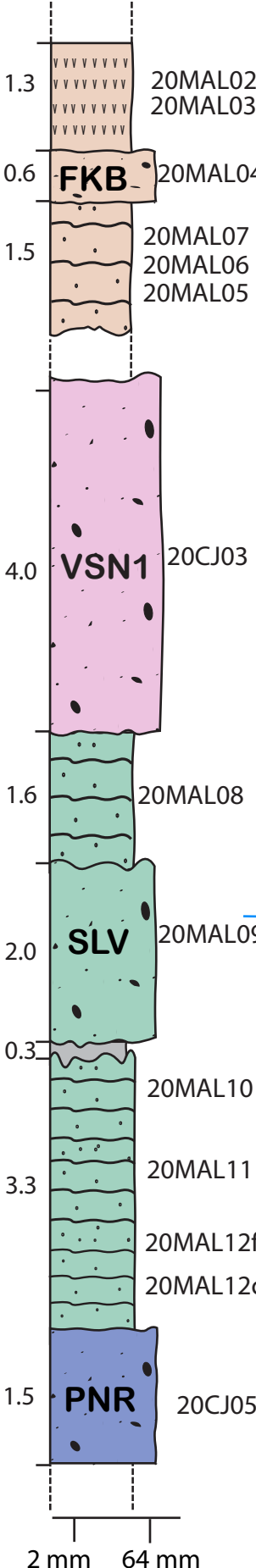
Lithology	
	Ignimbrite
	Fall deposits
	Surge
	Paleosol



S1a. Stratigraphic column and field descriptions from the Tuscolo section.

Artemisio section

Thickness (m) Samples



General description

Lithology	
	Lavas
	Ignimbrite
	Fall deposits
	Paleosol

Top of the unit: lava and its autobreccia. The lava is mostly aphyric, with not many visible crystals (some pyroxenes) and is largely zeolitized. The autobreccia has chunks of the lava and is more vesicular.

Middle of the unit: PDC deposit with lithics, juveniles and an ash matrix. The average clast size ranging from 1-3 cm, it is orange to red in color and highly weathered.

Base of the unit: intercalation of thick and thin scoria beds with a general coarsening to the top.

Ignimbrite. Unconsolidated, with abundant juveniles coated in an ash matrix. There are few lithics and cumulates. The deposit is yellow to orange in color. The average clast size varies between 2-3 cm and can be up to 10 cm. The juvenile material is pinkish to purple and in some of them there are pyroxene, leucites, and mica phenocrysts. All the clasts present a white to grey reaction rim of 2-4 mm thick.

Top fall: grey 5-7 cm size scoriae with vesicularity ~70 % and no visible crystals. The matrix is yellow-orange probably due to zeolitization. Presence of spatter material with deformation surfaces.

Orange-red bed of tuff that resembles VSN1 but presents a stronger alteration and less consolidation. This layer is in between the SLV fall deposits, there is not obvious faulting in the area that indicates it can be the same VSN1. It might be a pyroclastic density current (PDC) deposit that reflects a higher energy event within SLV. Some spatter material has been found within this bed. The average clast size ranges from 1 - 3 cm and is as large as 5 cm in diameter.

Base fall : upward fining in the clast size ranging in the base from 1 - 3 cm to 0.3 - 0.6 cm at the top of the subunit. Beds are orange due to zeolitization of the matrix (ash and glass); the fresher ash is a brown-purple color. The vesicularity is ~30 % and the deposit is clast-dominated. Middle fall: This sub-section has fresher material with gravel - pebble size particles (maximum 5 cm, average 3 cm). Clasts are subrounded, rich in leucites (white leucites which are probably altered to analcime) in average around 30% up to 40 % of vesicles. The matrix is composed of ash, and the deposit is matrix-dominated. Inside this subunit we have also found the presence of two bombs. At the top of the SLV fall there are some dark grey scoria beds with spatters. In this section, there are more leucites and the vesicularity of the scoria increases to ~60 - 70 %. The scoriae are generally rounded, and some are elongated. This fall is in contact with a paleosol on top.

Ignimbrite. Top is in contact with SLV fall deposits. The base of this unit was not exposed and therefore the total thickness could not be measured. The deposit is clast-rich with over 30 % lithics. The juveniles are grey with no crystals observed. The matrix is yellow ash. The clast size varies from 1 - 3 cm in diameter and can be as large as 5 cm in diameter in some cases.

Element	Count times	Standard
	Peak (Background) (s)	
Si	30(15)	Wollastonite/Albite
Ca	30(15)	Wollastonite
Na	20(10)	Albite
Mn	30(15)	MnTi
Fe	30(15)	Fayalite
Al	30(15)	Andalusite
Ni	30(15)	NiO
Mg	30(15)	Olivine
Ti	30(15)	MnTi
Cr	30(15)	Cr ₂ O ₃

S2. Count times and standards used in the EPMA analyses for clinopyroxene crystals.