This Supplementary Material accompanies the article:

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Hevia-Cruz et al. [2026] should be cited if these materials are used.

Supplementary material for:
Biotite geochemistry fingerprinting for Cenozoic ignimbrites and distal ash-fall correlation, southern Central Andean Volcanic Zone

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A1 Field and thin section images and descriptions

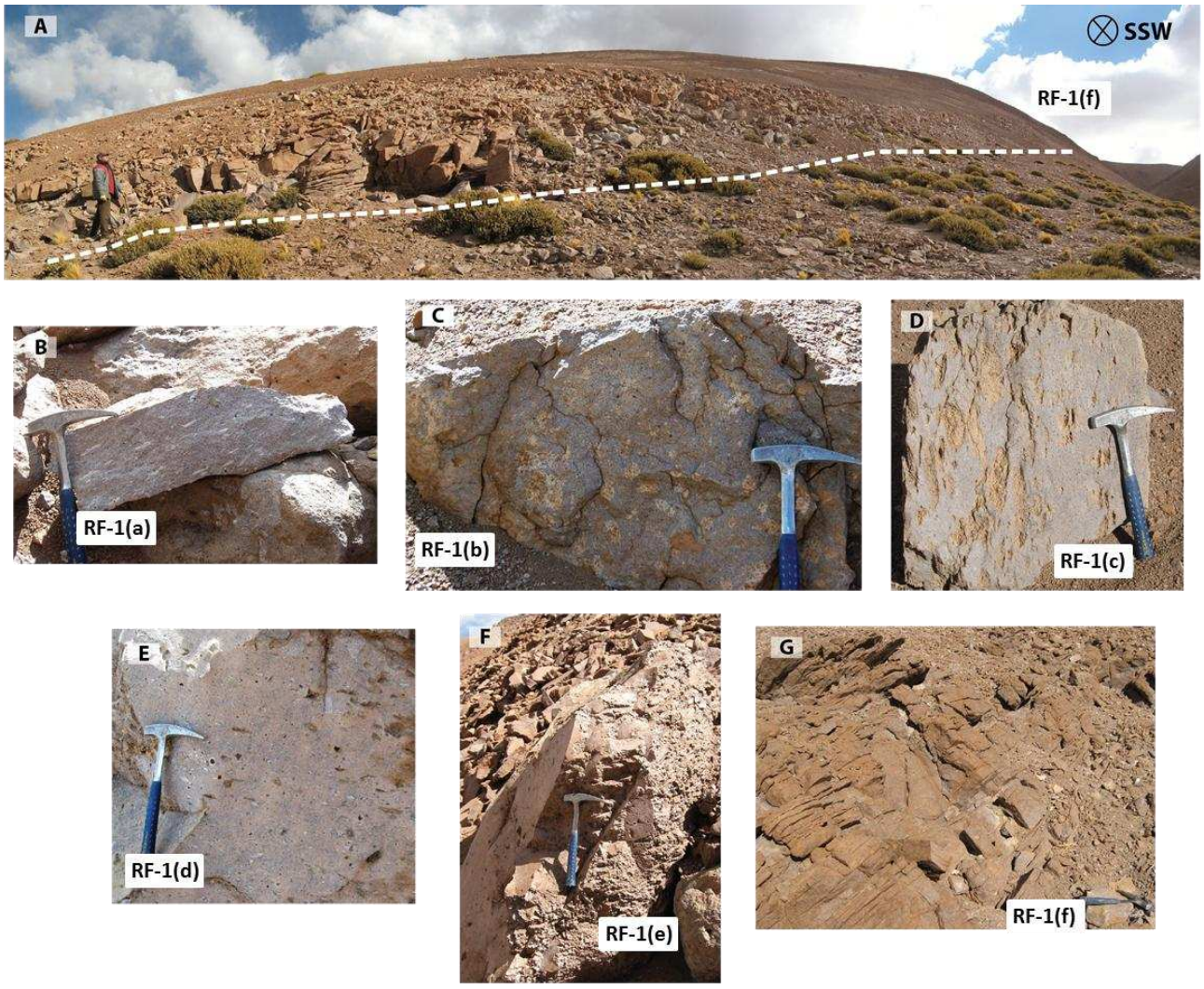
This appendix includes the detailed lithofacies descriptions, field photographs, thin-section images, and stratigraphic-column correlations used to support the unit assignments and correlation framework discussed in the main text. The information presented here compiles field observations from regional geological mapping campaigns, new petrographic descriptions of hand specimens and thin sections, and published geochronological constraints. The column numbers correspond to the field sites shown in Figure 2 of the main text. Mineral abbreviations in photomicrographs follow Whitney and Evans (2010): Pl = plagioclase, Qtz = quartz, Amp = amphibole, Bt = biotite, Px = pyroxene, Opx = orthopyroxene, Cpx = clinopyroxene, and Phl = phlogopite. The abbreviation "Pz" is used for pumice, and "Shards" for glass shards.

Río Frío Ignimbrite

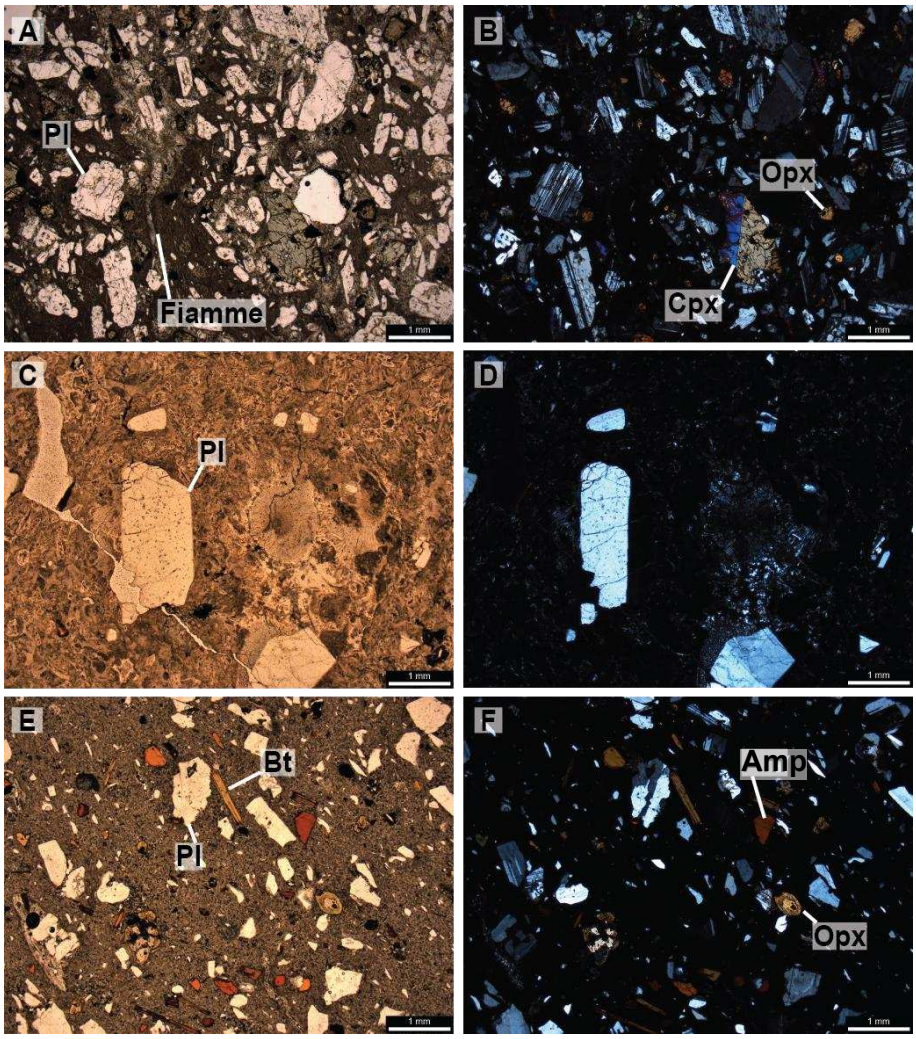
Four composite columns of the Río Frío Ignimbrite were generated, corresponding to field sites 1 to 4 (see Figure 2 in the main text). Two main units were identified, named Río Frío 1 and Río Frío 2 (RF-1 and RF-2, respectively). RF-1 consists of six slightly different lithofacies, whereas RF-2 comprises eight lithofacies, exhibiting greater variability in their characteristics (Supplementary Figures SF1–SF5).

RF-1 is identified in two of the four studied localities. It is described as a single unit, as the six lithostratigraphic subunits that compose it show only minor variations. It consists of intensely welded, crystal-rich tuffs, with abundant Pl and Px, except for an intermediate notably crystal-poor layer (Supplementary Figures SF1, SF2). The color variations in RF-1 are attributed to differences in welding intensity and weathering. It contains sparse fiamme, generally devitrified with a spherulitic texture, very few millimeter-sized lithics, and a slightly devitrified matrix with scarce fine, flattened shards (Supplementary Figure SF2). The uppermost part of RF-1, unlike the other facies, contains hydrated mafic minerals (Amp and Bt). Reported ages for RF-1 range from 17.6 Ma to 20.5 Ma (Supplementary Figure SF5; Supplementary Table ST1).

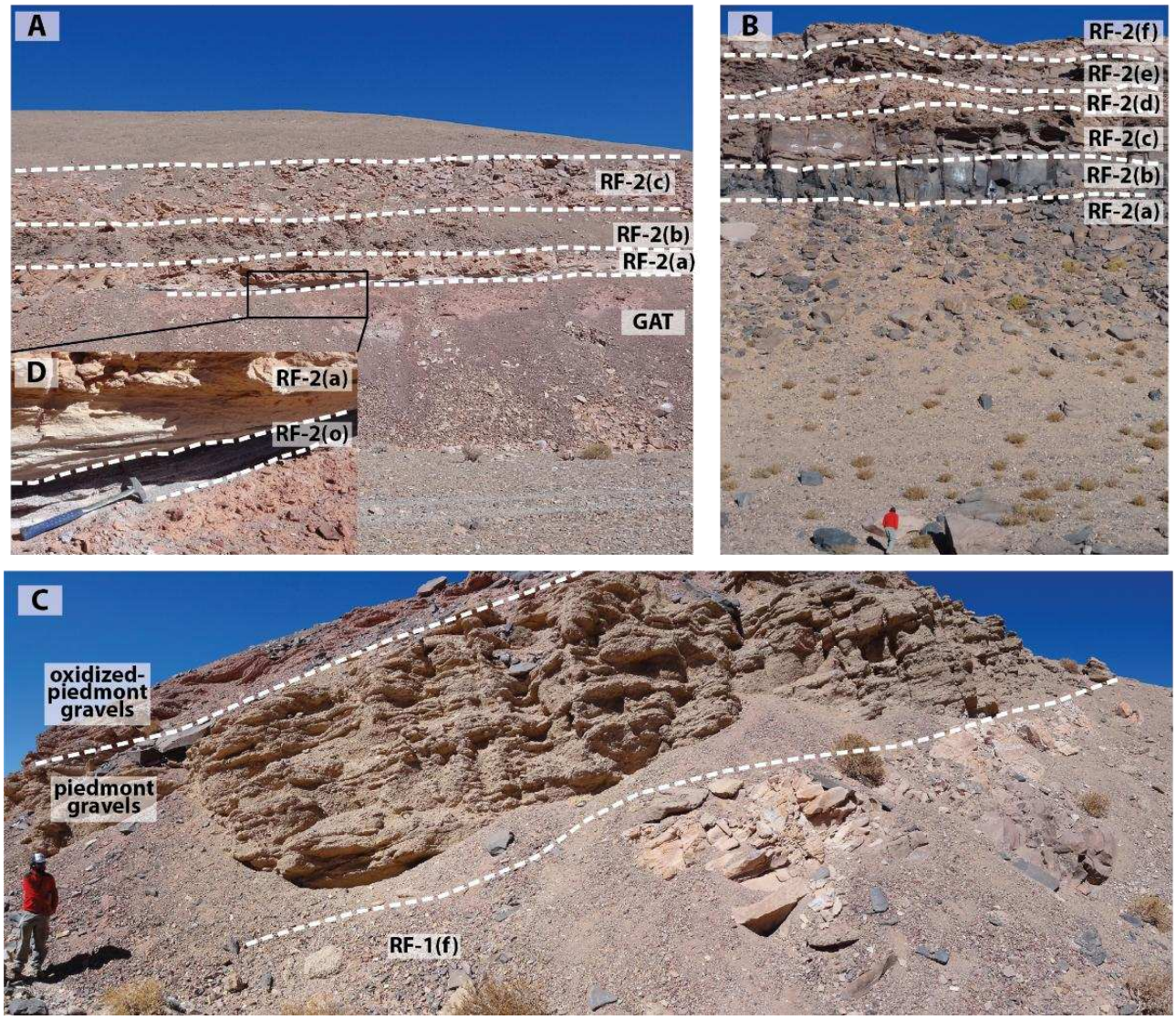
RF-1 is overlain by an alluvial deposit assigned to the Atacama Gravel piedmont deposit, presumably formed during a short quiescent interval between the two eruptive phases (Supplementary Figure SF3). Over these deposits lies RF-2, which comprises eight subunits, partially or fully recognized in three localities (Supplementary Figures SF3, SF5). The base of RF-2 consists of a massive lithic breccia, followed by a pumice-rich, fine-depleted crystal tuff with parallel lamination and cross-stratification, and then by six crystal tuff units of varying welding grade, including a vitrophyric layer (Supplementary Figure SF3). These units contain up to 40% Pl and Amp, with lesser amounts of Pxs, Bt, and occasional Qtz, along with sparse fiamme and very few millimeter-sized lithics (Supplementary Figure SF4). These levels are grouped as a single entity due to their vertical continuity and gradual variations. Reported ages for RF-2 range from 16 Ma to 18.5 Ma (Supplementary Figure SF5; Supplementary Table ST1).



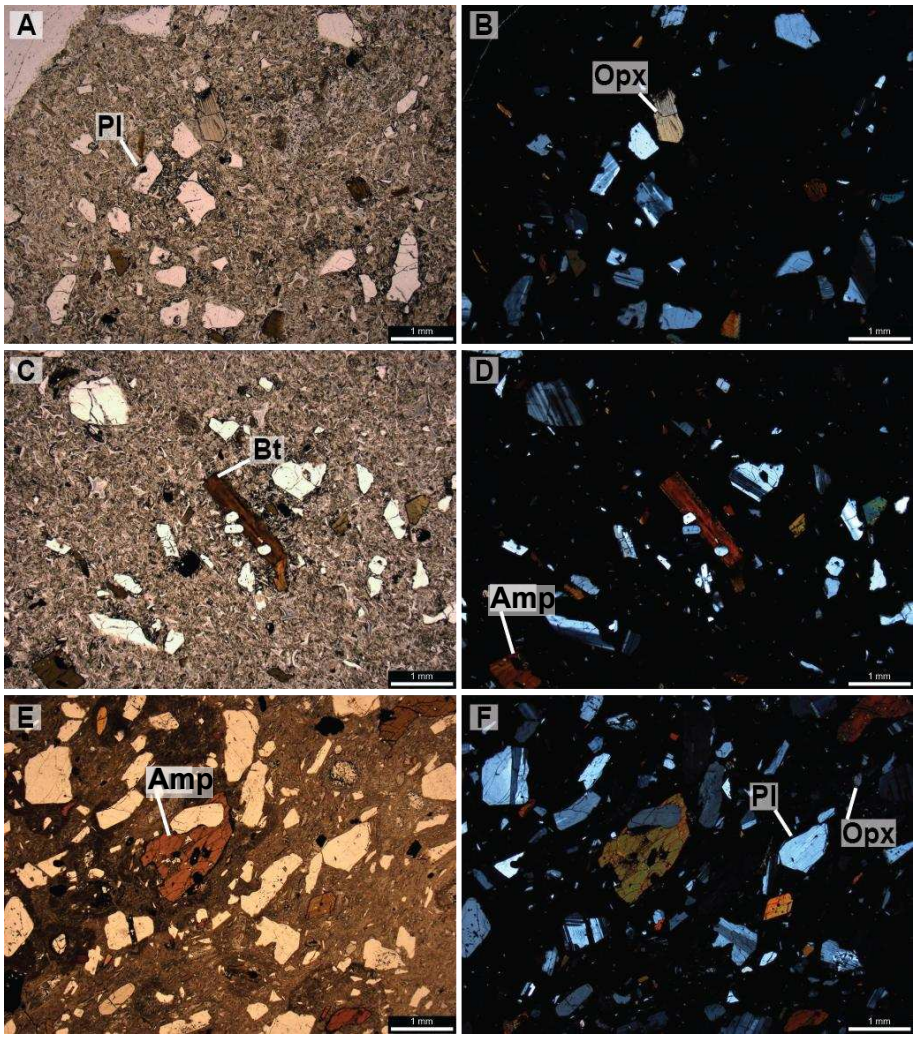
Supplementary Figure SF1: Field photographs of the RF-1 subunit of the Río Frío Ignimbrite along the eastern edge of the resurgent dome of the Aguilar Caldera (field site 4), showing the uppermost level, which is the most extensively exposed in this area. Images B) to G) depict the different facies identified at this site, displaying slight textural variations among them.



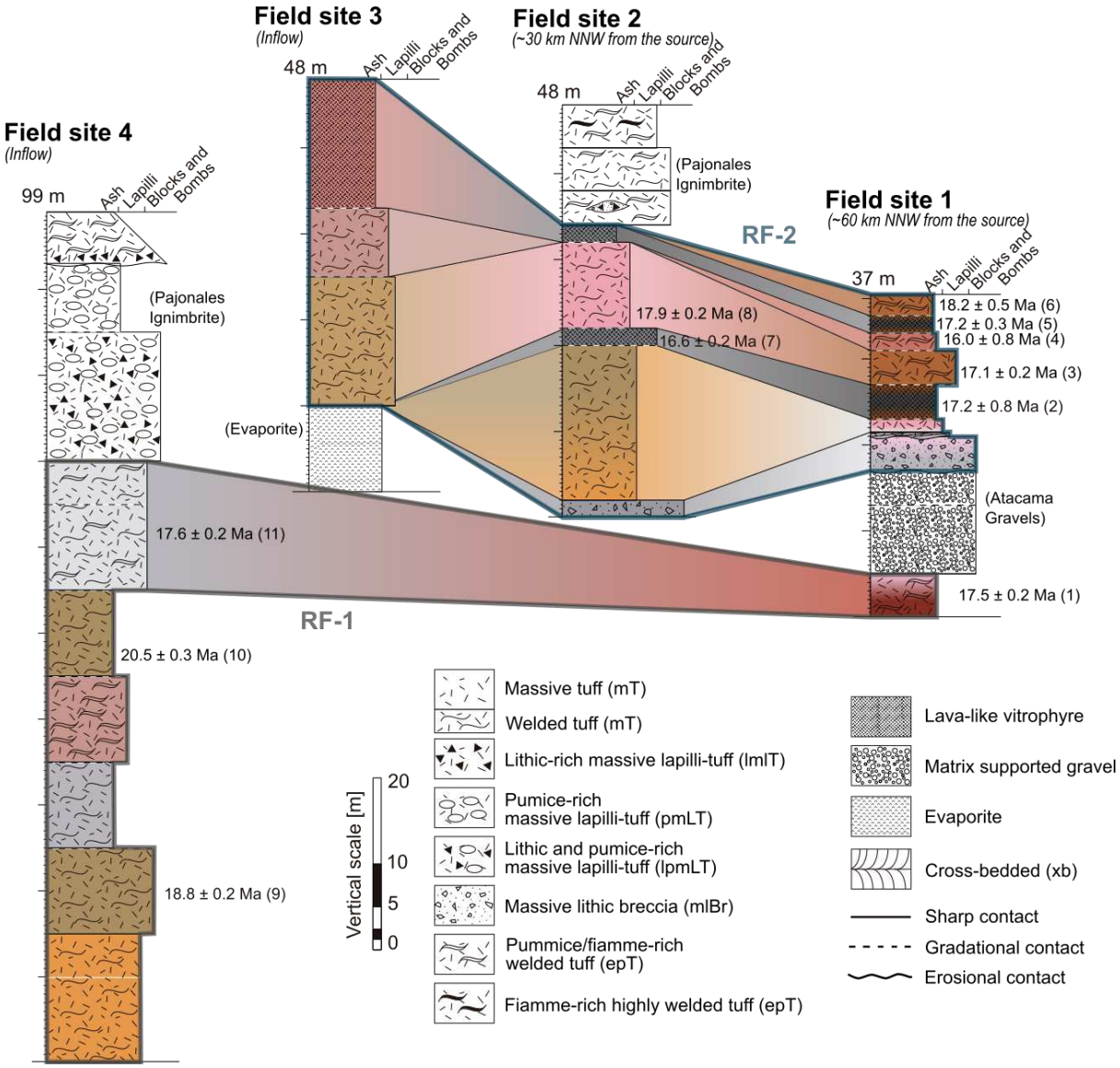
Supplementary Figure SF2: Photomicrographs of the RF-1 subunit of the Río Frío Ignimbrite. The images on the left were taken under parallel nicols, while those on the right were taken under crossed nicols, all at 2X magnification. A and B correspond to the basal part of RF-1, showing the most common petrography observed for this subunit, characterized by abundant Pl and Pxs crystals. C and D depict a diluted level of RF-1, where scarce Pl can be seen along with a zone exhibiting spherulitic texture. E and F correspond to the upper part of RF-1, featuring Pl crystals, Opx with coronitic texture, as well as Amp and Bt.



Supplementary Figure SF3: Field photographs of the Río Frío Ignimbrite at field site 1, situated west of the Pajonales Salt Flat. A) Eastward view showing multiple levels of the RF-2 subunit of the Río Frío Ignimbrite overlying the Atacama Gravels (GAT). B) Southeastward view displaying the six most common levels of the RF-2 subunit. C) Northeastward view of the RF-1 subunit beneath the Atacama Gravels (piedmont gravels). D) A close-up of the base of A.



Supplementary Figure SF4: Photomicrographs of the RF-2 subunit of the Río Frío Ignimbrite. Images A, C, and E were taken under parallel nicols, while B, D, and F were captured under crossed nicols, all at 2X magnification. A to D correspond to the lower vitrophyric level of the RF-2 subunit, showing scarce crystals of Pl, Opx, Bt, and Amp, whereas E and F are an intermediate level of RF-2, characterized by a high concentration of Pl, Amp, and Opx crystals.



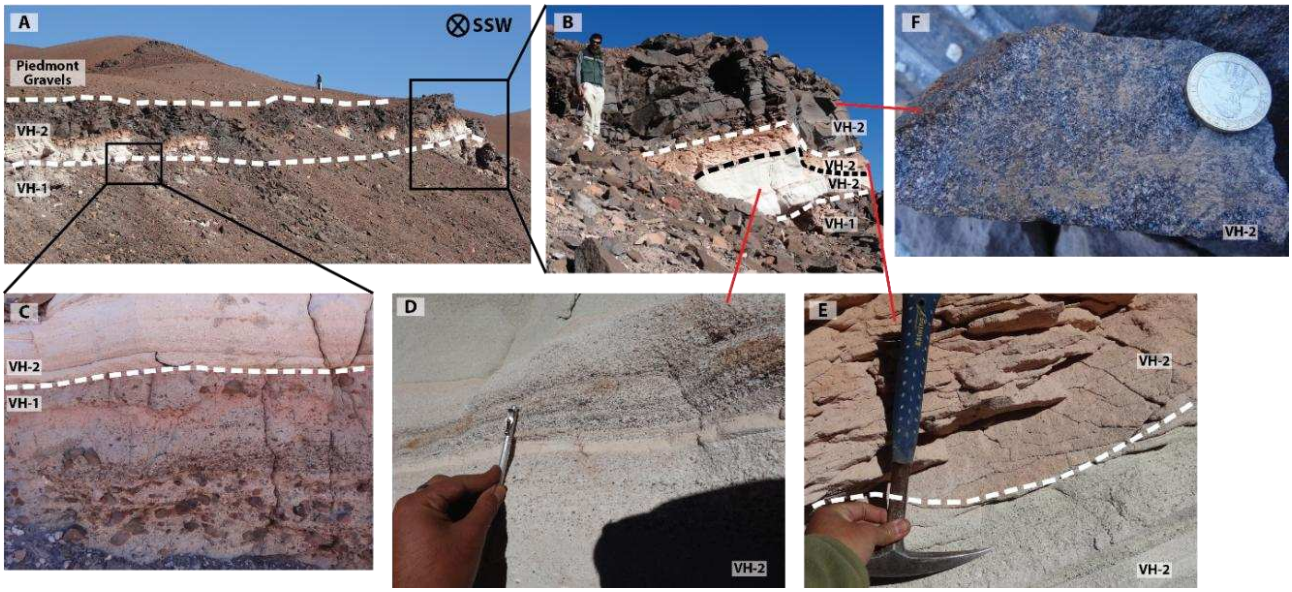
Supplementary Figure SF5: Lithofacies correlation of the Río Frío Ignimbrite. Field-sites from SE (4) to NW (1), to the northwest of the source Aguilar Caldera. The numbers in parentheses next to each age refer to Supplementary Table ST1, which details the source of the reported ages, dating method, and analysed material. Colors represent the approximate field coloration; uncolored subunits are not part of the Río Frío Ignimbrite. Distance from the source (Aguilar Caldera) according to Naranjo et al. (2018); inflow units (deposited inside the caldera) are indicated with the word inflow.

Vega Helada Ignimbrite

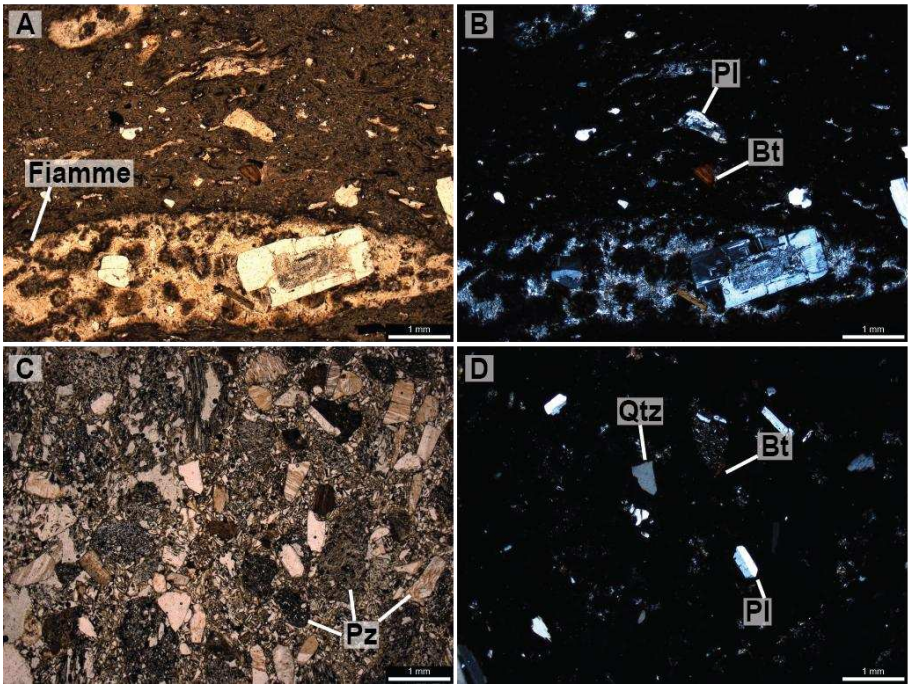
The Vega Helada Ignimbrite was identified in six localities, numbered 6, 8, 9, 11, 12, and 13 (Figure 2 in the main text). Two flow units were recognized, referred to as Vega Helada 1 and Vega Helada 2 (VH-1 and VH-2), which

were deposited conformably, with no evidence of a temporal hiatus between them (Supplementary Figures SF6–SF10). Overall, the unit consists of a massive lapilli tuff rich in lithics, grading into a welded crystal tuff, which in its most welded section forms a vitrophyric layer up to 4 m thick (Supplementary Figure SF6). Both subunits contain typically devitrified, medium-sized shards, which appear flattened in the more welded facies (Supplementary Figure SF7).

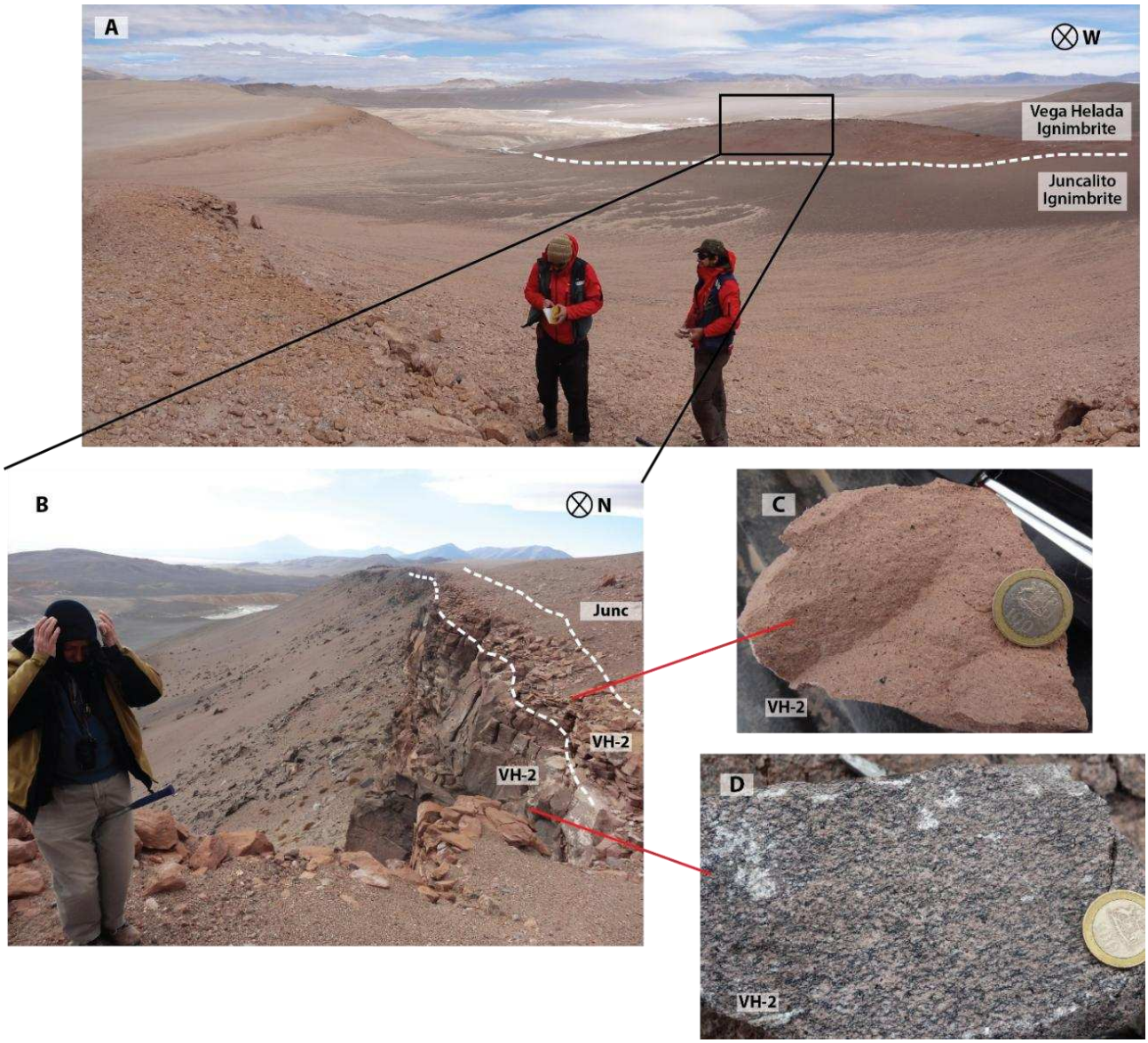
The lower part, VH-1, exhibits structures such as cross-stratification, gradational sequences, and lenses with moderately sorted clasts (Supplementary Figure SF6). Its crystal content is low (<5%), consisting mainly of Pl, Qtz, and Bt. The pumice and lithic contents are highly variable, with inverse grading in pumice and normal grading in lithics (Supplementary Figures SF6, SF7). VH-2 consists of a welded crystal lapilli tuff (Supplementary Figure SF8), with a higher crystal content (up to 30%), and its primary mafic minerals are Pxs. Both Qtz and Amp are very scarce. It features abundant glomeroporphyritic aggregates of Pl + Opx + Cpx ± Amp, and poikilitic textures are commonly observed, with Amp inclusions within Px crystals (Supplementary Figure SF9). In the most welded sections, VH-2 forms a vitrophyre ranging from dark brown to black (Supplementary Figure SF6). In field site 12, it exhibits inverse grading of lithics (Supplementary Figure SF10).



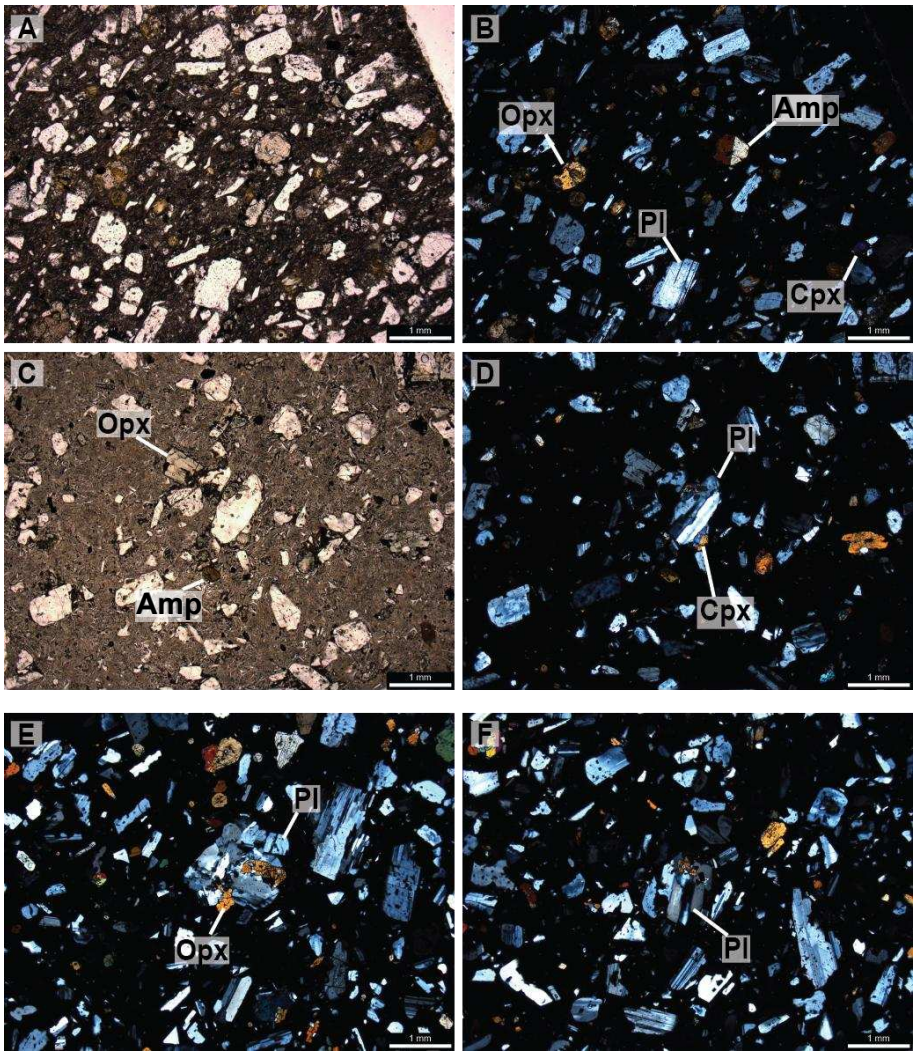
Supplementary Figure SF6: Field photographs of the Vega Helada Ignimbrite in the southern part of Sierra del Medio (field site 13). Image A displays the entire stratigraphic column, while B provides a close-up view of VH-2. Image C focuses on the contact between VH-1 and VH-2, whereas D, E, and F illustrate the gradational transition from weakly welded to highly welded sections of VH-2.



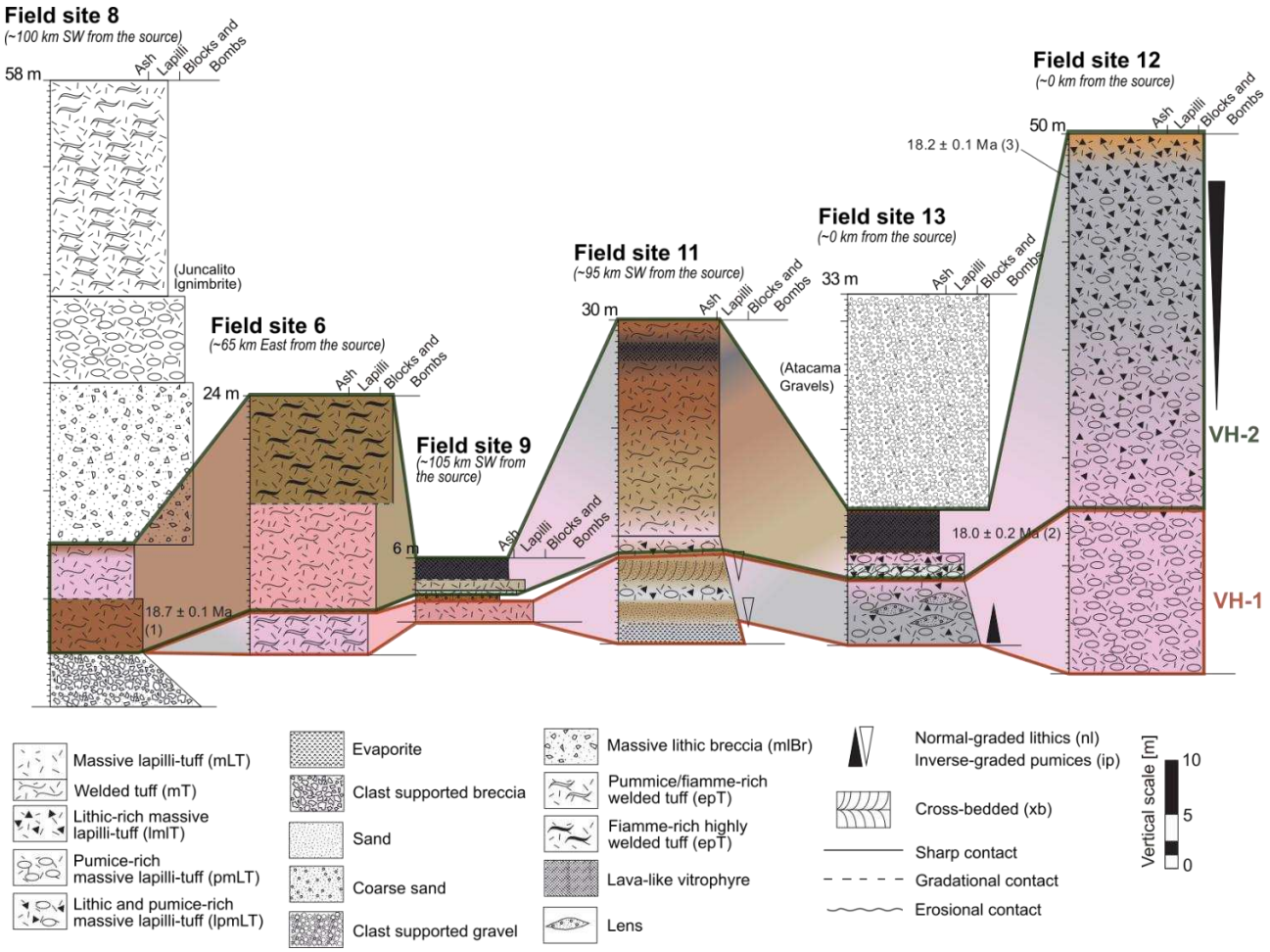
Supplementary Figure SF7: Photomicrographs of the VH-1 subunit of the Vega Helada Ignimbrite, captured at 2X magnification. Images A and C were taken under parallel nicols, while B and D were taken under crossed nicols. A and B show a devitrified fiamme with spherulitic texture and crystal content of Pl and Bt. C and D correspond to an epiclastic deposit containing pumice fragments, Pl, Bt, and Qtz.



Supplementary Figure SF8: Field photographs of the Vega Helada Ignimbrite to the northeast of the Pedernales Salt Flat (field site 8). Image A provides a westward view, where the Vega Helada Ignimbrite (in the background) is observed beneath the Juncalito Ignimbrite (in the foreground). Image B is a close-up of the Vega Helada Ignimbrite, highlighting variations in welding grade (reflected in color differences). Images C and D detail two hand samples, with that in C less welded.



Supplementary Figure SF9: Photomicrographs of the VH-2 subunit of the Vega Helada Ignimbrite. Images A and C were taken under parallel nicols, while B, D, E, and F were captured under crossed nicols, all at 2X magnification. All images correspond to samples from the most welded level. In A to D, Pl, Amp, and Pxs crystals are observed, while in E and F, glomeroporphyritic clusters of Pl and Pxs can be seen.



120 **Supplementary Figure SF10: Lithofacies correlation of the Vega Helada Ignimbrite. The numbers in parentheses to the right of each date correspond to radiometric ages detailed in Supplementary Table ST1. The column numbers correspond to their locations in Figure 2 (in the main text) and are arranged from left to right from proximal to distal settings. Colors represent the approximate field coloration; uncolored subunits are not part of the Vega Helada Ignimbrite. Distance from the source (unknown, near the Chile-Argentina international border) according to Naranjo et al. (2018).**

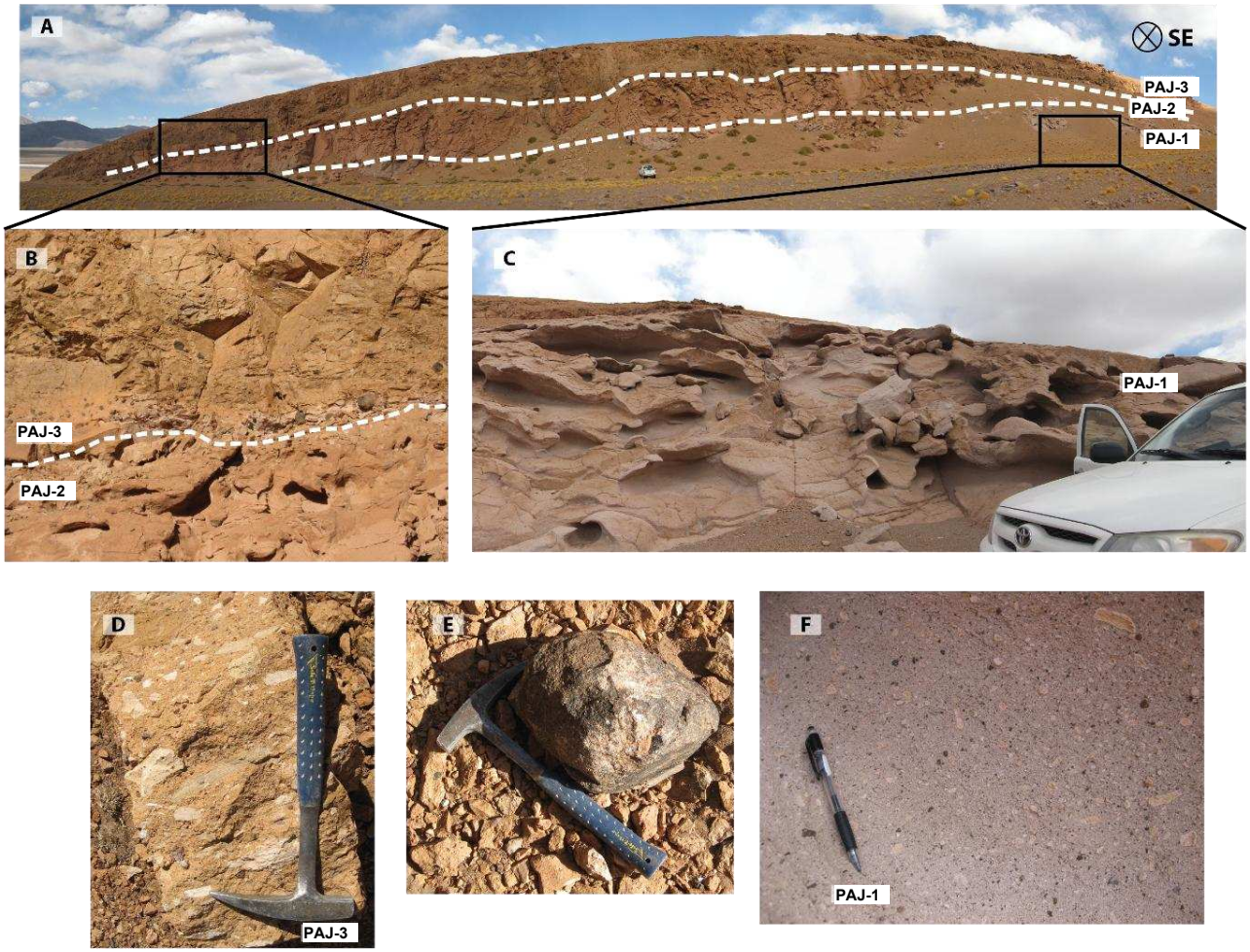
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Pajonales Ignimbrite

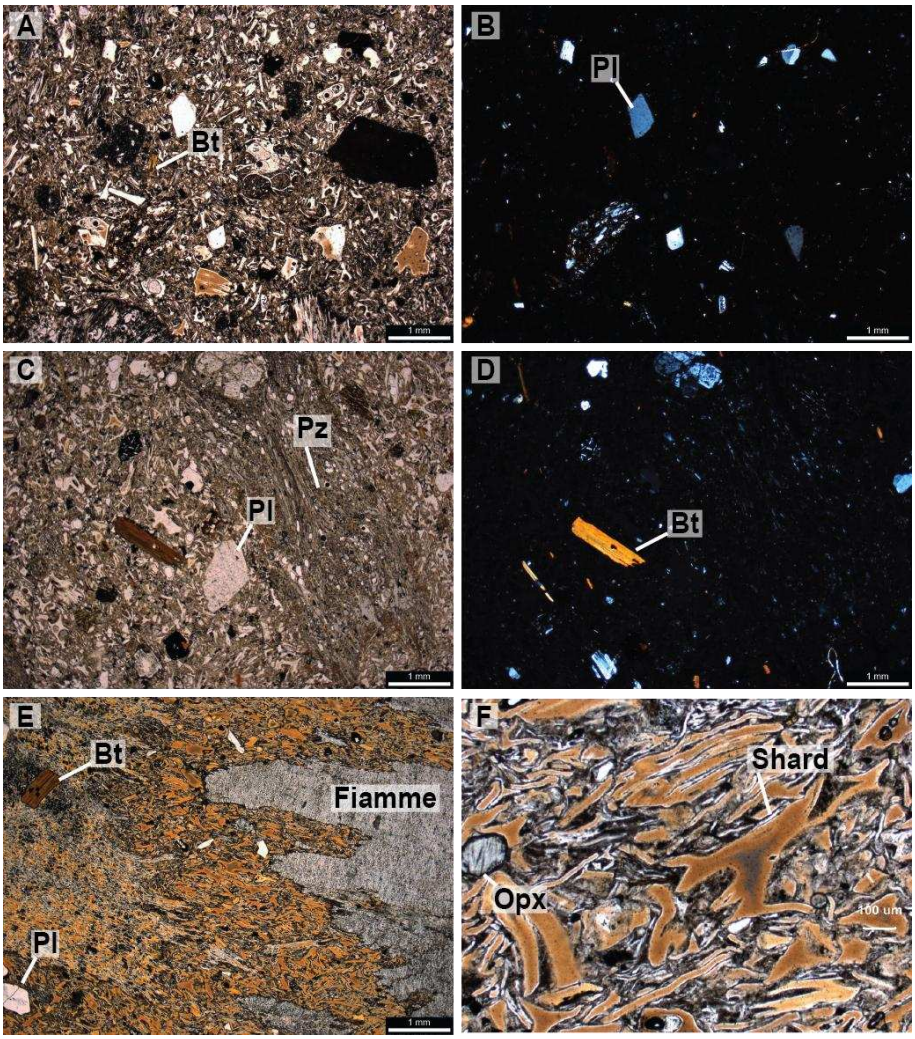
Three localities of the Pajonales Ignimbrite were studied, corresponding to field sites 2, 4, and 5 (Figure 2 in the main text). Three subunits were defined, named Pajonales 1, 2, and 3 (PAJ-1, PAJ-2, and PAJ-3, respectively).

130 The Pajonales Ignimbrite is a massive vitreous lapilli tuff, rich in fibrous pumice clasts that can reach up to ~50 cm in size (Supplementary Figure SF11). It contains a variable amount of lithics, abundant in some localities, and scarce crystals, mainly Pl and Bt, embedded in a matrix dominated by very coarse shards (Supplementary Figures

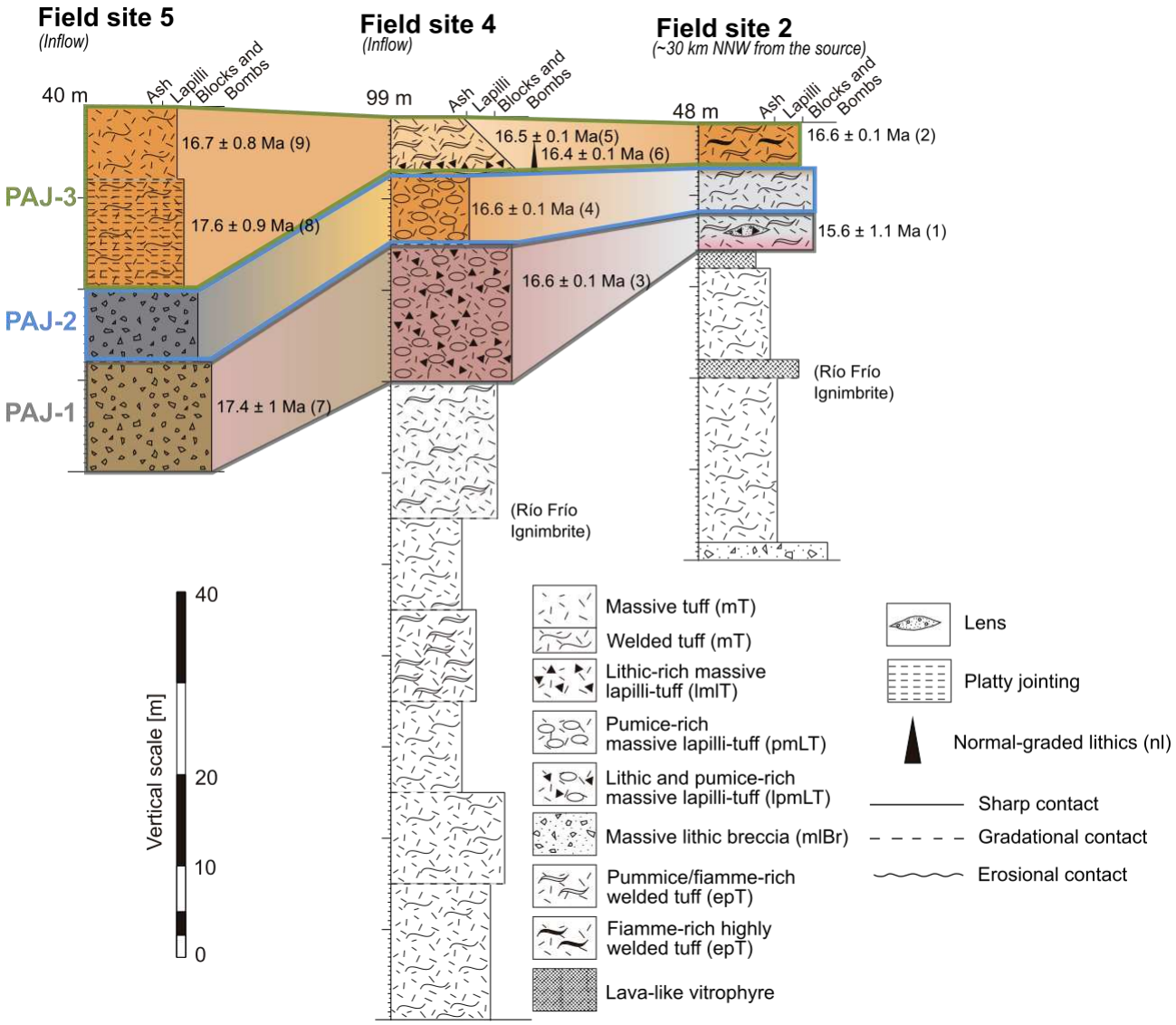
SF11, SF12). From its source toward more distal facies, PAJ-1 transitions from a massive lithic breccia to a massive tuff rich in lithics and pumice, and finally into a welded tuff. PAJ-2 follows a similar trend, grading from a massive lithic breccia into a massive lapilli tuff rich in pumice, and then into a welded lapilli tuff (Supplementary Figure SF3). PAJ-3 consists of a welded lapilli tuff, rich in pumice clasts, with fiamme reaching up to 50 cm in size (Supplementary Figure SF11).



Supplementary Figure SF11: Field photographs of the Pajonales Ignimbrite at the eastern edge of the resurgent dome of the Aguilar Caldera (field site 4). Image A provides a panoramic view of the three subunits of the Pajonales Ignimbrite. Image B highlights the contact between PAJ-2 and PAJ-3, where a layer rich in rounded black lithics is visible. Image C presents a close-up of PAJ-1, while D focuses on a sample from PAJ-3, showing centimeter-sized fibrous pumice fragments. Image E features a rounded fragment of a vitrophyric clast from the lower part of PAJ-3, and F offers a detailed view of PAJ-1, where abundant pumice fragments and medium lapilli-sized lithics can be observed.



Supplementary Figure SF12: Photomicrographs of the Pajonales Ignimbrite. Images A, C, E, and F were taken with parallel nicols, while B and D were taken with crossed nicols, all at 2X magnification, except for F, which was captured at 5X magnification. A and B correspond to subunit PAJ-1 and show sparse crystals of Pl and Bt in a matrix rich in shards. C and D correspond to PAJ-2 and show crystals of Pl, Bt, and a fibrous pumice. E and F correspond to PAJ-3, with E showing crystals of Pl, Bt, and a fiamme, and F showing a close-up of an Opx crystal and large shards.



Supplementary Figure SF13: Lithofacies correlation of the Pajonales Ignimbrite. The radiometric ages are detailed in Supplementary Table ST1, according to the numbers in parentheses to the right of each age. The columns are arranged from left to right, from proximal to distal facies. Colors represent the approximate field coloration; uncolored subunits are not part of the Pajonales Ignimbrite. Distance from the source (Aguilar Caldera) according to Naranjo et al. (2018); inflow units (deposited inside the caldera) are indicated with the word inflow.

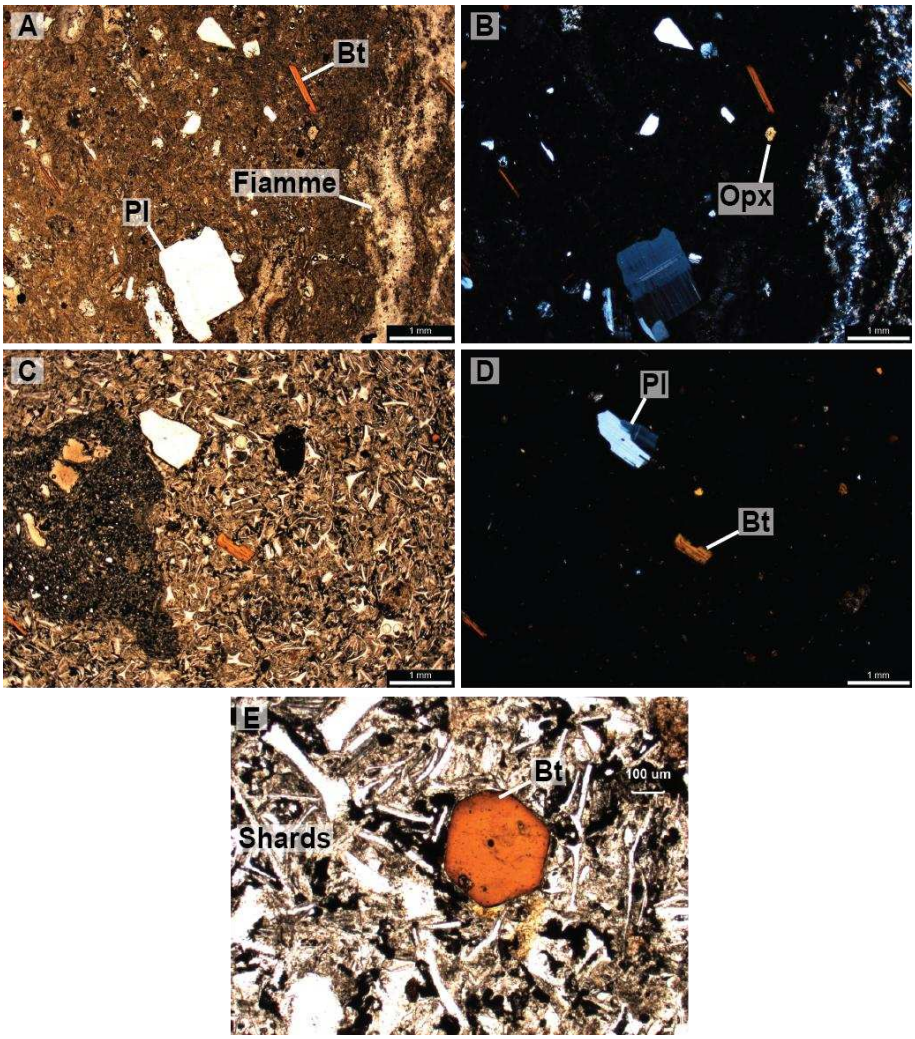
Juncalito Ignimbrite

The Juncalito Ignimbrite was studied in three localities, corresponding to sites 7, 8, and 10 (Figure 2 in the main text). It consists of three subunits, two flow units and one cooling unit. The basal flow unit, Junc-1, corresponds to

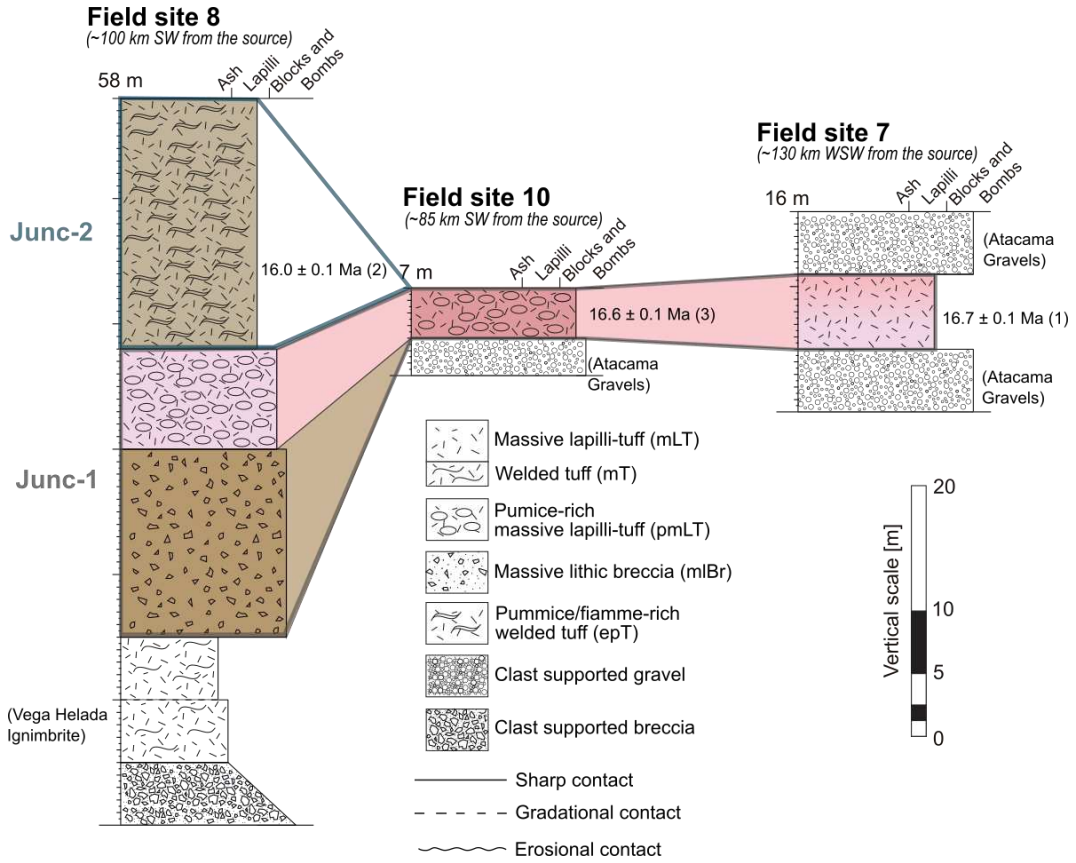
a massive lithic breccia containing sub-rounded blocks of ignimbrite and lava up to 40 cm in diameter. It transitions into a vitreous lapilli tuff with fibrous pumice clasts reaching up to 40 cm in diameter, though typically <15 cm (Supplementary Figure SF14). This unit contains 5–7% crystals, including Pl, Bt, minor Amp, scarce Qtz, even lower Pxs content, and scattered lithics <3 cm, embedded in a pink, vitreous, ash-rich matrix dominated by intermediate-sized shards (Supplementary Figure SF15). Overlying this, Junc-2 consists of a thick welded lapilli tuff unit with smaller pumice and fiamme clasts (Supplementary Figures SF14, SF16).



Supplementary Figure SF14: Field photographs of the Juncalito Ignimbrite to the northeast of the Pedernales Salt Flat (field site 8). A shows a panoramic view of the Juncalito Ignimbrite overlying the Vega Helada Ignimbrite. B shows the contact relationship between the basal breccia and Junc-1. C and D show detailed views of Junc-2, while E and F show the details of Junc-2.



Supplementary Figure SF15: Photomicrographs of the Juncalito Ignimbrite. A, C, and E were captured under parallel nicols, while B and D were taken under crossed nicols. A to D have a magnification of 2X, while E has a magnification of 5X. A and B correspond to subunit Junc-2, C, D, and E correspond to Junc-1. Scattered crystals of Pl, Bt, and Opx are observed within a shard-rich matrix.



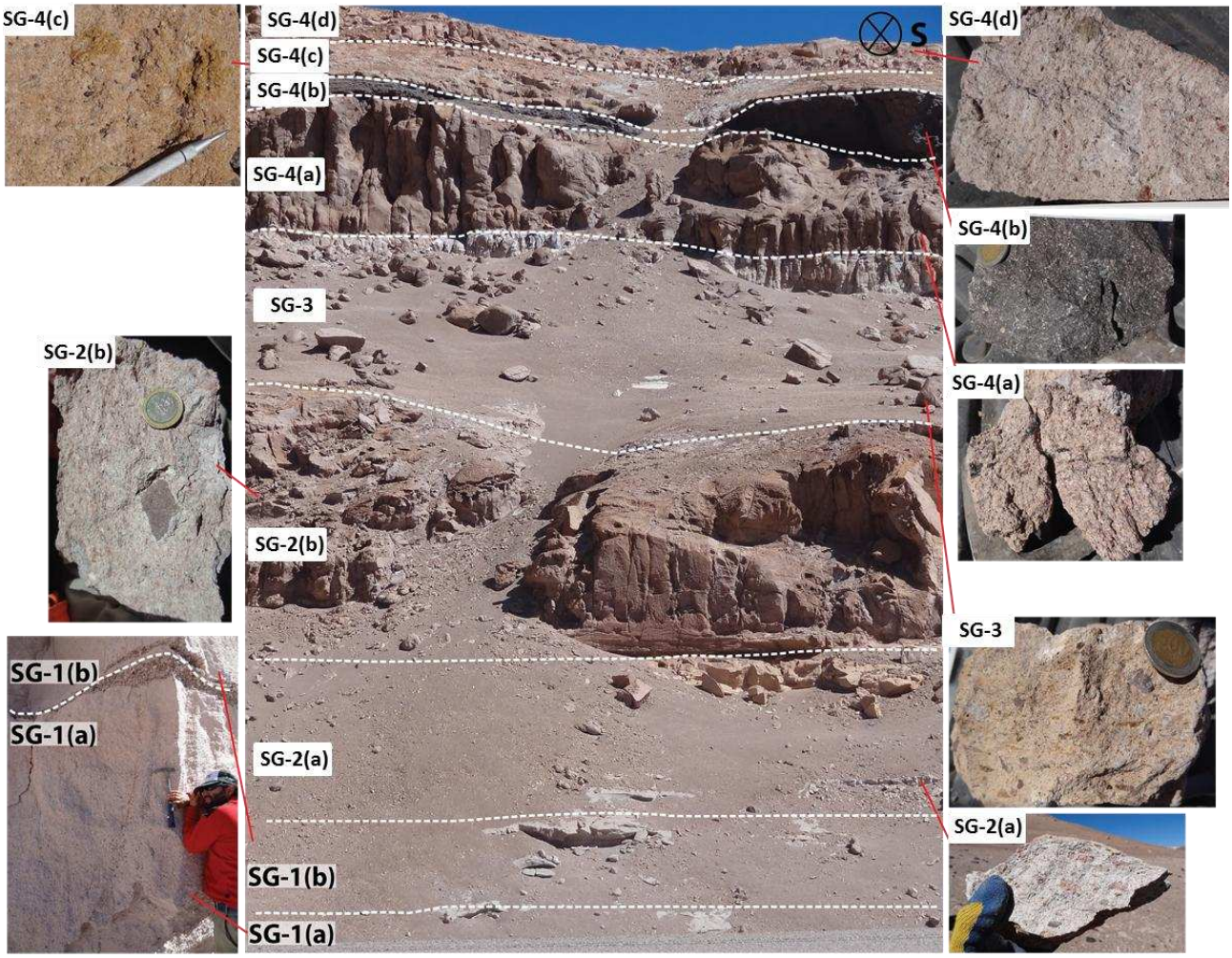
Supplementary Figure SF16: Lithofacies correlation of the Juncalito Ignimbrite. Field-sites from 10 to 8 to 7 are distributed from E to W along ~80 km to the WSW of the Salar Grande Caldera (Naranjo et al 2018), as shown in Figure 2 (in the main text). The numbers to the right of each radiometric age correspond to dating results detailed in Supplementary Table ST1. Colors represent the approximate field coloration; uncolored subunits are not part of the Juncalito Ignimbrite. Distance from the source (unknown, near the Chile-Argentina international border) according to Naranjo et al. (2018).

Salar Grande Ignimbrite

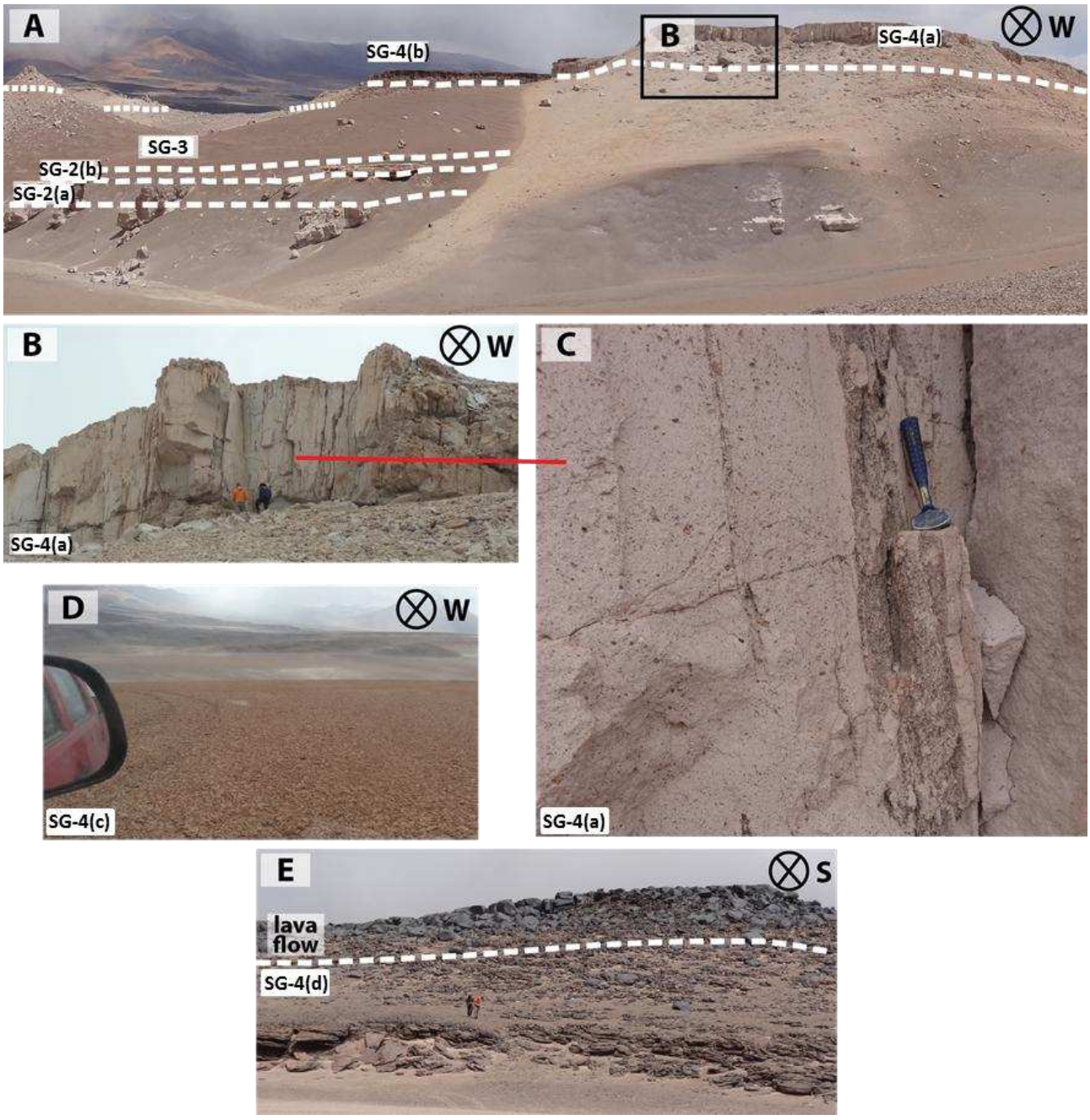
The Salar Grande Ignimbrite was studied in detail at six localities, corresponding to sites 14 to 19 (Figure 2 in the main text). This unit comprises multiple lapilli tuff layers with varying amounts of tubular pumice of different colors and sizes, as well as lithic fragments that can reach meter sizes, interbedded with brecciated levels. In total, ten different layers were identified, which were grouped into four subunits: SG-1, SG-2, SG-3, and SG-4 (Supplementary Figures SF17, SF18).

The crystal content of the different ignimbrite layers is similar, with scarce crystals of Pl, Bt, and minor Amp. However, in the more welded facies, including a vitrophyric level, crystal content can reach up to 35%

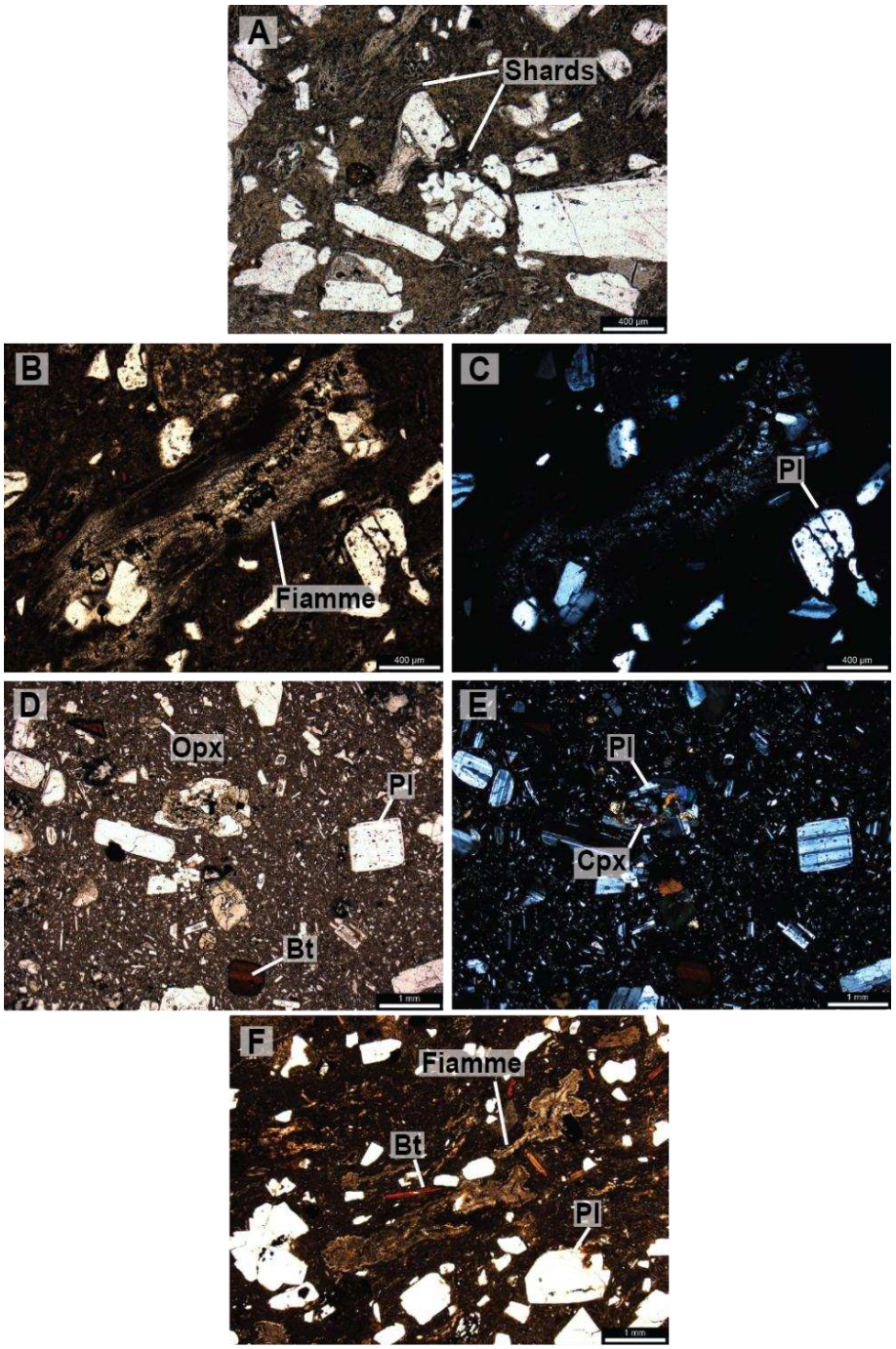
(Supplementary Figure SF19). Multiple depositional structures are recognized, including inverse and normal grading of pumice and lithics, diffuse stratification, parallel laminations, and degassing pipes (Supplementary Figure SF18). Reported ages range from 11 to 13 Ma (Supplementary Figure SF20). The lower SG-1 layer consists of a breccia with abundant lithic fragments within an ash matrix. Above it, an ash-rich massive white tuff is observed, including abundant medium to coarse lapilli-sized pumice clasts, as well as degassing pipes. SG-2 laterally varies from a lithic-rich massive tuff to a welded pumice-rich tuff, showing significant differences in welding intensity. The content and size of lithics in SG-2 are also variable, decreasing towards the NW. SG-3 is a massive tuff with abundant coarse lithics, except at locality 19, where it is lithic-poor. Finally, SG-4 corresponds to a welded lapilli tuff with degassing pipes, with welding intensity increasing upward to form a massive vitrophyric layer before decreasing again (Supplementary Figures SF17, SF18, SF20).



Supplementary Figure SF17: Field photographs of the Salar Grande Ignimbrite at the southern end of Laguna Seca (field site 18, in the area known as "La Torta", translated as "The cake"), where nine different lithofacies are identified.

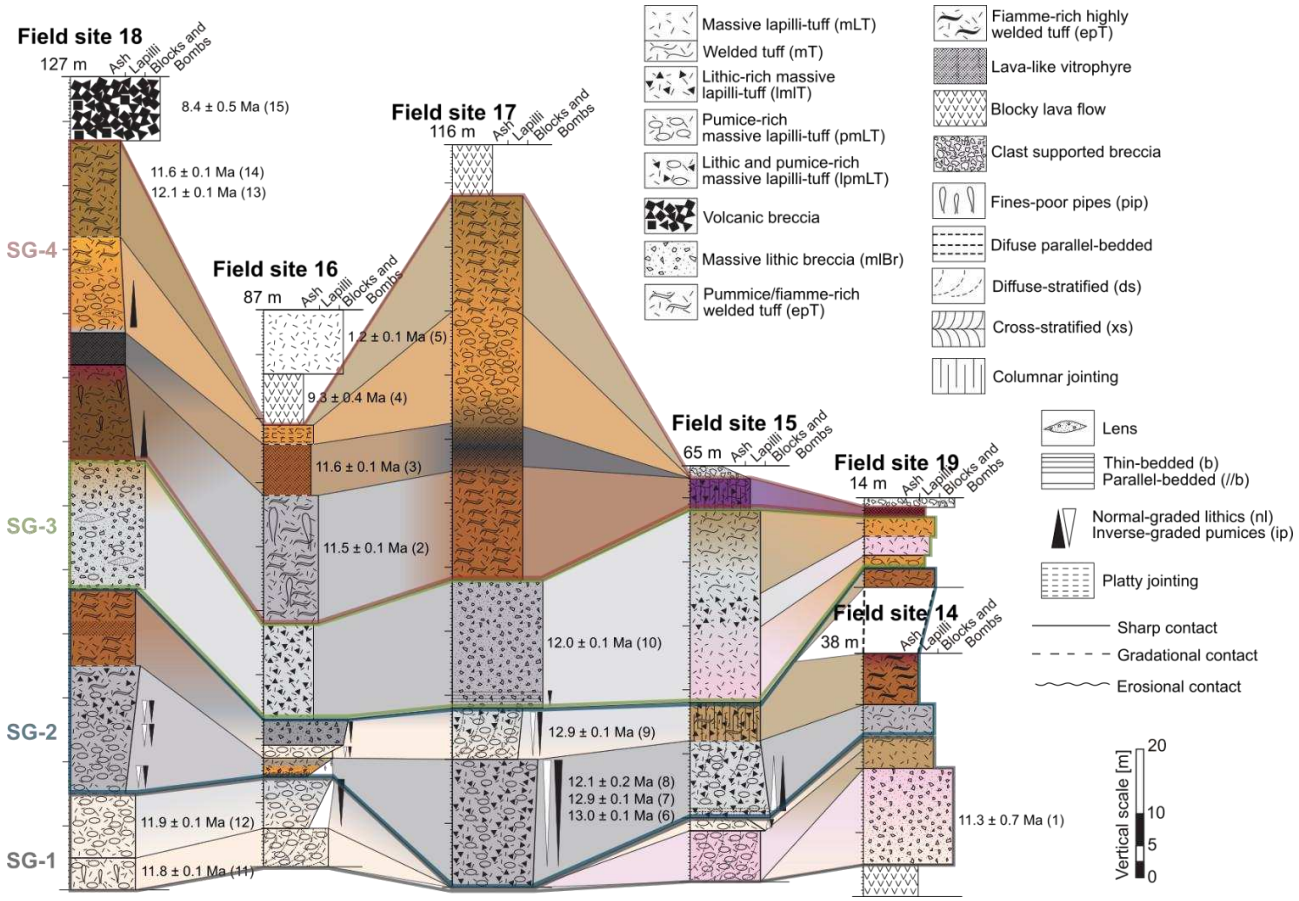


Supplementary Figure SF18: Field photographs of the Salar Grande Ignimbrite on the western side of the Cordón de las Chinchillas (field site 16). A shows a panoramic view facing west, and B provides a close-up of the upper portion of A, where abundant degassing pipes of subunit SG-4(a) can be seen, detailed further in image C. D displays the intensely fractured subunit SG-4(c), and E shows the contact relationship between the Salar Grande Ignimbrite and the overlying lava flow.



Supplementary Figure SF19: Photomicrographs of the Salar Grande Ignimbrite. A, B, D, and F were taken under parallel nicols, while C and E were taken under crossed nicols. A–C have a magnification of 5X, whereas D– F were taken at 2X. A, C, and E correspond to subunit SG-2(b), showing flattened shards, a devitrified fiamme, and scarce Pl crystals. D and E correspond to the second vitrophyric level (SG-4(b)), which exhibits a higher crystal content than other subunits due to greater compaction. Crystals of Pl, Bt, and scarce Opx are observed, along with a

glomeroporphyritic aggregate of Pl and Cpx. F corresponds to subunit SG-4(c), showing Pl, Bt, and highly flattened fiamme, indicative of its high welding grade.

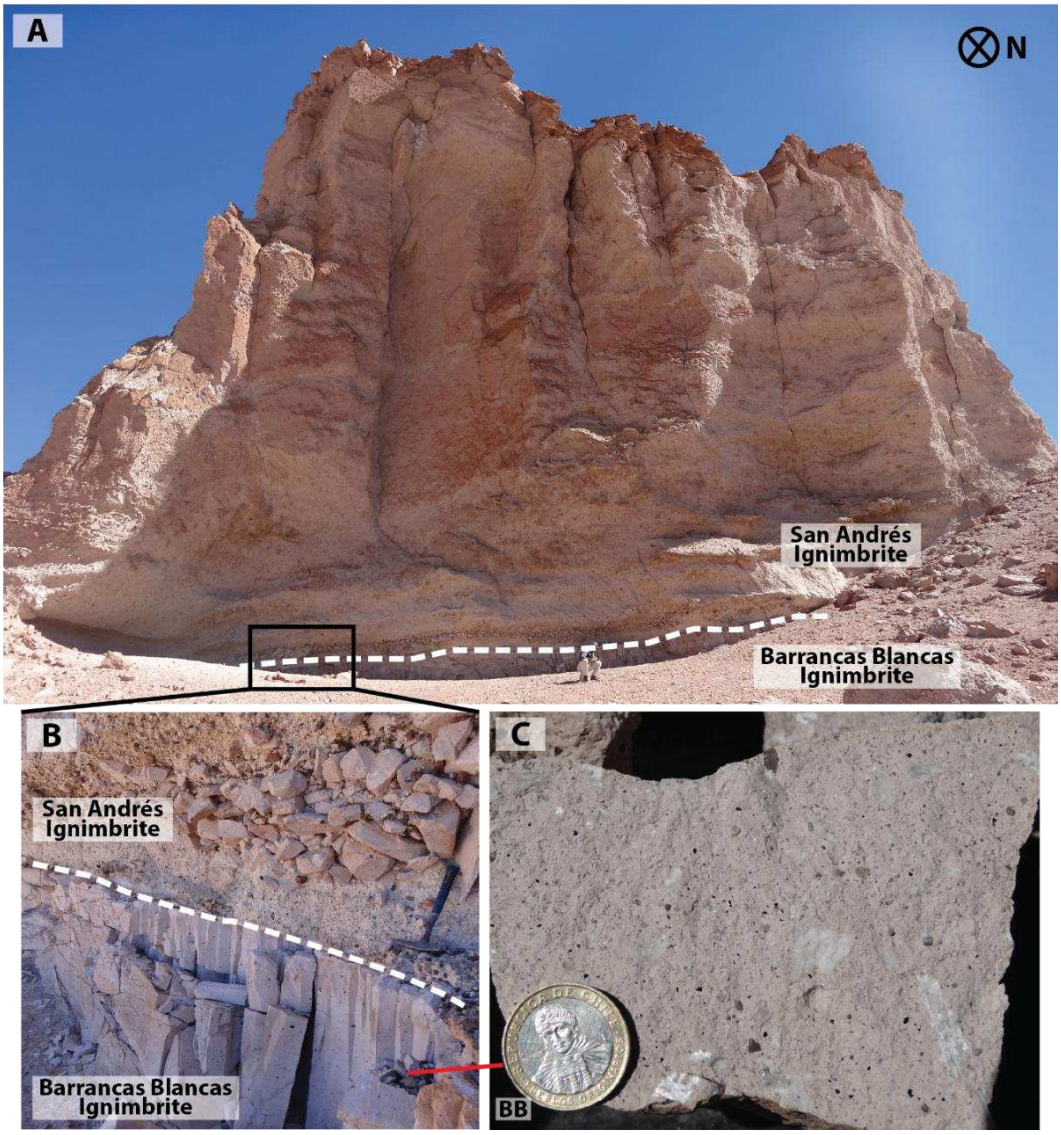


225 **Supplementary Figure SF20: Lithofacies correlation of the Salar Grande Ignimbrite. The numbers in parentheses to the right of each age correspond to the numbers in Supplementary Table ST1 with details of the geochronology. The order of the columns does not represent a specific flow direction, as multiple flow directions were identified, making it impossible to arrange them according to facies distribution. The location of each column is shown in Figure 2B (in the main text), all within its source Salar Grande caldera. Colors represent the approximate field**
230 **coloration; uncolored subunits are not part of the Salar Grande Ignimbrite. All field sites are inside the Salar Grande Caldera, corresponding to inflow units.**

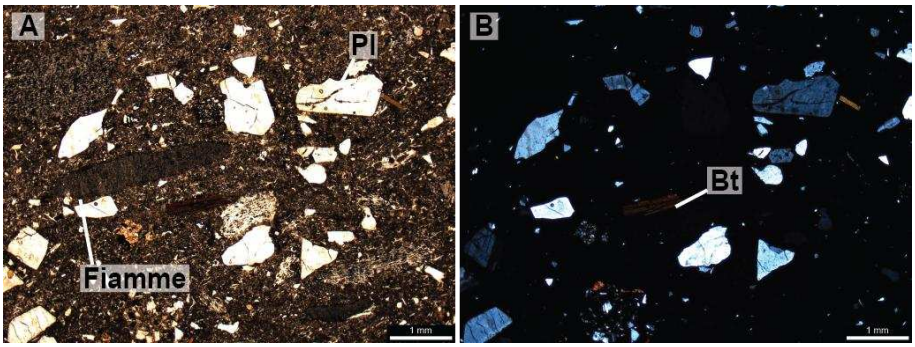
Barrancas Blancas Ignimbrite

The Barrancas Blancas Ignimbrite was identified at only one locality, corresponding to site 24, ~5 km to the NW of the eponymous Barrancas Blancas Caldera, its probable source; therefore, its lateral variations cannot be detailed
235 (Figure 2 in the main text). It consists of an outcrop of approximately 1 m of light grey welded crystal lapilli tuff (Supplementary Figure SF21), containing Pl, embayed Qtz, Bt, Cpx, and Amp (Supplementary Figure SF22). This

unit includes flattened grey pumice clasts forming fiamme up to 2 cm, some of which are vesicular and fibrous, along with a minor content of lithic fragments reaching up to 3 cm (Supplementary Figures SF21, SF22). It has a vitreous matrix, with scarce, slightly flattened fine glass shards and crystalline fragments.



Supplementary Figure SF21: Field photographs of the Barrancas Blancas Ignimbrite in the homonymous ravine (field site 24). It corresponds to the base of this outcrop, which is intensely fractured and is overlain by the San Andrés Ignimbrite through an erosional contact. A shows its contact relationship with the San Andrés Ignimbrite, B details this contact, and C shows a hand sample of the Barrancas Blancas Ignimbrite.

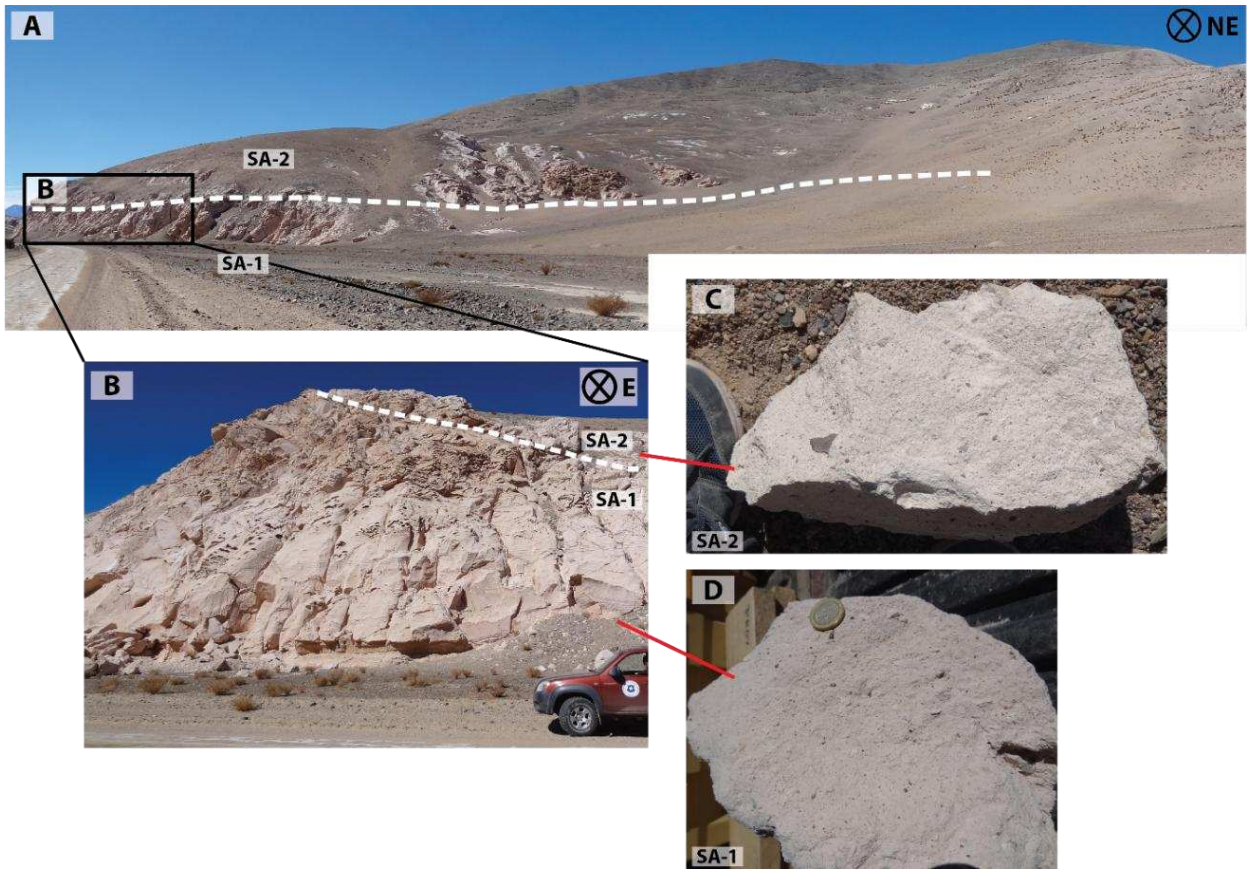


Supplementary Figure SF22: Microphotographs of the Barrancas Blancas Ignimbrite. A was captured under parallel nicols and B under crossed nicols, both at 2X magnification. Crystals of Pl, Bt, and scarce fiamme are observed.

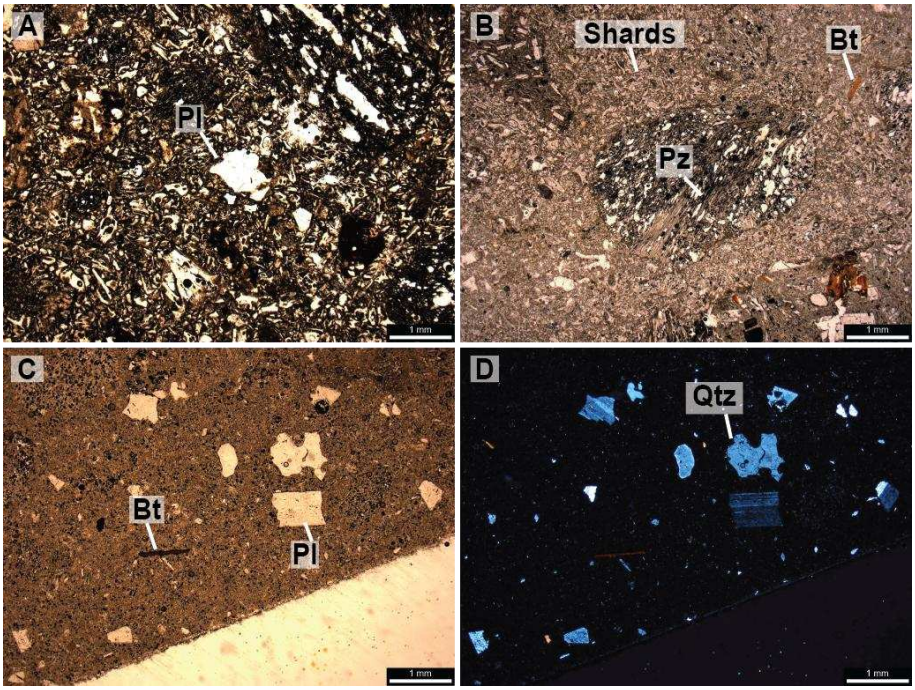
San Andrés Ignimbrite

Six localities of the San Andrés Ignimbrite were studied, corresponding to sites 20, 21, 22, 23, 24, and 25, to the west and north of Los Bayos Caldera (Figure 2 in the main text). Three distinct lithofacies were identified: a lower breccia, a massive pink lapilli tuff, and a massive pale pink to white ash and lapilli tuff. The lower breccia and the first massive tuff were grouped into a single subunit, SA-1, due to their gradational transition, whereas the second tuff was designated as SA-2 (Supplementary Figures SF23, SF25).

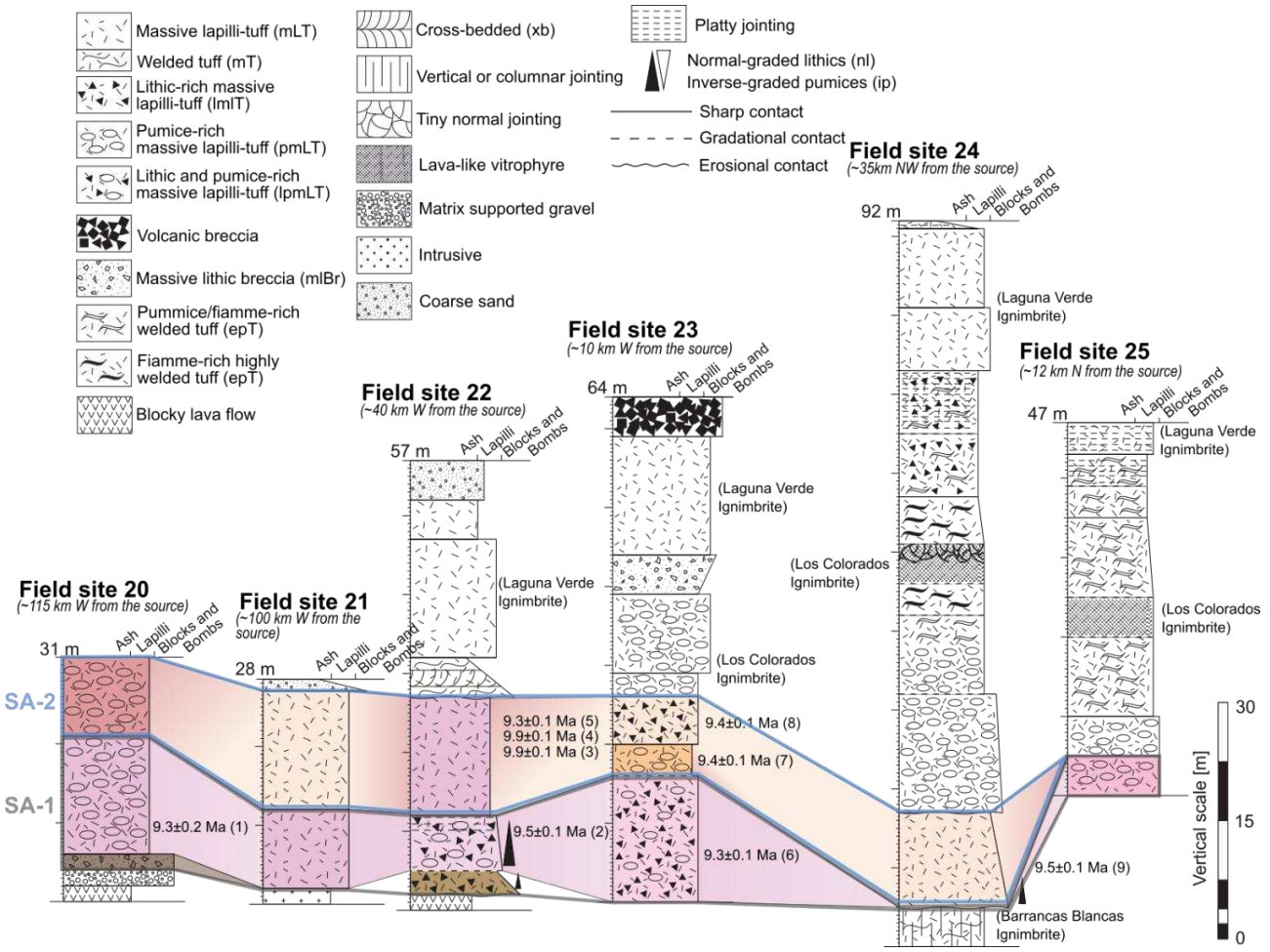
Both SA-1 and SA-2 are classified as massive lapilli tuffs, characterized by white fibrous pumice and a variable abundance of lithic fragments. They differ mainly in coloration, with SA-1 being more pinkish and SA-2 appearing paler (Supplementary Figure SF23). The crystal content reaches up to 15%, with Pl, Bt, and Qtz as the dominant phases, along with minor amounts of Amp and Pxs (Supplementary Figure SF24).



Supplementary Figure SF23: Field photographs of the San Andrés Ignimbrite, west of the Salar de Pedernales (field site 21). A is a panoramic view showing the pinker tone of SA-1 compared to SA-2, B is a close-up of the outcrop, and C and D show details of hand samples of SA-2 and SA-1, respectively.



Supplementary Figure SF24: Microphotographs of the San Andrés Ignimbrite. A–C were taken under parallel nicols, and D under crossed nicols, all at 2X magnification. A and B correspond to SA-1, showing Pl, Bt, and pumice in a shard-rich matrix. C and D correspond to SA-2, showing Pl, Bt, and embayed Qtz.



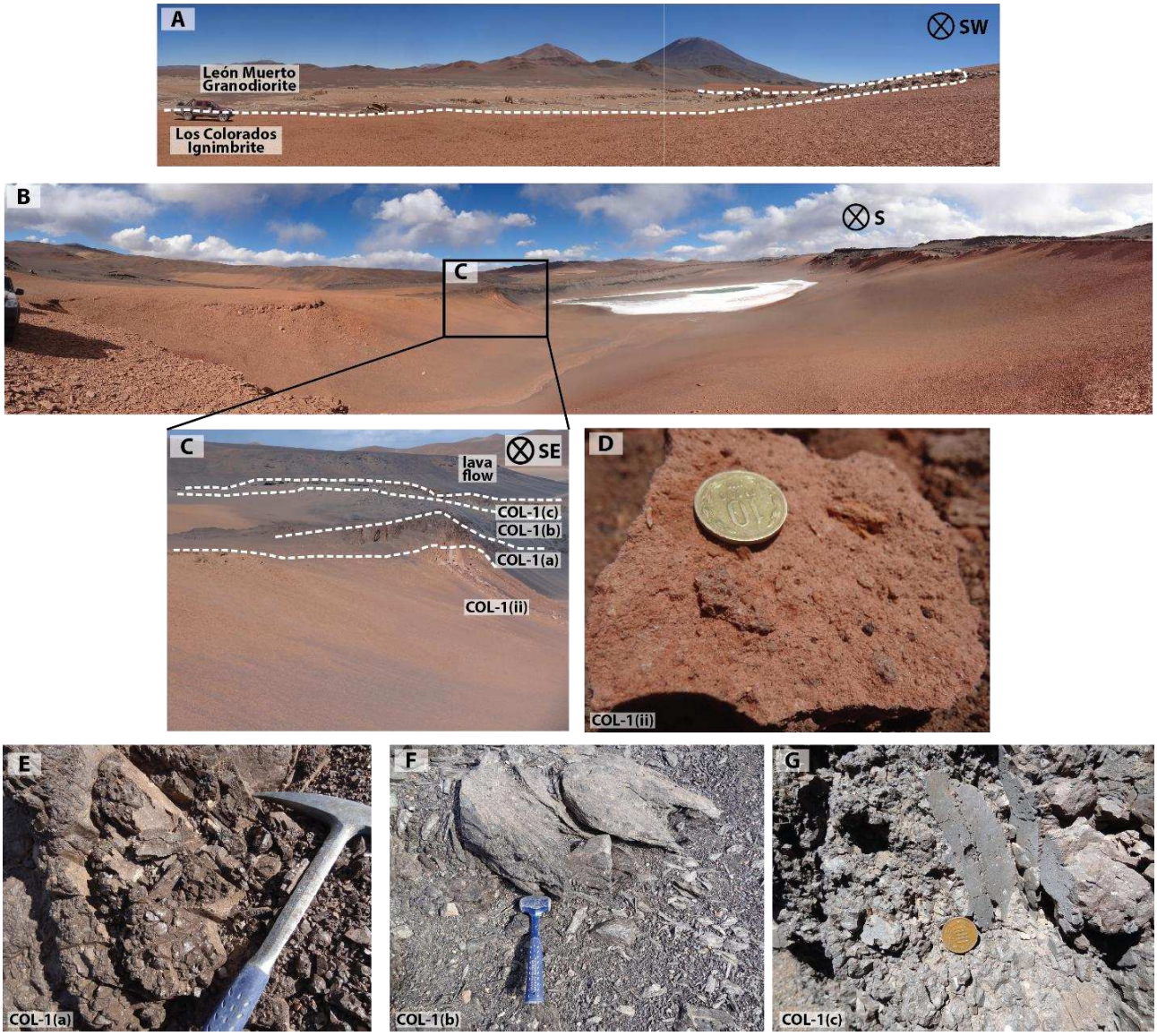
Supplementary Figure SF25: Correlation of the recognized lithofacies across the studied localities of the San Andrés Ignimbrite, as indicated in Figure 2 (in the main text). The columns are arranged from left to right, from the most distal to the most proximal with respect to the Pampa Los Bayos Caldera, except for locality 25, which is located north of the caldera. The dating results are detailed in Supplementary Table ST1, with the corresponding reference number indicated in parentheses to the right of each age. Colors represent the approximate field coloration; uncolored subunits are not part of the San Andrés Ignimbrite. Distance from the source (Pampa de los Bayos Caldera) according to Naranjo et al. (2018).

Los Colorados Ignimbrite

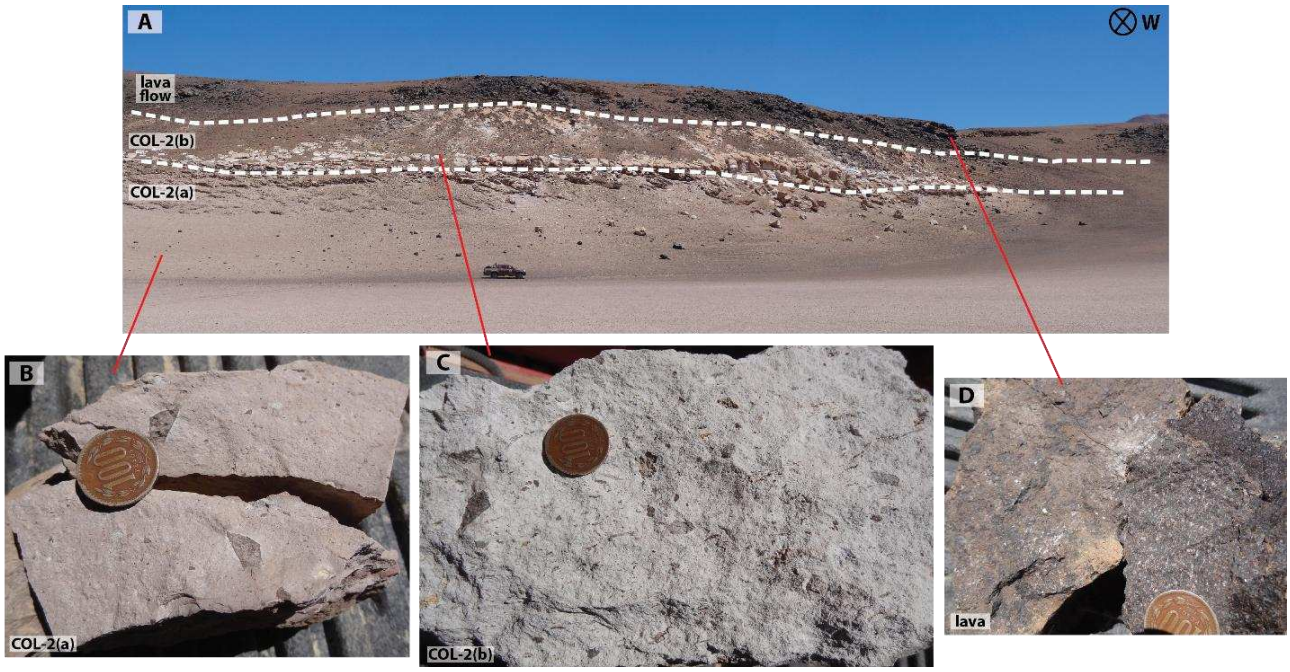
Four localities of the Los Colorados Ignimbrite were studied, all situated south of its source, the Los Colorados Caldera (Figure 2 in the main text). Eight different facies were identified and grouped into two subunits: Los Colorados 1 and 2 (COL-1 and COL-2, respectively; Supplementary Figure SF26–SF29). COL-1 consists, from base to top, of a thick lower breccia that laterally and vertically grades into a massive vitreous lapilli tuff, with colors ranging from pink to red (Supplementary Figure SF26). It is rich in fibrous, tube-shaped pumice fragments,

reaching up to 20 cm in diameter (Supplementary Figure SF28). The welding grade increases upwards, forming an intensely fractured vitrophyre (Supplementary Figures SF26, SF29).

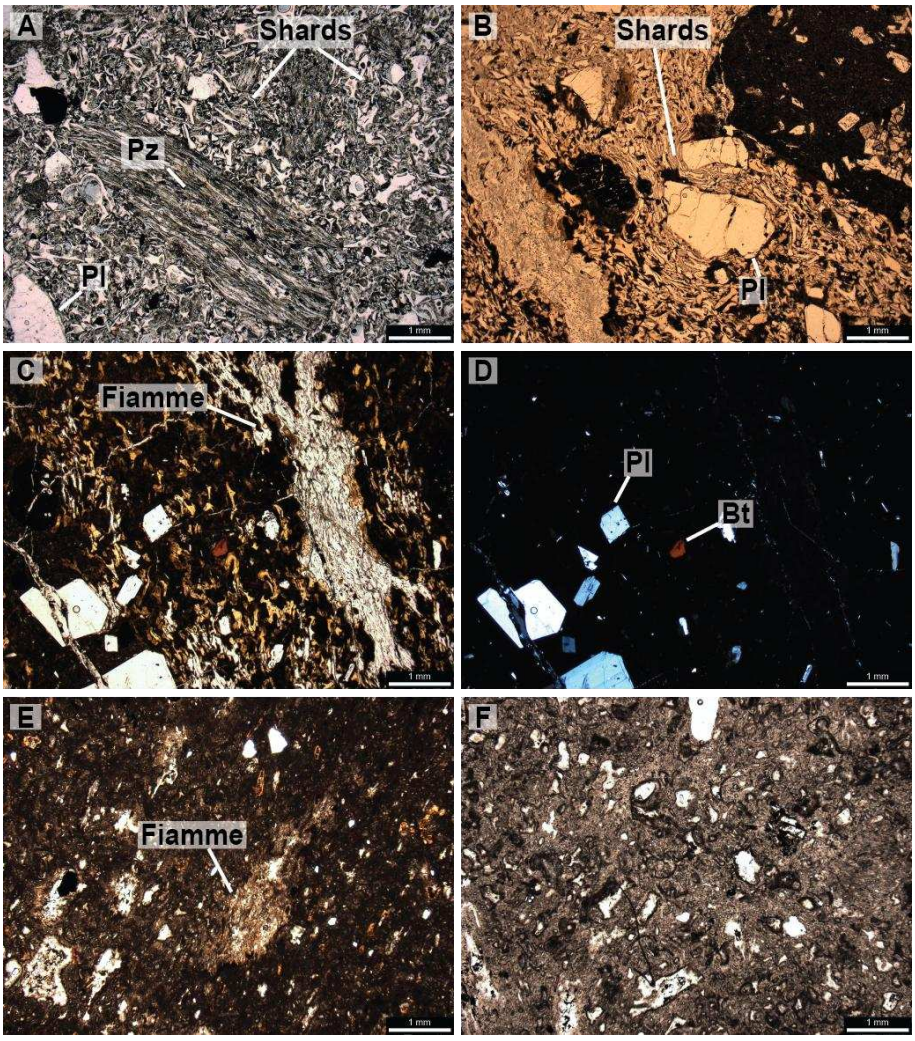
COL-2 consists of a grey vitreous to lithic tuff, with abundant fiamme, which is often horizontally fractured but retains the microscopic characteristics observed in COL-1 (Supplementary Figures SF27, SF28). Both subunits contain abundant coarse glass shards, flattened in the most welded zones, as well as plentiful fibrous and tube-shaped pumice. They also contain scarce crystals, primarily Pl and Bt, and abundant fiamme in the most welded sections (Supplementary Figure SF28).



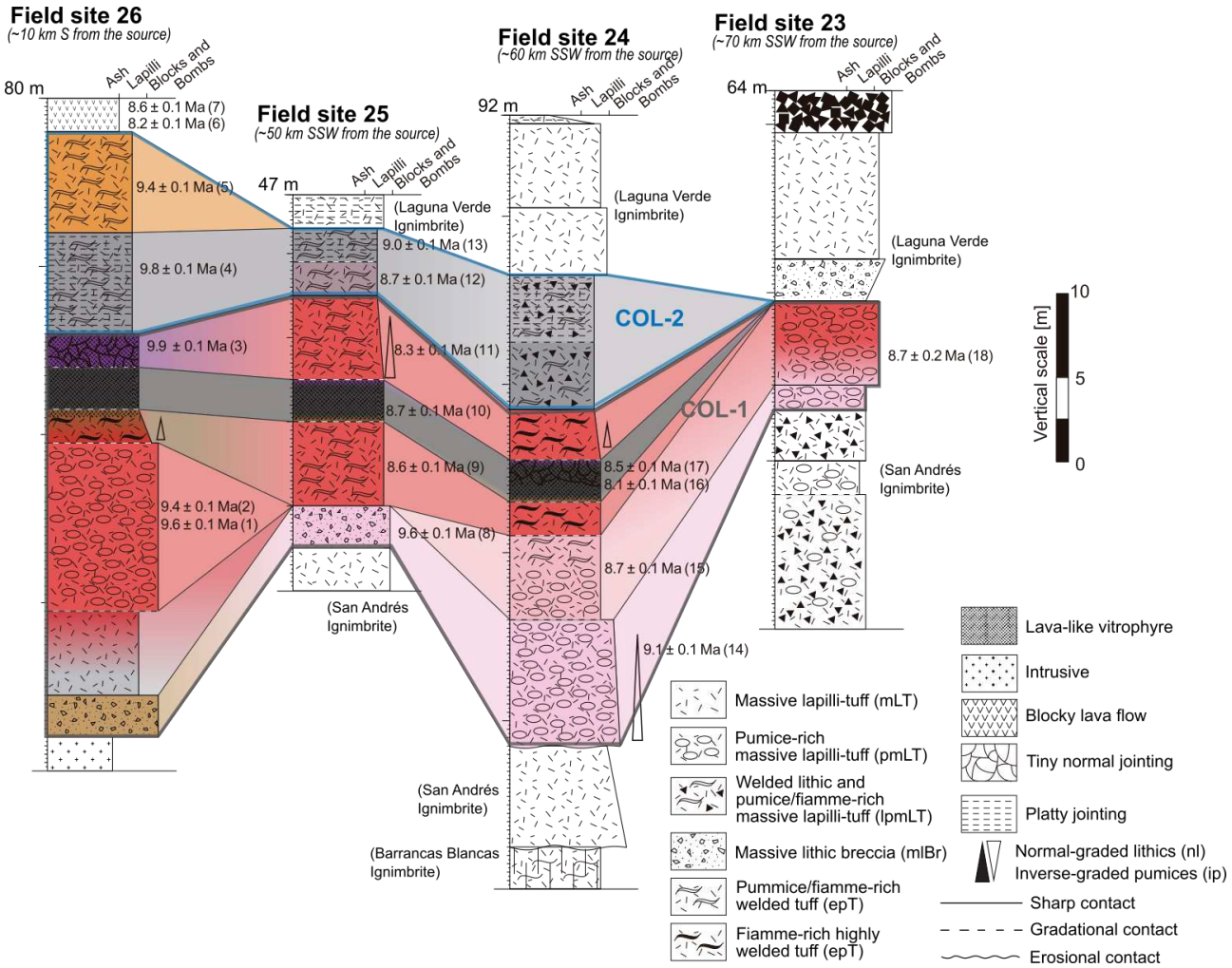
290 **Supplementary Figure SF26: Field photographs of the COL-1 subunit of the Los Colorados Ignimbrite at field site 26, immediately south of the caldera of the same name. In A, the Los Colorados Ignimbrite is seen overlying the León Muerto Granodiorite. B and C show color variations in COL-1 associated with an increase in welding grade. D is a hand sample of the most characteristic lithology of the Los Colorados Ignimbrite, which gives it its name due to its intense reddish color. E–G display different textures recognized in the most welded level of the COL-1 subunit.**



Supplementary Figure SF27: Field photographs of the COL-2 subunit of the Los Colorados Ignimbrite at field site 26, immediately south of the caldera of the same name. A shows a panoramic view of the ignimbrite covered by a lava flow. From base to top, three levels are recognized: the first corresponds to the COL-2 subunit with intense horizontal fracturing (B), the second also corresponds to COL-2 but has a grayer color and no fracturing (C), and finally, the overlying lava flow (D).



Supplementary Figure SF28: Microphotographs of the Los Colorados Ignimbrite, captured at 2X magnification, all under parallel nicols except for D, which was taken under crossed nicols. A–D correspond to the COL-1 subunit. A shows abundant shards, fibrous pumice, and scarce Pl crystals. B shows welded shards and a Pl crystal, as well as a millimetric lithic fragment in the upper right corner. C displays an intensely welded fiamme. D shows Pl and Bt crystals, the main crystalline constituents of this unit. E and F correspond to the COL-2 subunit; E shows scarce fiamme and crystal fragments, and F shows fewer and smaller shards than those in COL-1.

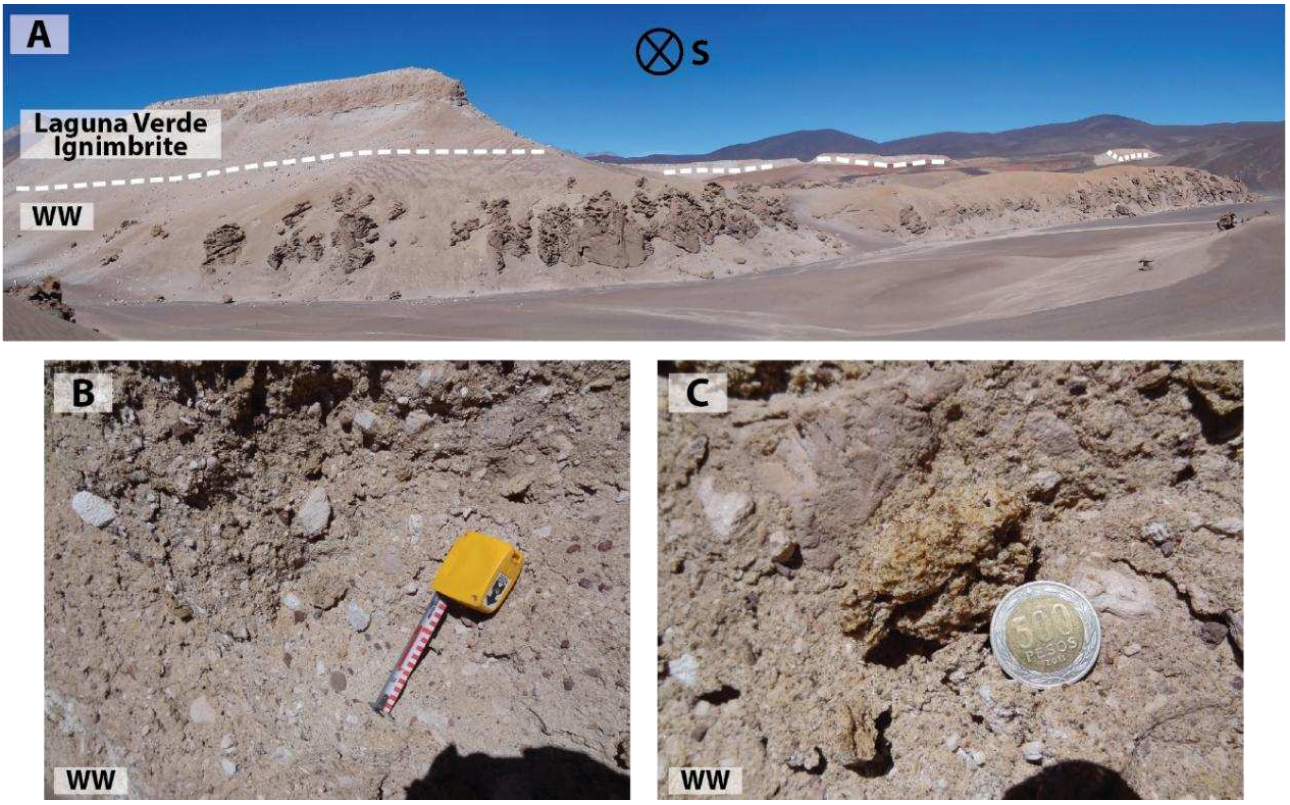


Supplementary Figure SF29: Lithofacies correlation of the Los Colorados Ignimbrite. The columns are arranged from left to right, from the most proximal to the most distal with respect to the Los Colorados Caldera, i.e., from north to south (Figure 2 in the main text). Age data are detailed in Supplementary Table ST1, with reference numbers in parentheses to the right of each dating result. Colors represent the approximate field coloration; uncolored subunits are not part of the Los Colorados Ignimbrite. Distance from the source (Los Colorados Caldera) according to Naranjo et al. (2019).

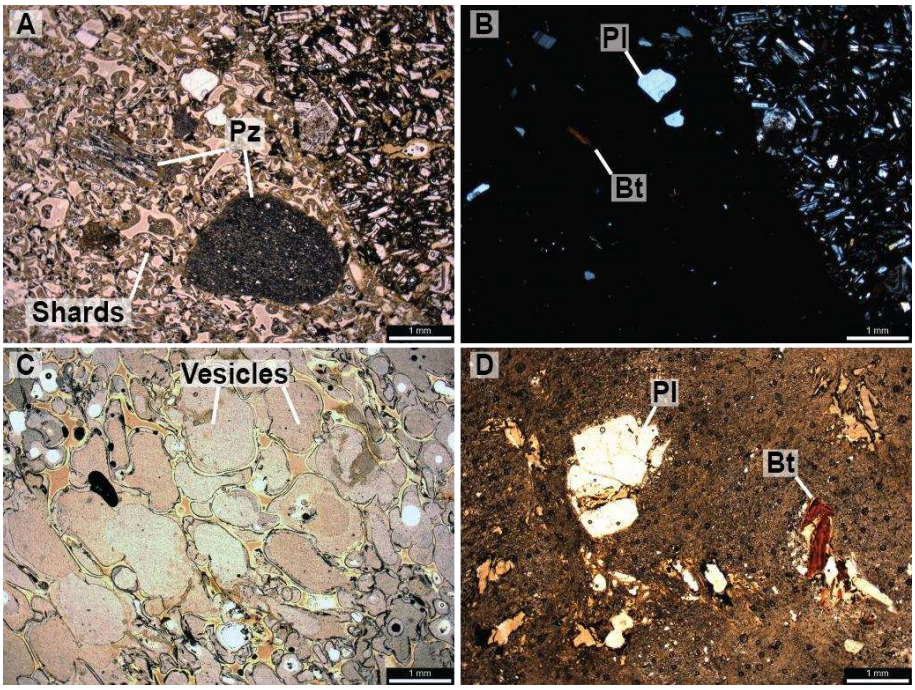
Wheelwright Ignimbrite

Only one locality of the Wheelwright Ignimbrite was studied, corresponding to site 30, ~5 km to the west of the Wheelwright Caldera Figure 2 in the main text). There, it has a thickness of ~30 m and consists of massive, brown, vitreous to lithic lapilli tuff, rich in pumice <10 cm belonging to two families (Supplementary Figure SF30). The first family consists of white, compact, slightly vesicular pumice containing up to 3% Pl and Bt crystals, with scarce Pxs and possible Amp (Supplementary Figure SF31A). The second consists of greenish-yellowish, highly vesicular

pumice with scarce crystals (<1%) of Pl, Qtz, Bt, minor Opx, and possible Amp (Supplementary Figure SF31B–D). This ignimbrite also contains abundant polymictic lithics <5 cm in diameter, mainly from porphyritic lava of different colors, and scarce crystals (~5%) of Pl <2.5 mm, Bt, Qtz <2 mm, minor Cpx and Opx, and possible very scarce Amp (Supplementary Figures SF30, SF31). The matrix is very rich in coarse and medium-coarse shards, moderately devitrified, and also contains crystal fragments.



Supplementary Figure SF30: Field photographs of the Wheelwright Ignimbrite at the headwaters of the Río Juncalito (field site 30). A is a panoramic view showing the Wheelwright Ignimbrite beneath the Laguna Verde Ignimbrite. B and C provide a closer look at the lithology of this unit. C shows a highly vesicular pumice with a brownish-green color.



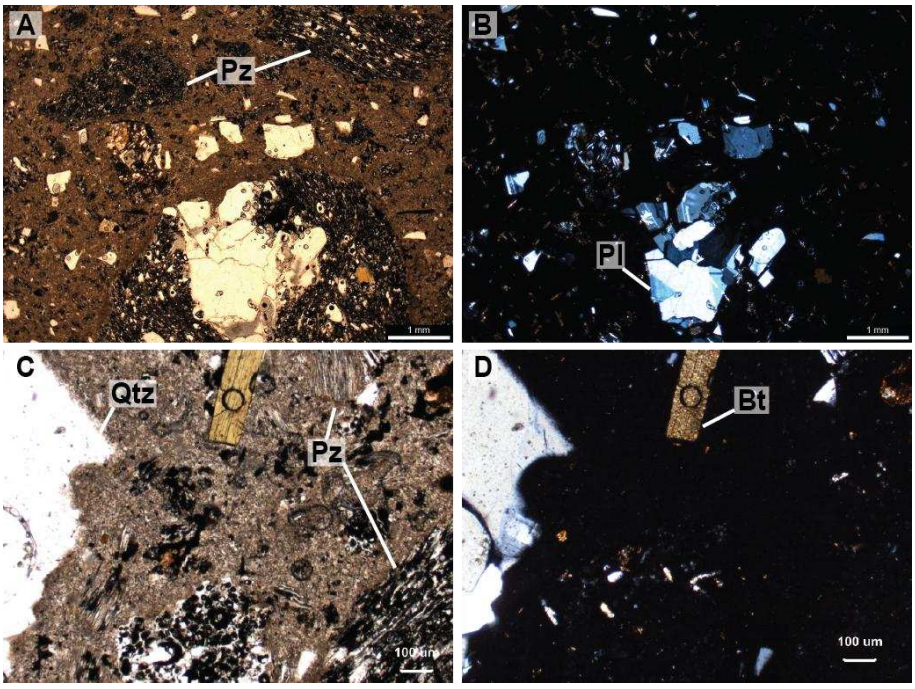
Supplementary Figure SF31: Microphotographs of the Wheelwright Ignimbrite. B was captured under crossed nicols, and A, C, and D under parallel nicols, all at 2X magnification. A shows fibrous pumice in a shard-rich matrix. B and D show Pl and Bt crystals, and C corresponds to a highly vesicular pumice fragment.

Parinas Ignimbrite

One locality of the Parinas Ignimbrite was studied, close to field site 25 (Figure 2 in the main text). It corresponds to a massive vitreous lapilli tuff, with abundant white and pink pumice <5 cm, fibrous and vesicular (Supplementary Figure SF32). It contains ~10% crystals of Pl, embayed Qtz, Bt, lesser Cpx and Amp, and polymictic lithics, mostly from microporphyritic lavas (Supplementary Figure SF33). The matrix is vitreous, with crystalline and pumice fragments, and scarce very fine glass shards.



Supplementary Figure SF32: A is a field photograph of the Parinas Ignimbrite, 15 km north of Quebrada Tres Puntas. B is a hand sample showing abundant lapilli-sized pumice.



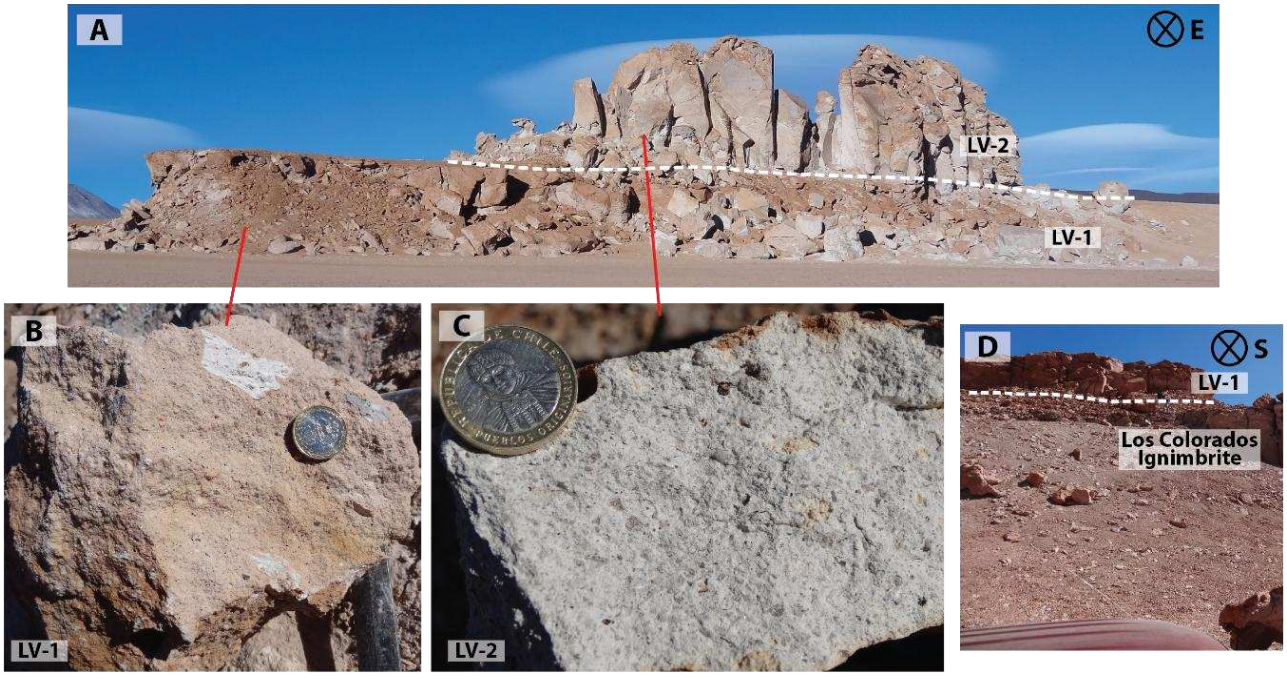
Supplementary Figure SF33: Microphotographs of the Parinas Ignimbrite. A and C were captured under parallel nicols, while B and D were taken under crossed nicols. A and B have 2X magnification, while C and D have 5X. A and B show Pl crystals and fibrous pumice. C and D display Qtz crystals with resorbed edges and Bt.

Laguna Verde Ignimbrite

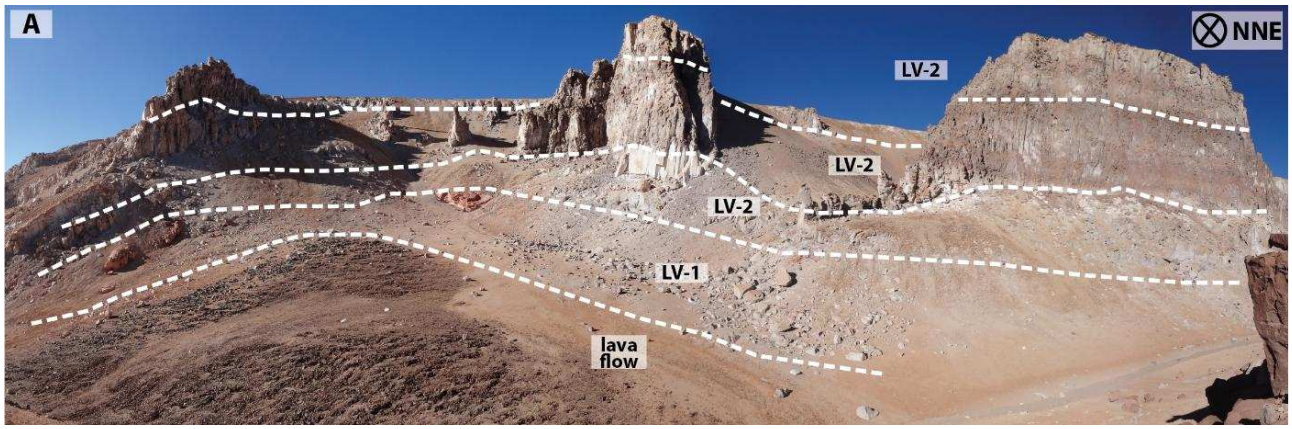
The Laguna Verde Ignimbrite is the youngest and best-preserved of the studied ignimbrites and exhibits a significant welding grade. A total of eight localities were visited to the NW and north of the Laguna Verde Caldera, corresponding to field sites 22, 23, 24, 25, 27, 28, 29, and 30 (Figure 2 in the main text). Two main units were identified, LV-1 and LV-2, along with a lower unit observed only in two outcrops (Supplementary Figures SF34–SF37). This lower unit consists of interbedded breccia and silicified ash layers, with thicknesses ranging between 40 cm and 5 m. Some layers display cross-stratification, while others are massive and welded (Supplementary Figure SF37).

LV-1 corresponds to a massive lapilli tuff that contains pumice clasts of highly variable sizes, reaching up to 10 cm, which become fiamme in the more welded sections. LV-2 is similar to LV-1 but exhibits a slightly greater welding grade and is characterized by an orange veneer (Supplementary Figures SF34, SF35). This unit contains fragments of LV-1, as well as pumice clasts reaching up to 30 cm, and frequently presents horizontal fracturing or platy jointing, forming terraced surfaces (Supplementary Figure SF34A).

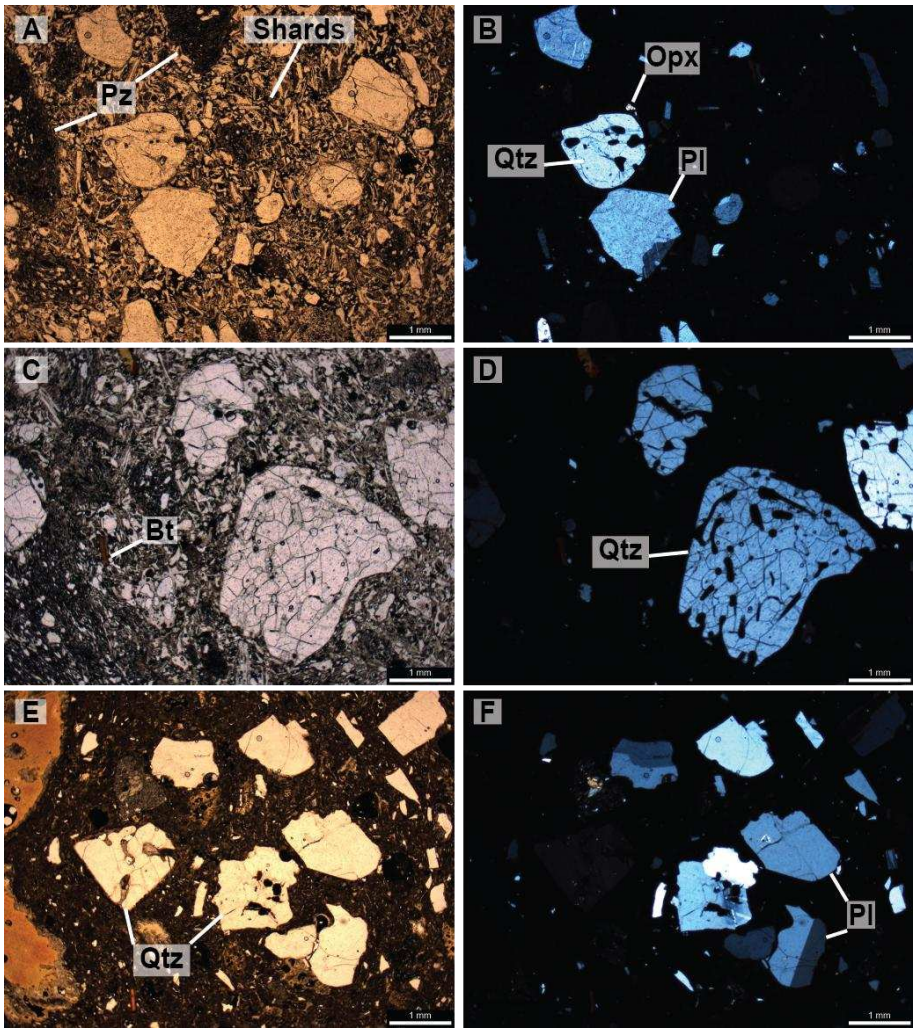
Towards the easternmost part of the Pampa de Los Bayos Caldera, the ignimbrite reaches its maximum vertical development, attaining a thickness of approximately 120 m, with a higher welding grade compared to the other examined localities (Supplementary Figure SF35). In this area, LV-2 consists of three distinctive levels with varying welding grades. The bottom layer consists of a 20-m-thick pale grey massive tuff with columnar fracturing, followed by a 50-m-thick purple to grey welded tuff with less intense columnar fracturing, and ends with a third pale grey level featuring an orange coating, similar to other LV-2 outcrops but less welded (Supplementary Figures SF35, SF37). These three levels share the same mineralogical composition, containing approximately 10% embayed Qtz crystals up to 5 mm in size, along with Pl crystals smaller than 3 mm, Bt, and very minor amounts of Px and Amp (Supplementary Figure SF36). They also contain fibrous vesicular pumice, generally smaller than 2 cm, and scarce lithic fragments, typically millimeter-sized, immersed in a grey to white ash matrix with medium to fine glass shards.



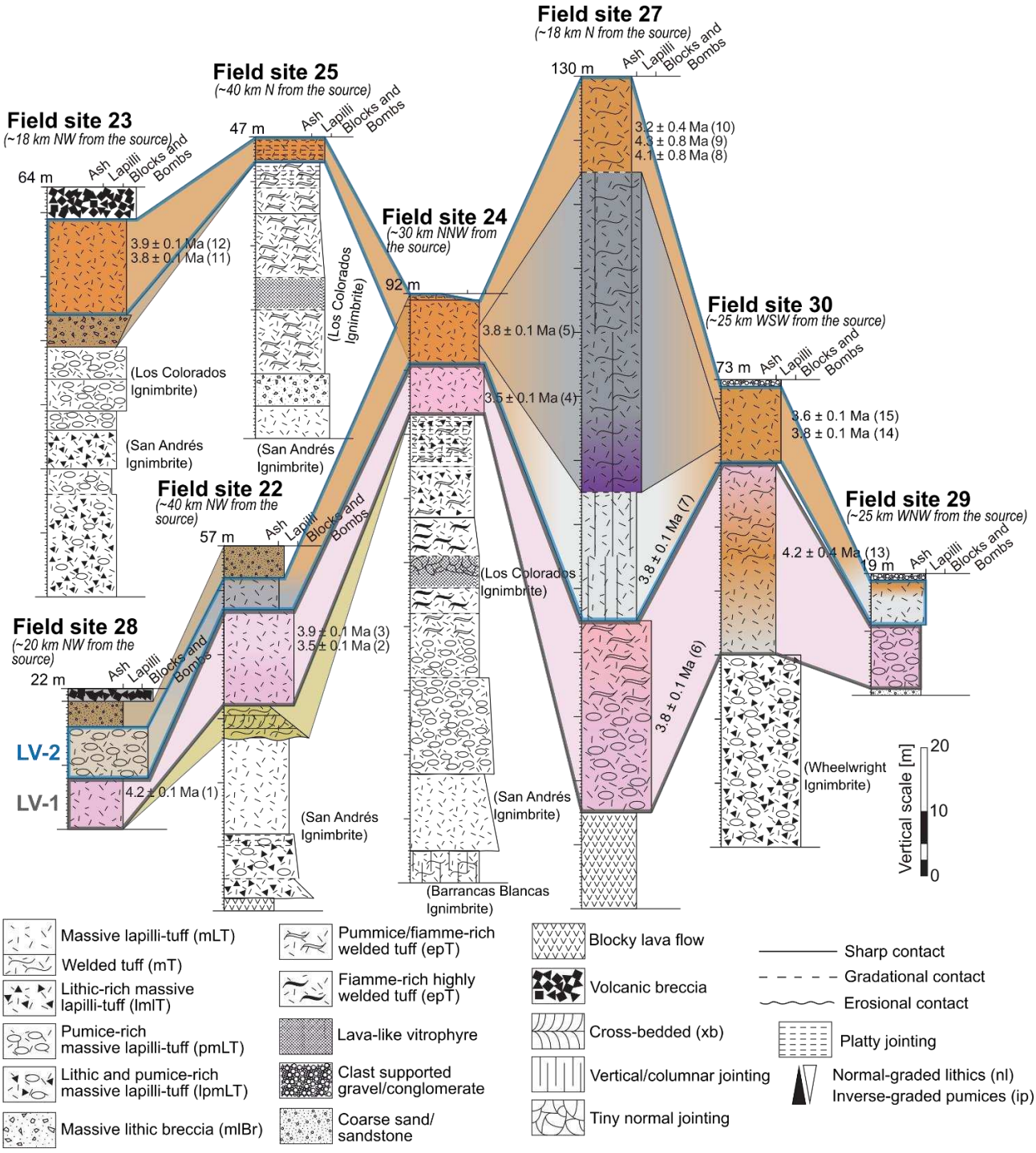
Supplementary Figure SF34: Field photographs of the Laguna Verde Ignimbrite in the Quebrada Barrancas Blancas (field site 24). A presents a panoramic view of LV-2 over LV-1, B and C show LV-1 and LV-2 in greater detail, and D displays the Laguna Verde Ignimbrite overlying the Los Colorados Ignimbrite.



Supplementary Figure SF35: Field photographs of the Laguna Verde Ignimbrite at the eastern edge of the Pampa de Los Bayos Caldera (field site 27), where its greatest vertical development is observed.



Supplementary Figure SF36: Microphotographs of the Laguna Verde Ignimbrite. A, C, and E were captured under parallel nicols, while B, D, and F were taken under crossed nicols, all at 2X magnification. A–D correspond to the LV-1 subunit, while E and F correspond to LV-2. A and B show millimetric resorbed Qtz and Pl crystals embedded in a shard-rich matrix. C and D display ~3 mm resorbed Qtz crystals and Bt in a shard-rich matrix. E and F show millimetric resorbed Qtz and Pl crystals.



Supplementary Figure SF37 presents the lithofacies correlation of the Laguna Verde Ignimbrite, where the columns are not spatially ordered. The radiometric ages are detailed in Supplementary Table ST1, and the column locations are indicated in Figure 2 (in the main text). Colors represent the approximate field coloration; uncolored subunits

are not part of the Laguna Verde Ignimbrite. Distance from the source (Laguna Verde Caldera) according to Naranjo et al. (2018).

A2 Previously published geochronological data used for this work

Supplementary Table ST1: Geochronological data used in this work and their respective reference. The unit names correspond to the ignimbrites abbreviations followed by the subunit number: Río Frío (RF), Vega Helada (VH), Pajonales (PAJ), Juncalito (JUNC), Salar Grande (SG), San Andrés (SA), Colorados (COL) and Laguna Verde (LV). See the main text (section *Lithofacies distribution*) for subunits separation.

Unit	Age number in correlation column	Age (Ma)	Method and material	Reference
RF-1	1	17.5 ± 0.2	$^{40}Ar/^{39}Ar$ Hornblende	Naranjo *et al.* (2013a)
RF-2	2	17.2 ± 0.8	K/Ar Biotite	Naranjo *et al.* (2013a)
RF-2	3	17.1 ± 0.2	$^{40}Ar/^{39}Ar$ Hornblende	Naranjo *et al.* (2013a)
RF-2	4	16 ± 0.8	K/Ar Biotite	Naranjo *et al.* (2013a)
RF-2	5	17.2 ± 0.3	$^{40}Ar/^{39}Ar$ Hornblende	Naranjo *et al.* (2013a)
RF-2	6	18.2 ± 0.5	K/Ar Biotite	Naranjo *et al.* (2013a)
RF-2	7	16.6 ± 0.2	*unreported*	Naranjo *et al.* (2013a)
RF-2	8	17.9 ± 0.2	$^{40}Ar/^{39}Ar$ Hornblende	Naranjo *et al.* (2013b)
RF-1	9	18.8 ± 0.2	$^{40}Ar/^{39}Ar$ Whole rock	Naranjo *et al.* (2013a)
RF-1	10	20.5 ± 0.3	$^{40}Ar/^{39}Ar$ Hornblende	Naranjo *et al.* (2013a)
RF-1	11	17.6 ± 0.2	$^{40}Ar/^{39}Ar$ Hornblende	Naranjo *et al.* (2013a)
VH-1	1	18.7 ± 0.1	U-Pb zircon	Naranjo *et al.* (2016)
VH-2	2	18.0 ± 0.2	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
VH-2	3	18.2 ± 0.1	$^{40}Ar/^{39}Ar$ Matrix	Naranjo *et al.* (2016)
PAJ-1	1	15.6 ± 1.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2013b)
PAJ-3	2	16.6 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2013b)
PAJ-1	3	16.6 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2013a)
PAJ-2	4	16.6 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2013a)
PAJ-3	5	16.5 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2013a)
PAJ-3	6	16.4 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2013a)
PAJ-1	7	17.4 ± 1.0	K-Ar Biotite	Naranjo *et al.* (2013a)
PAJ-3	8	17.6 ± 0.9	K-Ar Biotite	Naranjo *et al.* (2013a)
PAJ-3	9	16.7 ± 0.8	K-Ar Biotite	Naranjo *et al.* (2013a)
Junc-1	1	16.7 ± 0.1	U-Pb zircon	Naranjo *et al.* (2016)
Junc-2	2	16.0 ± 0.1	U-Pb zircon	Naranjo *et al.* (2016)
Junc-1	3	16.6 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
SG-0	1	11.3 ± 0.7	K-Ar Biotite	Naranjo and Cornejo (1992)
SG-5	2	11.5 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
SG-6	3	11.6 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)

Lava flow	4	9.3 ± 0.4	K-Ar Biotite	Clavero *et al.* (1998)
Chato Aislado	5	1.2 ± 0.1	U-Pb zircon	Naranjo *et al.* (2016)
SG-2	6	13.0 ± 0.1	$^{40}Ar/^{39}Ar$ Hornblende	Naranjo *et al.* (2016)
SG-2	7	12.9 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
SG-2	8	12.1 ± 0.2	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
SG-3	9	12.9 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
SG-4	10	12.0 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
SG-1	11	11.8 ± 0.1	U-Pb zircon	Naranjo *et al.* (2016)
SG-1	12	11.9 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
SG-8	13	12.1 ± 0.1	U-Pb zircon	Naranjo *et al.* (2016)
SG-8	14	11.6 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
Lava flow	15	8.4 ± 0.5	K-Ar Whole rock	Clavero *et al.* (1998)
SA-1	1	9.3 ± 0.2	U-Pb zircon	Naranjo *et al.* (2016)
SA-1	2	9.5 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
SA-2	3	9.9 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
SA-2	4	9.9 ± 0.1	U-Pb zircon	Naranjo *et al.* (2016)
SA-2	5	9.3 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
SA-1	6	9.3 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
SA-1	7	9.4 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
SA-2	8	9.4 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
SA-2	9	9.5 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
COL-1	1	9.6 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2019)
COL-1	2	9.4 ± 0.1	U-Pb zircon	Naranjo *et al.* (2019)
COL-1	3	9.9 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2019)
COL-2	4	9.8 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2019)
COL-2	5	9.4 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2019)
Lava flow	6	8.2 ± 0.1	$^{40}Ar/^{39}Ar$ Groundmass	Naranjo *et al.* (2013a)
Lava flow	7	8.6 ± 0.1	$^{40}Ar/^{39}Ar$ Groundmass	Naranjo *et al.* (2013a)
COL-0	8	9.6 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
COL-1	9	8.6 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
COL-1	10	8.7 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
COL-1	11	8.3 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
COL-2	12	8.7 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
COL-2	13	9.0 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
COL-0	14	9.1 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
COL-1	15	8.7 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
COL-1	16	8.1 ± 0.1	$^{40}Ar/^{39}Ar$ Hornblende	Naranjo *et al.* (2016)
COL-1	17	8.5 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
COL-1	18	8.7 ± 0.2	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)

LV-1	1	4.2 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
LV-1	2	3.5 ± 0.1	U-Pb zircon	Naranjo *et al.* (2016)
LV-1	3	3.9 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
LV-1	4	3.5 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
LV-2	5	3.8 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
LV-1	6	3.8 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
LV-2	7	3.8 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
LV-2	8	4.1 ± 0.8	K-Ar Biotite	Naranjo *et al.* (2016)
LV-2	9	4.3 ± 0.8	K-Ar Biotite	Naranjo *et al.* (2016)
LV-2	10	3.2 ± 0.4	K-Ar Biotite	Naranjo *et al.* (2016)
LV-2	11	3.8 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
LV-2	12	3.9 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
LV-1	13	4.2 ± 0.4	$^{40}Ar/^{39}Ar$ Hornblende	Naranjo *et al.* (2016)
LV-2	14	3.8 ± 0.1	$^{40}Ar/^{39}Ar$ Biotite	Naranjo *et al.* (2016)
LV-2	15	3.6 ± 0.1	U-Pb zircon	Naranjo *et al.* (2016)

A3 Biotite EMPA Geochemical data and classification diagrams

Supplementary Table ST2: EPMA Geochemical analyses of biotite crystals. Each row corresponds to a crystal and does not necessarily correspond to a single spot analysis, as it may represent the average of multiple analyses. Sample names do not correlate with lithofacies names.

Sample	SiO_2	TiO_2	Al_2O_3	FeO	MnO	MgO	CaO	Na_2O	K_2O	F^-	Cl^-	Li_2O	H_2O
ANT1-1	37.31	3.55	14.46	14.89	0.14	14.49	0.15	0.53	7.42	0.00	0.11	1.16	3.99
ANT1-2	38.09	3.67	14.42	14.96	0.11	14.62	0.15	0.56	7.38	0.00	0.08	1.38	4.06
ANT1-3	36.87	3.21	13.61	15.27	0.14	14.47	0.15	0.52	7.67	0.00	0.11	1.03	3.92
ANT1-4	37.58	3.62	14.52	14.76	0.13	14.62	0.13	0.62	7.63	0.00	0.11	1.23	4.02
ANT1-5	43.25	3.09	13.04	13.78	0.11	12.31	0.06	0.41	6.45	0.00	0.01	2.86	4.21
ANT1-6	38.19	3.29	14.29	14.90	0.16	14.07	0.17	0.48	7.22	0.00	0.10	1.41	4.02
ANT1-7	37.79	3.85	13.83	14.61	0.13	13.53	0.29	0.40	7.13	0.00	0.10	1.29	3.96
ANT1-8	38.59	3.54	14.20	14.74	0.13	14.45	0.19	0.44	7.47	0.00	0.11	1.52	4.06
ANT1-9	37.99	3.56	14.41	14.61	0.15	14.89	0.12	0.64	7.75	0.00	0.15	1.35	4.04
ANT1-10	37.80	3.50	14.64	14.94	0.14	14.92	0.12	0.54	7.73	0.00	0.12	1.30	4.05
ANT1-11	39.19	3.61	13.57	14.22	0.11	13.60	0.25	0.46	6.93	0.00	0.16	1.70	4.01
ANT1-12	37.61	3.51	14.23	14.83	0.12	13.98	0.26	0.48	7.24	0.00	0.14	1.24	3.97
ANT1-13	40.09	3.38	13.83	13.90	0.10	13.96	0.23	0.45	6.95	0.00	0.14	1.96	4.09
ANT1-14	40.23	3.22	14.07	13.10	0.10	12.95	0.41	0.49	6.72	0.00	0.13	1.99	4.05
ANT1-15	38.32	3.38	13.91	15.02	0.12	14.12	0.16	0.43	7.12	0.00	0.12	1.45	4.01
ANT1-16	37.10	3.72	14.11	15.04	0.15	15.17	0.01	0.90	8.58	0.00	0.10	1.10	4.02
ANT1-17	37.92	3.39	13.85	14.64	0.11	14.15	0.26	0.38	7.36	0.00	0.06	1.33	3.99
ANT2-1	38.66	3.13	15.27	13.78	0.25	16.77	0.06	0.63	8.07	0.00	0.11	1.54	4.19
RF1-1	37.67	4.84	13.92	14.03	0.18	15.88	0.02	0.65	8.34	0.37	0.11	1.26	3.92
RF1-2	38.47	4.86	14.14	13.41	0.16	16.21	0.00	0.68	8.34	0.00	0.10	1.49	4.16
RF1-3	37.39	4.74	13.81	12.90	0.15	16.13	0.01	0.69	8.09	0.00	0.13	1.18	4.04
RF1-4	38.60	4.83	14.12	13.12	0.17	16.45	0.00	0.63	8.22	0.00	0.12	1.53	4.17
RF1-5	38.59	4.82	13.81	12.91	0.18	16.17	0.01	0.63	8.39	0.00	0.14	1.52	4.13
RF1-6	36.00	4.67	13.40	18.44	0.18	13.38	0.21	0.55	7.93	0.97	0.11	0.78	3.48
RF1-7	37.95	4.82	13.72	13.28	0.13	15.77	0.01	0.64	8.19	0.00	0.13	1.34	4.07
RF1-8	38.06	4.59	13.54	13.76	0.16	16.56	0.00	0.72	8.27	0.88	0.13	1.37	3.69
RF1-9	37.33	4.54	13.80	15.71	0.23	15.12	0.00	0.64	8.21	0.47	0.12	1.16	3.84
RF1-10	38.26	4.76	13.86	13.07	0.16	16.25	0.01	0.69	8.48	0.00	0.11	1.43	4.13
RF1-11	38.40	4.84	13.84	13.14	0.18	16.35	0.02	0.73	8.48	0.00	0.13	1.47	4.14
RF1-12	38.73	4.61	14.06	13.26	0.16	16.60	0.02	0.73	8.49	0.00	0.11	1.56	4.18

RF1-13	38.30	4.54	14.20	13.01	0.17	16.41	0.00	0.62	8.52	0.00	0.11	1.44	4.14
RF1-14	37.13	4.76	13.78	14.75	0.19	15.86	0.04	0.45	8.27	1.48	0.10	1.10	3.36
RF1-15	38.80	4.74	14.20	13.18	0.17	16.27	0.00	0.70	8.46	0.00	0.12	1.58	4.18
RF1-16	36.48	4.46	13.27	17.68	0.31	14.63	0.09	0.43	7.92	1.34	0.12	0.92	3.35
RF1-17	35.69	4.26	12.76	20.26	0.21	14.76	0.02	0.45	7.60	1.63	0.13	0.69	3.18
RF1-18	38.93	4.82	14.13	11.33	0.18	16.12	0.02	0.50	8.57	3.38	0.13	1.62	2.53
RF1-19	38.30	4.64	13.99	13.12	0.15	16.19	0.08	0.64	8.46	0.00	0.13	1.44	4.12
RF2-1	37.85	5.48	13.59	12.96	0.09	15.35	0.06	0.63	8.34	0.00	0.09	1.31	4.08
RF2-2	38.08	5.18	13.87	14.15	0.18	16.07	0.00	0.63	8.79	0.00	0.11	1.38	4.15
RF2-3	37.80	5.18	13.41	13.26	0.17	15.82	0.04	0.59	8.75	0.00	0.10	1.30	4.08
RF2-4	38.69	5.19	14.21	13.10	0.21	15.70	0.03	0.70	8.70	0.00	0.15	1.55	4.17
RF2-5	36.45	5.29	13.64	18.85	0.12	13.33	0.02	0.08	8.97	1.74	0.13	0.91	3.19
RF2-6	37.71	5.10	13.61	13.32	0.18	15.79	0.02	0.64	8.42	0.00	0.15	1.27	4.07
RF2-7	38.01	5.35	14.35	13.50	0.11	16.12	0.01	0.58	8.96	1.14	0.11	1.36	3.63
RF2-8	37.79	5.10	13.55	13.08	0.15	15.94	0.01	0.60	8.73	0.00	0.11	1.29	4.08
RF2-9	38.14	5.21	14.14	13.28	0.18	15.96	0.01	0.58	7.99	0.00	0.15	1.39	4.12
RF2-10	36.49	5.07	13.66	16.90	0.13	14.19	0.00	0.37	8.36	2.04	0.14	0.92	3.02
RF2-11	34.71	5.02	12.99	20.38	0.29	14.38	0.04	0.45	7.60	0.00	0.11	0.41	3.92
RF2-12	37.49	5.15	13.53	12.98	0.19	15.80	0.01	0.54	8.72	0.00	0.15	1.21	4.04
RF2-13	35.16	5.00	13.11	16.30	0.13	15.68	0.07	0.30	8.20	3.43	0.13	0.54	2.29
RF2-14	34.57	4.56	13.00	15.46	0.08	14.79	0.03	0.53	8.37	3.10	0.12	0.37	2.33
RF2-15	35.42	4.99	13.17	17.98	0.11	14.88	0.03	0.26	8.20	2.65	0.15	0.61	2.68
RF3-1	37.08	4.81	13.51	14.34	0.21	15.76	0.00	0.64	8.43	0.00	0.12	1.09	4.03
RF3-2	35.87	4.54	12.64	19.12	0.28	13.90	0.01	0.42	8.11	1.08	0.13	0.74	3.40
RF3-3	37.39	4.62	13.51	13.92	0.19	15.40	0.02	0.70	8.26	0.41	0.11	1.18	3.83
RF3-4	36.72	4.50	13.28	15.62	0.25	15.24	0.04	0.62	8.18	0.98	0.10	0.99	3.53
RF3-5	32.51	4.53	12.42	20.52	0.90	13.69	0.05	0.42	7.33	1.49	0.15	0.00	3.00
RF3-6	37.94	4.78	13.80	13.23	0.16	16.28	0.00	0.73	8.41	0.00	0.11	1.34	4.11
RF3-7	38.12	4.53	13.77	12.93	0.19	15.93	0.00	0.66	8.52	0.00	0.14	1.39	4.08
RF3-8	38.32	4.78	13.99	12.99	0.17	15.55	0.00	0.71	8.55	0.37	0.13	1.45	3.93
RF3-9	37.01	4.69	13.47	15.83	0.20	14.92	0.04	0.79	8.15	0.20	0.10	1.07	3.93
RF3-10	36.11	4.51	13.22	17.64	0.21	14.21	0.00	0.61	8.07	0.89	0.10	0.81	3.53
RF3-11	36.87	4.59	13.75	14.34	0.18	15.71	0.08	0.57	8.43	1.53	0.13	1.03	3.29
RF3-12	37.91	4.78	13.85	13.12	0.15	16.03	0.00	0.70	8.52	0.00	0.13	1.33	4.09
RF3-13	36.78	4.60	13.81	13.16	0.20	16.11	0.01	0.70	8.43	0.00	0.11	1.00	4.01
RF3-14	38.33	4.65	13.99	13.19	0.19	16.29	0.03	0.64	8.38	0.00	0.14	1.45	4.13

RF3-15	35.62	4.58	12.96	15.21	0.18	14.59	0.00	0.50	8.04	0.93	0.12	0.67	3.42
RF3-16	37.71	4.70	13.90	12.99	0.17	15.43	0.03	0.68	8.35	0.00	0.13	1.27	4.05
RF3-17	38.11	4.69	13.94	13.50	0.19	15.54	0.01	0.70	8.29	0.00	0.14	1.39	4.09
VH-1	33.15	3.87	13.54	21.31	0.99	14.45	0.00	0.63	7.64	4.14	0.08	0.00	1.88
VH-2	31.23	3.53	12.87	26.48	1.18	12.98	0.10	0.59	6.67	3.64	0.07	0.00	2.02
VH-3	34.14	3.71	13.85	21.31	0.87	13.39	0.02	0.65	8.06	4.02	0.08	0.27	1.98
VH-4	33.07	3.85	13.38	20.43	1.02	14.31	0.00	0.52	8.02	4.28	0.08	0.00	1.78
VH-5	33.22	3.22	14.26	17.61	2.73	13.38	0.04	0.40	8.20	4.89	0.12	0.11	1.45
VH-6	35.37	3.53	14.28	16.40	0.94	14.83	0.00	0.63	8.38	4.84	0.13	0.60	1.62
VH-7	31.12	3.58	12.77	25.55	1.03	13.24	0.00	0.49	7.44	3.76	0.08	0.00	1.94
VH-8	33.13	3.80	13.37	19.62	0.90	15.06	0.00	0.55	8.13	4.34	0.07	0.00	1.77
VH-9	32.10	3.58	13.44	22.78	1.10	14.07	0.00	0.56	7.85	3.99	0.08	0.00	1.90
VH-10	34.00	4.08	13.90	18.60	1.12	14.44	0.01	0.64	8.10	4.36	0.06	0.21	1.81
VH-11	33.75	3.86	13.76	19.75	1.07	14.61	0.00	0.54	8.14	4.22	0.09	0.13	1.87
VH-12	36.42	3.44	14.69	14.23	0.95	16.28	0.02	0.56	8.89	5.10	0.08	0.90	1.62
VH-13	33.69	3.66	13.71	19.63	0.87	14.71	0.00	0.65	7.78	4.36	0.09	0.12	1.78
VH-14	34.87	3.75	13.66	17.90	0.85	15.12	0.00	0.67	8.66	4.68	0.10	0.46	1.71
VH-15	34.10	3.72	13.96	20.05	1.06	14.11	0.01	0.64	8.19	4.32	0.09	0.23	1.84
VH-16	34.56	3.70	14.51	16.93	0.86	14.93	0.00	0.68	8.49	4.61	0.10	0.37	1.72
VH-17	35.84	3.53	14.71	14.20	0.61	15.23	0.02	0.61	8.19	4.63	0.09	0.74	1.74
VH-18	32.74	3.99	13.45	21.64	1.07	12.74	0.00	0.60	7.96	4.05	0.07	0.00	1.85
VH-19	36.18	3.94	14.32	14.97	0.89	15.89	0.02	0.72	8.89	4.91	0.11	0.83	1.69
PAJ1-1	38.43	5.29	13.16	10.30	0.04	16.52	0.06	0.76	8.20	0.52	0.18	1.48	3.81
PAJ1-2	37.73	4.17	14.31	12.01	0.08	14.95	0.17	0.76	7.71	0.00	0.09	1.28	4.01
PAJ1-3	37.82	4.97	13.43	10.77	0.10	17.19	0.07	0.58	8.79	0.90	0.17	1.30	3.63
PAJ1-4	37.65	3.78	14.04	13.57	0.28	15.25	0.00	0.70	8.43	0.00	0.12	1.25	4.02
PAJ1-5	38.19	4.79	13.17	12.21	0.08	15.68	0.02	0.59	8.52	0.01	0.25	1.41	4.00
PAJ1-6	37.43	4.18	13.32	13.29	0.19	14.37	0.08	0.77	7.90	0.00	0.20	1.19	3.92
PAJ1-7	40.52	4.76	11.62	12.29	0.07	13.87	0.18	0.31	7.03	0.00	0.19	2.08	4.01
PAJ1-8	37.84	4.94	13.57	10.24	0.09	16.72	0.05	0.59	8.45	0.90	0.16	1.31	3.60
PAJ1-9	38.72	4.95	12.83	13.68	0.12	14.79	0.07	0.39	8.50	0.00	0.18	1.56	4.05
PAJ1-10	36.97	3.85	12.69	16.25	0.17	13.56	0.04	0.48	8.37	0.00	0.29	1.06	3.85
PAJ1-11	35.81	5.19	13.28	13.78	0.20	15.55	0.06	0.75	8.27	0.06	0.14	0.72	3.90
PAJ1-12	38.14	4.96	13.12	11.15	0.11	17.36	0.06	0.58	8.72	0.78	0.18	1.39	3.71
PAJ1-13	40.20	5.07	11.74	11.77	0.08	14.36	0.16	0.35	7.34	0.00	0.20	1.99	4.02
PAJ2-1	42.39	3.37	11.58	11.55	0.18	13.79	0.24	0.12	6.56	0.00	0.09	2.61	4.08
PAJ2-2	41.13	3.57	12.14	11.76	0.16	13.70	0.19	0.14	7.01	0.00	0.07	2.25	4.04
PAJ2-3	41.90	3.46	11.31	11.87	0.18	13.23	0.46	0.08	6.75	0.00	0.09	2.47	4.03
PAJ2-4	40.93	3.38	12.18	12.74	0.21	13.61	0.43	0.26	6.63	0.00	0.09	2.20	4.04
PAJ2-5	39.96	3.79	12.88	12.17	0.19	14.20	0.11	0.40	7.45	0.00	0.12	1.92	4.03
PAJ2-6	43.29	3.11	11.58	11.33	0.15	12.99	0.44	0.08	5.98	0.00	0.09	2.87	4.09
PAJ2-7	42.93	3.38	10.90	12.29	0.15	12.50	0.53	0.12	5.89	0.00	0.09	2.77	4.05
PAJ2-8	37.08	3.90	13.62	12.32	0.28	14.36	0.02	0.52	8.22	0.00	0.11	1.09	3.90
PAJ2-9	42.19	3.52	11.34	11.97	0.16	13.20	0.30	0.12	6.63	0.00	0.08	2.56	4.05
PAJ2-10	39.97	3.64	12.56	12.35	0.19	13.56	0.19	0.40	7.37	0.00	0.09	1.92	4.00
PAJ3-1	39.26	4.03	13.21	14.22	0.23	14.79	0.17	0.40	7.58	0.00	0.08	1.72	4.09
PAJ3-2	39.56	2.85	13.90	13.20	0.24	13.98	0.08	0.50	7.07	0.00	0.12	1.80	4.03
PAJ3-3	36.69	3.88	13.74	13.17	0.27	15.15	0.01	0.60	7.87	0.00	0.10	0.98	3.92

PAJ3-4	37.51	4.15	12.71	13.80	0.30	15.46	0.00	0.57	8.44	0.00	0.12	1.21	3.97
PAJ3-5	38.26	4.18	14.12	13.38	0.30	15.82	0.00	0.59	8.27	0.00	0.11	1.43	4.10
PAJ3-6	37.69	3.90	13.83	14.12	0.30	15.39	0.00	0.62	8.55	0.00	0.11	1.27	4.04
PAJ3-7	37.42	3.98	14.18	13.72	0.33	15.32	0.00	0.57	8.43	0.00	0.11	1.19	4.03
PAJ3-8	38.91	3.83	12.76	13.43	0.20	13.50	0.14	0.36	7.21	0.00	0.08	1.61	3.96
PAJ3-9	39.11	3.72	12.48	13.04	0.18	13.77	0.18	0.45	7.34	0.00	0.09	1.67	3.96
PAJ3-10	37.61	4.02	14.15	13.15	0.27	15.99	0.00	0.66	8.37	0.00	0.11	1.24	4.05
PAJ3-11	37.73	4.04	14.32	14.00	0.28	15.41	0.00	0.72	8.53	0.00	0.11	1.28	4.07
PAJ3-12	37.76	3.91	13.85	13.42	0.26	15.20	0.02	0.67	8.48	0.00	0.10	1.29	4.03
PAJ3-13	38.34	3.89	14.37	14.29	0.29	15.29	0.00	0.61	8.52	0.00	0.09	1.45	4.12
PAJ3-14	38.64	3.98	14.02	12.67	0.24	15.24	0.01	0.51	8.52	0.00	0.10	1.54	4.08
PAJ3-15	37.60	3.95	13.73	14.46	0.26	14.70	0.02	0.53	7.99	0.00	0.12	1.24	4.00
PAJ3-16	38.53	3.81	13.67	13.30	0.25	15.47	0.01	0.48	8.21	0.00	0.10	1.50	4.07
PAJ3-17	37.62	3.99	14.09	13.71	0.31	15.38	0.00	0.55	8.51	0.00	0.10	1.25	4.04
PAJ3-18	36.64	3.77	13.90	13.91	0.25	15.06	0.03	0.49	8.31	0.00	0.12	0.96	3.94
PAJ3-19	36.71	3.94	13.93	13.69	0.31	14.31	0.04	0.60	8.32	0.00	0.06	0.98	3.94
PAJ4-1	37.56	4.36	13.99	13.99	0.30	15.59	0.00	0.67	8.57	0.00	0.09	1.23	4.07
PAJ4-2	37.16	4.64	14.22	14.25	0.31	15.44	0.01	0.58	8.54	0.00	0.10	1.11	4.06
PAJ4-3	37.71	4.50	13.96	13.70	0.30	15.82	0.00	0.64	8.61	0.00	0.12	1.27	4.08
PAJ4-4	37.50	4.50	14.12	13.78	0.27	15.56	0.01	0.60	8.31	0.00	0.10	1.21	4.06
PAJ4-5	37.22	4.52	13.92	13.54	0.30	15.69	0.00	0.71	8.31	0.00	0.11	1.13	4.04
PAJ4-6	37.94	4.67	13.86	13.66	0.28	15.80	0.00	0.67	8.43	0.00	0.14	1.34	4.09
PAJ4-7	37.32	4.51	13.96	13.95	0.31	15.77	0.02	0.57	8.55	0.00	0.13	1.16	4.05
PAJ4-8	36.61	4.62	13.81	14.00	0.31	15.08	0.02	0.70	8.46	0.00	0.11	0.96	3.98
PAJ4-9	37.16	4.22	13.68	13.88	0.29	15.02	0.00	0.62	8.55	0.00	0.08	1.11	4.00
PAJ4-10	37.26	4.61	13.68	13.04	0.31	15.39	0.00	0.64	8.59	0.00	0.12	1.14	4.01
PAJ4-11	37.06	4.54	13.99	13.99	0.30	15.17	0.04	0.64	8.54	0.00	0.12	1.08	4.02
PAJ4-12	37.52	4.24	14.12	14.04	0.30	15.55	0.00	0.65	8.29	0.00	0.07	1.22	4.07
PAJ4-13	37.67	4.69	14.13	14.27	0.28	15.34	0.00	0.68	8.50	0.00	0.13	1.26	4.08
PAJ4-14	37.88	4.52	14.15	13.21	0.28	15.80	0.02	0.62	8.49	0.00	0.12	1.32	4.09
PAJ4-15	37.72	4.60	13.68	14.20	0.30	15.48	0.03	0.56	8.48	0.00	0.16	1.27	4.06
PAJ4-16	37.64	4.53	13.89	13.98	0.32	15.34	0.02	0.60	8.51	0.00	0.13	1.25	4.06
PAJ4-17	37.75	4.58	14.00	14.27	0.31	15.72	0.00	0.63	8.63	0.00	0.12	1.28	4.10
PAJ4-18	37.39	4.71	14.12	14.07	0.28	15.66	0.00	0.57	8.64	0.00	0.08	1.18	4.08
PAJ4-19	37.76	4.65	14.00	13.85	0.31	15.57	0.03	0.61	8.05	0.00	0.12	1.29	4.08
PAJ4-20	37.08	4.05	12.54	13.99	0.41	13.07	2.77	1.18	7.77	0.00	0.28	1.09	3.89
JUNC1-1	36.22	4.47	13.23	14.01	0.27	14.34	0.35	0.49	7.26	0.00	0.11	0.84	3.87
JUNC1-2	37.63	4.68	13.06	13.46	0.25	15.42	0.32	0.51	7.48	0.00	0.16	1.25	3.99
JUNC1-3	36.64	4.33	13.68	13.89	0.28	15.08	0.35	0.54	7.26	0.00	0.09	0.96	3.95
JUNC1-4	36.64	4.44	13.55	14.28	0.27	14.23	0.29	0.45	7.20	0.00	0.07	0.96	3.92
JUNC1-5	37.06	4.56	13.43	13.32	0.25	14.93	0.30	0.44	7.37	0.00	0.13	1.08	3.95
JUNC1-6	36.53	4.55	13.29	13.99	0.29	14.76	0.34	0.42	6.92	0.00	0.10	0.93	3.91
JUNC1-7	37.79	4.49	13.27	14.13	0.26	14.61	0.29	0.43	7.30	0.00	0.09	1.29	4.00
JUNC1-8	37.17	4.35	13.43	13.77	0.25	15.19	0.30	0.55	7.47	0.00	0.08	1.11	3.98
JUNC1-9	36.93	4.55	13.34	14.10	0.25	14.68	0.40	0.46	7.32	0.00	0.09	1.05	3.95
JUNC1-10	37.63	4.22	13.83	14.08	0.26	15.51	0.23	0.56	7.76	0.00	0.09	1.25	4.05
JUNC1-11	37.60	4.49	12.55	13.14	0.27	15.09	0.31	0.52	7.83	0.00	0.13	1.24	3.95
JUNC1-12	36.88	4.41	13.50	14.31	0.27	14.98	0.27	0.55	7.70	0.00	0.12	1.03	3.97
JUNC1-13	36.37	4.55	13.29	14.23	0.29	14.77	0.44	0.54	7.28	0.00	0.10	0.89	3.92

JUNC1-14	38.13	4.37	14.09	13.03	0.26	15.89	0.52	0.61	6.99	0.00	0.09	1.39	4.09
JUNC1-15	38.26	4.22	13.22	13.70	0.24	14.69	0.49	0.60	7.59	0.00	0.12	1.43	4.02
JUNC1-16	36.93	4.45	13.16	14.14	0.29	14.59	0.35	0.44	7.25	0.00	0.12	1.05	3.93
JUNC1-17	37.18	4.41	13.40	14.74	0.26	14.38	0.33	0.45	7.22	0.00	0.12	1.12	3.96
JUNC1-18	38.31	4.34	12.94	13.69	0.25	14.44	0.29	0.47	6.76	0.00	0.11	1.44	3.98
JUNC2-1	38.40	4.53	13.68	14.12	0.30	15.36	0.00	0.72	8.74	0.00	0.11	1.47	4.11
JUNC2-2	36.82	4.49	13.28	14.42	0.56	15.60	0.05	0.55	8.32	1.67	0.11	1.01	3.20
JUNC2-3	37.58	4.63	13.73	13.36	0.32	15.50	0.05	0.67	8.76	0.00	0.12	1.23	4.05
JUNC2-4	37.34	4.59	13.87	14.33	0.29	15.45	0.03	0.74	8.70	0.00	0.12	1.16	4.06
JUNC2-5	37.51	4.55	13.86	14.42	0.31	16.00	0.01	0.74	8.49	0.00	0.12	1.21	4.09
JUNC2-6	37.07	4.62	13.84	14.63	0.35	15.30	0.00	0.71	8.55	0.24	0.09	1.09	3.93
JUNC2-7	37.00	4.52	13.53	11.87	0.57	17.78	0.00	0.76	8.30	2.68	0.11	1.07	2.78
JUNC2-8	37.89	4.58	14.09	15.05	0.29	15.29	0.01	0.74	8.66	0.00	0.13	1.32	4.11
JUNC2-9	37.19	4.60	13.47	15.73	0.33	15.23	0.01	0.68	8.48	1.66	0.09	1.12	3.27
JUNC2-10	37.56	4.65	13.98	15.09	0.32	14.71	0.00	0.73	8.56	0.00	0.10	1.23	4.07
JUNC2-11	36.73	4.69	13.63	14.10	0.30	15.18	0.05	0.70	8.39	0.00	0.11	0.99	3.99
JUNC2-12	36.67	4.53	13.73	17.26	0.45	15.16	0.00	0.59	8.60	0.51	0.10	0.97	3.82
JUNC2-13	37.65	4.39	14.00	14.29	0.30	15.66	0.00	0.69	8.41	0.00	0.10	1.25	4.08
JUNC2-14	37.44	4.52	13.76	14.36	0.28	15.69	0.00	0.64	8.83	0.00	0.12	1.19	4.07
JUNC2-15	37.33	4.29	13.88	14.11	0.30	15.78	0.00	0.64	8.10	0.00	0.08	1.16	4.05
JUNC2-16	37.68	4.57	13.94	14.27	0.30	15.48	0.00	0.75	8.73	0.00	0.09	1.26	4.09
JUNC2-17	37.26	4.70	14.04	14.89	0.31	14.83	0.00	0.70	8.83	0.00	0.09	1.14	4.06
JUNC2-18	37.43	4.60	13.57	13.83	0.30	15.70	0.00	0.77	8.38	0.00	0.12	1.19	4.04
JUNC2-19	37.76	4.27	13.55	14.48	0.34	15.60	0.00	0.64	8.91	0.00	0.10	1.28	4.08
JUNC2-20	37.93	4.54	13.84	14.01	0.30	15.76	0.00	0.76	8.63	0.00	0.11	1.33	4.10
JUNC3-1	40.59	3.11	13.44	12.94	0.12	14.79	0.27	0.22	6.52	0.00	0.15	2.10	4.09
JUNC3-2	43.30	3.22	13.59	13.67	0.20	13.73	0.10	0.54	7.24	0.00	0.14	2.88	4.29
JUNC3-3	39.63	3.32	13.81	10.48	0.11	16.71	0.13	0.04	6.01	0.00	0.12	1.82	4.06
JUNC3-4	38.33	3.41	15.15	14.69	0.21	15.29	0.02	0.56	8.27	0.00	0.13	1.45	4.13
JUNC3-5	38.11	3.33	14.83	14.95	0.17	14.83	0.06	0.55	7.75	0.00	0.17	1.39	4.06
JUNC3-6	37.49	3.65	14.87	14.80	0.21	14.93	0.05	0.49	8.19	0.00	0.16	1.21	4.04
JUNC3-7	38.08	3.57	15.38	14.95	0.23	14.67	0.04	0.60	8.33	0.00	0.16	1.38	4.10
JUNC3-8	38.38	3.54	14.89	14.99	0.20	15.25	0.07	0.56	7.99	0.00	0.14	1.46	4.12
JUNC4-1	38.93	4.24	12.52	13.20	0.25	14.49	0.33	0.58	6.55	0.00	0.10	1.62	4.00
JUNC4-2	39.17	4.14	12.90	13.15	0.25	14.45	0.29	0.46	6.97	0.00	0.09	1.69	4.03
JUNC4-3	40.03	4.19	12.37	12.97	0.23	14.13	0.37	0.50	6.88	0.00	0.11	1.94	4.05
JUNC4-4	37.72	4.34	12.55	12.90	0.21	14.30	0.16	0.67	7.68	0.00	0.13	1.27	3.91
JUNC4-5	40.92	4.29	12.55	12.92	0.20	14.04	0.42	0.28	7.14	0.00	0.10	2.19	4.12
JUNC4-6	40.46	4.05	13.23	12.88	0.29	14.39	0.26	0.48	7.31	0.00	0.10	2.06	4.13
JUNC4-7	39.86	4.05	12.33	12.22	0.22	14.97	0.32	0.63	7.75	0.00	0.10	1.89	4.06
JUNC4-8	39.57	4.04	12.48	13.38	0.22	13.87	0.42	0.61	6.90	0.00	0.08	1.81	4.02
JUNC4-9	40.79	4.22	12.86	12.79	0.21	15.08	0.32	0.15	7.71	0.00	0.10	2.16	4.17
JUNC4-10	40.19	4.26	12.58	13.09	0.21	14.52	0.41	0.41	7.01	0.00	0.08	1.98	4.10
JUNC4-11	41.27	3.87	12.06	12.18	0.24	13.40	0.37	0.51	6.90	0.00	0.10	2.29	4.06
JUNC4-12	38.76	4.64	13.45	13.64	0.23	15.77	0.06	0.53	8.27	0.00	0.11	1.57	4.13
JUNC4-13	38.79	4.67	13.50	12.91	0.28	15.47	0.16	0.46	7.84	0.00	0.12	1.58	4.10
JUNC4-14	40.31	4.22	12.81	13.18	0.44	14.78	0.28	0.43	7.52	0.00	0.10	2.02	4.13
JUNC4-15	39.66	4.08	12.38	12.35	0.18	13.86	0.59	0.28	7.42	0.00	0.11	1.83	4.00
JUNC4-16	39.43	4.09	12.06	12.91	0.25	13.83	0.47	0.62	6.85	0.00	0.08	1.76	3.99

JUNC4-17	39.20	4.27	12.68	13.24	0.28	14.74	0.18	0.39	7.54	0.00	0.11	1.70	4.04
JUNC4-18	40.68	4.13	12.49	12.88	0.21	14.32	0.64	0.31	6.76	0.00	0.09	2.12	4.11
JUNC4-19	38.97	4.18	12.70	13.52	0.24	14.42	0.37	0.48	7.13	0.00	0.08	1.63	4.02
SG1-1	37.32	4.51	13.85	15.74	0.47	14.90	0.01	0.68	8.34	1.06	0.10	1.16	3.56
SG1-2	37.50	4.64	13.92	13.22	0.28	16.03	0.06	0.69	7.90	0.00	0.07	1.21	4.07
SG1-3	37.33	4.23	14.06	13.51	0.29	15.54	0.28	0.61	6.75	0.00	0.09	1.16	4.01
SG1-4	36.61	4.58	13.87	13.63	0.37	14.70	0.09	0.55	8.18	0.00	0.10	0.95	3.95
SG1-5	37.22	4.68	13.85	13.22	0.34	15.20	0.15	0.60	7.59	0.00	0.11	1.13	4.00
SG1-6	37.83	4.43	14.35	13.69	0.28	15.73	0.04	0.63	8.10	0.00	0.08	1.30	4.10
SG1-7	37.21	4.53	14.22	13.80	0.38	15.42	0.08	0.64	7.96	0.00	0.11	1.13	4.04
SG1-8	37.34	4.35	13.82	13.32	0.32	15.54	0.06	0.54	7.88	0.00	0.09	1.16	4.02
SG1-9	37.04	4.45	14.11	13.21	0.28	15.48	0.14	0.64	7.43	0.00	0.06	1.08	4.01
SG1-10	37.51	4.54	13.37	12.74	0.25	15.20	0.18	0.59	7.55	0.00	0.10	1.21	3.98
SG1-11	37.18	4.27	14.09	13.61	0.30	15.58	0.13	0.62	7.57	0.00	0.07	1.12	4.03
SG1-12	37.90	4.27	13.77	13.29	0.27	15.81	0.41	0.69	6.20	0.00	0.09	1.33	4.04
SG1-13	37.91	4.38	14.38	13.55	0.30	15.94	0.10	0.55	8.01	0.00	0.07	1.33	4.11
SG1-14	37.41	4.60	14.41	14.16	0.37	15.31	0.02	0.64	8.49	0.00	0.10	1.18	4.08
SG1-15	36.99	4.48	13.99	13.88	0.37	14.98	0.05	0.68	7.90	0.00	0.12	1.06	3.99
SG1-16	36.92	4.41	14.36	13.16	0.27	15.57	0.33	0.65	6.59	0.00	0.06	1.04	4.01
SG1-17	37.65	4.42	13.56	13.29	0.29	15.61	0.19	0.46	6.65	0.00	0.11	1.25	4.01
SG1-18	38.27	4.24	13.80	13.29	0.24	15.49	0.40	0.61	6.44	0.00	0.10	1.43	4.06
SG1-19	37.77	4.39	14.00	13.79	0.32	15.50	0.04	0.70	8.13	0.00	0.07	1.29	4.08
SG1-20	37.55	4.24	13.40	13.08	0.28	14.89	0.43	0.63	5.68	0.00	0.10	1.22	3.94
SG2-1	37.77	4.34	14.42	14.05	0.35	15.71	0.02	0.76	8.39	0.00	0.07	1.29	4.12
SG2-2	37.99	4.32	13.80	13.86	0.36	15.93	0.00	0.78	8.39	0.00	0.10	1.35	4.10
SG2-3	38.03	4.37	14.01	13.88	0.36	15.83	0.00	0.76	8.57	0.00	0.10	1.36	4.11
SG2-4	37.70	4.28	14.34	13.88	0.36	15.68	0.00	0.77	8.54	0.00	0.08	1.27	4.10
SG2-5	37.75	4.56	14.34	14.18	0.36	15.64	0.04	0.72	8.47	0.00	0.11	1.28	4.11
SG2-6	38.24	4.52	14.40	14.31	0.35	15.68	0.01	0.61	8.49	0.00	0.10	1.42	4.15
SG2-7	38.09	4.49	14.22	13.74	0.37	15.44	0.00	0.64	8.57	0.00	0.09	1.38	4.11
SG2-8	37.93	3.85	13.79	13.61	0.34	16.01	0.00	0.74	8.46	0.00	0.08	1.33	4.08
SG2-9	37.88	4.39	14.47	14.28	0.33	15.58	0.00	0.69	8.36	0.02	0.11	1.32	4.11
SG2-10	38.48	4.47	13.59	13.67	0.37	15.85	0.00	0.70	8.46	0.00	0.09	1.49	4.12
SG2-11	38.06	4.31	14.23	14.13	0.37	15.73	0.00	0.76	8.61	0.00	0.10	1.37	4.13
SG2-12	38.20	4.33	14.64	13.78	0.35	15.85	0.00	0.76	8.10	0.00	0.05	1.41	4.16
SG2-13	37.77	4.44	15.06	14.04	0.35	15.68	0.00	0.74	8.48	0.00	0.05	1.29	4.16
SG2-14	38.37	4.48	14.33	14.23	0.35	15.78	0.00	0.47	8.54	0.18	0.10	1.46	4.07
SG2-15	37.99	4.39	14.37	14.21	0.37	15.86	0.02	0.65	8.40	0.00	0.09	1.35	4.13
SG2-16	38.45	4.51	14.16	13.74	0.37	15.74	0.01	0.71	8.48	0.00	0.10	1.48	4.15
SG2-17	37.93	4.50	14.32	14.51	0.36	15.19	0.00	0.72	8.64	0.00	0.10	1.33	4.11
SG2-18	37.86	4.37	13.69	13.86	0.34	15.87	0.00	0.66	8.38	0.00	0.11	1.31	4.08
SG2-19	38.39	4.05	14.00	13.85	0.40	16.04	0.00	0.63	8.45	0.00	0.11	1.47	4.13
SG2-20	38.39	4.37	13.82	13.49	0.34	15.66	0.00	0.56	8.42	0.00	0.09	1.47	4.11
SG2-21	37.91	4.37	14.40	14.05	0.33	15.64	0.00	0.68	8.57	0.00	0.10	1.33	4.12
SG2-22	37.21	4.52	13.85	13.83	0.34	15.56	0.00	0.70	8.64	0.00	0.13	1.13	4.03
SG2-23	37.36	4.62	14.50	14.28	0.36	15.52	0.00	0.64	8.58	0.00	0.09	1.17	4.10
SG2-24	38.30	3.94	14.83	13.95	0.35	15.74	0.02	0.72	8.65	0.00	0.06	1.44	4.16
SG2-25	37.91	4.45	14.35	13.93	0.31	16.08	0.00	0.64	8.29	0.00	0.10	1.33	4.13
SG2-26	38.28	4.55	14.37	14.01	0.36	15.79	0.00	0.73	8.40	0.00	0.08	1.44	4.16

SG2-27	37.91	4.35	13.80	13.86	0.38	15.60	0.07	0.64	8.33	0.00	0.10	1.33	4.08
SG2-28	38.44	4.42	13.76	13.90	0.35	16.28	0.01	0.67	8.03	0.00	0.08	1.48	4.14
SG2-29	37.43	4.50	14.49	14.39	0.33	15.81	0.00	0.76	8.31	0.00	0.09	1.19	4.11
SG2-30	37.99	4.44	14.64	13.52	0.37	15.54	0.06	0.57	8.63	0.00	0.09	1.35	4.12
SG3-1	37.24	3.84	13.57	13.08	0.33	14.63	0.07	0.50	7.87	0.00	0.07	1.14	3.94
SG3-2	36.42	4.02	13.59	13.62	0.35	14.92	0.14	0.58	7.50	0.00	0.10	0.90	3.90
SG3-3	37.14	3.98	13.78	13.90	0.36	15.35	0.01	0.68	8.20	0.00	0.11	1.11	3.99
SG3-4	37.51	4.06	13.22	13.63	0.33	15.10	0.20	0.59	7.13	0.00	0.12	1.21	3.96
SG3-5	37.14	4.01	13.75	13.53	0.30	15.01	0.18	0.50	7.09	0.00	0.08	1.11	3.96
SG3-6	36.74	4.01	13.87	13.61	0.32	15.27	0.25	0.48	6.90	0.00	0.08	0.99	3.95
SG3-7	37.23	4.20	13.98	14.16	0.35	15.00	0.05	0.61	8.14	0.28	0.12	1.13	3.94
SG3-8	37.97	3.80	13.26	13.19	0.32	14.90	0.20	0.68	7.45	0.00	0.16	1.35	3.96
SG3-9	36.27	4.12	14.05	14.23	0.32	14.96	0.00	0.66	8.03	0.00	0.10	0.86	3.94
SG3-10	37.07	4.00	14.43	13.25	0.28	15.72	0.07	0.84	7.50	0.00	0.12	1.09	4.01
SG3-11	39.68	3.72	13.56	13.13	0.25	13.02	0.18	0.40	7.10	0.00	0.11	1.84	4.02
SG3-12	36.26	3.89	13.21	13.23	0.34	14.97	0.24	0.68	7.55	0.00	0.12	0.86	3.86
SG3-13	36.49	4.09	13.92	13.76	0.29	15.10	0.04	0.77	7.90	0.00	0.09	0.92	3.95
SG3-14	38.08	3.97	13.57	13.21	0.32	15.89	0.11	0.56	7.80	0.00	0.11	1.38	4.05
SG3-15	37.74	3.94	13.71	13.60	0.30	14.99	0.22	0.52	7.54	0.00	0.07	1.28	4.01
SG3-16	37.05	4.01	13.92	13.51	0.30	14.69	0.18	0.53	7.14	0.00	0.08	1.08	3.95
SG3-17	36.33	4.00	13.62	13.91	0.36	14.97	0.08	0.64	7.74	0.00	0.12	0.87	3.90
SG3-18	37.27	3.89	13.63	12.19	0.25	15.08	0.17	0.48	7.24	0.00	0.10	1.14	3.93
SG3-19	36.71	4.05	13.98	14.19	0.34	15.20	0.11	0.68	7.79	0.00	0.12	0.98	3.97
SG4-1	38.01	4.29	13.91	13.53	0.32	15.74	0.10	0.70	7.68	0.00	0.09	1.36	4.08
SG4-2	38.35	4.40	13.96	14.30	0.38	15.90	0.00	0.74	8.63	0.00	0.08	1.45	4.15
SG4-3	38.20	5.11	13.76	14.47	0.14	15.54	0.03	0.72	8.86	0.00	0.17	1.41	4.13
SG4-4	38.30	3.83	12.71	14.73	0.45	14.58	0.65	0.28	4.68	0.00	0.10	1.44	3.96
SG4-5	38.61	5.45	13.58	12.68	0.06	16.43	0.01	0.63	8.77	0.00	0.15	1.53	4.16
SG4-6	39.11	3.92	12.18	15.81	0.40	12.10	0.46	0.28	5.68	0.00	0.13	1.67	3.92
SG4-7	37.95	4.21	14.05	17.21	0.53	13.76	0.05	0.44	8.04	0.00	0.12	1.34	4.08
SG4-8	39.34	4.27	13.48	13.89	0.29	14.74	0.17	0.45	7.53	0.00	0.06	1.74	4.12
SG4-9	38.50	5.22	13.56	12.67	0.06	16.60	0.05	0.57	8.63	0.01	0.14	1.50	4.14
SG4-10	38.08	3.73	12.79	15.95	0.45	12.81	0.47	0.25	5.72	0.00	0.13	1.38	3.90
SG4-11	38.52	4.27	13.45	17.34	0.51	13.92	0.11	0.48	8.35	0.00	0.11	1.50	4.11
SG4-12	37.80	4.01	13.79	16.47	0.50	14.37	0.17	0.49	7.25	0.00	0.13	1.30	4.04
SG4-13	37.69	5.12	13.32	12.97	0.11	16.62	0.22	0.40	6.82	0.00	0.13	1.27	4.05
SG4-14	36.91	3.89	13.19	16.29	0.47	13.76	0.33	0.30	5.45	0.00	0.10	1.04	3.89
SG4-15	37.69	4.38	13.93	15.88	0.59	13.57	0.03	0.48	8.15	0.00	0.13	1.26	4.02
SG4-16	38.77	4.52	14.04	14.74	0.40	15.82	0.00	0.76	8.89	0.00	0.08	1.58	4.21
SG4-17	38.52	4.47	14.30	15.90	0.50	15.12	0.02	0.63	8.70	0.66	0.10	1.50	3.87
SG4-18	37.79	5.39	13.61	14.09	0.12	15.49	0.01	0.59	8.61	0.00	0.17	1.29	4.09
SG5-1	38.61	4.79	14.82	11.65	0.15	17.67	0.14	0.38	8.74	0.06	0.17	1.53	4.18
SG5-2	39.35	4.54	14.78	13.68	0.24	16.06	0.07	0.58	8.31	0.00	0.14	1.74	4.24
SG5-3	37.79	4.49	13.64	13.88	0.22	14.96	0.30	0.44	7.52	0.00	0.15	1.29	4.02
SG5-4	37.77	4.75	14.02	13.90	0.23	16.24	0.02	0.55	8.74	0.00	0.14	1.29	4.11
SG5-5	38.23	4.37	14.33	14.30	0.23	14.35	0.20	0.39	8.13	0.00	0.11	1.42	4.08
SG5-6	38.45	4.30	14.50	14.36	0.25	15.67	0.08	0.54	8.51	0.00	0.14	1.48	4.15
SG5-7	38.12	4.65	14.55	14.67	0.25	15.07	0.01	0.54	8.85	0.00	0.14	1.39	4.13
SG5-8	38.06	4.78	14.50	14.96	0.21	15.28	0.02	0.52	8.78	0.00	0.16	1.37	4.14

SG5-9	38.45	4.62	14.74	15.30	0.26	15.42	0.16	0.53	8.08	0.00	0.15	1.48	4.18
SG5-10	38.18	4.51	14.20	13.69	0.23	15.81	0.07	0.57	8.46	0.00	0.14	1.41	4.12
SG5-11	38.45	4.59	14.58	13.99	0.22	15.78	0.00	0.63	8.73	0.00	0.12	1.48	4.17
SG5-12	38.06	4.65	14.54	14.38	0.20	15.84	0.00	0.49	8.84	0.00	0.12	1.37	4.15
SG5-13	38.15	4.67	14.84	14.93	0.25	15.17	0.01	0.56	8.96	0.00	0.15	1.40	4.16
SG5-14	37.90	4.64	14.57	15.51	0.25	15.32	0.05	0.54	8.69	0.00	0.14	1.32	4.14
SG5-15	38.35	4.27	14.65	14.32	0.25	15.77	0.07	0.54	8.68	0.00	0.14	1.45	4.16
SG5-16	38.06	4.75	14.32	13.91	0.21	16.18	0.01	0.47	8.50	0.00	0.16	1.37	4.13
SG5-17	38.19	4.56	14.33	14.75	0.27	15.14	0.06	0.60	8.59	0.00	0.13	1.41	4.13
SG5-18	38.88	4.53	14.15	14.87	0.25	13.98	0.12	0.48	8.29	0.00	0.15	1.61	4.11
SG5-19	38.48	4.50	14.35	13.99	0.23	15.86	0.00	0.58	8.98	0.00	0.13	1.49	4.16
SG5-20	39.05	4.66	14.09	13.92	0.20	15.88	0.11	0.60	8.60	0.00	0.12	1.66	4.19
SA1-1	36.04	4.03	14.98	17.54	0.70	12.29	0.01	0.53	8.71	0.00	0.15	0.79	3.94
SA1-2	36.01	3.88	15.25	17.60	0.71	12.08	0.00	0.53	8.93	0.00	0.14	0.78	3.94
SA1-3	35.84	3.90	15.12	18.26	0.70	11.83	0.00	0.50	8.93	0.00	0.16	0.73	3.92
SA1-4	36.58	4.01	14.87	17.32	0.66	12.36	0.00	0.50	8.99	0.00	0.17	0.95	3.97
SA1-5	36.19	3.99	15.24	17.58	0.66	12.22	0.00	0.53	8.92	0.00	0.16	0.84	3.96
SA1-6	36.51	3.78	15.60	17.40	0.69	12.16	0.00	0.56	9.16	0.00	0.16	0.93	3.99
SA1-7	35.94	3.96	15.07	17.29	0.72	12.14	0.00	0.59	9.05	0.00	0.17	0.76	3.92
SA1-8	36.27	3.76	15.29	17.20	0.70	12.20	0.00	0.51	8.99	0.00	0.17	0.86	3.94
SA1-9	36.06	3.88	15.02	17.40	0.69	12.26	0.00	0.51	9.06	0.00	0.16	0.80	3.93
SA1-10	35.98	3.92	15.09	17.72	0.67	12.53	0.00	0.52	9.06	0.00	0.17	0.77	3.95
SA1-11	36.38	3.74	15.28	17.79	0.69	12.41	0.00	0.53	8.98	0.00	0.16	0.89	3.98
SA1-12	35.26	3.77	15.22	17.86	0.76	12.38	0.02	0.47	8.88	0.00	0.16	0.57	3.90
SA1-13	36.08	3.57	15.08	17.79	0.69	12.35	0.00	0.51	8.91	0.00	0.14	0.80	3.94
SA1-14	36.95	3.66	14.52	16.68	0.12	13.82	0.01	0.67	8.06	0.00	0.09	1.05	4.00
SA1-15	36.17	4.08	15.01	17.13	0.73	12.23	0.00	0.54	8.99	0.00	0.16	0.83	3.94
SA1-16	36.19	3.94	15.48	17.40	0.69	12.53	0.00	0.55	8.91	0.00	0.16	0.84	3.98
SA1-17	36.60	3.60	15.21	17.57	0.70	12.48	0.00	0.53	9.02	0.00	0.16	0.95	3.98
SA1-18	36.13	3.87	15.31	17.71	0.71	12.20	0.00	0.52	9.09	0.00	0.15	0.82	3.96
SA1-19	36.58	3.92	15.35	17.34	0.74	12.38	0.00	0.55	8.96	0.00	0.17	0.95	3.99
SA1-20	36.18	3.67	15.15	17.65	0.68	12.21	0.00	0.53	9.15	0.00	0.16	0.83	3.95
SA2-1	36.13	3.99	15.24	17.62	0.71	12.50	0.00	0.51	8.90	0.00	0.15	0.82	3.97
SA2-2	37.06	4.10	14.52	14.31	0.12	15.79	0.02	0.66	8.33	0.00	0.12	1.08	4.05
SA2-3	36.40	4.03	15.15	17.83	0.69	12.39	0.03	0.46	8.97	0.00	0.18	0.89	3.98
SA2-4	36.48	4.05	14.94	16.85	0.50	13.19	0.02	0.52	8.85	0.00	0.15	0.92	3.99
SA2-5	35.58	3.73	14.65	17.82	0.67	12.30	0.13	0.48	8.63	0.00	0.18	0.66	3.88
SA2-6	36.13	3.60	15.30	17.72	0.71	12.47	0.01	0.51	8.95	0.00	0.15	0.82	3.96
SA2-7	36.63	3.89	15.25	17.76	0.69	12.45	0.00	0.51	9.00	0.00	0.14	0.96	4.00
SA2-8	36.32	3.87	15.24	17.58	0.63	12.53	0.02	0.51	8.97	0.00	0.15	0.87	3.98
SA2-9	36.41	4.38	14.74	17.12	0.50	13.16	0.00	0.46	8.72	0.00	0.14	0.90	3.99
SA2-10	36.55	3.97	15.47	17.75	0.70	12.43	0.02	0.48	8.38	0.00	0.16	0.94	4.00
SA2-11	36.60	3.96	15.50	17.85	0.69	12.43	0.03	0.52	9.13	0.00	0.16	0.95	4.02
SA2-12	36.87	4.10	14.82	16.69	0.53	13.25	0.01	0.55	9.08	0.00	0.15	1.03	4.01
SA2-13	36.63	3.94	15.30	17.44	0.71	12.62	0.01	0.51	8.99	0.00	0.16	0.96	4.00
SA2-14	36.17	3.86	15.27	17.74	0.71	12.51	0.00	0.52	9.07	0.00	0.12	0.83	3.98
SA2-15	36.17	3.93	15.30	17.56	0.72	12.48	0.00	0.47	9.15	0.00	0.16	0.83	3.97
SA2-16	36.52	3.85	15.24	17.42	0.69	12.13	0.00	0.54	9.14	0.00	0.16	0.93	3.97
SA2-17	36.52	3.94	14.57	17.00	0.22	13.66	0.11	0.47	8.65	0.00	0.13	0.93	3.99

SA3-1	37.03	3.51	15.58	17.19	0.67	12.84	0.02	0.47	8.88	0.00	0.18	1.08	4.02
SA3-2	37.55	3.93	16.29	17.21	0.65	11.87	0.04	0.44	8.61	0.00	0.21	1.23	4.06
SA3-3	37.41	3.71	15.88	16.25	0.62	12.07	0.00	0.45	8.44	0.00	0.17	1.18	4.01
SA3-4	37.41	3.87	15.89	17.44	0.65	12.79	0.00	0.52	9.13	0.00	0.18	1.18	4.09
SA3-5	37.65	3.25	17.74	15.00	0.51	9.35	0.13	0.27	6.35	0.00	0.15	1.25	3.93
SA3-6	37.36	3.90	15.76	17.45	0.71	12.67	0.00	0.53	9.05	0.00	0.20	1.17	4.07
SA3-7	37.87	4.51	14.64	16.01	0.12	14.56	0.00	0.53	8.78	0.11	0.16	1.32	4.06
SA3-8	37.27	4.09	15.66	16.82	0.70	12.67	0.00	0.42	9.12	0.00	0.19	1.14	4.05
SA3-9	36.91	3.91	15.48	16.92	0.64	12.06	0.10	0.40	8.17	0.00	0.18	1.04	3.98
SA3-10	36.99	3.90	15.83	16.84	0.68	12.43	0.00	0.44	8.65	0.00	0.17	1.06	4.02
SA3-11	36.97	3.90	15.92	16.83	0.68	12.44	0.02	0.41	8.73	0.00	0.19	1.06	4.02
SA3-12	37.63	3.82	15.96	17.53	0.67	12.77	0.00	0.44	8.87	0.00	0.19	1.25	4.10
SA3-13	36.87	3.96	15.64	17.24	0.68	12.44	0.00	0.39	8.96	0.00	0.18	1.03	4.02
SA3-14	36.89	3.91	15.91	17.05	0.68	12.51	0.00	0.50	8.85	0.00	0.19	1.03	4.03
SA3-15	37.45	3.94	16.13	17.35	0.68	12.53	0.00	0.45	8.76	0.00	0.19	1.20	4.08
SA3-16	37.53	3.93	15.99	17.42	0.70	12.94	0.00	0.44	9.11	0.00	0.19	1.22	4.10
SA3-17	36.96	3.95	16.04	17.21	0.70	12.31	0.00	0.41	8.89	0.00	0.18	1.05	4.03
SA3-18	37.27	3.33	15.71	17.21	0.66	12.72	0.00	0.42	9.01	0.00	0.20	1.14	4.03
SA3-19	36.80	4.17	15.66	17.10	0.70	12.58	0.06	0.43	8.73	0.00	0.16	1.01	4.03
BB-1	36.74	4.31	14.96	17.04	0.49	13.50	0.00	0.54	8.99	0.00	0.16	0.99	4.03
BB-2	36.81	4.59	14.33	16.77	0.37	12.39	0.00	0.55	8.36	0.34	0.17	1.01	3.79
BB-3	36.20	4.77	14.64	16.25	0.38	13.01	0.00	0.55	8.53	0.00	0.14	0.84	3.96
BB-4	36.26	4.76	14.26	16.38	0.38	13.40	0.00	0.59	8.38	0.00	0.13	0.85	3.96
BB-5	36.41	3.96	15.19	17.57	0.56	12.97	0.00	0.54	9.11	0.00	0.16	0.90	4.00
BB-6	36.56	4.63	14.34	16.89	0.37	13.68	0.00	0.57	8.64	0.00	0.13	0.94	4.01
BB-7	36.14	3.72	15.34	18.94	0.63	11.41	0.01	0.52	9.10	0.00	0.18	0.82	3.94
BB-8	36.30	4.63	14.58	16.82	0.38	13.62	0.04	0.56	8.38	0.00	0.11	0.87	4.00
BB-9	36.20	4.73	14.47	16.65	0.34	13.50	0.01	0.57	8.50	0.00	0.09	0.84	3.99
BB-10	36.94	4.04	15.10	16.70	0.36	13.90	0.00	0.64	8.99	0.00	0.15	1.05	4.05
BB-11	36.73	3.89	15.21	17.09	0.70	12.50	0.00	0.50	8.99	0.00	0.15	0.99	3.99
BB-12	36.67	4.31	14.70	16.09	0.35	13.56	0.00	0.63	8.69	0.00	0.14	0.97	3.99
BB-13	36.37	4.25	14.80	16.64	0.38	13.09	0.08	0.67	8.94	0.00	0.16	0.89	3.97
BB-14	36.50	4.31	14.72	16.46	0.35	13.84	0.00	0.61	8.90	0.00	0.17	0.92	4.00
BB-15	36.35	4.58	14.55	16.44	0.38	13.77	0.00	0.57	8.60	0.00	0.11	0.88	4.00
BB-16	36.47	4.50	14.86	16.51	0.36	14.01	0.00	0.56	9.17	0.00	0.11	0.91	4.04
BB-17	36.90	4.62	14.10	16.48	0.38	13.41	0.00	0.55	8.28	0.00	0.12	1.04	4.00
BB-18	36.24	4.06	14.92	16.57	0.41	13.44	0.02	0.59	8.84	0.00	0.08	0.85	3.99
BB-19	36.77	3.89	15.29	17.67	0.73	12.71	0.00	0.53	9.07	0.00	0.17	1.00	4.02
BB-20	36.76	4.53	14.35	16.57	0.36	13.63	0.00	0.57	8.59	0.00	0.13	1.00	4.01
COL1-1	35.52	4.09	14.02	19.20	0.70	12.43	0.00	0.49	8.53	2.12	0.09	0.64	2.91
COL1-2	36.59	4.17	13.89	20.03	0.63	12.83	0.00	0.53	8.73	0.91	0.12	0.95	3.59
COL1-3	35.74	4.22	13.32	20.38	0.81	11.78	0.00	0.53	8.53	1.50	0.13	0.71	3.18
COL1-4	35.44	4.16	13.04	21.23	0.64	12.35	0.02	0.49	8.34	2.49	0.11	0.62	2.72
COL1-5	35.53	4.26	13.58	21.69	0.73	11.56	0.00	0.55	8.72	1.31	0.10	0.65	3.30
COL1-6	34.95	4.01	13.16	22.03	0.70	11.68	0.00	0.48	8.13	2.01	0.10	0.48	2.90
COL1-7	37.33	4.16	13.92	17.97	0.61	13.61	0.00	0.59	8.76	0.00	0.11	1.16	4.06
COL1-8	36.06	4.20	13.71	19.13	0.67	13.34	0.00	0.60	8.75	0.00	0.10	0.80	3.98
COL1-9	36.20	4.22	14.31	18.90	0.61	13.03	0.00	0.53	8.61	0.00	0.11	0.84	3.99
COL1-10	37.41	4.16	13.97	17.70	0.59	13.61	0.00	0.56	8.85	0.05	0.12	1.18	4.03

COL1-11	35.26	4.05	13.54	21.40	0.68	11.69	0.00	0.52	8.42	1.13	0.13	0.57	3.34
COL1-12	38.09	4.24	14.06	17.35	0.57	13.91	0.00	0.64	8.86	0.00	0.12	1.38	4.12
COL1-13	37.18	4.41	13.97	17.76	0.58	14.09	0.00	0.62	8.75	0.00	0.13	1.12	4.07
COL1-14	38.10	4.26	13.77	17.14	0.57	13.08	0.00	0.53	8.89	0.00	0.10	1.38	4.07
COL1-15	35.64	4.14	13.58	20.78	0.82	12.81	0.00	0.58	8.56	1.21	0.11	0.68	3.38
COL1-16	35.02	3.80	13.71	21.28	0.67	11.80	0.00	0.51	8.47	1.91	0.08	0.50	2.97
COL1-17	36.55	3.93	13.73	18.59	0.67	13.41	0.00	0.63	8.92	1.04	0.13	0.94	3.50
COL1-18	35.48	4.02	13.07	20.87	0.69	11.94	0.00	0.47	8.57	2.49	0.10	0.63	2.69
COL1-19	37.67	4.22	14.21	17.21	0.55	13.49	0.00	0.63	8.90	0.00	0.14	1.26	4.07
COL1-20	36.12	4.26	13.67	17.06	0.56	13.57	0.00	0.62	8.82	0.00	0.10	0.82	3.94
COL1-21	36.51	4.20	14.04	18.52	0.72	12.98	0.00	0.58	8.75	0.00	0.12	0.93	3.99
COL2-1	37.64	3.85	14.09	16.38	0.51	13.60	0.01	0.47	8.28	0.00	0.14	1.25	4.02
COL2-2	37.36	3.91	14.21	16.55	0.53	13.21	0.15	0.48	8.14	0.00	0.15	1.17	3.99
COL2-3	37.68	3.66	14.02	16.64	0.53	13.51	0.00	0.51	8.36	0.00	0.16	1.26	4.01
COL2-4	38.33	3.90	14.07	16.75	0.51	13.71	0.00	0.55	8.27	0.00	0.13	1.45	4.08
COL2-5	38.00	3.86	14.35	16.67	0.55	13.61	0.01	0.55	8.32	0.00	0.13	1.35	4.07
COL2-6	37.92	3.78	14.41	16.65	0.52	13.82	0.01	0.55	8.49	0.00	0.15	1.33	4.07
COL2-7	37.41	3.81	14.11	16.97	0.54	13.40	0.05	0.48	8.38	0.00	0.13	1.18	4.01
COL2-8	37.75	3.81	14.08	16.55	0.50	13.70	0.00	0.53	8.41	0.00	0.14	1.28	4.03
COL2-9	37.31	3.90	13.77	16.91	0.50	13.24	0.04	0.48	8.15	0.00	0.16	1.16	3.97
COL2-10	37.00	3.81	13.83	15.96	0.81	12.41	0.25	0.36	6.10	0.00	0.18	1.07	3.86
COL2-11	37.02	3.76	14.05	16.17	0.65	12.87	0.11	0.34	6.37	0.00	0.17	1.07	3.89
COL2-12	37.34	3.80	14.10	16.17	0.61	12.80	0.19	0.35	6.19	0.00	0.17	1.16	3.92
COL2-13	37.91	3.84	14.05	15.87	0.53	13.27	0.13	0.43	7.45	0.00	0.16	1.33	3.99
COL2-14	37.08	3.92	14.29	17.10	0.54	12.93	0.02	0.51	8.36	0.00	0.14	1.09	3.98
COL2-15	37.49	3.84	14.13	16.49	0.54	13.71	0.00	0.50	8.45	0.00	0.15	1.21	4.02
COL2-16	37.54	3.94	14.14	16.70	0.56	13.56	0.03	0.50	8.32	0.00	0.14	1.22	4.03
COL2-17	36.49	4.15	14.45	17.63	0.55	13.07	0.02	0.55	8.08	0.00	0.16	0.92	3.97
COL2-18	37.95	3.90	13.95	16.41	0.54	13.61	0.00	0.50	8.36	0.00	0.13	1.34	4.04
COL2-19	37.89	3.86	14.27	16.68	0.55	13.78	0.00	0.50	8.52	0.00	0.13	1.32	4.07
COL2-20	38.09	3.94	14.37	16.36	0.53	14.01	0.03	0.52	8.15	0.00	0.14	1.38	4.08
COL3-1	36.57	4.34	14.22	13.54	0.35	15.82	0.42	0.49	6.37	0.00	0.14	0.94	3.97
COL3-2	37.76	4.48	14.65	15.05	0.35	15.64	0.00	0.75	8.53	0.00	0.14	1.29	4.14
COL3-3	37.81	4.22	13.94	14.39	0.38	15.49	0.00	0.57	8.13	0.00	0.14	1.30	4.06
COL3-4	37.28	4.21	14.33	14.38	0.40	15.09	0.00	0.63	8.69	0.00	0.13	1.15	4.04
COL3-5	37.18	4.46	14.10	14.38	0.37	15.28	0.04	0.68	8.42	0.00	0.15	1.12	4.03
COL3-6	38.32	4.46	14.80	14.20	0.38	15.24	0.01	0.52	8.83	0.00	0.14	1.45	4.15
COL3-7	37.19	4.31	14.79	14.46	0.37	15.32	0.00	0.70	8.55	0.00	0.12	1.12	4.07
COL3-8	38.29	4.46	15.01	14.18	0.38	15.64	0.02	0.63	8.71	0.00	0.14	1.44	4.17
COL3-9	37.01	4.40	14.54	14.78	0.40	15.33	0.10	0.52	8.45	0.00	0.13	1.07	4.06
COL3-10	37.75	4.43	14.45	14.33	0.37	15.10	0.01	0.78	8.67	0.00	0.14	1.28	4.09
COL3-11	37.84	4.08	14.49	14.39	0.36	15.55	0.06	0.61	8.10	0.00	0.14	1.31	4.09
COL3-12	37.58	4.41	14.55	14.39	0.39	15.00	0.00	0.61	8.74	0.00	0.15	1.23	4.07
COL3-13	37.52	4.27	14.58	14.64	0.38	15.31	0.06	0.60	8.30	0.00	0.15	1.22	4.08
COL3-14	36.40	4.32	13.78	13.86	0.38	14.92	0.30	0.45	6.97	0.00	0.15	0.89	3.91
COL3-15	37.32	4.50	14.33	14.58	0.42	14.99	0.00	0.62	8.46	0.00	0.12	1.16	4.06
COL3-16	37.40	4.24	14.09	14.11	0.35	15.64	0.13	0.55	7.40	0.00	0.13	1.18	4.03
COL3-17	37.32	3.53	15.05	14.48	0.38	15.28	0.05	0.59	8.59	0.00	0.07	1.16	4.07
COL3-18	37.74	3.32	14.71	14.86	0.38	15.30	0.05	0.61	8.44	0.00	0.11	1.28	4.08

COL3-19	37.13	3.31	15.08	14.77	0.35	15.16	0.05	0.61	8.24	0.00	0.10	1.10	4.04
COL3-20	37.66	3.86	14.57	14.29	0.38	15.26	0.02	0.65	8.70	0.00	0.13	1.26	4.07
COL4-1	38.77	4.05	13.18	16.26	0.45	12.76	0.27	0.37	7.21	0.00	0.12	1.58	4.01
COL4-2	37.60	4.12	13.58	16.20	0.47	13.22	0.26	0.41	6.97	0.00	0.13	1.24	3.96
COL4-3	37.27	4.22	13.45	16.33	0.54	13.03	0.16	0.40	7.13	0.00	0.13	1.14	3.94
COL4-4	39.26	3.85	13.06	16.55	0.50	12.62	0.15	0.40	7.64	0.00	0.11	1.72	4.04
COL4-5	37.69	4.23	13.55	17.68	0.58	13.41	0.03	0.54	8.29	0.00	0.12	1.27	4.04
COL4-6	37.92	3.96	12.91	16.43	0.46	12.60	0.28	0.36	7.02	0.00	0.13	1.33	3.93
COL4-7	38.82	4.04	13.21	16.19	0.51	12.78	0.22	0.36	7.59	0.00	0.12	1.59	4.02
COL4-8	39.25	3.86	13.54	15.93	0.47	13.04	0.08	0.35	8.17	0.00	0.13	1.71	4.07
COL4-9	36.87	3.94	13.04	16.16	0.50	13.01	0.34	0.38	6.90	0.00	0.10	1.03	3.88
COL4-10	37.33	3.99	13.75	16.55	0.54	12.93	0.08	0.54	8.03	0.00	0.13	1.16	3.96
COL4-11	37.03	4.13	13.19	16.14	0.47	12.78	0.18	0.38	7.70	0.00	0.14	1.08	3.89
COL4-12	37.35	3.96	13.29	15.90	0.47	12.69	0.36	0.42	7.15	0.00	0.10	1.17	3.91
COL4-13	37.76	3.82	12.73	16.02	0.48	12.18	0.36	0.32	6.97	0.00	0.13	1.28	3.88
COL4-14	39.79	3.44	12.93	17.14	0.44	11.72	0.21	0.36	7.45	0.00	0.13	1.87	4.02
COL4-15	37.93	4.02	13.45	16.44	0.49	12.80	0.39	0.42	6.52	0.00	0.13	1.34	3.96
COL4-16	37.40	3.48	13.23	15.99	0.47	13.03	0.39	0.36	7.07	0.00	0.11	1.18	3.90
COL4-17	37.05	3.92	13.27	16.56	0.55	12.93	0.37	0.34	6.74	0.00	0.12	1.08	3.90
COL4-18	38.13	4.06	13.29	16.78	0.50	12.22	0.26	0.30	6.89	0.00	0.10	1.39	3.96
COL4-19	38.24	4.14	13.12	16.10	0.50	12.32	0.31	0.39	6.66	0.00	0.12	1.42	3.95
COL4-20	38.09	4.04	13.06	16.80	0.52	12.35	0.29	0.39	7.04	0.00	0.13	1.38	3.95
COL5-1	37.97	3.83	15.27	15.49	0.38	14.90	0.03	0.50	8.30	0.00	0.12	1.34	4.13
COL5-2	37.41	4.06	14.84	15.21	0.41	14.46	0.00	0.52	8.66	0.00	0.11	1.18	4.06
COL5-3	37.51	4.06	15.00	15.35	0.45	14.12	0.01	0.48	8.84	0.00	0.13	1.21	4.07
COL5-4	37.92	4.24	14.89	15.16	0.40	14.72	0.00	0.50	8.71	0.00	0.12	1.33	4.12
COL5-5	37.44	4.32	14.51	14.92	0.42	14.50	0.00	0.50	8.68	0.00	0.13	1.19	4.05
COL5-6	37.55	4.15	14.75	15.20	0.38	14.11	0.04	0.49	8.72	0.00	0.12	1.22	4.06
COL5-7	37.36	4.34	14.62	15.29	0.39	14.58	0.00	0.50	8.84	0.00	0.12	1.17	4.07
COL5-8	36.90	4.14	15.20	15.78	0.40	13.91	0.00	0.50	8.85	0.00	0.09	1.04	4.05
COL5-9	37.75	4.24	14.56	14.90	0.39	14.49	0.01	0.51	8.88	0.00	0.13	1.28	4.08
COL5-10	37.67	4.30	15.02	15.56	0.43	14.86	0.00	0.40	8.53	0.00	0.13	1.26	4.12
COL5-11	37.74	4.12	15.09	15.45	0.40	14.23	0.05	0.45	8.56	0.00	0.12	1.28	4.10
COL5-12	37.43	4.17	14.57	15.19	0.43	14.29	0.00	0.52	8.96	0.00	0.13	1.19	4.05
COL5-13	37.47	4.24	14.65	15.47	0.40	14.52	0.00	0.46	8.79	0.00	0.11	1.20	4.08
COL5-14	37.56	4.18	14.91	15.30	0.42	14.40	0.00	0.45	8.80	0.00	0.12	1.23	4.08
COL5-15	37.62	4.37	14.81	14.92	0.43	14.56	0.00	0.46	8.59	0.00	0.10	1.24	4.09
COL5-16	37.54	4.25	14.69	15.00	0.43	14.38	0.03	0.41	8.89	0.00	0.10	1.22	4.07
COL5-17	37.74	4.15	14.77	15.05	0.42	14.68	0.00	0.54	8.40	0.00	0.10	1.28	4.09
COL5-18	36.99	4.29	14.49	15.27	0.39	14.40	0.00	0.49	8.81	0.00	0.12	1.06	4.03
COL5-19	37.47	3.63	14.59	15.54	0.40	14.57	0.00	0.51	8.81	0.00	0.11	1.20	4.05
COL5-20	37.35	4.28	14.78	15.53	0.39	14.75	0.02	0.48	8.86	0.00	0.13	1.17	4.09
COL5-21	37.89	3.78	14.99	15.25	0.30	14.81	0.01	0.58	8.51	0.00	0.08	1.32	4.11
COL5-22	37.78	4.40	14.09	15.40	0.44	14.68	0.00	0.48	8.65	0.00	0.14	1.29	4.08
COL5-23	37.65	4.24	14.55	14.39	0.40	14.50	0.00	0.47	8.54	0.00	0.11	1.25	4.06
WW-1	36.69	4.39	13.54	17.54	0.30	13.50	0.02	0.44	8.81	0.00	0.17	0.98	3.96
WW-2	36.94	4.26	13.44	16.65	0.32	13.99	0.08	0.47	8.30	0.00	0.16	1.05	3.97
WW-3	37.30	4.61	14.17	17.11	0.35	13.90	0.00	0.48	8.64	0.00	0.09	1.15	4.07
WW-4	37.56	4.24	13.86	17.02	0.34	13.71	0.10	0.49	8.35	0.00	0.15	1.23	4.03

WW-5	37.57	4.12	14.02	15.20	0.31	14.52	0.07	0.50	8.30	0.00	0.10	1.23	4.04
WW-6	37.85	4.25	13.69	16.54	0.35	14.00	0.00	0.42	8.78	0.00	0.17	1.31	4.04
WW-7	37.56	4.24	14.54	17.04	0.36	13.80	0.00	0.48	8.99	0.00	0.08	1.23	4.10
WW-8	36.80	4.32	13.50	16.17	0.32	14.10	0.35	0.32	6.00	0.00	0.16	1.01	3.92
WW-9	37.24	4.58	14.29	17.48	0.37	13.59	0.01	0.49	8.88	0.00	0.15	1.14	4.06
WW-10	37.39	4.55	13.79	17.15	0.35	13.80	0.00	0.51	8.92	0.00	0.15	1.18	4.04
WW-11	36.66	4.28	13.70	16.34	0.36	14.22	0.36	0.41	6.72	0.00	0.16	0.97	3.94
WW-12	37.22	4.43	13.71	16.81	0.34	13.79	0.21	0.45	7.76	0.00	0.16	1.13	4.00
WW-13	37.64	4.50	13.63	17.31	0.36	13.56	0.00	0.44	8.87	0.00	0.17	1.25	4.04
WW-14	36.81	4.26	13.66	16.63	0.33	13.66	0.21	0.38	7.18	0.00	0.16	1.01	3.94
WW-15	37.92	4.20	13.89	16.88	0.32	13.87	0.00	0.51	8.76	0.00	0.15	1.33	4.06
WW-16	37.53	4.58	13.85	17.26	0.36	13.76	0.00	0.56	8.92	0.00	0.18	1.22	4.05
WW-17	36.49	3.87	13.90	16.29	0.35	14.27	0.36	0.40	6.51	0.00	0.13	0.92	3.93
WW-18	36.64	3.86	14.11	14.21	0.22	15.74	0.56	0.55	6.01	0.00	0.10	0.96	3.97
WW-19	36.87	4.27	14.56	15.76	0.28	14.18	0.00	0.63	8.69	0.00	0.09	1.03	4.03
PAR-1	36.41	3.52	14.81	14.72	0.25	14.23	0.08	0.62	8.05	0.00	0.09	0.90	3.95
PAR-2	37.57	3.39	14.39	15.85	0.28	13.75	0.06	0.35	8.24	0.00	0.14	1.23	3.99
PAR-3	37.87	3.38	14.66	15.80	0.27	14.26	0.00	0.55	8.32	0.00	0.12	1.32	4.05
PAR-4	37.00	3.44	14.39	15.38	0.28	13.98	0.01	0.50	8.23	0.00	0.12	1.07	3.96
PAR-5	36.69	3.47	15.17	16.36	0.32	13.68	0.00	0.46	8.48	0.00	0.12	0.98	3.99
PAR-6	37.17	3.29	14.43	16.00	0.30	13.79	0.00	0.43	8.35	0.00	0.16	1.12	3.97
PAR-7	36.71	3.28	14.47	15.78	0.29	13.83	0.01	0.45	8.35	0.00	0.13	0.98	3.94
PAR-8	37.09	3.54	14.86	15.72	0.31	13.65	0.02	0.53	8.54	0.00	0.11	1.09	4.00
PAR-9	36.74	3.37	14.50	16.01	0.31	13.81	0.00	0.43	8.33	0.00	0.14	0.99	3.95
PAR-10	36.86	3.44	15.21	15.77	0.27	13.52	0.00	0.50	8.50	0.00	0.15	1.03	3.98
PAR-11	37.07	3.42	14.82	15.28	0.28	14.19	0.00	0.53	8.31	0.00	0.10	1.09	4.00
PAR-12	37.27	3.29	14.54	15.70	0.31	13.96	0.00	0.47	8.39	0.00	0.13	1.15	3.99
PAR-13	36.95	3.36	14.86	15.92	0.27	13.73	0.01	0.41	8.56	0.00	0.12	1.05	3.98
PAR-14	37.17	3.28	14.61	15.93	0.30	13.90	0.00	0.46	8.38	0.00	0.14	1.12	3.98
PAR-15	37.21	3.26	14.34	16.12	0.29	13.89	0.00	0.45	8.46	0.00	0.13	1.13	3.98
LV1-1	36.77	4.19	14.15	15.37	0.53	14.47	0.02	0.63	8.38	0.00	0.10	1.00	4.00
LV1-2	37.70	4.34	13.39	15.97	0.52	14.46	0.04	0.55	8.73	0.00	0.18	1.27	4.03
LV1-3	37.67	4.12	14.35	11.85	0.11	16.55	0.20	0.77	7.01	0.00	0.06	1.26	4.06
LV1-4	36.50	4.26	13.79	15.65	0.62	13.81	0.00	0.53	8.78	0.00	0.15	0.92	3.94
LV1-5	37.87	3.75	13.42	15.06	0.61	14.90	0.01	0.50	9.08	0.00	0.17	1.32	4.03
LV1-6	36.67	4.54	13.78	15.95	0.53	13.78	0.00	0.51	8.54	0.00	0.17	0.97	3.96
LV1-7	36.42	4.63	13.83	16.27	0.57	13.75	0.00	0.56	8.58	0.00	0.09	0.90	3.97
LV1-8	36.64	4.32	13.78	14.27	0.33	14.55	0.14	0.61	7.02	0.00	0.12	0.96	3.93
LV1-9	36.92	4.29	13.65	15.99	0.53	13.91	0.00	0.44	8.73	0.00	0.15	1.04	3.97
LV1-10	36.41	4.51	14.14	16.22	0.59	13.72	0.00	0.54	8.80	0.00	0.14	0.90	3.97
LV1-11	37.37	4.26	14.23	16.26	0.52	14.21	0.03	0.48	8.41	0.00	0.08	1.17	4.06
LV1-12	37.03	3.96	14.69	13.37	0.26	15.62	0.07	0.76	8.06	0.00	0.06	1.08	4.04
LV1-13	37.84	3.95	13.45	14.93	0.65	14.56	0.03	0.47	8.47	0.00	0.18	1.31	4.01
LV1-14	36.22	4.48	14.19	15.86	0.62	13.99	0.00	0.53	8.88	0.00	0.09	0.84	3.98
LV1-15	36.80	3.76	13.05	15.10	0.60	13.98	0.00	0.54	8.83	0.00	0.22	1.01	3.88
LV1-16	36.94	4.34	14.56	14.48	0.33	15.17	0.00	0.75	8.43	0.00	0.09	1.05	4.05
LV1-17	36.20	4.17	14.76	15.07	0.39	14.44	0.03	0.75	8.28	0.00	0.06	0.84	3.99
LV1-18	36.35	4.51	14.14	16.06	0.56	13.76	0.00	0.52	8.70	0.00	0.09	0.88	3.98
LV1-19	37.23	4.36	13.47	15.85	0.56	14.14	0.00	0.56	9.08	0.00	0.17	1.13	4.00

LV2-1	36.56	3.96	14.43	15.15	0.43	14.33	0.00	0.69	8.28	0.00	0.10	0.94	3.98
LV2-2	36.79	4.34	14.55	15.71	0.48	13.90	0.02	0.58	8.47	0.00	0.09	1.01	4.01
LV2-3	36.80	3.77	14.48	14.86	0.45	14.73	0.03	0.60	8.20	0.00	0.06	1.01	4.01
LV2-4	35.60	4.13	13.89	17.32	1.21	13.65	0.04	0.61	8.16	0.34	0.12	0.67	3.76
LV2-5	35.82	3.84	14.06	17.13	0.67	13.76	0.00	0.61	8.33	0.21	0.07	0.73	3.84
LV2-6	37.02	3.95	14.38	15.24	0.39	14.56	0.01	0.65	8.20	0.00	0.10	1.07	4.01
LV2-7	37.55	3.81	13.58	14.49	0.60	14.51	0.00	0.60	8.59	0.00	0.20	1.22	3.97
LV2-8	37.71	3.98	13.63	15.42	0.55	14.38	0.01	0.61	8.51	0.00	0.20	1.27	4.01
LV2-9	37.41	4.05	14.37	13.87	0.30	15.48	0.01	0.84	8.02	0.00	0.08	1.19	4.06
LV2-10	36.95	4.09	14.34	15.26	0.63	14.35	0.00	0.60	8.35	0.00	0.16	1.05	4.00
LV2-11	37.27	3.88	14.54	14.24	0.36	15.21	0.00	0.80	8.24	0.00	0.09	1.15	4.05
LV2-12	36.74	4.34	13.83	15.19	0.64	13.83	0.00	0.59	8.33	0.00	0.16	0.99	3.94
LV2-13	36.17	3.78	14.19	14.34	1.08	15.13	0.06	0.83	7.93	0.00	0.07	0.83	3.97
LV2-14	36.94	3.97	14.41	15.71	0.53	14.15	0.01	0.62	8.50	0.00	0.13	1.05	4.01
LV2-15	36.89	4.14	14.20	15.68	0.54	13.88	0.00	0.63	8.41	0.00	0.10	1.03	3.99
LV2-16	36.86	4.06	14.17	15.11	0.52	13.90	0.01	0.65	8.71	0.00	0.13	1.03	3.97
LV2-17	37.05	3.64	14.97	12.54	0.27	16.31	0.12	0.94	8.12	0.00	0.09	1.08	4.05
LV2-18	37.50	4.36	13.55	15.68	0.54	14.17	0.00	0.60	8.56	0.00	0.12	1.21	4.02
LV2-19	36.26	4.06	13.57	15.06	0.61	14.09	0.00	0.58	8.50	0.00	0.21	0.86	3.88
LV2-20	36.22	3.86	14.98	15.16	0.46	14.35	0.00	0.68	8.47	0.00	0.07	0.84	3.99
LV3-1	37.50	4.34	14.10	13.51	0.26	14.96	0.22	0.48	6.96	0.00	0.09	1.21	4.01
LV3-2	36.93	4.47	13.99	15.39	0.51	13.87	0.38	0.35	6.02	0.00	0.16	1.05	3.94
LV3-3	36.77	4.45	13.31	15.26	0.50	13.62	0.34	0.31	6.65	0.00	0.16	1.00	3.89
LV3-4	36.99	4.38	13.42	15.48	0.50	13.53	0.40	0.32	6.35	0.00	0.21	1.06	3.89
LV3-5	37.65	4.26	13.89	14.66	0.47	13.80	0.42	0.34	6.17	0.00	0.10	1.25	3.97
LV3-6	37.99	4.02	13.84	14.58	0.50	14.15	0.65	0.47	5.97	0.00	0.08	1.35	4.01
LV3-7	36.88	4.22	13.34	14.63	0.41	13.63	0.45	0.37	6.25	0.00	0.10	1.03	3.89
LV3-8	38.30	4.03	14.71	13.57	0.27	15.49	0.71	0.37	5.10	0.00	0.08	1.44	4.08
LV3-9	37.84	4.37	13.50	14.49	0.45	14.18	0.47	0.24	5.44	0.00	0.10	1.31	3.97
LV3-10	39.15	4.00	13.26	14.30	0.45	14.28	0.50	0.25	5.41	0.00	0.20	1.68	4.01
LV3-11	38.07	4.07	13.15	14.45	0.46	13.63	0.19	0.32	7.05	0.00	0.17	1.37	3.94
LV3-12	36.81	4.01	14.39	13.94	0.30	14.80	0.43	0.44	5.51	0.00	0.14	1.01	3.93
LV3-13	37.79	4.11	13.62	14.64	0.47	14.03	0.38	0.23	6.12	0.00	0.14	1.29	3.96
LV3-14	37.74	4.18	14.23	12.95	0.24	15.63	0.37	0.45	5.64	0.00	0.10	1.28	4.02
LV3-15	36.93	4.35	13.41	15.30	0.52	13.66	0.37	0.34	6.44	0.00	0.12	1.05	3.91
LV3-16	37.28	4.09	13.95	13.58	0.51	14.01	0.52	0.35	6.01	0.00	0.11	1.15	3.93
LV3-17	37.95	4.16	13.55	14.45	0.42	15.66	0.76	0.26	2.83	0.00	0.17	1.34	3.98
LV3-18	36.83	4.04	14.57	13.65	0.28	14.95	0.46	0.37	5.18	0.00	0.11	1.02	3.94
LV3-19	37.57	4.22	14.19	14.01	0.34	14.14	0.46	0.48	6.23	0.00	0.09	1.23	3.98
LV3-20	37.22	4.16	13.84	13.84	0.30	14.23	0.49	0.48	5.66	0.00	0.13	1.13	3.92
LV4-1	37.07	4.26	14.05	15.16	0.27	14.89	0.01	0.59	8.72	0.00	0.11	1.09	4.03
LV4-2	37.21	3.75	13.61	14.79	0.28	15.13	0.00	0.67	8.44	0.00	0.12	1.13	3.99
LV4-3	36.62	4.07	13.77	15.13	0.27	14.64	0.00	0.64	8.76	0.00	0.10	0.96	3.97
LV4-4	36.99	4.35	13.10	15.23	0.29	14.95	0.00	0.62	8.51	0.00	0.16	1.06	3.97
LV4-5	37.09	3.99	14.04	14.89	0.26	15.03	0.00	0.53	8.59	0.00	0.10	1.09	4.02
LV4-6	37.14	4.19	13.96	14.51	0.28	15.07	0.00	0.58	8.27	0.00	0.11	1.11	4.01
LV4-7	36.97	4.24	13.57	14.75	0.34	14.80	0.01	0.50	8.64	0.00	0.10	1.06	3.98
LV4-8	37.22	4.20	14.06	15.28	0.27	15.25	0.00	0.58	8.11	0.00	0.10	1.13	4.05
LV4-9	37.66	4.22	13.93	14.95	0.26	15.06	0.03	0.58	8.45	0.00	0.10	1.26	4.06

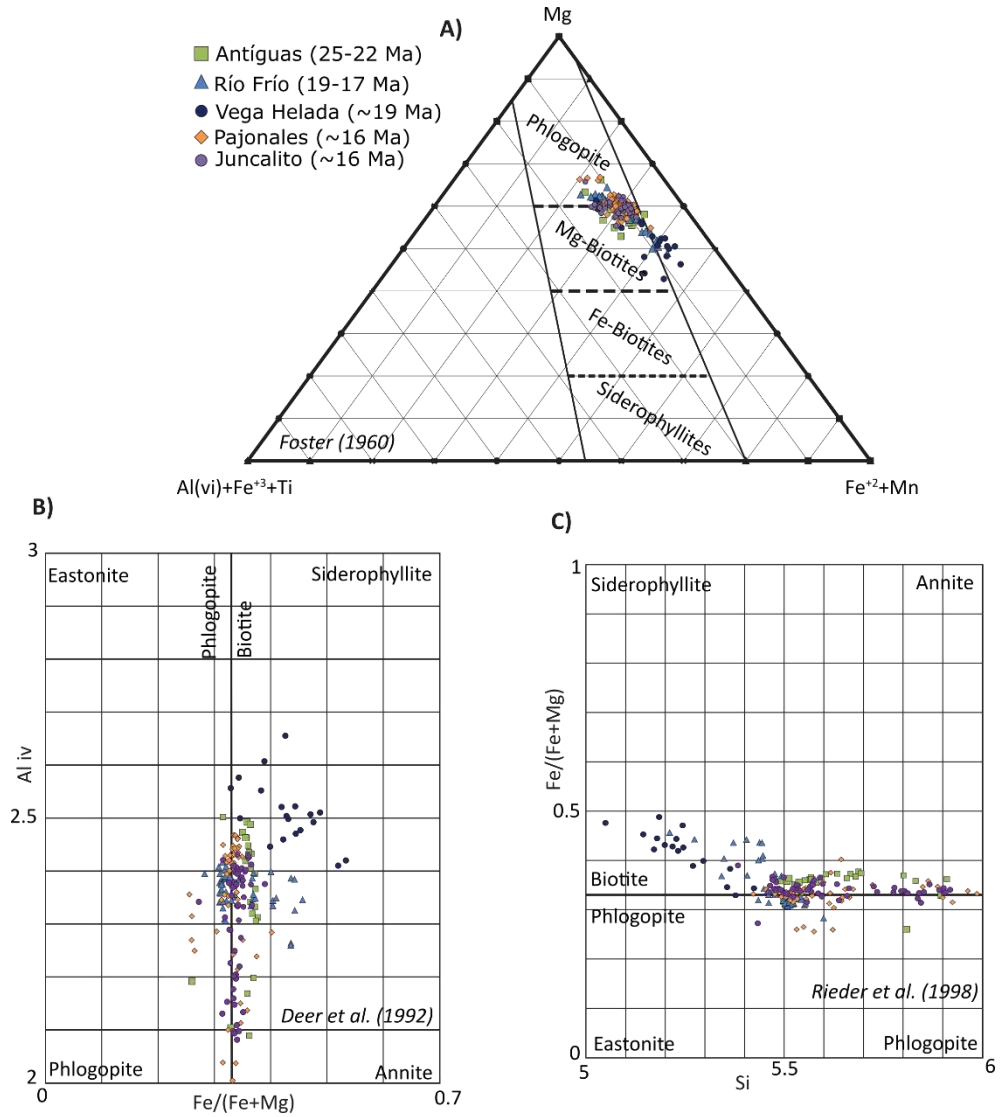
LV4-10	37.90	4.36	14.11	14.64	0.24	14.62	0.01	0.13	8.42	0.00	0.12	1.33	4.05
LV4-11	36.90	4.25	14.28	15.24	0.28	14.50	0.03	0.60	8.43	0.00	0.12	1.04	4.01
LV4-12	36.99	4.27	13.95	15.24	0.27	15.12	0.00	0.56	8.82	0.00	0.11	1.07	4.03
LV4-13	37.28	4.36	13.74	14.84	0.28	14.89	0.00	0.57	8.72	0.00	0.13	1.15	4.02
LV4-14	37.09	4.28	14.00	15.19	0.27	15.12	0.00	0.61	8.63	0.00	0.11	1.09	4.04
LV4-15	37.06	4.13	14.26	15.11	0.30	14.46	0.03	0.62	8.60	0.00	0.09	1.08	4.02
LV4-16	37.31	4.36	14.06	14.73	0.28	14.83	0.11	0.54	8.21	0.00	0.14	1.16	4.02
LV4-17	37.04	4.29	13.98	15.41	0.26	14.95	0.00	0.41	8.61	0.00	0.12	1.08	4.02
LV4-18	37.15	4.33	13.89	15.08	0.25	14.96	0.05	0.57	8.62	0.00	0.07	1.11	4.04
LV4-19	36.56	4.13	13.93	14.97	0.30	14.95	0.00	0.58	8.49	0.00	0.13	0.94	3.97
LV4-20	37.09	4.16	13.90	15.16	0.28	15.11	0.00	0.59	8.67	0.00	0.11	1.09	4.03
LV5-1	35.88	4.38	14.25	16.36	0.58	13.62	0.01	0.53	8.72	0.28	0.10	0.75	3.81
LV5-2	36.80	4.49	14.60	15.30	0.41	14.82	0.00	0.64	8.82	0.00	0.12	1.01	4.05
LV5-3	36.54	4.61	14.22	15.71	0.66	13.96	0.01	0.52	8.64	0.00	0.17	0.94	3.98
LV5-4	39.13	4.31	14.29	15.05	0.63	15.77	0.00	0.56	9.15	0.00	0.24	1.68	4.20
LV5-5	36.69	4.65	14.02	17.09	0.62	13.65	0.01	0.54	8.81	0.00	0.14	0.98	4.01
LV5-6	37.38	4.11	13.47	15.22	0.62	15.04	0.00	0.50	8.69	0.00	0.22	1.18	4.00
LV5-7	35.67	4.60	13.89	18.03	0.67	12.85	0.00	0.55	8.46	0.50	0.10	0.69	3.69
LV5-8	36.91	4.35	14.34	16.02	0.38	14.57	0.00	0.54	8.79	0.00	0.12	1.04	4.04
LV5-9	36.61	4.12	14.16	15.77	0.44	14.20	0.05	0.67	8.49	0.00	0.09	0.95	3.99
LV5-10	36.38	4.42	14.52	15.32	0.40	14.17	0.02	0.64	8.60	0.00	0.10	0.89	3.99
LV5-11	37.02	4.48	13.54	16.23	0.56	14.21	0.01	0.56	8.89	0.00	0.20	1.07	3.99
LV5-12	36.70	4.17	14.28	15.89	0.53	14.00	0.00	0.60	8.75	0.00	0.10	0.98	4.00
LV5-13	37.17	4.30	13.40	15.66	0.54	14.36	0.09	0.51	8.58	0.00	0.23	1.11	3.97
LV5-14	36.13	4.81	14.43	16.48	0.58	13.57	0.00	0.50	8.84	0.00	0.11	0.82	3.99
LV5-15	37.48	4.51	13.68	15.37	0.62	14.90	0.00	0.54	8.97	0.00	0.23	1.21	4.04
LV5-16	36.13	4.78	13.74	15.39	0.66	13.59	0.11	0.49	8.70	0.00	0.29	0.82	3.89
LV5-17	36.96	4.38	13.40	15.26	0.59	14.54	0.05	0.60	8.91	0.00	0.23	1.05	3.96
LV5-18	36.22	4.78	13.80	16.02	0.55	13.89	0.00	0.56	8.70	0.00	0.19	0.84	3.94
LV5-19	36.61	4.70	14.04	16.38	0.53	13.50	0.00	0.53	8.82	0.00	0.17	0.96	3.97
LV5-20	36.09	4.72	13.66	15.44	0.62	13.79	0.00	0.45	8.72	0.00	0.13	0.81	3.92

Biotite classification diagrams

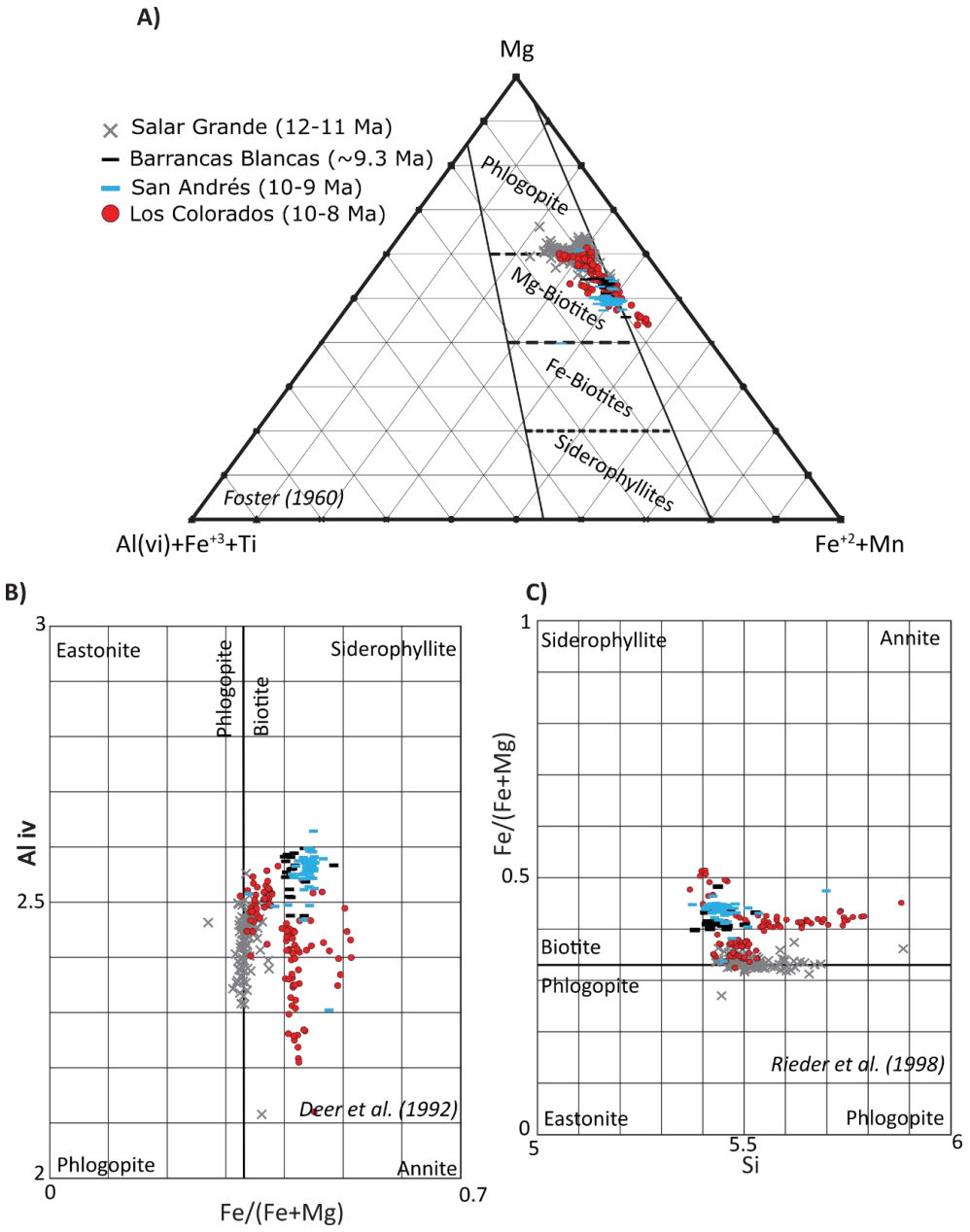
The chemistry of biotite crystals allows for their classification and discrimination among the different members of the Phlogopite-Eastonite-Anite-Siderophyllite solid solution (Foster, 1960; Speer, 1984; Deer et al., 1986, 1992; Droop, 1987; Rieder et al., 1998). Below, geochemical data of biotite are presented in various diagrams for their classification.

The biotites from the Antiguas Ignimbrites (older than 21 Ma) are magnesian biotites close to the annite field, similar to those in the Río Frío Ignimbrite (Supplementary Figure SF38A, SF38B). However, the latter also includes some analyses closer to the siderophyllite composition field, according to the classification of Rieder et al. (1998)

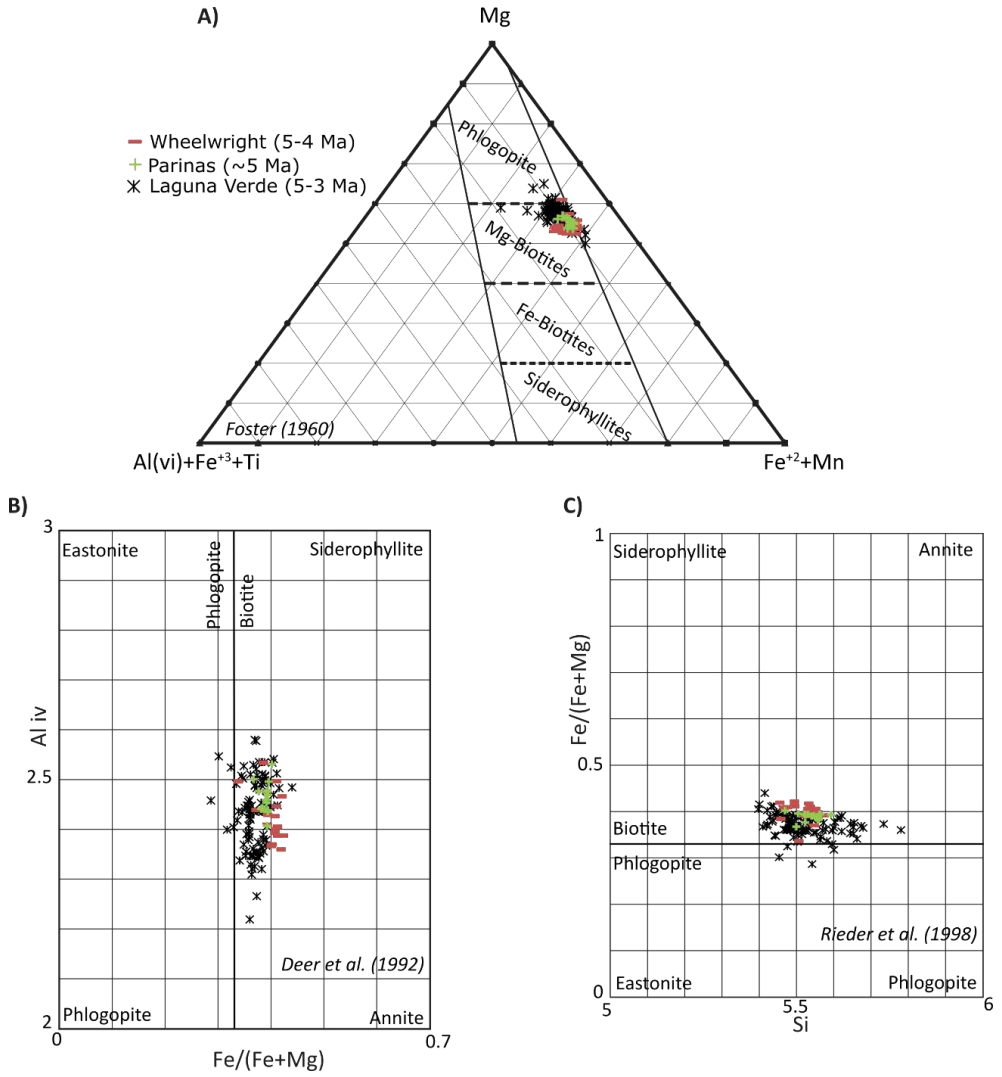
(Supplementary Figure SF38C). The Vega Helada Ignimbrite contains magnesian biotites near the siderophyllite composition (Supplementary Figure SF38A–C). The Pajonales and Juncalito Ignimbrites show values right at the boundary between phlogopite and magnesian biotites of the annite group (Supplementary Figure SF38A). The biotites from the Salar Grande Ignimbrite have compositions that lie on the boundary between phlogopite and magnesian biotites, being closer to annite than to siderophyllite. The biotites from the Barrancas Blancas, San Andrés, and Los Colorados Ignimbrites are magnesian biotites between the annite and siderophyllite fields. Specifically, Barrancas Blancas and San Andrés are closer to siderophyllite, while Los Colorados is closer to an annitic composition (Supplementary Figure SF39). Finally, the Wheelwright, Parinas, and Laguna Verde Ignimbrites contain magnesian biotites, with compositions falling between siderophyllite and annite. However, four analyses from the Laguna Verde Ignimbrite correspond to phlogopites, with intermediate compositions between phlogopite and eastonite (Supplementary Figure SF40).



Supplementary Figure SF38: Classification diagrams of biotites from Antiguas (Ancient, older than 21 Ma), Río Frío, Vega Helada, Pajonales, and Juncalito Ignimbrites. The boundaries between phlogopites and biotites in diagrams B) and C) were drawn according to the values established by Speer (1984) and Deer et al. (1986). A) Ternary classification diagram of biotites following Foster (1960). The Fe^{2+} and Fe^{3+} cations were recalculated using the formula published by Droop (1987). B) Biotite classification diagram according to Deer et al. (1992). C) Biotite classification diagram following Rieder et al. (1998). All concentrations are in atoms per formula unit, based on 22 oxygens.



445 **Supplementary Figure SF39: Classification diagrams of biotites from the Salar Grande, Barrancas Blancas, San Andrés, and Los Colorados Ignimbrites. The boundaries between phlogopites and biotites in diagrams B) and C) were drawn based on the values established by Speer (1984) and Deer et al. (1986). A) Ternary classification diagram of biotites according to Foster (1960). The Fe^{2+} and Fe^{3+} cations were recalculated using the formula published by Droop (1987). B) Biotite classification diagram according to Deer et al. (1992). C) Biotite classification**
450 **diagram according to Rieder et al. (1998). All concentrations are in atoms per formula unit, based on 22 oxygens.**



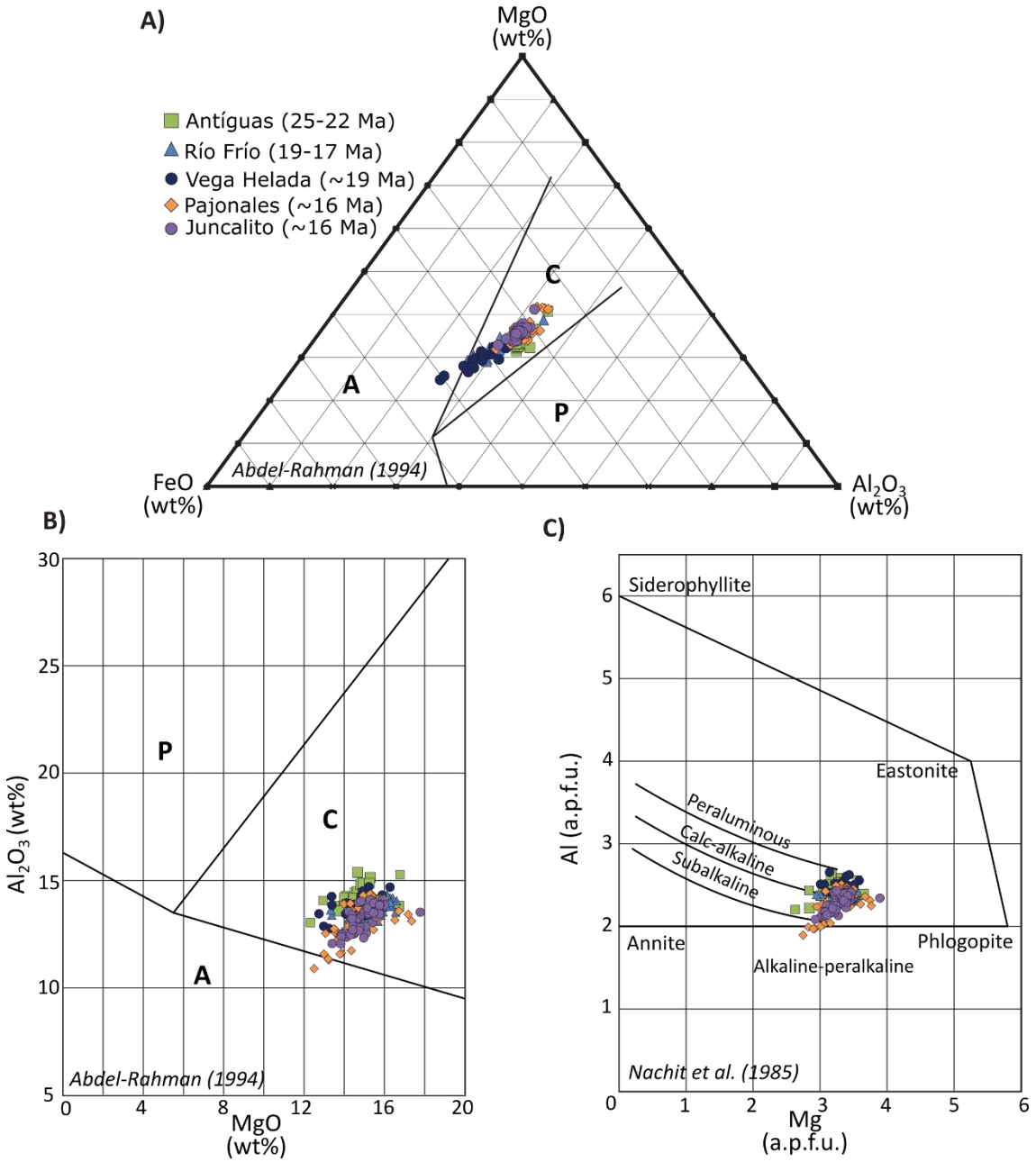
Supplementary Figure SF40: Classification diagrams of biotites from the Wheelwright, Parinas, and Laguna Verde Ignimbrites. The boundaries between phlogopites and biotites in diagrams B) and C) were drawn based on the values established by Speer (1984) and Deer et al. (1986). A) Ternary classification diagram of biotites according to Foster (1960). The Fe^{2+} and Fe^{3+} cations were recalculated using the formula published by Droop (1987). B) Biotite classification diagram according to Deer et al. (1992). C) Biotite classification diagram according to Rieder et al. (1998). All concentrations are in atoms per formula unit, based on 22 oxygens.

Indirect magma classification

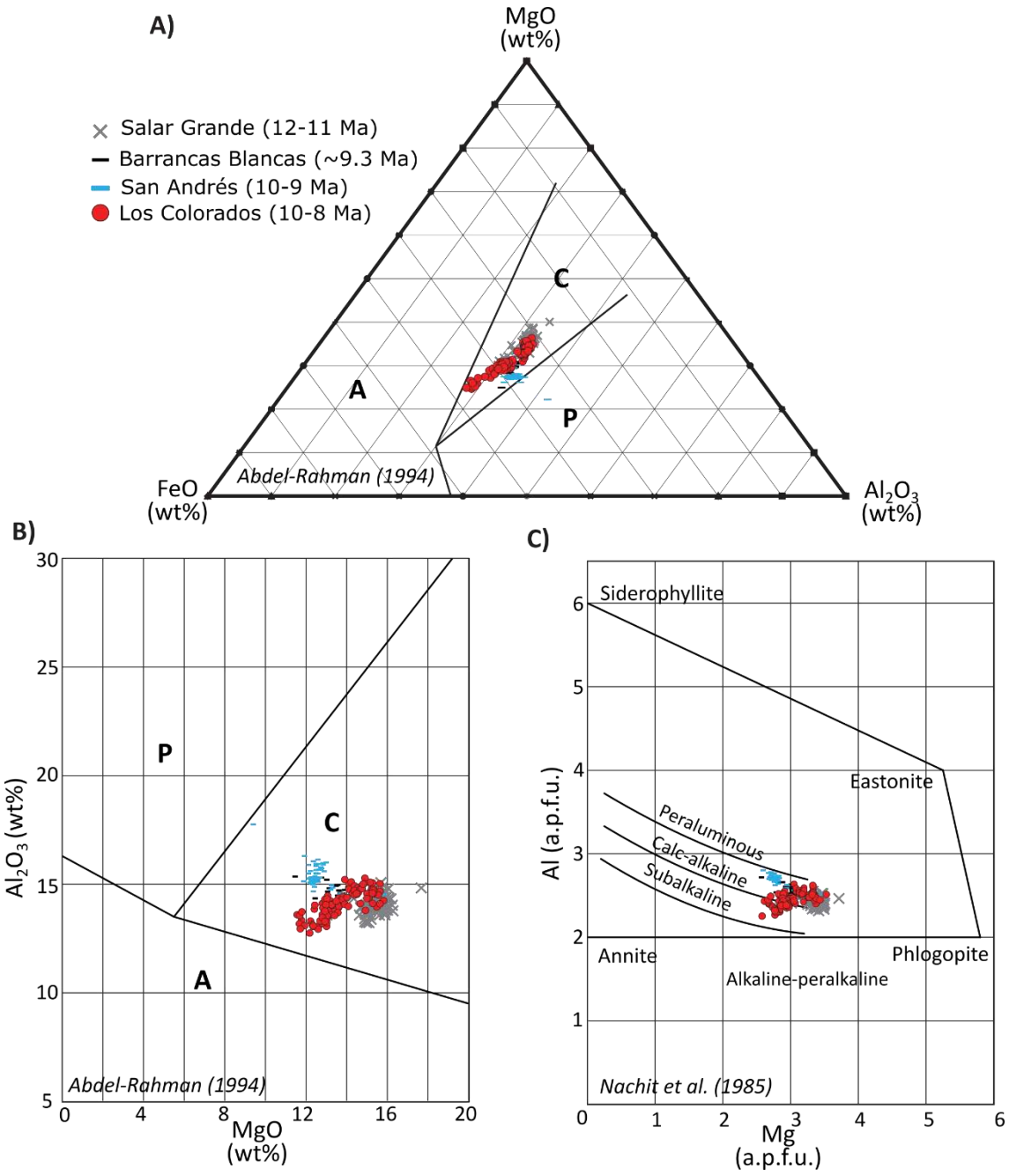
According to various authors (Muñoz and Swenson, 1981; Nachit et al., 1985; Abdel-Rahman, 1994, 1996), the composition of biotites reflects the chemical composition of the parental magma from which they crystallized, allowing for the classification of these magmas and the recognition of their formation environment. As shown in

Supplementary Figure SF41 A and B, the magmas from which the biotites of the Antiguas, Río Frío, Vega Helada, Pajonales, and Juncalito formed correspond to orogenic calc-alkaline magmas (Field C in the diagrams). A few analyses indicate anorogenic alkaline magmas: two for the Vega Helada Ignimbrite in Graph A and one for the Pajonales Ignimbrite in Graph B. Supplementary Figure SF41 C displays a greater variety: the biotites of the Antiguas and Río Frío Ignimbrites indicate calc-alkaline magmas, with a few analyses suggesting sub-alkaline compositions; Vega Helada exclusively indicates a calc-alkaline magma; Pajonales indicates calc-alkaline and sub-alkaline magmas, with three analyses suggesting alkaline to peralkaline magmas; and Juncalito indicates calc-alkaline to sub-alkaline magmas.

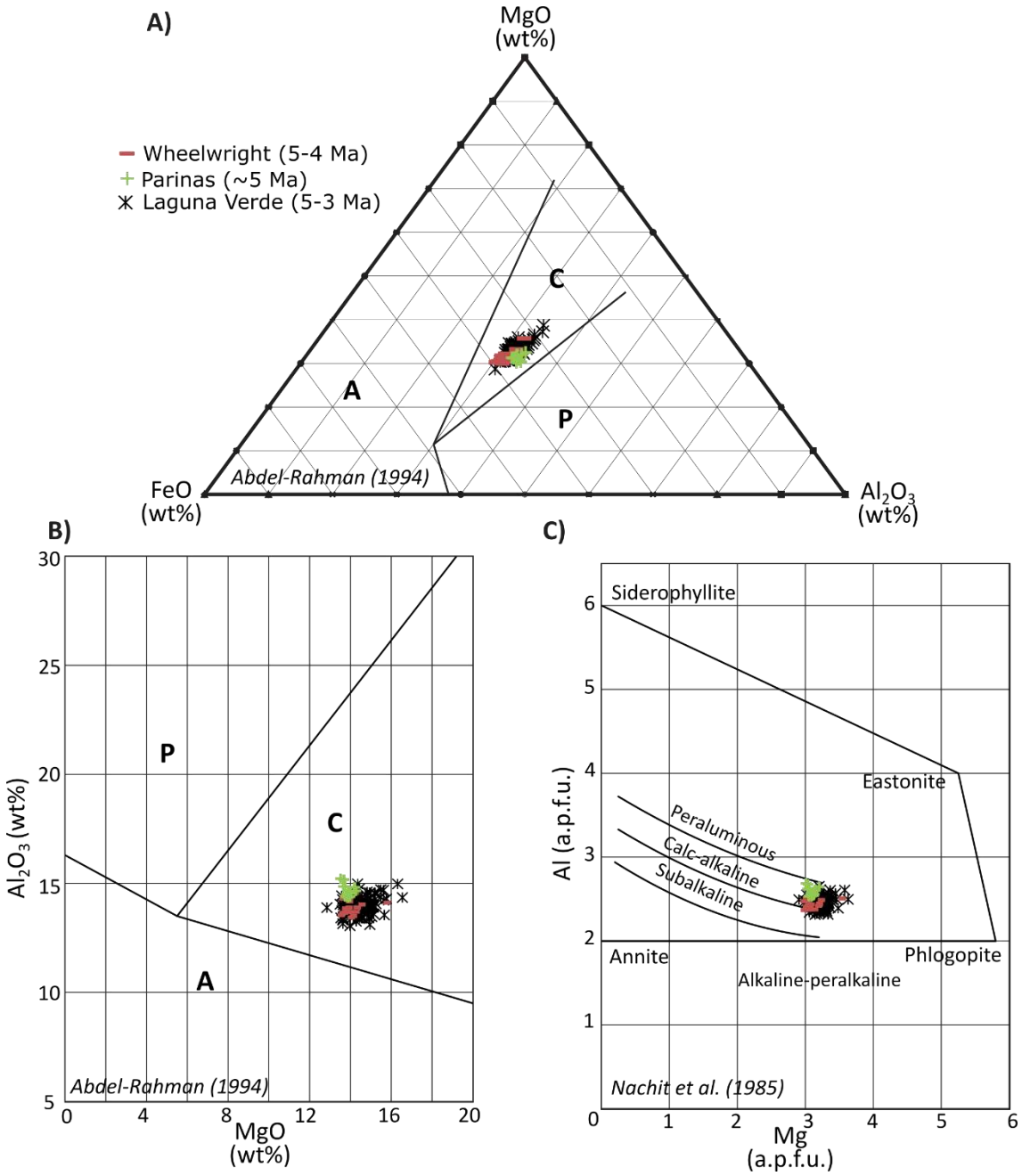
As observed in Supplementary Figure SF42, the biotite chemistry of the Salar Grande, Barrancas Blancas, San Andrés, and Los Colorados ignimbrites indicates calc-alkaline magmas. A single analysis from the San Andrés Ignimbrite shows values significantly different from the rest, suggesting a peraluminous magma. The analyses from the Los Colorados Ignimbrite display greater dispersion than the other units plotted in Supplementary Figure SF42, indicating calc-alkaline and sub-alkaline magmas in diagram C. Finally, the analyses plotted in Supplementary Figure SF43 show the least dispersion, exclusively indicating orogenic calc-alkaline magmas for the Wheelwright, Parinas, and Laguna Verde ignimbrites. The biotites from the younger units exhibit less dispersion compared to the older units (Supplementary Figures SF42 and SF43).



480 **Supplementary Figure SF41: Diagrams for magma classification based on biotite geochemistry for the Antiguas, Río Frío, Vega Helada, Pajonales, and Juncalito Ignimbrites. A) and B) follow the classification by Abdel-Rahman (1994), where the letters A, P, and C indicate anorogenic alkaline magmas, peraluminous magmas (including S-type), and orogenic calc-alkaline magmas, respectively. C) follows the classification by Nachit et al. (1985). The abbreviation a.p.f.u. stands for atoms per formula unit, based on 22 oxygen atoms, and wt.% refers to the weight percentage of**
485 **oxides.**



Supplementary Figure SF42: Diagrams for magma classification based on biotite geochemistry for the Salar Grande, Barrancas Blancas, San Andrés, and Los Colorados ignimbrites. A) and B) follow the classification by Abdel-Rahman (1994), where the letters A, P, and C indicate anorogenic alkaline magmas, peraluminous magmas (including S-type), and orogenic calc-alkaline magmas, respectively. C) follows the classification by Nachit et al. (1985). The abbreviation a.p.f.u. stands for atoms per formula unit, based on 22 oxygen atoms, and wt.% refers to the weight percentage of oxides.



Supplementary Figure SF43: Diagrams for magma classification based on biotite geochemistry for the Wheelwright, Parinas, and Laguna Verde ignimbrites. A) and B) follow the classification by Abdel-Rahman (1994), where the letters A, P, and C indicate anorogenic alkaline magmas, peraluminous magmas (including S-type), and orogenic calc-alkaline magmas, respectively. C) follows the classification by Nachit et al. (1985). The abbreviation a.p.f.u. stands for atoms per formula unit, based on 22 oxygen atoms, and wt.% refers to the weight percentage of oxides.

A4 References cited in the Supplementary Material

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