

Infiltration of meteoric water in the South Tibetan Detachment (Mount Everest, Himalaya): When and why?

Aude Gébelin, Micah J. Jessup, Christian Teyssier, Michael A. Cosca, Richard D. Law, Maurice Brunel, Andreas Mulch

▶ To cite this version:

Aude Gébelin, Micah J. Jessup, Christian Teyssier, Michael A. Cosca, Richard D. Law, et al.. Infiltration of meteoric water in the South Tibetan Detachment (Mount Everest, Himalaya): When and why?. Tectonics, 2017, 36, pp.690-713. 10.1002/2016TC004399. insu-03661351

HAL Id: insu-03661351 https://insu.hal.science/insu-03661351

Submitted on 6 May 2022

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers. L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

@AGUPUBLICATIONS

Tectonics



10.1002/2016TC004399

Special Section:

An Appraisal of Global Continental Crust: Structure and Evolution

Key Points:

- Low δD meteoric fluids permeated the South Tibetan Detachment footwall in the Mount Everest region during mylonitic deformation
- The South Tibetan Detachment system represents an important orogen-scale structure for fault-controlled hydrothermal activity
- Localized north-south extension characterized the upper Tethyan Himalayan plate during the middle Miocene within a convergent setting

Supporting Information:

Supporting Information S1

Correspondence to:

A. Gébelin, aude.gebelin@plymouth.ac.uk

Citation:

Gébelin, A., M. J. Jessup, C. Teyssier, M. A. Cosca, R. D. Law, M. Brunel, and A. Mulch (2017), Infiltration of meteoric water in the South Tibetan Detachment (Mount Everest, Himalaya): When and why?, *Tectonics*, *36*, 690–713, doi:10.1002/2016TC004399.

Received 20 OCT 2016 Accepted 13 MAR 2017 Accepted article online 15 MAR 2017 Published online 25 APR 2017

©2017. American Geophysical Union. All Rights Reserved.

Infiltration of meteoric water in the South Tibetan Detachment (Mount Everest, Himalaya): When and why?

Aude Gébelin¹, Micah J. Jessup², Christian Teyssier³, Michael A. Cosca⁴, Richard D. Law⁵, Maurice Brunel⁶, and Andreas Mulch^{7,8}

¹School of Geography, Earth and Environmental Sciences, Plymouth University, Plymouth, UK, ²Department of Earth and Planetary Sciences, University of Tennessee, Knoxville, Tennessee, USA, ³Earth Sciences, University of Minnesota, Twin Cities, Minneapolis, Minnesota, USA, ⁴Central Mineral and Environmental Resources Science Center, USGS, Denver, Colorado, USA, ⁵Department of Geosciences, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, USA, ⁶Géosciences Montpellier UMR 5243, Université Montpellier 2, Montpellier, France, ⁷Senckenberg Biodiversity and Climate Research Centre (BiK-F), Frankfurt, Germany, ⁸InstitutfürGeowissenschaften, Goethe Universität Frankfurt, Frankfurt, Germany

Abstract The South Tibetan Detachment (STD) in the Himalayan orogen juxtaposes low-grade Tethyan Himalayan sequence sedimentary rocks over high-grade metamorphic rocks of the Himalayan crystalline core. We document infiltration of meteoric fluids into the STD footwall at ~17-15 Ma, when recrystallized hydrous minerals equilibrated with low- δD (meteoric) water. Synkinematic biotite collected over 200 m of structural section in the STD mylonitic footwall (Rongbuk Valley, near Mount Everest) record high-temperature isotopic exchange with D-depleted water ($\delta D_{water} = -150 \pm 5\%$) that infiltrated the ductile segment of the detachment most likely during mylonitic deformation, although later isotopic exchange cannot be definitively excluded. These minerals also reveal a uniform pattern of middle Miocene (15 Ma) 40 Ar/ 39 Ar plateau ages. The presence of low- δ D meteoric water in the STD mylonitic footwall is further supported by hornblende and chlorite with very low δD values of -183% and -162%, respectively. The δD values in the STD footwall suggest that surface-derived fluids were channeled down to the brittle-ductile transition. Migration of fluids from the Earth's surface to the active mylonitic detachment footwall may have been achieved by fluid flow along steep normal faults that developed during synconvergent extension of the upper Tethyan Himalayan plate. High heat flow helped sustain buoyancy-driven fluid convection over the timescale of detachment tectonics. Low δD values in synkinematic fluids are indicative of precipitation-derived fluids sourced at high elevation and document that the ground surface above this section of the STD had already attained similar-to-modern topographic elevations in the middle Miocene.

1. Introduction

Assessing the role of fluids in detachment systems is important because fluids may influence the mechanisms and rates of detachment faulting from the grain scale to the scale of entire faults/shear zones [e.g., *Mulch et al.*, 2006; *Whitney et al.*, 2013]. Fluid infiltration along and within shear zones can induce metamorphic reactions [e.g., *Mertanen and Karell*, 2012; *Saxena et al.*, 2012] and influence deformation mechanisms (recrystallization and recovery) by formation of rheologically weak phyllosilicate layers that may localize deformation [*Wintsch et al.*, 1995; *Warr and Cox*, 2001] or by enhancing crystal-scale recrystallization [*Rutter and Mainprice*, 1979; *Paterson*, 1995]. The presence of phyllosilicates may favor intergranular pressure solution processes [*Renard et al.*, 2001] and thus reduce the porosity and permeability of deforming rocks. Combined recrystallization and fluid-mediated element transport are hence critical in controlling the porosity and permeability structure of deforming crystalline rocks [*Person et al.*, 2007].

Infiltration of meteoric fluids has been documented in the footwall of detachment zones that bound the metamorphic core complexes of the North American Cordillera, based mainly on the low hydrogen (δ D) and oxygen (δ ¹⁸O) isotope values of synkinematic hydrous minerals [e.g., *Fricke et al.*, 1992; *Losh*, 1997; *Mulch et al.*, 2004, 2006; *Holk and Taylor*, 2007; *Gottardi et al.*, 2011; *Gébelin et al.*, 2011, 2012, 2015; *Methner et al.*, 2015; *Quilichini et al.*, 2015, 2016], the Menderes Massif of Turkey [*Hetzel et al.*, 2013], and extensional detachments in the European Central Alps [*Campani et al.*, 2012]. Surface fluids penetrated the deforming crust down to the brittle-ductile transition in these orogens by means of normal faults and fractures that

dissected the brittle upper crust, while at the same time movement within the detachment zone induced advection of hot footwall material that promoted buoyancy-driven fluid convection [e.g., *Person et al.*, 2007]. The downward migration of fluids is also facilitated by the presence of a hydraulic head that is generated in high-relief areas such as domino-style tilted blocks of upper crust [*Person et al.*, 2007]. Therefore, detachment zones represent a domain in the crust where surface fluids and metamorphic fluids may meet [e.g., *Fricke et al.*, 1992; *Nesbitt and Muehlenbachs*, 1995; *Losh*, 1997; *Mulch et al.*, 2004, 2006; *Holk and Taylor*, 2007; *Gébelin et al.*, 2011, 2015].

Here we document similar fluid infiltration into the South Tibetan Detachment (STD) of the Himalayan orogen that may be viewed as a special category of normal-sense shear detachments because it developed during overall continental convergence. Some authors consider it as a passive structure [e.g., *Chemenda et al.*, 2000; *Ring and Glodny*, 2010] that formed to accommodate the exhumation of underlying rocks in an extruded wedge or a flowing channel [e.g., *Burg et al.*, 1984; *Burchfiel and Royden*, 1985; *Grujic et al.*, 1996, 2002; *Grasemann et al.*, 1999; *Beaumont et al.*, 2001, 2004; *Searle et al.*, 2003; *Godin et al.*, 2006]. Others view the STD as a thrust that was reactivated as a top-to-the-north shear zone and alternatively played the role of passive-roof and active-roof thrust during emplacement of the Himalayan crystalline core (HCC) [e.g., *Yin*, 2006; *Webb et al.*, 2011]. Here we show that at least from a crustal permeability standpoint the STD is similar to extensional detachments of the metamorphic core complexes of western North America. We suggest that localized hydration of the STD footwall was enhanced by the combined effects of porosity and permeability pathways in the overlying Tethyan sedimentary rocks and high heat flow in the metamorphic footwall.

To determine fluid provenance and the timing and duration of fluid flow in the STD footwall, we use a combination of hydrogen isotope (δ D) geochemistry and ⁴⁰Ar/³⁹Ar geochronology of hydrous minerals from STD mylonites collected in the Rongbuk Valley, located to the north of Mount Everest. This analytical approach, pioneered in the North American Cordillera [e.g., *Fricke et al.*, 1992; *Losh*, 1997; *Mulch et al.*, 2004], is based on the concept of water-rock interaction in active crustal-scale shear zones and involves measurement of δ D values of hydrous minerals (e.g., mica and amphibole) that interacted with aqueous fluids at high temperature. If mineral water-hydrogen isotope equilibrium was achieved during deformation and recrystallization, and if the temperature of hydrogen isotope exchange can be independently estimated, δ D values of fluids can be retrieved from synkinematic minerals through experimentally calibrated hydrogen isotope exchange parameters.

The δD values of hydrous minerals have been recognized to be sensitive tracers of fluid-rock interaction because hydrogen is a constituent of the H₂O molecule itself and is a trace element in silicate rocks (order of 2000 ppm; e.g., *Sheppard* [1986]) compared to oxygen, which is typically the most abundant element in rocks. Therefore, a small amount of fluid will be detectable by measuring the hydrogen isotope ratios because the volume of fluid required for changing the hydrogen bulk-rock composition of a unit is several orders of magnitude smaller than that required for changing the oxygen bulk-rock composition. Hydrogen also provides a wide range of δD values in silicates [*Coplen et al.*, 2002] that allow the origin of fluids involved in the formation or alteration of hydrogen-bearing silicates to be determined (e.g., $\delta D_{sea water} = 0 \pm 1-2\%$, *Hoefs* [2004]; $-80\% < \delta D_{magmatic fluids} < -40\%$, e.g., *Sheppard* [1986]; $-70\% < \delta D_{metamorphic fluids} < -20\%$, e.g., *Field and Fifarek* [1985]; $-495\% < \delta D_{meteoric water} < +129\%$, e.g., *Fontes and Gonfiantini* [1967] and *Jouzel et al.* [1987]).

Negative δD values for hydrous silicates (< -120‰) are a valuable indicator of interaction with meteoric fluids [e.g., *Taylor*, 1990; *Mulch et al.*, 2004, 2006; *Gébelin et al.*, 2011, 2012, 2015] because δD values in precipitation decrease with increasing altitude on the windward side of mountain ranges (~20‰ in δD per kilometer; e.g., *Poage and Chamberlain* [2001]) and low- δD fluids are typically absent in the crust. The presence of cool surface-derived fluids descending into the brittle-ductile transition influences the thermome-chanical behavior of shear zones and also impacts the radiogenic isotope chronometers at this critical structural level within the continental crust [e.g., *Mulch et al.*, 2005; *Gottardi et al.*, 2011]. Therefore, combining hydrogen isotope and ⁴⁰Ar/³⁹Ar geochronology data from a transect across the STD into the underlying mylonitic footwall provides insight on the origin of fluids within the shear zone exposed in the northern part of the Rongbuk Valley, as well as the timing and possible duration of fluid flow and isotope exchange (hydrogen and argon) between mineral grains and circulating fluids.

The Rongbuk Valley mylonites (Figure 1) provide an excellent target for assessing the role of fluids in the STD because (1) the structural, metamorphic, and geochronologic record of the region is well established [e.g., *Burchfiel et al.*, 1992; *Hodges et al.*, 1992, 1998; *Carosi et al.*, 1998; *Searle et al.*, 2003, 2006; *Law et al.*, 2004, 2011; *Jessup et al.*, 2006, 2008; *Cottle et al.*, 2015; *Schultz et al.*, 2017]; (2) the region had a high geothermal gradient in part generated by the emplacement of syntectonic leucogranite bodies in the STD footwall [*Hodges et al.*, 1998; *Murphy and Harrison*, 1999; *Searle et al.*, 2003]; and (3) surface topography and relief were sufficiently high during motion on the STD to create a regional hydraulic head [*Gébelin et al.*, 2013].

The new data presented here support previous claims that surface-derived fluids infiltrated the detachment shear zone over a minimum duration of circa 2 Myr in response to localized extension associated with development of steep normal faults in Tethyan Himalayan sequence hanging wall rocks at \sim 17–15 Ma.

2. Tectonic Setting

2.1. Tectonic Architecture of the Himalaya

For more than 1500 km along strike the STD parallels the east-west arcuate trend of the Himalayan range and juxtaposes unmetamorphosed or low-grade Tethyan Himalayan sequence (THS) sedimentary rocks over high-grade metamorphic rocks of the HCC (Figure 1a; e.g., *Burg et al.* [1984] and *Burchfiel et al.* [1992]). The ~25 km thick HCC slab of metasedimentary and granitic rocks is bounded along the base by the south directed Main Central Thrust (MCT) that separates the HCC from lower grade Lesser Himalayan sequence (LHS) rocks [e.g., *Heim and Gansser*, 1939; *LeFort*, 1975; *Pêcher*, 1989; *Searle et al.*, 2008]. Structural and geochronological studies indicate that activity on the MCT and the STD was spatially and temporally related and played a major role in exhuming the HCC all along the Himalayan range [e.g., *Burchfiel and Royden*, 1985; *Grujic et al.*, 1996, 2002; *Beaumont et al.*, 2004; *Webb et al.*, 2011] between 24 and 12 Ma [e.g., *Hodges et al.*, 1992, 1996; *Murphy and Harrison*, 1999; *Vannay and Grasemann*, 2001; *Daniel et al.*, 2003; *Searle et al.*, 2003; *Godin et al.*, 2006; *Kellett et al.*, 2009, 2010; *Leloup et al.*, 2010; *Chambers et al.*, 2011; *Kellett and Grujic*, 2012].

Various models have been proposed to explain emplacement of the HCC. In the channel flow model [e.g., *Nelson et al.*, 1996; *Hodges et al.*, 2001; *Beaumont et al.*, 2001, 2004], the MCT and STD are viewed as parallel structures that channelize the southward extrusion of partially molten crust sustained by continued erosion at the Himalayan front. In the wedge extrusion model [e.g., *Burg et al.*, 1984; *Burchfiel and Royden*, 1985; *Grujic et al.*, 1996], the MCT and STD merge downdip and facilitate exhumation of the HCC within the Indian crust as a wedge. *Grujic et al.* [2011] proposed a hybrid model of the channel flow and wedge models. The tectonic wedging model is radically different from the other models; in this model the HCC is bounded by the MCT and STD surfaces that merge in their updip direction [e.g., *Yin*, 2006; *Webb et al.*, 2007, 2011]. Although these models have differences in timing and style, all attempt to explain Miocene exhumation of the HCC. In the channel flow and wedge extrusion models, southward crustal flow is enhanced by both erosion at the Himalayan front and north directed normal-sense slip on the STD that facilitates southward movement of low-viscosity material, whereas in the tectonic wedging model, exhumation of the HCC is a consequence of crustal thickening by accretion and interleaving of thrust slices. The resolution of this debate relies in part on the tectonic regime that prevailed in the overlying Tethyan Himalayan sequence and on the timing, kinematics, and magnitude of motion on the STD.

2.2. Metamorphic History of the Mount Everest Region

Prior to localization of deformation along the STD in the Everest region, the HCC (including the Everest series) was buried during crustal thickening that resulted in Barrovian metamorphism at ~650°C, 6 kbar [*Pognante and Benna*, 1993; *Carosi et al.*, 1998; *Searle et al.*, 2003; *Jessup et al.*, 2008] at around ~32 Ma in the upper reaches of the Khumbu region [*Simpson et al.*, 2000; *Searle et al.*, 2003]. At similar structural positions exposed in the Kangshung Valley on the east side of Everest, U-Th-Pb dating indicates that peak-Barrovian conditions were reached by at least ~38.9 Ma [*Cottle et al.*, 2009]. This was followed by sillimanite-grade metamorphism at ~28 Ma [*Cottle et al.*, 2009]. In structurally higher positions within the northward dipping HCC, exposed to the north of the Kangshung Valley, the regional metamorphism occurred later at ~25.4 Ma [*Cottle et al.*, 2009].

In the upper portions of the HCC, as exposed in the Khumbu region, the record of Barrovian metamorphism was variably overprinted by isothermal, high temperature (>620°C) and moderate pressure (~3–5 kbar) metamorphism associated with Miocene partial melting and decompression [*Pognante and Benna*, 1993;

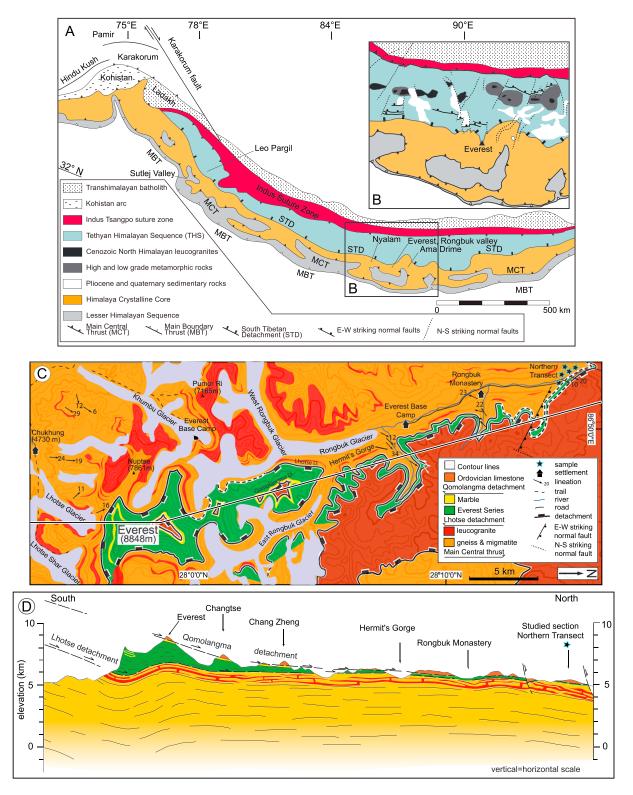


Figure 1. (a) Simplified geologic sketch map of the Himalaya showing distribution of the main lithotectonic units and main areas discussed in text (modified after *Burchfiel et al.* [1992] and *Searle et al.* [2008]). (b) Tectonic map of the Mount Everest region modified after *Burchfiel et al.* [1992]. (c) Simplified geological map of the Mount Everest region and Rongbuk Valley, Tibet (modified after *Chi-Hsiang and Shih-Tseng* [1978], *Carosi et al.* [1998], *Searle* [2003], and *Jessup et al.* [2006, 2008]). (d) N-S cross section across Mount Everest (modified after *Searle* [2003] and *Jessup et al.* [2006, 2008]) showing the upper brittle Qomolangma detachment and the lower ductile Lhotse detachment merging toward the north into the South Tibetan Detachment shear zone; position of studied section is indicated.

Carosi et al., 1998; *Searle et al.*, 2003; *Jessup et al.*, 2008]. High temperatures characterized the Khumbu area rocks between ~32 and 17 Ma [*Searle et al.*, 2010], induced partial melting between ~26 and 20 Ma [*Viskupic et al.*, 2005], and fed the overlying leucogranite injection complexes [*Carosi et al.*, 1999; *Searle et al.*, 2003]. Similar structural positions in the Kangshung Valley also record partial melting at ~20.8 Ma (prekinematic to synkinematic) and 16.7 Ma (postkinematic) [*Cottle et al.*, 2009]. Early metamorphism at higher structural positions within the northward dipping HCC was overprinted by a metamorphic event at ~16.1 Ma that was followed by partial melting at ~15.2 Ma (prekinematic to synkinematic) and ~12.6 Ma (postkinematic; *Cottle et al.* [2009]). When combined with data from a north Himalayan gneiss dome, *Cottle et al.* [2009] proposed that the HCC recorded metamorphism and partial melting that resulted in flow of a weakened, southward directed channel for 20 Myr. prior to ~16 Ma.

2.3. Timing of Deformation in the Mount Everest Region

The timing of STD activity varies significantly along the Himalayan belt covering the early to middle Miocene [*Hodges et al.*, 1992; *Godin et al.*, 2006; *Carosi et al.*, 2013], an age range that mimics ages obtained for activity on the MCT.

In the structurally highest position of the HCC near Mount Everest (Hermit's Gorge of Rongbuk Valley) (Figures 1c and 1d), various generations of leucogranite record a minimum age of ~16.4 Ma for ductile fabric development related to deformation along the STD, while extrusion of partially melted sillimanite-grade rocks beneath a passive-roof fault occurred prior to 15.4 Ma [*Cottle et al.*, 2015]. In the same area, U-Pb ages from sheared schist (16.9 \pm 2 Ma) were interpreted as evidence for movement on the STD at this time [*Searle et al.*, 2003].

Farther to the north in Rongbuk Valley, a series of leucogranite dikes and sills exposed in the cliffs above Rongbuk Monastery (Figures 1c and 1d) record the timing of ductile deformation at ~17 Ma [*Murphy and Harrison*, 1999]. The northernmost dated mylonitic leucogranite sill (100–150 m thick) recorded an upper bound for the timing of the shear zone of 16.67 ± 0.04 Ma (U/Pb; *Hodges et al.* [1998]).

Despite some lack of precision, the cessation of movement on the STD occurred during the middle to late Miocene [e.g., *Edwards et al.*, 1996, 1999; *Wu et al.*, 1998; *Kellett et al.*, 2009, 2013; *Schultz et al.*, 2017]. However, based on field relations combined with monazite U-Pb data from leucogranite dikes at Hermit's Gorge, *Cottle et al.* [2015] proposed a minimum age of 15.6 Ma for ductile shearing on the STD. The end of shearing on the STD footwall must reflect important geodynamic changes in the south Tibetan region. It is marked by a transition at ~15–13 Ma [*Nagy et al.*, 2015] from N-S stretching and south directed extrusion of the HCC, as evidenced by E-W striking extensional shear zones and normal faults (Figure 1b; *Chi-Hsiang and Shih-Tseng* [1978], *Burchfiel et al.* [1992], and *Carosi et al.* [1998]), to orogen-parallel E-W stretching/extension accommodated by the development of high-angle N-S striking normal faults that formed perpendicular to the gently dipping STD along the length of the Himalayan orogen [e.g., *Jessup and Cottle*, 2010; *Leloup et al.*, 2010; *Lee et al.*, 2011; *Nagy et al.*, 2015].

Hydrogen isotope ratios (δD) in silicate minerals that crystallized in the immediate footwall to the STD exposed in the Rongbuk Valley indicate that meteoric water penetrated the ductile segment of the detachment over the timescale of mylonitic deformation [*Gébelin et al.*, 2013]. Based on geochronological data from syntectonic leucogranite and sheared biotite-schist (see above, *Hodges et al.* [1998], *Murphy and Harrison* [1999], and *Searle et al.* [2003]) hydrogen isotope exchange between meteoric fluids and recrystallized silicates is thought to have occurred at ~17 Ma during normal-sense movement on the STD [*Gébelin et al.*, 2013]. In addition to the δD values of biotite and hornblende presented in *Gébelin et al.* [2013], the present study offers a more complete set of hydrogen isotope data and microstructural observations, as well as new 40 Ar/³⁹Ar geochronological data from the STD footwall in the Rongbuk Valley indicating that fluid-rock isotopic exchange occurred over a longer time interval and ceased shortly before 15 Ma.

The presence of low- δD meteoric water in the STD footwall raises the question of how these fluids reached down to the brittle-ductile transition. Although a wide range of structural and thermochronological data for the STD have been recorded along the length of the Himalaya, the relationship between the timing of deformation, fluid flow, and normal-sense northward shearing along the STD remains elusive. The results presented here shed new light on Miocene crustal hydrology in the Himalaya region and offer new ideas regarding the relationship among crustal deformation, Himalayan topography, and fluid circulation along the STD.

3. RongbukValley Transect: Petrography and Deformation Temperatures

We collected oriented samples for structural analysis along a transect from the STD into the underlying mylonitic footwall in the Rongbuk Valley immediately north of Mount Everest (Figures 1b and 1c). In this area, the STD consists of two major detachment zones that gradually merge northward (Figure 1d): the brittle Qomolangma detachment (QD) and the structurally lower ductile Lhotse detachment shear zone (LD) [*Burchfiel et al.*, 1992; *Carosi et al.*, 1998; *Searle*, 2003; *Searle et al.*, 2003; *Sakai et al.*, 2005].

The QD represents a sharp zone that juxtaposes low-grade Ordovician limestone [*Corthouts et al.*, 2015, and references therein] against underlying coarse-grained recrystallized marbles of the Yellow Band (Figures 1c and 1d). The sheared marbles below the QD form the top of the Everest Series and are underlain by metapelites in which metamorphic grade increases downward from greenschist to lower amphibolite facies in the structural section [*Pognante and Benna*, 1993; *Lombardo et al.*, 1993; *Waters et al.*, 2006; *Jessup et al.*, 2008]. The LD separates these penetratively deformed metasedimentary rocks from underlying biotite-schists and gneisses (sillimanite grade) injected by leucogranite sills [*Searle*, 2003; *Searle et al.*, 2003] that form the upper part of the Himalayan crystalline core.

Our samples were collected from the Northern Transect [*Jessup et al.*, 2006; *Law et al.*, 2011] located at the northern end of Rongbuk Valley, ~35 km to the north of Mount Everest (Figures 1c and 1d). Here the QD and LD merge and form a single high-strain detachment zone that separates upper plate Tethyan limestone from high-grade metamorphic rocks and syntectonic leucogranite below (Figure 1d). Quartz-rich layers at the top of the detachment footwall display intense dynamic recrystallization with development of subgrains and window microstructures or isolated grains (i.e., "leftover grains" of *Jessel* [1987]) indicating that subgrain rotation and grain boundary migration were the dominant dynamic recrystallization processes [*Hirth and Tullis*, 1992; *Jessup et al.*, 2006]. This deformation mechanism can occur over a wide temperature range (400°C to \geq 550°C) as indicated by the opening angle of quartz *c* axes fabrics in samples from the Northern Transect that are systematically consistent with deformation temperatures of \geq 540°C (Figure 3; *Law et al.* [2011], *Law* [2014], and *Faleiros et al.* [2016]).

Mylonitic leucogranite sills intruding marbles within the top 7 m of the section contain abundant muscovite (>30%) forming elongate lenticular mica fish and fish with small aspect ratios and curved tails [*Ten Grotenhuis et al.*, 2003] that are consistent with top-to-northeast sense of shear (Figures 2a and 3). In contrast, mica fish observed in mylonitic cross-cutting leucogranites in deeper parts (\geq 31 m) of the section have sigmoidal cleavage planes that converge at both tips of the mica grain (Figures 2b and 3; *Ten Grotenhuis et al.* [2003]).

Calc-silicate units in the immediate footwall to the detachment exposed on the Northern Transect contain abundant quartz and feldspar grains, as well as amphibole and biotite grains oriented subparallel to foliation (Figure 2c). Tension gashes oriented perpendicular to the NNE-SSW trending stretching lineation are filled by chlorite [*Jessup et al.*, 2006] and postdate the main foliation (Figure 2d). The calc-silicate units are underlain by biotite-schists and gneisses that represent the structurally lowest unit exposed on the Northern Transect. Biotite is abundant and forms shear bands consistent with top-to-north sense of shear (Figures 2e and 2f). Biotite grains are locally kinked, indicating late-stage deformation under low-grade conditions.

4. Hydrogen Isotope Geochemistry

The δD values of biotite, hornblende, muscovite, and chlorite were measured in 23 samples of sheared leucogranite, pegmatite, biotite-schist/gneiss, and calc-silicate across approximately 200 m of structural section from the STD into the underlying mylonitic footwall (Figure 3 and Table 1); analytical procedures are summarized in the supporting information (Text 1). These samples include δD values for biotite and hornblende previously reported by *Gébelin et al.* [2013] (see their Table DR1 in Data Repository). As the presence of fluid during mylonitization can induce the breakdown of porphyroclasts and the growth of newly recrystallized grains [e.g., *Paterson*, 1995; *Gébelin et al.*, 2011; *Quilichini et al.*, 2015], different grain size fractions were measured in order to identify potentially different generations of hydrous minerals.

4.1. Hydrogen Isotope Composition of Minerals From Biotite-Schist and Calc-Silicate Samples

Biotite from the biotite-schist and calc-silicate rock samples analyzed is characterized by very low δD values of -132% to -176% at distances of 9–109 m beneath the STD and attains progressively higher values of up to



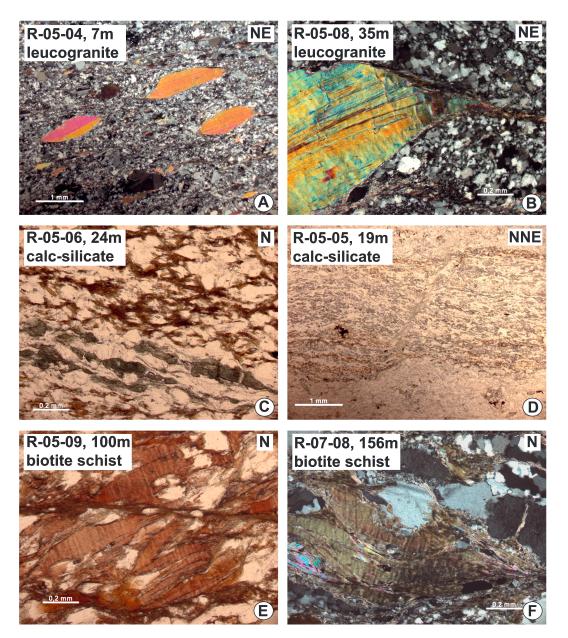


Figure 2. Photomicrograph of mylonitic rocks collected in the footwall to the STD exposed on the Northern Transect, Rongbuk Valley (sample number, lithology, and sampling depth beneath the detachment are indicated). All thin sections cut perpendicular to foliation and parallel to mineral lineation. (a) Muscovite fish with small aspect ratios [*Ten Grotenhuis et al.*, 2003] indicating top-to-northeast sense of shear. (b) Muscovite fish showing sigmoidal cleavage planes converging at the tip of the grain [*Ten Grotenhuis et al.*, 2003] consistent with a top-to-northeast normal sense of shear. (c) Elongated amphibole and biotite grains parallel to the foliation in calc-silicate. (d) Microboudinage and tension gashes filled by chlorite in calc-silicate postdating the main foliation. (e) Biotite-bearing shear bands indicating top-to-north sense of shear. (f) Biotite fish from schist.

-85% (156 m) toward the base of the section. Similarly, hornblende separates from two calc-silicate samples at 24 and 98 m beneath the detachment yield very low δD values of -183 and -181%, respectively. Chlorite from one calc-silicate sample has a very low δD value of -162%.

4.2. Hydrogen Isotope Composition of Minerals From Leucogranite Samples

Syntectonic leucogranites at 25–97 m beneath the detachment contain biotite grains characterized by low δD values that range from -126% to -182%. Muscovite grains from the leucogranites have higher δD values (between -129 and -77%) than biotite grains, even though they are from similar, and in some

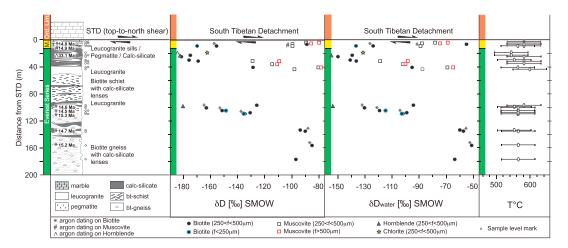


Figure 3. The δD values of biotite, muscovite, hornblende, and chlorite from mylonitic rocks in the footwall of the South Tibetan Detachment (STD) and calculated δD_{water} values. Most of sample separates are from the grain size fraction $250 < f < 500 \,\mu\text{m}$, except those shown in red ($f > 500 \,\mu\text{m}$) and blue ($f < 250 \,\mu\text{m}$). Note that the δD values of biotite and hornblende are those previously published in *Gébelin et al.* [2013]. (left) Lithologic section through the STD at Northern Transect (Rongbuk Valley). Note that ${}^{40}\text{Ar}/{}^{39}\text{Ar}$ results are given with respect to their structural position on the stratigraphic column. (right) Deformation/recrystallization temperatures based on opening angle of quartz *c* axes fabric patterns with nominal uncertainties of $\pm 50^{\circ}$ C [*Law et al.*, 2011].

cases the same, leucogranite samples collected at distances less than 41 m beneath the detachment. The highest δD values for muscovite grains (-77 to -86‰) from leucogranite samples fall within the δD range of metamorphic muscovite [e.g., *Sheppard*, 1986] and occur within the 0-7 m and 40 m depth intervals. In addition, we note that the largest muscovite size fractions ($f > 500 \,\mu$ m) yield δD values up to 20‰ higher than the smallest size fractions (250 < $f < 500 \,\mu$ m) (Table 1).

5. ⁴⁰Ar/³⁹Ar Geochronology

We dated seven samples of schist, leucogranite, and calc-silicate collected over 156 m of section of STD footwall mylonites (Figure 4 and Table 2). In an attempt to make a link between potential hydrogen isotope and ⁴⁰Ar loss, we selected samples from which we had previously obtained low δ D values at the top of the section and high δ D values at the bottom of the section. Analyses were conducted on multigrain mineral separates using furnace step-heating ⁴⁰Ar/³⁹Ar geochronology (Table 2; analytical procedures can be found in Text 2 of the supporting information; *Dalrymple et al.* [1981], *Min et al.* [2000], *Lee et al.* [2006], and *Kuiper et al.* [2008]). Plateau ages of biotite fish from samples M2 (9 m below detachment), R-05-09 (100 m), R-07-03 (104 m), R-07-05 (109 m), R-07-07 (134 m), and R-07-08 (156 m) are 14.77 ± 0.17 Ma, 14.61 ± 0.13 Ma, 14.54 ± 0.11 Ma, 15.25 ± 0.13 Ma, 14.72 ± 0.11 Ma, and 15.16 ± 0.15 Ma, respectively (Figure 4). A multigrain muscovite separate from sample M2 yields a plateau age of 14.89 ± 0.07 Ma. These muscovite grains are from a syntectonic leucogranite sill that parallels the foliation in biotite-schist sample M2.

In contrast, hornblende separates from calc-silicates (sample R-05-06; 24 m below detachment) provide a disturbed ⁴⁰Ar/³⁹Ar age spectrum with low-temperature release steps indicating Eocene ages, followed by a plateau-like spectrum defined by two higher-temperature release steps that include ~79% of ³⁹Ar and give a late Eocene-early Oligocene age of 33.0 ± 0.8 Ma (Figure 4). The last step that comprises ~10% of total ³⁹Ar released gives an early to middle Miocene age.

6. Discussion

Two lines of evidence point to operation of the STD in the Mount Everest region as a hydrothermal system that permitted the circulation of meteoric water during a restricted time interval in the middle Miocene:

1. $\delta D_{biotite}$ values as low as -182% require the presence of meteoric fluids in the detachment footwall during deformation [e.g., *Taylor*, 1990]. Infiltration of surface-derived fluids down to the brittle-ductile transition is also supported by low $\delta D_{hornblende}$ and $\delta D_{chlorite}$ values of -182% and -162%, respectively. Consistent with localized meteoric fluid flow in the topmost part of the detachment footwall, δD values

	i								ç			
	Distance								oUwater	δD _{water}	δD _{water}	δD_{water}
Sample	Beneath STD (m)	Rock Type	ôDBt (%o)	δDMs (‱)	8DHbl (%o)	8DChI (%o)	Grain Size Fraction (μm)	T °C Recrystallization	From Bt (‰)	From Ms (‰)	From Hbl (‰)	From Chl (%)
R-05-03	9-	leucogranite		-89			250 < f < 500	581		-78		
R-05-03	9–	leucogranite		-80			f > 500	581		-69		
R-05-04	-7	leucogranite		-100			250 < f < 500	581		-89		
R-05-04	-7	leucogranite		-86			f > 500	581		-75		
M1	8-	leucogranite	-88				250 < f < 500	581	56			
M2	6-	schist/pegmatite	-156	-100			250 < f < 500	581	-124	-89		
M3	6-	bt-schist	-170				100 < f < 180	565	-137			
R-05-05	-19	calc-silicate				-162	250 < f < 500	543				-132
R-05-06	-24	calc-silicate	-174		-183		250 < f < 500	543	-139		-155	
R-05-07	-25	leucogranite	- 182				250 < f < 500	581	-150			
R-03-23	-30	calc-silicate	-176				250 < f < 500	555	-141			
R-03-24	-31	leucogranite	-169	-129			250 < f < 500	581	-137	-118		
R-03-24	-31	leucogranite		-109			f > 500	581		98		
R-05-08	-35	leucogranite		-114			250 < f < 500	581		-103		
R-05-08	-35	leucogranite		-111			f > 500	581		-100		
R-03-25	-40	leucogranite	-129	-81			250 < f < 500	565	-96	-69		
R-03-25	-40	leucogranite		-77			f > 500	565		-65		
R-03-26	-41	leucogranite		-98			250 < f < 500	599		-88		
R-07-01	-97	leucogranite	-126				250 < f < 500	581	94			
R-07-02	98	calc-silicate			-181		250 < f < 500	555			-154	
R-05-09	-100	bt-schist	-163				250 < f < 500	565	-130			
R-07-03	-104	bt-schist	-152				250 < f < 500	565	-119			
R-07-03	-104	bt-schist	- 148				180 < f < 250	565	-115			
R-07-04	-107	bt-schist	-132				250 < f < 500	565	66			
R-07-05	-109	bt-schist	-135				250 < f < 500	565	-102			
R-07-05	-109	bt-schist	-135				180 < f < 250	565	-102			
R-07-06	-132	calc-silicate	-94				250 < f < 500	555	-60			
R-07-07	-134	bt gneiss	-90				250 < f < 500	565	-57			
R-07-08	-156	bt gneiss	-85				250 < f < 500	565	-52			
R-07-09	-177	bt gneiss	-97				250 < f < 500	565	-64			

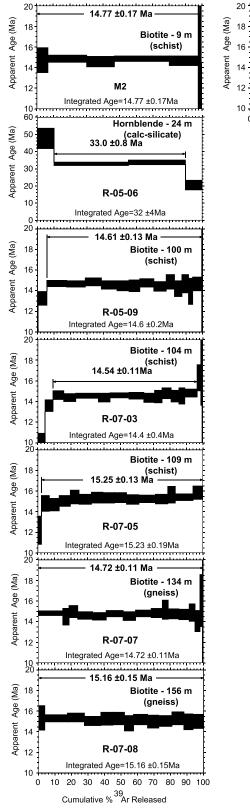
Table 1. Hydrogen Isotope Compositions of Biotite, Muscovite, Hornblende, and Chlorite and Temperature of Deformation/Recrystallization (±50°C) for Mylonitic Rocks From the Footwall to the

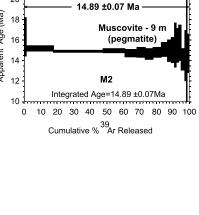
GÉBELIN ET AL.

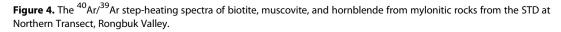


10.1002/2016TC004399









$ \begin{array}{cccccccccccccccccccccccccccccccccccc$											³⁹ Ar	³⁹ Ar %			40 År */39	* /39		Ane
9. Nenearth the STD 9. Nenearth the STD 0.23830 -00531 0.1341 0.3937 0.0043 0.3743 1437 0.23851 1.5272 0.1134 0.1344			³⁹ Ar ±1σ		³⁸ Ai ±1σ	- -	37, ±1,	٩	14 36	٩r		of Total		¥υ	τĀ Η	· _ b	% ⁴⁰ Ar	- (Ma 10
0.2339 0.0343 0.0134<	± 11	0.000)002; 9 m	beneat	h the STD	^												
0.2367 0.1314 0.134 0.124 0.031 0.134 1.344 1.344 1.344 <	121	6.2			-0.0452	0.1555	-0.0510	0.1219	0.8458 2.227 c	0.0048	0.0191	1.50	-0.07	0.18	8.34	0.48	17.13	16.28 15.15
Q2007 06559 01333 -01045 01233 05100 05237 0005 7237 0405 Q2867 03547 01344 01233 0517 0005 733 144 Q2867 03547 01344 01233 0517 0305 0537 0137 0531 0104 0173 017 7233 1556 Q2867 03531 01343 01233 00132 01373 0017 7233 1559 Q2867 01341 01233 01233 01233 0017 701 7233 1559 Q2867 01343 01233 01233 00123 0013 703 1559 9031 1551 Q2881 0133 0133 0133 0133 0133 0133 0133 0133 0133 1559 Q2881 0133 0134 0133 0004 0013 0133 0133 1569 Q2881 00550 0133 0133	150	125.5	_		1.8144	0.1541	0.2483	0.1210	0.9377	0.0048	0.3842	30.16	0.02	20.0 0.01	7.62	0.02	cu.cc 77.43	c1.c1
0.2367 0.514 0.1044 0.1223 0.1917 0.0065 5.11 0.006 7.55 0.101 7.56 0.103 7.58 14.58 0.2387 0.3155 0.1134 0.1233 0.1977 0.0005 7.56 0.117 7.56 0.127 7.184 14.59 0.2387 0.3155 0.1134 0.123 0.0005 0.117 7.56 0.127 7.58 14.59 0.2387 0.3154 -0.0323 0.1233 0.0323 0.0123 0.0134 0.124 0.0137 15.49 0.147 15.87 14.95 0.2387 0.1364 -0.035 0.0134 0.123<	127	54.8			0.6859	0.1533	-0.1045	0.1223	0.5020	0.0039	0.1674	13.14	-0.02	0.02	7.65	0.05	73.71	14.94
0.2881 0.2413 0.1123 0.1283 0.0651 54 0.13 753 0.13 731 17.5 17.5 17.5 17.5 17.5 17.5 15.6 0.133 0.131 0.131 0.132 0.131 17.5 15.8 14.60 0.2867 0.0341 0.1533 0.0123 0.0023 0.0045 0.033 0.53 55.8 15.9 0.13 768 0.23 75.9 14.9 0.2867 0.0341 0.1323 0.0333 0.0023 0.0044 0.013 768 0.23 75.1 14.9 0.2867 0.0346 0.1324 0.0333 0.0024 0.0033 0.013 764 9.35 6.31 14.4 0.2868 0.1556 -0.0046 0.124 0.0033 0.0133 0.131 749 9.35 6.31 14.4 0.2883 0.2450 0.133 0.132 0.0033 0.0033 14.9 9.31 14.9 0.2884 0.3530	120	30.2			0.3647	0.1549	0.1044	0.1229	0.2713	0.0045	0.0923	7.25	0.03	0.04	7.52	0.09	73.78	14.69
0.23907 0.1356 0.1139 0.1298 0.0005 0.0015 0.0015 0.0015 0.0015 0.0015 0.0015 0.0114 0.0120 0.0005 0.0015 0.0114 0.0120 0.0005 0.0015 0.0114 0.0120 0.0015 0.0125 0.0114 0.0120 0.0015 0.0114 0.01120 0.0114 0.011	119	21.3			0.0511	0.1552	0.0014	0.1223	0.1917	0.0030	0.0651	5.11	0.00	0.05	7.57	0.12	73.84	14.78
02307 012400 01256 01257 01241 0127 02307 0117 0127 0131 0134 0127 0131 0134 0132 01321 013111 013111 013111 0131	118	19.2			0.2473	0.1546	-0.1330	0.1219	0.1298	0.0035	0.0587	4.61	-0.06	0.06	7.48	0.14	78.78	14.61
0.2367 0.0341 0.1246 0.1246 0.1246 0.1246 0.1246 0.1246 0.1246 0.1246 0.1246 0.1246 0.1246 0.1246 0.1246 0.1246 0.1246 0.1246 0.1246 0.1246 0.1246 0.0133 0.0035 0.0036 0.0036 0.0036 0.0036 0.0036 0.0036 0.0036 0.0136 0.144 0.0135 0.231 0.1246 0.131 0.0136 0.0146 0.132 0.231 0.436 9.347 9.366 1.347 9.366 1.347 9.361 1.347 9.361 1.347 9.361 1.347 9.361 1.347 9.361 1.347 9.361 1.347 9.361 1.347 9.361 1.347 9.361 1.347 9.361 1.347 9.361 1.347 9.361 1.347 9.361 1.347 9.311 1.349 9.311 1.346 9.311 1.346 9.311 1.346 9.311 1.346 9.311 1.346 9.311 1.346 9.311	118	21.2			0.1260	0.1555	-0.1144	0.1219	0.1529	0.0029	0.0647	5.08	-0.05	0.05	7.58	0.12	77.88	14.80
0.289 0.0056 0.0123 0.0025 <th0.0025< th=""> 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0017 0.0125 0.0025 0.0017 0.0125 0.00125 0.0125<!--</td--><td>119</td><td>15.1</td><td></td><td></td><td>0.3211</td><td>0.1546</td><td>0.1265</td><td>0.1240</td><td>0.1024</td><td>0.0027</td><td>0.0461</td><td>3.62</td><td>0.08</td><td>0.07</td><td>17.7</td><td>0.17</td><td>79.28</td><td>15.06</td></th0.0025<>	119	15.1			0.3211	0.1546	0.1265	0.1240	0.1024	0.0027	0.0461	3.62	0.08	0.07	17.7	0.17	79.28	15.06
0.2881 -0.029 0.134 0.1220 0.0038 0.0024 0.0187 0.0038 0.0038 0.0035 0.0181 0.011 0.013 0.033	11/	9.6			0.0941	0.1533	0.0800	0.1223	0.0/22	0.0026	0.0295	2.32	0.0	0.11	7 60	0.27	11.48	14.95
0.281 -0.173 0.0154 0.0024 </td <td>117</td> <td></td> <td></td> <td></td> <td>-0.0799</td> <td>0.1538</td> <td>-0.3136</td> <td>01720</td> <td>60000 58500</td> <td>0.0025</td> <td>0.0145</td> <td>وو.ا 114</td> <td>-0.04</td> <td>61.0</td> <td>00.7 7 93</td> <td>0.55</td> <td>76.58</td> <td>ا 4.99</td>	117				-0.0799	0.1538	-0.3136	01720	60000 58500	0.0025	0.0145	وو.ا 114	-0.04	61.0	00.7 7 93	0.55	76.58	ا 4 .99
0.2907 0.1770 0.1552 -00314 0.1240 0.0024 0.0025 0.0157 0.0024 0.0025 0.0157 0.0024 0.0025 0.0157 0.0023 0.44 88.47 15.69 0.2881 0.00563 0.11230 0.0019 0.0024 0.0029 0.0024 0.0157 0.528 7.40 0.537 95.16 15.69 0.2888 0.0247 0.1351 0.1133 0.1237 0.0009 0.0024 0.0019 0.12 7.40 0.58 97.16 15.69 0.2888 0.0247 0.1353 0.1133 0.1217 0.1157 0.0159 0.117 11.51 0.0024 0.005 1.64 14.70 0.2885 0.2470 0.1526 0.1217 0.1157 0.117 0.1157 0.115 0.114 0.013 0.114 0.013 0.114 14.63 0.2885 0.3566 0.1521 0.1217 0.125 0.014 0.002 0.014 0.013 0.114 14.63 <	117				-0.1713	0.1541	-0.0480	0.1210	0.0187	0.0024	0.0187	1.47	-0.07	0.18	7.93	0.42	89.64	15.47
0.2868 0.2533 0.1539 0.2746 0.1230 0.0024 0.1237 0.0024 0.1237 0.0024 0.1236 0.00024 0.0023 0.0024 0.0038 0.0024 0.0038 0.0024 0.0135 0.0004 0.0024 0.0034 0.013 0.1913 0.1237 0.0004 0.0024 0.019 0.15 0.47 0.038 9.04 9.03 4.64 9.031 1.759 0.47 0.033 4.64 9.031 1.759 0.47 0.033 4.64 9.031 1.754 0.314 9.031 1.46 9.031 1.746 1.752 0.47 0.033 4.64 1.70 0.2883<	118				0.1770	0.1552	-0.0314	0.1240	0.0214	0.0025	0.0186	1.46	-0.05	0.18	8.04	0.44	88.47	15.69
0.2831 0.0260 0.1356 -0.0096 0.1226 0.0033 0.0024 0.0039 0.33 -0.017 0.633 9.013 15.55 0.2838 0.0234 0.1533 -0.1076 0.1211 0.0003 0.0019 0.15 2.752 0.47 9.033 14.68 0.2828 0.03247 0.1531 0.1013 0.1213 0.0024 0.003 3.75 0.47 90.33 14.470 0.2883 0.2962 0.1533 0.11237 0.0024 0.0035 6.91 15.56 9.13 14.470 0.2883 0.23760 0.1533 0.1217 0.0324 0.0032 0.0665 1.76 1.36 9.11 14.470 0.2883 0.3560 0.1533 0.1217 0.0324 0.0023 0.0023 0.013 0.131 9.013 1.46 9.11 1.46 0.2883 0.1544 0.1217 0.0323 0.0023 0.003 1.56 1.76 1.47 0.55 0.41 4.60	117				0.2653	0.1539	0.2746	0.1230	0.0157	0.0024	0.0279	2.19	0.27	0.12	7.22	0.27	93.50	14.11
0.2882 0.178 0.152 -01076 0.1211 0.0009 0.0004 0.0014 0.013 0.11 0.0144 0.1547 0.0146 0.113 0.1157 0.0005 0.0001 0.015 2.79 0.11 0.1144 0.144 0.1541 0.014 0.014 0.013 0.014 0.014 0.014 0.014 0.014 0.014 0.014 0.014 0.014 0.014 0.014 0.014 0.014 0.005 0.014 0.014 0.014 0.006 0.111 0.005 0.11 0.005 0.11 0.005 0.014 0.005 0.014 0.015 0.014 0.015	116	3.9			0.0260	0.1536	-0.0096	0.1226	0.0038	0.0024	0.0120	0.95	-0.02	0.28	7.40	0.63	96.23	14.45
0.2780 0.0247 0.1531 0.1193 0.1237 0.0004 0.0004 0.0019 0.12 0.23 0.13 0.1233 0.1183 0.1233 0.1134 0.0024 0.0019 0.13 7.52 0.47 9.933 14.56 0.22853 0.2378 0.1547 0.1557 0.1231 0.1137 0.0024 0.0015 0.231 0.3154 0.31 14.56 0.33 14.56 0.31 14.56 0.33 14.56 0.31 14.56 0.33 14.56 0.31 14.56 0.31 14.56 0.31 14.56 0.31 14.56 0.31 14.56 0.31 14.56 0.31 14.56 0.31 14.56 0.31 14.56 0.31 14.56 0.31 14.56 0.31 14.56 0.31 14.36 0.31 14.36 0.31 14.36 0.31 14.36 0.31 14.36 0.31 14.36 0.31 14.36 0.31 14.36 0.31 14.36 0.31 14.36	117	1.2(0.1778	0.1552	-0.1076	0.1211	0.0009	0.0024	0.0039	0.30	-0.77	0.88	8.04	2.08	97.16	15.69
0.2828 -0.3493 0.1533 0.1183 0.1223 0.0140 0.0024 0.0161 1.26 -0.20 0.21 7.52 0.47 90.38 14.86 beneath the STD 0.2835 0.1324 0.1317 0.0024 0.0651 1.55 0.013 9.1134 0.1317 0.0023 0.0035 0.1317 0.0023 0.0137 0.1317 0.0023 0.0137 0.1317 0.0023 0.0137 0.133 9.114 1.470 0.2853 0.3470 0.1524 0.0121 0.0023 0.0023 0.0033 0.0033 0.0133 0.0133 0.0133 0.0133 0.1214 0.1144 1.463 0.22893 0.1414 0.154 0.0121 0.0023 0.0023 0.0023 0.0023 0.0023 0.0123 0.1217 0.0023 0.0123 0.0123 0.1217 0.0123 0.1217 0.0023 0.0123 0.0133 0.1217 0.0023 0.0123 0.0133 1.4163 0.1214 0.1217 0.0023 0.0123	116	0.6			0.0247	0.1531	0.1913	0.1237	0.0004	0.0024	0.0019	0.15	2.79	2.19	9.19	4.64	99.13	17.94
beneath the STD 013 754 031 6146 1470 0.2853 0.2962 0.1547 0.0157 0.0861 0.37 0.13 5515 1484 0.2853 0.2962 0.1547 0.0162 0.1177 0.0024 0.0661 1547 0.13 9515 1484 0.2853 0.3560 0.1533 0.1820 0.1217 0.0024 0.0667 1553 0.016 9517 1484 0.2853 0.3560 0.1533 0.1820 0.1214 0.0024 0.0664 1533 0.133 9.151 146 14.63 0.2765 0.00077 0.1536 0.1231 0.0023 0.0023 0.0023 0.003 154 10.08 837.90 1669 0.2765 0.0123 0.1231 0.0023 0.0023 0.003 1447 3.04 158.45 11.08 0.2765 0.154 0.0123 0.0023 0.0023 0.0023 1.44 153.37 11.08 11.09 <t< td=""><td>115</td><td>5.2</td><td></td><td></td><td>-0.3493</td><td>0.1553</td><td>-0.1183</td><td>0.1223</td><td>0.0140</td><td>0.0024</td><td>0.0161</td><td>1.26</td><td>-0.20</td><td>0.21</td><td>7.52</td><td>0.47</td><td>90.38</td><td>14.68</td></t<>	115	5.2			-0.3493	0.1553	-0.1183	0.1223	0.0140	0.0024	0.0161	1.26	-0.20	0.21	7.52	0.47	90.38	14.68
0.2853 0.2962 0.1547 0.3559 0.1217 0.11318 0.00228 0.0225 0.1317 0.1317 0.1317 0.1317 0.1317 0.1317 0.1317 0.1317 0.1317 0.1317 0.1317 0.1317 0.1317 0.1317 0.1317 0.1317 0.0162 0.1111 0.0153 0.11217 0.1022 0.0022 0.0023 0.0023 0.0023 0.0023 0.01217 33.250 0.1123 0.1238 0.1237 0.0023 0.0023 0.0023 0.0023 0.0133 0.113 0.013 0.013 0.012 0.0143 0.013 0.013 0.013 0.013 0.013 0.013 0.013 0.013	0+	.00000		neath th	e STD													
0.2853 0.33470 0.1525 0.2578 0.1217 0.1157 0.0025 0.0167 155 0.1576 0.1171 0.1157 0.0025 0.1217 0.0155 0.1217 0.0155 0.1217 0.0155 0.1217 0.0155 0.1217 0.0256 0.0165 0.174 0.13 95.15 14.84 0.2883 0.3536 0.1536 0.1239 0.1231 0.0025 0.0025 0.0075 0.153 0.1233 0.1323 0.12331 0.0025 0.0023 0.0023 0.0023 0.0023 0.0023 0.0023 0.0023 0.0023 0.0023 0.0023 0.0123 0.12331 0.0123 1.010 0.0023 0.0023 0.0023 0.0033 0.0133 1.14 4.163 0.121 0.0023 0.0023 0.0023 0.0023 0.0023 0.0133 1.0109 87.46 1.88.3 1.108 0.2811 0.0156 0.1241 0.1211 0.0023 0.0023 0.0023 0.0033 0.014 0.33 2.18	=				0.2962	0.1547	0.3559	0.1231	0.1318	0.0028	0.0253	6.91	0.37	0.13	7.54	0.31	61.46	14.70
0.2583 0.355/0 0.1334 0.0002 0.1214 0.0025 0.1217 33.25 0.0007 0.154 0.0124 0.0007 0.154 0.0124 0.0007 0.154 0.0124 0.0007 0.154 0.0124 0.0007 0.154 0.0124 0.0007 0.154 0.154 0.0114 0.154 0.0124 0.0007 0.1546 0.1531 0.1007 0.1536 0.1231 0.00023 0.00023 0.00023 0.00023 0.00023 0.0024 0.65 0.144 1.65 0.109 8.83 0.2780 0.1538 0.1541 0.1211 0.0023 0.0023 0.0023 0.0023 0.003 1.47 8.79 16.69 0.2881 0.1566 0.1241 0.1010 0.0023 0.0024 0.33 1.47 3.04 2.18 10.08 5.17 14.84 0.22891 0.1566 0.1244 0.1010 0.0023 0.0014 0.31 1.47 3.04 2.03 3.75 0.02 3.75	= ;				0.3470	0.1525	0.2578	0.1217	0.1157	0.0027	0.0861	23.53	0.08	0.04	7.62	0.09	86.19 05.15	14.84
0.2353 0.1324 0.0121 0.0223 0.01244 0.01234 0.01234 0.01234 0.01234 0.01234 0.01234 0.01234 0.0234 0.023 0.0023 0.0023 0.0023 0.0023 0.0023 0.0023 0.00023 0.00023 $0.$					01/20	0.1522	2010.0	1121.0	01200	0.0025	1000.0	600	0.0	cn.n	1.47	c1.0	CI.CY	14.00
0.2750 0.0077 0.1536 0.1590 0.01235 0.0023 0.0023 0.0024 0.55 1.76 1.47 3.49 8.790 16.69 0.2765 -0.0093 0.1536 0.1590 0.1205 0.0023 0.0023 0.0023 0.0023 0.0033 1.54 4.53 2.68 7.46 158.34 11.08 0.2780 -0.11233 0.1536 0.1207 0.0023 0.0023 0.0023 0.0033 1.54 4.53 2.68 7.46 158.34 11.08 0.02581 0.01581 3.51954 0.1211 -0.0003 0.0023 0.0033 0.0033 1.49 1.06 0.15 1.54 4.53 2.63 11.08 0.02817 -0.0333 0.1566 0.1234 0.0203 0.0023 0.0033 0.0033 1.49 1.06 0.12 6.50 0.33 2.18 1.49 3.24 7.90 3.74 5.93 3.74 5.93 3.74 5.93 3.74 5.93					01414	15410	0201.0	0.1211	8150.0 8750.0	5200.0	0.0645	17.63	-0.04	50.0	10.7	01.0	0414	14.64
0.2765 -0.0093 0.1528 0.0268 0.1231 -0.0009 0.0023 0.0023 0.0023 0.0023 0.0023 0.0023 0.0023 0.0023 0.0023 0.0023 0.0023 0.0023 0.0023 0.0023 0.0033 0.147 3.04 2.18 108.06 5.94 0.2780 -0.1233 0.1536 0.0155 0.1227 -0.0009 0.0023 0.0023 0.0023 0.0023 0.0023 0.0039 0.066 0.08 1.47 3.04 2.18 108.06 5.94 0025 0.1563 0.1561 0.1241 0.1010 0.0023 0.0024 0.091 0.016 0.17 0.034 9.31 10.40 0.26 3.43 10.40 0.26 3.47 9.03 3.278 10.40 9.34 9.378 0.34 9.30 3.352 0.34 9.03 3.378 0.353 2.042 9.03 3.278 10.40 9.34 10.40 9.34 10.40 9.33 2.042 5.963	1				0.0077	0.1536	0.1590	0.1205	0.0032	0.0023	0.0024	0.65	1.76	1.47	8.57	3.49	87.90	16.69
02813 0.1538 0.1534 -0.0413 0.1211 -0.0020 0.0023 0.0008 0.23 -1.28 3.96 5.68 7.46 158.34 11.08 02780 -0.1233 0.1536 0.0065 0.1227 -0.0006 0.0023 0.0023 0.003 1.47 3.04 2.18 108.06 5.94 0025 24 m beaneath the STD 0.00516 0.1241 0.1010 0.0023 0.0046 3.449 10.16 2.163 1.54 79.02 47.56 0.2887 0.56330 0.1581 35.1954 0.1237 0.0039 0.0046 3.443 10.40 0.23 1.54 79.02 47.56 0.2887 0.56330 0.1581 35.1954 0.1237 0.0258 0.0139 10.26 0.34 13.23 0.34 1.128 3.333 2.158 14.66 0.333 2.169 0.173 0.34 2.169 0.374 2.169 0.32 2.668 3.26 6.98 0.2888 <td< td=""><td>;</td><td></td><td></td><td>'</td><td>-0.0093</td><td>0.1528</td><td>0.0268</td><td>0.1231</td><td>-0.0009</td><td>0.0023</td><td>0.0021</td><td>0.57</td><td>0.33</td><td>1.54</td><td>4.53</td><td>2.63</td><td>110.09</td><td>8.83</td></td<>	;			'	-0.0093	0.1528	0.0268	0.1231	-0.0009	0.0023	0.0021	0.57	0.33	1.54	4.53	2.63	110.09	8.83
0.2780 -0.1233 0.1536 0.0065 0.1227 -0.0006 0.0022 0.008 1.47 3.04 2.18 108.06 5.94 002; 24 m beaneath the STD 0.28817 -0.0393 0.1566 0.5516 0.1241 0.1010 0.0027 0.0140 10.34 0.81 0.15 79.02 47.56 0.28817 -0.0393 0.1566 0.5166 0.1241 0.1010 0.0027 0.0140 10.34 0.81 0.15 79.02 47.56 0.28879 0.5538 0.1564 5.6484 0.1237 0.0035 0.0139 10.06 0.17 10.60 0.72 87.45 20.42 0.28843 0.0538 0.1544 0.1237 0.0258 0.0033 0.0447 5.26 0.01 27.52 0.08 3.53 20.42 0.2888 0.0514 0.1533 0.1222 0.3069 0.0025 0.0106 11.84 0.02 24.56 0.01 27.52 0.08 3.54 14.66	=				0.1538	0.1544	-0.0413	0.1211	-0.0020	0.0023	0.0008	0.23	-1.28	3.96	5.68	7.46		11.08
002: 24 m beaneath the STD 0.2817 -0.0393 0.1566 0.6516 0.1241 0.1010 0.0027 0.0140 10.34 0.81 0.16 24.63 1.54 79.02 47.56 0.2887 -0.0393 0.1566 0.6516 0.1234 0.2071 0.0039 0.06609 44.99 10.06 0.15 16.91 0.26 86.08 32.78 0.28879 0.4725 0.1563 27.8174 0.1239 0.1143 0.0036 0.0466 34.43 10.40 0.20 17.30 0.34 90.30 33.52 0.2843 0.0538 0.1546 5.6484 0.1237 0.0268 0.0025 0.0139 10.26 0.47 10.50 0.77 0.73 0.74 0.55 56.48 0.2848 0.33440 0.1546 0.1209 0.0258 0.0025 0.0139 10.25 0.17 0.05 0.17 50.6 13.24 0.2848 0.33340 0.1544 0.1205 0.0268 0.0025 0.0105 11.84 0.025 0.17 50.6 13.54 50.6 14.66	110				-0.1233	0.1536	0.0065	0.1227	-0.0006	0.0023	0.0022	09.0	0.08	1.47	3.04	2.18		5.94
0.2817 -0.0393 0.1566 0.6516 0.1241 0.1010 0.0027 0.0140 10.34 0.81 0.15 154 79.02 47.56 0.28870 0.5630 0.1581 35.1954 0.1234 0.2071 0.0039 0.0609 44.99 10.06 0.17 16.91 0.26 86.08 3.278 0.28879 0.4725 0.1563 27.8174 0.1259 0.1143 0.0036 0.0466 34.43 10.40 0.20 17.30 0.34 90.30 3.57 0.2848 0.0538 0.1544 5.6484 0.1237 0.0268 0.0025 0.0139 10.25 0.17 0.20 17.30 0.34 90.30 3.57 100m beneath the STD 0.1544 0.1209 0.0679 0.0025 0.0139 10.25 0.17 0.050 0.71 0.50 3.57 0.64 3.475 0.475 0.64 3.475 0.475 0.475 0.475 0.475 0.475 0.475 0.475	8	1069±0	.000002;	: 24 m b	-	the STD												
0.2880 0.5630 0.1581 35.1954 0.1234 0.2071 0.0039 0.0609 44.99 10.06 0.15 16.91 0.26 86.08 3.278 0.2879 0.4725 0.1563 27.8174 0.1239 0.0139 10.23 7.10 0.47 10.50 0.73 87.45 20.45 0.2843 0.0558 0.1546 5.6484 0.1237 0.0256 0.00139 10.23 7.10 0.47 10.50 0.72 87.45 20.42 100m beneath the STD 0.1544 0.1209 0.1669 0.0025 0.0060 0.71 -0.05 0.51 3.57 0.85 25.82 6.98 0.2848 0.3371 0.1541 0.1742 0.12029 0.0056 0.0962 11.84 0.02 0.03 7.53 0.08 92.56 19.69 0.2848 0.3371 0.1541 0.1742 0.1222 0.3066 0.0025 0.0962 11.84 0.02 0.03 7.42 0.03 7.5	12				-0.0393	0.1566	0.6516	0.1241	0.1010	0.0027	0.0140	10.34	0.81	0.16	24.63	1.54		47.56
0.2879 0.4725 0.1563 27.8174 0.1259 0.1143 0.0036 0.0466 3.443 10.40 0.20 17.30 0.34 90.30 33.52 0.2843 0.0538 0.1546 5.6484 0.1237 0.0268 0.0025 0.0139 10.23 7.10 0.47 10.50 0.72 87.45 20.42 100m beneath the STD 0.1544 0.1209 0.0679 0.0025 0.0139 0.23 7.10 0.47 10.50 0.72 87.45 20.43 0.2848 0.3374 0.1538 0.01259 0.1025 0.0065 0.0139 0.07 5.26 0.17 52.06 13.24 0.2848 0.3371 0.1541 0.1742 0.1222 0.3066 0.0026 0.0962 11.84 0.02 0.03 7.47 0.17 52.06 13.24 0.2848 0.3371 0.1541 0.1742 0.1222 0.3066 0.0026 0.0962 11.33 0.02 0.03 7.42	132				0.5630	0.1581	35.1954	0.1234	0.2071	0.0039	0.0609	44.99	10.06	0.15	16.91	0.26		32.78
100m beneath the STD 0.1340 0.1240 0.1240 0.1240 0.1257 0.0025 0.0025 0.0139 0.127 0.140 0.140 0.122 0.146 100m beneath the STD 0.2848 0.3340 0.1544 -0.0129 0.1209 0.00579 0.0025 0.0060 0.71 -0.05 0.51 3.57 0.85 25.82 6.98 0.2848 0.3528 0.0163 0.1222 0.3069 0.0025 0.0066 0.71 -0.05 0.51 3.57 0.85 25.82 6.98 0.2848 0.3528 0.1538 0.01742 0.1205 0.1630 0.0026 0.0066 1.34 0.0 6.79 0.17 52.06 13.24 0.2848 0.3371 0.1541 0.1742 0.1229 0.0066 0.0026 0.0032 0.0962 11.33 0.05 0.03 7.47 0.10 91.97 14.64 0.2848 0.1530 0.0764 0.1212 0.0570 0.0032 0.0794 9.36 0.00 0.14.74 0.10 91.97 14.64 0.28 0.203	126				0.4725	0.1563	27.8174 5 6 4 9 4	0.1259	0.1143	0.0036	0.0466	34.43	10.40	0.20	17.30	0.34		33.52 00 47
0.2848 0.3340 0.1544 -0.0129 0.1209 0.0679 0.0025 0.0060 0.71 -0.05 0.51 3.57 0.85 25.82 6.98 0.2848 0.0614 0.1538 0.01633 0.1222 0.3069 0.0033 0.0447 5.26 0.01 0.07 5.79 0.85 25.82 6.98 0.2848 0.33528 0.01634 0.1205 0.1630 0.0023 0.1005 11.84 0.02 0.03 7.53 0.08 83.61 14.66 0.2848 0.33571 0.1541 0.1742 0.1205 0.0668 0.0026 0.0962 11.33 0.05 0.03 7.52 0.08 91.97 14.66 0.2848 0.1944 0.1550 0.1212 0.0666 0.0026 0.0963 7.42 0.03 7.47 0.10 91.97 14.64 0.2888 0.2821 0.1530 0.0774 9.36 0.074 91.97 7.42 0.10 91.97 14.64				C+07			1010.0	1071.0	00700	CZ00.0		C7.01	01.7	14:0	0000	7/10		24.02
14.6451 0.2888 0.0614 0.1538 0.0163 0.1222 0.3069 0.0033 0.0447 5.26 0.01 0.07 5.79 0.17 52.06 13.24 312588 0.2848 0.3528 0.07538 0.07643 0.1222 0.3069 0.0033 0.0447 5.26 0.01 0.7 5.79 0.17 52.06 13.24 3125382 0.2848 0.3528 0.07541 0.17205 0.1630 0.0026 0.00962 11.34 0.02 0.01 7.53 0.08 92.26 14.66 3153322 0.2848 0.3371 0.1750 0.12129 0.0666 0.00256 0.09830 97.8 0.09 91.97 14.84 272117 0.2848 0.1954 0.1212 0.05066 0.0032 0.0933 97.8 0.00 91.97 14.84 26.04544 0.1530 0.0764 0.1212 0.0577 0.0033 0.063 7.42 0.19 91.97 14.84 26.045	<u>9</u> €	9 ± 0.000		7848	.	01544	-0.0129	01209	0.0679	0 00 75	0 0060	0.71	-0.05	051	3 57	0.85	75,87	6 98
32.9588 0.2848 0.3528 0.1538 0.0784 0.11205 0.1630 0.0029 0.1005 11.84 0.02 0.03 7.53 0.08 83.61 14.66 31.5332 0.2848 0.3371 0.1741 0.1742 0.1229 0.0666 0.0026 0.09621 11.33 0.05 0.03 7.53 0.08 93.61 14.66 27.2117 0.2848 0.3371 0.1550 -0.0145 0.1206 0.0026 0.09631 17.33 0.05 0.03 7.52 0.08 91.97 14.84 27.2117 0.2848 0.1944 0.1550 -0.0145 0.1206 0.0026 0.0830 9.78 0.00 0.04 7.47 0.19 14.64 26.0454 0.2888 0.2821 0.1530 0.0764 0.1212 0.0050 0.0030 0.0630 7.42 0.10 91.96 14.54 26.06662 0.2881 0.2533 0.1206 0.0030 0.0630 7.42 0.10 91.44 91.45 17.5961 0.27788 0.2933 0.0670 0.0030<	2 2				0.0614	0.1538	0.0163	0.1222	0.3069	0.0033	0.0447	5.76	0.0	20.0	6.79	0.17	52.06	13.24
31.5332 0.2848 0.3371 0.1742 0.1742 0.1229 0.0668 0.0026 0.0962 11.33 0.05 0.03 7.52 0.08 92.26 14.64 27.2117 0.2848 0.1944 0.1550 -0.0145 0.1206 0.0026 0.0830 9.78 0.00 0.04 7.62 0.09 91.97 14.84 26.0454 0.2888 0.2821 0.1530 0.0764 0.1212 0.00570 0.0032 0.0794 9.36 0.02 0.04 7.47 0.10 91.96 14.54 26.0454 0.2888 0.2821 0.1530 0.0764 0.1212 0.00570 0.0032 0.0794 9.36 0.02 0.04 7.47 0.10 91.96 14.54 20.6662 0.28813 0.1534 0.0687 0.1229 0.0479 0.0030 0.06337 7.42 0.10 91.47 14.45 17.5561 0.27788 0.2693 0.1530 0.1206 0.0433 0.00537 6.32 -0.03 0.06 7.42 0.14 90.29 14.45	=				0.3528	0.1538	0.0784	0.1205	0.1630	0.0029	0.1005	11.84	0.02	0.03	7.53	0.08	83.61	14.66
27.2117 0.2848 0.1944 0.1550 -0.0145 0.1206 0.0606 0.0026 0.0830 9.78 0.00 0.04 7.62 0.09 91.97 14.84 26.0454 0.2888 0.2821 0.1530 0.0764 0.1212 0.0032 0.0794 9.36 0.02 0.04 7.47 0.10 91.96 14.54 26.0454 0.2812 0.28233 0.1544 0.0687 0.1229 0.0030 0.0630 7.42 0.03 0.05 7.41 0.12 91.47 14.45 20.6662 0.2812 0.2693 0.1534 0.0687 0.1206 0.0030 0.0630 7.42 0.03 0.12 91.47 14.45 17.5561 0.2788 0.2693 0.1530 -0.0573 0.1206 0.0433 0.0023 6.052 6.32 -0.03 0.06 7.42 0.14 90.29 14.45 17.5561 0.2788 0.2693 0.1206 0.0483 0.0022 8.51 0.013 0.06 7.42 0.14 90.29 14.45 23.5787	÷				0.3371	0.1541	0.1742	0.1229	0.0668	0.0026	0.0962	11.33	0.05	0.03	7.52	0.08	92.26	14.64
26.0454 0.2888 0.2821 0.1530 0.0764 0.1212 0.0032 0.0794 9.36 0.02 0.04 7.47 0.10 91.96 14.54 20.6662 0.2812 0.2823 0.1544 0.0687 0.1229 0.0030 0.0630 7.42 0.03 0.05 7.41 0.12 91.47 14.45 20.6662 0.2812 0.2823 0.1530 -0.0573 0.1206 0.0030 0.0630 7.42 0.03 0.05 7.41 0.12 91.47 14.45 17.5561 0.2788 0.2693 0.1530 -0.0573 0.1206 0.04470 0.0033 0.0537 6.32 -0.03 0.06 7.42 0.14 90.29 14.45 23.5787 0.2812 0.29396 0.1533 0.04477 0.1232 0.0483 0.0722 8.51 0.16 90.26 14.45 23.56787 0.2812 0.2933 0.4477 0.1232 0.0483 0.0722 8.51 0.16 0.04<	1				0.1944	0.1550	-0.0145	0.1206	0.0606	0.0026	0.0830	9.78	0.00	0.04	7.62	0.09	91.97	14.84
20.6662 0.2812 0.1544 0.0687 0.1229 0.0479 0.0030 0.0630 7.42 0.03 0.05 7.41 0.12 91.47 14.45 17.5961 0.2788 0.2693 0.1530 -0.0573 0.1206 0.0470 0.0030 0.0537 6.32 -0.03 0.06 7.42 0.14 90.29 14.45 23.6787 0.2812 0.2396 0.1533 0.4477 0.1232 0.0483 0.0028 0.0722 8.51 0.16 92.61 14.74 23.6787 0.2812 0.23366 0.1533 0.4477 0.1232 0.0483 0.0028 0.0722 8.51 0.16 92.61 14.74	112				0.2821	0.1530	0.0764	0.1212	0.0570	0.0032	0.0794	9.36	0.02	0.04	7.47	0.10	91.96	14.54
17.5961 0.2788 0.2693 0.1530 -0.0573 0.1206 0.0470 0.0030 0.0537 6.32 -0.03 0.06 7.42 0.14 90.29 14.45 23.6787 0.2812 0.2396 0.1533 0.4477 0.1232 0.0483 0.0028 0.0722 8.51 0.16 0.04 7.57 0.11 92.61 14.74	;				0.2823	0.1544	0.0687	0.1229	0.0479	0.0030	0.0630	7.42	0.03	0.05	7.41	0.12	91.47	14.45
23.6787 0.2812 0.2396 0.1533 0.4477 0.1232 0.0483 0.0028 0.0722 8.51 0.16 0.04 7.57 0.11 92.61 14.74	=				0.2693	0.1530	-0.0573	0.1206	0.0470	0.0030	0.0537	6.32	-0.03	0.06	7.42	0.14	90.29	14.45
	=				0.2396	0.1533	0.4477	0.1232	0.0483	0.0028	0.0722	8.51	0.16	0.04	7.57	0.11	92.61	14.74

Table 2. (continued)	ontinued	(1			Mea	Measured Signals (×10 ^{–15} A)	als (×10 ⁻¹	5A)							Deriv	Derived Results	lts			
Lab Run ID	Laser Power (W)	⁴⁰ Ar ±1σ		³⁹ Ar ±1σ	5 F	³⁸ Ar ±1σ	łr	³⁷ Ar ±1σ	0 1	³⁶ Ar ±1σ	4r	39 Ar Mol $^{\infty}$ 10 ⁻¹⁴	³⁹ Ar % of Total	Ca/K ±1σ	. .	40Ar /39 Ar ±1σ	7	% ⁴⁰ Ar	Age (Ma) ±1σ	
946-01 L 946-01 M 946-01 N 946-010 946-010	1.70 1.80 2.00 2.20	112.614 94.811 86.504 55.162 117.636 13.403	1.109 1.109 1.110 1.111 1.111 1.111	13.9363 12.5346 10.9670 7.4104 14.9867 1.2249	0.2848 0.2848 0.2848 0.2848 0.2848 0.2931 0.2778	0.3585 0.2280 0.0463 0.0265 0.1566 0.1566	0.1538 0.1530 0.1530 0.1527 0.1544 0.1547	0.0584 0.0852 0.0783 0.1598 0.1059 0.1059	0.1215 0.1203 0.1212 0.1212 0.1222 0.1212 0.1236	0.0216 0.0119 0.0134 0.0075 0.0170 0.0170	0.0027 0.0024 0.0024 0.0024 0.0024 0.0023	0.0425 0.0382 0.0334 0.0226 0.0457 0.0037	5.01 4.50 3.94 2.66 5.38 0.44	0.04 0.06 0.06 0.18 0.06 0.06	0.07 0.08 0.09 0.14 0.07 0.07	7.62 7.28 7.52 7.15 7.51 7.51	0.18 0.20 0.23 0.33 0.17 2.53	94.31 96.29 95.39 96.05 95.70 92.29	14.84 14.18 14.65 13.93 14.63 19.64	0.36 0.38 0.44 0.63 0.33 4.89
DU7_D2 hintite		· /+ 1~- 0 001060 + 0 000003·	1 + 0901		101 m hon	odt dteo	E													
948-01D 948-01C 948-01D		28.686 28.686 252.166 197.005	1.109 1.112 1.114		0.2774 0.2850 0.2850	-0.3517 -0.5102 0.2742	0.1545 0.1539 0.1545 0.1545	0.0619 0.6196 0.3980	0.1203 0.1213 0.1216	0.0795 0.5847 0.2616	0.0026 0.0042 0.0031	0.0045 0.0449 0.0521	0.42 4.16 4.83	0.36 0.36 0.20	0.70 0.07 0.06	3.36 5.28 6.97	1.12 0.15 0.14	17.24 30.86 60.41	6.57 10.30 13.57	2.18 0.30 0.28
948-01E 948-01 F	1.00	228.939 231.632	1.112	23.0557 25.7788	0.2814	0.2954	0.1540	0.3354	0.1213	0.1884 0.1395	0.0031	0.0703	6.51 7.28	0.12	0.04	7.49 7.37	0.11	75.47 82.08	14.59 14.36	0.22
948-01G	1.20	457.937	1.118	48.3847	0.2890	0.5844	0.1548	0.5110	0.1226	0.3239	0.0048	0.1475	13.67	0.09	0.02	7.47	0.06	78.91	14.54	0.11
948-01H 948-01I	1.30 1.40	227.995 376.820	1.113 1.116	24.8882 40.3079	0.2851 0.2890	0.3692 0.4499	0.1534 0.1546	0.2845 0.2351	0.1226 0.1213	0.1492 0.2518	0.0038 0.0030	0.0759 0.1229	7.03 11.39	0.10 0.05	0.04 0.03	7.37 7.48	0.11 0.06	80.51 80.07	14.36 14.58	0.21 0.12
948-01 J 048-01 K	1.50	286.787 105 077	1.116	32.0949	0.2851	0.3908	0.1555	0.3517	0.1213	0.1585	0.0028	0.0979	9.07 6.13	0.09	0.03	7.36	0.08	83.53	14.54 14.34	0.15
948-01 L	1.70	141.599	1.113	16.3068	0.2933	-0.1389	0.1555	0.2648	0.1216	0.0690	0.0026	0.0497	4.61	0.14	0.06	7.42	0.16	85.49	14.46	0.30
948-01 M 948-01 N	1.80	165.078 142 780	1.110	19.1820 17.0550	0.2851	-0.1910 0 3963	0.1531 0.1540	-0.0213 0.2820	0.1213	0.0654	0.0026	0.0585	5.42 4.82	-0.01	0.05	7.58 7.44	0.13	88.16 88.96	14.77 14 50	0.26
948-010	2.00	104.356	1.112	12.4683	0.2851	0.1805	0.1543	0.0281	0.1213	0.0378	0.0025	0.0380	3.52	0.02	0.08	7.46	0.20	89.18	14.54	0.39
948-01P	2.20	222.262	1.113	26.4385	0.2851	0.1743	0.1543	0.6911	0.1230	0.0716	0.0027	0.0806	7.47	0.22	0.04	7.60	0.10	90.48	14.81	0.19
948-01Q 948-01R	2.40 2.60	74.152 22.795	1.112	8.3206 2.2625	0.2891 0.2891	0.1817 -0.0640	0.1546 0.1546	0.0407 0.1507	0.1210 0.1216	0.0024	0.0023	0.0069	2.32 0.64	0.04 0.56	0.12 0.46	8.30 9.73	0.33 1.37	93.88 96.66	16.28 18.94	0.03 2.66
948-01S	2.80	10.065	1.110	1.3893	0.2851	0.1083	0.1537	0.1644	0.1213	-0.0001	0.0023	0.0042	0.39	1.00	0.77	7.31	1.77	100.86	14.23	3.44
R07-05, bi	otite ^g ;.	R07-05, biotite ^g ; $J \pm 1\sigma = 0.001069 \pm 0.000002;$	01069±		109 m be	A 1	STD													
947-01B	0.65	14.542 120 21 4	1.108	0.5020 6.6403	0.2740	-0.1474 0.3183	0.1545	-0.3011	0.1229	0.0412	0.0025	0.0015	0.18 232	-5.03	3.43 0.16	4.25 6.25	3.51 0.35	14.69 37.10	8.29 1 7 1 8	6.84 0.60
947-01D	0.90	158.294	1.110	13.4208	0.2889	0.3419	0.1528	0.1012	0.1206	0.1890	0:0030	0.0409	4.69	0.06	0.08	7.59	0.19	64.38	14.79	0.38
947-01E	1.00	161.086	1.111	16.8523	0.2889	-0.1293	0.1539	-0.1279	0.1226	0.1141	0.0028	0.0514	5.89	-0.06	0.06	7.53	0.15	78.81	14.67	0.30
947-01F 947-01G	1.10 1.20	172.409 141.176	1.110 1.110	19.2021 15.6016	0.2813 0.2849	0.1202 0.1537	0.1536 0.1531	0.2815 0.1564	0.1209 0.1219	0.0812 0.0594	0.0026 0.0025	0.0586 0.0476	6.71 5.45	0.12 0.08	0.05 0.07	7.72 7.91	0.13 0.17	85.99 87.48	15.03 15.41	0.26 0.33
947-01H	1.30	191.154	1.110	21.0449	0.2849	0.4884	0.1545	0.2579	0.1222	0.0904	0.0026	0.0642	7.36	0.10	0.05	7.80	0.12	85.93	15.20	0.24
947-011 947-01 I	1.40 1.50	181.899 184.439	1.113 1.111	20.0823 19.6971	0.2849 0.2773	0.2361	0.1539 0.1548	-0.0134	0.1226	0.0791 0.0986	0.0027	0.0612	7.02 6.88	-0.01	0.05	7.88 7.86	0.13 0.13	87.01 84.04	15.34 15.32	0.25 0.25
947-01 K	1.60	191.343	1.111	20.8901	0.2850	0.2836	0.1551	0.1859	0.1206	0.0901	0.0027	0.0637	7.30	0.07	0.05	7.87	0.13	85.97	15.33	0.24
947-01 L	1.70	197.515	1.111	21.8926	0.2850	0.2563	0.1531	0.2014	0.1216	0.0906	0.0027	0.0668	7.65	0.08	0.05	7.78	0.12	86.33	15.16	0.23
947-01 M 947-01 N	1.80 1.90	247.923 177.682	1.113 1.111	28.6075 20.9499	0.2850 0.2810	0.3165 0.3364	0.1545 0.1539	-0.0628 0.1073	0.1229 0.1209	0.0819 0.0475	0.0027 0.0026	0.0872 0.0639	10.00 7.32	-0.02 0.04	0.04 0.05	7.81 7.80	0.09 0.12	90.13 92.03	15.21 15.20	0.18 0.24
947-010	2.00	110.589	1.109	12.8721	0.2850	0.4552	0.1539	0.1514	0.1226	0.0243	0.0024	0.0393	4.50	0.10	0.08	8.03	0.21	93.48	15.64	0.40
947-01P 947-01Q	2.20 2.40	261.399 140.706	1.112 1.111	31.3298 16.5043	0.2850 0.2850	0.3253 0.0817	0.1542 0.1539	-0.0524 0.0643	0.1219 0.1226	0.0461 0.0222	0.0026 0.0024	0.0955 0.0503	10.95 5.77	-0.01 0.03	0.03 0.06	7.90 8.12	0.08 0.16	94.73 95.30	15.39 15.82	0.16 0.31
R07-07, bi 945-01 F	otite ^h ;.	R07-07 , biotite ^h ; $J \pm 1\sigma = 0.001069 \pm 0.000002$; 945-01 F 1.10 375.212 1.115 47.2029	01069±0		134 m be l 0.2847	e e	S	0.0075	0.1218	0.0550	0.0026	0.1439	15.01	0.00	0.02	7.60	0.05		14.80	0.10
945-01G	1.20	95.965	1.109	12.3123	0.2929	0.3588	0.1544	-0.2128	0.1215	0.0149	0.0024	0.0375	3.92	-0.14	0.08	7.42	0.21	95.30	14.46	0.40

10.1002/2016TC004399

| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | Low N | Lat Lat Ja Ja Ja | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | | ć | | | | Mea. | Measured Signals (×10 ⁻¹⁵ A) | als (×10 ⁻¹ | (A ^c | | | | | | | Derive | Derived Results | lts | | | |

--
--
---|---

---|--|-------------------------|-------------------------|-------------------------|------------|------------------------|----------------------|---|------------------------|------------------------|--------------|-----------------|---------|---------|-----------------------------------|-------------|--------|---------------------------------|------|-----------------------|------------------|--------|
|
 |
 | 945011 130 134194 1.00 166190 0.23810 0.0355 0.1525 0.0471 0.0024 0.0081 839 0.003 748 0.13 94.145 945011 13 0.23153 0.4455 0.1559 0.1559 0.1559 0.1559 0.1559 0.1559 0.1559 0.0042 0.0081 3.33 1.456 0.943 1.456 945011 130 2.3280 0.2881 0.1553 0.0045 0.113 0.0042 0.0084 0.033 1.451 0.843 1.451 0.843 1.451 0.843 1.451 0.843 1.451 0.843 1.451 0.843 1.451 0.843 1.451 0.843 1.451 0.843 1.451 0.843 1.451 0.843 1.451 0.845 0.149 1.451 0.843 1.451 0.843 1.451 0.843 1.451 0.844 1.451 0.844 1.451 0.844 1.451 0.844 1.451 0.844 1.451 0.844
 | 94501H 130 134194 1109 166190 0.2381 0.1355 0.1355 0.1355 0.0315 0.031 0.067 788 0.15 0.031 0.041 0.003 0.0681 839 0.063 0.536 1.515 0.031 0.115 0.031 0.044 0.033 0.044 0.033 0.044 0.033 0.044 0.033 0.044 0.033 0.044 0.033 0.044 0.034 0.044 0.034 0.044 0.034 0.044 0.034 0.044 0.034 0.044 0.034 0.044 0.035 0.044 0.034 0.044 0.034 0.044 0.034 0.044 0.034 0.044 0.034 0.044 0.034 0.044 0.034 0.044 0.034 0.044 0.034 0.044 0.034 0.044 0.034 0.044 0.034 0.044 0.034 0.044 0.034 0.044 0.034 0.044 0.044 0.044 0.044 0.034 0.044 0.044 <t< th=""><th>94501H 130 134194 1106 166190 0.2381 0.435 0.135 0.135 0.135 0.135 0.135 0.135 0.135 0.111 0.5386 113 0.044 7.88 0.035 0.531 1431 0.135 945011 1.10 232345 1.111 25.380 0.2387 0.5353 0.1239 0.038 0.031 0.135 0.035 0.031 0.135 0.035 0.031 0.136 0.031 0.135 0.031 0.134 0.031</th><th>46-01 130 2136 110 5636 0367 0367 0353 0535 0513 0513 0513 0513 0513 051 55 013 057 756 013 953 153 013 054 756 013 953 153 013 054 756 013 953 153 013 054 756 013 953 153 013 054 756 013 953 153 013 054 756 013 953 153 013 054 013 956 013 054 014 015 055 013 054 014 015 055 013 054 014 015 055 013 054 014 013 056 013 014 013 013 014 014 013 014 014 014 014 014 014 014 014 014 014</th><th>36.14 37 31.416 119 26.06 0.307 0.635 0.135 0.517 0.517 0.1016 0.015 0.005 0.005 350 0.10 0.00 756 0.05 756</th><th></th><th>aser
ower
W)</th><th>⁴⁰Ar
±1σ</th><th></th><th>³⁹А
±1с</th><th>ır
y</th><th>38,
±1</th><th>1</th><th>37₄
±14</th><th>L.</th><th>36,
±1</th><th>٩r
ص</th><th></th><th>³⁹Ar %
of
Total</th><th>Ca/K
±1σ</th><th></th><th>⁴⁰Ar /
Ar
±1σ</th><th>36</th><th>%⁴⁰
Ar</th><th>Ag
(Mã
±1.</th><th>e
م</th></t<> | 94501H 130 134194 1106 166190 0.2381 0.435 0.135 0.135 0.135 0.135 0.135 0.135 0.135 0.111 0.5386 113 0.044 7.88 0.035 0.531 1431 0.135 945011 1.10 232345 1.111 25.380 0.2387 0.5353 0.1239 0.038 0.031 0.135 0.035 0.031 0.135 0.035 0.031 0.136 0.031 0.135 0.031 0.134 0.031
 | 46-01 130 2136 110 5636 0367 0367 0353 0535 0513 0513 0513 0513 0513 051 55 013 057 756 013 953 153 013 054 756 013 953 153 013 054 756 013 953 153 013 054 756 013 953 153 013 054 756 013 953 153 013 054 756 013 953 153 013 054 013 956 013 054 014 015 055 013 054 014 015 055 013 054 014 015 055 013 054 014 013 056 013 014 013 013 014 014 013 014 014 014 014 014 014 014 014 014 014 | 36.14 37 31.416 119 26.06 0.307 0.635 0.135 0.517 0.517 0.1016 0.015 0.005 0.005 350 0.10 0.00 756 0.05 756
 | | aser
ower
W) | ⁴⁰ Ar
±1σ | | ³⁹ А
±1с | ır
y | 38,
±1 | 1 | 37 ₄
±14 | L. | 36,
±1 | ٩r
ص | | ³⁹ Ar %
of
Total | Ca/K
±1σ | | ⁴⁰ Ar /
Ar
±1σ | 36 | % ⁴⁰
Ar | Ag
(Mã
±1. | e
م |
| | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 945011 10 103 110 103 </th <th>945-011 10 13.146 11.11 23.352 0.134 0.034 7.45 0.03 5.45 0.13 6.45 0.13 0.034 7.45 0.03 5.45 0.13 0.11 7.55 0.034 0.655 0.11 0.035 0.034 0.656 0.111 0.034 0.656 0.112 0.0044 0.0301 0.49 0.03 7.56 0.03 9.53 1.415 0.132 0.0055 0.0344 0.0301 9.49 0.03 7.56 0.03 9.53 0.132 0.0055 0.034 0.035 7.56 0.133 0.033 9.51 0.001 0.131 0.035 0.034 0.035 7.66 0.13 9.53 0.131 0.035 0.034 0.035 0.034 0.131 0.035 0.034 0.131 0.035 0.034 0.131 0.035 0.035 0.031 0.131 0.035 0.132 0.039 0.035 0.035 0.131 0.035 0.131 0.035 0.035</th> <th>Machine Machine <t< th=""><th>Section 1: 10: 21:301 111 2:320 0:347 0:468 0135 0:475 0:445 0105 0005 0004 0005 0361 859 030 756 015 950 453 015 056 055 055 055 055 055 055 055 055 05</th><th>Section 1:10: 21341 111: 25480 0347 0458 01359 01757 0451 01259 0451 0452 0451 0451 045 045 045 045 045 045 0451 045 0451 0451</th><th></th><th></th><th></th><th>007</th><th>000000</th><th>0,000,0</th><th></th><th></th><th></th><th>01010</th><th>1000</th><th></th><th></th><th></th><th></th><th></th><th></th><th>L</th><th></th><th></th><th></th></t<></th> | 945-011 10 13.146 11.11 23.352 0.134 0.034 7.45 0.03 5.45 0.13 6.45 0.13 0.034 7.45 0.03 5.45 0.13 0.11 7.55 0.034 0.655 0.11 0.035 0.034 0.656 0.111 0.034 0.656 0.112 0.0044 0.0301 0.49 0.03 7.56 0.03 9.53 1.415 0.132 0.0055 0.0344 0.0301 9.49 0.03 7.56 0.03 9.53 0.132 0.0055 0.034 0.035 7.56 0.133 0.033 9.51 0.001 0.131 0.035 0.034 0.035 7.66 0.13 9.53 0.131 0.035 0.034 0.035 0.034 0.131 0.035 0.034 0.131 0.035 0.034 0.131 0.035 0.035 0.031 0.131 0.035 0.132 0.039 0.035 0.035 0.131 0.035 0.131 0.035 0.035 | Machine Machine <t< th=""><th>Section 1: 10: 21:301 111 2:320 0:347 0:468 0135 0:475 0:445 0105 0005 0004 0005 0361 859 030 756 015 950 453 015 056 055 055 055 055 055 055 055 055 05</th><th>Section 1:10: 21341 111: 25480 0347 0458 01359 01757 0451 01259 0451 0452 0451 0451 045 045 045 045 045 045 0451 045 0451 0451</th><th></th><th></th><th></th><th>007</th><th>000000</th><th>0,000,0</th><th></th><th></th><th></th><th>01010</th><th>1000</th><th></th><th></th><th></th><th></th><th></th><th></th><th>L</th><th></th><th></th><th></th></t<> | Section 1: 10: 21:301 111 2:320 0:347 0:468 0135 0:475 0:445 0105 0005 0004 0005 0361 859 030 756 015 950 453 015 056 055 055 055 055 055 055 055 055 05 | Section 1:10: 21341 111: 25480 0347 0458 01359 01757 0451 01259 0451 0452 0451 0451 045 045 045 045 045 045 0451 045 0451 0451 | | | | 007 | 000000 | 0,000,0 | | | | 01010 | 1000 | | | | | | | L | | | |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $
 | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$
 | 945011 130 221.00 1111 2.0332 0.0324 0.0864 839 0.066 745 0.039 943 1475 945011 130 225326 1111 2.0337 0.0324 0.0364 539 0.036 545 0.13 0.655 1431 6333 1476 6333 1478 0.039 544 1431 0.034 0.0364 537 0.038 543 1432 0.034 0.036 57 0.03 9433 1438 0.035 0.034 <
 | 39-011 1/0 2.13-01 0.13-01 0.024 0.080-0 0.347 0.441 0.003 3.041 1/11 2.73-01 0.034 0.047 7.6 0.034 0.047 7.6 0.034 0.134 0.035 0.041 7.6 0.034 0.036 0.333 0.3247 0.034 0.0364 0.0364 0.0364 0.0364 0.034 0.036 0.333 0.134 0.035 0.034 0.036 0.333 0.035 0.333 0.034 0.034 0.036 0.333 0.034 0.034 0.036 0.333 0.034 0.034 0.035 0.033 0.033 0.034 0.034 0.035 0.033 | 945011 170 2.1324 0.1329 0.0335 0.033 0.04 7.45 0.03 95.36 1.431 0.13 945011 170 2.5364 1111 2.5387 0.589 0.529 -0.0665 0.123 0.003 0.004 7.46 0.03 95.34 4.51 0.113 0.113 0.003 0.004 7.46 0.03 95.34 4.53 0.113 0.113 0.003 0.004 7.46 0.03 95.34 4.53 0.113 95.34 0.013 95.34 0.013 95.34 0.04 95.34 0.03 95.34 0.04 95.34 0.03 95.34 0.03 95.34 0.03 95.34 0.04 95.34 0.03 95.34 0.04 95.34 0.04 95.34 0.04 95.34 0.04 0.04 95.34 0.04 0.04 95.34 0.04 0.04 95.34 0.05 0.04 0.04 95.34 1.03 95.34 1.03 95.34 1.03
 | 3501 130 24.34 111 25.340 0.347 0.453 0.357 0.453 0.423 0.051 0.052 0.024 0.364 130 0.05 750 0.37 759 0.37 750 0.37 759 0.37 750 0.37 759 0.37 750 0.37 759 0.37 750 0.37 759 0.37 750 0.37 759 0.37 750 0.37 7 | 35011 139 26414 111 25080 03947 0639 11259 -0056 0137 0035 0035 0036 0036 736 001 956 013 953 453 013 956 013 954 153 013 956 013 954 153 013 956 013 954 153 013 956 013 954 153 013 956 013 954 153 013 956 013 9
 | _ (| | 34.194 | 1.109 | 0610.01 | 0182.0 | 0.0352 | 9261.0 | 1107.0- | 0.1218 | 0.0210 | 0.0024 | 10000 | 67.0 | | | 00. / | 0.15 | | 14.90 | 0.30 |
|
 | $ 150 \ \ 205.161 \ \ 1111 \ \ 15.450 \ \ 20280 \ \ 20280 \ 1111 \ 15.450 \ 20280 \$
 | 945011 1:50 206414 1:11 2.5380 0.2447 0.6899 0.1756 0.1211 0.0080 3.57 0.008 4.56 0.008 4.56 0.008 4.55 1.476 0.008 4.54 1.476 0.1759 0.554 1.475 0.559 0.1759 0.121 0.0081 0.008 7.56 0.113 9.531 1.476 0.175 0.128 0.0084 0.0084 7.56 0.11 9.536 1.476 0.11 9.531 1.478 0.175 0.1281 0.0041 0.1091 0.008 7.56 0.12 9.531 1.478 9.531 1.478 0.175 0.1281 0.0011 0.121 0.0012 0.121 0.0012 0.012 0.0024 0.012 0.012 0.012 0.012 0.012 0.011 0.112 0.012 0.012 0.012 0.012 0.012 0.012 0.012 0.012 0.012 0.012 0.012 0.012 0.011 0.011 0.011 0.011 0.011
 | 49-001 100 255.4 143 0.132 0.0024 0.0024 0.000 0.04 75.6 0.13 95.6 14.3 0.13 94-5011 150 255.35 1111 13.445 0.1357 -0.0413 0.1127 -0.0131 0.112 0.0042 0.0037 7.50 0.008 97.31 14.32 0.123 0.0043 0.0037 7.50 0.018 97.33 14.37 0.13 9.55 14.32 0.137 0.0031 0.137 0.0031 0.137 0.013 0.903 7.56 0.113 9.55 14.32 0.133 0.0031 0.137 0.003 0.133 0.003 0.56 0.113 9.55 14.32 0.133 0.013 0.003 0.003 7.56 0.113 9.55 14.43 0.23 0.135 0.0031 0.121 0.003 0.013 0.013 0.013 0.013 0.121 0.003 0.113 0.113 0.113 0.113 0.113 0.113 0.113 0.113< | 945-011 120 752.36 1111 13.945 0.2847 0.4818 0.1229 0.175 0.0235 0.0034 0.0036 0.337 750 0.03 757 0.08 9428 14.36 0.13 955-04.51 0.13 955-04.51 0.13 955-04.51 0.13 955-04.51 0.03 955-04.51 0.03 755 0.08 9428 14.36 0.13 955-04.51 0.03 756 0.013 756 0.013 955 14.32 0.15 955-04.51 0.12 958 14.32 0.15 955-04.51 0.03 756 0.013 756 0.013 955 14.32 0.15 955-04.51 0.03 756 0.013 756 0.013 955 14.32 0.15 955-04.51 0.03 756 0.013 956 14.32 0.12 958 14.32 0.15 955-04.51 0.03 756 0.013 956 14.32 0.12 958 14.32 0.15 955-04.51 0.03 756 0.013 956 14.32 0.12 958 14.32 0.15 955-01.51 0.03 756 0.13 956 14.32 0.12 958 14.32 0.15 955-01.51 0.03 756 0.13 956 14.32 0.13 955-01.51 0.03 756 0.13 956 14.32 0.15 955-01.51 0.03 756 0.13 956 14.32 0.15 955-01.51 0.03 955-01.51 0.03 956-01.51 0.03 956-01.51 0.03 956-01.51 0.03 956-01.51 0.03 956-01.51 0.03 956-01.52 951 14.92 0.25 956-01.51 0.03 956-01.51 0.03 956-01.51 0.03 956-01.51 0.03 956-01.51 0.00 0.05 756 0.13 956-14.51 0.045 0.05 955-01.51 0.03 956-01.51 0.00 0.05 756 0.13 956-14.51 0.045 0.05 955-01.11 721 0.25 956-14.51 0.045 0.02 956-01.21 0.02 956-01.51 0.02 0.001 1.000 0.05 756 0.13 956-01.52 956-01.55 956-01.55 956-01.55 956-01.55 0.000 0.05 756 0.13 956-01.51 0.03 956-01.11 721 0.25 951-152 0.12 956-01.52 0.000 0.005 0.14 0.01 721 0.02 959-01.55 0.01 950-01.52 0.000 0.005 0.12 746 0.01 956-01.52 0.01 950-01.52 0.01 950-01.55 0.01 950-01.52 0.01 950-01.52 0.01 950-01.52 0.01 950-01.52 0.01 950-01.52 0.01 950-01.52 0.01 950-01.52 0.01 950-01.52 0.01 950-01.52 0.01 950-01.52 0.01 950-01.11 910-00.01 0.01 0.01 0.01 0.01 0.01 0.01 0
 | 95:001 130 35:35.8 1111 33:48 0.329 0.034 0.035 <td< td=""><td>34501 1: 13: 0.5014 1111 3: 0.5316 0.3247 0.6318 0.1259 0.175 0.1727 0.0132 0.0024 0.0024 0.0037 0.301 7.35 0.00 9.53 4.130 0.33 7.30 0.03 9.53 4.130 0.33 7.30 0.03 9.53 4.130 0.33 7.30 0.03 9.53 4.130 0.33 7.30 0.03 9.53 4.130 0.33 7.30 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 7.50 0.03 9.53 4.130 0.33 7.50 0.03 7.50 0.03 9.53 4.130 0.33 7.50 0.03 7.50 0.03 9.53 4.130 0.33 7.50 0.03 7.50 0.03 9.53 4.150 0.33 7.50 0.03 9.53 4.150 0.33 7.50 0.03 9.53 4.150 0.33 7.50 0.03 7.</td><td></td><td></td><td>102.12</td><td>=</td><td>21.9049</td><td>0.2847</td><td>0.4040</td><td>0.035</td><td>1560.0</td><td>CZZ1.0</td><td>0.0419</td><td>CZUU.U</td><td>1 C80.0</td><td>0.00</td><td></td><td></td><td>1.48</td><td>60.0</td><td></td><td>9C.41</td><td>0.10</td></td<> | 34501 1: 13: 0.5014 1111 3: 0.5316 0.3247 0.6318 0.1259 0.175 0.1727 0.0132 0.0024 0.0024 0.0037 0.301 7.35 0.00 9.53 4.130 0.33 7.30 0.03 9.53 4.130 0.33 7.30 0.03 9.53 4.130 0.33 7.30 0.03 9.53 4.130 0.33 7.30 0.03 9.53 4.130 0.33 7.30 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 9.53 4.130 0.33 7.50 0.03 7.50 0.03 9.53 4.130 0.33 7.50 0.03 7.50 0.03 9.53 4.130 0.33 7.50 0.03 7.50 0.03 9.53 4.130 0.33 7.50 0.03 7.50 0.03 9.53 4.150 0.33 7.50 0.03 9.53 4.150 0.33 7.50 0.03 9.53 4.150 0.33 7.50 0.03 7.
 | | | 102.12 | = | 21.9049 | 0.2847 | 0.4040 | 0.035 | 1560.0 | CZZ1.0 | 0.0419 | CZUU.U | 1 C80.0 | 0.00 | | | 1.48 | 60.0 | | 9C.41 | 0.10 |
|
 | $ 166 \ $
 | 945011 180 235.356 1111 3945 0.3847 0.6495 0.153 0.0756 0.1211 0.0412 0.0025 0.0024 0.0797 10.16 0.003 7.57 0.08 94.8 14.75 0.945 0.11 96.59 14.53 0.945 0.11 96.59 14.53 0.945 0.11 96.59 14.51 0.945 0.01 95.51 0.11 95.51 0.11 95.51 14.82 0.945 0.01 95.51 0.11 95.51 0.11 95.51 14.82 0.945 0.01 95.51 0.11 0.024 0.0564 6.95 0.003 0.023 7.50 0.13 95.51 14.82 0.945 0.01 95.51 111 205378 0.289 0.1251 0.0043 0.0033 0.0323 0.032 3.47 0.04 0.02 7.56 0.13 95.51 14.82 0.945 0.01 95.51 110 0.03991 0.284 0.1705 0.0131 0.0033 0.0023 0.0024 0.091 9.065 0.51 0.01 9.055 15.91 0.01 9.055 15.91 0.01 9.055 15.91 0.01 9.057 0.01 9.051 110 0.03991 0.284 0.105 0.244 0.655 0.125 0.0033 0.0023 0.0024 0.0023 0.0335 4.47 0.945 0.109 9.4687 0.289 0.0151 0.0031 0.0121 0.00024 0.0023 0.0356 5.37 0.01 9.965 14.43 0.945 0.10 9.4687 0.289 0.0151 0.0023 0.0024 0.0023 0.0356 5.37 0.01 9.965 14.45 0.945 0.148 0.945 0.023 0.024 0.0023 0.0024 0.0023 0.0356 5.37 0.01 9.965 14.45 0.945 0.945 0.003 0.024 0.0023 0.0024 0.0023 0.0235 0.01 0.002 0.023 0.0024 0.0012 0.0024 0.0023 0.0024 0.0023 0.0024 0.0023 0.0024 0.0023 0.0024 0.0012 0.0004 0.023 0.055 0.01 9.466 0.13 0.023 0.0024 0.0012 0.0023 0.0024 0.0023 0.0024 0.0012 0.0024 0.0023 0.0024 0.0012 0.0023 0.0024 0.0012 0.003 0.023 0.0024 0.0012 0.003 0.0024 0.0012 0.001 9.401 0.023 0.055 0.011 9.101 0.151 0.024 0.165 0.013 0.0124 0.150 0.002 0.0024 0.0016 0.012 0.011 2.01 0.510 0.012 0.012 0.0123 0.0012 0.0024 0.0016 0.0120 0.0120 0.0120 0.0120 0.0120 0.0120 0.0024 0.0040 0.012 0.011 9.145 0.525 0.949 0.11 11 111 111 111 111 111 111 111 111
 | 45-01K 100 75328 111 31946 2345 143 013 3451 014 3003 3553 0113 3456 0153 3553 0153 0353 0153 0353 0153 0355 0133 0355 0133 0355 0133 0355 0133 0355 0133 0355 0133 0355 0353 | 95-01K 100 75323 111 31.946 232.602 0.037 <th< td=""><td>95-01 10 737 0.842 4.43 0.37 0.842 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 0.342 0.342 0.034 0.034 0.032 0.034 0.032 0.034 0.032 0.034 0.032 0.034 0.032 0.034 0.035 0.03 0.034 0.033 0.034 0.035 0.03 0.034 0.033 0.034 0.035 0.03 0.034 0.035 0.03 0.034 0.033 0.034 0.035 0.03 0.034 0.035 0.03 0.034 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.0</td><td>Ferrer 10: 17323. 01111 1346. 2379: 0459. 0137. 0466. 0137. 0466. 0037 0003 0003 0003 0004 659003 055
759. 013 953 1432 023 0545 055. 010 055 759. 013 955 1432 023 055 0501 055 751 010 055 759. 013 955 1428 025 055 0501 055 751 010 055 759. 013 955 1428 025 055 0501 055 751 010 055 759. 013 955 1428 025 055 0501 055 751 010 055 759 011 055 759 013 955 1428 025 055 0501 055 751 010 055 759 011 055 759 013 955 1428 025 055 055 055 055 0505 0505 0505 05</td><td>•</td><td></td><td>06.141</td><td>1.111</td><td>26.3820</td><td>0.2847</td><td>0.4818</td><td>0.1529</td><td>0.1776</td><td>0.1221</td><td>0.0322</td><td>0.0024</td><td>0.0804</td><td>8.39</td><td></td><td></td><td>7.45</td><td>0.09</td><td></td><td>14.51</td><td>0.18</td></th<> | 95-01 10 737 0.842 4.43 0.37 0.842 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 4.43 0.342 0.342 0.342 0.034 0.034 0.032 0.034 0.032 0.034 0.032 0.034 0.032 0.034 0.032 0.034 0.035 0.03 0.034 0.033 0.034 0.035 0.03 0.034 0.033 0.034 0.035 0.03 0.034 0.035 0.03 0.034 0.033 0.034 0.035 0.03 0.034 0.035 0.03 0.034 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.035 0.0 | Ferrer 10: 17323. 01111 1346. 2379: 0459. 0137. 0466. 0137. 0466. 0037 0003 0003 0003 0004 659003 055 759. 013 953 1432 023 0545 055. 010 055 759. 013 955 1432 023 055 0501 055 751 010 055 759. 013 955 1428 025 055 0501 055 751 010 055 759. 013 955 1428 025 055 0501 055 751 010 055 759. 013 955 1428 025 055 0501 055 751 010 055 759 011 055 759 013 955 1428 025 055 0501 055 751 010 055 759 011 055 759 013 955 1428 025 055 055 055 055 0505 0505 0505 05
 | • | | 06.141 | 1.111 | 26.3820 | 0.2847 | 0.4818 | 0.1529 | 0.1776 | 0.1221 | 0.0322 | 0.0024 | 0.0804 | 8.39 | | | 7.45 | 0.09 | | 14.51 | 0.18 |
| 1.70 172284 1.09 232081 02387 02443 01573 -00131 01213 00029 00029 00024 00029 00023 00031 736 011 756 012 751 012 012 751 012 756 012 756 012 756 756 012 756 012 756 012 756 012 756 012 756 012 756 012 756 012 756 012 756 012 756 012 756 012 756 012 756 012 756 012 756 012 756 012 756 012 756 012 756 012 756 012 756 012 756 011 756 012 756 012 756 012 756 012 756
 | 1.70 172284 1.10 232081 02347 02437 02437 02447 01557 00131 00026 00020 00020 00020 00000 00000 00000
 | 945011 170 73248 110 23288 02473 01537 00031 00032 00032 00032 00031 00031 00031 00031 00031 00031 00031 00031 0033 750 0133 0033 1478 0436 113 023847 01702 01533 00123 00031 00031 00331 373 0033 756 0133 9553 1478 0436 1733 10389 0353 01325 00033 00033 0333 373 0353 1476 038 1473 038 1473 038 1473 0333 0353 1410 0389 1431 0313 0303 0333 033 03
 | 94501M 100 1792.84 10287 0.2433 0.1537 0.0054 0.0024 0.0024 0.0024 0.003 756 0.11 955.9 1433 0.153 0.0055 0.1129 0.0024 0.0037 756 0.012 955.6 1111 20.3315 0.2847 0.1553 0.0055 0.1125 0.0003 0.0013 756 0.003 756 0.24 95.51 10.34 0.0012 95.55 0.003 0.003 756 0.013 95.51 0.003 756 0.013 95.51 0.003 756 0.013 95.55 0.003 0.003 756 0.013 95.55 0.003 0.003 756 0.013 95.55 0.003 0.003 756 0.013 95.55 0.155 0.003 95.56 0.003 756 0.155 0.013 95.56 0.003 756 0.155 0.013 95.56 0.013 95.56 0.155 0.013 95.56 0.013 95.56 0.013 95.56 </td <td>95-011 170 732.64 110 232.08 0.2257 0.0024 0.0078 738 0.450 0.12 955.9 0.655 0.552 0.123 0.0024 0.0012 0.0024 0.0012 0.0024 0.0012 0.0013 0.0112 0.0012 0.0012 0.0012 0.0012 0.0012 0.0012 0.0012 0.0012 0.0012 0.0012 0.0012 0.0012 <th< td=""><td>995011 120 17324 110 23391 0287 0367 0132 0073 0035 0073 0003 0060 079 756 013 759 013 053 100 055 750 013 953 1438 025 0050 0073 0035 757 013 955 143 025 050 0057 0055 750 013 955 143 025 050 0057 0055 750 013 955 143 025 055 055 051 010 035 757 013 955 143 025 055 055 051 010 035 757 013 955 143 025 055 055 051 010 035 750 013 955 143 025 055 055 051 010 035 750 013 955 143 025 055 055 051 010 035 750 013 955 143 025 055 055 051 0446 021 020 0021 0021 0022 0023 0035 751 020 955 143 025 055 055 051 010 055 750 013 955 143 025 055 055 051 010 035 750 013 955 143 025 055 055 051 010 035 750 013 955 143 025 055 055 055 051 010 035 750 013 955 143 025 055 055 051 010 035 750 013 955 143 025 055 055 051 051 010 035 751 020 956 1430 025 055 051 010 035 751 020 956 1430 025 055 051 010 010</td><td>95001 100 32031 1237 02390 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0135 0035 55 013 035 035 0135 0135 0035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 035 035 035 035 035 035 035 035 035 035</td><td></td><td></td><td>55.326</td><td>1.111</td><td>31.9465</td><td>0.2847</td><td>0.6899</td><td>0.1529</td><td>-0.0965</td><td>0.1211</td><td>0.0442</td><td>0.0025</td><td>0.0974</td><td>10.16</td><td></td><td></td><td>7.57</td><td>0.08</td><td></td><td>14.76</td><td>0.15</td></th<></td> | 95-011 170 732.64 110 232.08 0.2257 0.0024 0.0078 738 0.450 0.12 955.9 0.655 0.552 0.123 0.0024 0.0012 0.0024 0.0012 0.0024 0.0012 0.0013 0.0112 0.0012 0.0012 0.0012 0.0012 0.0012 0.0012 0.0012 0.0012 0.0012 0.0012 0.0012 0.0012 <th< td=""><td>995011 120 17324 110 23391 0287 0367 0132 0073 0035 0073 0003 0060 079 756 013 759 013 053 100 055 750 013 953 1438 025 0050 0073 0035 757 013 955 143 025 050 0057 0055 750 013 955 143 025 050 0057 0055 750 013 955 143 025 055 055 051 010 035 757 013 955 143 025 055 055 051 010 035 757 013 955 143 025 055 055 051 010 035 750 013 955 143 025 055 055 051 010 035 750 013 955 143 025 055 055 051 010 035 750 013 955 143 025 055 055 051 0446 021 020 0021 0021 0022 0023 0035 751 020 955 143 025 055 055 051 010 055 750 013 955 143 025 055 055 051 010 035 750 013 955 143 025 055 055 051 010 035 750 013 955 143 025 055 055 055 051 010 035 750 013 955 143 025 055 055 051 010 035 750 013 955 143 025 055 055 051 051 010 035 751 020 956 1430 025 055 051 010 035 751 020 956 1430 025 055 051 010 051
010 051 010 010</td><td>95001 100 32031 1237 02390 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0135 0035 55 013 035 035 0135 0135 0035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 035 035 035 035 035 035 035 035 035 035</td><td></td><td></td><td>55.326</td><td>1.111</td><td>31.9465</td><td>0.2847</td><td>0.6899</td><td>0.1529</td><td>-0.0965</td><td>0.1211</td><td>0.0442</td><td>0.0025</td><td>0.0974</td><td>10.16</td><td></td><td></td><td>7.57</td><td>0.08</td><td></td><td>14.76</td><td>0.15</td></th<> | 995011 120 17324 110 23391 0287 0367 0132 0073 0035 0073 0003 0060 079 756 013 759 013 053 100 055 750 013 953 1438 025 0050 0073 0035 757 013 955 143 025 050 0057 0055 750 013 955 143 025 050 0057 0055 750 013 955 143 025 055 055 051 010 035 757 013 955 143 025 055 055 051 010 035 757 013 955 143 025 055 055 051 010 035 750 013 955 143 025 055 055 051 010 035 750 013 955 143 025 055 055 051 010 035 750 013 955 143 025 055 055 051 0446 021 020 0021 0021 0022 0023 0035 751 020 955 143 025 055 055 051 010 055 750 013 955 143 025 055 055 051 010 035 750 013 955 143 025 055 055 051 010 035 750 013 955 143 025 055 055 055 051 010 035 750 013 955 143 025 055 055 051 010 035 750 013 955 143 025 055 055 051 051 010 035 751 020 956 1430 025 055 051 010 035 751 020 956 1430 025 055 051 010 010 | 95001 100 32031 1237 02390 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0234 0135 0135 0035 55 013 035 035 0135 0135 0035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 013 035 035 035 035 035 035 035 035 035 035 035 035
 | | | 55.326 | 1.111 | 31.9465 | 0.2847 | 0.6899 | 0.1529 | -0.0965 | 0.1211 | 0.0442 | 0.0025 | 0.0974 | 10.16 | | | 7.57 | 0.08 | | 14.76 | 0.15 |
| 180 232.062 1111 29.381 0.2684 0.1753 0.0755 0.1753 0.0264 0.2910 0.031 775 0.032 775 0.033 775 0.033 775 0.033 775 0.033 775 0.033 775 0.12 9853 200 157.531 1111 20.3739 0.2847 0.1753 0.0531 0.1753 0.0033 0.0333 3.77 0.003 757 0.12 9853 200 89.759 1109 1.9687 0.2848 0.1758 0.1758 0.1758 0.1758 0.1758 0.1758 0.0031 0.1218 0.0023 0.0355 0.0023 0.0354 0.122 0.023 0.035 0.253 0.2
 |
 | 94501M 180 232.662 1111 293315 0.2667 01533 00755 01231 00034 00024 00034 0003 756 013 955 143.2 955 143.2 955 143.2 955 143.2 955 143.2 955 143.2 955 151.3 0039 756 0123 90031 0039 756 013 955 145.1 955 144.9 955 145.1 955 145.1 955 145.1 955 145.1 955 145.1 955 145.1 955 145.1 955 145.1 955 145.1 955 145.1 955 145.1 955 145.1 955 145.1 955 145.1 955 145.1 955 145.1 955 145.1 955 145.1 955 955 145.1 955 955 145.1 955 955 145.1 955 955 955 145.1 955 955 955 <
 | 945°010 100 235.642 1111 217392 02847 01762 0153 00356 0122 00240 0024 0061 6492 -0.03 005 756 012 9733 1428 016
945°010 2200 159.94 1110 103991 02847 01792 01553 00359 01221 00024 0025 653 -0.01 005 757 012 9551 1420 024
945°010 2200 155.944 1110 103991 02847 01792 01563 00359 01215 00071 00024 0525 607 000 055 754 013 9553 1459 025
945°010 220 156.051 110 103991 02847 01792 01563 00351 01218 00071 00264 653 -0.01 005 754 013 9553 1459 025
945°010 220 156.051 110 103991 02847 01792 01563 00351 01218 00071 00289 301 -022 011 222 016 025
945°010 220 145°05 02940 115692 02948 01758 0151 01218 00073 0024 0023 0035 371 000 009 753 012 955 1450 025
945°010 12227 1109 146°00 02811 -01230 01512 02029 0023 0024 0023 0036 371 000 009 753 023 9530 1650 055
945°010 12227 1109 146°00 02811 -01230 01512 02029 0023 0024 00134 0132 023 024 371 010 015 23 05
945°010 12227 1109 149°00 02811 -01230 01523 0152 -00009 0003 0034 0132 0312 0230 753 013
945°01 12227 1109 149°00 02811 -01230 01523 0152 00039 0004 0013 0134 0132 130 033 024 371 010 012 786 039 650 155
945°01 111 22277 0109 135 H H H H H H H H H H | 95:01 10:0 23.246 1.01:0 20.939 0.075 0.1132 0.0074 0.0054 0.0054 0.0054 0.0054 0.0054 0.0054 0.0054 0.0054 0.0053 0.003 <td>9560N 196 32567 111 32391 0287 0256 0153 0075 0135 0039 0031 0035 757 013 955 142 025 956 157 012 956 142 025 956 157 012 956 142 025 956 157 012 956 157 012 956 142 025 956 157 110 0257 0350 0351 100 035 757 012 956 142 025 956 157 010 055 55 -0001 035 757 013 955 146 025 956 157 010 055 55 -0001 035 757 012 956 145 025 956 157 010 055 55 -0001 035 757 012 956 146 025 956 155 110 035 0351 100 0367 55 100 036 055 157 0001 035 757 036 956 146 025 956 155 0001 035 757 030 956 155 150 055 950 001 055 757 032 955 146 025 956 155 956 110 0367 056 035 0001 0155 0001 0001 055 55 -0000 0075 156 025 9000 005 011 2000 001 055 157 0001 0001 055 055 001 0001 0</td> <td>9561(N 18) 32363(1 11) 32331 0287 0267 0153 0075 01736 0073 0074 0064 592 003 053 759 013 955 442 025 054 955 110 025 750 013 955 442 025 055 55 110 025 750 011 955 751 0105 755 012 955 442 025 055 55 110 055 110 055 1050 0051 0155 0070 0003 0155 57 010 955 57 013 955 440 022 015 55 0071 0055 55 -010 050 015 -010 010 015 150 0000 005 151 0000 0000</td>
<td></td> <td></td> <td>79.284</td> <td>1.109</td> <td>23.2081</td> <td>0.2787</td> <td>0.3423</td> <td>0.1527</td> <td>-0.0131</td> <td>0.1218</td> <td>0.0205</td> <td>0.0024</td> <td>0.0708</td> <td>7.38</td> <td></td> <td></td> <td>7.46</td> <td>0.11</td> <td></td> <td>14.53</td> <td>0.21</td> | 9560N 196 32567 111 32391 0287 0256 0153 0075 0135 0039 0031 0035 757 013 955 142 025 956 157 012 956 142 025 956 157 012 956 142 025 956 157 012 956 157 012 956 142 025 956 157 110 0257 0350 0351 100 035 757 012 956 142 025 956 157 010 055 55 -0001 035 757 013 955 146 025 956 157 010 055 55 -0001 035 757 012 956 145 025 956 157 010 055 55 -0001 035 757 012 956 146 025 956 155 110 035 0351 100 0367 55 100 036 055 157 0001 035 757 036 956 146 025 956 155 0001 035 757 030 956 155 150 055 950 001 055 757 032 955 146 025 956 155 956 110 0367 056 035 0001 0155 0001 0001 055 55 -0000 0075 156 025 9000 005 011 2000 001 055 157 0001 0001 055 055 001 0001 0 | 9561(N 18) 32363(1 11) 32331 0287 0267 0153 0075 01736 0073 0074 0064 592 003 053 759 013 955 442 025 054 955 110 025 750 013 955 442 025 055 55 110 025 750 011 955 751 0105 755 012 955 442 025 055 55 110 055 110 055 1050 0051 0155 0070 0003 0155 57 010 955 57 013 955 440 022 015 55 0071 0055 55 -010 050 015 -010 010 015 150 0000 005 151 0000 0000
 | | | 79.284 | 1.109 | 23.2081 | 0.2787 | 0.3423 | 0.1527 | -0.0131 | 0.1218 | 0.0205 | 0.0024 | 0.0708 | 7.38 | | | 7.46 | 0.11 | | 14.53 | 0.21 |
|
 |
 | 945-010 1.90 169.194 1.110 21/572 0.2804 0.153 0.0023 0.0023 0.0033 3.035 1.130 9.95-01 3.05 5.40 0.12 9.756 0.23 9.851 1.130 9.853 1.443 0.755 0.135 0.0035 0.051 0.013 9.0355 1.109 9.9650 2.756 0.23 9.851 1.446 9.851 1.109 9.9650 0.231 0.0155 0.0021 0.0024 0.0585 6.31 0.013 9.851 1.403 9.851 1.405 9.853 1.405 0.135 0.0021 0.1215 0.0023 0.0024 0.058 8.11 0.121 9.853 1.405 0.135 0.650 0.121 0.002 0.023 0.024 0.035 0.11 1.105 1.6692 0.286 0.1535 0.0655 0.1125 0.0023 0.0024 0.035 0.11 2.105 0.105 0.11 1.105 1.6692 0.286 0.1535 0.0023 0.0024
 | 945-01N 190 166.194 1.110 2.1/392 0.2847 0.1190 0.0023 0.347 0.012 0.0033 0.347 0.013 0.0033 0.347 0.013 0.0033 0.347 0.013 0.0033 0.347 0.013 0.003 0.003 0.035 0.576 0.043 0.353 -0.003 0.035 0.576 0.43 0.353 0.001 0.035 757 0.12 9653 1.450 0.353 0.355 0.615 0.03 9554 1.69 9655 1.55 0.001 0.125 0.0023 0.035 0.121 0.0023 0.035 0.121 0.0023 0.035 0.121 0.012 0.121 0.012 0.123 0.001 0.125 0.0023 0.124 0.124 0.124 0.124 0.124 0.124 0.017 0.1218 0.0023 0.013 0.124 0.012 0.154 0.124 0.124 0.124 0.124 0.124 0.124 0.124 0.1249 0.154 0.023 | 94501N 100 160:19 1110 21/392 0.2849 0.113 0.0023 0.0023 0.0023 0.0037 756 0.12 955 1432 0.023 945010 2.00 8538 1110 25378 0.2881 0.015 0.155 0.003 756 0.12 955 157 0.12 965 1474 0.28 945010 2.00 0.8381 0.113 0.135 0.0023 0.135 0.0024 0.588 653 0.13 955 146 0.24 0.135 0.0024 0.158 0.003 757 0.12 955 1.11 2.253 0.23 0.23 0.135 0.0024 0.128 0.003 756 0.13 955 1.54 0.24 0.125 0.0024 0.058 574 0.13 956 14.05 0.13 0.125 0.0024 0.125 0.12 0.24 0.125 0.123 0.125 0.125 0.125 0.125 0.125 0.125 <td< td=""><td>996010 200 8549 110 20279 2034 7100 0157 2038 0153 0121 0001 0012 0002 0023 277 013 956 143 023 958 143 023 959 111 01257 0239 0017 01216 0017 0125 0011 0015 757 013 956 143 023 959 149 023 959 149 023 959 149 023 959 149 023 959 149 023 959 149 023 959 149 023 959 110 11251 020 951 100 157 100 015 757 013 956 143 023 959 149 023 959 149 023 959 110 11251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 125 023 951 100 105 756 013 956 143 023 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 1251 020 950 1251 020 950 1551 020 951 1251 020 951 1251 020 951 1251 020 950 1251 020 950 1251 020 950 1251 020 950 1551 020 950 1251 020 951 1251 020 951 1251 020 951 1251 020 951 1251 020 951 1251 020 950 1251 020 950 1251 020 950 1251 020
950 1251 020 950 1250 0001 950 1251 020 950 1250 0000 950 1251 020 950 1250 0000 950 1251 020 950 1250 0000 950 1251 020 950 1250 0000 950 1251 020 950 1250 0000 950 1250 0000 950 1251 020 950 1250 0000 950 1250 0000 950 0</td><td>965610 200 (56.94 110 2)2792 0284 0170 (51.53 0583 0533 0121 0001 0021 0023 0023 247 013 55 013 50 003 103 55 013 100 12 100 12 55 013 100 12 100 12 100 12 100 12 100 12</td><td></td><td></td><td>32.662</td><td>1.111</td><td>29.8315</td><td>0.2847</td><td>0.2667</td><td>0.1553</td><td>0.0765</td><td>0.1232</td><td>0.0209</td><td>0.0024</td><td>0.0910</td><td>9.49</td><td></td><td></td><td></td><td>0.08</td><td></td><td>14.78</td><td>0.16</td></td<> | 996010 200 8549 110 20279 2034 7100 0157 2038 0153 0121 0001 0012 0002 0023 277 013 956 143 023 958 143 023 959 111 01257 0239 0017 01216 0017 0125 0011 0015 757 013 956 143 023 959 149 023 959 149 023 959 149 023 959 149 023 959 149 023 959 149 023 959 149 023 959 110 11251 020 951 100 157 100 015 757 013 956 143 023 959 149 023 959 149 023 959 110 11251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 125 023 951 100 105 756 013 956 143 023 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 100 1251 020 951 1251 020 950 1251 020 950 1551 020 951 1251 020 951 1251 020 951 1251 020 950 1251 020 950 1251 020 950 1251 020 950 1551 020 950 1251 020 951 1251 020 951 1251 020 951 1251 020 951 1251 020 951 1251 020 950 1250 0001 950 1251 020 950 1250 0000 950 1251 020 950 1250 0000 950 1251 020 950 1250 0000 950 1251 020 950 1250 0000 950 1251 020 950 1250 0000 950 1250 0000 950 1251 020 950 1250 0000 950 1250 0000 950 0 | 965610 200 (56.94 110 2)2792 0284 0170 (51.53 0583 0533 0121 0001 0021 0023 0023 247 013 55 013 50 003 103 55 013 100 12 100 12 55 013 100 12 100 12 100 12 100 12 100 12
 | | | 32.662 | 1.111 | 29.8315 | 0.2847 | 0.2667 | 0.1553 | 0.0765 | 0.1232 | 0.0209 | 0.0024 | 0.0910 | 9.49 | | | | 0.08 | | 14.78 | 0.16 |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$
 | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$
 | 945-010 200 85.948 110 100
 | 365010 200 85.94 1.110 103899 0.2847 0.1702 0.153 0.0033 3.47 0.04 0.09 7.56 0.24 95.51 1.31 945-010 2.00 15.63 1.003 10537 0.2337 0.2463 0.0335 0.57 0.13 95.54 0.55 0.13 95.54 0.55 0.003 0.055 0.57 0.13 95.54 0.55 0.03 0.055 0.13 95.54 0.05 0.055 0.055 0.055 0.055 0.053 0.011 0.157 0.002 0.056 0.012 0.059 0.011 0.151 0.003 0.055 0.11 0.045 0.51 0.00 0.95 0.51 0.01 0.55 0.51 0.01 0.51 0.21 0.05 0.51 0.01 0.55 0.51 0.02 0.55 0.51 0.05 0.51 0.51 0.51 0.51 0.51 0.51 0.51 0.51 0.51 0.51 0.51 <t< td=""><td>945-010 200 85.948 1110 00337 347 004 009 756 024 9853 1474 024 945-010 200 85.948 1111 003378 347 004 009 754 0851 15763 1113 9855 1139 9856 1486 0233 94591 253 001 003 754 013 9856 1454 0124 01454 015</td><td>06:00:0 00:00:0 <t< td=""><td></td><td></td><td></td><td>59 194</td><td>1 110</td><td>7597</td><td>0.2804</td><td>0 2469</td><td>0.1573</td><td>-0.0847</td><td>01199</td><td>0.0121</td><td>0 0074</td><td>0 0664</td><td>697</td><td></td><td></td><td></td><td>0.12</td><td></td><td>14.87</td><td>0 2 2</td></t<></td></t<> | 945-010 200 85.948 1110 00337 347 004 009 756 024 9853 1474 024 945-010 200 85.948 1111 003378 347 004 009 754 0851 15763 1113 9855 1139 9856 1486 0233 94591 253 001 003 754 013 9856 1454 0124 01454 015
 | 06:00:0 00:00:0 <t< td=""><td></td><td></td><td></td><td>59 194</td><td>1 110</td><td>7597</td><td>0.2804</td><td>0 2469</td><td>0.1573</td><td>-0.0847</td><td>01199</td><td>0.0121</td><td>0 0074</td><td>0 0664</td><td>697</td><td></td><td></td><td></td><td>0.12</td><td></td><td>14.87</td><td>0 2 2</td></t<> |
 | | | 59 194 | 1 110 | 7597 | 0.2804 | 0 2469 | 0.1573 | -0.0847 | 01199 | 0.0121 | 0 0074 | 0 0664 | 697 | | | | 0.12 | | 14.87 | 0 2 2 | | | | | | | |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 945-010 2.00 0.0024 0.0024 0.0026 6.33 0.001 0.0124 0.0024 0.0025 7.57 0.012 96.51 1.111 20.533 0.0214 0.0024 0.0025 7.57 0.123 96.51 1.111 20.533 0.0017 0.1215 0.0024 0.0025 6.53 0.001 0.125 96.51 1.112 20.533 0.013 0.1215 0.0017 0.1215 0.0024 0.0055 7.57 0.123 96.51 1.172 34.25 1.103 36.55 96.10 96.55 96.10 96.55 96.11 7.31 2.25 0.23 0.017 0.124 0.002 0.012 0.124 0.125 0.017 0.124 0.012 0.124 0.125 0.125 0.012 0.124 0.124 0.124 0.124 0.124 0.124 0.124 0.124 0.024 0.025 0.031 0.124 0.123 0.124 0.124 0.124 0.124 0.125 0.116 0.124 0.125 <td>AF-01 Zust Cust <t< td=""><td>945-01 220 1111 20337 0.333 0.133 0.034 0.035 5.77 0.13 98.53 14.43 0.334 945-011 2.00 1105 10087 0.338 0.1168 0.033 0.11 0.035 5.71 0.01 0.55 9.52 0.13 0.335 1.10 9.655 1.03 9.656 1.103 9.657 1.11 20335 0.11 0.03 7.57 0.13 9.651 1.16 9.653 1.620 0.121 0.0024 0.035 0.11 0.17 2.10 0.035 0.51 0.135 0.013 0.113 0.11 1.22 0.23 0.013 0.113 0.11 1.22 0.13 0.01 0.13 0.11 1.24 0.24 0.13 0.111 1.22 0.03 0.121 0.003 0.013 0.123 0.015 0.123 0.015 0.113 0.113 1.11 2.44 0.143 0.23 0.133 0.015 0.013 0.013</td><td>32000 2000 5000 5000 5000 0001 0128 00001 0128 00001 0003 0036 503 -000 0003 757 012 966 4430 003 956 003 0036 513 -000 003 753 013 966 4430 003 956 003 956 003 0036 513 -000 003 753 013 966 4430 003 956 003 956 003 0036 0131 1/1 2010 000 753 013 966 403 0133 0001 0128 0001 0100 0100</td><td>Octobe Outobe Outobe<</td><td>•</td><td></td><td>2018</td><td>1 1 1 0</td><td>10 8001</td><td>7022.0</td><td>01702</td><td>0.1562</td><td>0.0550</td><td>10010</td><td>0.0013</td><td>20000</td><td>0.0220</td><td>2 17</td><td></td><td></td><td></td><td>7.0</td><td></td><td>15.12</td><td>0.46</td></t<></td> | AF-01 Zust Cust Cust <t< td=""><td>945-01 220 1111 20337 0.333 0.133 0.034 0.035 5.77 0.13 98.53 14.43 0.334 945-011 2.00 1105 10087 0.338 0.1168 0.033 0.11 0.035 5.71 0.01 0.55 9.52 0.13 0.335 1.10 9.655 1.03 9.656 1.103 9.657 1.11 20335 0.11 0.03 7.57 0.13 9.651 1.16 9.653 1.620 0.121 0.0024 0.035 0.11 0.17 2.10 0.035 0.51 0.135 0.013 0.113 0.11 1.22 0.23 0.013 0.113 0.11 1.22 0.13 0.01 0.13 0.11 1.24 0.24 0.13 0.111 1.22 0.03 0.121 0.003 0.013 0.123 0.015 0.123 0.015 0.113 0.113 1.11 2.44 0.143 0.23 0.133 0.015 0.013 0.013</td><td>32000 2000 5000 5000 5000 0001 0128 00001 0128 00001 0003 0036 503 -000 0003 757 012 966 4430 003 956 003 0036 513 -000 003 753 013 966 4430 003 956 003 956 003 0036 513 -000 003 753 013 966 4430 003 956 003 956 003 0036 0131 1/1 2010 000 753 013 966 403 0133 0001 0128 0001 0100 0100</td><td>Octobe Outobe Outobe<</td><td>•</td><td></td><td>2018</td><td>1 1 1 0</td><td>10 8001</td><td>7022.0</td><td>01702</td><td>0.1562</td><td>0.0550</td><td>10010</td><td>0.0013</td><td>20000</td><td>0.0220</td><td>2 17</td><td></td><td></td><td></td><td>7.0</td><td></td><td>15.12</td><td>0.46</td></t<> | 945-01 220 1111 20337 0.333 0.133 0.034 0.035 5.77 0.13 98.53 14.43 0.334 945-011 2.00 1105 10087 0.338 0.1168 0.033 0.11 0.035 5.71 0.01 0.55 9.52 0.13 0.335 1.10 9.655 1.03 9.656 1.103 9.657 1.11 20335 0.11 0.03 7.57 0.13 9.651 1.16 9.653 1.620 0.121 0.0024 0.035 0.11 0.17 2.10 0.035 0.51 0.135 0.013 0.113 0.11 1.22 0.23 0.013 0.113 0.11 1.22 0.13 0.01 0.13 0.11 1.24 0.24 0.13 0.111 1.22 0.03 0.121 0.003 0.013 0.123 0.015 0.123 0.015 0.113 0.113 1.11 2.44 0.143 0.23 0.133 0.015 0.013 0.013 | 3 2000 2000 5000 5000 5000 0001 0128 00001 0128 00001 0003 0036 503 -000 0003 757 012 966 4430 003 956 003 0036 513 -000 003 753 013 966 4430 003 956 003 956 003 0036 513 -000 003 753 013 966 4430 003 956 003 956 003 0036 0131 1/1 2010 000 753 013 966 403 0133 0001 0128 0001 0100 0100 | Octobe Outobe Outobe< | • | | 2018 | 1 1 1 0 | 10 8001 | 7022.0 | 01702 | 0.1562 | 0.0550 | 10010 | 0.0013 | 20000 | 0.0220 | 2 17 | | | | 7.0 | | 15.12 | 0.46 |
| 2.40 1.003 0.0030 0.0024 0.0024 0.0025 0.001 0.0024 0.0025 0.001 0.002 0.001 0.002 0.0024 0.0023 0.0024 0.0023 0.0024 0.0023 0.0024 0.003 7.53 0.11 2.10 2.866 9.864 1.77 34.236 1.109 9.4687 0.2291 0.1541 0.0244 0.0024 0.0023 0.0024 0.003 7.63 0.22 9.226 9.864 1.81 10.24 0.112 0.0024 0.0023 0.0024 0.0023 0.011 0.123 0.112 0.0024 0.0023 0.011 12.11 9.864 1.81 10.24 0.113 12.11 0.0122 0.1233 0.0123 0.0123 0.0024 0.003 0.024 0.011 0.024 0.011 0.124 0.1124 0.1231 0.1231 0.1249 0.1231 0.0124 0.123 0.124 <td< td=""><td>2.40 15/10 10/30 0.2366 0.4318 0.1125 0.0007 0.0002 0.0002 0.0002 0.0002 0.000</td><td>945-010 2.00 100 0.0307 0.0400 0.0007 7.50 0.11 96.50 14.60 945-010 2.00 99.570 0.175 0.175 0.0007 0.0002 0.0002 0.0007 7.51 0.123 95.57 14.60 0.003 7.53 0.12 95.20 14.86 0.53 1.00 0.035 7.51 0.12 95.20 14.86 0.53 14.60 0.03 14.6075 1.10 94.57 0.12 0.000 0.03 7.51 0.12 95.20 14.86 0.53 0.22 95.20 14.86 0.55 94.1 10.00 0.03 1.00 0.03 1.01 0.12.20 0.12 0.001 0.12 0.002 0.002 0.002 0.002 0.002 0.002 0.002 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td><td>343-010 2.40 1/2 1/</td><td>Partor Zuzo Total <t< td=""><td>95-01 1.00 0.005 0.001 0.011 0.011 <th< td=""><td>$\begin{array}{c} \mathbf{F}_{222} = \mathbf{F}_{222} = \mathbf{F}_{2222} = \mathbf{F}_{2222$</td><td></td><td></td><td>01070</td><td></td><td>020300</td><td></td><td>2011.0</td><td>0,170</td><td></td><td>1221.0</td><td>CE00.0</td><td></td><td></td><td></td><td>_</td><td></td><td></td><td></td><td></td><td>0</td><td></td></th<></td></t<></td></td<> | 2.40 15/10 10/30 0.2366 0.4318 0.1125 0.0007 0.0002 0.0002 0.0002 0.0002 0.000 | 945-010 2.00 100 0.0307 0.0400 0.0007 7.50 0.11 96.50 14.60 945-010 2.00 99.570 0.175 0.175 0.0007 0.0002 0.0002 0.0007 7.51 0.123 95.57 14.60 0.003 7.53 0.12 95.20 14.86 0.53 1.00 0.035 7.51 0.12 95.20 14.86 0.53 14.60 0.03 14.6075 1.10 94.57 0.12 0.000 0.03 7.51 0.12 95.20 14.86 0.53 0.22 95.20 14.86 0.55 94.1 10.00 0.03 1.00 0.03 1.01 0.12.20 0.12 0.001 0.12 0.002 0.002 0.002 0.002 0.002 0.002 0.002 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 | 343-010 2.40 1/2 1/ | Partor Zuzo Total Total <t< td=""><td>95-01 1.00 0.005 0.001 0.011 0.011 <th< td=""><td>$\begin{array}{c} \mathbf{F}_{222} = \mathbf{F}_{222} = \mathbf{F}_{2222} = \mathbf{F}_{2222$</td><td></td><td></td><td>01070</td><td></td><td>020300</td><td></td><td>2011.0</td><td>0,170</td><td></td><td>1221.0</td><td>CE00.0</td><td></td><td></td><td></td><td>_</td><td></td><td></td><td></td><td></td><td>0</td><td></td></th<></td></t<> | 95-01 1.00 0.005 0.001 0.011 0.011 <th< td=""><td>$\begin{array}{c} \mathbf{F}_{222} = \mathbf{F}_{222} = \mathbf{F}_{2222} = \mathbf{F}_{2222$</td><td></td><td></td><td>01070</td><td></td><td>020300</td><td></td><td>2011.0</td><td>0,170</td><td></td><td>1221.0</td><td>CE00.0</td><td></td><td></td><td></td><td>_</td><td></td><td></td><td></td><td></td><td>0</td><td></td></th<> | $ \begin{array}{c} \mathbf{F}_{222} = \mathbf{F}_{222} = \mathbf{F}_{2222} = \mathbf{F}_{2222$ | | | 01070 | | 020300 | | 2011.0 | 0,170 | | 1221.0 | CE00.0 | | | | _ | | | | | 0 | |
| 2.40 460.05 1.109 1.2030 0.2281 0.1538 0.0017 0.1218 0.0024 0.0024 0.0025 5.71 0.002 0.0025 5.71 0.002 0.0025 5.317 0.002 0.024 0.117 3.223 9.465 9.817 2.79 6.9246 1.109 1.4900 0.2811 -0.1230 0.1535 0.0024 0.0024 0.0024 0.017 1.31 0.229 0.1536 0.1536 0.1536 0.1536 0.1536 0.1536 0.1223 0.0024 0.0124 0.137 0.022 0.1540 0.1536 0.0223 0.1536 0.0123 0.113 0.0264 0.174 0.0123 0.1210 0.1236 0.0123 0.1210 0.024 0.0124 0.0123 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0123 0.0024 0 | 2.40 $4.60.07$ 1.007 0.2011 0.0024 0.017 0.1214 0.0024 0.0024 0.0024 0.017 0.1214 0.0024 0.0024 0.017 0.111 0.0024 0.017 0.0024 0.0024 0.017 0.0024 0.017 0.017 0.0024 0.017 0.017 0.0024 0.017 0.017 0.0024 0.017 0.017 0.0024 0.017 0.017 0.0024 0.017 0.017 0.017 0.017 0.017 0.017 0.017 0.017 0.017 | 945-011 2.40 1400 15020 0.1758 0.175 0.125 95.01 1436 0 24.0 1400 0.000 1000 75.9 0.13 95.01 1436 0.002 0.0023 0.0025 51.0 0.10 120 0.1664 0.1541 0.1212 0.0023 0.0023 0.0356 31.0 0.22 95.01 14.05 0.22 95.01 14.05 0.22 95.01 14.05 0.22 95.01 14.05 0.22 95.01 14.05 0.22 95.01 14.05 0.22 95.01 14.05 0.22 95.01 14.05 0.22 95.01 14.05 0.22 95.01 14.05 0.22 95.01 14.05 0.22 95.01 13.1 32.01 0.22 0.156 34.01 88.01 88.03 86.02 0.23 0.025 0.156 0.12 0.0023 0.0024 0.012 0.021 0.22 0.22 0.22 0.22 0.22 0.22 0.22 0.22 | 945-010 Z.400 94507 1,100 15505 0.1251 0.0007 0.0125 0.0003 0.0125 0.0125 0.0125 0.0125 0.0251 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0251 0.026 0.0125 0.0125 0.0125 0.0125 0.0125 0.0251 0.0124 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0124 0.0125 0.024 0.0125 0.0124 0.0124 0.0124 0.0125 0.024 0.0125 0.024 0.0125 0.024 0.012 0.0124 0.0124 0.012 0.0124 0.0124 0.012 0.0124 0.0124 0.012 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 0.0124 | 945-011 1/1 2/3 0.0281 0.017 0.0071 0.0071 0.0071 0.0071 0.0071 0.0071 0.0071 0.0071 0.0071 0.0071 0.0071 0.0071 0.0071 0.0071 0.0071 0.0071 0.0173 0.0123 0.0023 0.0024 0.0011 7/3 0.013 0.026 0.011 7/21 0.26 98.11 16.20 17.31 0.25 0.253 0.653 0.11 17.11 0.26 98.11 16.20 0.153 0.0023 0.0024 0.017 0.17 0.003 0.56 98.11 102.40 16.31 102.40 16.31 102.40 16.31 102.40 16.31 102.40 16.31 102.40 16.31 102.40 16.31 102.40 16.31 102.40 15.31 102.40 15.31 102.40 15.31 102.40 15.31 102.40 15.31 102.40 15.31 102.40 15.31 102.40 15.31 102.40 15.31 102.40 15.31 | Sector Constrain C | 945011V. Zaho (9775) (106 11607) (2346) (0175) (0129) (0107) (0112) (0107) (01 | | | 100.10 | | 0/001 | 0.2040 | 01010 | 0.1710 | -02000 | 11210 | 2/00.0 | 0.0024 | 07070 | 0.0 | | | | 7 7 | | + · · + | 0.24 |
| 2.60 89.759 1109 116622 0.2848 0.1738 0.0017 0.1128 0.0024 0.0028 3.017 0.022 0.0221 0.0124 0.0289 3.01 0.222 0.0221 0.0124 0.0128 3.012 9.920 9.624 1.10 9.4687 0.2797 0.1694 0.1244 0.1225 0.00024 0.0028 0.0124 0.306 5.134 3.025 8.23 0.565 8.40 1.811 0.2197 0.2805 0.1232 0.0024 0.0028 0.0024 0.0018 0.317 0.3006 0.1223 0.0024 0.0028 0.0124 0.2882 0.0129 0.3006 0.1223 0.0024 0.0028 0.017 0.300 0.3006 0.1123 0.0024 0.0028 0.017 0.017 0.300 0.3006 0.1123 0.0024 0.0016 0.122 0.3006 0.1123 0.0024 0.0016 0.0122 0.0024 0.0016 <th< td=""><td>2.60 89.759 1.109 11662 0.2848 0.1758 0.0017 0.1218 0.0024 0.0025 0.0027 0.0017 0.117 0.0027 0.0027 0.0017 0.011 0.011 0.0017 0.017 0.0027 0.0027 0.0017 0.011 0.0117 0.0027 0.0017 0.0117 0.0027 0.0017 0.0117 0.0027 0.0117 0.0127 $0.$</td><td>945-01R 2.06 89.759 1.109 1.16692 0.2348 0.1712 0.00024 0.00025 0.00234 0.00023 0.00024 0.00035 0.0117 0.0117 0.0117 0.0117 0.0117 0.0117 0.0117 0.0117 0.0117 0.0123 0.01215 0.0123 0.01215 0.00024 0.00035 0.0117 0.0111 0.0111 0.0111 <!--</td--><td>945-01R 2.66 99.249 1.109 1.1662 0.2848 0.1758 0.153 0.0071 0.1218 0.0023 0.0235 0.317 0.00 0.09 7.63 0.22 99.20 14.86 0.42 95.64 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 17 1.77 3.25 1.056 98.44 14.05 0.51 95.94 14.05 0.51 95.94 11.05 15.6 95.64 14.05 0.51 95.94 11.05 15.6 95.64 14.05 0.51 95.94 11.05 15.6 95.64 14.05 0.51 0.0023 0.0024 0.0024 0.015 0.0023 0.0024 0.015 0.55 98.40 1.81 102.40 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 95.6 15.28 0.16 99.90 11.11 11.1</td><td>945-015 2.26 93.259 1.109 116632 0.2348 0.1758 0.1538 0.0071 0.1218 0.0023 0.0024 0.023 0.0356 3.71 0.020 0.09 7.53 0.22 99.20 1486 0.42 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 0.55 0.55 0.54 0.024 0.024 0.024 0.024 0.023 0.045 0.47 0.37 0.69 8.64 1.05 0.55 0.54 0.55 0.55 0.54 0.55 0.55 0</td><td>95-011 177 34.35 1109 14687 0.2348 0.134 0.1218 0.0024 0.0023 0.0014 0.131 0.024 0.023 0.035 861 1405 0.55 821 1601 0.54 0.154 0.55 0.1215 0.0005 0.0124 0.0134 0.033 0.35 821 1601 0.55 951 1001 0.113 0.013 0.033 0.035 0.034 0.035 0.034 0.035 0.034 0.035 0.035 0.035 0.035 0.035 0.034 0.033 0.034 0.033 0.034 0.033 0.034 0.033 0.034 0.035 0.034 0.035 0.005 0.034 0.035 0.034 0.033 0.034 0.033 0.040 0.034 0.033 0.040 0.034 0.033 0.034 0.033 0.040 0.034 0.035 0.034 0.034 0.035 0.034 0.034 0.034 0.034 0.034 0.034 0.034 0.034<td>945017 177 378 69.26 1109 9.667 0.394 0.154 0.152 0.023 0.0024 0.0023 0.005 0.37 0.01 7.26 0.26 9.661 1405 0.31 0.55 0.23 0.056 0.123 0.003 0.005 0.071 0.07 0.017 0.01 0.00 0.231 -0.129 0.155 0.23 0.056 0.121 0.005 0.071 0.07 0.017 0.01 0.05 8.01 19.1 0.240 0.55 3.33 0.050 0.071 0.07 1.218 0.003 0.071 0.07 0.014 0.015 0.032 0.0053 0.072 0.0053 0.072 0.005 0.012 0.11 10.05 0.023 0.023 0.025 0.025 0.0053 0.071 0.07 0.01 0.006 0.201 0.11 0.051 9.050 0.231 0.010 0.012 0.005 0.011 0.012 0.56 0.30 0.55 0.31 0.0001 0.011 0.019 0.000 0.231 -0.120 0.110 0.012 0.005 0.011 0.012 0.00 0.001 0.012 0.00 0.001 0.011 0.01 0.0</td><td></td><td></td><td>40.0/3</td><td>1.109</td><td>0/80.61</td><td>0.2811</td><td>0.4318</td><td>00001.0</td><td>1 500.0</td><td>0.121.0</td><td>0.001</td><td>0.0024</td><td>78cU.U</td><td>0.0/</td><td></td><td></td><td></td><td>0.13</td><td></td><td>14.09</td><td>CZ.U</td></td></td></th<> | 2.60 89.759 1.109 11662 0.2848 0.1758 0.0017 0.1218 0.0024 0.0025 0.0027 0.0027 0.0027 0.0027 0.0027 0.0027 0.0027 0.0027 0.0027 0.0027 0.0017 0.117 0.0027 0.0027 0.0017 0.011 0.011 0.0017 0.017 0.0027 0.0027 0.0017 0.011 0.0117 0.0027 0.0017 0.0117 0.0027 0.0017 0.0117 0.0027 0.0117 0.0027 0.0117 0.0027 0.0117 0.0027 0.0117 0.0027 0.0117 0.0027 0.0117 0.0027 0.0117 0.0027 0.0117 0.0027 0.0117 0.0027 0.0117 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 $0.$ | 945-01R 2.06 89.759 1.109 1.16692 0.2348 0.1712 0.00024 0.00025 0.00234 0.00023 0.00024 0.00035 0.0117 0.0117 0.0117 0.0117 0.0117 0.0117 0.0117 0.0117 0.0117 0.0123 0.01215 0.0123 0.01215 0.00024 0.00035 0.0117 0.0111 0.0111 0.0111 </td <td>945-01R 2.66 99.249 1.109 1.1662 0.2848 0.1758 0.153 0.0071 0.1218 0.0023 0.0235 0.317 0.00 0.09 7.63 0.22 99.20 14.86 0.42 95.64 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 17 1.77 3.25 1.056 98.44 14.05 0.51 95.94 14.05 0.51 95.94 11.05 15.6 95.64 14.05 0.51 95.94 11.05 15.6 95.64 14.05 0.51 95.94 11.05 15.6 95.64 14.05 0.51 0.0023 0.0024 0.0024 0.015 0.0023 0.0024 0.015 0.55 98.40 1.81 102.40 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 95.6 15.28 0.16 99.90 11.11 11.1</td> <td>945-015 2.26 93.259 1.109 116632 0.2348 0.1758 0.1538 0.0071 0.1218 0.0023 0.0024 0.023 0.0356 3.71 0.020 0.09 7.53 0.22 99.20 1486 0.42 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 0.55 0.55 0.54 0.024 0.024 0.024 0.024 0.023 0.045 0.47 0.37 0.69 8.64 1.05 0.55 0.54 0.55 0.55 0.54 0.55 0.55 0</td> <td>95-011 177 34.35 1109 14687 0.2348 0.134 0.1218 0.0024 0.0023 0.0014 0.131 0.024 0.023 0.035 861 1405 0.55 821 1601 0.54 0.154 0.55 0.1215 0.0005 0.0124 0.0134 0.033 0.35 821 1601 0.55 951 1001 0.113 0.013 0.033 0.035 0.034 0.035 0.034 0.035 0.034 0.035 0.035 0.035 0.035 0.035 0.034 0.033 0.034 0.033 0.034 0.033 0.034 0.033 0.034 0.035 0.034 0.035 0.005 0.034 0.035 0.034 0.033 0.034 0.033 0.040 0.034 0.033 0.040 0.034 0.033 0.034 0.033 0.040 0.034 0.035 0.034 0.034 0.035 0.034 0.034 0.034 0.034 0.034 0.034 0.034 0.034<td>945017 177 378 69.26 1109 9.667 0.394 0.154 0.152 0.023 0.0024 0.0023 0.005 0.37 0.01 7.26 0.26 9.661 1405 0.31 0.55 0.23 0.056 0.123 0.003 0.005 0.071 0.07 0.017 0.01 0.00 0.231 -0.129 0.155 0.23 0.056 0.121 0.005 0.071 0.07 0.017 0.01 0.05 8.01 19.1 0.240 0.55 3.33 0.050 0.071 0.07 1.218 0.003 0.071 0.07 0.014 0.015 0.032 0.0053 0.072 0.0053 0.072 0.005 0.012 0.11 10.05 0.023 0.023 0.025 0.025 0.0053 0.071 0.07 0.01 0.006 0.201 0.11 0.051 9.050 0.231 0.010 0.012 0.005 0.011 0.012 0.56 0.30 0.55 0.31 0.0001 0.011 0.019 0.000 0.231 -0.120 0.110 0.012 0.005 0.011 0.012 0.00 0.001 0.012 0.00 0.001 0.011 0.01 0.0</td><td></td><td></td><td>40.0/3</td><td>1.109</td><td>0/80.61</td><td>0.2811</td><td>0.4318</td><td>00001.0</td><td>1 500.0</td><td>0.121.0</td><td>0.001</td><td>0.0024</td><td>78cU.U</td><td>0.0/</td><td></td><td></td><td></td><td>0.13</td><td></td><td>14.09</td><td>CZ.U</td></td> | 945-01R 2.66 99.249 1.109 1.1662 0.2848 0.1758 0.153 0.0071 0.1218 0.0023 0.0235 0.317 0.00 0.09 7.63 0.22 99.20 14.86 0.42 95.64 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 95.94 14.05 0.51 17 1.77 3.25 1.056 98.44 14.05 0.51 95.94 14.05 0.51 95.94 11.05 15.6 95.64 14.05 0.51 95.94 11.05 15.6 95.64 14.05 0.51 95.94 11.05 15.6 95.64 14.05 0.51 0.0023 0.0024 0.0024 0.015 0.0023 0.0024 0.015 0.55 98.40 1.81 102.40 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 3.52 99.90 16.36 95.6 15.28 0.16 99.90 11.11 11.1 | 945-015 2.26 93.259 1.109 116632 0.2348 0.1758 0.1538 0.0071 0.1218 0.0023 0.0024 0.023 0.0356 3.71 0.020 0.09 7.53 0.22 99.20 1486 0.42 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 94.5 0.55 0.54 0.55 0.55 0.54 0.024 0.024 0.024 0.024 0.023 0.045 0.47 0.37 0.69 8.64 1.05 0.55 0.54 0.55 0.55 0.54 0.55 0.55 0 | 95-011 177 34.35 1109 14687 0.2348 0.134 0.1218 0.0024 0.0023 0.0014 0.131 0.024 0.023 0.035 861 1405 0.55 821 1601 0.54 0.154 0.55 0.1215 0.0005 0.0124 0.0134 0.033 0.35 821 1601 0.55 951 1001 0.113 0.013 0.033 0.035 0.034 0.035 0.034 0.035 0.034 0.035 0.035 0.035 0.035 0.035 0.034 0.033 0.034 0.033 0.034 0.033 0.034 0.033 0.034 0.035 0.034 0.035 0.005 0.034 0.035 0.034 0.033 0.034 0.033 0.040 0.034 0.033 0.040 0.034 0.033 0.034 0.033 0.040 0.034 0.035 0.034 0.034 0.035 0.034 0.034 0.034 0.034 0.034 0.034 0.034 0.034 <td>945017 177 378 69.26 1109 9.667 0.394 0.154 0.152 0.023 0.0024 0.0023 0.005 0.37 0.01 7.26 0.26 9.661 1405 0.31 0.55 0.23 0.056 0.123 0.003 0.005 0.071 0.07 0.017 0.01 0.00 0.231 -0.129 0.155 0.23 0.056 0.121 0.005 0.071 0.07 0.017 0.01 0.05 8.01 19.1 0.240 0.55 3.33 0.050 0.071 0.07 1.218 0.003 0.071 0.07 0.014 0.015 0.032 0.0053 0.072 0.0053 0.072 0.005 0.012 0.11 10.05 0.023 0.023 0.025 0.025 0.0053 0.071 0.07 0.01 0.006 0.201 0.11 0.051 9.050 0.231 0.010 0.012 0.005 0.011 0.012 0.56 0.30 0.55 0.31 0.0001 0.011 0.019 0.000 0.231 -0.120 0.110 0.012 0.005 0.011 0.012 0.00 0.001 0.012 0.00 0.001 0.011 0.01 0.0</td> <td></td> <td></td> <td>40.0/3</td> <td>1.109</td> <td>0/80.61</td> <td>0.2811</td> <td>0.4318</td> <td>00001.0</td> <td>1 500.0</td> <td>0.121.0</td> <td>0.001</td> <td>0.0024</td> <td>78cU.U</td> <td>0.0/</td> <td></td> <td></td> <td></td> <td>0.13</td> <td></td> <td>14.09</td> <td>CZ.U</td> | 945017 177 378 69.26 1109 9.667 0.394 0.154 0.152 0.023 0.0024 0.0023 0.005 0.37 0.01 7.26 0.26 9.661 1405 0.31 0.55 0.23 0.056 0.123 0.003 0.005 0.071 0.07 0.017 0.01 0.00 0.231 -0.129 0.155 0.23 0.056 0.121 0.005 0.071 0.07 0.017 0.01 0.05 8.01 19.1 0.240 0.55 3.33 0.050 0.071 0.07 1.218 0.003 0.071 0.07 0.014 0.015 0.032 0.0053 0.072 0.0053 0.072 0.005 0.012 0.11 10.05 0.023 0.023 0.025 0.025 0.0053 0.071 0.07 0.01 0.006 0.201 0.11 0.051 9.050 0.231 0.010 0.012 0.005 0.011 0.012 0.56 0.30 0.55 0.31 0.0001 0.011 0.019 0.000 0.231 -0.120 0.110 0.012 0.005 0.011 0.012 0.00 0.001 0.012 0.00 0.001 0.011 0.01 0.0 | | | 40.0/3 | 1.109 | 0/80.61 | 0.2811 | 0.4318 | 00001.0 | 1 500.0 | 0.121.0 | 0.001 | 0.0024 | 78cU.U | 0.0/ | | | | 0.13 | | 14.09 | CZ.U |
| 2.79 69.246 1109 9.4657 0.2330 0.0221 0.1541 -0.2497 0.1212 0.0024 0.0024 0.0124 1.30 0.33 0.25 8.32 0.55 9812 1.77 34.236 1.108 4.0821 0.2797 0.1649 0.1544 0.1620 0.1215 0.0023 0.0024 0.012 0.33 0.55 840 181 102.40 biotitie 1.110 0.5197 0.2891 0.1235 0.1016 0.123 0.0026 0.0024 0.012 0.33 0.55 0.33 6.53 0.55 0.30 6.020 0.0016 0.21 2.443 0.38 6.020 0.0016 0.21 2.443 0.38 6.020 0.0016 0.22 4.45 3.49 3.84 0.50 344614 1.117 32.0136 0.2835 0.1552 0.05675 0.173 0.0025 0.0026 0.012 7.40 0.31 0.31 0.32 3.49 3.84 3.84
 | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$
 | 945-015 2.79 69.246 1.109 9.4687 0.2930 0.0221 0.1541 -0.2497 0.1251 0.0024 0.0024 0.0024 0.0024 0.0024 0.137 0.56 98.41 16.02 16.02 16.02 945-011 1.71 34.236 1.108 4.0821 0.2197 0.1594 0.1547 0.1555 0.0004 0.0024 0.0045 0.47 0.37 0.66 98.41 110 0.2197 0.598 0.300 0.1537 0.605 0.1240 0.1537 0.0024 0.0045 0.47 0.37 0.69 84.0 18.1 10.240 16.36 3445 349 3884 868 6020 15.31 0.30 0.0024 0.0014 0.017 0.304 0.170 0.1723 0.0170 0.1733 0.0197 0.100 0.1231 0.0109 0.1231 0.0197 0.110 1.11 3.2132 0.2250 0.1537 0.0233 0.0024 0.014 0.11 3.112 1.11 3.21132
 | 945-015 2.79 69.246 1109 9.4657 0.2390 0.0247 0.12497 0.1212 0.0029 0.0023 0.0045 0.127 1.02 9.864 1400 2.811 10.2.40 0.1541 0.1235 0.0665 0.1215 0.0023 0.0045 0.47 0.37 0.66 840 181 102.40 163 3.32 945-01U 1.77 34.236 1.4900 0.2811 -0.1236 0.1535 0.0665 0.1225 -0.0009 0.0023 0.0045 0.47 0.37 0.65 98.10 181 102.40 153 0.55 98.10 0.313 0.123 0.1024 0.103 0.33 0.55 98.12 0.53 0.55 98.15 0.23 0.23 0.53 0.55 99.15 0.23 0.33 0.53 0.55 0.55 0.55 0.50 93.23 0.23 153 0.55 0.55 0.55 0.55 0.23 153 0.55 0.50 0.55 0.55 | 945-015 7.39 69.246 1109 9.4687 0.2393 0.0214 0.0239 0.0024 0.0241 0.011 7.1 0.25 8.13 0.55 8.11 0.124 0.1624 0.1544 0.1624 0.1624 0.1624 0.1624 0.1624 0.1624 0.1624 0.1624 0.1624 0.123 0.0045 0.47 0.31 0.65 8.12 0.55 8.12 0.55 8.12 0.56 8.12 0.55 8.23 0.55 8.12 0.55 8.12 0.55 8.12 0.55 3.24 3.110 0.5137 0.0023 0.0024 0.0016 0.12 3.0033 0.0024 0.0016 0.12 3.24 <t< td=""><td>945011 7.27 92.6 1.08 4.687 2.279 0.654 1.541 -0.249 0.171 0.203 0.004 0.347 0.35 565 841 181 102.40 1535 95011 4.00 1227 1.08 4.687 0.237 0.655 0.123 0.0054 0.171 0.033 0.554 140 181 102.40 1535 95010 0.031 1.034 0.055 0.133 0.013 0.013 0.033 0.035 0.013 0.035 <t< td=""><td>96-5017 27 34.26 (1)96 9.467 (3-29) 0.023 (0)51 (0)54 (1)54 - 0.029 0.002 0.003 (37) 0.022 0.023 (0)56 94.0 151 (0)2.0 (25) 3.25 95.61 (4)50 1237 (1)6 1.490 0.2311 - 0.129 0.155 0.055 0.125 - 0.0069 0.0137 (0) 0.03 0.25 8.23 0.65 99.12 (6) 139 0.99018 (0.65 11) 12.41 (1) 0.0517 (1) 0.051 0.003 0.0024 0.016 0.12 7.50 0.03 90.00 0.003 1.57 (0) 0.03 1.57 0.003 0.003 0.003 1.57 (0) 0.03 1.50 0.03 0.003 0.003 1.57 (0) 0.01 195 0.003
0.003 0.0</td><td></td><td></td><td>9.759</td><td>1.109</td><td>11.6692</td><td>0.2848</td><td>0.1758</td><td>0.1538</td><td>0.0017</td><td>0.1218</td><td>0.0024</td><td>0.0023</td><td>0.0356</td><td>3.71</td><td></td><td></td><td></td><td>0.22</td><td></td><td>14.86</td><td>0.42</td></t<></td></t<> | 945011 7.27 92.6 1.08 4.687 2.279 0.654 1.541 -0.249 0.171 0.203 0.004 0.347 0.35 565 841 181 102.40 1535 95011 4.00 1227 1.08 4.687 0.237 0.655 0.123 0.0054 0.171 0.033 0.554 140 181 102.40 1535 95010 0.031 1.034 0.055 0.133 0.013 0.013 0.033 0.035 0.013 0.035 <t< td=""><td>96-5017 27 34.26 (1)96 9.467 (3-29) 0.023 (0)51 (0)54 (1)54 - 0.029 0.002 0.003 (37) 0.022 0.023 (0)56 94.0 151 (0)2.0 (25) 3.25 95.61 (4)50 1237 (1)6 1.490 0.2311 - 0.129 0.155 0.055 0.125 - 0.0069 0.0137 (0) 0.03 0.25 8.23 0.65 99.12 (6) 139 0.99018 (0.65 11) 12.41 (1) 0.0517 (1) 0.051 0.003 0.0024 0.016 0.12 7.50 0.03 90.00 0.003 1.57 (0) 0.03 1.57 0.003 0.003 0.003 1.57 (0) 0.03 1.50 0.03 0.003 0.003 1.57 (0) 0.01 195 0.003 0.0</td><td></td><td></td><td>9.759</td><td>1.109</td><td>11.6692</td><td>0.2848</td><td>0.1758</td><td>0.1538</td><td>0.0017</td><td>0.1218</td><td>0.0024</td><td>0.0023</td><td>0.0356</td><td>3.71</td><td></td><td></td><td></td><td>0.22</td><td></td><td>14.86</td><td>0.42</td></t<> | 96-5017 27 34.26 (1)96 9.467 (3-29) 0.023 (0)51 (0)54 (1)54 - 0.029 0.002 0.003 (37) 0.022 0.023 (0)56 94.0 151 (0)2.0 (25) 3.25 95.61 (4)50 1237 (1)6 1.490 0.2311 - 0.129 0.155 0.055 0.125 - 0.0069 0.0137 (0) 0.03 0.25 8.23 0.65 99.12 (6) 139 0.99018 (0.65 11) 12.41 (1) 0.0517 (1) 0.051 0.003 0.0024 0.016 0.12 7.50 0.03 90.00 0.003 1.57 (0) 0.03 1.57 0.003 0.003 0.003 1.57 (0) 0.03 1.50 0.03 0.003 0.003 1.57 (0) 0.01 195 0.003 0.0
 | | | 9.759 | 1.109 | 11.6692 | 0.2848 | 0.1758 | 0.1538 | 0.0017 | 0.1218 | 0.0024 | 0.0023 | 0.0356 | 3.71 | | | | 0.22 | | 14.86 | 0.42 |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$
 | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$
 | 945-01T 1.77 34.236 1.108 4.0821 0.2797 0.1694 0.1534 0.1620 0.1215 0.0023 0.0024 0.0124 1.30 0.33 0.25 8.23 0.65 98.12 16.02 1
947-01U 4.00 12.227 1.109 1.4900 0.2811 -0.1230 0.1535 0.0665 0.1225 -0.0009 0.0023 0.0045 0.47 0.37 0.69 8.40 1.81 102.40 16.36 3
949-01C 0.80 13.154 1.111 0.5197 0.2805 0.0222 0.1540 0.1204 0.1204 0.1210 0.022 4.92 3.32 4.45 3.49 3.84 8.68 6
949-01C 0.80 13.154 1.117 3.20136 0.2892 0.2508 0.1537 0.0273 0.1204 0.1783 0.0036 0.027 4.92 3.32 4.45 3.49 3.84 8.68 6
949-01C 0.80 13.154 1.117 3.20136 0.2892 0.2508 0.1537 0.0273 0.1204 0.1783 0.0030 0.0976 13.77 -0.06 0.03 7.85 0.08 8.250 15.28 0
949-01F 1.00 18.5660 0.2852 0.2193 0.1552 0.0237 0.1213 0.0196 0.024 0.0716 0.03 7.85 0.08 8.250 15.28 0
949-01F 1.10 18.5660 0.2852 0.1932 0.1552 0.0057 0.1213 0.0196 0.0024 0.0701 9.97 0.02 0.04 7.71 0.11 95.14 15.02 0
949-01F 1.10 18.3.41 1.12 16.4114 0.2852 0.1932 0.1552 0.0057 0.1213 0.0196 0.0024 0.0701 9.97 0.02 7.83 0.16 95.65 15.28 0
949-01F 1.10 18.3.41 3.2 16.4312 0.2852 0.1092 0.1552 0.1213 0.0196 0.0024 0.0701 0.97 7.67 0.11 95.14 15.02 0
949-01F 1.10 18.3.489 0.2852 0.1092 0.1553 0.1217 0.0133 0.0196 0.0024 0.0507 7.03 0.04 7.83 0.16 95.65 15.28 0
949-01F 1.10 18.3.41 3.2 16.4114 0.2852 0.1094 0.1552 0.1213 0.0196 0.0024 0.0501 7.04 -0.03 0.06 7.83 0.16 95.65 15.28 0
949-01F 1.10 18.3.41 3.2 16.4114 0.2852 0.1094 0.1552 0.1213 0.0113 0.0024 0.0507 7.03 0.04 0.06 7.83 0.16 95.65 15.28 0
949-01F 1.50 18.5.68 1.111 13.1668 0.2852 -0.2529 0.1553 0.1213 0.0213 0.0024 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 170 0
949-01K 1.50 18.5.48 1.111 13.1668 0.2852 0.1074 0.1555 0.4713 0.2023 0.0023 0.0213 0.0024 0.0666 7.84 0.16 94.91 95.02 14.95 0
949-01K 1.70 149.3.41 1.11 13.1668 0.2852 0.1034 0.1553 0.2123 0.0123 0.0214 0.0024 0.0660 7.84 0.16 94.91 95.22 0
949-01K 1.50 18.3.48 1.111 19.8.261 0.2892 0.1345 0.1553 0.0133 0.0213 0.0024 0.0402 5.64 -0.14 0.08 7.57 0.10 94.91 55.02 0
949-01K 1.70 149.3.41 1.11 14.6405 0.2892 0.1345 0.1538 0.1123 0.0214 0.0024 0.0606 7.84 0.16 94.56 15.28 0
949-01K 1.90
 | 945-017 1.17 34.236 1.108 4.0821 0.2579 0.1534 0.1540 0.1515 0.0023 0.0024 0.0124 1.30 0.33 0.25 8.23 16.02 12.40 16.30 15.35 3.24 1.10 114900 0.5117 0.1535 0.1655 0.1223 0.0125 0.0024 0.0045 0.47 0.33 8.46 1.81 10.2.40 16.36 5.34 3.88 8.68 6.80 949-016 0.65 5.94 1.111 8.6660 0.2852 0.5137 0.0306 0.1223 0.0124 0.1783 0.003 0.969 13.17 -0.06 0.33 8.6 60 0.386 0.1010 0.1224 0.123 0.0124 0.1783 0.003 0.044 3.71 0.10 0.12 7.86 0.30 60 15.31 0.295 0.515 0.215 <t< td=""><td>945-01T 1.77 34.236 1.108 4.0821 0.2797 0.1694 0.154 0.1525 0.0053 0.0024 0.0124 1.30 0.33 0.25 8.23 0.55 98.12 16.02 15.02 3.52 8.43 0.58 98.12 16.02 1.56 945 0.122 949018 0.55 5.944 1.110 0.5197 0.2080 0.1235 0.0665 0.1223 0.0159 0.00028 0.0045 0.47 0.37 0.59 8.40 1.81 10.2.40 16.36 5.32 949018 0.65 5.944 1.110 0.5197 0.2080 0.0233 0.0076 0.37 0.50 8.40 1.81 10.2.40 16.36 0.3949018 0.65 5.944 1.110 0.5197 0.2080 0.1537 0.0530 0.1213 0.0129 0.0028 0.0076 0.37 10.0 0.12 7.86 0.30 6.020 15.30 0.59 949016 1.00 1.2 0.4790 0.1537 0.0575 0.123 0.0038 0.0076 0.37 1 0.01 0.12 7.86 0.30 6.02 15.32 0.21 949016 1.00 130.444 1.117 32.0136 0.2382 0.2193 0.1537 0.0575 0.123 0.0096 0.073 0.073 0.074 0.070 0.97 7 71 0.11 95.14 15.02 0.21 949016 1.00 130.4044 1.112 2.32776 0.2382 0.1939 0.1537 0.0259 0.0024 0.0701 0.90 0.024 7.88 0.11 9195 15.35 0.31 949016 1.10 188.744 1.112 2.32776 0.2383 0.1537 0.0259 0.0024 0.0701 0.90 0.027 0.004 7.13 0.11 95.14 15.02 0.21 949016 1.00 135.44 1.112 2.32779 0.2383 0.1537 0.0259 0.0217 0.0024 0.0701 0.90 0.02 7.49 0.13 0.16 95.64 15.26 0.31 949016 1.10 188.744 1.112 2.32779 0.1537 0.0133 0.0056 0.0021 0.0023 0.0002 0.004 7.11 0.11 95.14 15.02 0.21 949016 1.00 135.44 0.150 0.0239 0.1217 0.0226 0.0027 0.0024 0.0501 7.04 0.06 7.83 0.16 95.64 15.26 0.31 94901 1.40 0.5568 1.111 1.13 2.32779 0.1532 0.0133 0.0025 0.0023 0.0025 0.0002 5.64 0.014 0.155 0.013 9496 15.17 0.22 949011 1.40 0.5568 1.111 1.98800 0.2379 0.139 0.0202 0.0023 0.0023 0.0602 7.89 0.019 9.405 15.17 0.25 949011 1.70 149324 1.111 1.98810 0.2374 0.0024 0.0026 0.0021 0.0026 7.89 0.11 9.005 7.79 0.13 9498 15.17 0.25 949011 1.70 149324 1.111 1.98360 0.2374 0.0139 0.0224 0.0014 0.056 7.87 0.01 9.953 14.49 0.38 9499 15.12 0.24 94901 1.40 0.5566 7.81 0.0023 0.0024 0.0024 0.0026 7.89 0.019 9.405 15.20 0.21 9493 15.14 9.49 15.02 9499 15.02 9499 0.11 1.00 19556 1.111 19.866 0.2333 0.1553 0.0131 0.0024 0.0024 0.0026 7.89 0.019 9.05 779 0.13 9498 15.17 0.25 949901 1.100 193842 1.111 19.826 0.2334 0.0330 0.0231 0.0024 0.0024 0.0026 7.89 0.019 9</td><td>945011 1/7 34.25 (108 4081 0237) 01694 01341 01620 01215 00655 01215 00009 00023 00045 047 037 056 840 181 102.40 1536 352 6955 6955 6955 6955 6955 6955 6955 69</td><td>99-5011 JZ7 31-25 1108 4.022 1237 0.163 113-01230 01353 0.065 0125 -00009 0023 0036 017 103 033 023 033 033 033 033 033 033 033 0</td><td></td><td></td><td>9.246</td><td>1.109</td><td>9.4687</td><td>0.2930</td><td>0.0221</td><td>0.1541</td><td>-0.2497</td><td>0.1212</td><td>0.0029</td><td>0.0024</td><td>0.0289</td><td>3.01</td><td></td><td></td><td></td><td>0.26</td><td></td><td>14.05</td><td>0.51</td></t<> | 945-01T 1.77 34.236 1.108 4.0821 0.2797 0.1694 0.154 0.1525 0.0053 0.0024 0.0124 1.30 0.33 0.25 8.23 0.55 98.12 16.02 15.02 3.52 8.43 0.58 98.12 16.02 1.56 945 0.122 949018 0.55 5.944 1.110 0.5197 0.2080 0.1235 0.0665 0.1223 0.0159 0.00028 0.0045 0.47 0.37 0.59 8.40 1.81 10.2.40 16.36 5.32 949018 0.65 5.944 1.110 0.5197 0.2080 0.0233 0.0076 0.37 0.50 8.40 1.81 10.2.40 16.36 0.3949018 0.65 5.944 1.110 0.5197 0.2080 0.1537 0.0530 0.1213 0.0129 0.0028 0.0076 0.37 10.0 0.12 7.86 0.30 6.020 15.30 0.59 949016 1.00 1.2 0.4790 0.1537 0.0575 0.123 0.0038 0.0076 0.37 1 0.01 0.12 7.86 0.30 6.02 15.32 0.21 949016 1.00 130.444 1.117 32.0136 0.2382 0.2193 0.1537 0.0575 0.123 0.0096 0.073 0.073 0.074 0.070 0.97 7 71 0.11 95.14 15.02 0.21 949016 1.00 130.4044 1.112 2.32776 0.2382 0.1939 0.1537 0.0259 0.0024 0.0701 0.90 0.024 7.88 0.11 9195 15.35 0.31 949016 1.10 188.744 1.112 2.32776 0.2383 0.1537 0.0259 0.0024 0.0701 0.90 0.027 0.004 7.13 0.11 95.14 15.02 0.21 949016 1.00 135.44 1.112 2.32779 0.2383 0.1537 0.0259 0.0217 0.0024 0.0701 0.90 0.02 7.49 0.13 0.16 95.64 15.26 0.31 949016 1.10 188.744 1.112 2.32779 0.1537 0.0133 0.0056 0.0021 0.0023 0.0002 0.004 7.11 0.11 95.14 15.02 0.21 949016 1.00 135.44 0.150 0.0239 0.1217 0.0226 0.0027 0.0024 0.0501 7.04 0.06 7.83 0.16 95.64 15.26 0.31 94901 1.40 0.5568 1.111 1.13 2.32779 0.1532 0.0133 0.0025 0.0023 0.0025 0.0002 5.64 0.014 0.155 0.013 9496 15.17 0.22 949011 1.40 0.5568 1.111 1.98800 0.2379 0.139 0.0202 0.0023 0.0023 0.0602 7.89 0.019 9.405 15.17 0.25 949011 1.70 149324 1.111 1.98810 0.2374 0.0024 0.0026 0.0021 0.0026 7.89 0.11 9.005 7.79 0.13 9498 15.17 0.25 949011 1.70 149324 1.111 1.98360 0.2374 0.0139 0.0224 0.0014 0.056 7.87 0.01 9.953 14.49 0.38 9499 15.12 0.24 94901 1.40 0.5566 7.81 0.0023 0.0024 0.0024 0.0026 7.89 0.019 9.405 15.20 0.21 9493 15.14 9.49 15.02 9499 15.02 9499 0.11 1.00 19556 1.111 19.866 0.2333 0.1553 0.0131 0.0024 0.0024 0.0026 7.89 0.019 9.05 779 0.13 9498 15.17 0.25 949901 1.100 193842 1.111 19.826 0.2334 0.0330 0.0231 0.0024 0.0024 0.0026 7.89 0.019 9
 | 945011 1/7 34.25 (108 4081 0237) 01694 01341 01620 01215 00655 01215 00009 00023 00045 047 037 056 840 181 102.40 1536 352 6955 6955 6955 6955 6955 6955 6955 69 | 99-5011 JZ7 31-25 1108 4.022 1237 0.163 113-01230 01353 0.065 0125 -00009 0023 0036 017 103 033 023 033 033 033 033 033 033 033 0
 | | | 9.246 | 1.109 | 9.4687 | 0.2930 | 0.0221 | 0.1541 | -0.2497 | 0.1212 | 0.0029 | 0.0024 | 0.0289 | 3.01 | | | | 0.26 | | 14.05 | 0.51 |
| 4.00 12.227 1.109 1.4900 0.2811 -0.1230 0.1535 0.0665 0.1225 -0.0009 0.0023 0.0045 0.47 0.37 0.69 8.40 1.81 102.40 blottie $J \pm f = 0.001669 \pm 0.00002$; 156m beneath the STD 0.594 1.110 0.5197 0.2805 0.02232 0.1537 0.0106 0.122 4.92 3.32 4.45 3.49 38.84 0.65 5.944 1.111 8.6660 0.2852 0.2508 0.1537 0.0123 0.0016 0.22 4.45 3.49 38.84 0.80 113.154 1.111 8.6660 0.2852 0.1537 0.0575 0.1213 0.0026 0.0734 0.202 0.01
 | 4.00 12.227 1.109 1.4900 0.2811 -0.1230 0.1535 0.0665 0.1225 0.0016 0.237 0.69 8.40 1.81 102.40 blotite ¹ /± 1 σ = 0.00169 ± 0.00002; 15 m beneath the STD 0.594 1.110 0.5197 0.2805 0.0123 0.0125 0.0016 0.22 4.92 3.32 4.45 3.49 38.84 0.65 5.944 1.111 8.6660 0.2852 0.2508 0.1537 0.0106 0.123 0.0016 0.22 4.45 3.49 38.84 0.00 133.154 1.111 8.6660 0.2852 0.2508 0.1537 0.0123 0.0026 0.0736 0.024 3.71 0.10 0.12 0.11 9.156 0.10 23453 0.1112 2341325 0.2852 0.1537 0.0057 0.123 0.0026 0.0736 0.024 7.01 0.011 9.156 1.10 188.744 1.111 24.1325 0.2852 0.1537 0.0123 0.026 <td>945-010 4.00 12.227 1.100 0.2811 -0.1230 0.1525 -0.0009 0.0023 0.0045 0.47 0.37 0.69 8.40 1.81 102.40 16.36 3 849-018 0.65 5.944 1.110 0.5197 0.2882 0.2508 0.1537 0.1204 0.1016 0.22 4.45 3.49 38.84 8.68 0 9.0016 0.12 7.86 0.30 60.20 15.30 0.20152 0.0126 0.0126 0.113 1.11 8.6660 0.2882 0.2508 0.1537 -0.2385 0.1010 0.1204 0.127 0.100 0.127 7.86 0.30 60.20 15.30 0.306 1.1317 1.117 2.41125 0.2385 0.1010 0.1204 0.173 0.0024 0.071 0.04 0.06 7.31 0.11 1.915 1.52.40 1.52.40 1.52.40 1.52.40 1.52.40 1.52.40 1.52.40 1.52.40 1.52.40 1.52.40 1.52.45 0.49</td> <td>945-01U 4.00 12.227 1.109 1.4900 0.2811 -0.1230 0.1535 0.0665 0.1225 -0.0009 0.0023 0.0045 0.47 0.37 0.69 8.40 1.81 102.40 16.36 3.52 9.99-01B 0.65 5.944 1.110 0.5197 0.2805 0.0222 0.1540 0.1535 0.1010 0.12 7.86 0.30 6.50 1530 0.59 99-01C 0.8660 0.2852 0.2588 0.1535 0.1010 0.122 7.86 0.30 0.0976 1371 -0.06 0.03 7.88 0.11 91.95 15.35 0.21 99-015 0.90 0.9976 1371 -0.06 0.03 7.88 0.11 91.95 15.35 0.21 99-015 0.90 0.9976 1311 3.24.1325 0.2882 0.2983 0.1533 0.1533 0.0036 0.0736 0.0736 0.04 7.88 0.11 91.95 15.35 0.21 99-015 1.00 206.981 1.113 22.0135 0.2887 0.0573 0.1537 0.0259 0.0026 0.0736 0.04 7.81 0.11 91.91 55 15.35 0.21 99-015 1.10 188.744 1.112 23.2776 0.2885 0.1593 0.1532 0.0379 0.0026 0.0736 0.04 7.81 0.11 91.95 15.35 0.21 99-015 1.20 138.34 1.112 23.2776 0.2885 0.1593 0.1593 0.1523 0.0026 0.0024 0.070 9.97 0.02 0.04 7.71 0.11 91.95 15.35 0.21 99-015 1.20 138.343 1.112 16.4114 0.2852 0.1593 0.1593 0.1523 0.0026 0.0023 0.0606 7.33 0.16 95.65 15.25 0.21 99-015 1.20 138.343 1.112 16.4114 0.2852 0.1593 0.1593 0.1570 0.0123 0.0026 0.0023 0.0600 7.64 -0.14 0.08 7.59 0.19 94.75 14.79 0.38 94-011 1.40 105.586 1.111 13.1668 0.2882 0.1579 0.1538 0.0230 0.0026 0.0023 0.0600 7.31 0.11 91.92 15.17 0.25 94-011 1.50 122.7 0.13 94.91 11.2 16.312 0.2852 0.1093 0.1517 0.023 0.0026 0.0023 0.660 7.81 0.16 95.00 149 94.75 14.79 0.38 94-011 1.50 125.48 1.111 13.8680 0.2882 0.1593 0.0139 0.2117 0.0224 0.0560 7.81 0.01 9.05 7.79 0.16 95.00 1499 0.13 94.94 15.17 0.25 94-011 1.50 128.48 1.111 13.8880 0.2882 0.1939 0.1513 0.0217 0.0024 0.0650 7.81 0.01 9.05 7.79 0.16 95.00 14.99 0.13 94-9011 1.50 125.48 1.111 13.8880 0.2882 0.1393 0.0139 0.0217 0.0024 0.0560 7.81 0.01 9.05 7.79 0.11 94.91 15.02 0.27 94-011 1.50 128.48 1.111 13.8880 0.2382 0.01393 0.0211 0.0024 0.0056 7.81 0.000 7.76 7.01 94.94 15.17 0.25 94-94 0.38 94-9011 1.50 128.48 1.58 0.01 9029 0.139 0.0211 0.0024 0.0560 7.77 0.01 94.94 15.17 0.01 94.94 15.17 0.20 94-91 15.20 0.01 94.90 11.50 0.13 94.94 0.15 94.94 0.15 94.91 15.02 0.19 94.91 14.00 105.74 1.111 13.8800 0.2379 0.0</td> <td>945-010 400 12.227 1.109 1.4900 0.2811 -0.1230 0.1535 0.0665 0.1225 0.0005 0.247 0.37 0.69 8.40 1.81 102.40 16.36 3.52 RO7-08, biotite¹/1± f = c.001069 ± 0.0002; 156 m beneath the STD 949-018 0.65 5.44 1.110 0.5197 0.2805 0.1232 0.1120 0.1233 0.0006 0.123 0.0016 0.22 4.43 3.84 8.68 6.80 949-011 0.65 1.111 8.6660 0.2825 0.1337 0.0253 0.012 0.012 0.0026 3.71 0.10 0.12 7.86 0.30 0.55 0.015 0.025 0.015</td> <td>94-5010 400 1227 1109 14900 02811 -01130 0155 00665 0123 0015 0003 0046 047 013 024 0153 0209 0305 317 006 012 756 030 053 059 94901 030 11312 4132 0350 0329 0549 0131 0101173 0015 0003 0076 317 010 012 756 030 053 059 95901 0590 11312 113 20155 0230 0139 9501 113 20155 0139 0050 0114 01173 20156 0230 0139 055 1024 0157 010 012 756 030 053 059 020 059 95901 0590 1131 20152 0259 0139 9501 113 20155 01000 0003 0076 137 010 012 756 030 053 020 0239 0200 0090 0003 0007 0137 000 0003 788 019 955 153 012 99001 113 24132 0285 01309 01357 01059 0003 0007 0000 0004 771 011 9514 1502 013 99011 113 24132 0285 01920 01337 0057 0123 00150 0003 0000 0000 000 77 001 950 030 030 057 101 9514 1502 013 99011 130 1556 011 130 0558 0111 130 0559 0139 0003 0000 0000 0000 0000 000 779 011 9514 1502 013 99011 130 0556 1111 13166 0285 0120 01332 0005 0003 0000 0000 0000 000 779 011 9514 1502 013 99011 130 0556 1111 130 0550 0137 0015 0003 0000 0000 0000 0000 000 779 010 949 1517 025 0031 99011 130 0556 1111 19356 0233 01039 01207 0023 0005 0003 0000 0000 0000 779 019 9498 1517 025 0139 94991 117 024 01556 011 9001 0120 0003 0003 0000 0000 0000 0000 779 019 9498 1517 025 9031 9499 1517 025 99011 130 0556 1111 19356 0232 01074 01307 0023 0005 0003 0000 0000 777 011 9514 1502 027 9001 9491 1520 027 9001 9491 1520 027 9001 9400 0003 172 0001 0000 771 011 9514 1520 027 9001 9491 1520 027 9001 9401 0120 0003 172 0000 0005 771 011 9491 1520 027 9001 9491 1520 027 9001 9400 0005 771 011 9491 1520 027 9001 9491 1520 027 9001 9400 0055 771 0114 9491 1520 027 9901 112 00254 112 13360 02279 0013 9003 1120 00251 0003 0130 01201 01201 0003 0120 0005 771 0114 9491 1520 023 9901 1120 0556 111 130 13324 00008 003 0130 00757 110014 9491 1520 023 9991 1111 14660 0288 003 0133 0003 0000 0013 0000 955 1490 088 720 010 0005 771 0114 9491 1520 023 99901 1217 00250 0013 0000 9555 1490 088 720 010 0005 771 0114 9491 1520 023 99901 1217 00250 0013 0005 955 1490 088 720 010 0000 756 018 9551 1490 088 750 010 0005 756 016 955 1490 088 758 010 955 720 010 955 14</td> <td>94-5010 d_{00} 1227 1109 14060 0.2811 -01132 01153 0.0665 01223 00125 0.0003 0045 047 037 058 840 181 102.40 16.56 532 949018 055 534 1110 05199 02469 0022 1550 0028 0026 371 010 012 786 030 0529 059 959010 999 113174 112 20135 01010 0123 01139 01359 01010 0123 0137 0056 371 010 012 786 030 0529 059 959011 010 113 24135 0.2850 01325 01010 0123 01733 0030 00976 1317 00.00 127 786 030 0529 0139 9595 153 0100 01136 117 20135 01010 0137 700 013 750 013 750 013 750 013 750 013 950 1520 013 999011 101 113 24135 01552 01392 01372 01357 0135 01010 0123 01733 0030 00976 1317 00.0 077 750 013 9901 113 20135 01010 0137 700 013 0005 0004 0173 010 010 757 011 9195 1535 0139 99011 140 01558 1111 34090 01337 00339 0124 0013 0005 0004 056 -014 003 006 730 011 9515 023 0399 90011 140 01558 1111 13468 0282 02329 01332 -00339 0121 0003 0005 0040 56 -014 003 006 730 013 950 1325 0139
99011 140 01558 1111 13468 0282 02332 01393 01212 01220 0031 0005 0140 0105 779 013 940 117 023 959 019 900 757 014 920 737 016 920 1329 99011 140 01558 1111 13468 02829 -02039 0133 0120 0002 0004 0566 757 014 949 1502 023 99901 150 0558 0111 193 9050 0232 01074 0153 0133 01026 00040 564 -014 008 777 016 949 1502 023 99901 150 0558 0111 193 9050 0232 01074 0153 0123 0023 0003 0007 77 014 943 1502 023 953 143 023 959 9491 112 9536 0232 0139 0123 0123 0123 0023 0003 0060 577 016 949 1502 023 959 143 023 959 9491 12 950 941 111 135900 0232 01074 0123 0123 0023 0003 0060 577 016 949 1502 0239 0139 9000 1134 0250 1470 0003 0134 0202 0003 01040 056 777 016 949 1502 0239 9491 112 9536 0531 0470 0133 01024 01200 0103 0123 0003 0103 0123 0003 000</td> <td></td> <td></td> <td>4.236</td> <td>1.108</td> <td>4.0821</td> <td>0.2797</td> <td>0.1694</td> <td>0.1544</td> <td>0.1620</td> <td>0.1215</td> <td>0.0023</td> <td>0.0024</td> <td>0.0124</td> <td>1.30</td> <td></td> <td></td> <td>8.23</td> <td></td> <td></td> <td>16.02</td> <td>1.26</td> | 945-010 4.00 12.227 1.100 0.2811 -0.1230 0.1525 -0.0009 0.0023 0.0045 0.47 0.37 0.69 8.40 1.81 102.40 16.36 3 849-018 0.65 5.944 1.110 0.5197 0.2882 0.2508 0.1537 0.1204 0.1016 0.22 4.45 3.49 38.84 8.68 0 9.0016 0.12 7.86 0.30 60.20 15.30 0.20152 0.0126 0.0126 0.113 1.11 8.6660 0.2882 0.2508 0.1537 -0.2385 0.1010 0.1204 0.127 0.100 0.127 7.86 0.30 60.20 15.30 0.306 1.1317 1.117 2.41125 0.2385 0.1010 0.1204 0.173 0.0024 0.071 0.04 0.06 7.31 0.11 1.915 1.52.40 1.52.40 1.52.40 1.52.40 1.52.40 1.52.40 1.52.40 1.52.40 1.52.40 1.52.40 1.52.45 0.49
 | 945-01U 4.00 12.227 1.109 1.4900 0.2811 -0.1230 0.1535 0.0665 0.1225 -0.0009 0.0023 0.0045 0.47 0.37 0.69 8.40 1.81 102.40 16.36 3.52 9.99-01B 0.65 5.944 1.110 0.5197 0.2805 0.0222 0.1540 0.1535 0.1010 0.12 7.86 0.30 6.50 1530 0.59 99-01C 0.8660 0.2852 0.2588 0.1535 0.1010 0.122 7.86 0.30 0.0976 1371 -0.06 0.03 7.88 0.11 91.95 15.35 0.21 99-015 0.90 0.9976 1371 -0.06 0.03 7.88 0.11 91.95 15.35 0.21 99-015 0.90 0.9976 1311 3.24.1325 0.2882 0.2983 0.1533 0.1533 0.0036 0.0736 0.0736 0.04 7.88 0.11 91.95 15.35 0.21 99-015 1.00 206.981 1.113 22.0135 0.2887 0.0573 0.1537 0.0259 0.0026 0.0736 0.04 7.81 0.11 91.91 55 15.35 0.21 99-015 1.10 188.744 1.112 23.2776 0.2885 0.1593 0.1532 0.0379 0.0026 0.0736 0.04 7.81 0.11 91.95 15.35 0.21 99-015 1.20 138.34 1.112 23.2776 0.2885 0.1593 0.1593 0.1523 0.0026 0.0024 0.070 9.97 0.02 0.04 7.71 0.11 91.95 15.35 0.21 99-015 1.20 138.343 1.112 16.4114 0.2852 0.1593 0.1593 0.1523 0.0026 0.0023 0.0606 7.33 0.16 95.65 15.25 0.21 99-015 1.20 138.343 1.112 16.4114 0.2852 0.1593 0.1593 0.1570 0.0123 0.0026 0.0023 0.0600 7.64 -0.14 0.08 7.59 0.19 94.75 14.79 0.38 94-011 1.40 105.586 1.111 13.1668 0.2882 0.1579 0.1538 0.0230 0.0026 0.0023 0.0600 7.31 0.11 91.92 15.17 0.25 94-011 1.50 122.7 0.13 94.91 11.2 16.312 0.2852 0.1093 0.1517 0.023 0.0026 0.0023 0.660 7.81 0.16 95.00 149 94.75 14.79 0.38 94-011 1.50 125.48 1.111 13.8680 0.2882 0.1593 0.0139 0.2117 0.0224 0.0560 7.81 0.01 9.05 7.79 0.16 95.00 1499 0.13 94.94 15.17 0.25 94-011 1.50 128.48 1.111 13.8880 0.2882 0.1939 0.1513 0.0217 0.0024 0.0650 7.81 0.01 9.05 7.79 0.16 95.00 14.99 0.13 94-9011 1.50 125.48 1.111 13.8880 0.2882 0.1393 0.0139 0.0217 0.0024 0.0560 7.81 0.01 9.05 7.79 0.11 94.91 15.02 0.27 94-011 1.50 128.48 1.111 13.8880 0.2382 0.01393 0.0211 0.0024 0.0056 7.81 0.000 7.76 7.01 94.94 15.17 0.25 94-94 0.38 94-9011 1.50 128.48 1.58 0.01 9029 0.139 0.0211 0.0024 0.0560 7.77 0.01 94.94 15.17 0.01 94.94 15.17 0.20 94-91 15.20 0.01 94.90 11.50 0.13 94.94 0.15 94.94 0.15 94.91 15.02 0.19 94.91 14.00 105.74 1.111 13.8800 0.2379 0.0 | 945-010 400 12.227 1.109 1.4900 0.2811 -0.1230 0.1535 0.0665 0.1225 0.0005 0.247 0.37 0.69 8.40 1.81 102.40 16.36 3.52 RO7-08, biotite ¹ /1± f = c.001069 ± 0.0002 ; 156 m beneath the STD 949-018 0.65 5.44 1.110 0.5197 0.2805 0.1232 0.1120 0.1233 0.0006 0.123 0.0016 0.22 4.43 3.84 8.68 6.80 949-011 0.65 1.111 8.6660 0.2825 0.1337 0.0253 0.012 0.012 0.0026 3.71 0.10 0.12 7.86 0.30 0.55 0.015 0.025 0.015
 | 94-5010 400 1227 1109 14900 02811 -01130 0155 00665 0123 0015 0003 0046 047 013 024 0153 0209 0305 317 006 012 756 030 053 059 94901 030 11312 4132 0350 0329 0549 0131 0101173 0015 0003 0076 317 010 012 756 030 053 059 95901 0590 11312 113 20155 0230 0139 9501 113 20155 0139 0050 0114 01173 20156 0230 0139 055 1024 0157 010 012 756 030 053 059 020 059 95901 0590 1131 20152 0259 0139 9501 113 20155 01000 0003 0076 137 010 012 756 030 053 020 0239 0200 0090 0003 0007 0137 000 0003 788 019 955 153 012 99001 113 24132 0285 01309 01357 01059 0003 0007 0000 0004 771 011 9514 1502 013 99011 113 24132 0285 01920 01337 0057 0123 00150 0003 0000 0000 000 77 001 950 030 030 057 101 9514 1502 013 99011 130 1556 011 130 0558 0111 130 0559 0139 0003 0000 0000 0000 0000 000 779 011 9514 1502 013 99011 130 0556 1111 13166 0285 0120 01332 0005 0003 0000 0000 0000 000 779 011 9514 1502 013 99011 130 0556 1111 130 0550 0137 0015 0003 0000 0000 0000 0000 000 779 010 949 1517 025 0031 99011 130 0556 1111 19356 0233 01039 01207 0023 0005 0003 0000 0000 0000 779 019 9498 1517 025 0139 94991 117 024 01556 011 9001 0120 0003 0003 0000 0000 0000 0000 779 019 9498 1517 025 9031 9499 1517 025 99011 130 0556 1111 19356 0232 01074 01307 0023 0005 0003 0000 0000 777 011 9514 1502 027 9001 9491 1520 027 9001 9491 1520 027 9001 9400 0003 172 0001 0000 771 011 9514 1520 027 9001 9491 1520 027 9001 9401 0120 0003 172 0000 0005 771 011 9491 1520 027 9001 9491 1520 027 9001 9400 0005 771 011 9491 1520 027 9001 9491 1520 027 9001 9400 0055 771 0114 9491 1520 027 9901 112 00254 112 13360 02279 0013 9003 1120 00251 0003 0130 01201 01201 0003 0120 0005 771 0114 9491 1520 023 9901 1120 0556 111 130 13324 00008 003 0130 00757 110014 9491 1520 023 9991 1111 14660 0288 003 0133 0003 0000 0013 0000 955 1490 088 720 010 0005 771 0114 9491 1520 023 99901 1217 00250 0013 0000 9555 1490 088 720 010 0005 771 0114 9491 1520 023 99901 1217 00250 0013 0005 955 1490 088 720 010 0000 756 018 9551 1490 088 750 010 0005 756 016 955 1490 088 758 010 955 720 010 955 14 | 94-5010 d_{00} 1227 1109 14060 0.2811 -01132 01153 0.0665 01223 00125 0.0003 0045 047 037 058 840 181 102.40 16.56 532 949018 055 534 1110 05199 02469 0022 1550 0028 0026 371 010 012 786 030 0529 059 959010 999 113174 112 20135 01010 0123 01139 01359 01010 0123 0137 0056 371 010 012 786 030 0529 059 959011 010 113 24135 0.2850 01325 01010 0123 01733 0030 00976 1317 00.00 127 786 030 0529 0139 9595 153 0100 01136 117 20135 01010 0137 700 013 750 013 750 013 750 013 750 013 950 1520 013 999011 101 113 24135 01552 01392 01372 01357 0135 01010 0123 01733 0030 00976 1317 00.0 077 750 013 9901 113 20135 01010 0137 700 013 0005 0004 0173 010 010 757 011 9195 1535 0139 99011 140 01558 1111 34090 01337 00339 0124 0013 0005 0004 056 -014 003 006 730 011 9515 023 0399 90011 140 01558 1111 13468 0282 02329 01332 -00339 0121 0003 0005 0040 56 -014 003 006 730 013 950 1325 0139 99011 140 01558 1111 13468 0282 02332 01393 01212 01220 0031 0005 0140 0105 779 013 940 117 023 959 019 900 757 014 920 737 016 920 1329 99011 140 01558 1111 13468 02829 -02039 0133 0120 0002 0004 0566 757 014 949 1502 023 99901 150 0558 0111 193 9050 0232 01074 0153 0133 01026 00040 564 -014 008 777 016 949 1502 023 99901 150 0558 0111 193 9050 0232 01074 0153 0123 0023 0003 0007 77 014 943 1502 023 953 143 023 959 9491 112 9536 0232 0139 0123 0123 0123 0023 0003 0060 577 016 949 1502 023 959 143 023 959 9491 12 950 941 111 135900 0232 01074 0123 0123 0023 0003 0060 577 016 949 1502 0239 0139 9000 1134 0250 1470 0003 0134 0202 0003 01040 056 777 016 949 1502 0239 9491 112 9536 0531 0470 0133 01024 01200 0103 0123 0003 0103 0123 0003 000
 | | | 4.236 | 1.108 | 4.0821 | 0.2797 | 0.1694 | 0.1544 | 0.1620 | 0.1215 | 0.0023 | 0.0024 | 0.0124 | 1.30 | | | 8.23 | | | 16.02 | 1.26 |
| biotite ¹ , J ± 1 σ = 0.00169 ± 0.00002; 156 m beneath the STD
0.65 5.944 1.110 0.5197 0.2865 0.0222 0.1540 0.3006 0.1223 0.0125 0.0024 0.0016 0.22 4.92 3.32 4.45 3.49 38.84
0.80 113.154 1.111 8.6660 0.2852 0.2508 0.1537 0.0306 0.1204 0.1510 0.0028 0.0264 3.71 0.10 0.12 7.86 0.30 60.20
0.90 304.614 1.117 3.20136 0.2891 0.7448 0.1537 0.0575 0.1210 0.1783 0.0030 0.0976 13.71 -0.06 0.03 7.85 0.08 82.50
1.00 206.981 1.112 23.2776 0.2815 0.4790 0.1537 0.0575 0.1213 0.0559 0.0026 0.0736 10.34 0.02 0.04 7.78 0.11 91.95
1.10 188.744 1.112 23.2776 0.2815 0.4790 0.1537 0.0575 0.1213 0.0196 0.0024 0.0710 9.97 0.02 0.04 7.71 0.11 95.14
1.20 134.593 1.112 16.4312 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0027 0.0020 7.03 0.06 7.83 0.16 95.65
1.30 135.343 1.112 16.4312 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0027 0.0500 7.03 0.06 7.83 0.16 95.04
1.40 105.586 1.111 131.668 0.2882 0.3523 0.1540 0.0839 0.1217 0.0226 0.0027 0.0500 7.03 0.06 7.83 0.16 95.04
1.40 105.586 1.111 131.668 0.2882 0.02729 0.1538 -0.2127 0.1237 0.0188 0.0024 0.0605 8.49 0.19 0.07 7.67 0.16 95.04
1.40 105.586 1.111 131.668 0.2882 0.0293 0.1217 0.0228 0.0024 0.0040 5.64 -0.14 0.08 7.59 0.19 94.75
1.50 162.658 1.111 135.8910 0.2852 0.0099 0.1538 0.01213 0.0214 0.0048 5.64 0.019 0.007 7.67 0.16 95.04
1.60 128.418 1.111 15.8910 0.2852 0.0099 0.1538 0.0123 0.0217 0.0238 0.0024 0.0040 5.64 0.019 0.007 7.67 0.16 95.04
1.60 183.44 0.1111 15.8910 0.2852 0.0199 0.1552 0.2093 0.1217 0.0238 0.0024 0.0040 5.64 0.019 0.007 7.67 0.16 94.91
1.60 183.44 0.1111 15.8910 0.2852 0.0194 0.1656 7.81 0.0028 0.0160 0.018 0.019 0.11 0.101 0.12 94.91
1.60 183.44 0.1111 15.8910 0.2852 0.0199 0.1553 0.2013 0.0214 0.0046 5.77 0.019 0.017 0.11 94.94
1.60 183.44 0.1111 14.405 0.2892 0.1345 0.1333 0.0214 0.0148 0.0024 0.0407 7.17 0.016 0.11 94.91
1.60 183.44 0.016574 1.111 14.6450 0.2892 0.0138 0.12120 0.0131 0.0024 0.0406 7.81 0.10 0.11 0.101 0.11 94.91
1.60 185.74 0.0146 0.2170 0.0131 0.0121 0.0014 0.0406 5.77 0.017 0.011 0.11 0.164 0.16 0.018 0.011 0.0120 0.01
 | biotite ¹ , J <i>t c</i> =0.00169 ± 0.00002; 156 m beneath the STD
0.65 5.944 1.110 0.5197 0.2865 0.2222 0.1540 0.3006 0.1223 0.0125 0.0024 0.0016 0.22 4.92 3.32 4.45 3.49 38.84
0.80 113.154 1.111 8.6660 0.2852 0.2508 0.1537 0.0306 0.1204 0.1510 0.0028 0.0264 3.71 0.10 0.12 7.86 0.30 60.20
0.90 304.614 1.117 3.20136 0.2891 0.7448 0.1537 0.0575 0.1210 0.1783 0.0030 0.0976 13.71 0.016 7.78 0.01 91.95
1.10 188.744 1.112 23.2776 0.2815 0.4790 0.1537 0.0575 0.1213 0.0026 0.0736 10.34 0.02 0.04 7.78 0.11 91.95
1.10 188.744 1.112 23.2776 0.2815 0.4790 0.1537 0.0575 0.1213 0.0196 0.0024 0.0710 9.97 0.02 0.04 7.78 0.11 91.95
1.10 188.744 1.112 23.2776 0.2815 0.4790 0.1537 0.0575 0.1213 0.0196 0.0024 0.0710 9.97 0.02 0.04 7.78 0.11 91.95
1.10 188.744 1.112 23.2776 0.2815 0.1922 0.1532 0.01570 0.1213 0.0196 0.0024 0.0710 9.97 0.02 0.04 7.88 0.11 91.95
1.10 188.744 1.112 16.4312 0.2852 0.1922 0.1532 0.01537 0.0257 0.1223 0.0028 0.0024 0.0710 9.97 0.02 0.04 7.81 0.11 95.14
1.20 134.533 1.111 1.56.910 0.2852 0.0192 0.1538 0.2127 0.0183 0.0026 0.0027 0.0606 8.49 0.19 0.06 7.83 0.16 95.04
1.40 105.586 1.111 1.98261 0.2852 0.01974 0.1538 0.2127 0.0183 0.0026 0.0026 0.019 0.05 7.79 0.19 94.95
1.50 142.658 1.111 1.58.910 0.2852 0.0194 0.1532 0.2038 0.1217 0.0028 0.0006 7.84 0.16 0.16 9.16 9.500
1.60 149.344 1.111 15.8910 0.2852 0.0194 0.1538 0.2121 0.0123 0.0254 0.0026 7.03 0.0605 8.49 0.19 0.07 7.67 0.16 95.00
1.60 149.344 1.111 1.58.910 0.2852 0.1033 0.1217 0.0148 0.0254 0.0076 0.078 0.079 0.19 0.16 9.500
1.70 149.345 1.111 1.58.910 0.2852 0.1345 0.1538 0.1043 0.1213 0.0254 0.0017 0.0496 5.70 0.16 9.10 94.96
1.70 149.344 1.111 1.58.910 0.2934 0.1538 0.1043 0.1217 0.0148 0.0026 0.0717 0.019 0.07 7.67 0.16 94.91
1.80 138.842 1.111 1.58.910 0.2934 0.1538 0.1043 0.1217 0.0148 0.0026 0.011 0.017 0.02 0.04 7.81 0.16 94.91
1.80 188.842 1.111 1.46405 0.2932 0.4599 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.79 0.16 94.91
1.90 106.754 1.112 13.3420 0.2934 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17
 | R07-08. biotite ¹ ; J± 1 c=0.001069±0.000002; 156 m beneath the STD 949-01B 0.65 5.944 1.110 0.5197 0.2882 0.1530 0.1238 0.0016 0.22 4.92 3.371 0.10 0.112 7.86 0.30 60.20 15.30 949-01F 0.00 304.614 1.117 3.20136 0.2882 0.1537 0.00578 0.1783 0.00076 9.37 0.01 0.17 7.86 0.30 60.20 15.30 949-01F 1.10 206.981 1.117 3.20136 0.2887 0.1537 0.0238 0.1213 0.0026 0.0754 3.71 0.10 0.112 7.86 0.30 60.20 15.30 949-01F 1.10 188.744 1.112 3.24756 0.2881 0.1537 0.0553 0.1213 0.0026 0.073 0.047 0.011 0.11 95.14 1.50 0.11 95.14 1.50 0.13 0.022 0.1233 0.1233 0.1233 0.0123 0.012 0.026 <t< td=""><td>R07-08, biotite¹/ J ± 1σ = 0.001069 ± 0.00002; 156 m beneath the STD
949-01B 0.65 5944 1.110 0.5197 0.2805 0.0222 0.1540 0.3006 0.1223 0.0125 0.0024 3.71 0.10 0.12 7.86 0.30 60.20 1530 0.59
949-01C 0.80 113.154 1.117 32.0136 0.2891 0.7488 0.1537 0.0238 0.1210 0.1783 0.0026 0.0707 9.97 0.02 0.003 7.85 0.38 6.620 1530 0.59
949-01F 1.10 0.206.981 1.113 24.1325 0.2852 0.1992 0.1537 0.0255 0.0026 0.0736 10.34 0.02 0.04 7.71 0.11 95.14 15.02 0.31
949-01F 1.10 188.744 1.112 24.1325 0.2852 0.1992 0.1537 0.1213 0.0196 0.0024 0.0710 9.97 0.02 0.04 7.78 0.11 9.195 15.55 0.23
949-01F 1.10 188.744 1.112 16.4114 0.2852 0.2193 0.1537 0.1213 0.0196 0.0024 0.0710 9.97 0.02 0.04 7.78 0.11 9.195 15.55 0.23
949-01F 1.30 135.343 1.112 16.4114 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0027 0.026 0.0776 0.96 7.83 0.16 95.64 15.26 0.31
949-01I 1.40 105.586 1.111 19.5646 0.2852 0.1992 0.1532 0.01238 0.0024 0.056 7.03 0.04 0.06 7.83 0.16 95.64 15.26 0.31
949-01I 1.40 105.586 1.111 19.5691 0.2852 0.0393 0.1217 0.0226 0.0027 0.026 0.0703 0.96 7.39 0.19 94.75 14.79 0.25
949-01I 1.40 105.586 1.111 19.5691 0.2852 0.01794 0.1552 0.2093 0.1213 0.0217 0.0024 0.0656 8.49 0.19 0.06 7.71 0.11 9.158 910 0.2852 0.1197 0.25
949-01I 1.50 136.418 1.111 19.58910 0.22852 0.1393 0.1217 0.0224 0.0624 0.0605 8.49 0.19 0.06 7.71 0.14 94.91 15.20 2.79
949-01I 1.70 193.5842 1.112 15.7946 0.2852 0.1394 0.1552 0.2093 0.1213 0.0217 0.0024 0.0665 8.49 0.19 0.06 7.71 0.14 94.91 15.20 2.79
949-01N 1.80 138.842 1.112 15.8940 0.2799 0.1561 0.1552 0.2093 0.1213 0.0221 0.0028 0.0510 7.17 -0.05 0.06 7.71 0.14 94.91 15.20 2.79
949-01N 1.90 166.744 1.112 15.8940 0.2799 0.1562 0.1233 0.0221 0.0028 0.0510 7.17 -0.05 0.06 7.71 0.14 94.91 15.20 2.79
949-01N 1.90 166.744 1.111 14.6405 0.2934 0.0169 0.1241 0.1220 0.0131 0.0024 0.0407 5.72 0.11 0.014 9.491 15.20 2.92
949-01N 1.90 166.744 1.111 14.6405 0.2932 0.1332 0.1714 0.1220 0.0131 0.0024 0.0406 5.72 0.014 0.017 7.68 0.18 96.67 149.7 0.20
949-01O 2.001 16.410 1.111 14.6405 0.2992 0.4589 0.1532 0.0</td><td>R07-06, bioticte¹/1± 1r=0.001069 ±0.00002; 156 m beneath the STD
949-01C 0.80 113; 11 0.5197 0.2805 0.0222 0.1540 0.3006 0.1223 0.0126 3.71 0.10 0.12 786 0.30 6.20 1530 0.559
949-01C 0.90 304.614 1.117 32.0136 0.2882 0.2508 0.1537 -0.2385 0.110 0.1783 0.0036 13.71 -0.06 0.03 7.85 0.08 8.250 1528 0.169
949-01F 0.09 304.614 1.117 32.0135 0.2882 0.2193 0.1552 0.0573 0.123 0.0036 0.0736 13.4 0.02 0.04 7.71 0.11 95.14 15.02 0.21
949-01F 1.10 188.744 1.112 23.2776 0.2815 0.4790 0.1537 -0.2385 0.1123 0.0036 0.0076 13.71 -0.06 0.03 7.88 0.11 91.95 15.35 0.21
949-01F 1.10 188.744 1.112 23.2776 0.2815 0.4790 0.1537 -0.2385 0.1213 0.0026 0.0076 13.71 -0.06 7.88 0.11 91.95 15.35 0.21
949-011 1.30 135.586 1.111 13.668 0.2582 0.1532 -0.0507 0.1213 0.0136 0.0024 0.0710 9.97 0.02 0.04 7.71 0.11 95.14 15.02 0.21
949-011 1.30 135.586 1.111 13.668 0.2852 0.1538 -0.2127 0.1227 0.0133 0.0025 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 14.79 0.38
949-011 1.50 135.586 1.111 13.668 0.2582 0.1558 0.2127 0.1207 0.0218 0.0022 0.0667 8.49 0.19 0.06 7.71 0.11 94.94 15.02 0.21
949-011 1.50 135.586 1.111 15.8910 0.2852 0.0036 0.0123 0.0127 0.0024 0.0670 7.64 0.14 0.08 7.59 0.19 94.75 14.79 0.38
949-011 1.50 135.586 1.111 15.8910 0.2852 0.1034 0.1553 0.2117 0.0224 0.0560 7.84 0.16 94.58 15.28 0.21
949-011 1.50 135.586 1.111 13.668 0.2579 0.1538 0.0124 0.0133 0.0024 0.0667 7.81 0.01 0.007 7.67 0.16 94.56 15.20 0.21
949-011 1.50 135.586 1.111 13.668 0.2582 0.1548 0.0153 0.0217 0.0024 0.0667 7.81 0.01 0.07 7.67 0.16 94.56 15.20 0.21
949-011 1.20 135.581 1.111 15.8910 0.2852 0.0134 0.0153 0.1217 0.0224 0.0024 0.0667 7.81 0.01 0.07 7.67 0.16 94.56 15.20 0.21
949-011 1.20 143.3420 0.2799 0.1541 0.2501 0.0113 0.0024 0.0024 0.0402 5.64 0.01 0.07 7.67 0.16 94.56 15.20 0.21
949-011 1.00 116.610 1.111 14.6405 0.2892 0.1589 0.0154 0.1520 0.0131 0.0024 0.0024 0.0402 5.64 0.01 0.07 7.67 0.16 94.56 15.20 14.97 0.31
949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0402 5.64 0.01 0.07</td><td>R07-03. Biotitle', J.1, T = 0.001063 : 1.000002; J.56m beneath the STD
99-010 000 01134 1111 05197 02060 01352 01353 01010 01204 01510 00026 0024 371 010 012 756 020 620 533 024
99-010 000 04414 1112 320135 02382 01353 01010 01204 01513 00036 0024 0071 010 012 756 020 620 533 024
99-016 100 138, A41 1112 20135 01353 01350 01357 00253 01213 00036 0024 0071 030 002 735 019 955 552 023
99-016 101 188, A41 1112 20132 01352 01540 01357 00256 0024 0071 0300 0024 0071 030 005 739 019 9455 14320 033
99-016 101 188, A41 1112 20282 0159 01357 01523 00350 00024 0071 030 005 739 019 9455 1432 033
99-011 130 135438 1111 131668 02852 01539 01357 00035 01203 0005 0004 0071 050 003 005 739 013 9455 1432 033
99-011 130 135438 1111 131668 02852 -00507 0132 00038 00034 0045 564 -014 008 739 019 9455 1430 033
99-011 130 135438 1111 131668 02852 -00509 01357 00034 00045 0040 0566 731 016 9549 1520 023
99-011 130 135438 1111 131668 02852 -00509 01351 00034 00045 0040 0566 731 016 9549 1520 023
99-011 130 135438 1111 131668 02852 -00509 01351 00024 00465 631 0010 006 731 016 9458 1320 033
99-011 130 135438 1111 13168 02852 -00509 01351 00034 00143 0123 00056 0040 0566 737 014 90153 033
99-011 130 135438 1111 13168 02852 03353 01343 01231 00024 00465 631 0010 006 737 014 90153 0033
99-011 130 138438 1111 13680 02852 03353 01343 01231 00024 0046 627 004 007 757 014 99011 30
99-010 130 138438 1111 13680 02852 0335 03153 01313 00024 0046 627 004 007 757 014 99013 03
99-010 130 138438 1111 14405 0282 0335 01343 01232 00074 01048 01231 00024 0046 627 010 9558 1439 033
99-010 120 1411 1446 02.0384 01074 01322 00074 01321 00074 00075 0004 0047 756 013 99657 144 033
99-010 120 1411 14460 0288 0134 01352 01074 01231 00074 00074 0046 627 014 9751 014 97013 03
99-010 2001 1101 1446 02.0384 01074 91524 01284 00048 0024 0004 00074 757 014 9901520 023
99-010 2001 1604111 14405 02882 01349 01352 01074 01232 00074 00074 0046 627 010 9958 144 003
Paleau age = 1451 0107Ma step 02-3407 10969 043⁴_A MSND -60 430 MA</td><td>RV-06 biotite J-1 i c = 0001002 i 156 m beneatitie STD
Specific 865 5.944 into 6219 0.0222 i 0125 0.0326 0.0125 0.0036 0.137 0.0016 0.127 746 0.30 6.020 is 358 0.509
Specific 866 1.117 2.0136 0.0222 0.1239 0.1530 0.0126 0.0036 0.134 0.000 0.037 358 0.003 0.0361 357 0.011 953 1353 0.139
Specific 1000 0.0648 i 1111 2.34135 0.0139 0.1537 0.0357 0.0133 0.0130 0.0036 0.0361 0.314 0.010 3124 0.032 0.0223 0.0139
Specific 1000 0.0648 i 1111 2.34135 0.0182 0.0137 0.0133 0.1121 0.0173 0.0059 0.004 0.0071 0.997 0.02 0.04 738 0.119 953 1353 0.139
Specific 1100 188244 1.112 2.32776 0.2815 0.4790 0.1537 0.0575 0.123 0.0030 0.004 0.0071 0.997 0.02 0.04 731 0.11 953 14 5.02 0.239
Specific 1301 3143 1.111 0.34132 0.2825 0.0102 0.1134 0.1026 0.0021 0.0000 7.010 0.005 739 0.109 9475 14.79 0.38
Specific 1301 31543 1.112 0.4141 0.0255 0.0102 0.1133 0.0121 0.0028 0.0031 0.0000 7.010 0.013 9435 1.170 0.31
Specific 1301 3143 0.0555 0.0102 0.1131 0.1257 0.0139 0.0121 0.0028 0.001 0.000 7.771 0.119 9437 1.170 0.319
Specific 1301 3143 0.0555 0.0102 0.1253 0.0103 0.1213 0.0214 0.0028 0.0010 0.005 7.791 0.119 9437 1.170 0.319
Specific 1301 3144 0.0556 1.111 1.19280 0.2852 0.0094 0.1552
0.0039 0.1213 0.0024 0.0046 0.057 0.000 7.567 0.169 9437 1.170 0.319
Specific 1341 3141 0.0556 1.111 1.19280 0.2852 0.0034 0.123 0.0024 0.0043 0.0246 0.007 7.060 7.57 0.16 950 1.132 0.0325
Specific 1411 1.30 14540 0.2852 0.0034 0.1352 0.0034 0.0034 0.0466 5.70 0.00 0.067 7.71 0.16 9431 1.220 0.0000 0.067 7.71 0.10 9.75 0.16 950 1.129 0.0039
Specific 1441 0.0556 1.111 1.14640 0.2852 0.0139 0.0131 0.0121 0.0031 0.0040 0.0465 7.71 0.010 9.007 7.66 0.13 9431 1.12 0.0325
Specific 1412 0.1756 1111 1.5490 0.2822 0.0049 0.1552 0.0003 0.0131 0.0021 0.0031 0.0046 0.046 7.57 0.10 0.007 7.56 0.16 9501 1.497 0.34
Specific 1442 0.05520 0.0034 0.0132 0.0132 0.0132 0.0132 0.0131 0.0031 0.0040 0.046 5.70 0.00 0.007 7.56 0.10 9502 1.497 0.34
Specific 1474 0.075</td><td></td><td></td><td>2.227</td><td>1.109</td><td>1.4900</td><td>0.2811</td><td>-0.1230</td><td>0.1535</td><td>0.0665</td><td>0.1225</td><td>-0.0009</td><td>0.0023</td><td>0.0045</td><td>0.47</td><td></td><td></td><td>8.40</td><td></td><td></td><td>16.36</td><td>3.52</td></t<> | R07-08, biotite ¹ / J ± 1 σ = 0.001069 ± 0.00002; 156 m beneath the STD
949-01B 0.65 5944 1.110 0.5197 0.2805 0.0222 0.1540 0.3006 0.1223 0.0125 0.0024 3.71 0.10 0.12 7.86 0.30 60.20 1530 0.59
949-01C 0.80 113.154 1.117 32.0136 0.2891 0.7488 0.1537 0.0238 0.1210 0.1783 0.0026 0.0707 9.97 0.02 0.003 7.85 0.38 6.620 1530 0.59
949-01F 1.10 0.206.981 1.113 24.1325 0.2852 0.1992 0.1537 0.0255 0.0026 0.0736 10.34 0.02 0.04 7.71 0.11 95.14 15.02 0.31
949-01F 1.10 188.744 1.112 24.1325 0.2852 0.1992 0.1537 0.1213 0.0196 0.0024 0.0710 9.97 0.02 0.04 7.78 0.11 9.195 15.55 0.23
949-01F 1.10 188.744 1.112 16.4114 0.2852 0.2193 0.1537 0.1213 0.0196 0.0024 0.0710 9.97 0.02 0.04 7.78 0.11 9.195 15.55 0.23
949-01F 1.30 135.343 1.112 16.4114 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0027 0.026 0.0776 0.96 7.83 0.16 95.64 15.26 0.31
949-01I 1.40 105.586 1.111 19.5646 0.2852 0.1992 0.1532 0.01238 0.0024 0.056 7.03 0.04 0.06 7.83 0.16 95.64 15.26 0.31
949-01I 1.40 105.586 1.111 19.5691 0.2852 0.0393 0.1217 0.0226 0.0027 0.026 0.0703 0.96 7.39 0.19 94.75 14.79 0.25
949-01I 1.40 105.586 1.111 19.5691 0.2852 0.01794 0.1552 0.2093 0.1213 0.0217 0.0024 0.0656 8.49 0.19 0.06 7.71 0.11 9.158 910 0.2852 0.1197 0.25
949-01I 1.50 136.418 1.111 19.58910 0.22852 0.1393 0.1217 0.0224 0.0624 0.0605 8.49 0.19 0.06 7.71 0.14 94.91 15.20 2.79
949-01I 1.70 193.5842 1.112 15.7946 0.2852 0.1394 0.1552 0.2093 0.1213 0.0217 0.0024 0.0665 8.49 0.19 0.06 7.71 0.14 94.91 15.20 2.79
949-01N 1.80 138.842 1.112 15.8940 0.2799 0.1561 0.1552 0.2093 0.1213 0.0221 0.0028 0.0510 7.17 -0.05 0.06 7.71 0.14 94.91 15.20 2.79
949-01N 1.90 166.744 1.112 15.8940 0.2799 0.1562 0.1233 0.0221 0.0028 0.0510 7.17 -0.05 0.06 7.71 0.14 94.91 15.20 2.79
949-01N 1.90 166.744 1.111 14.6405 0.2934 0.0169 0.1241 0.1220 0.0131 0.0024 0.0407 5.72 0.11 0.014 9.491 15.20 2.92
949-01N 1.90 166.744 1.111 14.6405 0.2932 0.1332 0.1714 0.1220 0.0131 0.0024 0.0406 5.72 0.014 0.017 7.68 0.18 96.67 149.7 0.20
949-01O 2.001 16.410 1.111 14.6405 0.2992 0.4589 0.1532 0.0 | R07-06, bioticte¹/1± 1r = 0.001069 ±0.00002; 156 m beneath the STD
949-01C 0.80 113; 11 0.5197 0.2805 0.0222 0.1540 0.3006 0.1223 0.0126 3.71 0.10 0.12 786 0.30 6.20 1530 0.559
949-01C 0.90 304.614 1.117 32.0136 0.2882 0.2508 0.1537 -0.2385 0.110 0.1783 0.0036 13.71 -0.06 0.03 7.85 0.08 8.250 1528 0.169
949-01F 0.09 304.614 1.117 32.0135 0.2882 0.2193 0.1552 0.0573 0.123 0.0036 0.0736 13.4 0.02 0.04 7.71 0.11 95.14 15.02 0.21
949-01F 1.10 188.744 1.112 23.2776 0.2815 0.4790 0.1537 -0.2385 0.1123 0.0036 0.0076 13.71 -0.06 0.03 7.88 0.11 91.95 15.35 0.21
949-01F 1.10 188.744 1.112 23.2776 0.2815 0.4790 0.1537 -0.2385 0.1213 0.0026 0.0076 13.71 -0.06 7.88 0.11 91.95 15.35 0.21
949-011 1.30 135.586 1.111 13.668 0.2582 0.1532 -0.0507 0.1213 0.0136 0.0024 0.0710 9.97 0.02 0.04 7.71 0.11 95.14 15.02 0.21
949-011 1.30 135.586 1.111 13.668 0.2852 0.1538 -0.2127 0.1227 0.0133 0.0025 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 14.79 0.38
949-011 1.50 135.586 1.111 13.668 0.2582 0.1558 0.2127 0.1207 0.0218 0.0022 0.0667 8.49 0.19 0.06 7.71 0.11 94.94 15.02 0.21
949-011 1.50 135.586 1.111 15.8910 0.2852 0.0036 0.0123 0.0127 0.0024 0.0670 7.64 0.14 0.08 7.59 0.19 94.75 14.79 0.38
949-011 1.50 135.586 1.111 15.8910 0.2852 0.1034 0.1553 0.2117 0.0224 0.0560 7.84 0.16 94.58 15.28 0.21
949-011 1.50 135.586 1.111 13.668 0.2579 0.1538 0.0124 0.0133 0.0024 0.0667 7.81 0.01 0.007 7.67 0.16 94.56 15.20 0.21
949-011 1.50 135.586 1.111 13.668 0.2582 0.1548 0.0153 0.0217 0.0024 0.0667 7.81 0.01 0.07 7.67 0.16 94.56 15.20 0.21
949-011 1.20 135.581 1.111 15.8910 0.2852 0.0134 0.0153 0.1217 0.0224 0.0024 0.0667 7.81 0.01 0.07 7.67 0.16 94.56 15.20 0.21
949-011 1.20 143.3420 0.2799 0.1541 0.2501 0.0113 0.0024 0.0024 0.0402 5.64 0.01 0.07 7.67 0.16 94.56 15.20 0.21
949-011 1.00 116.610 1.111 14.6405 0.2892 0.1589 0.0154 0.1520 0.0131 0.0024 0.0024 0.0402 5.64 0.01 0.07 7.67 0.16 94.56 15.20 14.97 0.31
949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0402 5.64 0.01 0.07
 | R07-03. Biotitle' , J.1 , T = 0.001063 : 1.000002 ; J.56m beneath the STD
99 -010 000 01134 1111 05197 02060 01352 01353 01010 01204 01510 00026 0024 371 010 012 756 020 620 533 024
99-010 000 04414 1112 320135 02382 01353 01010 01204 01513 00036 0024 0071 010 012 756 020 620 533 024
99-016 100 138, A 41 1112 20135 01353 01350 01357 00253 01213 00036 0024 0071 030 002 735 019 955 552 023
99-016 101 188, A 41 1112 20132 01352 01540 01357 00256 0024 0071 0300 0024 0071 030 005 739 019 9455 14320 033
99-016 101 188, A 41 1112 20282 0159 01357 01523 00350 00024 0071 030 005 739 019 9455 1432 033
99-011 130 135438 1111 131668 02852 01539 01357 00035 01203 0005 0004 0071 050 003 005 739 013 9455 1432 033
99-011 130 135438 1111 131668 02852 -00507 0132 00038 00034 0045 564 -014 008 739 019 9455 1430 033
99-011 130 135438 1111 131668 02852 -00509 01357 00034 00045 0040 0566 731 016 9549 1520 023
99-011 130 135438 1111 131668 02852 -00509 01351 00034 00045 0040 0566 731 016 9549 1520 023
99-011 130 135438 1111 131668 02852 -00509 01351 00024 00465 631 0010 006 731 016 9458 1320 033
99-011 130 135438 1111 13168 02852 -00509 01351 00034 00143 0123 00056 0040 0566 737 014 90153 033
99-011 130 135438 1111 13168 02852 03353 01343 01231 00024 00465 631 0010 006 737 014 90153 0033
99-011 130 138438 1111 13680 02852 03353 01343 01231 00024 0046 627 004 007 757 014 99011 30
99-010 130 138438 1111 13680 02852 0335 03153 01313 00024 0046 627 004 007 757 014 99013 03
99-010 130 138438 1111 14405 0282 0335 01343 01232 00074 01048 01231 00024 0046 627 010 9558 1439 033
99-010 120 1411 1446 02.0384 01074 01322 00074 01321 00074 00075 0004 0047 756 013 99657 144 033
99-010 120 1411 14460 0288 0134 01352 01074 01231 00074 00074 0046 627 014 9751 014 97013 03
99-010 2001 1101 1446 02.0384 01074 91524 01284 00048 0024 0004 00074 757 014 9901520 023
99-010 2001 1604111 14405 02882 01349 01352 01074 01232 00074 00074 0046 627 010 9958 144 003
Paleau age = 1451 0107Ma step 02-3407 10969 043 ⁴ _A MSND -60 430 MA | RV-06 biotite J-1 i c = 0001002 i 156 m beneatitie STD
Specific 865 5.944 into 6219 0.0222 i 0125 0.0326 0.0125 0.0036 0.137 0.0016 0.127 746 0.30 6.020 is 358 0.509
Specific 866 1.117 2.0136 0.0222 0.1239 0.1530 0.0126 0.0036 0.134 0.000 0.037 358 0.003 0.0361 357 0.011 953 1353 0.139
Specific 1000 0.0648 i 1111 2.34135 0.0139 0.1537 0.0357 0.0133 0.0130 0.0036 0.0361 0.314 0.010 3124 0.032 0.0223 0.0139
Specific 1000 0.0648 i 1111 2.34135 0.0182 0.0137 0.0133 0.1121 0.0173 0.0059 0.004 0.0071 0.997 0.02 0.04 738 0.119 953 1353 0.139
Specific 1100 188244 1.112 2.32776 0.2815 0.4790 0.1537 0.0575 0.123 0.0030 0.004 0.0071 0.997 0.02 0.04 731 0.11 953 14 5.02 0.239
Specific 1301 3143 1.111 0.34132 0.2825 0.0102 0.1134 0.1026 0.0021 0.0000 7.010 0.005 739 0.109 9475 14.79 0.38
Specific 1301 31543 1.112 0.4141 0.0255 0.0102 0.1133 0.0121 0.0028 0.0031 0.0000 7.010 0.013 9435 1.170 0.31
Specific 1301 3143 0.0555 0.0102 0.1131 0.1257 0.0139 0.0121 0.0028 0.001 0.000 7.771 0.119 9437 1.170 0.319
Specific 1301 3143 0.0555 0.0102 0.1253 0.0103 0.1213 0.0214 0.0028 0.0010 0.005 7.791 0.119 9437 1.170 0.319
Specific 1301 3144 0.0556 1.111 1.19280 0.2852 0.0094 0.1552 0.0039 0.1213 0.0024 0.0046 0.057 0.000 7.567 0.169 9437 1.170 0.319
Specific 1341 3141 0.0556 1.111 1.19280 0.2852 0.0034 0.123 0.0024 0.0043 0.0246 0.007 7.060 7.57 0.16 950 1.132 0.0325
Specific 1411 1.30 14540 0.2852 0.0034 0.1352 0.0034 0.0034 0.0466 5.70 0.00 0.067 7.71 0.16 9431 1.220 0.0000 0.067 7.71 0.10 9.75 0.16 950 1.129 0.0039
Specific 1441 0.0556 1.111 1.14640 0.2852 0.0139 0.0131 0.0121 0.0031 0.0040 0.0465 7.71 0.010 9.007 7.66 0.13 9431 1.12 0.0325
Specific 1412 0.1756 1111 1.5490 0.2822 0.0049 0.1552 0.0003 0.0131 0.0021 0.0031 0.0046 0.046 7.57 0.10 0.007 7.56 0.16 9501 1.497 0.34
Specific 1442 0.05520 0.0034 0.0132 0.0132 0.0132 0.0132 0.0131 0.0031 0.0040 0.046 5.70 0.00 0.007 7.56 0.10 9502 1.497 0.34
Specific 1474 0.075
 | | | 2.227 | 1.109 | 1.4900 | 0.2811 | -0.1230 | 0.1535 | 0.0665 | 0.1225 | -0.0009 | 0.0023 | 0.0045 | 0.47 | | | 8.40 | | | 16.36 | 3.52 |
| 0.65 5.944 1.110 0.5197 0.2805 0.0322 0.1540 0.3006 0.1223 0.0125 0.0016 0.22 4.92 3.32 4.45 3.49 38.84 0.80 113.154 1.111 8.6660 0.2852 0.2508 0.1535 0.1010 0.1204 0.1510 0.0026 3.71 0.10 0.12 7.86 0.30 60.20 0.90 304.614 1.117 32.0136 0.2891 0.7448 0.1537 0.0253 0.1213 0.0026 0.026 3.71 0.010 0.12 7.86 0.30 60.20 1.10 188.744 1.112 2.41325 0.2852 0.1092 0.1537 0.0575 0.1213 0.0024 0.071 0.97 0.01 9.11 9.14 1.20 188.744 1.112 2.3476 0.2852 0.1092 0.1533 0.02123 0.0026 0.024 0.02 0.04 7.86 0.11 9.14 1.20 135.343 <td< td=""><td>0.65 5.944 1.110 0.5197 0.2805 0.0322 0.1540 0.3006 0.123 0.012 4.92 3.32 4.45 3.49 38.84 0.80 113.154 1.111 8.6660 0.2852 0.2508 0.1535 0.1010 0.1204 0.1510 0.0026 3.71 0.10 0.12 7.86 0.30 60.20 0.90 304.614 1.117 32.0136 0.2891 0.7448 0.1537 0.02575 0.1213 0.0076 1.3.71 -0.06 0.03 7.85 0.08 82.50 1.10 188.744 1.112 23.2176 0.2882 0.1922 0.1537 0.0559 0.1223 0.0024 0.071 0.01 7.86 0.11 95.14 1.10 188.744 1.112 23.2176 0.2882 0.1972 0.1537 0.0254 0.1213 0.026 0.123 0.11 95.14 95.14 1.20 135.343 1.111 188.744 1.1112 23.413</td><td>949-01B 0.65 5.94 1.110 0.5197 0.2885 0.0122 0.122 0.902 3.32 4.45 3.49 3.84 8.68 949-01C 0.80 113.154 1.111 3.20136 0.2353 0.1010 0.1234 0.0126 3.71 0.10 0.12 7.86 0.30 60.20 15.30 949-01C 0.80 113.154 1.117 32.0136 0.2385 0.1537 -0.2385 0.1213 0.0026 3.71 0.10 0.12 7.86 0.30 60.20 15.35 949-01F 1.10 188.74 1.11 32.41325 0.2852 0.1992 0.1533 0.1213 0.0026 0.002 0.03 7.86 0.30 60.20 15.35 949-01F 1.10 188.74 1.11 32.41325 0.2852 0.1902 0.1533 0.0026 0.0027 0.002 0.002 0.014 9.74 1.526 9.9491 949-011 1.30 155.86 0.1353</td><td>949-01B 0.55 5.944 1.110 0.5197 0.2865 0.1234 0.1010 0.1234 0.112 7.86 0.30 60.20 15.30 0.53 949-01C 0.80 113.154 1.111 32.0135 0.1233 0.1234 0.1173 0.0024 3.71 0.112 7.86 0.30 60.20 15.30 0.55 949-01E 0.00 366461 1.117 32.0135 0.2853 0.1233 0.00575 0.1783 0.0004 7.86 0.30 60.20 7.86 0.30 60.20 7.86 0.30 60.20 7.86 0.31 6.20 15.30 0.53 0.23 0.53 0.1537 0.2353 0.1537 0.0057 0.123 0.0024 0.007 0.024 0.01 0.97 0.00 0.014 7.71 0.11 9.514 15.02 0.21 949-011 1.30 135.343 1.111 134.68 0.352 0.1337 0.0057 0.050 0.73 0.016 0</td><td>949-01 0.55 5-944 1.110 0.5197 0.2805 0.1540 0.3006 0.1233 0.0016 0.22 4.92 3.32 4.45 3.49 3.84 8.68 6.80 949-01C 0.80 113.154 1.111 8.6660 0.2852 0.2136 0.1010 0.1233 0.0026 0.0037 13.17 -0.008 8.250 15.23 0.12 0.003 0.0076 13.17 -0.006 0.03 785 0.03 0.03 0.004 7.11 0.11 9.1553 0.21 0.1233 0.0024 0.0016 0.023 0.003 0.004 7.85 0.03 0.011 9.01 0.012 0.013 0.013 0.0024 0.012 0.013 0.011 9.011 1.01 9.11 1.9556 5.55 5.53 5.23 0.213 0.013 0.0024 0.015 0.023 0.002 0.004 7.86 0.016 9.565 5.55 0.31 949011 1.00 1505 1.010</td><td>9901B 0.65 5944 110 0.5197 0.2862 0.0208 0.123 0.0012 0.0028 0.231 3.46 3.47 3.112 3.44 3.35 3 3.112 0.133 0.0035 3.31 0.013 0.013 0.013 0.013 0.014 0.35 0.33 0.014 0.35 0.31 0.014 0.35 0.31 0.014 0.35 0.31 0.31 0.31 <t< td=""><td>99018 0.55 5.944 1.10 0.5197 0.2866 0.0328 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.003<</td><td>R07-08. biot</td><td>ite¹: /+ 1</td><td>$1\sigma = 0.00$</td><td>1069 ± 0</td><td>000002: 1</td><td>56 m ben</td><td>eath the S</td><td>P</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<></td></td<>
 | 0.65 5.944 1.110 0.5197 0.2805 0.0322 0.1540 0.3006 0.123 0.012 4.92 3.32 4.45 3.49 38.84 0.80 113.154 1.111 8.6660 0.2852 0.2508 0.1535 0.1010 0.1204 0.1510 0.0026 3.71 0.10 0.12 7.86 0.30 60.20 0.90 304.614 1.117 32.0136 0.2891 0.7448 0.1537 0.02575 0.1213 0.0076 1.3.71 -0.06 0.03 7.85 0.08 82.50 1.10 188.744 1.112 23.2176 0.2882 0.1922 0.1537 0.0559 0.1223 0.0024 0.071 0.01 7.86 0.11 95.14 1.10 188.744 1.112 23.2176 0.2882 0.1972 0.1537 0.0254 0.1213 0.026 0.123 0.11 95.14 95.14 1.20 135.343 1.111 188.744 1.1112 23.413
 | 949-01B 0.65 5.94 1.110 0.5197 0.2885 0.0122 0.122 0.902 3.32 4.45 3.49 3.84 8.68 949-01C 0.80 113.154 1.111 3.20136 0.2353 0.1010 0.1234 0.0126 3.71 0.10 0.12 7.86 0.30 60.20 15.30 949-01C 0.80 113.154 1.117 32.0136 0.2385 0.1537 -0.2385 0.1213 0.0026 3.71 0.10 0.12 7.86 0.30 60.20 15.35 949-01F 1.10 188.74 1.11 32.41325 0.2852 0.1992 0.1533 0.1213 0.0026 0.002 0.03 7.86 0.30 60.20 15.35 949-01F 1.10 188.74 1.11 32.41325 0.2852 0.1902 0.1533 0.0026 0.0027 0.002 0.002 0.014 9.74 1.526 9.9491 949-011 1.30 155.86 0.1353
 | 949-01B 0.55 5.944 1.110 0.5197 0.2865 0.1234 0.1010 0.1234 0.112 7.86 0.30 60.20 15.30 0.53 949-01C 0.80 113.154 1.111 32.0135 0.1233 0.1234 0.1173 0.0024 3.71 0.112 7.86 0.30 60.20 15.30 0.55 949-01E 0.00 366461 1.117 32.0135 0.2853 0.1233 0.00575 0.1783 0.0004 7.86 0.30 60.20 7.86 0.30 60.20 7.86 0.30 60.20 7.86 0.31 6.20 15.30 0.53 0.23 0.53 0.1537 0.2353 0.1537 0.0057 0.123 0.0024 0.007 0.024 0.01 0.97 0.00 0.014 7.71 0.11 9.514 15.02 0.21 949-011 1.30 135.343 1.111 134.68 0.352 0.1337 0.0057 0.050 0.73 0.016 0 | 949-01 0.55 5-944 1.110 0.5197 0.2805 0.1540 0.3006 0.1233 0.0016 0.22 4.92 3.32 4.45 3.49 3.84 8.68 6.80 949-01C 0.80 113.154 1.111 8.6660 0.2852 0.2136 0.1010 0.1233 0.0026 0.0037 13.17 -0.008 8.250 15.23 0.12 0.003 0.0076 13.17 -0.006 0.03 785 0.03 0.03 0.004 7.11 0.11 9.1553 0.21 0.1233 0.0024 0.0016 0.023 0.003 0.004 7.85 0.03 0.011 9.01 0.012 0.013 0.013 0.0024 0.012 0.013 0.011 9.011 1.01 9.11 1.9556 5.55 5.53 5.23 0.213 0.013 0.0024 0.015 0.023 0.002 0.004 7.86 0.016 9.565 5.55 0.31 949011 1.00 1505 1.010
 | 9901B 0.65 5944 110 0.5197 0.2862 0.0208 0.123 0.0012 0.0028 0.231 3.46 3.47 3.112 3.44 3.35 3 3.112 0.133 0.0035 3.31 0.013 0.013 0.013 0.013 0.014 0.35 0.33 0.014 0.35 0.31 0.014 0.35 0.31 0.014 0.35 0.31 0.31 0.31 <t< td=""><td>99018 0.55 5.944 1.10 0.5197 0.2866 0.0328 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.003<</td><td>R07-08. biot</td><td>ite¹: /+ 1</td><td>$1\sigma = 0.00$</td><td>1069 ± 0</td><td>000002: 1</td><td>56 m ben</td><td>eath the S</td><td>P</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<> | 99018 0.55 5.944 1.10 0.5197 0.2866 0.0328 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.0028 0.003<
 | R07-08. biot | ite ¹ : /+ 1 | $1\sigma = 0.00$ | 1069 ± 0 | 000002: 1 | 56 m ben | eath the S | P | | | | | | | | | | | | | |
| 0.00 1111 11.0 0.0200 0.0201 0.01204 0.11510 0.01204 0.11510 0.012 0.012 0.012 0.012 0.012 0.012 0.012 0.012 0.012 0.012 0.012 0.012 0.011 0.112 0.011 0.012 0.012 0.0111 0.0111 0.011
 | 0.00 0.113 0.111 0.6660 0.2550 0.1537 0.1204 0.11510 0.0028 0.0026 <td>949-01C 0.80 13.15 1.11 8.660 0.2526 0.1537 0.01204 0.0028 0.0028 0.0026 0.012 0.10 0.1204 0.1530 0.0028 0.0026 0.012 0.11 0.12 0.11</td> <td>949-01C 0.80 113.154 1111 8.6660 0.2852 0.100 0.1204 0.110 0.112 7.86 0.30 0.202 0.0026 0.117 0.10 0.112 7.86 0.30 0.30 0.0036 13.71 0.003 0.326 0.306 0.312 0.86 0.316 0.315 0.110 0.112 7.86 0.31 0.315 0.315 0.305 0.112 0.36 0.326 0.</td> <td>949-01C 0380 113154 1111 8.660 0.2882 0.13154 0.110 0.112 7.86 0.30 0.31 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.31 0.30 0.31 0.30 0.31 <th0.31< th=""> <th0.31< th=""> <th0.31< th=""></th0.31<></th0.31<></th0.31<></td> <td>$\begin{array}{cccccccccccccccccccccccccccccccccccc$</td> <td>$\begin{array}{cccccccccccccccccccccccccccccccccccc$</td> <td>040-01R</td> <td>1 290</td> <td>5 044</td> <td>1 110</td> <td>05197</td> <td>0.2805</td> <td><i></i></td> <td>01540</td> <td>0 3006</td> <td>01223</td> <td>20100</td> <td>0,0024</td> <td>0.0016</td> <td><i>cc</i> 0</td> <td></td> <td></td> <td>4.45</td> <td>3 40</td> <td>38 84</td> <td>8,68</td> <td>6 80</td>
 | 949-01C 0.80 13.15 1.11 8.660 0.2526 0.1537 0.01204 0.0028 0.0028 0.0026 0.012 0.10 0.1204 0.1530 0.0028 0.0026 0.012 0.11 0.12 0.11
 | 949-01C 0.80 113.154 1111 8.6660 0.2852 0.100 0.1204 0.110 0.112 7.86 0.30 0.202 0.0026 0.117 0.10 0.112 7.86 0.30 0.30 0.0036 13.71 0.003 0.326 0.306 0.312 0.86 0.316 0.315 0.110 0.112 7.86 0.31 0.315 0.315 0.305 0.112 0.36 0.326 0. | 949-01C 0380 113154 1111 8.660 0.2882 0.13154 0.110 0.112 7.86 0.30 0.31 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.31 0.30 0.31 0.30 0.31 <th0.31< th=""> <th0.31< th=""> <th0.31< th=""></th0.31<></th0.31<></th0.31<>
 | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$
 | 040-01R | 1 290 | 5 044 | 1 110 | 05197 | 0.2805 | <i></i> | 01540 | 0 3006 | 01223 | 20100 | 0,0024 | 0.0016 | <i>cc</i> 0 | | | 4.45 | 3 40 | 38 84 | 8,68 | 6 80 |
| 0.00 113.114 1.111 0.0000 0.22385 0.1217 0.1217 0.0024 0.017 0.112 0.000 0.011 0.010 0.012 0.012 0.011 0.010 0.0111 0.0111 0.0111 | 0.00 0.12114 0.111 0.2003 0.2014 0.112 0.0016 0.112 0.001 0.112 0.001 0.112 0.001 0.112 0.001 0.113 0.001 0.113 0.001 0.113 0.001 0.011 | 949-01D 0.00 0.117.14 0.117 0.200 0.123 0.000 0.117.83 0.010 0.117 0.010 0.117 0.010 0.011 0.112 0.012 0.014 0.111 0.113 0.113 0.113 0.0136 0.0173 0.0107 0.011 0.113 0.113 0.113 0.0136 0.0073 0.113 0.010 0.011 0.113 0.113 0.113 0.0136 0.0073 0.011 0.113 0.113 0.113 0.113 0.113 0.113 0.113 0.113 0.113 0.113 0.113 0.113 0.013 0.011 0.013 0.011 0.113 0.013 0.011 0.013 0.011 0.013 0.011 0.013 0.011 0.013 0.011 0.013 0.011 <td>P49-01E 10.00 0.0026 0.0025 0.0026 0.000</td> <td>349-01 0.00 0.0121 0.000 0.012 0.010 0.012 0.010 0.012 0.010 0.012 0.010 0.012 0.010 0.012 0.010 0.012 0.011 0.011 0.011 0.011 0.011 0.012 0.012 0.011 0.012 0.012 0.011 0.012 0.012 0.011 0.012 0.011 0.012 0.011 0.012 0.011 0.012 0.011 0.012 0.011 0.012 0.011 0.012 0.011 0.012 <t< td=""><td>The second provided from the second provided pr</td><td>$\begin{tabular}{l l l l l l l l l l l l l l l l l l l$</td><td></td><td></td><td>10154</td><td></td><td>099990</td><td></td><td>0.0500</td><td>1525</td><td>01010</td><td>10010</td><td>0.1510</td><td></td><td></td><td>77.0
17</td><td></td><td></td><td>200</td><td></td><td></td><td>0.00</td><td></td></t<></td> | P49-01E 10.00 0.0026 0.0025 0.0026 0.000 | 349-01 0.00 0.0121 0.000 0.012 0.010 0.012 0.010 0.012 0.010 0.012 0.010 0.012 0.010 0.012 0.010 0.012 0.011 0.011 0.011 0.011 0.011 0.012 0.012 0.011 0.012 0.012 0.011 0.012 0.012 0.011 0.012 0.011 0.012 0.011 0.012 0.011 0.012 0.011 0.012 0.011 0.012 0.011 0.012 0.011 0.012 <t< td=""><td>The second provided from the second provided pr</td><td>$\begin{tabular}{l l l l l l l l l l l l l l l l l l l$</td><td></td><td></td><td>10154</td><td></td><td>099990</td><td></td><td>0.0500</td><td>1525</td><td>01010</td><td>10010</td><td>0.1510</td><td></td><td></td><td>77.0
17</td><td></td><td></td><td>200</td><td></td><td></td><td>0.00</td><td></td></t<> | The second provided from the second provided pr | $ \begin{tabular}{l l l l l l l l l l l l l l l l l l l $ | | | 10154 | | 099990 | | 0.0500 | 1525 | 01010 | 10010 | 0.1510 | | | 77.0
17 | | | 200 | | | 0.00 | |
| 0.00 2004014 1.111 2.2010 0.044014 1.111 2.2015 0.0255 0.01537 0.01244 0.021 0.011 997 0.011 91.951 1.10 188.744 1.112 16.4114 0.28852 0.1532 0.1533 0.1217 0.0126 0.0701 997 0.003 0.04 7.83 0.11 91.951 1.20 15364 0.1555 0.13339 0.1217 0.01231 0.0024 0.0703 0.065 7.83 0.11 91.951 1.20 15265 0.1313 0.1227
 | 0.00 0.004 1.11 0.206 0.0736 0.002 0.004 7.88 0.11 91.95 1.10 188.744 1.111 2.3175 0.28852 0.01537 0.0575 0.1213 0.0559 0.0024 0.0710 997 0.04 7.88 0.11 91.95 1.10 188.744 1.112 23.2776 0.28852 0.1537 0.05575 0.1213 0.0024 0.0710 997 0.04 7.88 0.11 91.95 1.20 188.744 1.112 16.4114 0.28852 0.1537 0.05507 0.1213 0.0024 0.0701 997 0.04 7.83 0.16 95.04 1.30 155.56 0.1538 0.1217 0.0226 0.0024 0.050 7.03 0.04 7.79 0.11 91.95 1.30 155.66 1.111 19.8261 0.28852 0.1538 0.1217 0.0226 0.0076 80.78 0.19 94.56 1.50 126.61 0
 | 949-01E 1.00 206.981 1.112 2.2175 0.2852 0.1552 0.05755 0.1723 0.0026 0.00736 10.24 0.002 0.04 7.88 0.11 91.95 15.55 15.55 0.5555 0.05755 0.1523 0.05575 0.01537 0.0026 0.00736 10.24 0.02 0.04 7.88 0.11 91.95 15.55 15.55 0.1537 0.1537 0.05075 0.11213 0.0024 0.0071 0.02 0.04 7.88 0.11 91.95 15.55 15.55 15.55 0.1537 0.1537 0.0156 0.0024 0.0071 0.02 0.04 7.83 0.11 91.95 15.55 11.55 0.1532 0.1532 0.1537 0.0153 0.0153 0.002 0.04 7.83 0.11 91.95 15.55 0.94.96 0.11 10.11 13.668 0.1532 0.01533 0.1207 0.0024 0.0040 5.84.9 0.11 91.95 14.79 0.94.96 0.11 19.85 11.11 13.668 0.1543 0.1555 0.4318 0.11207 0.0024 0.
 | 349-011 1.00 0.04-00 0.020 0.00026 0.000736 0.000736 0.0007 0.000736 0.000 0.0 | 349-01E 1.00 2.0300 0.037 0.037 0.037 0.037 0.0370 0.0370 0.037 0.0370 0.037 0.011 9.11 9.117 9.17 0.011 9.17 0.011 9.16 9.557 0.11 9.154 0.02 0.0024 0.007 0.006 7.33 0.16 9.556 1.32 0.11 9.154 9.504 15.25 0.313 0.11 9.154 0.22 0.0279 0.1277 0.0122 0.026 0.027 0.014 0.05 8.49 0.11 0.116 $9.5.01$ $1.2.17$ 0.2282 0.1074 0.152 0.012 0.016
 | $ \begin{array}{cccccc} \label{eq:constraint} & \begin{tabular}{ c c c c c c c c c c c c c c c c c c c$ |
 | | | 101.01 | 1111 | 201000 | 10000 | 00007-0 | 76310 | 0101.0 | 01210 | 01010 | 020000 | 0.0076 | 1/.0 | | | 7.05 | | 07.00 | 00.01 | 20.0 |
| 1.00 200301 0.013 0.0023 0.0024 0.0710 997 0.022 0.004 7.71 0.11 95.14 1.10 188.744 1.112 23.3776 0.28815 0.4790 0.1537 0.0575 0.1223 0.0308 0.0024 0.0710 997 0.02 0.04 7.71 0.11 95.14 1.20 138.744 1.112 16.4114 0.28852 0.1532 0.05575 0.1217 0.0226 0.0024 0.070 997 0.06 7.83 0.16 95.65 1.30 135.343 1.111 13.1668 0.28522 0.1533 0.01277 0.0226 0.00024 0.070 907 7.06 7.83 0.16 95.65 1.40 195.568 1.111 13.1668 0.28552 0.1538 0.01277 0.0224 0.0605 849 0.19 97.67 0.13 94.98 1.50 162.658 1.111 19.8660 0.2852 0.1553 0.01533 0.0224 | 1.00 200301 0.0024 0.00710 997 0.002 0.004 7.71 0.11 95.14 1.10 188.744 1.112 23.1276 0.2885 0.4733 0.0575 0.1223 0.0338 0.0024 0.0710 997 0.04 7.71 0.11 95.14 1.20 188.744 1.112 15.4312 0.2852 0.1537 0.0575 0.1223 0.0024 0.0710 997 0.04 7.71 0.11 95.16 1.20 188.744 1.112 15.4312 0.2852 0.1532 0.05575 0.1223 0.0024 0.0710 997 0.04 7.71 0.11 95.16 1.30 155.86 1.111 13.166 0.2852 0.1533 0.1227 0.0123 0.0002 56.6 7.83 0.16 94.56 1.40 1055.86 1.111 13.166 0.2852 0.1533 0.01537 0.0274 0.0607 58.4 0.16 94.56 1.16 13.886 < | 949-01E 1.00 200.301 0.0024 0.00710 997 0.002 0.004 7.71 0.11 95.14 15.02 0.011 95.14 15.02 0.011 95.14 15.02 0.011 95.14 15.02 0.011 95.14 15.02 0.011 95.14 15.02 0.011 95.14 15.02 0.011 95.14 15.02 0.011 95.14 15.02 0.011 95.14 15.02 0.011 95.14 15.02 0.011 95.14 15.02 0.012 0.012 0.0024 0.0710 997 0.011 95.14 15.02 0.011 95.14 15.02 0.011 15.02 0.002 0.011 17.01 0.111 138.14 0.112 135.343 0.112 0.1237 0.01237 0.0024 0.0026 0.0402 5.64 0.013 0.012 0.0024 0.014 0.016 7.83 0.111 95.14 15.02 949-01L 1.50 162.055 0.1313 0.0123 0.0124 | ³ All data corrected for blanks, radioactive decay, nucleoper correction, and detector interval correction. And do correction and detector interval correction. And do correction and detector interval correction. The correction correction correction correction correction correction. The correction correction correction correction correction correction. The correction correction correction correction correction correction correction. The correction correction correction correction correction correction correction. The correction correctio | 349-01E 1.00 200.30 0.1213 0.0035 0.1213 0.0035 0.00124 0.0014 0.016 95.65 15.25 0.211 95.65 15.25 0.211 0.111 16.411 95.14 15.02 0.211 0.0014 0.01537 0.01537 0.01537 0.0124 0.00024 0.00710 997 0.016 95.66 0.111 95.15 0.111 95.15 0.111 95.14 15.20 0.313 0.01540 0.0171 0.00024 0.00710 997 0.06 7.83 0.16 95.66 0.31 949-011 1.40 135.534 1.111 13.1668 0.2852 0.1332 0.0039 0.1217 0.0024 0.0071 906 7.79 0.19 97.59 0.19 97.56 0.31 949-011 1.40 105.568 1.111 13.16641 0.2852 0.1933 0.01231 0.0024 0.0071 9.06 7.79 0.16 94.96 15.76 0.31 949-011 1.40 105.568 0.2852 0.1348 0.1113 15.120 0.128 0.0 | $ \frac{3}{2} - 2$ | The formation of the f | | | 100 20 | 111 | 30010.20 | 1202.0 | | 01557 | | 0121.0 | 0.1700 | | 20100 | 10.01 | | - | | 0,00 | | 107.01 | 0.0 |
| 1.10 188:/44 1.112 2.32/76 0.2815 0.4790 0.1537 0.0057 0.1223 0.0016 0.0017 0.001 9.997 0.002 0.012 0.011 9.514 1.20 134553 1.112 16.4312 0.28552 0.10532 0.05507 0.1213 0.0196 0.0024 0.0501 7.04 -0.03 0.06 7.83 0.16 95.65 130 135.343 1.112 16.4114 0.28552 0.1533 0.01217 0.0226 0.00024 0.0500 7.03 0.06 7.83 0.16 95.65 140 105.586 1.111 13.1668 0.28552 0.1555 0.4318 0.1207 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.13 94.98 150 162.658 1.111 19.8610 0.28552 0.1555 0.4318 0.1207 0.0024 0.0402 5.64 -0.14 0.08 7.59 0.13 94.98 1.68 1.68 0.285
 | 1.10 188:/44 1.112 2.43.7/6 0.2815 0.47/90 0.1537 0.0057 0.122 0.0014 0.0071 0.997 0.02 0.04 0.06 7.83 0.11 95.14 1.20 134.593 1.112 16.4312 0.2852 0.1532 -0.0507 0.1213 0.0196 0.00024 0.0501 7.04 -0.03 0.06 7.83 0.16 95.65 1.30 135.343 1.111 13.1668 0.2852 0.1532 -0.01537 0.1217 0.0226 0.0002 7.03 0.06 7.83 0.16 95.65 1.40 105.586 1.111 13.1668 0.2852 -0.1572 0.1538 -0.0217 0.1217 0.024 0.0605 8.49 0.19 0.07 7.67 0.13 94.98 1.50 12868 0.2852 0.1543 0.0748 0.1213 0.0024 0.0026 7.87 0.016 7.67 0.16 95.01 1.70 149.324 1.111
 | 949-01F 1.10 188.744 1.112 2.3.27/6 0.2815 0.44790 0.1537 0.00507 0.1223 0.0024 0.00710 997 0.012 0.011 95.65 15.25 0 949-016 1.20 135.343 1.112 16.4114 0.2852 0.1532 -0.0507 0.1213 0.0196 0.0024 0.050 7.03 0.06 7.83 0.16 95.65 15.25 0 949-011 1.30 135.343 1.111 13.1668 0.2852 0.1533 -0.0507 0.1217 0.0026 0.00402 5.64 -0.14 0.08 7.79 0.19 94.75 14.75 0 0 94.961 15.79 0.13 94.961 15.96 95.00 15.93 0.013 94.961 15.76 0.13 94.961 15.76 0.13 94.961 15.76 0.19 94.75 14.75 0.06 7.83 0.11 94.96 15.76 0.03 91.6 95.65 15.75 0.19 94.75 14.75 0.9 94.96 15.76 0.13 94.96 15.76
 | ⁹⁴⁹⁻⁰¹ F 1.10 188./44 1.112 15.327/16 0.2815 0.4790 0.1537 0.0507 0.1213 0.0196 0.0024 0.0501 7.04 -0.03 0.06 7.83 0.16 95.65 15.25 0.31 949-011 1.30 135.343 1.112 16.4114 0.2852 0.1592 0.1532 -0.0507 0.1217 0.0226 0.00024 0.0501 7.04 -0.03 0.06 7.83 0.16 95.65 15.25 0.31 949-011 1.30 135.343 1.112 16.4114 0.2852 0.15024 0.1532 -0.02127 0.0183 0.0026 0.0402 5.64 -0.14 0.06 7.83 0.16 95.65 15.25 0.31 949-011 1.40 105.586 1.111 13.1668 0.2852 -0.02529 0.1538 -0.2127 0.1227 0.0183 0.0025 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 14.79 0.38 9499 1111 15.8910 0.2852 -0.0074 0.1555 0.4318 0.1207 0.0025 0.0605 8.49 0.19 0.05 7.79 0.13 94.98 15.17 0.25 949-011 1.50 125.41111 15.8910 0.2852 -0.0094 0.1555 0.1313 0.0217 0.0024 0.0402 5.64 -0.14 0.08 7.59 0.11 9.456 0.31 949-011 1.70 149.324 1.110 18.58910 0.2852 -0.0048 0.1552 0.2033 0.1213 0.0217 0.0024 0.0405 6.81 0.11 0.07 7.57 0.16 95.00 14.95 0.31 949-011 1.70 149.324 1.110 18.58910 0.2852 0.01348 0.1538 0.1213 0.0217 0.0024 0.0465 6.81 0.11 0.07 7.57 0.16 95.00 14.95 0.31 949-011 1.70 149.324 1.110 18.5860 0.21345 0.1345 0.1338 0.1213 0.0024 0.0465 6.81 0.11 0.07 7.57 0.16 95.00 14.95 0.31 949-011 1.70 149.324 1.100 12.346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.00024 0.0465 6.81 0.11 1 0.07 7.57 0.16 95.02 14.94 0.38 94-011 1.20 112.12346 0.2852 0.1345 0.1538 0.1217 0.0148 0.0024 0.046 6.71 0.00 0.06 7.71 0.14 94.91 15.02 0.27 94-011 1.30 138.842 1.112 13.3426 0.2892 0.1543 0.02691 0.1217 0.0148 0.0024 0.0047 5.72 0.17 0.03 95.92 14.94 0.38 94-010 106.74 0.1661 0.1661 0.1547 0.209 91.91 0.1220 0.0131 0.0024 0.0014 6.007 7.68 0.18 96.67 14.97 0.34 0.34 94.91 15.02 0.0131 0.0024 0.0014 6.0007 7.68 0.18 96.67 14.97 0.34 0.36 0.36 0.36 0.36 0.34 0.36 0.30 0.30 0.30 0.34 0.30 0.30 0.30 0.30 | 949-01F 1.10 188./44 1.112 2.3.27/6 02813 01537 01537 01223 00024 0.0071 0.007 0.006 7.81 0.111 9561 15.25 0.2323 0.1217 0.0226 0.0021 0.006 7.83 0.16 9561 15.25 0.2323 0.1217 0.0226 0.0024 0.067 7.83 0.16 9561 15.75 0.2353 0.1217 0.0226 0.0026 0.0402 5.64 -0.14 0.08 7.39 0.16 9561 15.75 0.2352 0.1217 0.0226 0.0024 0.065 7.84 0.16 9561 15.75 0.2352 0.0124 0.0124 0.002 0.016 0.002 0.016 0.065 84.9 0.11 0.017 0.01 0.012 0.012 0.012 0.012 0.012 0.012 0.012 0.012 0.016 0.002 0.016 0.019 0.0
 | 949-01F 1.01 2.42.0 0.4390 0.123 0.0036 0.0037 0.0036 0.004 0.056 7.83 0.16 55.55 5.53 0.31 949-011 1.30 135.533 1.112 0.4312 0.3825 0.1930 0.086 849 0.19 0.08 7.83 0.16 55.55 0.31 949-011 1.30 135.533 1.112 0.8827 0.3332 0.1934 0.005 7.83 0.16 55.56 1.52 0.31 949-011 1.30 155.46 1.111 135.46 0.3827 0.1934 0.015 0.005 0.606 7.83 0.16 55.7 0.31 949-011 1.70 182.411 1.58910 0.2852 0.0094 0.153 0.002 0.605 849 0.11 94.81 1.12 94.81 0.13 0.002 0.605 849 0.16 95.57 149 0.38 949011 1.91 183.824 0.134 0.153 | 99901F 110 185.44 111.2 13.47.0 0.1337 0.1337 0.113 0.019 0.004 0.005 7.84 0.16 5.65 15.25 0.31 99901F 110 185.44 1.02852 0.1332 0.1333 0.019 0.005 7.83 0.16 5.55 15.25 0.31 99901F 130 1353.343 1112 16.414 0.2852 0.1333 0.013 0.005 0.066 8.49 0.19 0.05 7.79 0.13 9.99 0.19 0.05 7.79 0.13 9.99 0.19 0.05 7.79 0.13 9.99 0.19 0.05 7.79 0.13 9.99 0.19 0.05 7.79 0.13 9.99 0.15 0.05 0.066 7.83 0.16 9.56 1.43 0.33 0.95 0.19 0.05 7.79 0.19 9.50 1.43 0.35 0.003 0.36 0.03 7.79 0.16 9.56 1.43 0.35
 | | | 10.90 | | 24.1323 | 70000 | 0.2125 | 2001.0 | 0.00/3 | 0.1213 | 9000 0 | 0700.0 | 0.0730 | 10.54 | | | 1.00 | 0.1 | | 0.00 | 17.0 |
| 1.20 134.593 1.112 16.4312 0.2852 0.1932 0.1532 -0.0507 0.1213 0.0016 0.0024 0.003 0.06 7.83 0.16 95.65 1.30 135.343 1.112 16.4114 0.2852 0.1533 0.1540 0.0839 0.1217 0.0226 0.0027 0.0500 7.03 0.04 0.06 7.83 0.16 95.65 1.40 105.586 1.111 13.1668 0.2852 0.1538 -0.2127 0.1227 0.0183 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 1.50 162.658 1.111 19.8261 0.2852 0.1538 -0.2127 0.1217 0.0278 0.0025 0.0605 8.49 0.19 0.013 94.98 1.60 128.418 1.111 19.8261 0.2852 -0.0994 0.1552 0.2093 0.1213 0.0254 0.0024 0.048 6.81 0.11 0.07 7.67 0.16 95.00 1.70 149.324 1.110 18.3680 0.2779 0.1533
 | 120 134.593 1.112 16.4312 0.2852 0.1992 0.1532 -0.0507 0.1213 0.0024 0.0050 7.04 -0.03 0.06 7.83 0.16 95.65 1.30 135.343 1.112 16.4114 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0027 0.0500 7.03 0.06 7.83 0.16 95.65 1.40 105.586 1.111 13.1668 0.2852 -0.2529 0.1538 -0.1217 0.0276 0.0026 0.0402 5.64 -0.14 0.08 7.79 0.11 94.98 1.50 162.588 1.111 19.8261 0.2852 -0.0094 0.1555 0.4318 0.1217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 1.70 149.324 1.111 15.8910 0.2852 -0.0904 0.1543 0.0217 0.0024 0.0665 8.49 0.16 97.01 94.98 1.70 149.324 1.111 15.8910 0.2852 -0.1543 0.0048 0.1213 <td>949-01G 1.20 134.593 1.112 164312 0.2852 0.1532 -0.0507 0.1213 0.00196 0.0027 0.0500 7.03 0.06 7.83 0.16 95.65 15.25 0 949-011 1.30 135.343 1.112 16.4114 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0020 7.03 0.06 7.83 0.16 95.04 15.25 0 949-011 1.40 105.586 1.111 13.1668 0.2852 0.1533 -0.2127 0.1217 0.0026 0.0402 5.64 -0.14 0.08 7.79 0.13 94.98 15.17 0 94.98 15.17 0.12 94.98 15.17 0.19 94.75 14.79 0 94.98 15.17 0.19 94.56 15.17 0.19 94.98 15.17 0 94.98 15.17 0.14 94.98 15.17 0.19 94.98 15.17 0 94.98 15.17 0 94.98 15.17 0.19 94.56 0.11 94.98 15.17 0 <</td> <td>949-01G 1.20 134.593 1.112 16.4312 0.2852 0.1092 0.1532 -0.0507 0.1213 0.0196 0.0024 0.0501 7.04 -0.03 0.06 7.83 0.16 95.64 15.25 0.31
949-011 1.40 105.586 1.111 13.1668 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0027 0.0500 7.03 0.04 0.06 7.83 0.16 95.04 15.26 0.31
949-011 1.40 105.586 1.111 13.1668 0.2852 0.3523 0.1538 -0.2127 0.1227 0.0183 0.0025 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 14.79 0.38
949-011 1.50 162.658 1.111 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0278 0.0025 0.0605 8.49 0.19 0.05 7.79 0.13 94.98 15.17 0.25
949-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.31
949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1661 0.1543 0.0048 0.1213 0.0254 0.0024 0.0656 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.27
949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.22 0.20
949-01M 1.80 138.842 1.112 15.7346 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.16 94.94 0.38
949-010 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38
949-010 1.90 106.754 1.111 14.6405 0.2932 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38
949-010 1.90 106.754 1.111 14.6405 0.2932 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.18 94.667 14.97 0.34
941 data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> (2000), atmo</td> <td>949-01G 1.20 134.593 1.112 16.4312 0.2852 0.1092 0.1532 0.0010 0.0024 0.0001 0.006 7.83 0.16 9.565 15.25 0.31 949-016 1.20 135.343 1.112 16.4114 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0007 0.0605 8.49 0.16 9.565 14.79 0.33 949-011 1.40 105.586 1.111 13.1668 0.2852 0.3533 0.1217 0.0025 0.0605 8.49 0.19 94.75 14.79 0.33 949-011 1.40 105.586 1.111 13.8461 0.1561 0.1552 0.2093 0.1213 0.0024 0.0605 8.49 0.19 9.49 0.17 949-011 1.70 149324 1.111 15.8910 0.2852 0.01541 0.1243 0.012 0.0024 0.0405 5.77 0.14 94.91 15.02 0.214 94.91 15.02 <</td> <td>94901G 120 14539 1112 164312 0282 01323 01540 0289 01217 00196 00027 0050 703 0.06 733 0.16 95.05 15.5 0.31
949011 140 105566 1.111 158910 02852 03532 01540 00899 01217 00226 00402 5.64 -0.14 0.06 739 0.19 94.75 14.79 0.38
949011 150 125.68 1.111 158910 02822 -0.0034 0.1555 04318 0.1207 00227 00085 6.81 0.11 0.07 757 0.16 95.00 1495 0.31
949011 150 125.68 1.111 158910 02822 -0.0034 0.1555 0.4318 0.1207 0.0227 0.0025 0.0065 5.81 0.11 0.07 757 0.16 95.00 1495 0.31
949011 150 125.68 1.111 158910 02822 -0.0034 0.1555 0.4318 0.1207 0.0227 0.0026 0.0402 5.64 -0.14 0.08 759 0.19 94.75 17 0.25
949011 150 125.68 1.111 158910 02822 -0.0034 0.1555 0.4318 0.1207 0.0227 0.0028 0.0605 7.81 0.01 95.00 1495 0.31
949011 150 105.754 1.112 15.9346 0.2892 0.1345 0.1538 -0.1043 0.1213 0.0271 0.0024 0.0567 7.81 0.01 95.00 149 0.35
949011 180 16673 1.112 16.7346 0.2892 0.1345 0.1538 -0.1043 0.1212 0.0048 0.572 0.019 0.005 7.71 0.16 95.01 495 0.33
949011 180 16673 1.111 15.8910 0.2892 0.1343 0.0034 0.1212 0.0048 0.1212 0.0048 0.0510 7.17 -0.05 0.06 7.84 0.16 95.01 4.95 0.31
949011 180 16673 1.111 16.602 0.2892 0.1343 0.1532 0.0714 0.1122 0.0024 0.0046 5.72 0.010 9.007 7.66 0.18 9.567 14.97 0.34
949011 180 16673 1.111 14.6602 0.2892 0.1532 0.0714 0.1122 0.0031 0.0024 0.0046 5.72 0.010 9.007 7.66 0.18 9.567 14.97 0.34
949011 1.001 166410 1111 14.6602 0.034, MSWD=0.6, and integrated age 14.77 ±0.17 a.0004 0.066 7.71 0.008 7.567 14.97 0.34
Plateau age 14.95 ±0.071 0.056, and age of 28.201 ±0.066 for Fish Canyon sankine [Kujper et al., 2008]. Argon isotoge data for all samples activited by simultaneous collection of all mass spectometer. Firors on "Ar/1³⁵Ar = 298.56 ±0.31 10.98 of ³³Ar, MSWD=0.8, and integrated age =14.77 ±0.17 Ma. 2098 A.99 a.91 Ma. 2003 A.90 A.90 A.90 A.90 A.90 A.90 A.90 A.90</td> <td>940-016 120 13439 1112 64312 02852 0192 0192 01332 -00090 0171 00256 0007 0500 703 000 738 016 9564 1575 031 9490-011 130 15536 1111 131668 02852 02352 0193 940 117 0225 0007 05050 703 0004 006 723 019 9475 1479 038 990-011 150 15566 1111 131668 02852 02329 01794 01555 04310 0278 00025 05660 787 019 9475 1479 028 990-015 150 126 0188 1111 19820 02852 -00094 01552 04313 00271 0202 00005 0767 010 950 113 0027 0250 031 0007 0550 011 007 757 013 9496 1570 022 990-011 170 149324 1110 18360 02279 013949 0135 0221 00024 0057 737 000 05 771 014 9491 150 027 990-011 170 149324 1110 18360 02279 01538 0103 0255 00002 0560 787 000 05771 014 9491 150 027 990-011 170 149324 1112 15340 0234 0008 0131 0007 512 00034 01075 757 010 9458 152 031 990-0127 0123 00075 00000 0151 0007 0550 0171 0007 757 010 9458 1528 031 990-011 170 143320 0234 0007 572 017 008 67 1479 038 990-011 170 143320 0234 0007 572 017 008 66 7149 038 990-011 170 143320 0234 0007 572 017 008 067 1479 038 990-011 120 16410 1111 14405 02392 01338 01074 01260 0131 00024 0007 572 017 008 757 020 9592 1497 038 990-010 1001 1111 14405 02392 04590 01331 00024 0007 572 017 008 757 020 9592 1497 038 990-010 2567 1497 034 90045 572 017 008 67 1497 034 0007 575 017 008 66 71497 038 990-010 2567 1497 038 990-010 2567 1470 0008 00131 00024 0007 572 017 008 67 1497 038 960-01497 0446 572 0017 008 67 947 038 960-01497 0446 572 017 008 67 947 038 960-01497 0446 572 017 008 67 947 038 960-0146 672 00013 00025 6667 1490 038 9667 1490 038 9667 1490 038 9667 1490 038 9667 1490 038 9667 1490 038 9667 1490 038 9667 1490 038 9667 1490 038 9667 1490 038 9667 1490 038 9660 756
0008 9568 031 1469 052 022 9522 0459 90-010 9568 956 956 958 956 958 956 958 956 958 956 958 956 958 958 956 958 958 956 958 958 956 958 958 956 958 958 956 958 956 958 958 956 958 958 956 958 958 956 958 958 958 956 958 958 958 956 958 958 958 958 958 958 958 956 958 958 958 958 958 958 958 958 958 958</td> <td></td> <td></td> <td>88.744</td> <td>1.112</td> <td>23.2776</td> <td>0.2815</td> <td>0.4790</td> <td>0.1537</td> <td>0.0575</td> <td>0.1223</td> <td>0.0308</td> <td>0.0024</td> <td>0.0710</td> <td>9.97</td> <td></td> <td></td> <td></td> <td>0.11</td> <td></td> <td>15.02</td> <td>0.21</td> | 949-01G 1.20 134.593 1.112 164312 0.2852 0.1532 -0.0507 0.1213 0.00196 0.0027 0.0500 7.03 0.06 7.83 0.16 95.65 15.25 0 949-011 1.30 135.343 1.112 16.4114 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0020 7.03 0.06 7.83 0.16 95.04 15.25 0 949-011 1.40 105.586 1.111 13.1668 0.2852 0.1533 -0.2127 0.1217 0.0026 0.0402 5.64 -0.14 0.08 7.79 0.13 94.98 15.17 0 94.98 15.17 0.12 94.98 15.17 0.19 94.75 14.79 0 94.98 15.17 0.19 94.56 15.17 0.19 94.98 15.17 0 94.98 15.17 0.14 94.98 15.17 0.19 94.98 15.17 0 94.98 15.17 0 94.98 15.17 0.19 94.56 0.11 94.98 15.17 0 <
 | 949-01G 1.20 134.593 1.112 16.4312 0.2852 0.1092 0.1532 -0.0507 0.1213 0.0196 0.0024 0.0501 7.04 -0.03 0.06 7.83 0.16 95.64 15.25 0.31
949-011 1.40 105.586 1.111 13.1668 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0027 0.0500 7.03 0.04 0.06 7.83 0.16 95.04 15.26 0.31
949-011 1.40 105.586 1.111 13.1668 0.2852 0.3523 0.1538 -0.2127 0.1227 0.0183 0.0025 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 14.79 0.38
949-011 1.50 162.658 1.111 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0278 0.0025 0.0605 8.49 0.19 0.05 7.79 0.13 94.98 15.17 0.25
949-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.31
949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1661 0.1543 0.0048 0.1213 0.0254 0.0024 0.0656 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.27
949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.22 0.20
949-01M 1.80 138.842 1.112 15.7346 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.16 94.94 0.38
949-010 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38
949-010 1.90 106.754 1.111 14.6405 0.2932 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38
949-010 1.90 106.754 1.111 14.6405 0.2932 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.18 94.667 14.97 0.34
941 data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> (2000), atmo | 949-01G 1.20 134.593 1.112 16.4312 0.2852 0.1092 0.1532 0.0010 0.0024 0.0001 0.006 7.83 0.16 9.565 15.25 0.31 949-016 1.20 135.343 1.112 16.4114 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0007 0.0605 8.49 0.16 9.565 14.79 0.33 949-011 1.40 105.586 1.111 13.1668 0.2852 0.3533 0.1217 0.0025 0.0605 8.49 0.19 94.75 14.79 0.33 949-011 1.40 105.586 1.111 13.8461 0.1561 0.1552 0.2093 0.1213 0.0024 0.0605 8.49 0.19 9.49 0.17 949-011 1.70 149324 1.111 15.8910 0.2852 0.01541 0.1243 0.012 0.0024 0.0405 5.77 0.14 94.91 15.02 0.214 94.91 15.02 <
 | 94901G 120 14539 1112 164312 0282 01323 01540 0289 01217 00196 00027 0050 703 0.06 733 0.16 95.05 15.5 0.31
949011 140 105566 1.111 158910 02852 03532 01540 00899 01217 00226 00402 5.64 -0.14 0.06 739 0.19 94.75 14.79 0.38
949011 150 125.68 1.111 158910 02822 -0.0034 0.1555 04318 0.1207 00227 00085 6.81 0.11 0.07 757 0.16 95.00 1495 0.31
949011 150 125.68 1.111 158910 02822 -0.0034 0.1555 0.4318 0.1207 0.0227 0.0025 0.0065 5.81 0.11 0.07 757 0.16 95.00 1495 0.31
949011 150 125.68 1.111 158910 02822 -0.0034 0.1555 0.4318 0.1207 0.0227 0.0026 0.0402 5.64 -0.14 0.08 759 0.19 94.75 17 0.25
949011 150 125.68 1.111 158910 02822 -0.0034 0.1555 0.4318 0.1207 0.0227 0.0028 0.0605 7.81 0.01 95.00 1495 0.31
949011 150 105.754 1.112 15.9346 0.2892 0.1345 0.1538 -0.1043 0.1213 0.0271 0.0024 0.0567 7.81 0.01 95.00 149 0.35
949011 180 16673 1.112 16.7346 0.2892 0.1345 0.1538 -0.1043 0.1212 0.0048 0.572 0.019 0.005 7.71 0.16 95.01 495 0.33
949011 180 16673 1.111 15.8910 0.2892 0.1343 0.0034 0.1212 0.0048 0.1212 0.0048 0.0510 7.17 -0.05 0.06 7.84 0.16 95.01 4.95 0.31
949011 180 16673 1.111 16.602 0.2892 0.1343 0.1532 0.0714 0.1122 0.0024 0.0046 5.72 0.010 9.007 7.66 0.18 9.567 14.97 0.34
949011 180 16673 1.111 14.6602 0.2892 0.1532 0.0714 0.1122 0.0031 0.0024 0.0046 5.72 0.010 9.007 7.66 0.18 9.567 14.97 0.34
949011 1.001 166410 1111 14.6602 0.034, MSWD=0.6, and integrated age 14.77 ±0.17 a.0004 0.066 7.71 0.008 7.567 14.97 0.34
Plateau age 14.95 ±0.071 0.056, and age of 28.201 ±0.066 for Fish Canyon sankine [Kujper et al., 2008]. Argon isotoge data for all samples activited by simultaneous collection of all mass spectometer. Firors on "Ar/1 ³⁵ Ar = 298.56 ±0.31 10.98 of ³³ Ar, MSWD=0.8, and integrated age =14.77 ±0.17 Ma. 2098 A.99 a.91 Ma. 2003 A.90 A.90 A.90 A.90 A.90 A.90 A.90 A.90 | 940-016 120 13439 1112 64312 02852 0192 0192 01332 -00090 0171 00256 0007 0500 703 000 738 016 9564 1575 031 9490-011 130 15536 1111 131668 02852 02352 0193 940 117 0225 0007 05050 703 0004 006 723 019 9475 1479 038 990-011 150 15566 1111 131668 02852 02329 01794 01555 04310 0278 00025 05660 787 019 9475 1479 028 990-015 150 126 0188 1111 19820 02852 -00094 01552 04313 00271 0202 00005 0767 010 950 113 0027 0250 031 0007 0550 011 007 757 013 9496 1570 022 990-011 170 149324 1110 18360 02279 013949 0135 0221 00024 0057 737 000 05 771 014 9491 150 027 990-011 170 149324 1110 18360 02279 01538 0103 0255 00002 0560 787 000 05771 014 9491 150 027 990-011 170 149324 1112 15340 0234 0008 0131 0007 512 00034 01075 757 010 9458 152 031 990-0127 0123 00075 00000 0151 0007 0550 0171 0007 757 010 9458 1528 031 990-011 170 143320 0234 0007 572 017 008 67 1479 038 990-011 170 143320 0234 0007 572 017 008 66 7149 038 990-011 170 143320 0234 0007 572 017 008 067 1479 038 990-011 120 16410 1111 14405 02392 01338 01074 01260 0131 00024 0007 572 017 008 757 020 9592 1497 038 990-010 1001 1111 14405 02392 04590 01331 00024 0007 572 017 008 757 020 9592 1497 038 990-010 2567 1497 034 90045 572 017 008 67 1497 034 0007 575 017 008 66 71497 038 990-010 2567 1497 038 990-010 2567 1470 0008 00131 00024 0007 572 017 008 67 1497 038 960-01497 0446 572 0017 008 67 947 038 960-01497 0446 572 017 008 67 947 038 960-01497 0446 572 017 008 67 947 038 960-0146 672 00013 00025 6667 1490 038 9667 1490 038 9667 1490 038 9667 1490 038 9667 1490 038 9667 1490 038 9667 1490 038 9667 1490 038 9667 1490 038 9667 1490 038 9667 1490 038 9660 756 0008 9568 031 1469 052 022 9522 0459 90-010 9568 956 956 958 956 958 956 958 956 958 956 958 956 958 958 956 958 958 956 958 958 956 958 958 956 958 958 956 958 956 958 958 956 958 958 956 958 958 956 958 958 958 956 958 958 958 956 958 958 958 958 958 958 958 956 958 958 958 958 958 958 958 958 958 958
 | | | 88.744 | 1.112 | 23.2776 | 0.2815 | 0.4790 | 0.1537 | 0.0575 | 0.1223 | 0.0308 | 0.0024 | 0.0710 | 9.97 | | | | 0.11 | | 15.02 | 0.21 |
| 1.30 135.343 1.112 16.4114 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0027 0.0500 7.03 0.04 0.06 7.83 0.16 95.04 1.40 105.586 1.111 13.1668 0.2852 -0.2529 0.1538 -0.2127 0.0183 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 1.50 162.658 1.111 19.8261 0.2852 0.1555 0.4318 0.1207 0.0278 0.0026 0.0402 5.64 -0.14 0.08 7.79 0.13 94.98 1.60 128.418 1.111 19.8261 0.2852 -0.0094 0.1552 0.2093 0.1213 0.024 0.0026 5.84 0.11 0.07 7.67 0.16 95.00 1.70 149.324 1.111 15.8910 0.2852 0.1538 0.0048 0.1213 0.0254 0.0024 0.065 7.87 0.06 0.66 7.87 0.16 95.01 1.70 149.324 1.110 18.3680 <t< td=""><td>1.30 135.343 1.112 16.4114 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0027 0.0500 7.03 0.04 0.06 7.83 0.16 95.04 1.40 105.586 1.111 13.1668 0.2852 -0.2529 0.1538 -0.2127 0.1227 0.0183 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 1.50 162.588 1.111 19.8261 0.2852 -0.1575 0.4318 0.1207 0.0026 0.0402 5.64 -0.14 0.08 7.79 0.13 94.98 1.60 128.418 1.111 19.8261 0.2852 -0.0094 0.1552 0.2033 0.1213 0.0024 0.0048 6.81 0.11 0.07 7.67 0.16 95.00 1.70 149.324 1.111 15.8910 0.2852 -0.0094 0.1543 0.0254 0.0024 0.0560 7.87 0.00 0.6 7.71 0.14 94.91 1.70 149.324 1.110 18.3680 0.2779</td><td>949-01H 1.30 135.343 1.112 16.4114 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0027 0.0500 7.03 0.04 0.06 7.83 0.16 95.04 15.26 0
949-011 1.40 105.586 1.111 13.1668 0.2852 -0.2529 0.1538 -0.2127 0.1227 0.0183 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 14.79 0
949-011 1.50 162.658 1.111 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0278 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.13 94.98 15.17 0
949-01K 1.60 128.418 1.111 19.8261 0.2852 -0.0094 0.1555 0.4318 0.1217 0.0278 0.0024 0.0425 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0
949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1561 0.1552 0.2093 0.1213 0.0254 0.0024 0.0465 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0
949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1561 0.1543 0.0048 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0
949-01N 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0
949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0
949-01O 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.07 7.68 0.18 96.67 14.97 0.20 0.01 0.00 0.06 7.74 0.07 7.68 0.18 96.67 14.97 0.00 0.01 0.00 0.06 7.74 0.01 0.07 7.68 0.18 96.67 14.97 0.00 0.00 0.00 0.06 7.74 0.00 0.01 0.01 0.00 0.06 7.74 0.00 0.05 7.67 0.10 95.92 14.94 0.00 0.00 0.05 7.67 0.00 0.05 7.67 0.10 95.92 14.94 0.00 0.00 0.06 7.74 0.00 0.00 7.66 7.89 0.18 96.67 14.97 0.00 0.00 0.00 0.05 7.68 0.18 96.67 14.97 0.00 0.00 0.00 0.00 7.68 0.18 96.67 14.97 0.00 0.00 0.00 0.00 0.00 7.66 0.18 96.67 14.97 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0</td><td>949-01H 1.30 135.343 1.112 16.4114 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0027 0.0500 7.03 0.04 0.06 7.83 0.16 95.04 15.26 0.31 949.75 14.79 0.38 949-011 1.40 105.586 1.111 13.1668 0.2852 -0.2529 0.1538 -0.2127 0.1227 0.0183 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 14.79 0.38 949-011 1.50 162.658 1.111 19.8261 0.2852 0.1578 0.1555 0.4318 0.1207 0.0278 0.0025 0.0605 8.49 0.19 0.05 7.79 0.13 94.98 15.17 0.25 949-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0626 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.31 949-01K 1.50 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.31 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.0048 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.27 949-01 1.30 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.22 0.31 949-01 1.80 138.842 1.112 15.346 0.2934 -0.0080 0.1541 0.1217 0.0148 0.0024 0.0016 7.71 -0.05 0.06 7.84 0.16 94.58 15.22 0.31 949-01 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 949-01 0.200 116.410 1.111 14.6405 0.2932 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 -0.140 1.56 0.30 106.754 1.111 14.6405 0.2932 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 -0.140 0.36 0.2000 116.410 1.111 14.6405 0.2932 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.07 7.68 0.18 96.67 14.97 0.34 -0.36 -0.36 0.35 -0.35 -0.00124 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.07 7.68 0.18 96.67 14.97 0.34 -0.36 -0.36 -0.36 -0.0000 0.016 0.124 0.12001, atmotione and detector interces mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> (2000), atmotione 0.36 -0.36 -0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0100 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.</td><td>949-01H 1.30 135.343 1.112 16.4114 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0027 0.0500 7.03 0.06 7.83 0.16 95.04 15.26 0.33 949-011 1.40 105.586 1.111 13.1668 0.2852 -0.2127 0.1123 0.0025 0.0605 8.49 0.19 9.475 14.79 0.33 949-011 1.40 105.586 1.111 13.1668 0.2852 -0.02123 0.1237 0.0025 0.0605 8.49 0.19 0.35 94.93 15.17 0.25 949-01L 1.50 162.658 1.111 19.8261 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0024 0.0665 8.49 0.11 0.14 94.91 15.02 0.23 949-01L 1.70 149324 1.111 15.8910 0.2852 -0.1043 0.1233 0.0025 0.0006 7.87 0.017 0.017 7.67 0.14 94.91 15.02 0.214 0.31 949-011 1.80</td><td>949-01H 130 1333 131 131668 0.385 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.013 0.01</td><td>9490111 130 135343 1111 131668 02882 0.2323 01593 0.1217 00183 00025 564 -0.14 0.08 7.59 0.19 94.75 14.79 0.38 949011 140 105566 1.111 131666 02882 -0.10074 0.1553 0.10183 0.0025 0.0005 5.4 -0.14 0.08 7.59 0.19 94.75 14.79 0.38 949011 1.70 143548 1.111 131666 02882 0.10074 0.1553 0.313 0.0217 0.0028 0.0002 5.64 -0.14 0.08 7.59 0.19 94.75 14.79 0.38 949011 1.70 143548 1.111 154910 02882 0.01074 0.1553 0.3138 0.1217 0.0028 0.0025 0.0005 7.97 0.13 94.98 15.17 0.25 949011 1.70 143324 1.111 154910 02882 0.01074 0.1553 0.3138 0.1217 0.0028 0.0507 7.97 0.16 95.00 1456 0.321 94.9011 1.70 143324 1.112 15346 0.2882 0.1537 0.1538 0.0131 0.0254 0.0048 5.81 0.11 0.007 7.57 0.16 95.00 1459 0.33 949011 1.70 143324 1.112 15346 0.2882 0.1534 0.1538 0.0131 0.0254 0.0047 5.72 0.17 0.005 7.67 0.16 95.03 0.32 949011 1.901 166.74 1.112 133420 0.2934 -0.0088 0.1541 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.005 7.67 0.18 94.58 10.33 949011 1.901 106.754 1.112 133420 0.2934 -0.0080 0.1541 0.220 0.0131 0.0024 0.0407 5.72 0.17 0.003 7.67 0.20 95.92 14.94 0.38 949010 2.00 116410 1.111 14.6405 0.2939 0.1533 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.003 7.67 0.20 95.92 14.94 0.38 949010 2.00 116410 1.111 14.6405 0.2930 0.1533 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.003 7.67 0.20 95.92 14.94 0.38 945107 0.18 9.007 Machine and a fintegrated age 14.95 0.07 Machine and and and and and and and and and
and</td><td></td><td></td><td>34.593</td><td>1.112</td><td>16.4312</td><td>0.2822</td><td>0.1092</td><td>0.1532</td><td>/050.0-</td><td>0.1213</td><td>0.0196</td><td>0.0024</td><td>0.050.0</td><td>/.04</td><td></td><td></td><td></td><td>0.16</td><td></td><td><u>۲.۲.</u></td><td>5.0</td></t<> | 1.30 135.343 1.112 16.4114 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0027 0.0500 7.03 0.04 0.06 7.83 0.16 95.04 1.40 105.586 1.111 13.1668 0.2852 -0.2529 0.1538 -0.2127 0.1227 0.0183 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 1.50 162.588 1.111 19.8261 0.2852 -0.1575 0.4318 0.1207 0.0026 0.0402 5.64 -0.14 0.08 7.79 0.13 94.98 1.60 128.418 1.111 19.8261 0.2852 -0.0094 0.1552 0.2033 0.1213 0.0024 0.0048 6.81 0.11 0.07 7.67 0.16 95.00 1.70 149.324 1.111 15.8910 0.2852 -0.0094 0.1543 0.0254 0.0024 0.0560 7.87 0.00 0.6 7.71 0.14 94.91 1.70 149.324 1.110 18.3680 0.2779
 | 949-01H 1.30 135.343 1.112 16.4114 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0027 0.0500 7.03 0.04 0.06 7.83 0.16 95.04 15.26 0
949-011 1.40 105.586 1.111 13.1668 0.2852 -0.2529 0.1538 -0.2127 0.1227 0.0183 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 14.79 0
949-011 1.50 162.658 1.111 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0278 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.13 94.98 15.17 0
949-01K 1.60 128.418 1.111 19.8261 0.2852 -0.0094 0.1555 0.4318 0.1217 0.0278 0.0024 0.0425 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0
949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1561 0.1552 0.2093 0.1213 0.0254 0.0024 0.0465 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0
949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1561 0.1543 0.0048 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0
949-01N 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0
949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0
949-01O 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.07 7.68 0.18 96.67 14.97 0.20 0.01 0.00 0.06 7.74 0.07 7.68 0.18 96.67 14.97 0.00 0.01 0.00 0.06 7.74 0.01 0.07 7.68 0.18 96.67 14.97 0.00 0.00 0.00 0.06 7.74 0.00 0.01 0.01 0.00 0.06 7.74 0.00 0.05 7.67 0.10 95.92 14.94 0.00 0.00 0.05 7.67 0.00 0.05 7.67 0.10 95.92 14.94 0.00 0.00 0.06 7.74 0.00 0.00 7.66 7.89 0.18 96.67 14.97 0.00 0.00 0.00 0.05 7.68 0.18 96.67 14.97 0.00 0.00 0.00 0.00 7.68 0.18 96.67 14.97 0.00 0.00 0.00 0.00 0.00 7.66 0.18 96.67 14.97 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0
 | 949-01H 1.30 135.343 1.112 16.4114 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0027 0.0500 7.03 0.04 0.06 7.83 0.16 95.04 15.26 0.31 949.75 14.79 0.38 949-011 1.40 105.586 1.111 13.1668 0.2852 -0.2529 0.1538 -0.2127 0.1227 0.0183 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 14.79 0.38 949-011 1.50 162.658 1.111 19.8261 0.2852 0.1578 0.1555 0.4318 0.1207 0.0278 0.0025 0.0605 8.49 0.19 0.05 7.79 0.13 94.98 15.17 0.25 949-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0626 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.31 949-01K 1.50 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.31 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.0048 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.27 949-01 1.30 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.22 0.31 949-01 1.80 138.842 1.112 15.346 0.2934 -0.0080 0.1541 0.1217 0.0148 0.0024 0.0016 7.71 -0.05 0.06 7.84 0.16 94.58 15.22 0.31 949-01 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 949-01 0.200 116.410 1.111 14.6405 0.2932 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 -0.140 1.56 0.30 106.754 1.111 14.6405 0.2932 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 -0.140 0.36 0.2000 116.410 1.111 14.6405 0.2932 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.07 7.68 0.18 96.67 14.97 0.34 -0.36 -0.36 0.35 -0.35 -0.00124 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.07 7.68 0.18 96.67 14.97 0.34 -0.36 -0.36 -0.36 -0.0000 0.016 0.124 0.12001, atmotione and detector interces mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> (2000), atmotione 0.36 -0.36 -0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0100 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0. | 949-01H 1.30 135.343 1.112 16.4114 0.2852 0.3523 0.1540 0.0839 0.1217 0.0226 0.0027 0.0500 7.03 0.06 7.83 0.16 95.04 15.26 0.33 949-011 1.40 105.586 1.111 13.1668 0.2852 -0.2127 0.1123 0.0025 0.0605 8.49 0.19 9.475 14.79 0.33 949-011 1.40 105.586 1.111 13.1668 0.2852 -0.02123 0.1237 0.0025 0.0605 8.49 0.19 0.35 94.93 15.17 0.25 949-01L 1.50 162.658 1.111 19.8261 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0024 0.0665 8.49 0.11 0.14 94.91 15.02 0.23 949-01L 1.70 149324 1.111 15.8910 0.2852 -0.1043 0.1233 0.0025 0.0006 7.87 0.017 0.017 7.67 0.14 94.91 15.02 0.214 0.31 949-011 1.80
 | 949-01H 130 1333 131 131668 0.385 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.0127 0.013 0.01 | 9490111 130 135343 1111 131668 02882 0.2323 01593 0.1217 00183 00025 564 -0.14 0.08 7.59 0.19 94.75 14.79 0.38 949011 140 105566 1.111 131666 02882 -0.10074 0.1553 0.10183 0.0025 0.0005 5.4 -0.14 0.08 7.59 0.19 94.75 14.79 0.38 949011 1.70 143548 1.111 131666 02882 0.10074 0.1553 0.313 0.0217 0.0028 0.0002 5.64 -0.14 0.08 7.59 0.19 94.75 14.79 0.38 949011 1.70 143548 1.111 154910 02882 0.01074 0.1553 0.3138 0.1217 0.0028 0.0025 0.0005 7.97 0.13 94.98 15.17 0.25 949011 1.70 143324 1.111 154910 02882 0.01074 0.1553 0.3138 0.1217 0.0028 0.0507 7.97 0.16 95.00 1456 0.321 94.9011 1.70 143324 1.112 15346 0.2882 0.1537 0.1538 0.0131 0.0254 0.0048 5.81 0.11 0.007 7.57 0.16 95.00 1459 0.33 949011 1.70 143324 1.112 15346 0.2882 0.1534 0.1538 0.0131 0.0254 0.0047 5.72 0.17 0.005 7.67 0.16 95.03 0.32 949011 1.901 166.74 1.112 133420 0.2934 -0.0088 0.1541 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.005 7.67 0.18 94.58 10.33 949011 1.901 106.754 1.112 133420 0.2934 -0.0080 0.1541 0.220 0.0131 0.0024 0.0407 5.72 0.17 0.003 7.67 0.20 95.92 14.94 0.38 949010 2.00 116410 1.111 14.6405 0.2939 0.1533 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.003 7.67 0.20 95.92 14.94 0.38 949010 2.00 116410 1.111 14.6405 0.2930 0.1533 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.003 7.67 0.20 95.92 14.94 0.38 945107 0.18 9.007 Machine and a fintegrated age 14.95 0.07 Machine and
 | | | 34.593 | 1.112 | 16.4312 | 0.2822 | 0.1092 | 0.1532 | /050.0- | 0.1213 | 0.0196 | 0.0024 | 0.050.0 | /.04 | | | | 0.16 | | <u>۲.۲.</u> | 5.0 |
| 1.40 105.586 1.111 13.1668 0.2852 -0.2529 0.1538 -0.2127 0.0183 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 1.50 162.658 1.111 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0278 0.0025 0.6065 8.49 0.19 0.05 7.79 0.13 94.98 1.60 128418 1.111 19.8261 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.0048 0.1213 0.0024 0.0024 0.0656 7.87 0.00 0.6 7.71 0.14 94.91 1.70 149.324 1.110 18.3680 0.2734 0.1538 -0.1043 0.1223 0.0251 0.0024 0.066 7.87 0.06 7.67 0.14 94.91 1.80 18842 1.112 16.7346 0.2852 <td< td=""><td>1.40 105.586 1.111 13.1668 0.2852 -0.2529 0.1538 -0.2127 0.0183 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 1.50 162.1558 1.111 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0226 0.0605 8.49 0.19 0.05 7.79 0.13 94.98 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0224 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.0048 0.1213 0.0224 0.0026 7.87 0.00 0.66 7.71 0.14 94.91 1.70 149.324 1.112 18.3680 0.2779 0.1543 0.1223 0.0251 0.0028 0.6510 7.17 -0.65 0.66 7.87 0.16 94.91 1.80 138.842 1.112 16.7346 0.2852 0.1538 -0.1633</td><td>949-011 1.40 105.586 1.111 13.1668 0.2852 -0.2529 0.1538 -0.2127 0.1227 0.0183 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 14.79 0.49 0.19 0.15 16.58 1.11 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0278 0.0025 0.665 8.49 0.19 0.05 7.79 0.13 94.98 15.17 0.94-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.0048 0.1213 0.0254 0.0024 0.0666 8.49 0.19 0.05 7.79 0.13 94.98 15.17 0.949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.0048 0.1213 0.0254 0.0024 0.0660 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0.949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1531 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.949-01N 1.90 106.754 1.112 13.3420 0.2934 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.949-01N 1.90 106.754 1.111 14.6405 0.2892 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.07 7.68 0.18 96.67 14.97 0.00 0.01 10.6.76 1.410 1.111 14.6405 0.2892 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.07 7.68 0.18 96.67 14.97 0.00 0.01 0.000 0.06 0.000 0.0560 1.4097 7.68 0.18 96.67 14.97 0.00 0.010 0.000 0.010 0.000 0.0131 0.00024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.00 0.000 0.000 0.010 0.000 0.0131 0.00024 0.0000 0.0146 6.27 0.014 0.07 7.68 0.18 96.67 14.97 0.00 0.0140 0.012 0.0000 0.0000 0.0000 0.013 0.0000 0.0000 0.0000 0.0000 0.013 0.0000 0.0000 0.0000 0.0000 0.018 0.0000 0.000</td><td>949-011 1.40 105.586 1.111 13.1668 0.2852 -0.2529 0.1538 -0.2127 0.0183 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 14.79 0.38 949-011 1.50 162.658 1.111 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0278 0.0025 0.0605 8.49 0.19 0.05 7.79 0.13 94.98 15.17 0.25 949-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.31 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.0048 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.27 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1548 0.1538 -0.1043 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.27 949-01N 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0.31 949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.26091 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 ³ All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> [2000], atmos</td><td>949-011 1.40 105.586 1.111 13.1668 0.2529 0.1538 -0.2127 0.1227 0.0183 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 14.79 0.38 949-011 1.50 162.658 1.111 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0025 0.0605 8.49 0.19 94.75 0.14 0.03 949-011 1.50 162.658 1.111 19.8261 0.2852 0.1074 0.1552 0.2093 0.1213 0.0024 0.0485 6.81 0.11 0.07 7.67 0.14 95.00 14.95 0.31 949-01L 1.70 149324 1.110 18.3680 0.2779 0.1541 0.1233 0.0024 0.0407 5.77 0.14 94.91 15.02 0.23 949-01N 1.80 138.842 1.112 18.3450 0.2832 0.1541 0.2691 0.1217 0.0148 0.002 5.77 0.16 94.51 15.02 0.214 0.217 0.002 0.017</td><td>949-011 140 105.566 1111 131.668 0.282 0.1074 0.1553 0.4318 0.1207 0.0183 0.0026 0.0403 5.64 -0.14 0.08 7.59 0.19 94.75 14.79 0.38 949901 1.50 16.5658 1111 135.801 0.2882 0.1074 0.1553 0.4318 0.1217 0.025 0.0048 0.153 0.0271 0.0048 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.31 94.948 15.17 0.25 94901L 1.70 149.224 1110 18.5680 0.2779 0.13 94.96 15.17 0.25 94901L 1.70 149.224 1111 15.9010 2.2882 0.1074 0.1533 0.1213 0.0274 0.0048 6.81 0.11 0.007 7.67 0.16 95.09 14.95 0.31 94.9011 1.20 149.224 1112 16.5740 1.2882 0.1374 0.1323 0.1217 0.0028 0.0050 7.87 0.00 0.66 7.87 0.16 95.95 15.28 0.31 94.9011 1.10 18.5680 0.2779 0.139 94.96 15.7 0.0028 0.0038 0.157 0.10 95.52 14.97 0.34 0.9407 5.72 0.112 10.5744 0.122 0.134 94.03 10.312 0.0024 0.0406 6.27 0.04 0.07 7.68 0.18 96.7 14.97 0.34 94.91 15.0 0.001 16.410 1.111 14.645 0.2289 0.1532 0.0714 0.1220 0.0131 0.0024 0.0466 6.27 0.04 0.07 7.68 0.18 96.7 14.97 0.34 0.9401 2.02 116.410 1.111 14.645 0.2889 0.1532 0.0714 0.1220 0.0131 0.0024 0.0406 6.27 0.04 0.07 7.68 0.18 96.57 14.97 0.34 0.9401 2.02 116.410 1.111 14.645 0.2889 0.1532 0.0714 0.1220 0.0131 0.0024 0.0406 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.9401 2.52 0.0148 0.025 0.0560 7.87 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.9401 2.52 0.0714 0.1220 0.0131 0.0024 0.0406 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.9401 0.111 14.645 0.2889 0.1532 0.0714 0.1220 0.0131 0.0024 0.0406 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.9401 0.16401 9.5401 0.16401 1.111 14.645 0.2889 0.75201 4.960 7.3401 0.1018 0.9520 0.4860 7.3401 0.1086 0.734 0.0408 0.5401 0.10096 0.734 0.0408 0.5401 0.10096 0.734 0.0408 0.5401 0.10096 0.734 0.0408 0.5401 0.1018 0.0024 0.0408 0.512 0.0400 0.512 0.0408 0.512 0.0408 0.512 0.0408 0.5220 0.4950 0.3401 0.0024 0.0407 0.512 0.011 0.0024 0.0408 0.512 0.0400 0.0504 0.0407 0.512 0.0118 0.0024 0.0408 0.512 0.0408 0.5320 0.0478 0.0408 0.5220 0.0410 0.5120 0.0013 0.0024 0.0408 0.512 0.0408 0.512 0.0408 0.512 0.0408 0.512 0.0408 0.512 0.0408 0.512 0.0408 0.0500 0.064 0.0408 0.512 0.0408 0.512 0.0408 0.518 0.0408 0.</td><td>949-011 140 105.566 1111 131.668 0.2852 -0.2327 0.1074 0.1525 0.427 0.1227 0.0183 0.0025 0.0605 8.49 0.19 0.05 7.79 0.13 94.98 1517 0.25 949-011 150 102.568 1111 159 10.256 0.1074 0.155 0.1034 0.155 0.017 0.005 0.065 8.49 0.119 0.07 7.67 0.16 95.00 149 0.53 0.99 0.011 1.10 159 105.56 1.111 159 10.257 0.0058 8.49 0.119 0.07 7.67 0.16 95.00 149 0.53 0.29 0.13 94.91 15.0 0.29 0.018 1.111 159 0.027 0.0056 7.81 0.012 0.025 0.0065 7.81 0.014 94.91 15.0 0.279 0.13 94.58 15.10 0.29 0.0011 1.10 18.3680 0.2277 0.1345 0.1352 0.1345 0.1223 0.0251 0.0024 0.046 6.27 0.04 0.07 7.67 0.16 95.67 14.97 0.34 0.99 0.015 7.11 0.12 13.3420 0.2394 0.0030 0.1541 0.223 0.0231 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.99 0.015 0.116.10 1.111 14.6405 0.2892 0.1522 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.9010 2.00 116.410 1.111 14.6405 0.2892 0.1522 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.34 0.360 7.71 -0.05 0.06 7.84 0.16 95.00 4.90 0.36 0.74 0.032 0.0048 0.057 0.013 0.0224 0.046 6.27 0.04 0.07 7.68 0.18
96.67 14.97 0.34 0.76 0.16 9.50 1.1497 0.050 0.0131 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.76 0.16 9.50 1.111 14.6405 0.2892 0.1522 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.76 0.16 9.50 1.497 0.50 0.34 0.0009 0.1541 0.01220 0.0131 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.76 0.16 9.940 0.75 0.74 0.015 0.001 armoteche sentences experimenter from and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> (2000) armoteche experimenter from a detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> (2000) armoteche experimenter from a detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> (2000) armoteche experimenter from a detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> (2000) armoteche experimenter from a detector intercalibration. Ages calculated with decay constants in <i>Min</i></td><td></td><td>-</td><td>35.343</td><td>1.112</td><td>16.4114</td><td>0.2852</td><td>0.3523</td><td>0.1540</td><td>0.0839</td><td>0.1217</td><td>0.0226</td><td>0.0027</td><td>0.0500</td><td>7.03</td><td></td><td></td><td></td><td>0.16</td><td></td><td>15.26</td><td>0.31</td></td<> | 1.40 105.586 1.111 13.1668 0.2852 -0.2529 0.1538 -0.2127 0.0183 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 1.50 162.1558 1.111 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0226 0.0605 8.49 0.19 0.05 7.79 0.13 94.98 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0224 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.0048 0.1213 0.0224 0.0026 7.87 0.00 0.66 7.71 0.14 94.91 1.70 149.324 1.112 18.3680 0.2779 0.1543 0.1223 0.0251 0.0028 0.6510 7.17 -0.65 0.66 7.87 0.16 94.91 1.80 138.842 1.112 16.7346 0.2852 0.1538 -0.1633
 | 949-011 1.40 105.586 1.111 13.1668 0.2852 -0.2529 0.1538 -0.2127 0.1227 0.0183 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 14.79 0.49 0.19 0.15 16.58 1.11 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0278 0.0025 0.665 8.49 0.19 0.05 7.79 0.13 94.98 15.17 0.94-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.0048 0.1213 0.0254 0.0024 0.0666 8.49 0.19 0.05 7.79 0.13 94.98 15.17 0.949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.0048 0.1213 0.0254 0.0024 0.0660 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0.949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1531 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.949-01N 1.90 106.754 1.112 13.3420 0.2934 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.949-01N 1.90 106.754 1.111 14.6405 0.2892 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.07 7.68 0.18 96.67 14.97 0.00 0.01 10.6.76 1.410 1.111 14.6405 0.2892 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.07 7.68 0.18 96.67 14.97 0.00 0.01 0.000 0.06 0.000 0.0560 1.4097 7.68 0.18 96.67 14.97 0.00 0.010 0.000 0.010 0.000 0.0131 0.00024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.00 0.000 0.000 0.010 0.000 0.0131 0.00024 0.0000 0.0146 6.27 0.014 0.07 7.68 0.18 96.67 14.97 0.00 0.0140 0.012 0.0000 0.0000 0.0000 0.013 0.0000 0.0000 0.0000 0.0000 0.013 0.0000 0.0000 0.0000 0.0000 0.018 0.0000 0.000
 | 949-011 1.40 105.586 1.111 13.1668 0.2852 -0.2529 0.1538 -0.2127 0.0183 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 14.79 0.38 949-011 1.50 162.658 1.111 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0278 0.0025 0.0605 8.49 0.19 0.05 7.79 0.13 94.98 15.17 0.25 949-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.31 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.0048 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.27 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1548 0.1538 -0.1043 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.27 949-01N 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0.31 949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.26091 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 ³ All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> [2000], atmos | 949-011 1.40 105.586 1.111 13.1668 0.2529 0.1538 -0.2127 0.1227 0.0183 0.0026 0.0402 5.64 -0.14 0.08 7.59 0.19 94.75 14.79 0.38 949-011 1.50 162.658 1.111 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0025 0.0605 8.49 0.19 94.75 0.14 0.03 949-011 1.50 162.658 1.111 19.8261 0.2852 0.1074 0.1552 0.2093 0.1213 0.0024 0.0485 6.81 0.11 0.07 7.67 0.14 95.00 14.95 0.31 949-01L 1.70 149324 1.110 18.3680 0.2779 0.1541 0.1233 0.0024 0.0407 5.77 0.14 94.91 15.02 0.23 949-01N 1.80 138.842 1.112 18.3450 0.2832 0.1541 0.2691 0.1217 0.0148 0.002 5.77 0.16 94.51 15.02 0.214 0.217 0.002 0.017
 | 949-011 140 105.566 1111 131.668 0.282 0.1074 0.1553 0.4318 0.1207 0.0183 0.0026 0.0403 5.64 -0.14 0.08 7.59 0.19 94.75 14.79 0.38 949901 1.50 16.5658 1111 135.801 0.2882 0.1074 0.1553 0.4318 0.1217 0.025 0.0048 0.153 0.0271 0.0048 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.31 94.948 15.17 0.25 94901L 1.70 149.224 1110 18.5680 0.2779 0.13 94.96 15.17 0.25 94901L 1.70 149.224 1111 15.9010 2.2882 0.1074 0.1533 0.1213 0.0274 0.0048 6.81 0.11 0.007 7.67 0.16 95.09 14.95 0.31 94.9011 1.20 149.224 1112 16.5740 1.2882 0.1374 0.1323 0.1217 0.0028 0.0050 7.87 0.00 0.66 7.87 0.16 95.95 15.28 0.31 94.9011 1.10 18.5680 0.2779 0.139 94.96 15.7 0.0028 0.0038 0.157 0.10 95.52 14.97 0.34 0.9407 5.72 0.112 10.5744 0.122 0.134 94.03 10.312 0.0024 0.0406 6.27 0.04 0.07 7.68 0.18 96.7 14.97 0.34 94.91 15.0 0.001 16.410 1.111 14.645 0.2289 0.1532 0.0714 0.1220 0.0131 0.0024 0.0466 6.27 0.04 0.07 7.68 0.18 96.7 14.97 0.34 0.9401 2.02 116.410 1.111 14.645 0.2889 0.1532 0.0714 0.1220 0.0131 0.0024 0.0406 6.27 0.04 0.07 7.68 0.18 96.57 14.97 0.34 0.9401 2.02 116.410 1.111 14.645 0.2889 0.1532 0.0714 0.1220 0.0131 0.0024 0.0406 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.9401 2.52 0.0148 0.025 0.0560 7.87 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.9401 2.52 0.0714 0.1220 0.0131 0.0024 0.0406 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.9401 0.111 14.645 0.2889 0.1532 0.0714 0.1220 0.0131 0.0024 0.0406 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.9401 0.16401 9.5401 0.16401 1.111 14.645 0.2889 0.75201 4.960 7.3401 0.1018 0.9520 0.4860 7.3401 0.1086 0.734 0.0408 0.5401 0.10096 0.734 0.0408 0.5401 0.10096 0.734 0.0408 0.5401 0.10096 0.734 0.0408 0.5401 0.1018 0.0024 0.0408 0.512 0.0400 0.512 0.0408 0.512 0.0408 0.512 0.0408 0.5220 0.4950 0.3401 0.0024 0.0407 0.512 0.011 0.0024 0.0408 0.512 0.0400 0.0504 0.0407 0.512 0.0118 0.0024 0.0408 0.512 0.0408 0.5320 0.0478 0.0408 0.5220 0.0410 0.5120 0.0013 0.0024 0.0408 0.512 0.0408 0.512 0.0408 0.512 0.0408 0.512 0.0408 0.512 0.0408 0.512 0.0408 0.0500 0.064 0.0408 0.512 0.0408 0.512 0.0408 0.518 0.0408 0. | 949-011 140 105.566 1111 131.668 0.2852 -0.2327 0.1074 0.1525 0.427 0.1227 0.0183 0.0025 0.0605 8.49 0.19 0.05 7.79 0.13 94.98 1517 0.25 949-011 150 102.568 1111 159 10.256 0.1074 0.155 0.1034 0.155 0.017 0.005 0.065 8.49 0.119 0.07 7.67 0.16 95.00 149 0.53 0.99 0.011 1.10 159 105.56 1.111 159 10.257 0.0058 8.49 0.119 0.07 7.67 0.16 95.00 149 0.53 0.29 0.13 94.91 15.0 0.29 0.018 1.111 159 0.027 0.0056 7.81 0.012 0.025 0.0065 7.81 0.014 94.91 15.0 0.279 0.13 94.58 15.10 0.29 0.0011 1.10 18.3680 0.2277 0.1345 0.1352 0.1345 0.1223 0.0251 0.0024 0.046 6.27 0.04 0.07 7.67 0.16 95.67 14.97 0.34 0.99 0.015 7.11 0.12 13.3420 0.2394 0.0030 0.1541 0.223 0.0231 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.99 0.015 0.116.10 1.111 14.6405 0.2892 0.1522 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.9010 2.00 116.410 1.111 14.6405 0.2892 0.1522 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.34 0.360 7.71 -0.05 0.06 7.84 0.16 95.00 4.90 0.36 0.74 0.032 0.0048 0.057 0.013 0.0224 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.76 0.16 9.50 1.1497 0.050 0.0131 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.76 0.16 9.50 1.111 14.6405 0.2892 0.1522 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.76 0.16 9.50 1.497 0.50 0.34 0.0009 0.1541 0.01220 0.0131 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.76 0.16 9.940 0.75 0.74 0.015 0.001 armoteche sentences experimenter from and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> (2000) armoteche experimenter from a detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> (2000) armoteche experimenter from a detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> (2000) armoteche experimenter from a detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> (2000) armoteche experimenter from a detector intercalibration. Ages calculated with decay constants in <i>Min</i>
 | | - | 35.343 | 1.112 | 16.4114 | 0.2852 | 0.3523 | 0.1540 | 0.0839 | 0.1217 | 0.0226 | 0.0027 | 0.0500 | 7.03 | | | | 0.16 | | 15.26 | 0.31 |
| 1.50 162.658 1.111 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0025 0.0065 8.49 0.19 0.05 7.79 0.13 94.98 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.0048 0.1213 0.0024 0.0026 7.87 0.00 0.06 7.71 0.14 94.91 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.0048 0.1213 0.0024 0.0024 0.0560 7.87 0.00 0.66 7.71 0.14 94.91 1.80 138.842 1.112 16.7346 0.2382 0.1538 -0.1043 0.1223 0.0024 0.0076 5.06 7.84 0.16 94.58 1.80 166.754 1.112 16.7346 0.2382 0.1538 -0.1043 0.1217 0.0148
 | 1.50 162.658 1.111 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0025 0.0605 8.49 0.19 0.05 7.79 0.13 94.98 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.0048 0.1213 0.0254 0.0024 0.666 7.87 0.00 0.06 7.71 0.14 94.91 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.01048 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.6 7.71 0.14 94.91 1 180 138.842 1.112 16.7346 0.23852 0.1538 -0.1043 0.1217 0.0028 0.06716 7.17 -0.05 0.06 7.87 0.16 94.58 1 180 138.842 1.112 16.7346 0.1538 <td>949-01J 1.50 162.658 1.111 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0278 0.0025 0.6605 8.49 0.19 0.05 7.79 0.13 94.98 15.17 0
949-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0
949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1661 0.1543 0.0048 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0
949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0
949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1217 0.0148 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0
949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0
949-01O 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.07 7.68 0.18 96.67 14.97 0.</td> <td>949-01J 1.50 162.658 1.111 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0278 0.0025 0.6065 8.49 0.19 0.05 7.79 0.13 94.98 15.17 0.25 949-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.31 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.0048 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.27 949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0.31 949-01M 1.80 138.842 1.112 16.7346 0.2934 -0.0080 0.1541 0.1217 0.0148 0.0024 0.0016 7.71 -0.05 0.06 7.84 0.16 94.58 15.28 0.31 949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.1207 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 ³ All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> [2000], atmos</td> <td>949-01J 1.50 162.658 1.111 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0025 0.0605 8.49 0.19 0.05 7.79 0.13 94.98 15.17 0.25 949-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.31 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.0048 0.1213 0.0224 0.0026 7.87 0.00 7.67 0.14 94.91 15.02 0.279 949-01M 1.80 138.842 1.112 18.3680 0.2779 0.1541 0.2691 0.1217 0.0148 0.0024 0.0605 8.49 0.16 94.58 15.28 0.31 949-01N 1.80 138.842 1.112 13.3420 0.2392 0.1541 0.2691 0.1217 0.0024 0.0407 5.72 0.11 91.94 0.34</td> <td>949-01 150 fb2.658 1111 198261 02852 01074 01555 04318 01207 0.0278 0.0025 0.0665 849 019 0.05 779 016 95.00 14.95 0.31 949-01 1.10 183680 02779 01661 01543 0.0248 0.024 0.0566 7.87 0.06 7.87 0.016 95.00 14.95 0.31 949-011 1.00 149.324 1110 18.3680 02779 0.1654 0.024 0.0560 7.87 0.06 7.87 0.016 95.00 14.95 0.31 949-011 1.00 149.324 1.110 18.3680 02779 0.1654 1.112 16.7346 0.2852 0.1345 0.1237 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.20 0.31 949-011 1.00 110 18.3680 02779 0.1654 1.112 16.7346 0.2852 0.1345 0.1523 0.0031 0.1217 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.20 0.31 949-011 0.101 111 14.6405 0.2892 0.4589 0.1523 0.0714 0.1220 0.0131 0.0024 0.0607 5.72 0.17 0.08 7.67 0.16 95.57 14.94 0.38 94-011 0.2011 1.111 14.6405 0.2892 0.4589 0.1522 0.0714 0.1220 0.0131 0.0024 0.0607 5.72 0.17 0.08 7.67 0.18 96.57 14.97 0.34 0.34 0.366 7.84 0.16 94.58 15.28 0.31 949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1522 0.0714 0.1220 0.0131 0.0024 0.0607 5.72 0.17 0.08 7.66 7.14.97 0.34 0.34 0.366 7.34 0.38 5.56 0.31 1.44.6405 0.2882.01 ±0.0466 0.57 0.00 0.06 7.71 0.003 0.057 7.67 0.10 9.55 7.14.97 0.34 0.34 0.366 7.34 0.002 0.2681 0.018 10.0024 0.0675 0.013 10.0024 0.0675 0.013 10.0024 0.0675 0.013 10.0024 0.0024 0.0675 0.013 10.0024 0.0024 0.0667 14.07 0.018 0.0024 0.007 0.06 7.94 0.007 7.66 0.18 9.50 7.14.97 0.00 0.06 7.34 0.000 0.000 7.36 0.0</td> <td>949-011 1.50 162.658 1.111 15.8910 0.2852 0.1094 0.1555 0.4318 0.1207 0.0228 0.0025 0.0605 8.49 0.19 0.05 7.59 0.13 94.98 15.17 0.25 949-011 1.50 143.24 1.111 15.8910 0.2852 0.0034 0.1553 0.0024 0.0056 0.787 0.00 0.05 7.71 0.14 9.491 15.20 0.27 949-011 1.20 13.3680 0.2779 0.133 9.0024 0.0054 0.0560 7.87 0.00 0.05 7.71 0.14 9.491 15.20 0.27 949-011 1.20 13.3680 0.2779 0.133 0.0121 0.0024 0.0560 7.87 0.00 0.05 7.71 0.14 9.491 15.20 0.27 949-010 1.111 1.15.8910 0.2852 0.0134 0.1213 0.0217 0.0024 0.0560 7.87 0.00 0.05 7.71 0.14 9.491 15.20 0.27 949-010 1.111 1.12 15.7346 0.2852 0.1345 0.1534 0.20714 0.1213 0.0217 0.0024 0.0560 7.87 0.00 0.05 7.71 0.14 9.491 15.20 0.24 949-010 1.111 1.12 15.7346 0.2852 0.1345 0.1532 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.04 0.16 94.58 15.28 0.31 949-010 1.111 1.14.6405 0.2892 0.4599 0.1522 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.04 0.16 94.58 15.8 0.31 949-010 2.00 116.57 http://dx.noteografted.eqt.enters.mass discrimination, and detector intercalibration. Age calculated with decay constants in <i>Min et al.</i> 2000, atmos of 3^{0}_{10} M. 2005, and a 0.0024 0.0056 0.1393 0.112 0.0024 0.0026 0.007 0.06 7.88 0.18 96.67 14.97 0.34 11 masses on Faraday collectos de 95.24.03 110 0.0024 0.0056 0.1465 0.00024 0.00024 0.00024 0.00024 0.00024 0.0000 0.06 7.71 0.14 0.4000 0.04 11 masses on Faraday collectos de 95.24.03 10.0024 0.00024 0.00024 0.00024 0.0000 0.06 7.71 0.018 0.0018 0.0018 0.0014 0.00024 0.0000 0.06 7.71 0.018 0.018 0.0014 0.0000 0.0000 0.06 7.71 0.018 0.0018 0.0014 0.0000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.018 0.0000 0.018 0.0000 0.0000 0.0000 0.0</td> <td>•</td> <td></td> <td>05.586</td> <td>1.111</td> <td>13.1668</td> <td>0.2852</td> <td>-0.2529</td> <td>0.1538</td> <td>-0.2127</td> <td>0.1227</td> <td>0.0183</td> <td>0.0026</td> <td>0.0402</td> <td>5.64</td> <td>_</td> <td></td> <td></td> <td>0.19</td>
<td></td> <td>14.79</td> <td>0.38</td> | 949-01J 1.50 162.658 1.111 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0278 0.0025 0.6605 8.49 0.19 0.05 7.79 0.13 94.98 15.17 0
949-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0
949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1661 0.1543 0.0048 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0
949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0
949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1217 0.0148 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0
949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0
949-01O 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.07 7.68 0.18 96.67 14.97 0.
 | 949-01J 1.50 162.658 1.111 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0278 0.0025 0.6065 8.49 0.19 0.05 7.79 0.13 94.98 15.17 0.25 949-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.31 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.0048 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.27 949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0.31 949-01M 1.80 138.842 1.112 16.7346 0.2934 -0.0080 0.1541 0.1217 0.0148 0.0024 0.0016 7.71 -0.05 0.06 7.84 0.16 94.58 15.28 0.31 949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.1207 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 ³ All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> [2000], atmos | 949-01J 1.50 162.658 1.111 19.8261 0.2852 0.1074 0.1555 0.4318 0.1207 0.0025 0.0605 8.49 0.19 0.05 7.79 0.13 94.98 15.17 0.25 949-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.31 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.0048 0.1213 0.0224 0.0026 7.87 0.00 7.67 0.14 94.91 15.02 0.279 949-01M 1.80 138.842 1.112 18.3680 0.2779 0.1541 0.2691 0.1217 0.0148 0.0024 0.0605 8.49 0.16 94.58 15.28 0.31 949-01N 1.80 138.842 1.112 13.3420 0.2392 0.1541 0.2691 0.1217 0.0024 0.0407 5.72 0.11 91.94 0.34
 | 949-01 150 fb2.658 1111 198261 02852 01074 01555 04318 01207 0.0278 0.0025 0.0665 849 019 0.05 779 016 95.00 14.95 0.31 949-01 1.10 183680 02779 01661 01543 0.0248 0.024 0.0566 7.87 0.06 7.87 0.016 95.00 14.95 0.31 949-011 1.00 149.324 1110 18.3680 02779 0.1654 0.024 0.0560 7.87 0.06 7.87 0.016 95.00 14.95 0.31 949-011 1.00 149.324 1.110 18.3680 02779 0.1654 1.112 16.7346 0.2852 0.1345 0.1237 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.20 0.31 949-011 1.00 110 18.3680 02779 0.1654 1.112 16.7346 0.2852 0.1345 0.1523 0.0031 0.1217 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.20 0.31 949-011 0.101 111 14.6405 0.2892 0.4589 0.1523 0.0714 0.1220 0.0131 0.0024 0.0607 5.72 0.17 0.08 7.67 0.16 95.57 14.94 0.38 94-011 0.2011 1.111 14.6405 0.2892 0.4589 0.1522 0.0714 0.1220 0.0131 0.0024 0.0607 5.72 0.17 0.08 7.67 0.18 96.57 14.97 0.34 0.34 0.366 7.84 0.16 94.58 15.28 0.31 949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1522 0.0714 0.1220 0.0131 0.0024 0.0607 5.72 0.17 0.08 7.66 7.14.97 0.34 0.34 0.366 7.34 0.38 5.56 0.31 1.44.6405 0.2882.01 ±0.0466 0.57 0.00 0.06 7.71 0.003 0.057 7.67 0.10 9.55 7.14.97 0.34 0.34 0.366 7.34 0.002 0.2681 0.018 10.0024 0.0675 0.013 10.0024 0.0675 0.013 10.0024 0.0675 0.013 10.0024 0.0024 0.0675 0.013 10.0024 0.0024 0.0667 14.07 0.018 0.0024 0.007 0.06 7.94 0.007 7.66 0.18 9.50 7.14.97 0.00 0.06 7.34 0.000 0.000 7.36 0.0 | 949-011 1.50 162.658 1.111 15.8910 0.2852 0.1094 0.1555 0.4318 0.1207 0.0228 0.0025 0.0605 8.49 0.19 0.05 7.59 0.13 94.98 15.17 0.25 949-011 1.50 143.24 1.111 15.8910 0.2852 0.0034 0.1553 0.0024 0.0056 0.787 0.00 0.05 7.71 0.14 9.491 15.20 0.27 949-011 1.20 13.3680 0.2779 0.133 9.0024 0.0054 0.0560 7.87 0.00 0.05 7.71 0.14 9.491 15.20 0.27 949-011 1.20 13.3680 0.2779 0.133 0.0121 0.0024 0.0560 7.87 0.00 0.05 7.71 0.14 9.491 15.20 0.27 949-010 1.111 1.15.8910 0.2852 0.0134 0.1213 0.0217 0.0024 0.0560 7.87 0.00 0.05 7.71 0.14 9.491 15.20 0.27 949-010 1.111 1.12 15.7346 0.2852 0.1345 0.1534 0.20714 0.1213 0.0217 0.0024 0.0560 7.87 0.00 0.05 7.71 0.14 9.491 15.20 0.24 949-010 1.111 1.12 15.7346 0.2852 0.1345 0.1532 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.04 0.16 94.58 15.28 0.31 949-010 1.111 1.14.6405 0.2892 0.4599 0.1522 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.04 0.16 94.58 15.8 0.31 949-010 2.00 116.57 http://dx.noteografted.eqt.enters.mass discrimination, and detector intercalibration. Age calculated with decay constants in <i>Min et al.</i> 2000, atmos of 3^{0}_{10} M. 2005, and a 0.0024 0.0056 0.1393 0.112 0.0024 0.0026 0.007 0.06 7.88 0.18 96.67 14.97 0.34 11 masses on Faraday collectos de 95.24.03 110 0.0024 0.0056 0.1465 0.00024 0.00024 0.00024 0.00024 0.00024 0.0000 0.06 7.71 0.14 0.4000 0.04 11 masses on Faraday collectos de 95.24.03 10.0024 0.00024 0.00024 0.00024 0.0000 0.06 7.71 0.018 0.0018 0.0018 0.0014 0.00024 0.0000 0.06 7.71 0.018 0.018 0.0014 0.0000 0.0000 0.06 7.71 0.018 0.0018 0.0014 0.0000 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.018 0.0000 0.018 0.0000 0.0000 0.0000 0.0
 | • | | 05.586 | 1.111 | 13.1668 | 0.2852 | -0.2529 | 0.1538 | -0.2127 | 0.1227 | 0.0183 | 0.0026 | 0.0402 | 5.64 | _ | | | 0.19 | | 14.79 | 0.38 |
| 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 1.70 149.324 1.110 18.3680 0.2779 0.1661 0.1543 0.0048 0.1213 0.0254 0.0056 7.87 0.00 0.06 7.71 0.14 94.91 1.70 149.324 1.110 18.3680 0.2779 0.1543 0.0048 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 1 1.80 138.842 1.112 16.7346 0.2353 0.1213 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 1 1.80 166.754 1.112 15.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0074 0.0477 5.72 0.17 0.08 7.67 0.20 95.92 1.90 166.17 1.111 14.6405 0.2892 <td>1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 1.70 149.324 1.110 18.3680 0.2779 0.1561 0.1543 0.0048 0.1213 0.0254 0.0024 0.660 7.87 0.00 0.06 7.71 0.14 94.91 1 1.80 138.842 1.112 16.7346 0.2852 0.1538 -0.1043 0.1223 0.0251 0.0028 0.6510 7.17 -0.05 0.06 7.84 0.16 94.58 1 1.80 138.842 1.112 16.7346 0.2334 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 1 1.90 106.754 1.112 13.3420 0.25892 0.1532 0.0714 0.1220 0.0024 0.0466 5.72 0.17 0.08 7.67 0.20 95.92 2.00 116.410</td> <td>949-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1661 0.1543 0.0048 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0 949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0 949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0 949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0 949-01O 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.00 0.00 0.06 0.06 0.06 0.06 0.06 0.0</td> <td>949-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.31 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1661 0.1543 0.0048 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.27 949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0.31 949-01N 1.90 106.754 1.112 15.7346 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 ³ All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> [2000], atmos</td> <td>949-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.31 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1661 0.1543 0.0048 0.1213 0.0224 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.279 949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1223 0.0024 0.06560 7.87 0.06 7.47 0.14 94.91 15.02 0.23 949-01N 1.80 138.842 1.112 18.3420 0.23934 -0.00800 0.1541 0.2691 0.1217 0.0024 0.0407 5.72 0.17 0.20 95.67 14.94 0.38 949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.15222 0.0714 0.1220 0.0446 6.27 0.04 0.07 7.68<</td> <td>949-01K 160 13841 1.111 15.8910 0.2279 0.1661 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 1495 0.31 949-011 K 100 143 94.81 15.02 0.27 0.290 1142 1112 15.346 0.2379 0.1661 0.1543 0.0048 0.1213 0.0224 0.0024 0.007 7.87 0.01 0.948 15.20 0.23 0.294 0.38 0.9401 1.11 16.405 0.2832 0.1345 0.1532 0.1231 0.0214 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.34 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.34 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.949 0.657 14.97 0.34 0.9496 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.9496 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.540 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.7568 0.18 96.67 14.97 0.34 0.9466 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.7568 0.18 96.67 14.97 0.34 0.9466 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.7568 0.16 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.5400 0.540 0.540 0.540 0.560</td> <td>949-01K 160 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0214 0.0685 6.81 0.11 0.07 767 0.16 95.00 1495 0.31 949-011 1.70 149.324 1.10 18.3680 0.275 0.1457 0.046 0.1541 0.0028 0.1517 0.0028 0.055 7.87 0.10 9.05 7.71 0.14 9491 15.02 0.29 949-011 1.90 138.824 1.112 16.7346 0.2532 0.1343 0.1538 -0.1043 0.1213 0.0224 0.0002 8 0.0517 0.006 7.71 0.14 9491 15.02 0.23 949-010 1.30 01 138.421 1.11 1.15 16.7346 0.2532 0.1343 0.1538 -0.1043 0.1273 0.0024 0.007 5.72 0.17 0.08 7.67 0.20 95.92 14.97 0.34 0.16 95.07 14.9 0.38 94-010 2.00 116.410 1.111 14.6405 0.2932 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.007 5.72 0.17 0.08 7.67 0.49 0.36 7.34 0.34 0.46 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.47 0.84 0.85 0.85 0.16 0.5001 4.400 0.35 0.000 0.1541 0.120 0.0131 0.0024 0.007 5.72 0.017 0.007 7.68 0.18 96.67 14.97 0.34 0.47 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84</td> <td>,</td> <td></td> <td>52.658</td> <td>1.111</td> <td>19.8261</td> <td>0.2852</td> <td>0.1074</td> <td>0.1555</td> <td>0.4318</td> <td>0.1207</td> <td>0.0278</td> <td>0.0025</td> <td>0.0605</td> <td>8.49</td> <td></td> <td></td> <td></td> <td>0.13</td> <td></td> <td>15.17</td> <td>0.25</td>
 | 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 1.70 149.324 1.110 18.3680 0.2779 0.1561 0.1543 0.0048 0.1213 0.0254 0.0024 0.660 7.87 0.00 0.06 7.71 0.14 94.91 1 1.80 138.842 1.112 16.7346 0.2852 0.1538 -0.1043 0.1223 0.0251 0.0028 0.6510 7.17 -0.05 0.06 7.84 0.16 94.58 1 1.80 138.842 1.112 16.7346 0.2334 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 1 1.90 106.754 1.112 13.3420 0.25892 0.1532 0.0714 0.1220 0.0024 0.0466 5.72 0.17 0.08 7.67 0.20 95.92 2.00 116.410
 | 949-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1661 0.1543 0.0048 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0 949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0 949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0 949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0 949-01O 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.00 0.00 0.06 0.06 0.06 0.06 0.06 0.0
 | 949-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.31 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1661 0.1543 0.0048 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.27 949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0.31 949-01N 1.90 106.754 1.112 15.7346 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 ³ All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> [2000], atmos | 949-01K 1.60 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 14.95 0.31 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1661 0.1543 0.0048 0.1213 0.0224 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.279 949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1223 0.0024 0.06560 7.87 0.06 7.47 0.14 94.91 15.02 0.23 949-01N 1.80 138.842 1.112 18.3420 0.23934 -0.00800 0.1541 0.2691 0.1217 0.0024 0.0407 5.72 0.17 0.20 95.67 14.94 0.38 949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.15222 0.0714 0.1220 0.0446 6.27 0.04 0.07 7.68<
 | 949-01K 160 13841 1.111 15.8910 0.2279 0.1661 0.1552 0.2093 0.1213 0.0217 0.0024 0.0485 6.81 0.11 0.07 7.67 0.16 95.00 1495 0.31 949-011 K 100 143 94.81 15.02 0.27 0.290 1142 1112 15.346 0.2379 0.1661 0.1543 0.0048 0.1213 0.0224 0.0024 0.007 7.87 0.01 0.948 15.20 0.23 0.294 0.38 0.9401 1.11 16.405 0.2832 0.1345 0.1532 0.1231 0.0214 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.34 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.34 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.949 0.657 14.97 0.34 0.9496 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.9496 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.540 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.7568 0.18 96.67 14.97 0.34 0.9466 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.7568 0.18 96.67 14.97 0.34 0.9466 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.7568 0.16 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.5302 0.5400 0.540 0.540 0.540 0.560 | 949-01K 160 128.418 1.111 15.8910 0.2852 -0.0094 0.1552 0.2093 0.1213 0.0214 0.0685 6.81 0.11 0.07 767 0.16 95.00 1495 0.31 949-011 1.70 149.324 1.10 18.3680 0.275 0.1457 0.046 0.1541 0.0028 0.1517 0.0028 0.055 7.87 0.10 9.05 7.71 0.14 9491 15.02 0.29 949-011 1.90 138.824 1.112 16.7346 0.2532 0.1343 0.1538 -0.1043 0.1213 0.0224 0.0002 8 0.0517 0.006 7.71 0.14 9491 15.02 0.23 949-010 1.30 01 138.421 1.11 1.15 16.7346 0.2532 0.1343 0.1538 -0.1043 0.1273 0.0024 0.007 5.72 0.17 0.08 7.67 0.20 95.92 14.97 0.34 0.16 95.07 14.9 0.38 94-010 2.00 116.410 1.111 14.6405 0.2932 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.007 5.72 0.17 0.08 7.67 0.49 0.36 7.34 0.34 0.46 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.47 0.84 0.85 0.85 0.16 0.5001 4.400 0.35 0.000 0.1541 0.120 0.0131 0.0024 0.007 5.72 0.017 0.007 7.68 0.18 96.67 14.97 0.34 0.47 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84
 | , | | 52.658 | 1.111 | 19.8261 | 0.2852 | 0.1074 | 0.1555 | 0.4318 | 0.1207 | 0.0278 | 0.0025 | 0.0605 | 8.49 | | | | 0.13 | | 15.17 | 0.25 |
| 1.70 149.324 1.110 18.3680 0.2779 0.1661 0.1543 0.0048 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 1 1.80 138.842 1.112 16.7346 0.2852 0.1538 -0.1043 0.1223 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 1 1.80 138.842 1.112 16.7346 0.2383 -0.1541 0.2691 0.1217 0.0028 0.0510 7.17 -0.05 0.08 7.67 0.20 95.92 1 1.90 106.754 1.112 13.3420 0.2993 0.1531 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 2.00 116.410 1.111 14.6465 0.2892 0.1532 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.07 0.07 18.667
 | 1.70 149.324 1.110 18.3680 0.2779 0.1661 0.1543 0.0048 0.1213 0.0254 0.00260 7.87 0.00 0.06 7.71 0.14 94.91 1 1.80 138.842 1.112 16.7346 0.28352 0.1538 -0.1043 0.1223 0.02261 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 1 1.80 138.842 1.112 16.7346 0.2334 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 1.90 106.754 1.111 14.6405 0.2892 0.1532 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.07 7.68 0.18 96.67 2.00 116.410 1.111 14.6405 0.2532 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.07 7.68 0.18 96.67
 | 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1661 0.1543 0.0048 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0
949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0
949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0
949-01O 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0
 | 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1661 0.1543 0.0048 0.1213 0.0254 0.0024 0.0560 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.27 949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0.31 949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 949-01O 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.34 ^a All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> [2000], atmodel 3.600 0.360 0 | 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1661 0.1543 0.0048 0.1213 0.0254 0.00260 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.27 949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0024 0.06071 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0.31 949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.20 95.92 14.94 0.38 949-01O 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.15322 0.0714 0.1220 0.0446 6.27
 | 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1661 0.1543 0.0048 0.1213 0.0254 0.0026 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.27 049-010 1.90 166.754 1.112 13.3240 0.2382 0.1345 0.1538 -0.1048 0.0024 0.0406 5.77 0.17 0.08 7.67 0.20 95.92 14.94 0.38 0.394-010 2.00 116.410 1.111 14.6405 0.2932 0.0519 0.1521 0.0213 0.0024 0.0406 5.77 0.17 0.08 7.67 0.20 95.92 14.94 0.38 0.494 0.16 4.41 0.111 14.6405 0.2932 0.04519 0.1531 0.0024 0.0406 5.77 0.17 0.08 7.67 0.20 95.92 14.94 0.38 0.44 0.16 4.41 0.111 14.6405 0.2932 0.04519 0.1532 0.0714 0.1217 0.0148 0.0024 0.0406 5.77 0.17 0.08 7.67 0.20 95.92 14.94 0.38 0.44 0.41 0.44 0.0007 1.11 14.6405 0.2932 0.04519 0.1532 0.0714 0.1220 0.0131 0.0024 0.0406 5.7 0.00 0.07 7.68 0.18 95.67 14.97 0.34 0.36 7.47 0.30 0.007 7.68 0.18 95.67 14.97 0.34 0.34 0.36 7.47 0.30 0.007 7.68 0.18 95.67 14.97 0.34 0.36 7.47 0.00 0.07 7.68 0.18 95.67 14.97 0.34 0.36 7.47 0.00 0.07 7.68 0.18 95.67 14.97 0.34 0.36 7.47 0.00 0.07 7.68 0.18 95.67 14.97 0.34 0.36 7.47 0.00 0.07 7.68 0.18 95.67 14.97 0.34 0.36 7.47 0.00 0.07 7.68 0.18 95.67 14.97 0.34 0.36 7.47 0.00 0.07 7.68 0.18 95.67 14.97 0.34 0.36 7.47 0.00 0.07 7.68 0.18 95.67 14.97 0.34 0.36 7.47 0.00 0.07 7.68 0.18 95.67 14.97 0.34 0.36 7.47 0.00 0.07 7.68 0.18 95.67 14.97 0.34 0.36 7.47 0.00 0.07 7.68 0.18 95.67 14.97 0.34 0.36 7.44 0.46 7.27 0.17 0.36 7.69 0.78 0.74 0.40 7.68 0.18 0.74 0.40 7.68 0.18 0.74 0.40 7.68 0.18 0.74 0.40 7.68 0.18 0.74 0.40 7.68 0.18 0.74 0.40 7.68 0.18 0.74 0.40 7.68 0.18 0.74 0.40 7.68 0.18 0.74 0.40 7.68 0.18 0.74 0.41 0.40 7.57 0.17 0.44 0.41 0.41 0.41 0.41 0.41 0.41 0.41 | 949-01L 1.70 149.324 1.110 18.3680 0.2779 0.1661 0.1543 0.0048 0.1213 0.0254 0.0026 7.87 0.00 0.06 7.71 0.14 94.91 15.02 0.27 949-011 1.80 13842 1.112 16.346 0.2852 0.13345 0.11345 0.1231 0.0231 0.0041 0.046 6.27 0.10 0.06 7.84 0.16 94.91 15.02 0.23 949-010 1.00 1164.10 1.111 14.405 0.2892 0.4589 0.1532 0.0714 0.1217 0.0148 0.0024 0.046 6.27 0.01 7.68 0.18 96.67 14.97 0.34 0.15 94.91 0.35 949-010 2.00 116.410 1.111 14.405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.16 94.81 0.111 14.405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.16 94.81 0.111 14.465 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.16 94.81 0.16 94.1200 0.16 94.1200 0.16 94.1200 0.006 7.44 0.12 0.0014 0.07 7.68 0.18 96.67 14.97 0.34 0.16 94.1200 1.100 0.16 94.1200 0.005 6.14.11 0.134 0.1200 0.006 7.34, 10.121 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 0.16 94.1200 0.16 94.1200 0.006 7.34, 10.124 0.000 0.16 0.14 14.12 0.1200 0.14 mo-cspheric 40.1200 0.16 0.16 94.12 0.0106 0.19 1.11 14.405 0.394, 0.134, 10.1006 0.134, 10.1006 0.134, 10.124 0.000 0.144 0.52 0.11 0.03 1.5000 0.16 0.134, 10.124 0.000 0.14 10.000 0.134, 10.1006 0.134, 10.1006 0.134, 10.1006 0.134, 10.1006 0.134, 10.1006 0.134, 10.124 0.1200 0.000 0.144 0.52 0.11 0.03 10.0000 0.134, 10.1006 0.134
 | | <i>(</i> | 28.418 | 1.111 | 15.8910 | 0.2852 | -0.0094 | 0.1552 | 0.2093 | 0.1213 | 0.0217 | 0.0024 | 0.0485 | 6.81 | | | 7.67 | 0.16 | | 14.95 | 0.31 |
| 1 180 138.842 1.112 16.7346 0.2852 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 1 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0466 6.27 0.07 1.08 96.67 | 1 180 138.842 1.112 16.7346 0.2852 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 1 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.07 7.68 0.18 96.67 | 949-01M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0
949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0
949-01O 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0 | 949-01 M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0.31 949-01 N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 ^a All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> [2000], atmos | 949-01 M 1.80 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0.31 949-01 N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 and a data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> [2000], atmospheric ⁴⁰ At/ ³⁶ At = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Caryon sanidine [<i>Kuiper et al.</i> , 2008]. Argon sanidine for blanks of a samples acquired by simultaneous collection of some samples acquired by simultaneous collection of the samples acquired by simultaneous collection of t | 949-01M 180 138.842 1.112 16.7346 0.2852 0.1345 0.1538 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0.31 949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1524 0.2031 0.0024 0.0476 5.72 0.17 0.08 7.67 0.20 95.92 14.97 0.34 0.34 data corrected for blanks, radioactive decay. nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> (2000) atmoses for factor 2000.7112 13.3420 0.2892 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.04 0.077 7.68 0.18 96.67 14.97 0.34 0.34 data corrected for blanks, radioactive decay. nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> (2000) atmoses for factaday colorX8.015 lard et al. 2006], and on compared age 14.89 ± 0.07 Ma. steps 0.8-2.2W 94.96 of ³³ Ar, MSWD = 0.4, and integrated age 14.89 ± 0.07 Ma. at pass on Fadada colorX8.01 steps 0.63 atmoses on Fadada colorX8.01 steps 0.8-2.2W 94.66 of ³³ Ar, MSWD = 0.4, and integrated age 14.54 ± 0.11 Ma, steps 0.8-2.2W 94.66 of ³³ Ar, MSWD = 0.5, and integrated age 14.64 ± 0.2M and the card colorX8.01 steps 0.53 and integrated age 14.64 ± 0.11 Ma. steps 102.2W 87.5% of ³³ Ar, MSWD = 0.5, and integrated age 14.64 ± 0.4 Ma. Plateau age 14.54 ± 0.11 Ma, steps 102.2W 87.5% of ³³ Ar, MSWD = 0.5, and integrated age 14.64 ± 0.4 Ma. Plateau age 14.54 ± 0.11 Ma, steps 102.2W 87.2% of ³³ Ar, MSWD = 0.5, and integrated age 14.64 ± 0.4 Ma. Plateau age 14.54 ± 0.11 Ma, steps 102.2W 87.5% of ³³ Ar, MSWD = 0.5, and integrated age 14.64 ± 0.01 Ma. steps 102.2W 87.5% of ³³ Ar, MSWD = 0.5, and integrated age 14.44 \pm 0.4 Ma. Plateau age 14.54 \pm 0.01 Ma, steps 102.2W 87.5% of ³³ Ar, MSWD = 0.5, and integrated age 14.44 \pm 0.4 Ma. Plateau age 14.54 \pm 0.01 Ma, steps 102.2W 97.5% of ³³ Ar, MSWD = 0.5, and integrated age 14.44 \pm 0.4 Ma. Plateau age 14.54 \pm 0.01 Ma, steps 102.2W 97.5% of ³³ Ar, MSWD = 0.5, and integrated age 14.42 \pm 0.01 Ma. steps | 949-01M 1.80 138.82 1.112 16.7346 0.2852 0.1345 0.1358 -0.1043 0.1223 0.0251 0.0028 0.0510 7.17 -0.05 0.06 7.84 0.16 94.58 15.28 0.31 949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2611 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 55.92 14.94 0.38 949-01O 2.00 116.410 1.111 14.6405 0.2899 0.1532 0.0714 0.1220 0.0131 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 55.92 14.97 0.34 0.34 architected for blanks: radioacter deform and a constrained in the radiation and detector intercalibration. Age calculated with decay constants in <i>Min et al.</i> 2008]. arrow faraday collection of all masses on Faraday collectics (40-7) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Frons on ⁴ 0Ar ³ ⁵ Ar phateau and integrated age = 14.89 ± 0.07 Ma. steps 0.8 -4.01, 100% of ³⁵ Ar, MSWD = 0.4, and integrated age = 14.89 ± 0.07 Ma. steps 0.02-22.W, 94% of ³⁵ Ar, MSWD = 0.4, and integrated age = 14.71 ± 0.17 Ma. steps 0.92-24.W, 94% of ³⁵ Ar, MSWD = 0.4, and integrated age = 14.6 ± 0.2.0.17 Ma. Anotation and integrated age = 14.6 ± 0.2.0.14 Ma. Anotation of all masses on Faraday collar at the steps 0.92-24.W, 94% of ³⁵ Ar, MSWD = 0.4, and integrated age = 14.6 ± 0.2.M. Anotation and integrated age = 14.6 ± 0.1.M. steps 0.92-2.4 W, 94% of ³⁵ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2.M. Anotation and integrated age = 15.5 ± 0.11 Ma, steps 0.92-2.4 W, 94% of ³⁵ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2.M. Anotation and integrated age = 14.6 ± 0.0.M. Anotation and anotatio | | | 49.324 | 1.110 | 18.3680 | 0.2779 | 0.1661 | 0.1543 | 0.0048 | 0.1213 | 0.0254 | 0.0024 | 0.0560 | 7.87 | | | | 0.14 | | 15.02 | 0.27 |
| 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67
 | 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.07 7.68 0.18 96.67
 | 949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0
949-01O 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0
 | 949-01 N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 949-01O 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 ^a All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> [2000], atmo | 949-01N 1.90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 949-01O 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 a All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> [2000], atmospheric ⁴⁰ At/ ³⁶ Af = 298.56 \pm 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 \pm 0.046 for Fish Caryon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotogg data for all samples acquired by simultaneous collection of
 | 949-01N 1:90 106.754 1:112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.97 0.38 949-010 2.00 116.410 1:111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.046 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 and the corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> (2000), atmospheric ⁴ Ar/ ³ Ar = 298.56 ± 0.31 (Lee <i>et al.</i> , 2006), and age of 28.201 ± 0.046 for Fish Carryon sandine [<i>Kupret et al.</i> , 2008]. Argon isotroge data for all samples acquired by simultaneous collection of ⁴ Plateau age = 14.77 ± 0.17 Ma, steps 0.40 W, 100% of ³ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma. steps 0.07 Ma, steps 0.3 ³ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma. teps 1.94 W, 94% of ³³ Ar, MSWD = 0.4, and integrated age = 14.4 ± 0.11 Ma. teps 1.19 W, 79.4% of ³³ Ar, MSWD = 0.5, and integrated age = 14.4 ± 0.4 Ma. ⁴ Plateau age = 15.5 ± 0.11 Ma, steps 0.92 - 2.4 W, 94% of ³³ Ar, MSWD = 0.5, and integrated age = 14.4 ± 0.4 Ma. ⁴ Plateau age = 15.2 ± 0.11 Ma, steps 1.9 - 1.9 W, 79.4% of ³³ Ar, MSWD = 0.5, and integrated age = 14.4 ± 0.4 Ma. ⁴ Plateau age = 15.5 ± 0.11 Ma, steps 1.9 - 2.2 W, 94% of ³³ Ar, MSWD = 0.5, and integrated age = 14.4 ± 0.4 Ma. ⁴ Plateau age = 15.5 ± 0.11 Ma, steps 1.9 - 2.2 W, 97% of ³³ Ar, MSWD = 0.5, and integrated age = 14.2 ± 0.11 Ma. steps 1.9 - 2.2 W, 97% of ³³ Ar, MSWD = 0.5, and integrated age = 14.2 ± 0.11 Ma. steps 1.9 - 2.2 W, 97% of ³³ Ar, MSWD = 0.5, and integrated age = 14.2 ± 0.11 Ma. ⁴ Plateau age = 15.16 ± 0.15 Ma, steps 1.9 - 2.2 W, 97% of ³³ Ar, MSWD = 0.5, and integrated age = 14.2 ± 0.11 Ma. ⁴ Plateau age = 15.2 ± 0.11 Ma, steps 1.9 - 2.2 W, 97% of ³³ Ar, MSWD = 0.5, and integrated age = 14.2 ± 0.11 Ma. ⁴ Plateau age = 15.16 ± 0.15 Ma, steps 0.0 -2.4 W, 97% of ³³ Ar, MSWD = 0.5, and integrated age = 15.2 ± 0.11 Ma. steps 0.6 -2.0 W, 100% of ³³ Ar, MSWD = 0.5, | 949-01N 1:90 106.754 1.112 13.3420 0.2934 -0.0080 0.1541 0.2691 0.1217 0.0148 0.0024 0.0407 5.72 0.17 0.08 7.67 0.20 95.92 14.94 0.38 949-010 2.00 116.410 1.111 14.6405 0.29892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 and are corrected for blanks, radioactive decay. nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> (2000), atmospheric ⁴⁰ M_1 ³⁶ A_1 = 298.55 ± 0.31 (Lev <i>et al.</i> , 2006), and age of 28.201 ± 0.046 for Fish Caryon sandine (<i>Kuiper et al.</i> , 2008). Argon isotoge data for all samples acquired by simultaneous collection of ¹⁰ Plateau age = 14.97 ± 0.17 Ma, steps 0.8–0.20, 99.4% of ³⁹ A_1 MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma. Steps 0.8–2.2.W, 99.4% of ³⁹ A_1 MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma. Steps 0.9–2.4W, 97.9% of ³⁹ A_1 MSWD = 0.4, and integrated age = 14.4 ± 0.4 Ma. ⁶ Plateau age = 14.54 ± 0.11 Ma, steps 0.9–2.4W, 97.5% of ³⁹ A_1 MSWD = 0.5, and integrated age = 14.4 ± 0.4 Ma. ⁶ Plateau age = 15.52 ± 0.13 Ma, steps 0.9–2.4W, 97.5% of ³⁹ A_1 MSWD = 0.5, and integrated age = 14.4 ± 0.4 Ma. ⁶ Plateau age = 15.6 ± 0.15 Ma, steps 0.9–2.4W, 97.5% of ³⁹ A_1 MSWD = 0.5, and integrated age = 15.2 ± 0.19 Ma. ⁶ Plateau age = 15.6 ± 0.15 Ma, steps 0.9–2.4W, 97.5% of ³⁹ A_1 MSWD = 0.5, and integrated age = 15.2 ± 0.11 Ma, steps 1.1–4.0W, 100% of ³⁹ A_1 MSWD = 0.5, and integrated age = 15.6 ± 0.15 Ma. steps 0.9–2.0W, 97.5% of ³⁹ A_1 MSWD = 0.5, and integrated age = 15.6 ± 0.15 Ma, steps 0.9–2.0W, 100% of ³⁹ A_1 MSWD = 0.5, and integrated age = 15.6 ± 0.15 Ma. steps 0.9–2.0W, 100% of ³⁹ A_1 MSWD = 0.5, and integrated age = 15.6 ± 0.15 Ma. steps 0.9–2.0W, 100% of ³⁹ A_1 MSWD = 0.5, and integrated age = 15.6 ± 0.15 Ma. steps 0.9–2.0W, 100% of ³⁹ A_1 MSWD = 0.5, and integrated age = 15.6 ± 0.15 Ma. steps 0.9–2.0W, 100% of ³⁹ A_1 MSWD = 0.5, and integrated age = 15.2 ± 0.19 Ma. ¹⁰ A_1 A_1 A_1 A_1 A_1 | |
| 38.842 | 1.112 | 16.7346 | 0.2852 | 0.1345 | 0.1538 | -0.1043 | 0.1223 | 0.0251 | 0.0028 | 0.0510 | 7.17 | | | | 0.16 | | 15.28 | 0.31 |
| 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67
 | 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67
 | 949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0
 | 949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34
^a All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> [2000], atmo | 949-010 2.00 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0714 0.1220 0.0131 0.0024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34
^a All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> [2000], atmospheric ⁴⁰ $x/^{36}$ Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Caryon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotogg data for all samples acquired by simultaneous collection of
 | 949-0102.00116.4101.11114.64050.28920.45890.15320.07140.12200.01310.00240.0466.270.040.077.680.1896.6714.970.34a^All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> 0.0017.680.1896.6714.970.34spheric ⁴⁰ Ar/ ³⁶ Ar = 298.56 ± 0.31 [Lee <i>et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotoge data for all samples acquired by simultaneous collection of all masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on ⁴⁰ Ar/ ³⁹ Ar plateau age = 14.899±0.07 Ma, steps 0.8–4.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.499±0.07 Ma.0.077.680.1896.671.970.34Plateau age = 14.57 ± 0.17 Ma, steps 0.8–2.4W, 90% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.499±0.07 Ma.203204.0637Ar/ ³⁹ Ar plateau and integrated age = 23.2 4 Ma.Plateau age = 14.51 ± 0.11 Ma, steps 10.2–2.2W, 97% of ³⁹ Ar, MSWD = 0.5, and integrated age = 14.49±0.07 Ma.20324.40±0.0120324.40±0.00Plateau age = 14.51 \pm 0.11 Ma, steps 10.0–2.2W, 97% of ³⁹ Ar, MSWD = 0.5, and integrated age = 14.52 \pm 0.11 Ma.21.80±0.0120324.40±0.01Plateau age = 14.51 \pm 0.11 Ma, steps 10.0–2.2W, 97% of ³⁹ Ar, MSWD = 0.5, and integrated age = 14.72 \pm 0.11 Ma.24.4±0.0124.4±0.01Plateau age = 15.55 \pm 0.13 Ma, steps 0.6–2.0W, 100% of ³⁹ Ar, MSWD = 0.5, and integrated age = 14.72 \pm 0.11 Ma.24 | 949-010 200 116.410 1.111 14.6405 0.2892 0.4589 0.1532 0.0014 0.0024 0.0446 6.27 0.04 0.07 7.68 0.18 96.67 14.97 0.34 *All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> (2000), atmosses on Faraday collectors (40–37) and ion counter (36), with a Thermo Scientific ARGUS/ mass spectrometer. Errors on ⁴⁰ Ar/ ³⁶ Ar plateau and integrated ages are 2 <i>a</i> . 0.034 0.046 6.27 0.04 0.07 7.68 0.134 0.030 *Pinteau age adds collectors (40–37) and ion counter (36), with a Thermo Scientific ARGUS/ mass spectrometer. Errors on ⁴⁰ Ar/ ³⁶ Ar plateau and integrated ages are 2 <i>a</i> . 0.04 0.07 7.68 0.13 0.030 1.3000, atmos *Plateau age = 14.77 ± 0.17 Ma, steps 0.9–2.4W, 94% of ³⁰ Ar, MSWD = 0.8, and integrated age = 14.45 ± 0.17 Ma. Ar/ ³⁵ Ar plateau age = 14.57 \pm 0.13 Ma, steps 1.0–1.9W, 79.4% of ³⁰ Ar, MSWD = 0.8, and integrated age = 14.4 ± 0.4 Ma. Plateau age = 15.5 \pm 0.13 Ma, steps 0.9–2.4W, 97.8% of ³⁰ Ar, MSWD = 0.8, and integrated age = 14.4 \pm 0.4 Ma. Plateau age = 15.5 \pm 0.13 Ma, steps 0.9–2.4W, 97.8% of ³⁰ Ar, MSWD = 0.9, and integrated age = 14.4 \pm 0.4 Ma. Plateau age = 15.5 \pm 0.11 Ma, steps 0.0–2.0W, 100% of ³⁰ Ar, MSWD = 0.4, and integrated age = 14.4 \pm 0.
 | | | 06.754 | 1.112 | 13.3420 | 0.2934 | -0.0080 | 0.1541 | 0.2691 | 0.1217 | 0.0148 | 0.0024 | 0.0407 | 5.72 | | | | 0.20 | | 14.94 | 0.38 |
|
 |
 |
 | ^a All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> [2000], atmo | ^a All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> [2000], atmospheric ⁴⁰ Ar/ ³⁵ Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotogg data for all samples acquired by simultaneous collection of
 | ^a All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> [2000], atmospheric ⁴⁰ Ar/ ³⁶ Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotoge data for all samples acquired by simultaneous collection of all masses on Faraday collectors (40–37) and ion counter (39, with a Thermo Scientific ARGUSVI mass spectrometer. Errors on ⁴⁰ Ar/ ³⁹ Ar plateau and integrated ages are 2 <i>n</i> . ^b Plateau age = 14.87 ± 0.07 Ma, steps 0.8–4.0W, 100% of ³⁵ Ar, MSWD = 0.4, and integrated age = 14.89 ± 0.07 Ma. steps 1–1.9W, 79.4% of ³³ Ar, MSWD = 0.4, and integrated age = 14.74 ± 0.17 Ma. steps 1–1.9W, 79.4% of ³³ Ar, MSWD = 0.5, and integrated age = 14.74 ± 0.17 Ma. steps 1–0.24 W, 94% of ³³ Ar, MSWD = 0.5, and integrated age = 15.24 Ma. ^c Plateau age = 14.54 ± 0.11 Ma, steps 1.0–22 W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 15.24 ± 0.11 Ma, steps 1.0–22 W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 15.22 ± 0.11 Ma, steps 0.9–24 W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 15.22 ± 0.11 Ma, steps 1.0–22 W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 15.22 ± 0.11 Ma, steps 1.0–22 W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 15.22 ± 0.11 Ma, steps 1.0–22 W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 15.22 ± 0.11 Ma, steps 1.0–22 W, 100% of ³³ Ar, MSWD = 0.5, and integrated age = 15.22 ± 0.11 Ma, steps 1.0–20 W, 100% of ³³ Ar, MSWD = 0.5, and integrated age = 15.22 ± 0.11 Ma, steps 1.0–20 W, 100% of ³³ Ar, MSWD = 0.5, and integrated age = 15.22 ± 0.11 Ma, steps 1.0–20 W, 100% of ³³ Ar, MSWD = 0.5, and integrated age = 15.22 ± 0.11 Ma. steps 1.0–20 W, 100% of ³³ Ar, MSWD = 0.5, and integrated age = 15.22 ± 0.11 Ma. steps 1.0–20 W, 100% of ³³ Ar, MSWD = 0.5, and integrated age = 15.22 ± 0.11 Ma. steps 1.0–20 W, 100% of ³³ Ar, MSWD = 0.5, and integrated age = 15.22 \pm 0.11 Ma. step | ^a All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Min et al.</i> [2000], atmospheric ⁴⁰ Ar/ ³⁰ Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotope data for all samples acquired by simultaneous collection of all masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on ⁴⁰ Ar/ ³⁹ Ar plateau and integrated ages are 2 <i>a</i> . ¹² Plateau age = 14.89 ± 0.07 Ma, steps 0.8 -4.0W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 14.89 ± 0.07 Ma. steps 0.8 -4.0W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 14.494 ± 0.17 Ma. The argument of the steps 0.8 -4.0W, 100% of ³³ Ar, MSWD = 0.6, and integrated age = 14.494 ± 0.17 Ma. The argument age = 14.51 ± 0.13 Ma, steps 0.9 -2.4W, 94% of ³³ Ar, MSWD = 0.6, and integrated age = 12.2 ± 0.11 Ma. Steps 1.0 - 2.2W, 87.2% of ³³ Ar, MSWD = 0.5, and integrated age = 15.2 ± 0.11 Ma, steps 0.9 -2.4W, 94% of ³³ Ar, MSWD = 0.5, and integrated age = 15.2 ± 0.11 Ma, steps 1.0 - 2.2W, 87.2% of ³³ Ar, MSWD = 0.5, and integrated age = 15.2 ± 0.11 Ma, steps 1.0 - 2.2W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 15.2 ± 0.11 Ma, steps 1.0 - 2.2W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 15.2 ± 0.11 Ma, steps 1.0 - 2.2W, 100% of ³³ Ar, MSWD = 0.5, and integrated age = 15.2 ± 0.11 Ma. Steps 1.0 - 2.2W, 100% of ³³ Ar, MSWD = 0.5, and integrated age = 15.2 ± 0.11 Ma, steps 1.0 - 2.2W, 100% of ³³ Ar, MSWD = 0.5, and integrated age = 15.2 ± 0.11 Ma. Steps 1.0 - 2.2W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 15.2 ± 0.11 Ma. Steps 1.0 - 2.2W, 100% of ³³ Ar, MSWD = 0.5, and integrated age = 15.2 ± 0.11 Ma. Steps 1.0 - 2.2W, 100% of ³³ Ar, MSWD = 0.5, and integrated age = 15.2 \pm 0.11 Ma. Steps 0.6 - 2.0W, 100% of ³³ Ar, MSWD = 0.5, and integrated age = 15.2 \pm 0.11 Ma. Steps 0.6 - 2.0W, 100% of ³³ Ar, MSWD = | | | 16.410
 | 1.111 | 14.6405 | 0.2892 | 0.4589 | 0.1532 | 0.0714 | 0.1220 | 0.0131 | 0.0024 | 0.0446 | 6.27 | | | | 0.18 | | 14.97 | 0.34 |
| ⁶ All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Nin et al.</i> [2000], a spheric ⁴⁰ Ar/ ³⁶ Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotoge data for all samples acquired by simultaneous collecti all masses on Faraday collectors (40–37) and ion counter (35, with a Thermo Scientific ARGUSVI mass spectrometer. Errors on ⁴⁰ Ar/ ³⁶ Ar plateau and integrated ages are 2 σ .
 | spheric ⁴⁰ Ar/ ³⁶ Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age \circ f 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotope data for all samples acquired by simultaneous call masses on Faraday collectors (40–37) and ion counter (36), with a Thermo Scientific ARGUSVI mass spectrometer. Errors on ⁴⁰ Ar/ ³⁹ Ar plateau and integrated ages are 2 σ .
 | all masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on 40 Ar plateau and integrated ages are 2σ .
 | all masses on raradad collectors (40-37) and ion counter (36) with a mermio scientific Arguosyl mass spectrometer. Errors on AI/ Ar plateau and integrated ages are 26. |
 | Trace and ege = 14.74 ± 0.17 Med, steps 0.6-2.4W, 99.4% of ³³ Ar, MSWD = 0.8, and integrated age = 14.4 ± 0.4 Med.
Plateau age = 14.54 ± 0.11 Ma, steps 0.9-2.4W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 14.4 ± 0.4 Med.
Plateau age = 15.25 ± 0.13 Ma, steps 0.9-2.4W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 14.4 ± 0.4 Med.
Plateau age = 15.25 ± 0.11 Ma, steps 0.9-2.4W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 15.23 ± 0.19 Med.
Plateau age = 14.72 ± 0.11 Ma, steps 0.9-2.4W, 97.5% of ³³ Ar, MSWD = 0.6, and integrated age = 14.72 ± 0.11 Ma.
Plateau age = 14.72 ± 0.11 Ma, steps 0.6-2.0W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma, steps 0.6-2.0W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma, steps 0.6-2.0W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma, steps 0.6-2.0W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma. | Trace and age = 14.7, ± 0.17 Ma, steps 0.2–2.W, 93.4%, MSWD = 0.8, and integrated age = 14.6 ± 0.1 Ma.
Plateau age = 13.01 Ma, steps 0.9–2.4 W, 94% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma.
Plateau age = 14.54 ± 0.11 Ma, steps 0.9–2.4 W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 14.4 ± 0.4 Ma.
Plateau age = 15.25 ± 0.13 Ma, steps 0.9–2.4 W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 15.23 ± 0.19 Ma.
Plateau age = 14.54 ± 0.11 Ma, steps 0.9–2.4 W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 14.6 ± 0.10 Ma.
Plateau age = 15.16 ± 0.15 Ma, steps 0.6–2.0 W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma.
 | ^c plateau a | ige = 14.8 | 39 ± 0.07
7 ± 0.17 | Ma, steps | 0.8-4.0 W | 100% of | ³⁹ Ar, MSWi | 0 = 0.4, and $0 = 0.4$ | d integrate | d age = 14 | 1.89 ± 0.07 | Ma. | | | | | | | | | |
| ^a All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Nin et al.</i> [2000], a spheric ⁴⁰ Ar/ ³⁶ Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotope data for all samples acquired by simultaneous collecti all masses on Faraday collectors (40–37) and ion counter (35) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on ⁴⁰ Ar/ ³⁶ Ar plateau and integrated ages are 2 <i>o</i> . ^b plateau age = 14.89 ± 0.07 Ma, steps 0.8–4.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.89 ± 0.07 Ma.
 | spheric ⁴⁰ Ar/ ³⁶ Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotope data for all samples acquired by simultaneous (all masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on ⁴⁰ Ar/ ³⁹ Ar plateau and integrated ages are 2σ . ^b Plateau age = 14.89± 0.07 Ma, steps 0.8–4.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.89± 0.07 Ma.
 | all masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on ${}^{40}Ar/{}^{29}Ar$ plateau and integrated ages are 2 <i>o</i> .
Plateau age = 14.89 ± 0.07 Ma, steps 0.8–4.0W, 100% of ${}^{3}Ar$, MSWD = 0.4, and integrated age = 14.89 ± 0.07 Ma.
 | all masses on raraday collectors $(40-37)$ and ion counter (35) with a mermo scientific ArGUOSY mass spectrometer. Errors on AI/ Ar plateau and integrated ages are 26.
Plateau age = 14.89 ± 0.07 Ma, steps $0.8-40.00$, of 3^{9} Ar, MSWD = 0.4 , and integrated age = 14.89 ± 0.07 Ma. |
 | Plateau age = 14.61 ± 0.13 Ma, steps 0.9-24, W, 94% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma.
Plateau age = 14.61 ± 0.11 Ma, steps 1.0-2.2 W, 87.2% of ³³ Ar, MSWD = 0.5, and integrated age = 14.4 ± 0.4 Ma.
Plateau age = 15.25 ± 0.11 Ma, steps 0.9-2.4 W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 15.23 ± 0.19 Ma.
Plateau age = 14.72 ± 0.11 Ma, steps 0.9-2.4 W, 100% of ³³ Ar, MSWD = 0.6, and integrated age = 14.72 ± 0.11 Ma.
Plateau age = 15.16 ± 0.15 Ma, steps 0.6-2.0 W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma. | Plateau age = 15.16 ± 0.13 Ma, steps 0.9–2.4 W, 94% of ³³ M. MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma.
Plateau age = 14.61 ± 0.11 Ma, steps 1.0–2.2 W, 87.2% of ³³ Ar, MSWD = 0.5, and integrated age = 14.4 ± 0.4 Ma.
Plateau age = 15.25 ± 0.11 Ma, steps 0.9–2.4 W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 15.23 ± 0.19 Ma.
Plateau age = 14.72 ± 0.11 Ma, steps 0.9–2.4 W, 97.5% of ³³ Ar, MSWD = 0.6, and integrated age = 15.23 ± 0.11 Ma.
Plateau age = 15.16 ± 0.15 Ma, steps 0.6–2.0 W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma.
 | dolateau a | ge = 14./
ge = 33.0 | 1 / I / I / I / I / I | via, steps | 0.8-2.2 W, | 99.4% OT | | u = 0.4, an | d integrate | rade = 1 | 4.//±0.1/
Ma | Ma. | | | | | | | | | | | | | | | | |
| ^a All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Nin et al.</i> [2000], a spheric ⁴⁰ Ar) ³⁵ Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotope data for all samples acquired by simultaneous collecti all masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on ⁴⁰ Ar/ ³⁵ Ar plateau and integrated ages are 2 <i>n</i> . ^b Plateau age = 14.89 ± 0.07 Ma, steps 0.8–2.0W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma. ^c Plateau age = 14.77 ± 0.17 Ma. steps 0.8–2.2W, 99.4% of ³³ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma. | spheric ⁴⁰ Ar/ ³⁶ Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotope data for all samples acquired by simultaneous c all masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on ⁴⁰ Ar/ ³⁹ Ar plateau and integrated ages are 2σ . ^b Plateau age = 14.89± 0.07 Ma, steps 0.8–4.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.89± 0.07 Ma. ^c Plateau age = 14.77± 0.17 Ma, steps 0.8–2.0W, 99.4% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.77± 0.17 Ma. | The end of the second second second second representation is non-productive for the second s | all masses on raraday collectors (40-37) and ion counter (39) with a mermo scientific ArGUOSY mass spectrometer. Errors on AI7 Ar plateau and integrated ages are $z\sigma$.
Plateau age = 14.89 ± 0.07 Ma, steps 0.8–4.0W, 9.94% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.89 ± 0.07 Ma.
Plateau age = 14.77 ± 0.17 Ma, steps 0.8–2.2W, 9.94% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma. | riaceau age = 14.07 ± 0.07 Ma, steps 0.0-4.0 W, 10.07 0 U 2.41, MJWU = 0.4, and integrated age = 14.72 ± 0.01 Ma.
Plateau age = 14.77 ± 0.17 Ma, steps 0.82.22 W, 99.4% of 37.4 MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma. | f hateau age = 14.54 ± 0.11 Ma, steps 1.0–2.2 W, 87.2% of ${}^{39}_{3}$ Ar, MSWD = 0.5, and integrated age = 14.4 ± 0.4 Ma.
Plateau age = 15.25 ± 0.13 Ma, steps 0.9–2.4 W, 97.5% of 32 Ar, MSWD = 0.9, and integrated age = 15.23 ± 0.19 Ma.
Plateau age = 14.72 ± 0.11 Ma, steps 1.1–4.0 W, 100% of ${}^{39}_{3}$ Ar, MSWD = 0.6, and integrated age = 14.72 ± 0.11 Ma.
Plateau age = 15.16 ± 0.15 Ma, steps 0.6–2.0 W, 100% of ${}^{39}_{3}$ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma. | f hateau age = 14.54 ± 0.11 Ma, steps 1.0–2.2W, 87.2% of ³⁹ Ar, MSWD = 0.5, and integrated age = 14.4 ± 0.4 Ma.
Plateau age = 15.25 ± 0.13 Ma, steps 0.9–2.4 W, 97.5% of ³³ Ar, MSWD = 0.9, and integrated age = 15.23 ± 0.19 Ma.
heateau age = 14.72 ± 0.11 Ma, steps 0.9–2.4 W, 97.5% of ³³ Ar, MSWD = 0.6, and integrated age = 14.72 ± 0.11 Ma.
heateau age = 15.16 ± 0.15 Ma, steps 0.6–2.0 W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma. | e Plateau a | ige – 23.0
de = 14.6 | 1 ± 0.13 N | Ma, steps | 0.9-2.4 W. | 94% of 35 | Ar. MSWD | = 0.6. and | integrated | ade=14.6 | 5 ± 0.2 Ma. | | | | | | | | | | |
| ^a All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Nin et al.</i> [2000], a spheric ⁴⁰ Ari ³⁵ Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotope data for all samples acquired by simultaneous collecti all masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUS/I mass spectrometer. Errors on ⁴⁰ Ar/ ³³ Ar plateau and integrated ages are 2 <i>o</i> . ^b Plateau age = 14.89 ± 0.07 Ma, steps 0.8–4.0W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 14.89 ± 0.07 Ma. steps 0.8–2.2W, 99.4% of ³³ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma. ⁶ Plateau age = 14.61 ± 0.17 Ma, steps 0.8–2.2W, 99.4% of ³³ Ar, MSWD = 0.8, and integrated age = 14.77 ± 0.17 Ma. ⁶ Plateau age = 14.61 ± 0.13 Ma, steps 0.8–2.2W, 99.4% of ³³ Ar, MSWD = 0.8, and integrated age = 14.65 ± 0.31 Ma. Steps 0.8–2.2W, 99.4% of ³³ Ar, MSWD = 0.8, and integrated age = 14.65 ± 0.17 Ma. ⁶ Plateau age = 14.61 ± 0.13 Ma, steps 0.9–2.4W, of ³³ Ar, MSWD = 0.8, and integrated age = 14.65 ± 0.2 Ma. | spheric ⁴⁰ Ar/ ³⁶ Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotope data for all samples acquired by simultaneous call masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on ⁴⁰ Ar/ ³⁹ Ar plateau and integrated ages are 2σ . ^b Plateau age = 14.89 ± 0.07 Ma, steps 0.8–4.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.89 ± 0.07 Ma. Steps 0.8–2.2W, 99.4% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma. Steps 0.8–2.2W, 99.4% of ³⁹ Ar, MSWD = 0.8, and integrated age = 14.77 ± 0.17 Ma. ⁴ Plateau age 1-1.9 W, 79.4% of ³⁹ Ar, MSWD = 0.8, and integrated age = 3.2 ± 4 Ma. ⁶ Plateau age = 14.61 ± 0.13 Ma. steps 0.9–2.4 W, 94% of ³⁹ Ar, MSWD = 0.8, and integrated age = 3.2 ± 4 Ma. | The end of the second second second second second and the removes of the conduct properties that and the second s | all masses on raraday collectors (+0-3/) and ion counter (39) with a mermo scientuic ArisOSY mass spectrometer. Errors on AI/ Ar plateau and integrated ages are z_0 .
Plateau age = 14.89 ± 0.07 Ma, steps 0.8-4.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.89 ± 0.07 Ma.
Cplateau age = 14.77 ± 0.17 Ma, steps 0.8-2.2 W, 99.4% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma.
Plateau age = 33.0 ± 0.8 Ma, steps 1-1.9 W, 79.4% of ³⁹ Ar, MSWD = 0.8, and integrated age = 14.6 ± 0.2 Ma. | r racedu age = 14.02 ± 0.07 Md, steps 0.0-4.0 W, 9.0 W 9.1 Mow D = 0.4, and integrated age = 14.07 ± 0.17 Ma.
Plateau age = 14.77 ± 0.17 Ma, steps 0.8-2.2 W, 99.4% of ³³ of MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma.
Plateau age = 33.0 ± 0.8 Ma, steps 1-19. W, 79.4% of ³³ df, MSWD = 0.8, and integrated age = 21.4 Ma.
Plateau age = 14.61 ± 0.13 Ma, steps 0.9-2.4 W, 9.4% of ³³ df, MSWD = 0.8, and integrated age = 14.6 ± 0.2 Ma. | ⁹ Plateau age = 15.25 ± 0.13 Ma, steps 0.9–2.4 W, 97.5% of ³⁹ Ar, MSWD = 0.9, and integrated age = 15.23 ± 0.19 Ma.
¹ Plateau age = 14.72 ± 0.11 Ma, steps 1.1–4.0 W, 100% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.72 ± 0.11 Ma.
¹ Plateau age = 15.16 ± 0.15 Ma, steps 0.6–2.0 W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma. | ⁹ Plateau age = 15.25 \pm 0.13 Ma, steps 0.9–2.4 W, 97.5% of ³⁹ Ar, MSWD = 0.9, and integrated age = 15.23 \pm 0.19 Ma.
^h Plateau age = 14.72 \pm 0.11 Ma, steps 1.1–4.0 W, 100% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.72 \pm 0.11 Ma.
^h Plateau age = 15.16 \pm 0.15 Ma, steps 0.6–2.0 W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 \pm 0.15 Ma. | ^f Plateau ac | ge = 14.5- | 4 ± 0.11 N | Aa, steps | 1.0-2.2 W, | 87.2% of | ³⁹ Ar, MSWI | 0 = 0.5, and | d integrate | d age = 14 | 1.4 ± 0.4 Ma | | | | | | | | | | |
| ^a All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Nin et al.</i> [2000], a spheric ⁴⁰ At/ ³⁵ Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotope data for all samples acquired by simultaneous collecti all masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on ⁴⁰ Ar/ ³³ Ar plateau and integrated ages are 2 <i>a</i> . ^b Plateau age = 14.89 ± 0.17 Ma. ^b Plateau age = 14.89 ± 0.17 Ma. ^c Plateau age = 14.61 ± 0.17 Ma, steps 0.8–2.2W, 99.4% of ³³ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma. ^c Plateau age = 14.61 ± 0.13 Ma, steps 0.8–2.2W, 99.4% of ³³ Ar, MSWD = 0.8, and integrated age = 14.75 ± 0.17 Ma. ^c Plateau age = 14.61 ± 0.13 Ma, steps 0.9–2.4W, 94% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.17 Ma. ^c Plateau age = 14.61 ± 0.13 Ma, steps 1–0.2.2W, 99.4% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.17 Ma. ^c Plateau age = 14.61 ± 0.13 Ma, steps 10–2.2W, 95.4% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma. | spheric 40 kr/ 36 kr = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotope data for all samples acquired by simultaneous c all masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on 40 kr/ 39 Ar plateau and integrated ages are 2σ . ^b Plateau age = 14.89 ± 0.07 Ma, steps 0.8–4.0W, 100% of 39 Ar, MSWD = 0.4, and integrated age = 14.89 ± 0.07 Ma. ^c Plateau age = 14.77 ± 0.17 Ma, steps 0.8–2.2W, 99.4% of 39 Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma. ^c Plateau age = 14.61 ± 0.13 Ma, steps 1–1.9 W, 79.4% of 39 Ar, MSWD = 0.8, and integrated age = 32.2 4 Ma. ^e Plateau age = 14.61 ± 0.13 Ma, steps 0.9–2.4W, 94% of 39 Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma. ^e Plateau age = 14.61 ± 0.13 Ma, steps 10.9–2.2W, 93.4r, MSWD = 0.5, and integrated age = 14.6 ± 0.2 Ma. | The end of the second second second second second and the relation of the second seco | In masses on raraday concertors (40–37) and non counter (39) with a memo scientuic Aridosy mass spectrometer. Errors on Ai7 Ar plateau and integrated ages are $z\sigma$.
Plateau age = 14.89 ± 0.07 Ma, steps 0.8–4.2.W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.89 ± 0.07 Ma.
Cplateau age = 13.0 ± 0.8 Ma, steps 1–1.9 W, 79.4% of ³⁹ Ar, MSWD = 0.8, and integrated age = 14.77 ± 0.17 Ma.
Plateau age = 13.0 ± 0.8 Ma, steps 1–1.9 W, 94% of ³⁹ Ar, MSWD = 0.8, and integrated age = 14.6 ± 0.2 Ma.
Plateau age = 14.61 ± 0.13 Ma, steps 0.9–2.2 W, 94% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma. | Finate and ender 14:09 ± 0.07 May, steps 0.50-4.0 M, 1000 M 3 M, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma.
Filateau age = 14.77 ± 0.17 Ma, steps 0.92.4% of 3 MSWD =0.8, and integrated age = 14.77 ± 0.17 Ma.
Filateau age = 330 ± 0.8 Ma, steps 0.9-2.2 W, 94% of 3 M, MSWD = 0.8, and integrated age = 14.6 ± 0.18 Ma.
Filateau age = 14.51 ± 0.11 Ma, steps 0.9-2.2 W, 87.2% of 3 Ar, MSWD = 0.5, and integrated age = 14.6 ± 0.2 Ma. | Th Plateau age = 14.72 ± 0.11 Ma, steps 1.1–4.0 W, 100% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.72 ± 0.11 Ma.
Th Plateau age = 15.16 ± 0.15 Ma, steps 0.6–2.0 W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma. | Th Plateau age = 14.72 ± 0.11 Ma, steps 1.1–4.0 W, 100% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.72 ± 0.11 Ma.
Th Plateau age = 15.16 ± 0.15 Ma, steps 0.6–2.0 W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma. | ^g Plateau a | ge = 15.2 | 15 ± 0.13 l | Ma, steps | ; 0.9–2.4 W, | 97.5% of | ³⁹ Ar, MSW | D = 0.9, an | d integrate | ed age = 1. | 5.23 ± 0.19 | Ma. | | | | | | | | | |
| ⁶ All 40 ta corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Nin et al.</i> [2000], a spheric ⁴⁰ At/ ³⁵ Ar = 298.56 ± 0.31 [<i>Lev et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sandine [<i>Kuiper et al.</i> , 2008]. Argon isotoge data for all samples acquired by simultaneous collecti all masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on ⁴⁰ Ar/ ³³ Ar plateau and integrated ages are 2 <i>a</i> . ⁵⁰ Plateau age = 14.89 ± 0.07 Ma, steps 0.8–0.07, Mo of ³³ Ar, MSWD = 0.4, and integrated age = 14.89 ± 0.07 Ma. steps 0.8–2.2W, 99.4% of ³³ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma. ⁶ Plateau age = 14.67 ± 0.17 Ma, steps 0.8–2.2W, 99.4% of ³³ Ar, MSWD = 0.4, and integrated age = 14.75 ± 0.17 Ma. ⁶ Plateau age = 14.61 ± 0.13 Ma, steps 0.9–2.4W, 99.4% of ³³ Ar, MSWD = 0.6, and integrated age = 14.61 ± 0.11 Ma, steps 0.9–2.4W, 97.5% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.21 Ma, steps 0.9–2.4W, 97.5% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.13 Ma, steps 0.9–2.4W, 97.5% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.13 Ma, steps 0.9–2.4W, 97.5% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.11 Ma, steps 0.9–2.4W, 97.5% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.13 Ma, steps 0.9–2.4W, 97.5% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.13 Ma, steps 0.9–2.4W, 97.5% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.11 Ma, steps 0.9–2.4W, 97.5% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.13 Ma, steps 0.9–2.4W, 97.5% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.13 Ma, steps 0.9–2.4W, 97.5% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.14 Ma. steps 0.9–2.4W, 97.5% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.14 Ma. steps 0.9–2.4W, 97.5% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.14 Ma. steps 0.9–2.4W, 97.5% of ³³ Ar, MSWD = 0.6, and in | spheric ⁴⁰ Ar/ ³⁶ Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotope data for all samples acquired by simultaneous of all masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on ⁴⁰ Ar/ ³⁹ Ar plateau and integrated ages are 2σ . ^b Plateau age = 14.89 ± 0.07 Ma, steps 0.8–4.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.89 ± 0.07 Ma. ^c Plateau age = 14.77 ± 0.17 Ma, steps 0.8–2.2W, 99.4% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma. ^c Plateau age = 14.07 ± 0.18 Ma, steps 10.90 M, 94% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.20 Ma. steps 10.22 W, 94% of ³⁹ Ar, MSWD = 0.6, and integrated age = 12.6 ± 0.20 Ma. ^c Plateau age = 14.61 ± 0.13 Ma, steps 0.9–2.4 W, 94% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma. ^c Plateau age = 15.25 ± 0.11 Ma, steps 0.9–2.4 W, 97.5% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.0 Ma. | The second second second second second second second and second | In masses on raraday contectors (+0-3/) and non counter (39) with a memo scientur ANGUSV mass spectrometer. Errors on AI/ Ar plateau and integrated ages are z_0 .
Plateau age = 14.77 ± 0.17 Ma, steps 0.8–4.20W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma.
Cplateau age = 13.0 ± 0.01 Ma, steps 0.8–2.2 W, 99.4% of ³⁹ Ar, MSWD = 0.8, and integrated age = 14.77 ± 0.17 Ma.
Plateau age = 13.0 ± 0.013 Ma, steps 1-1.9 W, 79.4% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma.
Plateau age = 14.61 ± 0.13 Ma, steps 0.9–2.4 W, 94% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma.
Plateau age = 14.54 ± 0.11 Ma, steps 1.0–2.2 W, 87.2% of ³⁹ Ar, MSWD = 0.5, and integrated age = 15.23 ± 0.19 Ma. | Finate and ease 14:02 ± 0.17 Ma, steps 0.0-4-2.0W, 9:00% 01 3 Ar, M3WD = 0.4, and integrated age 14.77 ± 0.17 Ma.
Finateau age 14.77 ± 0.17 Ma, steps 0.8-2.2W, 9:94% of 3 Ar, MSWD = 0.4, and integrated age 14.77 ± 0.17 Ma.
Plateau age 14.51 ± 0.13 Ma, steps 0.9-2.4W, 9:4% of 3 Ar, MSWD = 0.6, and integrated age 14.6 ± 0.2 Ma.
Finateau age 14.54 ± 0.11 Ma, steps 0.9-2.2W, 87.2% of 3 Ar, MSWD = 0.5, and integrated age 14.6 ± 0.2 Ma.
Plateau age 15.25 ± 0.13 Ma, steps 0.9-2.4W, 97.5% of 3 Ar, MSWD = 0.9, and integrated age 14.6 ± 0.19 Ma. | Plateau age = 15.16 \pm 0.15 Ma, steps 0.5–2.0 W, 100% of $^{-2}$ Ar, MSWD = 0.4, and integrated age = 15.16 \pm 0.15 Ma. | Plateau age = 15.16 \pm 0.15 Ma, steps 0.5–2.0 W, 100% of $^{-1}$ Ar, MSWD = 0.4, and integrated age = 15.16 \pm 0.15 Ma. | ⁿ Plateau a | ge = 14.7 | 72 ± 0.11 / | Ma, steps | : 1.1–4.0 W, | 100% of | ⁵⁹ Ar, MSWI |) = 0.6, an | d integrate | d age = 14 | 1.72 ± 0.11 | Ma. | | | | | | | | | |
| ^a All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Nin et al.</i> [2000], a spheric ⁴⁰ Ar/ ³⁵ Ar = 298.56 ± 0.31 [<i>Lev et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sandine [<i>Kuiper et al.</i> , 2008]. Argon isotoge data for all samples acquired by simultaneous collectival masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on ⁴⁰ Ar/ ³³ Ar plateau and integrated ages are 2 <i>a</i> . ^b Plateau age = 14.89 ± 0.07 Ma, steps 0.8–4.0W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma. ^b Plateau age = 14.77 ± 0.17 Ma. ^c Plateau age = 14.61 ± 0.17 Ma, steps 0.8–2.2W, 99.4% of ³³ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma. ^e Plateau age = 14.61 ± 0.13 Ma, steps 1-19.9W, 94.9% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma. ^e Plateau age = 14.61 ± 0.13 Ma, steps 0.9–2.4W, 94% of ³³ Ar, MSWD = 0.5, and integrated age = 14.6 ± 0.2 Ma. ^e Plateau age = 15.25 ± 0.11 Ma, steps 1.0–2.2W, 87.2% of ³³ Ar, MSWD = 0.5, and integrated age = 14.6 ± 0.2 Ma. ^b Plateau age = 15.25 ± 0.11 Ma, steps 1.0–2.2W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 14.52 ± 0.11 Ma, steps 1.0–2.2W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 14.52 ± 0.11 Ma, steps 1.0–2.2W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 14.52 ± 0.11 Ma, steps 1.0–2.2W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 14.52 ± 0.11 Ma, steps 1.0–2.2W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 14.72 ± 0.11 Ma, steps 1.0–2.2W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 14.72 ± 0.11 Ma. steps 1.0–2.2W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 14.72 ± 0.11 Ma. steps 1.0–2.2W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 14.72 ± 0.11 Ma. steps 1.1–40.0K, 00% of ³³ Ar, MSWD = 0.5, and integrated age = 14.72 ± 0.11 Ma. steps 1.1–40.0K, 00% of ³³ Ar, MSWD = 0.5, and integrated age = 14.72 ± 0.11 Ma. | spheric 40 Ar/ 36 Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotope data for all samples acquired by simultaneous call masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on 40 Ar/ 39 Ar plateau and integrated ages are 2σ .
^b Plateau age = 14.89 ± 0.07 Ma, steps 0.8–4.0W, 100% of 39 Ar, MSWD = 0.4, and integrated age = 14.89 ± 0.07 Ma.
^c Plateau age = 14.77 ± 0.17 Ma, steps 0.8–2.2W, 99.4% of 39 Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma.
^c Plateau age = 14.61 ± 0.13 Ma, steps 1–1.9 W, 79.4% of 39 Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma.
^c Plateau age = 14.54 ± 0.11 Ma, steps 1.0–2.2 W, 94% of 39 Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma.
^b Plateau age = 15.25 ± 0.13 Ma, steps 1.0–2.2 W, 97.5% of 39 Ar, MSWD = 0.6, and integrated age = 15.23 ± 0.19 Ma.
^b Plateau age = 15.25 ± 0.11 Ma, steps 1.0–2.2 W, 97.5% of 39 Ar, MSWD = 0.6, and integrated age = 14.7 ± 0.11 Ma. | The phase of the steps of the | In thasses on raraday contectors (+0-3/) and non counter (39) with a memo scientur ANGUSV mass spectrometer. Errors on AV. Ar plateau and integrated ages are 20.
Plateau age = 14.77 ± 0.17 Ma, steps 0.8–4.2.W, 90.4% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma.
Chateau age = 14.61 ± 0.13 Ma, steps 1-1.9 W, 79.4% of ³⁹ Ar, MSWD = 0.8, and integrated age = 14.77 ± 0.17 Ma.
Plateau age = 14.61 ± 0.13 Ma, steps 1-1.9 W, 79.4% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma.
Plateau age = 14.61 ± 0.13 Ma, steps 10-2.2 W, 94% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma.
Plateau age = 14.54 ± 0.11 Ma, steps 10-2.2 W, 97.5% of ³⁹ Ar, MSWD = 0.5, and integrated age = 15.23 ± 0.19 Ma. | Frace age = 14.02 ± 0.17 Ma, steps 0.50-4.0 W, 99.4% of ${}^{39}A_1$, M3WD = 0.4, and integrated age = 14.77 ± 0.17 Ma.
Plateau age = 14.77 ± 0.17 Ma, steps 0.1-1.9 W, 79.4% of ${}^{39}A_1$, MSWD = 0.8, and integrated age = 14.77 ± 0.17 Ma.
Plateau age = 14.61 ± 0.13 Ma, steps 0.9-2.4 W, 94% of ${}^{39}A_1$, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma.
Flateau age = 14.54 ± 0.11 Ma, steps 1.0-2.2 W, 87.2% of ${}^{39}A_1$, MSWD = 0.5, and integrated age = 14.6 ± 0.2 Ma.
Flateau age = 15.25 ± 0.13 Ma, steps 1.0-2.2 W, 97.5% of ${}^{39}A_1$, MSWD = 0.5, and integrated age = 15.23 ± 0.19 Ma.
Flateau age = 14.72 ± 0.11 Ma, steps 1.1-4.0 W, 100% of ${}^{39}A_1$, MSWD = 0.6, and integrated age = 14.72 ± 0.11 Ma. | | | Plateau a | ge = 15.1(| 6 ± 0.15 N | Aa, steps | 0.6–2.0 W, | 100% of ⁻ | Ar, MSWL |) = 0.4, and | lintegrated | d age = 15. | .16 ± 0.15 / | ٨a. | | | | | | | | | |
| ^a All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Nin et al.</i> [2000], a spheric ⁴⁰ At/ ³⁵ Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotope data for all samples acquired by simultaneous collectival masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on ⁴⁰ Ar/ ³³ Ar plateau and integrated ages are 2 <i>a</i> . ^b Plateau age = 14.89 ± 0.07 Ma. steps 0.8–4.0W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma. ^b Plateau age = 14.77 ± 0.17 Ma. ^c Plateau age = 14.61 ± 0.13 Ma, steps 0.9–2.4W, 94% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma. ^e Plateau age = 15.25 ± 0.11 Ma, steps 1.0–2.2W, 87.2% of ³³ Ar, MSWD = 0.5, and integrated age = 14.6 ± 0.2 Ma. ^e Plateau age = 15.25 ± 0.11 Ma, steps 1.0–2.2W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 14.6 ± 0.2 Ma. ^b Plateau age = 15.25 ± 0.11 Ma, steps 1.0–2.2W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 14.52 ± 0.11 Ma. steps 1.0–2.2W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 14.52 ± 0.11 Ma. steps 1.0–2.2W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 14.52 ± 0.11 Ma, steps 1.0–2.2W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 15.25 ± 0.11 Ma, steps 1.0–2.2W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 15.16 ± 0.15 Ma, steps 0.6–2.0W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 15.16 \pm 0.15 Ma, steps 0.6–2.0W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 15.16 \pm 0.15 Ma. Steps 0.6–2.0W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 15.16 \pm 0.15 Ma. Steps 0.1–2.0W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 15.16 \pm 0.15 Ma. Steps 0.1-2.0W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 15.16 \pm 0.15 Ma. Steps 0.1-2.0W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 15.16 \pm 0.15 Ma. Steps 0.6–2.0W, 100% of ³³ Ar, MSWD | spheric 40 Ar/ 36 Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotope data for all samples acquired by simultaneous of all masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on 40 Ar/ 39 Ar plateau and integrated ages are 2σ .
^b Plateau age = 14.89 ± 0.07 Ma, steps 0.8–4.0 W, 100% of ${}^{39}_{39}$ Ar, MSWD = 0.4, and integrated age = 14.89 ± 0.07 Ma.
^c Plateau age = 14.77 ± 0.17 Ma, steps 0.8–2.2 W, 99.4% of 39 Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma.
^c Plateau age = 14.61 ± 0.13 Ma, steps 1–1.9 W, 79.4% of 39 Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma.
^p Plateau age = 14.54 ± 0.11 Ma, steps 1.0–2.2 W, 94% of 39 Ar, MSWD = 0.6, and integrated age = 14.4 ± 0.4 Ma.
⁹ Plateau age = 14.72 ± 0.11 Ma, steps 0.9–2.4 W, 97.5% of 39 Ar, MSWD = 0.6, and integrated age = 15.23 ± 0.19 Ma.
¹⁹ Plateau age = 14.72 ± 0.11 Ma, steps 0.9–2.4 W, 97.5% of 39 Ar, MSWD = 0.6, and integrated age = 15.23 ± 0.11 Ma.
¹⁰ Plateau age = 14.72 ± 0.11 Ma, steps 0.9–2.4 W, 97.5% of 39 Ar, MSWD = 0.6, and integrated age = 15.0 \pm 0.15 Ma. | The phase of the sector (action (action) and the phase of a phase of the phase of | In masses on raraday contectors (+0-3:) and non counter (39) with a memo scientur ANGOSM mass spectrommeter. Errors on AIV Ar plateau and integrated age are 20.
Plateau age = 14.77 \pm 0.17 Ma, steps 0.8–4.2 W, 90.4% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.77 \pm 0.17 Ma.
Chateau age = 14.77 \pm 0.17 Ma, steps 0.8–2.4 W, 94% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.77 \pm 0.17 Ma.
Plateau age = 14.61 \pm 0.13 Ma, steps 0.9–2.4 W, 94% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.6 \pm 0.2 Ma.
Plateau age = 14.54 \pm 0.11 Ma, steps 0.9–2.4 W, 94% of ³⁹ Ar, MSWD = 0.5, and integrated age = 14.6 \pm 0.2 Ma.
Plateau age = 14.54 \pm 0.11 Ma, steps 0.9–2.4 W, 97.5% of ³⁹ Ar, MSWD = 0.5, and integrated age = 15.16 \pm 0.19 Ma.
Plateau age = 14.72 \pm 0.11 Ma, steps 1.0–2.2 W, 97.5% of ³⁹ Ar, MSWD = 0.5, and integrated age = 15.16 \pm 0.19 Ma.
Plateau age = 14.72 \pm 0.11 Ma, steps 0.9–2.4 W, 97.5% of ³⁹ Ar, MSWD = 0.5, and integrated age = 15.16 \pm 0.19 Ma.
Plateau age = 14.72 \pm 0.11 Ma, steps 0.9–2.4 W, 97.5% of ³⁹ Ar, MSWD = 0.5, and integrated age = 15.16 \pm 0.15 Ma. | Frace age = 14.01 Way, steps 0.6-4.0W, 100% 01 3 Gr, M3WD = 0.4, and integrated age = 14.77 ± 0.17 Ma.
Plateau age = 14.77 ± 0.13 Ma, steps 0.8-2.2W, 99.4% of 3 Gr, MSWD = 0.8, and integrated age = 14.67 ± 0.17 Ma.
Plateau age = 14.61 ± 0.13 Ma, steps 0.9-2.4W, 94% of 3 Gr, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma.
Flateau age = 14.54 ± 0.11 Ma, steps 0.9-2.4W, 94% of 3 Gr, MSWD = 0.5, and integrated age = 14.6 ± 0.2 Ma.
Flateau age = 15.25 ± 0.13 Ma, steps 1.0-2.2W, 87.2% of 3 Gr, MSWD = 0.5, and integrated age = 15.23 ± 0.19 Ma.
Plateau age = 15.16 ± 0.15 Ma, steps 0.9-2.4W, 97.5% of 3 Ar, MSWD = 0.5, and integrated age = 15.16 ± 0.15 Ma, steps 0.6-2.0W, 100% of 3 Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma, steps 0.6-2.0W, 100% of 3 Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma, steps 0.6-2.0W, 100% of 3 Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma. | | | | | | | | | | | | | | | | | | | | | | | |
| ^a All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>Nin et al.</i> [2000], a spheric ⁴⁰ Ar/ ³⁵ Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotope data for all samples acquired by simultaneous collection all masses on Faraday collectors (40–37) and ion counter (35 with SWD = 0.4, and integrated age = 14.89 ± 0.07 Ma.
⁴⁰ Ar/ ³⁵ Ar plateau age = 14.80 ± 0.07 Ma, steps 0.8–4.0W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 14.77 \pm 0.17 Ma.
⁴⁰ Plateau age = 14.61 ± 0.17 Ma, steps 0.8–2.2W, 99.4% of ³³ Ar, MSWD = 0.4, and integrated age = 14.6 ± 0.2 Ma.
⁴⁰ Plateau age = 14.61 ± 0.13 Ma, steps 0.9–2.4W, 94% of ³³ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma.
⁴⁰ Plateau age = 15.25 ± 0.11 Ma, steps 1.0–2.2W, 87.2% of ³³ Ar, MSWD = 0.5, and integrated age = 14.6 ± 0.2 Ma.
⁴⁰ Plateau age = 15.25 ± 0.11 Ma, steps 1.0–2.2W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 14.72 ± 0.11 Ma.
⁴⁰ Plateau age = 15.16 ± 0.15 Ma, steps 0.9–2.4W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 15.23 ± 0.19 Ma.
⁴⁰ Plateau age = 15.16 ± 0.15 Ma, steps 0.0–2.0W, 100% of ³³ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma. | spheric ⁴⁰ Ar/ ³⁶ Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotope data for all samples acquired by simultaneous of all masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on ⁴⁰ Ar/ ³⁹ Ar plateau and integrated ages are 2σ . ^b Plateau age = 14.89 ± 0.07 Ma, steps 0.8–4.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.89 ± 0.07 Ma. ^c Plateau age = 14.77 ± 0.17 Ma. ^c Plateau age = 14.61 ± 0.13 Ma, steps 1-1.9 W, 79.4% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.17 Ma. ^c Plateau age = 14.61 ± 0.13 Ma, steps 10.9–2.4 W, 94% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.4 ± 0.4 Ma. ^b Plateau age = 14.52 ± 0.11 Ma, steps 0.9–2.4 W, 97.5% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.4 ± 0.4 Ma. ^b Plateau age = 14.72 ± 0.11 Ma, steps 0.9–2.4 W, 97.5% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.4 ± 0.4 Ma. ^b Plateau age = 14.72 ± 0.11 Ma, steps 0.9–2.4 W, 97.5% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.4 ± 0.4 Ma. ^b Plateau age = 14.72 ± 0.11 Ma, steps 0.9–2.4 W, 97.5% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.4 ± 0.4 Ma. ^b Plateau age = 14.72 ± 0.11 Ma, steps 0.9–2.4 W, 97.5% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.72 ± 0.11 Ma, steps 0.9–2.4 W, 97.5% of ³⁹ Ar, MSWD = 0.6, and integrated age = 15.25 ± 0.13 Ma, steps 0.9–2.4 W, 97.5% of ³⁹ Ar, MSWD = 0.6, and integrated age = 15.16 ± 0.15 Ma, steps 0.6–2.0 W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma, steps 0.6–2.0 W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 \pm 0.15 Ma. | The phase of the steps of the steps 0.8-40W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma.
The phase age = 14.87 ± 0.17 Ma, steps 0.8-40W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma.
The phase age = 14.77 ± 0.17 Ma, steps 0.8-40W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma.
The phase age = 14.77 ± 0.17 Ma, steps 0.8-2.2W, 99.4% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma.
The phase age = 14.61 ± 0.13 Ma, steps 0.9-2.4W, 94% of ³⁹ Ar, MSWD = 0.5, and integrated age = 14.6 ± 0.2 Ma.
The phase age = 14.54 ± 0.11 Ma, steps 0.9-2.4W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age = 14.6 ± 0.2 Ma.
The phase age = 15.25 ± 0.13 Ma, steps 0.9-2.4W, 97.5% of ³⁹ Ar, MSWD = 0.5, and integrated age = 15.23 ± 0.19 Ma.
The phase age = 15.25 ± 0.11 Ma, steps 0.9-2.4W, 97.5% of ³⁹ Ar, MSWD = 0.5, and integrated age = 15.23 ± 0.19 Ma.
The phase age = 15.16 ± 0.15 Ma, steps 0.6-2.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma.
The phase age = 15.16 ± 0.15 Ma, steps 0.6-2.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma.
The phase age = 15.16 ± 0.15 Ma, steps 0.6-2.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma.
The phase age = 15.16 ± 0.15 Ma, steps 0.6-2.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma.
The phase age = 15.16 ± 0.15 Ma, steps 0.6-2.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma.
The phase age = 16.75 ± 0.11 Ma, steps 0.6-2.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma.
The phase age = 16.75 ± 0.11 Ma, steps 0.6-2.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma.
The phase age = 16.16 ± 0.15 Ma, steps 0.6-2.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma.
The phase age = 16.16 ± 0.15 Ma, steps 0.6-2.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma.
The phase age = 16.16 ± 0.15 Ma, steps 0.6-2.0W, 100% of ³⁹ Ar, MSWD = 0.4, and | The interval of the factor of | Fraced age 14.57 ± 0.07 Wd, steps 0.5-4.0W, 100% 0f 3941, MSWD = 0.4, and integrated age 14.77 ± 0.17 Ma.
Plateau age $= 14.77 \pm 0.13$ Ma, steps 0.8-2.2W, 994% of ³³ Ar, MSWD = 0.8, and integrated age $= 14.77 \pm 0.17$ Ma.
Plateau age $= 14.61 \pm 0.13$ Ma, steps 0.9-2.4W, 94% of ³³ Ar, MSWD = 0.6, and integrated age $= 14.6 \pm 0.2$ Ma.
Flateau age $= 14.54 \pm 0.11$ Ma, steps 0.9-2.4W, 94% of ³³ Ar, MSWD = 0.5, and integrated age $= 14.6 \pm 0.2$ Ma.
Flateau age $= 14.52 \pm 0.13$ Ma, steps 0.9-2.4W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age $= 14.4 \pm 0.4$ Ma.
Plateau age $= 15.25 \pm 0.13$ Ma, steps 0.9-2.4W, 97.5% of ³³ Ar, MSWD = 0.5, and integrated age $= 15.23 \pm 0.19$ Ma.
Plateau age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ Ma. | | | | | | | | | | | | | | | | | | | | | | | |
| ⁵ All data corrected for blanks, radioactive decay, nucleogenic interferences, mass discrimination, and detector intercalibration. Ages calculated with decay constants in <i>win et al.</i> [2000], a spheric ⁴⁰ Ar/ ³⁶ Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotope data for all samples acquired by simultaneous collectival masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on ⁴⁰ Ar/ ³⁹ Ar plateau and integrated ages are 2σ . ⁵⁰ Plateau age = 14.89 ± 0.07 Ma, steps 0.8–4.0 W, 100% of ⁵⁹ Ar, MSWD = 0.4, and integrated age = 14.89 ± 0.07 Ma. ⁶⁰ Plateau age = 14.77 ± 0.17 Ma. ⁶¹ Plateau age = 14.60 ± 0.01 Ma, steps 0.8–2.2 W, 94% of ⁵⁹ Ar, MSWD = 0.4, and integrated age = 14.6 ± 0.07 Ma. ⁶¹ Plateau age = 14.6 ± 0.17 Ma. ⁶¹ Plateau age = 1.6 × 0.01 Ma, steps 0.9–2.4 W, 94% of ⁵⁹ Ar, MSWD = 0.5, and integrated age = 14.6 ± 0.2 Ma. ⁶¹ Plateau age = 14.6 ± 0.13 Ma, steps 0.9–2.4 W, 94% of ⁵⁹ Ar, MSWD = 0.5, and integrated age = 14.6 ± 0.2 Ma. ⁶¹ Plateau age = 15.25 ± 0.11 Ma, steps 0.9–2.4 W, 97.5% of ⁵⁹ Ar, MSWD = 0.5, and integrated age = 15.23 ± 0.19 Ma. ⁶¹ Plateau age = 14.72 ± 0.11 Ma, steps 0.9–2.4 W, 97.5% of ⁵⁹ Ar, MSWD = 0.5, and integrated age = 15.23 ± 0.19 Ma. ¹⁰ Plateau age = 15.25 ± 0.11 Ma, steps 0.9–2.4 W, 97.5% of ³⁹ Ar, MSWD = 0.5, and integrated age = 15.16 ± 0.15 Ma, steps 0.9–2.4 W, 97.5% of ³⁹ Ar, MSWD = 0.5, and integrated age = 15.16 ± 0.15 Ma, steps 0.6–2.0 W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma, steps 0.6–2.0 W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma. Steps 0.6–2.0 W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma. Steps 0.6–2.0 W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 \pm 0.15 Ma. Steps 0.6–2.0 W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 \pm 0.15 Ma. Steps 0.6–2.0 W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 \pm 0.15 Ma. S | spheric ⁴⁰ Ar/ ³⁶ Ar = 298.56 ± 0.31 [<i>Lee et al.</i> , 2006], and age of 28.201 ± 0.046 for Fish Canyon sanidine [<i>Kuiper et al.</i> , 2008]. Argon isotope data for all samples acquired by simultaneous of all masses on Faraday collectors (40–37) and ion counter (36) with a Thermo Scientific ARGUSVI mass spectrometer. Errors on ⁴⁰ Ar/ ³⁹ Ar plateau and integrated ages are 2σ . ^b Plateau age = 14.89 ± 0.07 Ma, steps 0.8–4.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.89 ± 0.07 Ma. ^c Plateau age = 14.77 ± 0.17 Ma. ^c Plateau age = 14.61 ± 0.13 Ma, steps 10.92.4W, 994% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.17 Ma. ^c Plateau age = 14.61 ± 0.13 Ma, steps 10.92.2W, 994% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.4 ± 0.4 Ma. ^b Plateau age = 14.52 ± 0.11 Ma, steps 0.9–2.4W, 94% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.4 ± 0.4 Ma. ^b Plateau age = 14.72 ± 0.11 Ma, steps 0.9–2.4W, 97.5% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.4 ± 0.4 Ma. ^b Plateau age = 14.72 ± 0.11 Ma, steps 0.9–2.4W, 97.5% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.4 ± 0.4 Ma. ^b Plateau age = 14.72 ± 0.11 Ma, steps 0.9–2.4W, 97.5% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.4 ± 0.4 Ma. ^b Plateau age = 14.72 ± 0.11 Ma, steps 0.9–2.4W, 97.5% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.72 ± 0.11 Ma, steps 0.9–2.4W, 97.5% of ³⁹ Ar, MSWD = 0.6, and integrated age = 15.25 ± 0.13 Ma, steps 0.6–2.0W, 100% of ³⁹ Ar, MSWD = 0.6, and integrated age = 15.16 ± 0.15 Ma. | The phase of the steps of the | The interverse on raradox contectors (+0-3') and non counter (39) with SPEC on the integrated age = 14.89 ± 0.07 Ma.
Plateau age = 14.77 ± 0.17 Ma, steps 0.82.0W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 14.77 ± 0.17 Ma.
Chateau age = 14.77 ± 0.11 Ma, steps 0.9-24 W, 94% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma.
Plateau age = 14.61 ± 0.13 Ma, steps 0.9-24 W, 94% of ³⁹ Ar, MSWD = 0.6, and integrated age = 14.6 ± 0.2 Ma.
Plateau age = 14.61 ± 0.11 Ma, steps 0.9-24 W, 94% of ³⁹ Ar, MSWD = 0.5, and integrated age = 14.6 ± 0.2 Ma.
Plateau age = 14.54 ± 0.11 Ma, steps 0.9-24 W, 97.5% of ³⁹ Ar, MSWD = 0.5, and integrated age = 15.23 ± 0.19 Ma.
Plateau age = 14.72 ± 0.11 Ma, steps 0.9-24 W, 97.5% of ³⁹ Ar, MSWD = 0.5, and integrated age = 15.23 ± 0.19 Ma.
Plateau age = 14.72 ± 0.11 Ma, steps 0.9-2.4 W, 97.5% of ³⁹ Ar, MSWD = 0.5, and integrated age = 15.23 ± 0.19 Ma.
Plateau age = 14.72 ± 0.11 Ma, steps 0.9-2.4 W, 97.5% of ³⁹ Ar, MSWD = 0.5, and integrated age = 15.16 ± 0.15 Ma.
Plateau age = 15.16 ± 0.15 Ma, steps 0.6-2.0 W, 100% of ³⁹ Ar, MSWD = 0.4, and integrated age = 15.16 ± 0.15 Ma. | Fraced age 14.57 ± 0.07 Wd, steps 0.5-4.0W, 90.94% of 39.4%, MSWD = 0.4, and integrated age 14.77 ± 0.17 Ma.
Plateau age $= 14.77 \pm 0.13$ Ma, steps 0.82.2.W, 99.4% of 39.4%, MSWD = 0.8, and integrated age 14.77 ± 0.17 Ma.
Plateau age $= 14.61 \pm 0.13$ Ma, steps 0.9-2.4W, 94% of 39.4%, MSWD = 0.6, and integrated age $= 14.6 \pm 0.2$ Ma.
Plateau age $= 14.54 \pm 0.11$ Ma, steps 0.9-2.4W, 94% of 39.4%, MSWD = 0.5, and integrated age $= 14.6 \pm 0.2$ Ma.
Plateau age $= 15.25 \pm 0.13$ Ma, steps 0.9-2.4W, 97.5% of 39.4%, MSWD = 0.5, and integrated age $= 15.23 \pm 0.19$ Ma.
Plateau age $= 15.25 \pm 0.13$ Ma, steps 0.9-2.4W, 97.5% of 39.4%, MSWD = 0.5, and integrated age $= 15.23 \pm 0.19$ Ma.
Plateau age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of 39.4%, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of 39.4%, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of 39.4%, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of 39.4%, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of 39.4%, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of 39.4%, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of 39.4%, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of 39.4%, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of 30.4%, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of 30.4%, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of 30.4%, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of 30.4%, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of 30.4%, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of 30.4%, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of 30.4%, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ Ma, steps 0.6-2.0W, 100% of 30.4%, MSWD = 0.4, and integrated age $= 15.16 \pm 0.15$ | | | | | | | | | | | | | | | | | | | | | | | |

increase progressively toward metamorphic values ($\delta D_{biotite} > -100\%$) toward the base of the exposed footwall section. This trend is consistent with low δD values acquisition by isotopic exchange between minerals and meteoric fluids during activity of the detachment system, including mylonitic deformation and recrystallization in the immediate footwall of the detachment, although postdeformation hydrogen isotope exchange cannot be totally ruled out.

2. ⁴⁰Ar/³⁹Ar geochronology yields middle Miocene plateau ages over the same ~200 m of structural section. We interpret these ages to represent cooling ages from which, together with published U-Pb data [Hodges et al., 1998; Murphy and Harrison, 1999; Searle et al., 2003; Cottle et al., 2015], we can estimate a minimum duration of deformation-controlled hydrogen isotope exchange between meteoric fluids and (re)-crystallized syntectonic silicate minerals of less than 2 Myr (~16.7–14.9 Ma).

Although a number of geodynamic models have been proposed to explain the exhumation of lower to middle crustal rocks in association with normal-sense motion on the STD, none of these models have highlighted the potential importance of fluids, as recorded by stable isotopes from shear zones, during extensional tectonics/normal faulting in the Tethyan sedimentary rocks that form the hanging wall to the STD. We propose that the influx of meteoric water into the STD system was facilitated by brittle faulting and extension of these upper crustal hanging wall rocks.

6.1. Interpretation of δD Values

Low δD values of biotite, muscovite, chlorite, and hornblende grains ($\delta D_{silicate} < -126\%$) from schist, calcsilicate, and leucogranite characterize the STD footwall at distances of 9–35 m and 97–109 m beneath the detachment (Figure 3 and Table 1). Such negative δD values suggest the presence of low- δD meteoric water associated with the growth of these synkinematic hydrous minerals during high-temperature penetrative deformation in the STD footwall (see below). In addition, as highlighted by $\delta D_{biotite}$ values that range from -126% to -182%, these minerals interacted to various degrees with meteoric fluids that were most likely sourced at high elevation [e.g., *Taylor*, 1990]. In contrast, leucogranite samples collected from the top 9 m of STD footwall, as well as at 40–41 m beneath the detachment, contain muscovite grains that have higher δD values ranging from -80 to -100% and from -77 to -98%, respectively. Similarly, biotite grains in leucogranites collected at 40–41 m have higher δD values (-129%) than those usually observed in the surrounding metasedimentary rocks, reflecting only moderate interaction with surfacederived fluids (Figure 3 and Table 1). Below the 109 m depth interval, schist, gneiss, and calc-silicate samples that form the base of the section provide high $\delta D_{biotite}$ values ranging from -85 to -97% (Figure 3 and Table 1) that indicate a signature again dominated by metamorphic fluids.

The δD data suggest that during development of the observed deformation microstructures, the footwall rocks interacted with surface-derived fluids down to present-day depths of 109 m beneath the STD. We view the variations in δD values within the structural section as reflecting the result of time-integrated hydrogen isotope exchange between water and rock controlled by the depth to which meteoric fluids were able to penetrate beneath the detachment, which was itself probably modulated by the contrast in permeability of the different rock types (principally metasedimentary rocks versus leucogranites).

Using a deformation and isotopic exchange temperature of ~580 ± 50°C inferred from the opening angles of quartz *c* axis fabric girdles from the mylonitic footwall leucogranites [*Law et al.*, 2011], combined with the calibration for hydrogen isotope exchange between biotite and water [*Suzuoki and Epstein*, 1976], biotite grains from leucogranites within the top ~100 m of STD footwall yield δD_{water} values as low as -150+5/-4% (Figure 3 and Table 1). Similarly, hornblende separates from calc-silicates give low δD_{water} values of $-155\pm5\%$ using a deformation temperature of ~540±50°C [*Law et al.*, 2011] and the *Suzuoki and Epstein* [1976] calibration for hydrogen isotope hornblende-water fractionation. Biotite grains from schist and calc-silicate samples provide very consistent results with δD_{water} values as low as -141% (Figure 3 and Table 1). In contrast, δD_{water} values calculated for muscovite are typically less negative ranging from $-65\pm4\%$ to $-118\pm4\%$ using the same deformation temperatures determined by *Law et al.* [2011] for mylonitic leucogranite from the Northern Transect (Figure 3 and Table 1) and the muscovite-water-hydrogen isotope exchange equations of *Suzuoki and Epstein* [1976].

The δD values of muscovite vary with grain size (Figure 3). This is also reflected in the δD_{water} values calculated for samples R-05-04 and R-03-24 for which the largest grain size ($f > 500 \,\mu$ m) yields δD_{water} values 14 and

20‰ higher, respectively, when compared to the smallest fraction ($250 < f < 500 \ \mu m$) (Table 1). The larger muscovite grains, characterized by lenticular mica fish or fish with small aspect ratios (Figure 2a), may be older grains from the protolith that did not (completely) recrystallize in the presence of meteoric fluids in the STD footwall during high-temperature shearing. In contrast, smaller grains that formed by solution-precipitation in strain shadows of porphyroclasts (Figure 2b) and/or crystallized parallel to foliation or shear bands equilibrated with surface-derived fluids during deformation. However, this grain size dependence is not observed for biotite (see sample R-07-03 or R-07-05, Table 1). This difference for muscovite grains could be related to texture, composition, and permeability of the rock; leucogranite samples display, on average, higher δD_{water} values than those calculated for biotite-schist and calc-silicate samples and/or a different hydrogen isotope exchange mechanism in biotite and muscovite. One alternative interpretation is that the syntectonic 17–16 Ma leucogranites [*Hodges et al.*, 1998; *Murphy and Harrison*, 1999; *Searle et al.*, 2003] were susceptible to deformation-induced recrystallization and therefore fluid-rock exchange, for only a relatively short time compared to the metasedimentary host rocks.

6.2. Timing of Fluid Flow and Deformation

We have established ⁴⁰Ar/³⁹Ar ages for multigrain biotite separates showing low δD values ($-163\% \le \delta D_{\text{biotite}} \le -135\%$) from the top 9–109 m of the STD footwall. All of these separates display constant ⁴⁰Ar/³⁹Ar ages of ~15 Ma from the top to the bottom of the section. The ⁴⁰Ar/³⁹Ar thermochronology conducted on biotite separates that were collected toward the base of the section, where interaction with surface-derived fluids was minimal ($\delta D_{\text{biotite}} \sim -85\%$), yield similar ~15 Ma ages. *Schultz et al.* [2017] have reported similar ⁴⁰Ar/³⁹Ar cooling ages (15.4–14.4 Ma) for white mica grains in samples of leucogranite collected from the footwall of the STD in the Rongbuk Valley in outcrops located ~ 7–20 km to the south of our Northern Transect. Additionally, *Carrapa et al.* [2016, Table DR.4] also report similar ⁴⁰Ar/³⁹Ar ages for white mica grains (~16.5–14.9 Ma) in river sands from the Rongbuk Valley that have presumably been eroded from these footwall rocks.

In biotite-schist sample M2 (9 m beneath the detachment), very similar ⁴⁰Ar/³⁹Ar ages were obtained on biotite (14.77±0.17 Ma) and muscovite (14.89±0.07 Ma) grains from a foliation-parallel syntectonic muscovite-bearing pegmatite vein. This similarity in biotite and muscovite ⁴⁰Ar/³⁹Ar ages suggests that the pegmatite underwent rapid cooling, considering estimated closure temperatures of 335 ± 50°C for biotite [Harrison et al., 1985] and \geq 400 ± 50°C for muscovite [Hames and Bowring, 1994; Harrison et al., 2009]. However, while biotite and muscovite yield similar ages at ~15 Ma, they have different δD values $(\delta D_{biotite} = -156\%)$ and $\delta D_{muscovite} = -100\%$). The biotite undoubtedly recrystallized in the presence of meteoric water ($\delta D_{water} = -124 \pm 4\%$), while the muscovite ($\delta D_{water} = -89 \pm 4\%$) displays either only moderate exchange with meteoric fluids or interaction with fluids that had a mixed meteoric-magmatic source. Considering that, for the same temperature, biotite and muscovite show a ~20% difference in hydrogen isotope fractionation (lower for biotite) and that the STD footwall at this structural distance beneath the detachment (9 m) was infiltrated by meteoric fluids, we would have expected $\delta D_{\text{muscovite}}$ values as low as -136%. Instead, we obtained a $\delta D_{muscovite}$ value $\sim 36\%$ higher ($\delta D_{muscovite} = -100\%$). We note that both biotite and muscovite from sample M2 have appropriate water concentrations (H_2O_{wt} % = 4.14 (Bt), H_2O_{wt} = 4.26 (Ms)) for their mineral chemistries (see Text 1 of supporting information for explanation of calculations; Gong et al. [2007]). Differences in δD values and similarities in 40 Ar/ 39 Ar ages highlight a lack of correlation between hydrogen and ⁴⁰Ar isotope exchange.

Two lines of evidence indicate that hydrogen isotope exchange between biotite grains and meteoric fluids occurred during grain-scale deformation. (1) Elongate lenticular biotite fish [*Ten Grotenhuis et al.*, 2003] indicate a top-to-north sense of shear (Figure 2e). Formation of mica fish involves recrystallization by solution-precipitation where mica dissolution and element transport via a fluid phase enable new biotite growth [e.g., *Dunlap*, 1992; *Mulch et al.*, 2005; *Gébelin et al.*, 2011]. (2) Biotite fish record low $\delta D_{biotite}$ values within the top 109 m of the STD footwall, requiring exchange with low- δD meteoric water during mylonitization. Similarly, muscovite grains display recrystallized tails with a top-north sense of shear that are, however, not necessarily associated with low $\delta D_{muscovite}$ values.

As also suggested by previous studies in the Everest area [e.g., *Streule et al.*, 2012], we interpret our ⁴⁰Ar/³⁹Ar ages obtained on biotite and muscovite grains in terms of cooling through the appropriate closure

temperatures at ~15 Ma, with isotopic exchange between hydrous minerals and meteoric fluids occurring shortly before that time. The syntectonic intrusive pegmatite vein (sample M2) represents an excellent marker of incremental deformation and provides key information on the timing and duration of isotopic exchange. Published U-Pb data indicate that leucogranite intrusion and penetrative shearing was active along the Rongbuk segment of the STD at ~16.7 Ma [Hodges et al., 1998; Murphy and Harrison, 1999; Searle et al., 2003; Cottle et al., 2015] and that movement had ceased prior to 15.6 Ma [Cottle et al., 2015]. In addition, despite a ~70°C difference in nominal closure temperature (see below), biotite and muscovite grains yield similar ages, suggesting that rapid cooling ensued at ~15 Ma. Following high-temperature syntectonic foliation-parallel emplacement of pegmatite (temperature above the closure temperature of the ⁴⁰Ar/³⁹Ar system in biotite and muscovite), we propose that at ~ 15 Ma both sheared leucogranites and metasedimentary rocks cooled rapidly through the closure temperature of argon in muscovite (≥400±50°C; Hames and Bowring [1994] and Harrison et al. [2009]) and biotite (335 ± 50°C; Harrison et al. [1985]). In contrast to biotite grains from the host metasedimentary rocks that likely exchanged with surface-derived fluids before pegmatite intrusion, we suggest that muscovite grains in the pegmatite with a 40 Ar/ 39 Ar age of 14.89 ± 0.07 Ma (sample M2) and $\delta D_{muscovite}$ of -100% interacted with surface-derived fluids for only a short time period. As a consequence, based on our ⁴⁰Ar/³⁹Ar data and U-Pb data acquired previously on leucogranites from Rongbuk [Hodges et al., 1998; Murphy and Harrison, 1999; Searle et al., 2003; Cottle et al., 2015], we suggest that hydrogen isotopic exchange between meteoric fluids and minerals occurred (1) prior to 15 Ma and yet (2) after intrusion of the earliest leucogranites in the Rongbuk STD footwall at ~16.7 Ma. One or two million years (between 16.7 and 14.9 Ma) would, therefore, represent the minimum duration of hydrogen isotopic exchange. However, this does not preclude the possibility that fluid infiltration and detachment activity may have occurred before ~16.7 Ma but rather that the δD values we measure in the leucogranites/pegmatites were likely acquired during this time interval.

In contrast to biotite and muscovite, hornblende from a calc-silicate layer at 24 m beneath the detachment (sample R-05-06) provides an older ⁴⁰Ar/³⁹Ar plateau age of 33.0 ± 0.8 Ma. The hornblende in this sample displays a low δ D value of -183%. Hornblende occurs as elongate grains with recrystallization tails oriented parallel to the foliation (Figure 2c), a textural relation also displayed by biotite fish with a low δ D value (-174%) in the same sample, suggesting that both minerals exchanged with deuterium-depleted meteoric fluids during deformation.

In contrast to biotite, the hornblende grains that show a complex ³⁹Ar release spectrum could be related to partial resetting during deformation and infiltration of meteoric fluids and in that case would suggest that the deformation temperature that affected the calc-silicate layer (\sim 545 ± 50°C estimated from quartz *c* axis fabric opening angles; *Law et al.* [2011], their samples R-03-15, 16, 18, and 19 from the Northern Transect) was slightly below the argon closure temperature of hornblende (\sim 530 ± 40°C; *Harrison* [1981]). This age spectrum could also reflect chemical zonation of hornblende and/or the presence of exsolution features [e.g., *Harrison and Fitz Gerald*, 1986].

6.3. Tectonic Implications

Hydrogen isotope ratios of silicate minerals that formed in the STD footwall in the Mount Everest region indicate that meteoric water penetrated down to the ductile crust at least between 16.7 and 14.9 Ma during hightemperature deformation. The presence of low- δ D meteoric water in the STD footwall raises the question of how these fluids penetrated the crust down to the ductile segment of the STD during the middle Miocene. We propose that the presence of these fluids in the STD footwall is consistent with a model involving synconvergent stretching/extension of the upper crust, high (paleo-) geothermal gradient, and high topography.

If stretching/extension did occur in the Tethyan Himalayan sequence during top-to-the-north normal-sense motion on the underlying STD, the activation of normal faults and the prevalence of open vertical fractures would likely have enhanced porosity and permeability, creating conduits for fluid flow from the Earth's surface down to the detachment system. In general, downward penetration of meteoric fluids is limited when the upper crust is in compression [*Nesbitt and Muehlenbachs*, 1995; *Pollyea et al.*, 2015] but is enhanced during regional extension [*Person et al.*, 2007]. Additional heat input coeval with exhumation of the STD footwall would favor buoyancy-driven, convective fluid flow and hence transport of meteoric water to significant depths. Finally, high surface topography creates the necessary hydraulic head, especially in regions of high relief, for surface-derived fluids to penetrate to deep levels of the continental crust. In the Himalaya, the

combination of open fractures, high thermal gradient, and topography/hydraulic head would have generated the necessary sustained fluid flow over the timescale of motion on the STD to promote (deep) circulation of meteoric fluids.

It seems likely that these three conditions for promoting extension-related fluid flow in the upper crust (synconvergent stretching/extension of the upper crust, high (paleo-) geothermal gradient, and high topography) were met in the Himalaya during the middle Miocene. High heat flow would have been provided by crustal thickening, partial melting, and intrusion of leucogranites in the STD footwall [Hodges et al., 1998; Murphy and Harrison, 1999], and a topographic high characterized the Mount Everest region [Gébelin et al., 2013] and southern Tibet [Spicer et al., 2003; Ding et al., 2017] at that time. Of critical importance, this model for flow of meteoric water through the Tethyan sedimentary rocks down to the STD also requires the presence of normal faults in the Tethyan hanging wall rocks that sole down on to the STD and were demonstrably active at the same time (~15 Ma) as normal-sense shearing on the STD. At least within the Everest area, the transport direction indicated by mineral stretching lineations and guartz c axis fabrics for normal-sense motion on the STD is ~030° (i.e., N30°E, Carosi et al. [1998] and Law et al. [2011]), and presumably the suggested hanging wall normal faults would strike at a high angle to this transport direction [e.g., Wernicke and Burchfiel, 1982]. At least one high-angle normal fault striking 120° has been mapped displacing lithologic units within the Tethyan rocks lying above the STD to the south of the Northern Transect (Figures 1c and 1d; Chi-Hsiang and Shih-Tseng [1978]). Several other similarly oriented normal faults were mapped cutting Tethyan sedimentary rocks and in ~ E-W trending valleys to the north of the Northern Transect (Figure 1b).

Burchfiel et al. [1992] in their seminal reconnaissance study of the STD exposed in the central eastern Himalaya and adjacent Tibetan Plateau mapped a number of normal faults within the Tethyan rocks striking at a high angle to the STD transport direction (Figure 1b). In some cases these faults were interpreted as cross-cutting and down-dropping local strands of the STD to the north (e.g., Rongbuk Valley), while in other cases the normal faults soled into the underlying STD [see *Burchfiel et al.*, 1992, Figure 25]. They were unsure if "these faults are part of separate detachment systems or whether they form hanging wall splays that merge at depth into the South Tibetan detachment system" [see *Burchfiel et al.*, 1992, p. 37].

It should also be kept in mind that if there were normal faults acting as conduits for meteoric water penetrating down to the STD mylonitic footwall rocks that were deforming at ~500-600°C and are now exposed in the Rongbuk Valley, these would not have been the faults in the unmetamorphosed Tethyan sedimentary rocks that now overlie exposures of the footwall at Rongbuk (Figures 1c and 1d). Such faults would be located farther to the north, with the distance depending on factors such as the dip and amount of slip on the STD. Geologic mapping indicates an absolute minimum normal-sense displacement of ~ 35 km on the STD in the Everest region [see Burchfiel et al., 1992, p. 20]. Searle et al. [2002, 2003] calculated a total slip of ~ 100-200 km (depending on assumed regional dip of the detachment) on the STD in the Everest region based on barometry of metamorphic mineral assemblages in HCC rocks in the footwall to the STD. Subsequently, Law et al. [2011] estimated normal-sense slip values of between 25 and 170 km using particle path models based on the apparent telescoping of synkinematic isotherms associated with plastic deformation of HCC footwall rocks exposed in the Rongbuk Valley. Law et al. [2011] noted that their slip estimates largely refer to the portion of motion on the STD accommodated by high-temperature ductile deformation, whereas the higher values estimated by Searle et al. [2002, 2003] are for total offset and include both ductile and brittle deformation. If these estimates are valid, then clearly the normal faults originally feeding meteoric waters down to the plastically deforming footwall rocks now exposed at Rongbuk would have been located far to the north of the Rongbuk Valley.

Several models involving different crustal and mantle processes have been proposed to explain formation of the Himalayan-Tibetan orogenic system, including its high elevation and the mechanisms responsible for exhumation of its high-grade metamorphic rocks [e.g., *England and Houseman*, 1986, 1988; *Harrison et al.*, 1992; *Clark and Royden*, 2000; *Tapponnier et al.*, 2001]. However, although these geodynamic and tectonics models differ in timing and style, all consider that the orogen has remained in a convergent tectonic setting since initiation of collision between India and Eurasia at ~ 50 Ma. In the following we evaluate competing models proposed for exhumation of the HCC and activation of the STD in the light of our evidence that meteoric fluids penetrated the upper crust to depths beneath the brittle-ductile transition zone and reached the plastically deforming STD footwall (Figure 5d).

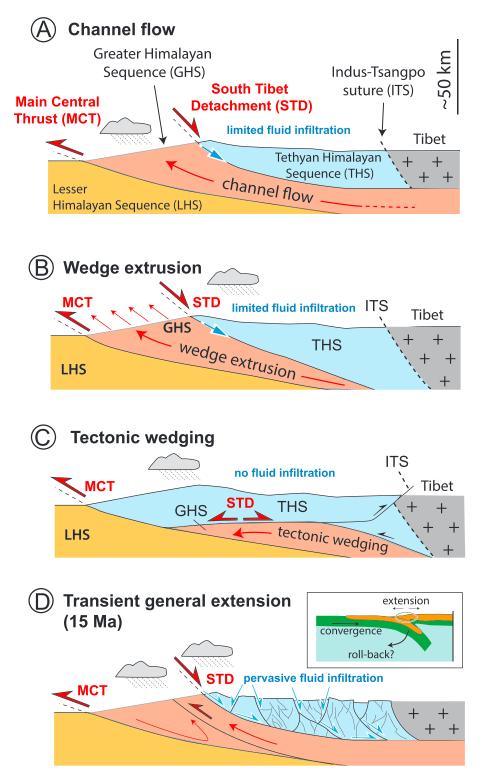


Figure 5. Models for exhumation of the Himalayan crystalline core. Models include (a) channel flow [*Nelson et al.*, 1996; *Beaumont et al.*, 2001; *Hodges et al.*, 2001], (b) wedge extrusion [*Burchfiel and Royden*, 1985; *Grujic et al.*, 1996; *Grasemann et al.*, 1999], and (c) tectonic wedging [*Yin*, 2006; *Webb et al.*, 2007]. (d) Conceptual model (from this study) proposing extensional tectonics in the upper Tethyan Himalayan plate (hanging wall to the STD) with development of E-W striking normal faults within a convergent setting (see text for explanation).

The channel flow [Nelson et al., 1996; Beaumont et al., 2001; Hodges et al., 2001] and wedge extrusion [Burchfiel and Royden, 1985; Grujic et al., 1996] models favor the southward extrusion of middle to lower crust as a result of overthickening of partially molten crust located to the north (Figures 5a and 5b). Here extrusion is accommodated by reverse- and normal-sense shearing on the MCT and STD at the base and top of the extruding tectonic unit, respectively. In this scenario the STD may have been active up to (or close to) the Earth's surface and could be infiltrated by meteoric fluids. In both models, the presence of steep normal faults in the hanging wall to the STD would increase fluid circulation. In the tectonic wedging model [Yin, 2006; Webb et al., 2007] that involves the MCT and STD merging in their updip direction (Figure 5c), development of the STD is a consequence of early crustal thickening and development of duplex systems via underplating due to material being accreted from the down-going Indian crust. In this context, where the contact between the high-grade metamorphic rocks and the overlying Tethyan sedimentary units (marking the STD) remains at depth, it appears very unlikely that surface-derived fluids would be able to penetrate the crust down to the STD. In addition, the presence of steep normal faults might not extend to the horizontal segment of the STD. Although bending of the upper crust in response to movement on ramps might create fractures that could provide fluid pathways, the overall ability for fluids to penetrate down to the STDS along fractures would be less without steep normal faults. In contrast, fluid infiltration down to the STD footwall would be maximized if the Tethyan Himalayan sequence was subject to normal faulting (Figure 5d). Development of normal faulting in the Tethyan Himalayan sequence implies that the upper crust experienced stretching/extension. While remaining in a convergent setting, two scenarios triggering extension in the Tethyan sedimentary sequence overlying the STD may be considered: (1) gravitational instability and/or (2) Indian plate rollback.

- 1. As suggested for southern Tibet [Burg et al., 1984; Burchfiel and Royden, 1985; Avouac, 2015], a change to positive elevation may have triggered gravitational spreading of the upper to middle crust in response to a vertical stress component. It is well recognized that local stress fields in the upper crust vary with topography [e.g., Bollinger et al., 2004], and in our case study, it has been demonstrated that the Mount Everest region was standing at high elevation (≥5000 m) during the middle Miocene [Gébelin et al., 2013]. As a consequence of crustal overthickening, the maximum principal compressive stress (1σ) in the upper part of the crust may have rotated from a north-south horizontal direction to a near vertical orientation, triggering the development of E-W striking normal faults within a tectonic regime still involving regional/crustal-scale north-south convergence [Burchfiel and Royden, 1985; Bollinger et al., 2004]. Following the end of activity on the STD, this continued topographic load was expressed by E-W extension along the Himalayan arc from the late Miocene to the present.
- 2. North-south lithosphere-scale extension beneath the Tibetan Plateau may explain the rapid subsidence of the Kailas basin in southern Tibet from 26 to 21 Ma or later by southward rollback of Indian lithosphere [*DeCelles et al.*, 2011; *Carrapa et al.*, 2014]. This scenario involves southward retreat of the India-Asia suture and back-arc extension with development of tilted fault blocks in the upper plate.

Our results suggesting that E-W striking brittle normal faults affected the crust down to the brittle-ductile transition would support the idea of localized stretching/extension of the upper and middle crust in middle Miocene times (Figure 5d). However, a number of interconnected events occurring in late-early to middle Miocene times point to more complex larger-scale extensional tectonic processes that may have been in operation at that time: (1) deposition of the Kailas Formation during the early Miocene in a transtensional rift along the India-Asia suture zone [*DeCelles et al.*, 2011], (2) rapid exhumation of granulitized eclogites in NW Bhutan [*Grujic et al.*, 2011] and the Ama Drime Massif to the NE of Mount Everest [*Cottle et al.*, 2009; *Kali et al.*, 2010], and (3) eruption of mantle-derived potassic basalt lava flows in southern Tibet [e.g., *Turner et al.*, 1996].

Our results suggest that major geodynamic changes may have characterized the Mount Everest region during the middle Miocene from N-S stretching with development of E-W striking normal faults to orogenparallel E-W extension as evidenced by N-S striking normal faults. Both types of normal faults may have served as conduits for fluids that, as observed for modern fluids issuing out of springs on N-S striking normal faults in the northern part of the Mount Everest region and the STDS near Nyalam, have penetrated down to shallow, intermediate, and even deep crustal levels [*Newell et al.*, 2008]. The present-day seismic activity observed in southern Tibet along active normal faults [e.g., *Bollinger et al.*, 2004; *Avouac*, 2015] suggests that the vertical stress field has not changed significantly over the last 15 Myr, as also suggested by stable isotope paleoaltimetry [*Gébelin et al.*, 2013], indicating that the mean elevation of the central Himalaya at the longitude of Mount Everest (~5200 m) has remained stable since the middle Miocene.

7. Conclusion

Synkinematic biotite collected systematically over 200 m of structural section from the STD into the underlying mylonitic footwall exposed in the Rongbuk Valley reveals consistent middle Miocene ⁴⁰Ar/³⁹Ar plateau ages. The same mineral grains are interpreted to have exchanged isotopically at high temperature with D-depleted water ($\delta D_{water} = -150 \pm 5\%$) that originated as high-elevation meteoric water and infiltrated the crustal hydrologic system most likely during ductile extensional deformation. As observed for metamorphic core complexes of the North American Cordillera, we suggest that fluid flow in the STD footwall was intimately coupled to the porosity-permeability structure of the brittle upper Tethyan Himalayan sequence that was undergoing extension during the middle Miocene. This extensional event may have developed as a result of rotation of the maximum principle stress direction from horizontal north-south to near vertical, owing to the development of a topographic high in the Mount Everest region at ~15 Ma. Steep normal faults mapped in the Tethyan units above the detachment may represent a part of the conduit system that delivered surface-derived fluids down to the brittle-ductile transition while deformation in the STD footwall was active.

The STD can be traced for a distance of > 1500 km along the length of the Himalaya and is one of the fundamental structures within the Himalayan orogenic belt. The presence of surface-derived fluids in the STD footwall between 16.7 and 14.9 Ma, at least in the Mount Everest region, highlights the importance of the STD as a fault-controlled hydrothermal system sustained by the combination of heat advection (including leucogranites bodies; *Hodges et al.* [1998], *Murphy and Harrison* [1999], and *Searle et al.* [2003]) and the presence of a hydraulic head [*Person et al.*, 2007] generated by high topography in the region [*Gébelin et al.*, 2013].

References

Avouac, J.-P. (2015), Mountain building: From earthquakes to geologic deformation, in *Treatise on Geophysics*, 2nd ed., vol. 6, edited by G. Schubert, pp. 381–432, Elsevier, Amsterdam.

- Beaumont, C., R. A. Jamieson, M. H. Nguyen, and B. Lee (2001), Himalayan tectonics explained by extrusion of a low-viscosity crustal channel coupled to focused surface denudation, *Nature*, 414, 738–742, doi:10.1038/414738a.
- Beaumont, C., R. A. Jamieson, M. H. Nguyen, and S. Medvedev (2004), Crustal channel flows: 1. Numerical models with applications to the tectonics of the Himalayan–Tibetan orogen, J. Geophys. Res., 109, B06406, doi:10.1029/2003JB002809.
- Bollinger, L., J. P. Avouac, R. Cattin, and M. R. Pandey (2004), Stress building in the Himalaya, J. Geophys. Res., B11405, doi:10.1029/2003JB002911.

Burchfiel, B. C., and L. H. Royden (1985), North-south extension within the convergent Himalayan region, *Geology*, 13, 679–682. Burchfiel, B. C., Z. Chen, K. V. Hodges, Y. Liu, L. H. Royden, C. Deng, and J. Xu (1992), The south Tibet detachment system, Himalayan orogen:

Extension contemporaneous with and parallel to shortening in a collisional mountain belt, *Geol. Soc. Am. Bull. Spec. Pap., 269*, 1–41. Burg, J. P., M. Brunel, D. Gapais, G. M. Chen, and G. H. Liu (1984), Deformation of leucogranites of the crystalline main central sheet in

southern Tibet (China), J. Struct. Geol., 6, 535–542. Campani, M., A. Mulch, O. Kempf, F. Schlunegger, and N. Mancktelow (2012), Miocene paleotopography of the Central Alps, Earth Planet. Sci.

Lampani, M., A. Mulch, O. Kempf, F. Schlunegger, and N. Mancktelow (2012), Miocene paleotopography of the Central Alps, Earth Planet. Sci Lett., 337–338, 174–185.

- Carosi, R., B. Lombardo, G. Molli, G. Musumeci, and P. C. Pertusati (1998), The South Tibetan Detachment system in the Rongbuk valley, Everest region. Deformation features and geological implications, J. Asian Earth Sci., 16, 299–311.
- Carosi, R., B. Lombardo, G. Musemeci, and P. C. Pertusati (1999), Geology of the Higher Himalayan crystallines in KhumbuHimal (eastern Nepal), J. Asian Earth Sci., 17, 785–803.
- Carosi, R., C. Montomoli, D. Rubatto, and D. Visonà (2013), Leucogranite intruding the South Tibetan Detachment in western Nepal: Implications for exhumation models in the Himalayas, *Terra Nova*, 25, 478–489.
- Carrapa, B., D. A. Orme, P. G. DeCelles, P. Kapp, M. A. Cosca, and R. Waldrip (2014), Miocene burial and exhumation of the India-Asia collision zone in southern Tibet: Response to slab dynamics and erosion, *Geology*, 42, 443–446.
- Carrapa, B., X. Robert, P. G. DeCelles, D. A. Orme, S. N. Thomson, and L. M. Schoenbohm (2016), Asymmetric exhumation of the Mount Everest region: Implications for the tectono-topographic evolution of the Himalaya, *Geology*, 44, 611–614, doi:10.1130/G37756.1.

Chambers, J., R. Parrish, T. Argles, N. Harris, and M. Horstwood (2011), A short duration pulse of ductile normal shear on the outer South Tibetan Detachment in Bhutan: Alternating channel flow and critical taper mechanics of the eastern Himalaya, *Tectonics*, *30*, TC2005, doi:10.1029/2010TC002784.

Chemenda, A. I., J. P. Burg, and M. Mattauer (2000), Evolutionary model of the Himalaya-Tibet system: Geopoem based on new modeling, geological and geophysical data, *Earth Planet. Sci. Lett.*, 174, 397–409.

Chi-Hsiang, Y., and K. Shih-Tseng (1978), Stratigraphy of the Mont JolmoLungma and its north slope, *Sci. Sin.*, *5*, 629–644. Clark, M. K., and L. H. Royden (2000), Topographic ooze: Building the eastern margin of Tibet by lower crustal flow, *Geology*, *28*, 703–706.

Coplen, T. B., et al. (2002), Compilation of minimum and maximum isotope ratios of selected elements in naturally occurring terrestrial materials and reagents, U.S. Geol. Surv. Water-Resources Investigation Rep., 01-4222, 98 pp.

Corthouts, T. L., D. R. Lageson, and C. A. Shaw (2015), Polyphase deformation, dynamic metamorphism, and metasomatism of Mount Everest's summit limestone, east central Himalaya, Nepal/Tibet, *Lithosphere*, *8*, 38–57, doi:10.1130/L473.1.

Acknowledgments

A.M. and A.G. acknowledge funding through the LOEWE (Landes-Offensive zur Entwicklung Wissenschaftlichökonomischer Exzellenz) program of the State of Hesse (Germany) Ministry of Higher Education, Research, and the Arts. We thank J. Fiebig (Frankfurt) for laboratory support. R.D.L. and M.J. gratefully acknowledge funding from NSF grant EAR 0207524 to R.D.L. and M. Searle (Oxford University) that supported their microstructural and quartz crystal fabric/deformation thermometry work in the Rongbuk Valley. C.T. gratefully acknowledges support from NSF grant EAR 0838541. Rock samples described in this paper were collected by M.J., J. Cottle (UC Santa Barbara), and D. Newell (Utah State University) during fieldwork in 2005 and 2007. L. Duncan assisted in 2007. Support for sample collection was provided by a 2010 Fellowship from the Virginia Tech College of Science (Jessup), a National Science Foundation Integrative Graduate Education and Research Traineeship (Newell), University of New Mexico research grants (Newell), and a New Zealand Tertiary Education Commission Doctoral scholarship (Cottle). Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government. We acknowledge the very insightful and careful remarks of R. Thiede, S. Johnstone, an anonymous reviewer, and Editor C. Faccenna, which clarified and improved the manuscript.

Cottle, J. M., M. J. Jessup, D. L. Newell, M. S. A. Horstwood, S. R. Noble, R. R. Parrish, D. J. Waters, and M. P. Searle (2009), Geochronology of granulitizedeclogite and associated rocks from the AmaDrime Massif: Implications for the tectonic evolution of the south Tibetan Himalaya, *Tectonics*, 28, TC1002, doi:10.1029/2008TC002256.

Cottle, J. M., M. P. Searle, M. J. Jessup, J. L. Crowley, and R. D. Law (2015), Rongbuk re-visited: Geochronology of leucogranites in the footwall of the South Tibetan Detachment system, Everest region, southern Tibet, *Lithos*, 227, 94–106, doi:10.1016/j.lithos.2015.03.019.

Dalrymple, G. B., E. C. Alexander, M. A. Lanphere, and G. P. Kraker (1981), Irradiation of samples for ⁴⁰Ar/³⁹Ar dating using the geological survey TRIGA reactor, U.S. Geol. Surv. Prof. Pap., 1176, 55 pp., Reston, Va.

Daniel, C. G., L. S. Hollister, R. R. Parrish, and D. Grujic (2003), Exhumation of the Main Central Thrust from lower crustal depths, eastern Bhutan Himalaya, J. Metamorph. Geol., 21, 317–334.

- DeCelles, P., P. Kapp, J. Quade, and G. Gehrels (2011), Oligocene-Miocene Kailas basin, south-western Tibet: Record of postcollisional upperplate extension in the Indus-Yarlung suture zone, Geol. Soc. Am. Bull., 123, 1337–1362, doi:10.1130/B30258.1.
- Ding, L., et al. (2017), Quantifying the rise of the Himalaya orogeny and implications for the South Asian monsoon, *Geology*, doi:10.1130/G38583.1.
- Dunlap, W. J. (1992), Structure, kinematics, and cooling history of the Arltunga Nappe complex, central Australia, PhD thesis, Univ. of Minnesota, Minn.

Edwards, M. A., W. S. F. Kidd, J. Li, Y. Yue, and M. Clark (1996), Multi-stage development of the southern Tibet detachment system near KhulaKangri. New data from Gonto La, *Tectonophysics*, 260, 1–19, doi:10.1016/0040-1951(96)00073-X.

Edwards, M. A., A. Pecher, W. S. F. Kidd, B. C. Burchfiel, and L. H. Royden (1999), Southern Tibet detachment system at KhulaKangri, eastern Himalaya: A large-area, shallow detachment stretching into Bhutan?, J. Geol., 107, 623–631, doi:10.1086/314366.

England, P. C., and G. A. Houseman (1986), Finite strain calculations of continental deformation: 2. Comparison with the India-Asia collision, J. Geophys. Res., 91, 3664–3676, doi:10.1029/JB091iB03p03664.

England, P. C., and G. A. Houseman (1988), The mechanics of the Tibetan Plateau, Philos. Trans. R. Soc. London, Ser. A, 326, 301–320.

Faleiros, F. M., R. Moraes, M. Pavan, and G. A. C. Campanha (2016), A new empirical calibration of the quartz c-axis fabric opening-angle deformation thermometer, *Tectonophysics*, 671, 173–182, doi:10.1016/j.tecto.2016.01.014.

Field, C. W., and R. H. Fifarek (1985), Light stable-isotope systematics in the epithermal environment, in *Geology and Geochemistry of Epithermal Systems, Rev. Econ. Geol.*, vol. 2, edited by B. R. Berger and P. M. Bethke, pp. 99–128, Soc. of Econ. Geol., Boulder, Colo.

Fontes, J. C., and R. Gonfiantini (1967), Comportementisotopique au cours de l'évaporation de deuxbassinsSahariens, *Earth Planet. Sci. Lett.*, 3, 258–266.

Fricke, H. C., S. M. Wickham, and J. R. O'Neil (1992), Oxygen and hydrogen isotope evidence for meteoric water infiltration during mylonitization and uplift in the Ruby Mountains-East Humboldt Range core complex, Nevada, Contrib. Mineral. Petrol., 111, 203–221.

Gébelin, A., A. Mulch, C. Teyssier, M. Heizler, T. Vennemann, and N. C. A. Seaton (2011), Oligo-Miocene extensional tectonics and fluid flow across the Northern Snake Range detachment system, Nevada, *Tectonics*, 30, TC5010, doi:10.1029/2010TC002797.

Gébelin, A., A. Mulch, C. Teyssier, C. P. Chamberlain, and M. Heizler (2012), Coupled basin-detachment systems as paleoaltimetry archives of the western North American Cordillera, *Earth Planet. Sci. Lett.*, 335–336, 36–47, doi:10.1016/j.epsl.2012.04.029.

Gébelin, A., A. Mulch, C. Teyssier, M. J. Jessup, R. D. Law, and M. Brunel (2013), The Miocene elevation of Mount Everest, Geology, 41, 799–802, doi:10.1130/G34331.1.

Gébelin, A., C. Teyssier, M. T. Heizler, and A. Mulch (2015), Meteoric water circulation in a rolling-hinge detachment system (northern Snake Range core complex, Nevada), *Geol. Soc. Arn. Bull.*, *127*, 149–161, doi:10.1130/B31063.1.

Godin, L., D. Grujic, R. D. Law, and M. P. Searle (2006), Channel flow, ductile extrusion and exhumation in continental collision zones: An introduction, *Geol. Soc. London, Spec. Publ.*, 268, 1–23.

Gong, B., Y. F. Zheng, and R. X. Chen (2007), TC/EA-MS online determination of hydrogen isotope composition and water concentration in eclogitic garnet, *Phys. Chem. Miner.*, *34*, 687–698.

Gottardi, R., C. Teyssier, A. Mulch, T. W. Venneman, and M. L. Wells (2011), Preservation of extreme transient geotherm in the Raft River detachment shear zone, *Geology*, 39(8), 759–762.

Grasemann, B., H. Fritz, and J.-C. Vannay (1999), Quantitative kinematic flow analysis from the Main Central Thrust zone (NW-Himalaya, India): Implications for a decelerating strain path and the extrusion of orogenic wedges, J. Struct. Geol., 21, 837–853.

Grujic, D., M. Casey, C. Davidson, L. S. Hollister, R. Kundig, T. Pavlis, and S. Schmid (1996), Ductile extrusion of the Higher Himalayan crystalline in Bhutan: Evidence from quartz microfabrics, *Tectonophysics*, 260, 21–43.

Grujic, D., L. S. Hollister, and R. R. Parrish (2002), Himalayan metamorphic sequence as an orogenic channel: Insight from Bhutan, *Earth Planet. Sci. Lett.*, *198*, 177–191.

Grujic, D., C. J. Warren, and J. L. Wooden (2011), Rapid synconvergent exhumation of Miocene aged lower orogenic crust in the eastern Himalaya, *Lithosphere*, *3*, 346–366, doi:10.1130/L154.1.

Hames, W. E., and S. A. Bowring (1994), An empirical evaluation of the argon diffusion geometry in muscovite, *Earth Planet. Sci. Lett.*, 124, 161–169.

Harrison, T. M. (1981), Diffusion of ⁴⁰Ar in hornblende, *Contrib. Mineral. Petrol.*, 78, 324–331.

Harrison, T. M., and J. D. Fitz Gerald (1986), Exsolution in hornblende and its consequences for ⁴⁰Ar/³⁹Ar age spectra and closure temperature, *Geochim. Cosmochim. Acta, 50*, 247–253.

Harrison, T. M., I. Duncan, and I. McDougall (1985), Diffusion of ⁴⁰Ar in biotite: Temperature, pressure and compositional effects, *Geochim. Cosmochim. Acta*, 49, 2461–2468.

Harrison, T. M., P. Copeland, W. S. F. Kidd, and A. Yin (1992), Raising Tibet, Science, 255, 1663–1670.

Harrison, T. M., J. Célérier, A. B. Aikman, J. Hermann, and M. T. Heizler (2009), Diffusion of ⁴⁰Ar in muscovite, *Geochim. Cosmochim. Acta*, *73*, 1039–1051.

Heim, A., and A. Gansser (1939), Central Himalaya, in *Geological Observations of Swiss*, pp. 1–246, Gebruder Fretz, 1939. Hindustan Publ. Corp., Delhi.

Hetzel, R., H. Zwingmann, A. Mulch, K. Gessner, C. Akal, A. Hampel, T. Güngör, R. Petschick, T. Mikes, and F. Wedin (2013), K-Ar ages and hydrogen isotope data from detachment fault systems in the Menderes Massif (Turkey): Implications for the timing of brittle deformation and fluid flow, *Tectonics*, 32, 1–13, doi:10.1002/tect.20031.

Hirth, G., and J. Tullis (1992), Dislocation creep regimes in quartz aggregates, J. Struct. Geol., 14, 145–159.

Hodges, K. V., R. R. Parrish, T. B. Housh, D. R. Lux, B. C. Burchfiel, L. H. Royden, and Z. Chen (1992), Simultaneous Miocene extension and shortening in the Himalayan orogen, *Science*, 258, 1446–1470.

Hodges, K. V., R. R. Parrish, and M. P. Searle (1996), Tectonic evolution of the central Annapurna Range, Nepalese Himalayas, *Tectonics*, 15, 1264–1291, doi:10.1029/96TC01791.

Hodges, K. V., S. Bowring, K. Davidek, D. Hawkins, and M. Krol (1998), Evidence for rapid displacement on Himalayan normal faults and the importance of tectonic denudation in the evolution of mountain ranges, *Geology*, 26, 483–486.

Hodges, K. V., J. M. Hurtado, and K. X. Whipple (2001), Southward extrusion of Tibetan crust and its effect on Himalayan tectonics, *Tectonics*, 20, 799–809, doi:10.1029/2001TC001281.

Hoefs, J. (2004), Stable Isotope Geochemistry, 5th ed., pp. 239, Springer, Berlin, Heidelberg, New York.

- Holk, G. J., and H. P. Taylor (2007), ¹⁸O/¹⁶O evidence for contrasting hydrothermal regimes involving magmatic and meteoric-hydrothermal waters in the Valhalla metamorphic core complex, British Columbia, *Econ. Geol.*, *102*, 1063–1078.
- Jessel, M. W. (1987), Grain-boundary migration microstructures in a naturally deformed quartzite, J. Struct. Geol., 9, 1007–1014.
- Jessup, M. J., and J. M. Cottle (2010), Progression from south-directed extrusion to orogen-parallel extension in the southern margin of the Tibetan Plateau, Mount Everest region, Tibet, J. Geol., 118, 467–486.
- Jessup, M. J., R. D. Law, M. P. Searle, and M. S. Hubbard (2006), Structural evolution and vorticity of flow during extrusion and exhumation of the Greater Himalayan Slab, Mount Everest massif, Tibet/Nepal: Implications for orogeny-scale flow partitioning, in *Channel Flow*, *Extrusion, and Exhumation in Continental Collision Zones*, *Geol. Soc. Spec. Publ.*, vol. 268, edited by R. D. Law, M. P. Searle, and L. Godin, pp. 379–414.
- Jessup, M. J., J. M. Cottle, M. P. Searle, R. D. Law, R. J. Tracy, D. L. Newell, and D. J. Waters (2008), P-T-t-D paths of Everest Series schist, J. Metamorph. Geol., 26, 717–739.
- Jouzel, J., C. Lorius, J. R. Petit, C. Genthon, N. I. Barkov, V. M. Kotlyakov, and V. M. Petrov (1987), Vostok ice core: A continuous isotope temperature record over the last climatic cycle (160,000 years), *Nature*, 329, 403–408.

Kali, E., P. H. Leloup, N. Arnaud, G. Maheo, D. Liu, E. Boutonnet, J. Van der Woerd, X. Liu, J. Liu-Zeng, and H. Li (2010), Exhumation history of the deepest central Himalayan rocks, AmaDrime range: Key pressure-temperature-deformation-time constraints on orogenic models, *Tectonics*, 29, TC2014, doi:10.1029/2009TC002551.

Kellett, D. A., and D. Grujic (2012), New insight into the South Tibetan Detachment system: Not a single progressive deformation, *Tectonics*, 31, TC2007, doi:10.1029/2011TC002957.

- Kellett, D. A., D. Grujic, and S. Erdmann (2009), Miocene structural reorganization of the South Tibetan Detachment, eastern Himalaya: Implications for continental collision, *Lithosphere*, 1, 259–281.
- Kellett, D. A., D. Grujic, C. Warren, J. Cottle, R. Jamieson, and T. Tenzin (2010), Metamorphic history of a syn-convergent orogeny-parallel detachment: The South Tibetan Detachment system, Bhutan Himalaya, J. Metamorph. Geol., 28, 785–808, doi:10.1111/j.1525-1314.2010.00893.x.
- Kellett, D. A., D. Grujic, I. Coutand, J. Cottle, and M. Mukul (2013), The South Tibetan Detachment system facilitates ultra rapid cooling of granulite-facies rocks in Sikkim Himalaya, *Tectonics*, 32, 252–270, doi:10.1002/tect.20014.
- Kuiper, K. F., A. Deino, F. J. Hilgen, W. Krijgsman, P. R. Renne, and J. R. Wijbrans (2008), Synchronizing rock clocks of Earth history, Science, 320, 500–504.
- Law, R. D. (2014), Deformation thermometry based on quartz *c*-axis fabrics and recrystallization microstructures: A review, J. Struct. Geol., 66, 129–161.
- Law, R. D., M. P. Searle, and R. L. Simpson (2004), Strain, deformation temperatures and vorticity of flow at the top of the Greater Himalayan Slab, Everest massif, Tibet, J. Geol. Soc. London, 161, 305–320.
- Law, R. D., M. J. Jessup, M. P. Searle, M. K. Francsis, D. J. Waters, and J. M. Cottle (2011), Telescoping of isotherms beneath the South Tibetan Detachment system, Mount Everest massif, J. Struct. Geol., 33, 1569–1594, doi:10.1016/j.jsg.2014.05.023.
- Lee, J., C. Hager, S. R. Wallis, D. F. Stockli, M. J. Whitehouse, M. Aoya, and Y. Wang (2011), Middle to late Miocene extremely rapid exhumation and thermal reequilibration in the Kung Co rift, southern Tibet, *Tectonics*, 30, TC2007, doi:10.1029/2010TC002745.
- Lee, J.-Y., K. Marti, J. P. Severinghaus, K. Kawamura, H. S. Yoo, J. B. Lee, and J. S. Kim (2006), A redetermination of the isotopic abundances of atmospheric Ar, Geochim. Cosmochim. Acta, 70, 4507–4512.
- Lefort, P. (1975), Himalayas, the collided range: Present knowledge of continental arc, Am. J. Sci., A, 275, 1–44.
- Leloup, P. H., G. Maheo, N. Arnaud, E. Kali, E. Boutonnet, D. Liu, X. Liu, and H. Li (2010), The south Tibet detachment shear zone in the Dinggye area: Time constraints on extrusion models of the Himalayas, *Earth Planet. Sci. Lett.*, 292, 1–16, doi:10.1016/j.epsl.2009.12.035.
- Lombardo, B., P. Pertusati, and S. Borgi (1993), Geology and tectonomagmatic evolution of the eastern Himalaya along the Chomolungma– Makalu transect, in *Himalayan Tectonics, Geol. Soc. Spec. Publ.*, vol. 74, edited by P. J. Treloar and M. P. Searle, pp. 341–355.
- Losh, S. (1997), Stable isotope and modeling studies of fluid-rock interaction associated with the Snake Range and Mormon Peak detachment faults, Nevada, *Geol. Soc. Am. Bull.*, 109, 300–323.
- Mertanen, S., and F. Karell (2012), Palaeomagnetic and AMS studies on Satulinmaki and Koijarvi fault and shear zones, in *Gold in southern Finland: Results of GTK studies 1998–2011, Spec. Pap.*, vol. 52, edited by S. Gronholm and N. Karkkainen, pp. 195–226, Geol. Surv. of Finland, Espoo.
- Methner, K., A. Mulch, C. Teyssier, M. Wells, M. Cosca, R. Gottardi, A. Gébelin, and C. P. Chamberlain (2015), Eocene and Miocene extension, meteoric fluid infiltration and core complex formation in the Great Basin (Raft River Mountains, Utah), *Tectonics*, 34, 1–14, doi:10.1002/ 2014TC003766.
- Min, K., R. Mundil, P. R. Renne, and K. R. Ludwig (2000), A test for systematic errors in ⁴⁰Ar/³⁹Ar geochronology through comparison with U/Pb analysis of a 1.1-Ga rhyolite, *Geochim. Cosmochim. Acta, 64,* 73–98.
- Mulch, A., C. Teyssier, M. A. Cosca, O. Vanderhaeghe, and T. Vennemann (2004), Reconstructing paleoelevation in eroded orogens, *Geology*, 32, 525–528.
- Mulch, A., M. A. Cosca, J. Fiebig, and A. Andresen (2005), Time scales of mylonitic deformation and meteoric fluid infiltration during extensional detachment faulting: An integrated in situ ⁴⁰Ar/³⁹Ar geochronology and stable isotope study of the Porsgrunn-Kristiansand shear zone (Southern Norway), *Earth Planet. Sci. Lett.*, 233, 375–390.

Mulch, A., C. Teyssier, M. A. Cosca, and T. Vennemann (2006), Thermomechanical analysis of strain localization in a detachment zone, J. Geophys. Res., 111, B12405, doi:10.1029/2005JB004032.

Murphy, M. A., and T. M. Harrison (1999), Relationship between leucogranites and the Qomolangma detachment in the Rongbuk valley, south Tibet, *Geology*, 27, 831–834.

- Nagy, C., L. Godin, B. Antolin, J. Cottle, and D. Archibald (2015), Mid-Miocene initiation of orogen-parallel extension, NW Nepal Himalaya, Lithosphere, 7, 483–502.
- Nelson, K. D., et al. (1996), Partially molten middle crust beneath southern Tibet: Synthesis of project INDEPTH results, Science, 274, 1684–1696.
- Nesbitt, B. E., and K. Muehlenbachs (1995), Geochemistry of syntectonic, crustal fluid regimes along the Lithoprobe southern Canadian Cordillera transect, *Can. J. Earth Sci.*, 32, 1699–1719.

Newell, D. L., M. J. Jessup, J. M. Cottle, D. R. Hilton, Z. D. Sharp, and T. P. Fischer (2008), Aqueous and isotope geochemistry of mineral springs along the southern margin of the Tibetan Plateau: Implications for fluid sources and regional degassing of CO₂, Geochem. Geophys. Geosyst., 9, Q08014, doi:10.1029/2008GC002021.

Paterson, M. S. (1995), A theory for granular flow accommodated by material transfer via an intergranular fluid, *Tectonophysics*, 245, 135–152. Pêcher, A. (1989), The metamorphism in the central Himalaya, J. Metamorph. Geol., 7, 31–41.

Person, M., A. Mulch, C. Teyssier, and Y. Gao (2007), Isotope transport and exchange within metamorphic core complexes, Am. J. Sci., 307, 555–589.

- Poage, M. A., and C. P. Chamberlain (2001), Empirical relationships between elevation and the stable isotope composition of precipitation and surface waters: Considerations for studies of paleoelevation change, *Am. J. Sci.*, 301, 1–15, doi:10.2475/ajs.301.1.1.
- Pognante, U., and P. Benna (1993), Metamorphic zonation, migmatization and leucogranites along the Everest transect of eastern Nepal and Tibet: Record of an exhumation history, in *Himalayan Tectonics, Geol. Soc. Spec. Publ.*, vol. 74, edited by P. J. Treloar and M. P. Searle, pp. 323–340.
- Pollyea, R. M., E. W. Van Dusen, and M. P. Fisher (2015), Topographically driven fluid flow within orogenic wedges: Effects of taper angle and depth-dependent permeability, *Geosphere*, 11, 1427–1437.

Quilichini, A., L. Siebenaller, W. O. Nachlas, C. Teyssier, T. W. Vennemann, M. T. Heizler, and A. Mulch (2015), Infiltration of meteoric fluids in an extensional detachment shear zone (Kettle dome, WA, USA): How quartz dynamic recrystallization relates to fluid-rock interaction, J. Struct. Geol., 71, 71–85.

Quilichini, A., L. Siebenaller, C. Teyssier, and T. Vennemann (2016), Magmatic and meteoric fluid flow in the Bitterroot extensional detachment shear zone (MT, USA) from ductile to brittle conditions, J. Geodyn., doi:10.1016/j.jog.2016.05.006.

Renard, F., D. Dysthe, J. Feder, K. Bjørlykke, and B. Jamtveit (2001), Enhanced pressure solution creep rates induced by clay particles: Experimental evidence in salt aggregates, *Geophys. Res. Lett.*, 28, 1295–1298, doi:10.1029/2000GL012394.

Ring, U., and J. Glodny (2010), No need for lithospheric extension for exhuming UHP rocks by normal faulting, J. Geol. Soc., 167, 225–228, doi:10.1144/0016-76492009-134.

- Rutter, E. H., and D. H. Mainprice (1979), On the possibility of slow fault slip controlled by a diffusive mass transfer process, Gerlands Beitr. Geophys., 88, 154–162.
- Sakai, H., M. Sawada, Y. Takigami, Y. Orihashi, T. Danhara, H. Iwano, Y. Kuwahara, Q. Dong, H. Cai, and J. Li (2005), Geology of the summit limestone of Mount Qomolangma (Everest) and cooling history of the Yellow Band under the Qomolangma detachment, *Isl. Arc*, 14, 297–310.

Saxena, A., H. K. Sachan, P. K. Mukherjee, and D. K. Mukhopaddhya (2012), Fluid-rock interaction across the South Tibetan Detachment, Garhwal Himalaya (India): Mineralogical and geochemical evidences, J. Earth. Syst. Sci., 121, 29–44.

Schultz, M., K. V. Hodges, T. A. Ehlers, M. Van Soest, and J. A. Wartho (2017), Thermochronologic constraints on the slip history of the South Tibetan Detachment system in the Everest region, southern Tibet, *Earth Planet. Sci. Lett.*, 459, 105–117, doi:10.1016/j. epsl.2016.11.022.

Searle, M. P. (2003), Geological map of the Mount Everest region, Nepal and south Tibet, Scale 1:100,000, Department of Earth Sciences, Oxford Univ., U. K.

Searle, M. P., R. L. Simpson, R. D. Law, D. J. Watersand, and R. R. Parrish (2002), Quantifying displacement on the South Tibetan Detachment normal fault, Everest massif, and the timing of crustal thickening and uplift in the Himalaya and south Tibet, J. Nepal Geol. Soc., 26, 1–6.

Searle, M. P., R. L. Simpson, R. D. Law, R. R. Parrish, and D. J. Waters (2003), The structural geometry, metamorphic and magmatic evolution of the Everest massif, High Himalaya of Nepal–south Tibet, J. Geol. Soc. London, 160, 345–366.

Searle, M. P., R. D. Law, and M. J. Jessup (2006), Crustal structure, restoration and evolution of the Greater Himalaya: Implication for channel flow and ductile extrusion of the middle crust, in *Channel Flow, Extrusion and Exhumation in Continental Collision Zones, Geol. Soc. Spec. Publ.*, vol. 268, edited by R. L. Law, M. P. Searle, and L. Godin, pp. 355–378.

Searle, M. P., R. D. Law, L. Godin, K. P. Larson, M. J. Streule, J. M. Cottle, and M. J. Jessup (2008), Defining the Himalayan Main Central Thrust in Nepal, J. Geol. Soc. London, 165, 523–534.

Searle, M. P., J. M. Cottle, M. J. Streule, and D. J. Waters (2010), Crustal melt granites and migmatites along the Himalaya: Melt source, segregation, transport and granite emplacement mechanisms, *Trans. R. Soc. Edinburgh*, 100, 219–233, doi:10.1017/S175569100901617X. Sheppard, S. M. F. (1986), Characterization and isotopic variations in natural waters, *Rev. Mineral. Geochem.*, 16, 165–184.

Simpson, R. L., R. R. Parrish, M. P. Searle, and D. J. Waters (2000), Two episodes of monazite crystallization during metamorphism and crustal melting in the Everest region of the Nepalese Himalaya, *Geology*, 28, 403–406.

Spicer, R. A., B. B. W. Harris, M. Widdowson, A. B. Herman, S. Guo, P. J. Valdes, J. A. Wolfe, and S. P. Kelley (2003), Constant elevation of southern Tibet over the past 15 million years, *Nature*, 421, 622–624, doi:10.1038/nature01356.

Streule, M. J., A. Carter, M. P. Searle, and J. M. Cottle (2012), Constraints on brittle field exhumation of the Everest-Makalu section of the Greater Himalayan sequence: Implications for models of crustal flow, *Tectonics*, *31*, TC3010, doi:10.1029/2011TC003062.

Suzuoki, T., and S. Epstein (1976), Hydrogen isotope fractionation between OH-bearing minerals and water, *Geochim. Cosmochim. Acta, 40*, 1229–1240.

Tapponnier, P., X. Zhiqin, F. Roger, B. Meyer, N. Arnaud, G. Wittlinger, and Y. Jinsui (2001), Oblique stepwise rise and growth of the Tibet Plateau, *Science*, 294, 1671–1677.

Taylor, H. P. (1990), Oxygen and hydrogen isotope constraints on the deep circulation of surface waters into zones of hydrothermal metamorphism and melting, in *The Role of Fluids in Crustal Processes*, edited by J. D. Bredehoeft and D. L. Morton, pp. 72–95, National Academy Press, Washington, D. C.

Ten Grotenhuis, S. M., R. A. J. Trouw, and C. W. Passchier (2003), Evolution of mica fish in mylonitic rocks, Tectonophysics, 372, 1–21.

Turner, S., N. Arnaud, L. Liu, N. Rogers, C. Hawksworth, N. Harris, S. Kelley, P. Van Calstere, and W. M. Deng (1996), Post-collisional shosonitic volcanism on the Tibetan Plateau: Implication for convective thinning of the lithosphere and the source of ocean island basalts, J. Petrol., 37, 45–71.

Vannay, J. C., and B. Grasemann (2001), Himalayan inverted metamorphism and syn-convergence extension as a consequence of a general shear extrusion, *Geol. Mag.*, 138, 253–276.

Viskupic, K., K. V. Hodges, and S. A. Bowring (2005), Timescales of melt generation and the thermal evolution of the Himalayan metamorphic core, Everest region, eastern Nepal, *Contrib. Mineral. Petrol.*, 149, 1–21, doi:10.1007/s00410-004-0628-5.

Warr, L. N., and S. Cox (2001), Clay mineral transformations and weakening mechanisms along the Alpine Fault, New Zealand, in *The Nature and Tectonics Significance of Fault Zone Weakening, Geol. Soc. Spec. Publ.*, vol. 186, edited by R. E. Holdsworth et al., pp. 85–101.

Waters, D. J., R. D. Law, and M. P. Searle (2006), Metamorphic evolution of the upper parts of the Greater Himalayan Slab, Mount Everest area, from the 1933 sample collection of L. R. Wager (abstract), J. Asian Earth Sci., 26, 168.

- Webb, A. A. G., A. Yin, T. M. Harrison, J. Célérier, and W. P. Burgess (2007), The leading edge of the Greater Himalayan crystallines revealed in the NW Indian Himalaya: Implications for the evolution of the Himalayan orogen, *Geology*, *35*, 955–958, doi:10.1130/G23931A.1.
- Webb, A. A. G., A. Yin, T. M. Harrison, J. Célérier, G. E. Gehrels, C. E. Manning, and M. Grove (2011), Cenozoic tectonic history of the Himachal Himalaya (northwestern India), and its constraints on the formation mechanism of the Himalayan orogen, *Geosphere*, *7*, 1013–1061, doi:10.1130/GES00627.1.

Wernicke, B., and B. C. Burchfiel (1982), Modes of extensional tectonics, J. Struct. Geol., 4, 105–115.

Whitney, D. L., C. Teyssier, P. Rey, and W. R. Buck (2013), Continental and oceanic core complexes, *Geol. Soc. Am. Bull.*, 125, 273–298.
 Wintsch, R. P., R. Christofferson, and A. K. Kronenberg (1995), Fluid-rock reaction weakening of fault zones, *J. Geophys. Res.*, 100, 13,021–13,032, doi:10.1029/94JB02622.

Wu, C., et al. (1998), Yadong cross structure and South Tibetan Detachment in the east central Himalaya (89°–90°E), *Tectonics*, *17*, 28–45, doi:10.1029/97TC03386.

Yin, A. (2006), Cenozoic tectonic evolution of the Himalayan orogen as constrained by along strike variation of structural geometry, exhumation history, and foreland sedimentation, *Earth Sci. Rev.*, 76, 1–131, doi:10.1016/j.earscirev.2005.05.004.