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Supporting information and Data Repository

1. SAMPLES

Existing data: Detrital zircon U-Pb data from published papers plus unpublished M.S. theses and Ph.D. dissertations are compiled in Table DR1. For grains younger and older than 900 Ma, $^{206}\text{Pb}/^{238}\text{U}$ and $^{207}\text{Pb}/^{206}\text{Pb}$ ages were tabulated, respectively. Analyses with greater than 10% uncertainty, 20% discordance, and/or 5% reverse discordance were excluded, when this information was made available by authors. Each published sample is assigned a sample identifier in Table DR1 and plotted using this identifier on Plates 1-4.

New data: New sampling efforts focused on the Midcontinent region, where existing data was sparse or lacking. Detailed sample location information, including field sample identifiers, abbreviated sample identifiers for plotted locations on Plates 1-4, sample coordinates (WGS 84 datum), unit name, as well as sample descriptions, detrital zircon age distributions, and inferred sources are provided below. New U-Pb detrital zircon data is presented in Table DR2.

1.1. Sampled Ordovician Units

13MO2 (Plate 1 location #3; UTM 15S, 698005E, 4262009N) – Upper Ordovician St. Peter Sandstone
Collected in Pacific, Missouri. Sample is a friable, well-sorted, coarse quartz arenite containing spherically rounded quartz grains and heavy mineral separates. Most detrital zircon grains extracted from sample 13MO2 yield ages of ca. 2.7 Ga (~70% of analyzed grains), with a relatively small proportion (~20%) of grains between ca. 1.0 and 1.35 Ga in age. Most remaining grains yield a minor peak centered at ca. 1.85 Ga. Inferred ultimate provenance: Superior cratonic basement, Penokean orogen, and Grenville orogen (likely recycled from eroded Proterozoic basins once situated in Ontario; Konstantinou et al., 2014) with possible additional input from felsic material of the Midcontinent Rift.
**Figure DR1.** Sampled exposure of St. Peter Sandstone in Pacific, Missouri. Cliff exposes ~8 m of white to light beige St. Peter Sandstone with silica mine entrances below ~3 m of pale buff Joachim Formation; Photo: Missouri DNR.

**13OK1 (Plate 1 location #4; UTM 14S, 695765E, 3816335N) – Upper Ordovician Oil Creek Sandstone**

Collected near Mill Creek, Oklahoma. Sample is a friable, well-sorted, coarse quartz arenite containing spherically rounded quartz grains and heavy mineral separates. Like sample 13MO2, this sample contains a significant proportion of ca. 2.7 Ga grains (~70% of analyzed grains), and diminishing proportions of ca. 1.85 Ga grains (~15%), and a small proportion (~5%) of grains between ca. 1.0 and 1.3 Ga in age. One single euhedral concordant grain from sample 13OK1 yields an Early Ordovician $^{206}\text{Pb}/^{238}\text{U}$ age of 470.4 ± 7.5 Ma – possibly delivered through the air from an eruption in the Taconic arc. Inferred ultimate provenance: Superior cratonic basement, Penokean orogen, and Grenville orogen (likely recycled from eroded Proterozoic basins once situated in Ontario) with possible additional input from felsic material of the Midcontinent Rift.

**GIBBONS-HESS (Plate 1 location #5; UTM 14S, 527636E, 4166839N) – Upper Ordovician Simpson Sandstone**

Collected from the Kansas Core Library (Kansas Geological Survey). Sampled core was taken from a depth of 4309-4313’ from the Gibbons-Hess 2 well (Pratt County; original operator: William Gruenerwald and Associates). Sample is a friable, well-sorted, oil-saturated medium quartz arenite containing subrounded to subangular quartz grains cemented by iron oxide and silica. Sample contains vertical skolithos burrows. This sample contains a very high proportion of ca. 2.7 Ga grains (~85%) with minor amounts of ca. 1.0-1.35 Ga grains (~5%) and scattered ages from 1.68-1.86 Ga (~5%). Inferred ultimate provenance: Superior cratonic basement with minor contributions from the Grenville orogen (likely recycled from eroded Proterozoic basins once situated in Ontario), and Yavapai/Mazatzal crust.
Figure DR2. Sampled drill core of Simpson Sandstone. Detrital zircon grains were extracted from core sections marked with checks.

13MO1 (Plate 1 location #40; UTM 15S 604575E, 4199858N) – Lower Ordovician Roubidoux Sandstone
Collected in Rolla, Missouri along Interstate 44. Sample is a thick-bedded, well-sorted, coarse quartz arenite showing well-developed ripple marks and contains rounded quartz grains, <5% feldspar, and heavy mineral separates, including zircon, tourmaline, and garnet. Sample 13MO1 contains a significant proportion of ca. 2.7 Ga grains (~75%) with a subsidiary amount of ca. 1.0-1.3 Ga grains (~15%). Inferred ultimate provenance: Superior cratonic basement plus the Grenville orogen (likely recycled from eroded Proterozoic basins once situated in Ontario).
Figure DR3. Sampled exposure of Roubidoux Sandstone in Rolla, Missouri. Roadcut is ~2 m high. Photo: Google street view.

**14MO8 (Plate 1 location #41; UTM 15S, 520762E, 4202945N) – Lower Ordovician Gunter Sandstone**

Collected in Ha Ha Tonka State Park, Missouri. Sample is from a thin (<10 m), friable, cross-bedded orthoquartzite interval with well-rounded quartz grains and variable silica to calcite cement conformably underlying the Lower Ordovician Gasconade Dolomite and unconformably overlying the Upper Cambrian Eminence Dolomite. This sample contains subequal proportions of ca. 2.7 Ga (~50%) and ca. 1.0-1.3 Ga grains (~40%), with ~10% scattered ages from ca. 1.3-1.5 Ga. Inferred ultimate provenance: Superior cratonic basement plus the Grenville orogen (likely recycled from eroded Proterozoic basins once situated in Ontario), with minor input from local basement sources in the Granite-Rhyolite belt (e.g., the St. Francois Mountains).
Figure DR4. Sampled exposure of cross-bedded Gunter Sandstone at Ha Ha Tonka State Park, central Missouri.

18BH2A (Plate 1 location #59; UTM 13T 603274E, 4916000N) – Middle Ordovician Winnipeg Formation
Collected near Deadwood, South Dakota (northern Black Hills) along U.S. Highway 14 behind the Canyon View Amish Furniture store (Sweet, 1982 locality 75SA). Sample is from a ~2 m thick, light beige-weathering siltstone, containing highly indurated subangular to subrounded quartz grains, that transitions upward into the overlying Whitewood Formation. Detrital zircon grains from this unit are relatively small (generally ~30x15 µm), which required analysis via ion counting mode. This sample consists mainly of ca. 1.8-2.0 Ga grains (~60%) with diminishing amounts of Archean (~30%) and ca. 1.6-1.8 Ga (~10%) grains. Inferred ultimate provenance: Juvenile arcs and orogens of NW Canada plus Archean crust from the same broad region with minor input from Yavapai/Mazatzal basement.
**Figure DR5.** Sampled exposure of Winnipeg Formation, northern Black Hills (western South Dakota). Picnic tables are ~2 m long. Cliff exposes, from bottom to top: ~3 m of buff, cliff-forming, bedded Winnipeg Formation; ~6 m of pale buff, cliff-forming, massive Whitewood Limestone; ~5 m of slope-forming pink limestone and purplish-gray shale of the Englewood Formation; and is capped by light gray massive Pahasapa Limestone. Sample 18BH2A was collected adjacent to covered picnic table (starred location).

### 1.2. Sampled Devonian Units

**14MO4 (Plate 2 location #41; UTM 15S, 727981E, 4248738N) – Upper Devonian Bushberg Sandstone**

Collected along Interstate 55 near Imperial, Missouri. Sample is from a roadcut of yellow to yellow-brown, friable, medium to coarse grained, cross-bedded quartz arenite with well-rounded quartz grains. As noted by Thompson (1995), the Bushberg Sandstone shares several textural and mineralogical similarities with the St. Peter Sandstone. These relations plus similar detrital zircon distributions in the Bushberg and St. Peter sandstones (i.e. abundant ca. 2.7 Ga and ca. 0.95-1.3 Ga grains) strongly suggest that the former represents the reworked equivalent of the latter.
Figure DR6. Sampled exposure of cross-bedded Bushberg Sandstone near Imperial, Missouri.

180721FL1 (Plate 2 location #52; NAD83, -110.97726°, 45.90480°) Devonian Upper Sappington Formation

A sample was collected from ~20 m below the summit of Pomp Peak, north-adjacent to Sacajewea Peak in the Bridger Range northeast of Bozeman, Montana. Sample was collected from a thick-bedded, yellow-weathering, fine sandstone with sparse shale and siltstone interbeds. Sandstone beds near the sample collection site contained hummocky cross stratification, wave ripple cross stratification and parallel lamination. The locality was described by Cole et al., (2015). Detrital zircon grains extracted from this sample are characterized by, in order of decreasing prominence: 1) a Grenville-age peak centered at ca. 1.0 Ga (41% of analyzed grains), 2) Paleozoic grains, with ages ranging from ca. 390-480 Ma (18%), 3) a range of Yavapa-Mazatzal age-probability peaks between 1.6-1.8 Ga (15%), 4) Granite/Rhyolite ages between 1.3-1.5 Ga (13%), Archean grains mainly between 2.6-2.9 Ga with a subordinate age-probability peak at 3.5 Ga (10%), 5) less than three percent total of Suwanee/Meguma and 1.8-2.0 Ga grains. Inferred ultimate provenance: Grenville and Appalachian Orogens plus Superior and/or Wyoming cratons, Granite/Rhyolite province, and the Yavapai-Mazatzal province.
Figure DR7. Sampled exposure of Devonian upper Sappington Formation exposed just below the summit of Pomp Peak, north-adjacent to Sacajewea Peak in the Bridger Range northeast of Bozeman, MT. Sample was collected at chest height.

1.3. Sampled Mississippian Units

14MO3 (Plate 3 location #8; UTM 16S, 236940E, 4200921N) – Mississippian Aux Vases Sandstone

Collected along Highway 61 near Ste. Genevieve, Missouri. Sample is from a roadcut of an exposure of white-light gray mixed siliciclastic-carbonate material showing trough and tabular cross-bedding. The clastic component of the studied Aux Vases sample consists of fine- to medium-grained quartz arenite with well-rounded quartz grains. In comparison to underlying rocks in the vicinity of the Ozark Dome, the Aux Vases Sandstone contains a lower proportion of ca. 2.7 Ga zircon grains (6%) and a higher proportion of detrital zircon ages from ca. 0.95 to 1.3 Ga (53%) plus a significant proportion (23%) of Paleozoic zircon grains, exhibiting prominent Taconic-aged peaks at ca. 425 and 465 Ma. The sample also contains small amounts of ca. 1.6-1.8 Ga (14%) and 1.3-1.5 Ga (12%) grains. Inferred ultimate provenance: Grenville and Taconic orogens with minor input Yavapai/Mazatzal and Granite/Rhyolite crust plus the Superior Craton (possibly recycled from older units).
Figure DR8. Sampled exposure of Aux Vases Sandstone near Ste. Genevieve, Missouri.

PUYEAR (Plate 3 location #9; UTM 14S, 264382E, 4164452N) –Mississippian Ste. Genevieve Limestone

Collected from the Kansas Core Library (Kansas Geological Survey). Sampled core was taken from a depth of 5462-5466’ from the Puyear 1 well (Stanton County; original operator: Amoco Production Company). The studied sample is an oolitic limestone containing undulose quartz-rich silt and sand. This sample contains an age distribution similar to that of the Aux Vases Sandstone, with abundant detrital zircons yielding ages from ca. 0.95 to 1.3 Ga (40%) with diminishing proportions of 1.3-1.5 Ga (18%), 400-470 Ma (13%), and Archean grains (4%), plus scattered ages from ca. 1.6-2.0 Ga (24%). Inferred ultimate provenance: Grenville and Taconic orogens with minor input Granite/Rhyolite and Yavapai/Mazatzal crust plus the Superior Craton (possibly recycled from older units).
I80713SWC3 (Plate 3 location #28; NAD83, -109.32626, 46.71101) -Mississippian Kibbey Formation sandstone

A sample was collected from the Swimming Woman Creek locality in the southern Big Snowy Mountains, MT. This is the same locality that was sampled by Shean (1947). Sample was collected from sparsely exposed, brick-red, medium-sorted, fine-grained sandstone. The Kibbey Formation is characterized by a mix of well-rounded, frosted sand grains and subangular grains that are not frosted. This suggests two distinct sources with one involving eolian transport (Shean, 1947). Detrital zircon grains extracted from this sample are characterized by, in order of decreasing prominence: 1) a Grenville-age peak centered at ca. 1.0 Ga (44% of analyzed grains), 2) Paleozoic grains, with ages ranging from ca. 400-470 Ma (21%), 3) two Yavapa-Mazatzal age-probability peaks between 1.6-1.8 Ga (11%), 4) Archean grains mainly between 2.6-2.9 Ga (10%), 5) less than ten percent total of Suwanee/Meguma, Granite/Rhyolite, and 1.8-2.0 Ga grains. Inferred ultimate provenance: Grenville and Appalachian Orogens plus Superior and/or Wyoming cratons and the Yavapai-Mazatzal province.

1.4. Sampled Pennsylvanian Units

15MO1 (Plate 4 location #1; UTM 15S, 533851E, 4360992N) – Upper Pennsylvanian Moberly Sandstone

In central Missouri, Paleozoic units are cut by two (Moberly and Warrensburg) formerly contiguous, ~2 to 8 km-wide, ~30-50 m-deep valley-shaped channels filled with Upper Pennsylvanian (Desmoinesian) sandstone and shale. Whereas pre-Pennsylvanian clastic rocks in the Midcontinent region are dominated by quartz arenite, channel sands are far less mature, consisting chiefly of quartz wacke and containing significant proportions of igneous plus metamorphic detritus and varying amounts of iron oxide and silica cements (Doty and Hubert, 1962). This sample of the Moberly Sandstone was collected from the Moberly Quarry (owned and operated by Norris Quarries), in Salt Springs Township, Missouri. The studied sample consists of ~65% quartz and 10% feldspar, with ~10% metamorphic lithic fragments (chiefly phyllite and schist), ~7% opaque minerals, 6% muscovite, and 1% biotite. Detrital zircon grains extracted from this sample are characterized by, in order of decreasing prominence: 1) a Grenville-age peak centered at ca. 1.0 Ga with shoulders extending from 0.95 to 1.3 Ga (60% of analyzed grains), 2) Paleozoic grains, with ages ranging from ca. 450 to 309 Ma (13%), 3) scattered ages ranging from 1.3 to 1.8 Ga with a subtle peak at ca. 1.65 Ga (12%), 4) a Neoproterozoic peak from 600 to 540 Ma (11%), and 5) a Neoarchean peak centered at ca. 2.7 Ga (3%). Inferred ultimate provenance: Grenville, Taconic, Acadian, and Alleghenian orogens plus Pan-African crust (most likely originating in the northern Appalachians), with minor input from Granite/Rhyolite and Yavapai/Mazatzal crust plus the Superior Craton (possibly recycled from older units).
**Figure DR9.** Sampled exposure of Moberly Sandstone collected from Moberly Quarry. Note alternating beds containing variable proportions of iron oxide cement (dark orange-light brown=more iron oxide). Photo: John Hogan.

**15MO2 (Plate 4 location #2; UTM 15S, 434292E, 4291426N) – Upper Pennsylvanian Warrensburg Sandstone**

The Warrensburg Sandstone (the western of the two channel fill sandstones) was sampled at Cave Hollow Park in Warrensburg, Missouri, where it crops out as 0.5-2 m-thick cross-bedded medium-to fine-grained sandstone separated by ~10 cm siltstone intervals. The studied sample is petrographically nearly identical to sample 15MO1, consisting of ~70% quartz and 7% feldspar, with ~18% metamorphic lithic fragments (chiefly phyllite and schist), ~2% opaque minerals, 2% muscovite, and 1% biotite. Like sample 15MO1, this sample contains chiefly 0.95 to 1.3 Ga grains (57%), Paleozoic grains, with scattered peaks from ca. 480 to 300 Ma (10%), scattered ages ranging from 1.3 to 2.0 Ga with a subtle peak at ca. 1.62 Ga (23%), a ca. 600 to 540 Ma peak (3%), and 5) Archean ages (5%). Inferred ultimate provenance: Grenville, Taconic, Acadian, and Alleghanian orogens plus Pan-African crust (most likely originating in the northern Appalachians), with minor input from Granite/Rhyolite and Yavapai/Mazatzal crust plus the Superior Craton (possibly recycled from older units).
**Figure DR10.** Sampled exposure of Warrensburg Sandstone collected from Warrensburg, Missouri. Note cross-stratified sandstone separated by a ~5 cm shale interval (hammer head). Photo: John Hogan.

**SEACAT (Plate 4 location #3; UTM 14S, 443295E, 4131896N) – Lower Pennsylvanian Kearny Formation**

Collected from the Kansas Core Library (Kansas Geological Survey). Sampled core was taken from a depth of 5234-5235’ from the Seacat 13-19 well (Clark County; original operator: MESA PET). The studied core fragment is a poorly sorted, coarse-grained, glauconitic, porous, carbonate-plus silica-cemented quartz arenite containing chiefly subrounded to rounded detrital quartz and authigenic chlorite. This sample contains detrital zircon grains yielding a spectrum of ages from ca. 0.95 to 1.3 Ga (53%) with diminishing proportions of 1.3-1.5 Ga (15%), 1.8-2.0 Ga, with a sharp peak at ca. 1.85 Ga (10%), 1.6-1.8 Ga (9%), 390-470 Ma (8%), and Archean grains (4%). Inferred ultimate provenance: Grenville, Taconic, and Acadian orogens with subsidiary input from Juvenile arcs and orogens of NW Canada, Granite/Rhyolite and Yavapai/Mazatzal crust, plus the Superior Craton.
**Figure DR11.** Sampled drill core of Kearny Formation. Detrital zircon grains were extracted from core sections marked with chalk lines.

**10DM14 (Plate 4 location #37; UTM 12N 485883E, 4966973N) – Lower Pennsylvanian Amsden Formation**

A sample was collected from a resistant calcareous sandstone bed within the Amsden Formation, exposed north of Graycroft Ridge in the southern Madison Range near Hebgen Lake, MT. This sample contains roughly equal proportions of 1.6-1.8 Ga (24%), Archean (18%), 0.95-1.3 Ga (15%), 1.3-1.5 Ga (13%), 1.8-2.0 Ga (13%), and 350-480 Ma (11%), with ~5% of grains falling between 530-610 Ma. Inferred ultimate provenance: Yavapai/Mazatzal crust (likely sourced from the uplifting Ancestral Rockies), Grenville plus Taconic and Acadian orogens, Proterozoic and Archean cratonic material from NW and/or north-central Canada, Granite/Rhyolite crust, and a minor amount of Pan-African material.
Figure DR12. Sampled exposure of Amsden Formation sampled northeast of Hebgen Lake in the southern Madison Range, MT.

10DM15 (Plate 4 location #38; UTM 12N 485717E, 4966991N) – Lower Pennsylvanian Quadrant Formation

A sample was collected from an exposure of thin to medium bedded quartz arenite north of Graycroft Ridge near Hebgen Lake in the southern Madison Range. In comparison with the Amsden Formation, this sample contains somewhat higher proportions of 1.8-2.0 Ga (27%) and 0.95-1.3 Ga (22%) grains, less 1.6-1.8 Ga (16%), Archean (18%), 1.3-1.5 Ga (10%), and 390-480 Ma (10%) grains, and lacks Neoproterozoic ages. Inferred ultimate provenance: Proterozoic and Archean cratonic material from NW and/or north-central Canada, Grenville plus Taconic and Acadian orogens, and Yavapai/Mazatzal (likely sourced from the uplifting Ancestral Rockies) and Granite/Rhyolite crust.
Figure DR13. Sampled exposure of Quadrant Formation sampled northeast of Hebgen Lake in the southern Madison Range, MT.

**18BH1 (Plate 4 location #48; UTM 13T 601993E, 4917588N) – Lower Pennsylvanian Minnelusa Formation**

A sample was collected from a ~1 m thick sandy interval in a roadcut exposing alternating beds of yellow-orange dolomite, orange sandstone, and red-purple shale (the lower portion of the Minnelusa Formation; Dewitt et al., 1986) along U.S. Highway 85 in the northern Black Hills. The studied sample consists chiefly of fine-grained subangular detrital quartz cemented by calcite. This sample contains significant amounts of 1.6-1.8 Ga grains (35%), with decreasing quantities of 0.95-1.3 Ga (23%), 1.8-2.0 Ga (15%), and 1.3-1.5 Ga (11%) grains, with relatively minor contributions from 370-460 Ma (6%), Archean (18%), and Neoproterozoic (4%) grains. Inferred ultimate provenance: Yavapai/Mazatzal crust (likely sourced from the uplifting Ancestral Rockies), Proterozoic and Archean cratonic material from NW and/or north-central Canada (likely recycled from older strata), Grenville plus Taconic and Acadian orogens, Granite/Rhyolite crust, and a minor amount of Pan-African material.
2. METHODS

2.1. LA-MC-ICPMS
Detrital zircon U-Pb geochronology was conducted by laser ablation multicollector inductively coupled mass spectrometry (LA-MC-ICPMS) at the Arizona LaserChron Center (ALC) following the methods outlined in Gehrels et al. (2006). Zircon grains were extracted from samples using standard mineral separation techniques of crushing, sieving, magnetic separation, processing through heavy liquids, and hand picking at the Missouri University of Science and Technology and Macalester College. Separates were then mounted in epoxy, polished, and imaged on a JEOL 6610LV Scanning Electron Microscope at Macalester College prior to analysis. Zircon grains were ablated using a 193 nm ArF laser with a pit depth of ~12 µm and spot diameters of 25-30 µm in Faraday collection mode and with a spot diameter of 10 µm for sample 18BH2A in ion counting mode. Unless otherwise noted, most analyzed grains were subhedral to subrounded, ~50 – 350 µm in length, inclusion-poor, and exhibit simple oscillatory zoning patterns in cathodoluminescence images that we interpret as magmatic features.

2.2. Data Reduction and analysis
Data reduction was done using in-house ALC Microsoft Excel programs and ISOPLOT/Ex Version 3 (Ludwig, 2003). The “best ages” reported in Table DR2 were calculated using $^{206}\text{Pb}/^{238}\text{U}$ ages for grains younger than 900 Ma and $^{207}\text{Pb}/^{206}\text{Pb}$ ages for grains older than 900 Ma. Analyses with greater than 10% uncertainty, 20% discordance, and/or 5% reverse discordance were excluded. Detrital zircon probability distributions for all samples are provided as kernel density estimations (KDEs) in Figure DR15.

The Multidimensional scaling (MDS) mapping algorithm (e.g., Vermeesch, 2013) used here to compare U-Pb detrital zircon spectra is as follows: 1) input square, symmetric matrix of Kolmogorov-Smirnov (K-S) distances between samples; 2) assign points to arbitrary coordinates in 2-dimensional space; 3) compute K-S distances among all pairs of points, to form a new matrix; 4) compare the new matrix with the input matrix by evaluating the stress function, a measure of the degree of correspondence between the observed and reproduced distances; 5) perturb the coordinates of each data point; and 6) repeat steps 2 through 5 until stress is minimized. These operations were carried out using detritalPy (Sharman et al., 2018).
degree of similarity in U-Pb detrital zircon age spectra on an MDS “map” is higher for samples that plot close to each other than for samples that are positioned farther apart. The reader is referred to Borg and Groenen (1997) for a comprehensive treatment of MDS.

Non-negative matrix factorization (NMF) applied to detrital zircon geochronology is a powerful cutting-edge technique that enables characterization, or “unmixing,” of “source” (i.e., eroded and transported parent materials) age spectra from large volumes of “sink” (i.e., samples collected from sedimentary rocks) data (Sharman and Johnstone, 2017; Saylor et al., in press). The procedure of Saylor et al. (in press) for characterizing source spectra from sink data is as follows (see this reference for a comprehensive treatment): 1) input m-by-n matrix V (where m are KDE probabilities for each of n samples); 2) compute matrices W (m probabilities at the same spacing-by-k factorized components) and H (k factorized components-by-n samples), such that \( V \approx WH \) (in detail, \( V = WH + E \), where \( E \) is a residual); 3) iterate until E is minimized. Results of NMF analysis are in Table DR3.
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PLATE CAPTIONS

Plate 1. A) Oversized version of Figure 2A (Ordovician). See Figure 2 in the main text for explanation. B) Locations, plotted using sample identifiers from Table DR1, of new and existing U-Pb detrital zircon data.

Plate 2. A) Oversized version of Figure 2B (Silurian-Devonian). See Figure 2 in the main text for explanation. B) Locations, plotted using sample identifiers from Table DR1, of new and existing U-Pb detrital zircon data.

Plate 3. A) Oversized version of Figure 2C (Mississippian). See Figure 2 in the main text for explanation. B) Locations, plotted using sample identifiers from Table DR1, of new and existing U-Pb detrital zircon data.

Plate 4. A) Oversized version of Figure 2D (Pennsylvanian). See Figure 2 in the main text for explanation. B) Locations, plotted using sample identifiers from Table DR1, of new and existing U-Pb detrital zircon data.

NON-EMBEDDED FIGURE CAPTION

Figure DR15. Unnormalized detrital zircon probability distributions as kernel density estimations (KDEs) with 5 Myr bandwidth, for samples with A) Ordovician, B) Silurian and Devonian, C) Mississippian, and D) Pennsylvanian depositional ages. Sample names from Table DR1. For example, sample SD15 refers to Silurian and Devonian sample 15.

TABLE CAPTIONS

Table DR1. Compiled published U-Pb detrital zircon data for Ordovician, Silurian, Devonian, Mississippian, and Pennsylvanian strata from southern Canada, northern Mexico, and the United States.

Table DR2. Newly acquired LA-MC-ICPMS U-Pb detrital zircon data.

Table DR3. Results of NMF analysis.
Chapman, A.D., and Laskowski, A.K., 2019, Detrital zircon U-Pb data reveal a Mississippian sediment dispersal network originating in the Appalachian orogen, traversing North America along its southern shelf, and reaching as far as the southwest USA: Lithosphere, https://doi.org/10.1130/L1068.1.
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