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APPENDIX 1. Compilation of detailed basin histories, representative measured sections, simplified stratigraphic logs, and stable isotope analytical data for outcrops in the Salmon, Horse Prairie, Muddy Creek, Sage Creek, and Jefferson basins.

APPENDIX 2. Paleosol carbonate sample descriptions, analytical data, and associated statistics for all new and published samples presented in this study.

APPENDIX 3. Summary of detrital zircon separation/analytical techniques; concordance filters and criteria for determining the best age of each grain; and methods for calculating maximum depositional ages of sandstone samples.

APPENDIX 4. Compilation of new detrital zircon results presented in this study.

APPENDIX I:

COMPILATION OF DETAILED BASIN HISTORIES, REPRESENTATIVE MEASURED SECTIONS, SIMPLIFIED STRATIGRAPHIC LOGS, AND STABLE ISOTOPE ANALYTICAL DATA FOR OUTCROPS IN THE SALMON, HORSE PRAIRIE, MUDDY CREEK, SAGE CREEK, AND JEFFERSON BASINS.

Salmon Basin, Idaho

The Salmon basin is a narrow, northwest-trending basin located west of the Beaverhead Mountains at the border of Montana and Idaho (Fig. 1b, main manuscript). The basin lies within the footprint of the extant Sevier fold-thrust belt, and is floored by Proterozoic metasedimentary rocks that are cross-cut by rare Proterozoic intrusions (Armstrong, 1975; Evans, 1981; Lopez, 1982). The Salmon basin is currently bound on the west by a series of north-trending, high-angle normal faults and on the east by a wide, northwest-trending fault zone located at the base of the Beaverhead Mountains (Harrison, 1985; Ruppel, 1998).

Stratigraphy and Age Constraints

Proterozoic rocks that floor the Salmon basin are unconformably overlain by the lower to middle Eocene Challis Volcanics and the upper-middle Eocene to Oligocene (Uintan? to Arikareean?) Kriley Gulch, Salmon City, and Wimpey Creek Formations (Fig. 2, main manuscript) (cf. Harrison, 1985). The Challis volcanics (ca. 49-45 Ma) largely pre-date the upper-middle Eocene to Oligocene succession, but rare intercalation does occur locally (Chadwick, 1981) in the informally named Perreau Contact Beds (PCB) that locally underlie the Kriley Gulch Formation (Fig. 2, main manuscript; after Harrison, 1985), placing a middle Eocene maximum age on the Kriley Gulch Formation. Otherwise, the upper-middle Eocene to Oligocene succession is poorly constrained by ash geochronology. A single-crystal $^{40}Ar/^{39}Ar$ date from an ashfall tuff in the Wimpey Creek Formation yields an age of ca. 30 Ma (Axelrod, 1998), and the upper limit of the Wimpey Creek Formation is constrained by a regionally occurring lower Miocene (Hemingfordian) unconformity (Fig. 2, main manuscript).

Stratigraphic Trends and Basin Evolution

Middle Eocene Challis volcanism in the Salmon basin was contemporaneous with bimodal volcanic activity that occurred across southwestern Montana (e.g., the Medicine Lodge and Dillon Volcanics) and into northwestern Wyoming (e.g., the Absaroka Volcanics). Deposits of the Challis Volcanics that are preserved in the Salmon basin were largely derived from a volcanic center located in the modern Lemhi Range (Harrison, 1985), immediately south of Salmon, ID. Volcanism may have been contemporaneous with high-angle extensional faulting on the west side of the Salmon Basin, but predates more regional extension (Fig. 5, main manuscript) (Harrison, 1985; Vandenburg et al., 1998). Some volcaniclastic material from the Salmon basin was transported eastward along a paleovalley network that had been incised into the Sevier fold-thrust belt during Paleocene-early Eocene time, with probable outflow into the Laramide foreland province near the Sage Creek basin (Janecke et al., 1999; Schwartz and Graham, 2017).

Bimodal volcanism associated with the Challis volcanic field ended by middle Eocene time (ca. 45 Ma) in the Salmon basin (M'Gonigle and Dalrymple, 1993; 1996), and volcaniclastic environments were replaced by clastic sedimentary environments as late Eocene to Oligocene normal faulting initiated on the eastern side of the basin. The late Eocene to Oligocene basin was filled by an assemblage of relatively conformable alluvial fan, fluvial, and lacustrine/palustrine deposits preserved by the Kriley Gulch, Salmon City, and Wimpey Creek Formations, respectively (Fig. 5, main manuscript; Fig. A-1) (Harrison, 1985; this study). In southern parts of the basin near Leadore, ID, the succession is demonstrably unconformable and is split into two unconformable assemblages of interfingering lacustrine/palustrine and alluvial fan deposits called the Sacagawea and Tendoy Beds (cf. Janecke and Blankenau, 2003). Coarse-grained alluvial fan deposits of the Kriley Gulch Formation are concentrated along the western margin of the Salmon basin, and grade laterally (eastward) into progressively finer-grained distal fan and lacustrine/palustrine deposits of the Salmon City and Wimpey Creek Formations. Distal alluvial fan to fluvial deposits also occur in the Salmon City Formation on the eastern side of the basin, and similarly grade laterally (westward) into finer-grained distal fan and lacustrine/palustrine deposits of the Salmon City and Wimpey Creek formations. Locally, the deposits form upward-coarsening successions of lignite, mudstone, sandstone, and conglomerate (such as the Salmon City and Wimpey Creek Formations in Fig. A-1). At the location of the measured section depicted in Figure A-1, the upward-coarsening successions record progradation of basin-margin alluvial fans over basin-interior lacustrine

environments during late Eocene and Oligocene time, and clasts within the gravelly alluvial fan deposits reveal unroofing of Proterozoic metasedimentary rocks from the east side of the Salmon basin (Harrison, 1985; this study). Similarly, clasts from within the Kriley Gulch Formation on the western margin of the basin reveal unroofing of Proterozoic metasedimentary rocks from the west side of the Salmon basin (Harrison, 1985).

Importantly, the lateral continuity of the lignite-dominated lacustrine deposits (Wimpey Creek Formation) suggests widespread ponding and high water tables in the Salmon basin during late Eocene to Oligocene time. Ponding of the basin was likely caused by structural segmentation of the antecedent paleovalley network as regional extension initiated in late Eocene to Oligocene time and local detachment occurred along the basin-bounding Salmon Basin fault (Fig. 4c, main manuscript) (e.g., Harrison, 1985; Vandenburg et al., 1998). Closure of the basin may also have been exacerbated by damming of outflow areas by volcanic flows and/or alluvial fans.

Horse Prairie basin, Montana-Idaho

Similar to the Salmon basin, the Horse Prairie basin lies within the extant Sevier fold-thrust belt (Fig. 1b, main manuscript), and is currently bound on the east and west by north-trending, high-angle normal faults (Ruppel, 1998). Cenozoic deposits sit unconformably on top of a structurally complex assemblage of Archean quartzofeldspathic gneiss, Proterozoic metasedimentary rocks, and Ordovician to Pennsylvanian sedimentary rocks (Ruppel, 1998).

Stratigraphy and Age Constraints

In the Horse Prairie basin, pre-Cenozoic rocks that comprise the Sevier fold-thrust belt are unconformably overlain by the middle Eocene Medicine Lodge Volcanics (M'Gonigle and Dalrymple, 1996) and upper Eocene to lower Miocene (Chadronian to Arikareean) members of the Renova Formation (Fig. 2, main manuscript) (Ruppel, 1998; Barnosky et al., 2007). The Renova Formation is well-exposed at the southern margin of the basin, at Bannock Pass (Fig. 1, main manuscript). The Medicine Lodge Volcanics are not well exposed at Bannock Pass, but nearby tuffaceous deposits yield $^{40}Ar/^{39}Ar$ ages ca. 48-46 Ma (M'Gonigle and Dalrymple, 1993), providing a maximum age for the Renova succession. Gastropods from near the base of the Renova succession at Bannock Pass are likely late Eocene (Chadronian) in age (A. Tabrum, *personal communication*, 2013). Additionally, magnetostratigraphic ages and biostratigraphy from the top of the Renova Formation indicate an upper age limit of ca. 17 Ma for the succession (Barnosky et al., 2007).

Stratigraphic Trends and Basin Evolution

Although they are age-equivalent to the Challis Volcanics, middle Eocene volcanic rocks that are preserved in the Horse Prairie basin were likely derived from an isolated volcanic center located at the northern end of the Horse Prairie basin (after M'Gonigle and Dalrymple, 1996). Volcaniclastic detritus derived from the Medicine Lodge Volcanics was likely incorporated into the eastward-flowing network of paleovalleys that drained the Salmon basin at this time (Janecke et al., 1999; Schwartz and Graham, 2017). Volcanism continued in the Horse Prairie basin until

ca. 45 Ma, which is broadly coeval with extensional reactivation of nearby Sevier fold-thrust belt structures (Fig. 5, main manuscript) (after Vandenburg et al., 1998).

As extension began and volcanism ceased, the basin became ponded and volcaniclastic environments were replaced by an assemblage of lacustrine and alluvial fan environments recorded by the Renova Formation. At Bannock Pass, an approximately 150 m-thick upward-coarsening succession records a transition from freshwater lacustrine deposits to restricted (saline) lacustrine-palustrine deposits, followed by coarse-grained alluvial fan deposits (Fig. A-2) (Barnosky et al., 2007; this study). The transition from freshwater to restricted lacustrine deposits indicates local climatic drying during late Eocene and into Oligocene time (Barnosky et al., 2007), and the upward-coarsening succession indicates progradation of alluvial fans across the basin-interior as extension progressed. Clasts and paleocurrent indicators from within coarse-grained alluvial fan deposits reveal unroofing of local sources in basin-bounding uplands.

Muddy Creek Basin, Montana

The Muddy Creek basin lies within the footprint of the extant Sevier fold-thrust belt (Fig. 1b, main manuscript). The basin is bound on the east by a set of listric, low-angle normal faults that parallel the Medicine Lodge thrust and on the west by smaller antithetic normal faults (Janecke et al., 1999). Cenozoic deposits rest unconformably on top of Precambrian to Cretaceous sedimentary rocks of the Medicine Lodge and Tendoy thrust sheets (Dunlap, 1982).

Stratigraphy and Age Constraints

Deformed pre-Cenozoic basement rocks of the Muddy Creek basin are overlain by an assemblage of Eocene to lower Miocene volcaniclastic and siliciclastic rocks that are age-equivalent to the Challis volcanics and Renova Formation, respectively (after Dunlap, 1982; Janecke et al., 1999). Figure 2 (main manuscript) shows that Challis-aged volcanic rocks (Tcv/facies A) are the base of the Paleogene Muddy Creek basin succession, and are successively overlain by a series of informal siliciclastic units including tuffaceous shale (Tts/facies C), organic-rich shale (Tos/facies D), and mixed conglomerate and sandstone (Tcs/facies E and Tcg/facies B) (nomenclature after Janecke et al., 1999). The age of the Challis volcanic succession is constrained by several $^{40}Ar/^{39}Ar$ ages that range from ca. 49-45 Ma (Fig. 2, main manuscript) (Janecke et al., 1999; Methner, 2016). The siliciclastic succession is relatively poorly constrained by suites of vertebrate (Dunlap, 1982) and gastropod (Dascoli et al., 1996) fossils to be late Eocene to early Oligocene (Chadronian—Arikareean; Fig. 2, main manuscript).

Stratigraphic Trends and Basin Evolution

The Challis-aged volcanic rocks that are preserved in the Muddy Creek basin were derived (1) from local volcanic centers within/near the Muddy Creek basin and (2) from sources to the west-northwest of the basin near Salmon, ID (Janecke et al., 1999). Ash-flow tuffs were delivered to the Muddy Creek basin along a network of incised paleovalleys (the “Hawley Creek” and “northern Lemhi Pass” paleovalleys) that transected the fold-thrust belt from at least 49 Ma to approximately 45 Ma (Janecke et al., 1999), prior to the onset of extension in the Muddy Creek

basin. Volcanic deposits are interbedded with fluvial conglomerate and sandstone with provenance suggesting western sources, supporting the existence of net-eastward-flowing fluvial paleovalleys during this time (Janecke et al., 1999). The Muddy Creek basin paleovalley system was generally parallel to the axis of the late Eocene-Oligocene Muddy Creek half-graben.

The widespread deposition of lacustrine and lake-margin facies (facies C, D, and E) records ponding and a transition to internal drainage of the Muddy Creek basin. Drainage reorganization was coeval with extensional reactivation along paleovalley margins (Janecke et al., 1999) that beheaded the antecedent paleovalley networks (Schwartz and Graham, 2017). Initial extension of the Muddy Creek fault system began ca. 46.5 to 46 Ma based on the age of a sanidine tuff that is interbedded with lacustrine deposits of facies C. As the basin became ponded, alluvial fans and fan deltas formed primarily on the eastern fault-bound margins of the basin and delivered locally derived, coarse sediment into the basin center. In contrast, the basin center became dominated by fine-grained lacustrine systems, similar to the Horse Prairie and Salmon basins. Between late Eocene—Oligocene time, lacustrine deposits transitioned from tuffaceous shale to organic-rich shale, indicating that local volcanism had ceased by late Eocene (?) time (Janecke et al., 1999). Ultimately, basin-margin alluvial fan facies prograded across the basin interior.

Sage Creek Basin, Montana

The Sage Creek basin is a relatively broad, northwest-trending basin located adjacent to the leading edge of the Sevier fold-thrust belt (Fig. 1, main manuscript). The basin is topographically confined on the west by the Sevier fold-thrust belt culmination (Tendoy Mountains) and on the north and south by the Blacktail Mountains and Snowcrest Range (Laramide intraforeland uplifts). Although all of the structural culminations have a contractional origin, they are currently bound by high-angle normal faults that initiated during Neogene Basin and Range-style extension (Reynolds, 1979; Fritz and Sears, 1993; Fritz et al., 2007). Cenozoic deposits that fill the Sage Creek basin unconformably overlie Archean to Mesozoic rocks that were involved in Sevier-Laramide deformation.

Stratigraphy and Age Constraints

The Sage Creek basin hosts the most complete record of Paleogene sedimentation in the study area (Fig. 2, main manuscript). In the western part of the basin, adjacent to the Sevier fold-thrust front, deformed pre-Cenozoic rocks are unconformably overlain by synorogenic deposits of the Maastrichtian-Paleocene Beaverhead Group. The Beaverhead Group is in turn overlain by volcanic, volcaniclastic, and clastic rocks of the Renova Formation, which form a series of nested sedimentary units bound by local to regional disconformities (Schwartz and Graham, 2017).

The lower Dillon Volcanics are exposed in the northwest part of the Sage Creek basin, and yield ages ranging from ca. 52-47 Ma (Fritz et al., 2007; Schwartz and Graham, 2017). Bimodal lavas and tuffs of the lower Dillon Volcanics are in turn overlain by the Sage Creek, Dell, Cook Ranch, White Hills, and Blacktail Creek members of the Renova Formation (Tabrum et al., 1996; Lonn et al., 2000). The ages of individual members are relatively well constrained by mammal fossil assemblages (Tabrum et al., 1996), volcanic ash geochronology (Kent-Corson et al., 2006; Methner et al., 2016; Schwartz and Graham, 2017), and detrital zircon maximum depositional ages (Schwartz and Graham, 2017; this study) (Fig. 2, main manuscript).

Stratigraphic Trends and Basin Evolution

Synorogenic deposits of the Beaverhead Group were deposited synchronously with the final pulses of Sevier and Laramide deformation in southwestern Montana. In the Sage Creek basin, the Beaverhead Group records emplacement of the Tendoy thrust system and uplift of the Blacktail-Snowcrest arch (Perry et al., 1988; Haley and Perry, 1991). Cobble types within the Beaverhead Group indicate derivation from thrust plates in the Sevier hinterland, delivered to the thrust front by high-energy fluvial systems that transected the fold-thrust belt (Schwartz and Graham, 2017).

As compression ceased, the Beaverhead Group deposits were incised by fluvial systems which generated a low-relief rolling topography across the Sage Creek basin (Schwartz and Graham, 2017). Following an approximately 5 Myr depositional hiatus, the lower Dillon Volcanics erupted from volcanic centers on the northwest edge of the basin (Fritz et al., 2007) and locally filled the erosional topography. The Bridgerian Sage Creek member of the Renova Formation was deposited contemporaneously with eruption of the lower Dillon Volcanics and filled local areas of accommodation (Schwartz and Graham, 2017). Much of the Sage Creek member was likely derived from proximal (intrabasinal) sources and deposited on an alluvial plain, but may also have shared volcanic sources with the Salmon and Horse Prairie basins (after Janecke, et al., 1999; Schwartz and Graham, 2017). Figure A-3 is a representative stratigraphic section through the volcaniclastic-dominated Sage Creek member.

Deposition of the Uintan Dell member of the Renova Formation marks the transition from dominantly volcanic-dominated environments to clastic sedimentary environments in the Sage Creek basin. The Dell member fills an erosional unconformity that was incised into the Sage Creek member, and is dominated by alluvial fan deposits that were derived from local, westward-located uplifts such as the Tendoy Mountains culmination (Schwartz and Graham, 2017). Deposition of the Dell member is coeval with the extensional reactivation of Sevier fold-thrust belt structures that caused ponding of the westward-located basins (Schwartz and Graham, 2017). Figure A-4 displays representative stratigraphic sections through the lower and upper parts of the Dell member.

Following a 3-4 Myr depositional hiatus, the Cook Ranch, White Hills, and Blacktail Creek members of the Renova Formation were deposited disconformably over the Dell member. Together, the units record continued deposition on a northeastward-draining alluvial plain

(Schwartz and Graham, 2017). Extrusion of the middle Dillon Volcanics also occurred during this time around the perimeter of the Sage Creek basin (M'Gonigle and Dalrymple, 1993; Fritz et al., 2007). Figure A-5 displays a representative stratigraphic section through the White Hills member.

Upper Jefferson Basin, Montana

The Jefferson basin is a narrow, L-shaped valley that is located at the transition zone between the Sevier fold-thrust belt and the Laramide foreland province (Fig. 1b, main manuscript). The basin is oriented northeast-southwest between the Highland Range and Tobacco Root Mountains, and then turns eastward at Whitehall, MT where it parallels the southern edge of the Helena thrust salient (defined by the Southwest Montana Transverse Zone, SWMTZ; Lageson et al., 2001). The Tobacco Root Mountains and Highland Range originated as Laramide intraforeland uplifts, and were subsequently overprinted by impingement of the Sevier fold-thrust belt (e.g., Kalakay et al., 2001). The Jefferson basin is currently bound on the east by a high-angle normal fault, possibly of Eocene ancestry (Ruppel et al., 1981; Hanneman and Wideman, 1991). The basin is likely floored by an assemblage of Archean to Paleozoic rocks that were deformed during the Laramide orogeny (after Vuke, 2004).

Stratigraphy and Age Constraints

The Jefferson basin contains up to 2,500 m of Paleogene and Neogene rocks that are predominantly buried in the basin interior (Hanneman, 1989); relatively sparse outcrops of Paleogene deposits are clustered around the margins of modern uplifts (Vuke, 2004). Unlike the Salmon, Horse Prairie, and Sage Creek basins, voluminous, locally derived middle Eocene volcanics are absent in the Jefferson basin, except for very small exposures of Eocene basalt on the northern edge of the basin near Whitehall, MT (Vuke, 2004). Pre-Cenozoic rocks that floor the basin are unconformably overlain by upper Eocene to lowermost Miocene (Chadronian to Arikareean) members of the Renova Formation (Fig. 2; main manuscript) (Hanneman, 1989; Vuke, 2004). The late Chadronian-Arikareean Bone Basin member of the Renova Formation is well-exposed on the northwestern margin of the Tobacco Root Mountains, adjacent to the Jefferson River. This exposure is the type-section of the Renova Formation in southwestern Montana (Kuenzi and Fields, 1971). Mammal biostratigraphy (e.g., Kuenzi and Fields, 1971) and a new detrital zircon maximum depositional age from a fluvial sandstone unit at the top of the succession (this study) constrain the succession to be ca. 25 Ma and older.

Stratigraphic Trends and Basin Evolution

Paleocene to middle Eocene time was marked by sedimentary bypass in the Jefferson basin (Schwartz and Schwartz, 2013). As bimodal volcanism occurred in basins to the west-southwest, the Jefferson basin (and adjacent, connected basin tracts) were incised by fluvial systems that ultimately drained eastward beyond the Laramide intraforeland province (Schwartz and Schwartz, 2013). Given the protracted history of Cenozoic extension in southwestern Montana, the great thickness of Cenozoic sediment in the basin, and the abundance of normal faults associated with the modern expression of the Jefferson basin system, it is possible that early to middle Eocene extensional reactivation of Laramide structures may have played a role in early basin generation (e.g., Hanneman, 1989). However, there are few temporal constraints on fault initiation in the basin, and regional trends in the age of extension (e.g., Ruppel, 1993; Vandenburg et al., 1998; this study) suggest that extensional reactivation of the Laramide foreland province likely began after deposition of the Renova Formation in mid-Miocene time.

Beginning in late Eocene (Chadronian) time (ca. 35 Ma; Kuenzi and Fields, 1971), the Renova Formation was deposited in the Jefferson basin. The onset of deposition is broadly synchronous with extensional reactivation of the frontal fold-thrust belt (Fig. 5, main manuscript). Although thin successions of lacustrine deposits occur locally, the Renova Formation in this area is dominated by an interfingering assemblage of basin-margin alluvial fan/hillslope deposits and axial fluvial deposits that are encased in finer-grained overbank facies (Schwartz and Schwartz, 2013). Coarse-grained basin-margin deposits define a basin network that resembled the modern, and fluvial deposits support interconnectivity of the basin system (Schwartz and Schwartz, 2013). As the basin filled between late Eocene and earliest Miocene (Chadronian to Arikareean) time, trunk fluvial systems transitioned from large, gravel-dominated, braided-type channels to smaller, sand-dominated and sinuous channel networks (Schwartz and Schwartz, 2013). At the Renova Formation type section, the Bone Basin member displays a 35 m-thick succession of well-developed calcic paleosols that is capped by sandy fluvial channel-fills (Fig. A-6). The upward-coarsening succession records a prolonged period of overbank sedimentation that was dominated by periods of soil formation, followed by local avulsion of fluvial channels across the floodplain.

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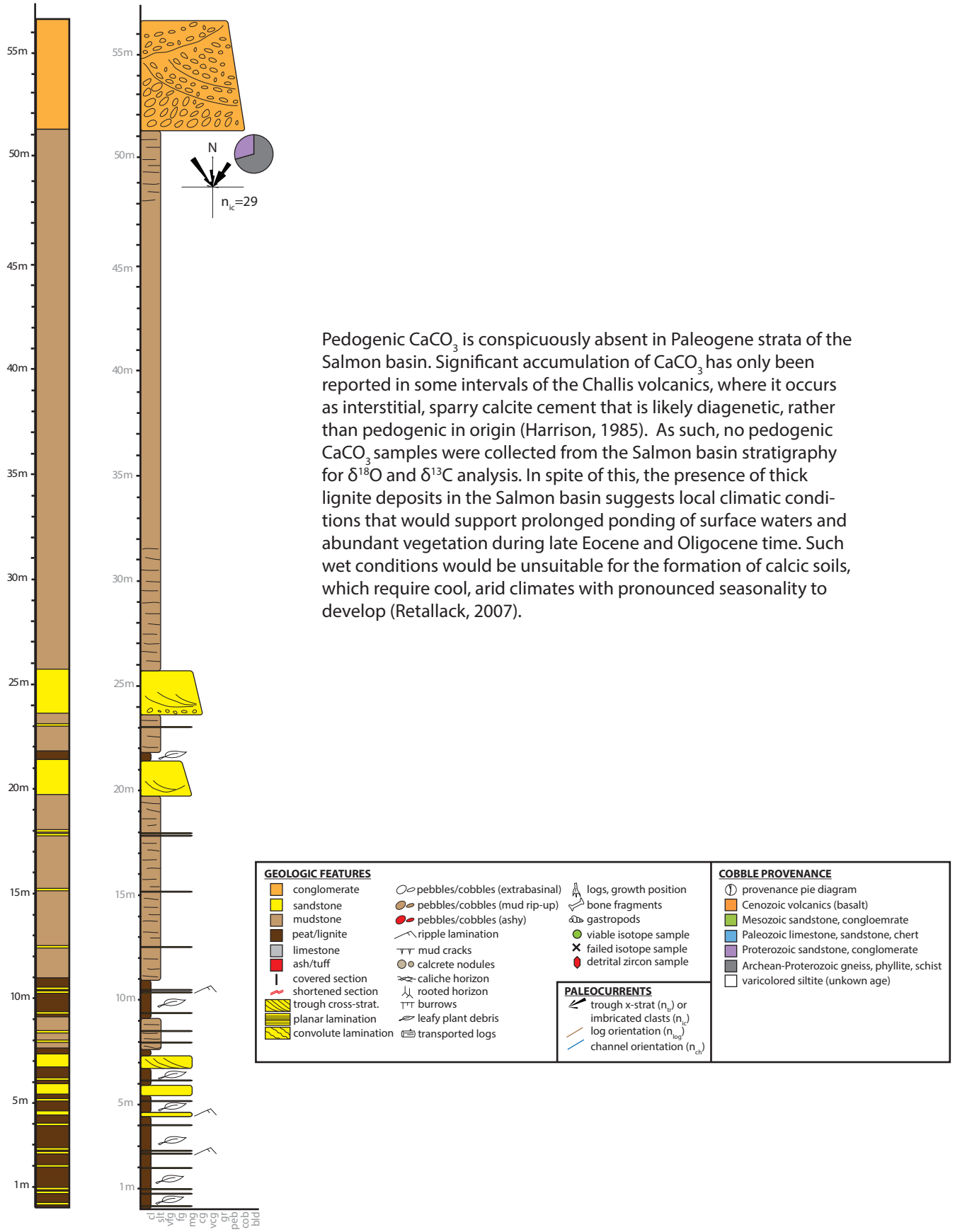
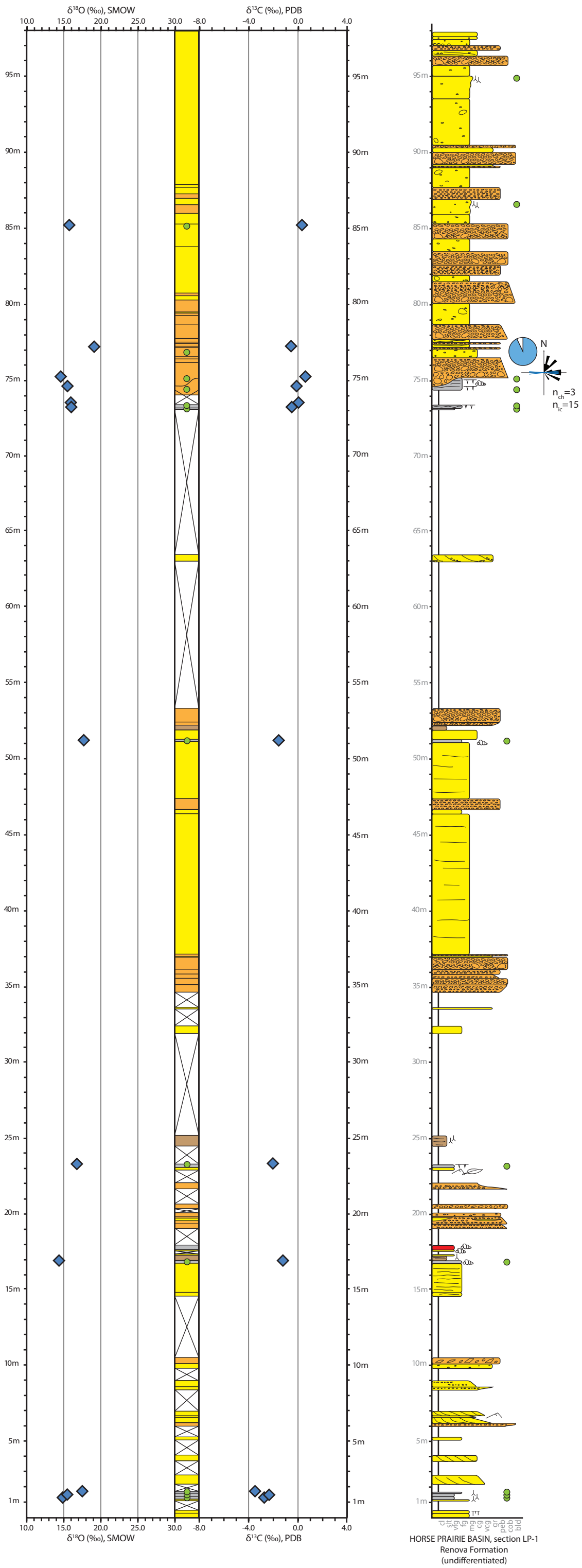
FIGURE A-1: Salmon Basin



SALMON BASIN, section SB-1
Salmon City and Wimpey Creek Formations
(undivided)

Pedogenic $CaCO_3$ is conspicuously absent in Paleogene strata of the Salmon basin. Significant accumulation of $CaCO_3$ has only been reported in some intervals of the Challis volcanics, where it occurs as interstitial, sparry calcite cement that is likely diagenetic, rather than pedogenic in origin (Harrison, 1985). As such, no pedogenic $CaCO_3$ samples were collected from the Salmon basin stratigraphy for $\delta^{18}O$ and $\delta^{13}C$ analysis. In spite of this, the presence of thick lignite deposits in the Salmon basin suggests local climatic conditions that would support prolonged ponding of surface waters and abundant vegetation during late Eocene and Oligocene time. Such wet conditions would be unsuitable for the formation of calcic soils, which require cool, arid climates with pronounced seasonality to develop (Retallack, 2007).

FIGURE A-2: Upper Horse Pairie Basin



Pedogenic CaCO3 is abundant in late Eocene to Oligocene (late Chadronian to Arikareean, ca. 34-23 Ma) exposures of the Renova Formation at Bannock Pass. Fifteen samples were collected from 95 m of strata that include thin, heavily rooted palustrine limestone beds, rooted K-horizons of paleosols that formed on calcareous mudstone, and rooted K-horizons of paleosols that formed on sandy mudflows and debris flows in the upper part of the succession.

All twelve of the twelve samples yielded viable $\delta^{18}O$ and $\delta^{13}C$ results. The suite of samples yield $\delta^{18}O$ values that range from ~14‰ and 19‰ and display a subtle upward-increase in average $\delta^{18}O$. $\delta^{13}C$ values range from -4‰ to 1‰ and display a prominent upward-increase in average $\delta^{13}C$ between Orellan and Arikareean time.

GEOLOGIC FEATURES

- conglomerate
- sandstone
- mudstone
- peat/lignite
- limestone
- ash/tuff
- covered section
- shortened section
- trough cross-strat.
- planar lamination
- convolute lamination
- pebbles/cobbles (extrabasinal)
- pebbles/cobbles (mud rip-up)
- pebbles/cobbles (ashy)
- ripple lamination
- mud cracks
- calcrete nodules
- caliche horizon
- rooted horizon
- burrows
- leafy plant debris
- transported logs
- logs, growth position
- bone fragments
- gastropods
- viable isotope sample
- failed isotope sample
- detrital zircon sample

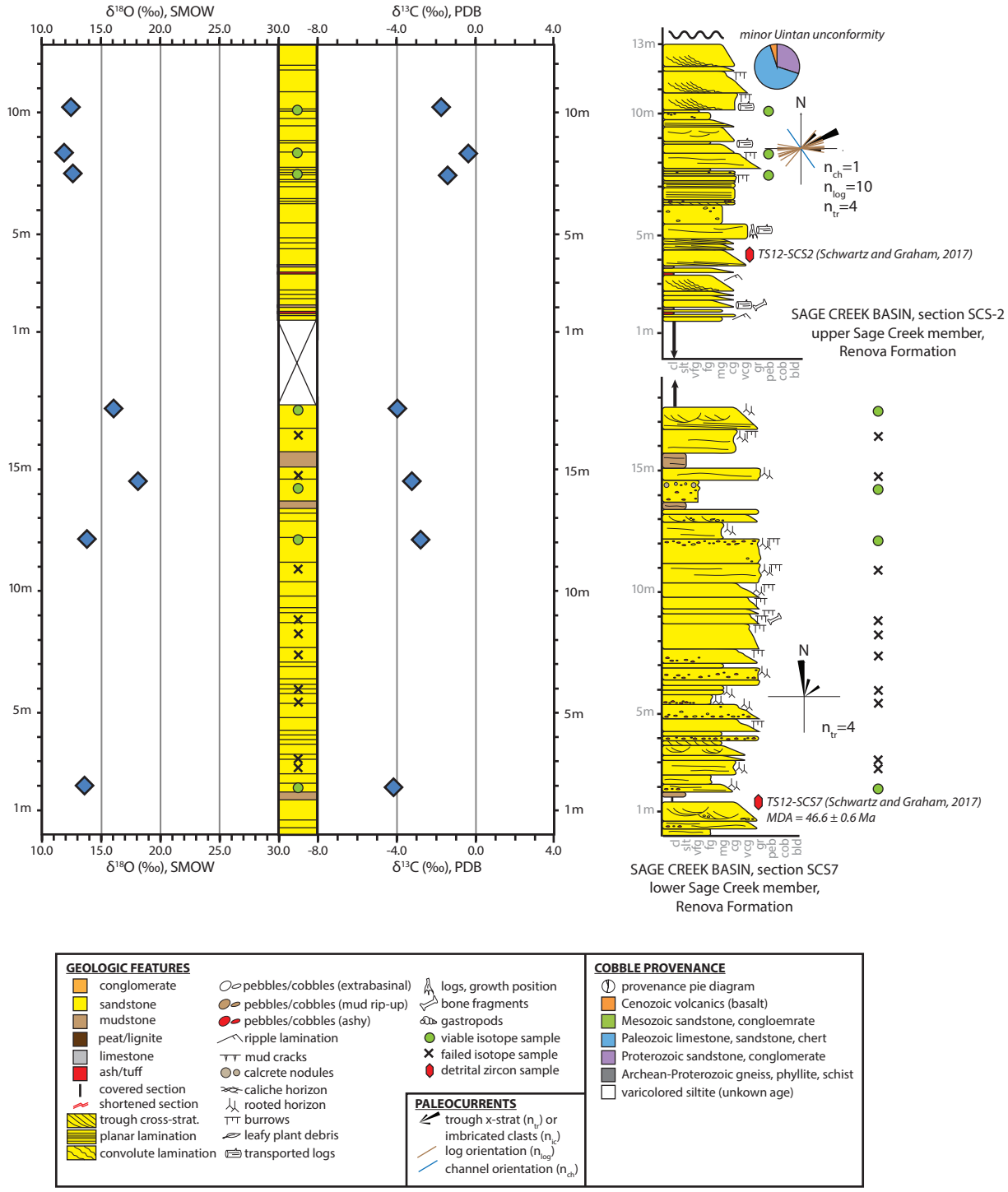
PALEOCURRENTS

- trough x-strat (n_{tr}) or imbricated clasts (n_{ic})
- log orientation (n_{log})
- channel orientation (n_{ch})

COBBLE PROVENANCE

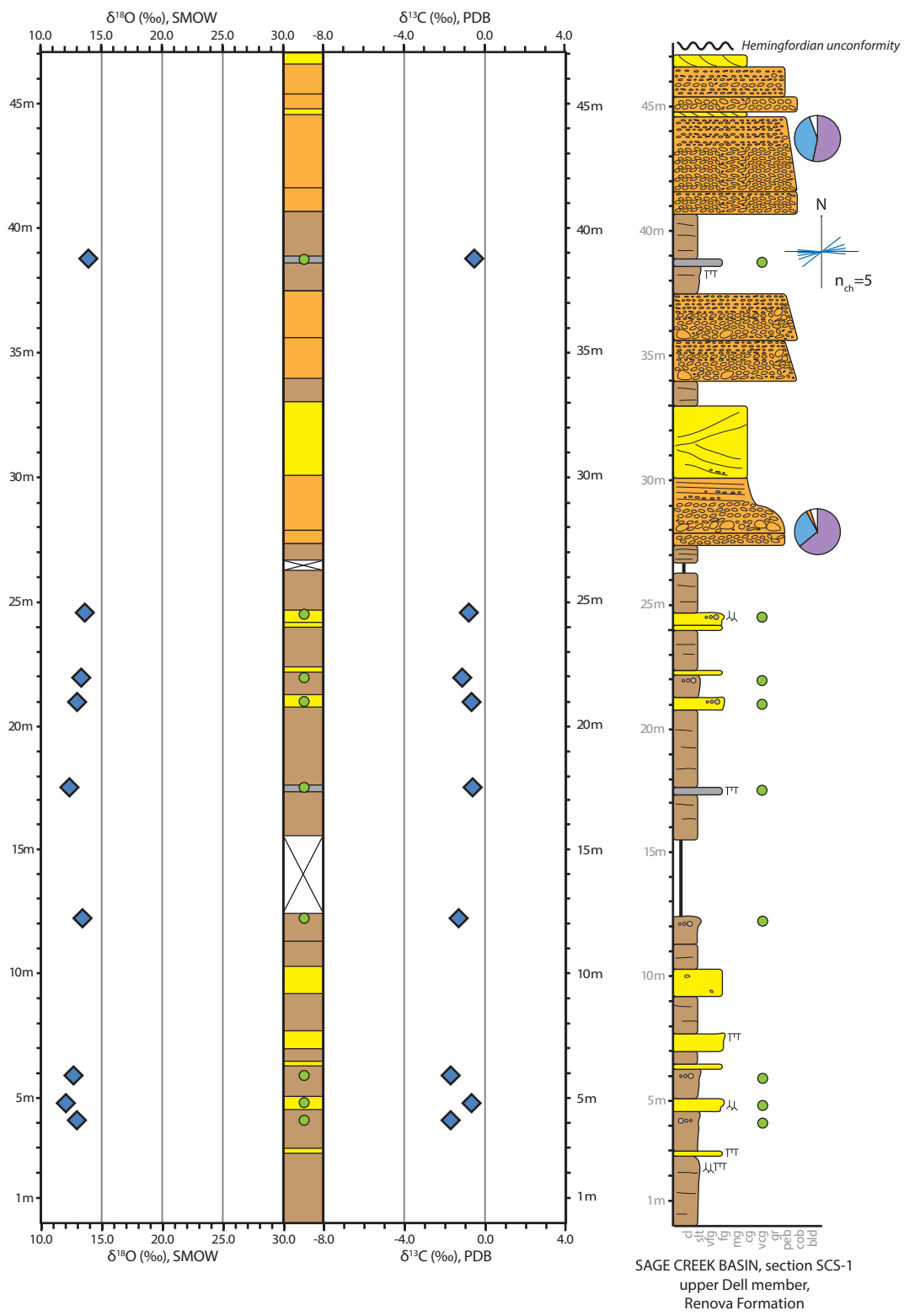
- provenance pie diagram
- Cenozoic volcanics (basalt)
- Mesozoic sandstone, congloemrate
- Paleozoic limestone, sandstone, chert
- Proterozoic sandstone, conglomerate
- Archean-Proterozoic gneiss, phyllite, schist
- varicolored siltite (unkown age)

FIGURE A-3: Sage Creek Basin, Sage Creek member of the Renova Formation

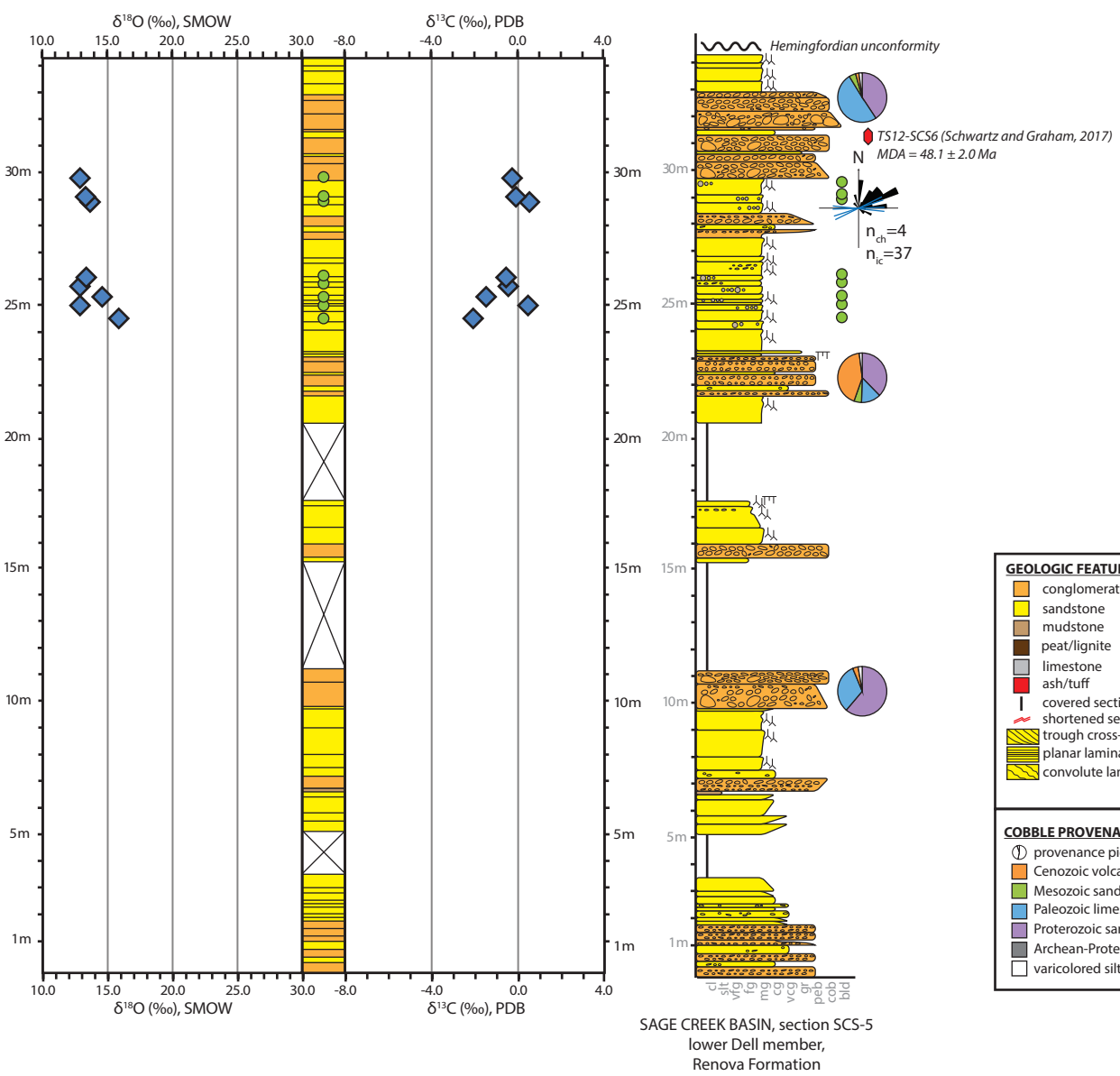


The Bridgerian Sage Creek member of the Renova Formation hosts the most poorly developed calcic paleosols in the Sage Creek basin. Seventeen new pedogenic $CaCO_3$ samples were collected from approximately 30 m of strata, and were all collected from horizons of diffuse $CaCO_3$ that was identified by differential weathering patterns. Only seven of the seventeen samples yielded viable results. Similar to trends reported by Kent-Corson et al. (2006; 2010), $\delta^{18}O$ values display a negative excursion from approximately 15-16‰ to approximately 11-12‰ (an excursion of 3-5‰) that occurs between the lower and upper parts of the Sage Creek member. $\delta^{13}C$ values vary between -4‰ and -2‰ for the lower Sage Creek member and between -2‰ and 0‰ for the upper Sage Creek member, which are also consistent with values reported by Kent-Corson et al. (2006; 2010).

FIGURE A-4: Sage Creek basin, Dell member of the Renova Formation



The lowest 25 m of the Uintan Dell member lacks pedogenic $CaCO_3$, although paleosols are present throughout. Pedogenic $CaCO_3$ becomes abundant upward in the section, and appears as horizons of diffuse $CaCO_3$ and rounded calcrete nodules. Eight samples were collected from the lower Dell member, and ten samples were collected from the upper Dell member. All samples yielded viable results. The lowest five samples from the Dell member yield $\delta^{18}O$ that vary between 13-16‰, and all overlying values converge on 13-14‰. The new $\delta^{18}O$ values are consistent with those reported by both Kent-Corson et al. (2006) and Mulch et al. (2015), but maintain a tighter distribution than both datasets. Similar to $\delta^{18}O$ values, $\delta^{13}C$ values for the lowest five samples from the Dell member are variable and range from -2‰ to 1‰. Overlying samples remain variable, but maintain an average value of approximately -1‰. Unlike the $\delta^{18}O$ values, the new $\delta^{13}C$ values are consistently more negative than values reported by Kent-Corson et al. (2006) and Mulch et al. (2015). However, all sample suites display significant variation in values that spans up to 6‰.



GEOLOGIC FEATURES

- conglomerate
- sandstone
- mudstone
- peat/lignite
- limestone
- ash/tuff
- covered section
- shortened section
- trough cross-strat.
- planar lamination
- convolute lamination
- pebbles/cobbles (extrabasinal)
- pebbles/cobbles (mud rip-up)
- pebbles/cobbles (ashy)
- ripple lamination
- mud cracks
- calcrete nodules
- caliche horizon
- rooted horizon
- burrows
- leafy plant debris
- transported logs
- logs, growth position
- bone fragments
- gastropods
- viable isotope sample
- failed isotope sample
- detrital zircon sample

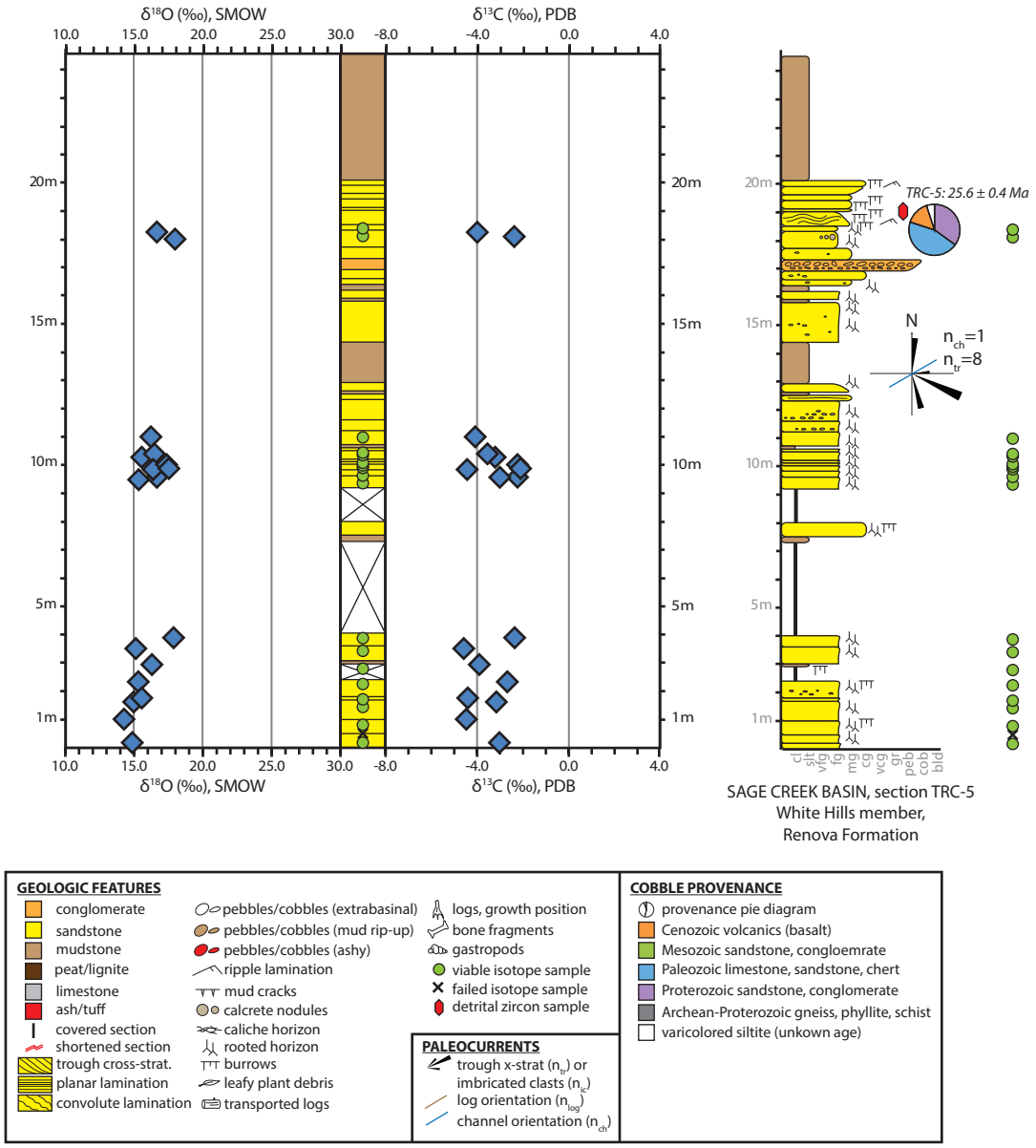
PALEOCURRENTS

- trough x-strat (n_{tr}) or imbricated clasts (n_{ic})
- log orientation (n_{log})
- channel orientation (n_{ch})

COBBLE PROVENANCE

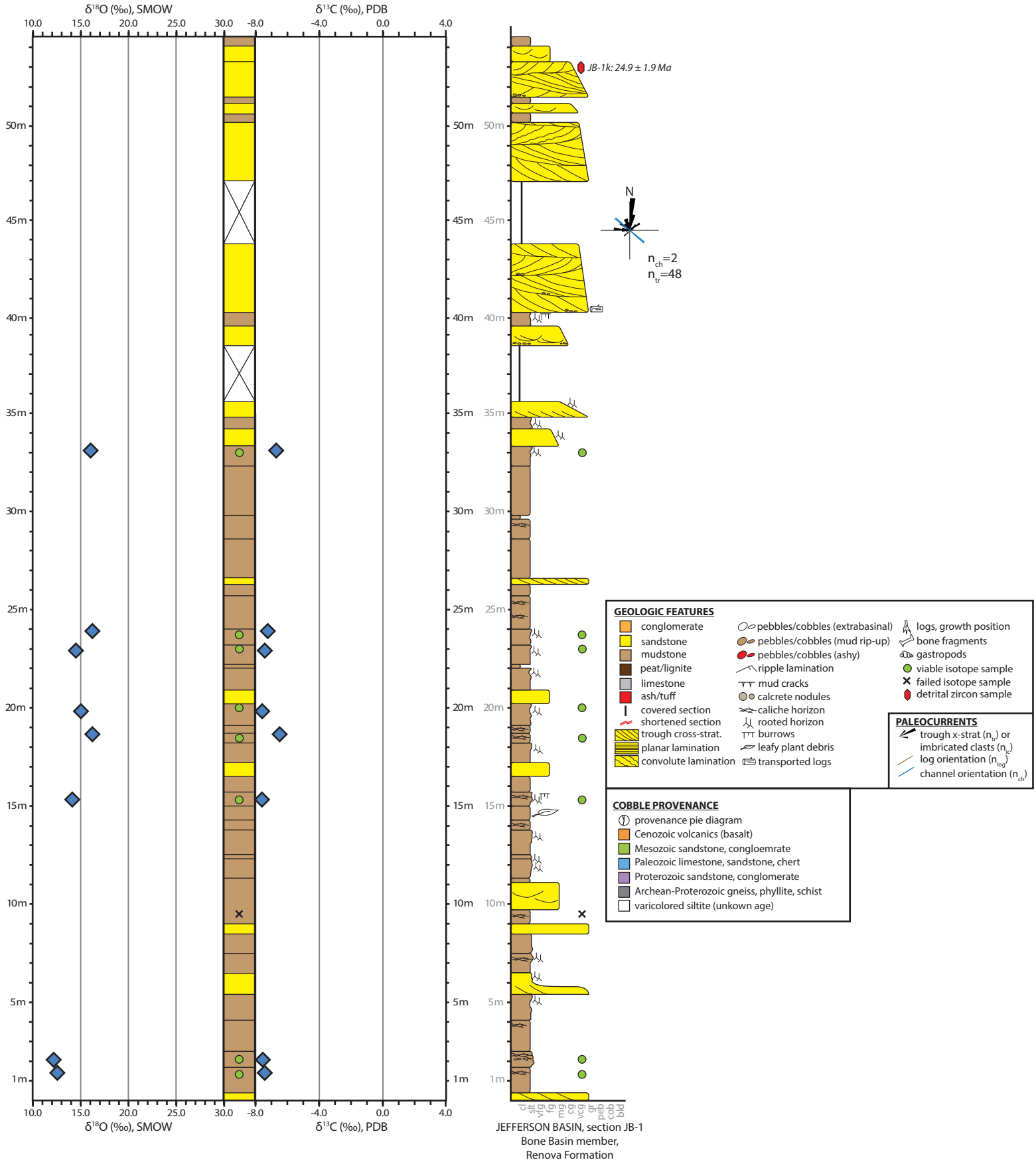
- provenance pie diagram
- Cenozoic volcanics (basalt)
- Mesozoic sandstone, congloemrate
- Paleozoic limestone, sandstone, chert
- Proterozoic sandstone, conglomerate
- Archean-Proterozoic gneiss, phyllite, schist
- varicolored siltite (unkown age)

FIGURE A-5: Sage Creek basin, White Hills member of the Renova Formation



The Whitneyan-Arikareean White Hills member of the Renova Formation contains abundant calcic paleosols. Eighteen of nineteen pedogenic $CaCO_3$ samples that were collected over 20 m of stratigraphy yielded viable results that display pronounced vertical trends in average $\delta^{18}O$ and $\delta^{13}C$ values. Average $\delta^{18}O$ values increase from approximately 15‰ to 18‰, and average $\delta^{13}C$ values increase from approximately -4‰ to -2‰.

FIGURE A-6: Jefferson Basin, Bone Basin member of the Renova Formation



Pedogenic $CaCO_3$ is abundant in the Bone Basin member of the Renova Formation. A suite of nine pedogenic $CaCO_3$ samples were collected from 35 m of Oligocene (Orellan to Arikareean, ca. 31-25 Ma) strata exposed along the Jefferson River on the northwest edge of the Tobacco Root Mountains. The samples were collected exclusively from caliche horizons and well-developed, blocky K horizons throughout the section. Eight samples yielded viable $\delta^{18}O$ and $\delta^{13}C$ results. Over the 35-meter section of calcic paleosols, $\delta^{18}O$ values increase gradually from ~12‰ to 16‰. $\delta^{13}C$ values range from -8‰ to -6‰, and also display a subtle upward-increase in average $\delta^{13}C$ over the 35 m of section.

Appendix II. Paleosol carbonate sample descriptions and analytical data for all new and published paleosol carbonate samples presented in this study. For basins with more than one dataset, data are presented in chronological order by publication year.

Basin and Formation/Member Sampled	NALMA	Measured Section	Sample Name	Depositional Facies	Sample Host Lithology	Sample Description	Stratigraphic Level (m)	$\delta^{18}O$ (‰) SMOW	$\delta^{13}C$ (‰) PDB	Latitude	Longitude	Reference
Horse Prairie Basin, MT-ID (n=12)												
Renova Formation (undifferentiated)	Chadronian-Arikareean	LP-1[1]	TS13-LP-1a	lake margin, distal alluvial fan	micrite	rooted micrite	1.3	14.88	-2.73	44.7808	-113.2550	this study
Renova Formation (undifferentiated)	Chadronian-Arikareean	LP-1[1]	TS13-LP-1b	lake margin, distal alluvial fan	micrite	rooted micrite	1.5	15.48	-2.33	44.7808	-113.2550	this study
Renova Formation (undifferentiated)	Chadronian-Arikareean	LP-1[1]	TS13-LP-1c	lake margin, distal alluvial fan	micrite	rooted micrite	1.7	17.51	-3.48	44.7808	-113.2550	this study
Renova Formation (undifferentiated)	Chadronian-Arikareean	LP-1[1]	TS13-LP-1e	lake margin, distal alluvial fan	micrite	rooted micrite	16.9	14.37	-1.22	44.7810	-113.2548	this study
Renova Formation (undifferentiated)	Chadronian-Arikareean	LP-1[1]	TS13-LP-1g	lake margin, distal alluvial fan	calcareous siltstone	rooted, diffuse carbonate	23.3	16.78	-2.08	44.7811	-113.2548	this study
Renova Formation (undifferentiated)	Chadronian-Arikareean	LP-1[1]	TS13-LP-1i	lake margin, distal alluvial fan	micrite	rooted micrite	51.2	17.71	-1.56	44.7813	-113.2545	this study
Renova Formation (undifferentiated)	Chadronian-Arikareean	LP-1[1]	TS13-LP-1j	lake margin, distal alluvial fan	micrite	rooted micrite	73.2	16.02	-0.50	44.7815	-113.2543	this study
Renova Formation (undifferentiated)	Chadronian-Arikareean	LP-1[1]	TS13-LP-1k	lake margin, distal alluvial fan	micrite	rooted micrite	73.4	15.96	0.05	44.7815	-113.2543	this study
Renova Formation (undifferentiated)	Chadronian-Arikareean	LP-1[1]	TS13-LP-1L	lake margin, distal alluvial fan	micrite	rooted micrite	74.5	15.51	-0.11	44.7816	-113.2544	this study
Renova Formation (undifferentiated)	Chadronian-Arikareean	LP-1[1]	TS13-LP-1m	lake margin, distal alluvial fan	micrite	rooted micrite	75.2	14.60	0.60	44.7816	-113.2544	this study
Renova Formation (undifferentiated)	Chadronian-Arikareean	LP-1[1]	TS13-LP-1n	sandy mud flow, alluvial fan	medium-grained sandstone	rooted, diffuse carbonate	86.9	19.11	-0.56	44.7816	-113.2543	this study
Renova Formation (undifferentiated)	Chadronian-Arikareean	LP-1[1]	TS13-LP-1o	sandy mud flow, alluvial fan	medium-grained sandstone	rooted, diffuse carbonate	94.9	15.75	0.35	44.7818	-113.2543	this study
Muddy Creek basin, MT (n=57)[2]												
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-440	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	0.9	16.62	-5.38	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-441	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	1.5	16.90	-5.66	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-442	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	2.2	17.11	-4.85	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-443	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	2.6	16.39	-5.40	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-444	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	3.1	17.50	-4.18	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-445	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	3.6	16.30	-5.79	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-446	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	4.0	16.78	-5.13	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-447	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	4.4	16.78	-5.68	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-448	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	4.6	16.12	-6.62	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-449	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	5.2	16.23	-6.88	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-450	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	13.3	16.56	-5.90	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-451	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	13.6	14.97	-6.08	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-452	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	13.8	15.79	-6.48	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-453	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	14.1	17.39	-5.29	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-454	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	14.4	16.98	-6.59	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-455	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	14.8	16.26	-5.91	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-456	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	15.1	17.70	-6.07	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-464	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	36.3	17.50	-4.43	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-465	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	37.1	17.19	-4.20	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-467	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	37.7	16.84	-4.65	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-469	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	38.7	18.83	-3.37	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-470	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	39.3	17.39	-4.00	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-471	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	39.7	17.99	-3.57	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-472	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	40.2	18.07	-3.07	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-473	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	40.7	16.59	-4.69	44.6685	-112.8359	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-474	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	41.4	15.91	-5.25	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-475	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	42.4	17.36	-5.11	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-476	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	43.0	18.11	-4.19	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-477	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	43.6	17.69	-4.06	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-478	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	44.2	16.22	-3.66	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-479	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	45.0	16.61	-4.50	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-480	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	45.5	15.90	-3.79	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-481	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	46.1	15.95	-4.80	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-482	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	46.8	16.87	-4.64	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-483	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	47.5	15.83	-4.44	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-484	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	48.3	16.45	-4.63	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-485	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	48.9	17.76	-4.36	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-486	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	49.5	16.51	-4.27	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-487	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	51.1	16.89	-3.82	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-488	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	53.0	18.28	-3.77	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-489	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	53.6	17.33	-4.20	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-490	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	55.0	17.47	-3.98	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-491	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	55.6	16.75	-4.15	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-492	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	56.9	17.60	-4.30	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-498	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	67.4	17.21	-3.63	44.6700	-112.8329	Methner, 2016

Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-499	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	67.8	17.61	-1.92	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-500	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	68.2	16.35	-3.92	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-501	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	68.6	18.35	-3.40	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-502	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	69.4	16.66	-4.35	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-503	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	70.2	18.94	-3.37	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-504	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	71.0	15.34	-4.43	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-505	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	71.8	17.78	-3.87	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-506	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	72.8	15.60	-5.34	44.6700	-112.8329	Methner, 2016
Shale/Sand facies, informal, Renova Fm.	Chadronian-Arikareean	Section 2	12-KM-507	lake margin, distal alluvial fan	mudstone to siltstone	carbonate nodule	73.8	15.12	-5.25	44.6700	-112.8329	Methner, 2016
Sage Creek basin, MT: Sage Creek member, Renova Fm (n=112)[3]												
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	SC 34	"low-energy fluvial or sheet flood"		"sandy paleosol"	n/r	23.4	-0.7	44.7418	-112.5902	Kent-Corson et al., 2006
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	SC 33	"low-energy fluvial or sheet flood"		"sandy paleosol"	n/r	20.3	-2.5	44.7418	-112.5902	Kent-Corson et al., 2006
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	SC 32	"low-energy fluvial or sheet flood"		"sandy paleosol"	n/r	23.8	-1.6	44.7418	-112.5902	Kent-Corson et al., 2006
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	SC 31	"low-energy fluvial or sheet flood"		"paleosol"	n/r	22.8	-2.9	44.7418	-112.5902	Kent-Corson et al., 2006
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	SC 31-B	"low-energy fluvial or sheet flood"		"paleosol"	n/r	23.7	-4.4	44.7418	-112.5902	Kent-Corson et al., 2006
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	SC 29-1	"low-energy fluvial or sheet flood"		"paleosol"	n/r	25.6	-1.6	44.7418	-112.5902	Kent-Corson et al., 2006
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	SC 29-1	"low-energy fluvial or sheet flood"		"paleosol"	n/r	22.5	-4.0	44.7418	-112.5902	Kent-Corson et al., 2006
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	SC 26	"low-energy fluvial or sheet flood"		"paleosol"	n/r	25.7	-0.7	44.7418	-112.5902	Kent-Corson et al., 2006
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	SC 22	"low-energy fluvial or sheet flood"		"paleosol"	n/r	21.4	-3.7	44.7418	-112.5902	Kent-Corson et al., 2006
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	8A	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	22.3	16.48	-3.23	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	8C	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	22.3	17.68	-3.27	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	8D	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	22.3	14.84	-4.39	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	8E	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	22.3	15.17	-4.98	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	8F	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	22.3	15.24	-4.54	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	8G	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	22.3	13.79	-3.27	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	8H	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	22.3	13.81	-2.93	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	9A	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	22.5	15.92	-3.53	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	9B	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	22.5	15.66	-3.76	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	9C	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	22.5	17.09	-3.32	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	9D	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	22.5	14.76	-3.43	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	7A	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	23.0	17.12	-3.44	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	7B	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	23.0	14.42	0.67	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	7D	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	23.0	17.62	-3.32	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	10A	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	23.8	17.59	-3.55	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	10B	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	23.8	16.70	-3.46	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	10C	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	23.8	17.94	-3.07	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	10D	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	23.8	13.91	-2.13	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	10E	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	23.8	15.36	-3.13	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	10F	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	23.8	14.56	-1.03	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	10G	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	23.8	23.37	-1.42	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	12A	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	27.3	16.98	-4.57	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	12B	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	27.3	17.23	-4.39	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	12C	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	27.3	17.53	-4.05	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	12D	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	27.3	16.48	-3.71	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	12E	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	27.3	16.72	-4.07	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	12F	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	27.3	17.92	-4.91	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	12G	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	27.3	18.05	-4.15	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	12H	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	27.3	17.85	-4.24	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	12I	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	27.3	17.72	-3.66	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	12J	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	27.3	18.84	-3.43	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	13	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	27.8	16.44	-4.53	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	16	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	27.9	14.55	-3.05	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	15	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	28.0	15.47	-4.20	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	17.1	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	28.0	17.71	-3.55	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	17.2	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	28.0	17.46	-3.75	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	17.3	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	28.0	18.82	-3.22	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	17.4	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	28.0	18.08	-3.33	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	17.5	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	28.0	16.89	0.00	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	17.6	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	28.0	18.36	-2.85	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	17.7	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	28.0	17.84	-3.37	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	17.8	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	28.0	18.01	-3.54	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	17.9	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	28.0	17.78	-3.25	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	17.1	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	28.0	18.01	-3.13	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	17.11	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	28.0	18.60	-2.93	44.7418	-112.5902	Kent-Corson et al., 2010

lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	17.13	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	28.0	16.48	-3.78	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	17.14	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	28.0	17.24	-3.93	44.7418	-112.5902	Kent-Corson et al., 2010
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	11KM-075	n/r	n/r	carbonate nodule	1.0	15.99	-3.05	44.7419	-112.5915	Methner, 2016
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	11KM-076	n/r	n/r	carbonate nodule	1.2	15.11	-3.87	44.7419	-112.5915	Methner, 2016
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	11KM-077	n/r	n/r	carbonate nodule	1.4	14.06	-2.93	44.7419	-112.5915	Methner, 2016
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	11KM-078	n/r	n/r	carbonate nodule	1.5	14.03	-3.31	44.7419	-112.5915	Methner, 2016
lower Sage Creek mem., Renova Fm.	early Bridgerian	n/r	11KM-079	n/r	n/r	carbonate nodule	1.3	14.44	-3.04	44.7419	-112.5915	Methner, 2016
lower Sage Creek mem., Renova Fm.	early Bridgerian	SCS-7[1]	TS13-SCS7-a	volcaniclastic flow	coarse-grained sandstone	rooted, diffuse carbonate	2.0	13.70	-4.17	44.7417	-112.5918	this study
lower Sage Creek mem., Renova Fm.	early Bridgerian	SCS-7[1]	TS13-SCS7-b	volcaniclastic flow	coarse-grained sandstone	rooted, diffuse carbonate	2.9	n/a	n/a	44.7417	-112.5918	this study
lower Sage Creek mem., Renova Fm.	early Bridgerian	SCS-7[1]	TS13-SCS7-c	volcaniclastic flow	coarse-grained sandstone	rooted, diffuse carbonate	3.1	n/a	n/a	44.7417	-112.5918	this study
lower Sage Creek mem., Renova Fm.	early Bridgerian	SCS-7[1]	TS13-SCS7-d	volcaniclastic flow	coarse-grained sandstone	rooted, diffuse carbonate	5.4	n/a	n/a	44.7417	-112.5918	this study
lower Sage Creek mem., Renova Fm.	early Bridgerian	SCS-7[1]	TS13-SCS7-e	volcaniclastic flow	medium-grained sandstone	rooted, diffuse carbonate	6.1	n/a	n/a	44.7417	-112.5918	this study
lower Sage Creek mem., Renova Fm.	early Bridgerian	SCS-7[1]	TS13-SCS7-f	volcaniclastic flow	coarse-grained sandstone	rooted, diffuse carbonate	7.5	n/a	n/a	44.7417	-112.5919	this study
lower Sage Creek mem., Renova Fm.	early Bridgerian	SCS-7[1]	TS13-SCS7-g	volcaniclastic flow	v. coarse-grained sandstone	rooted, diffuse carbonate	8.2	n/a	n/a	44.7417	-112.5919	this study
lower Sage Creek mem., Renova Fm.	early Bridgerian	SCS-7[1]	TS13-SCS7-h	volcaniclastic flow	v. coarse-grained sandstone	rooted, diffuse carbonate	9.0	n/a	n/a	44.7417	-112.5919	this study
lower Sage Creek mem., Renova Fm.	early Bridgerian	SCS-7[1]	TS13-SCS7-i	volcaniclastic flow	granular sandstone	rooted, diffuse carbonate	11.1	n/a	n/a	44.7418	-112.5917	this study
lower Sage Creek mem., Renova Fm.	early Bridgerian	SCS-7[1]	TS13-SCS7-j	volcaniclastic flow	granular sandstone	rooted, diffuse carbonate	12.2	13.90	-2.80	44.7418	-112.5917	this study
lower Sage Creek mem., Renova Fm.	early Bridgerian	SCS-7[1]	TS13-SCS7-k	volcaniclastic flow	fine-grained sandstone	carbonate nodule	14.6	18.22	-3.21	44.7418	-112.5917	this study
lower Sage Creek mem., Renova Fm.	early Bridgerian	SCS-7[1]	TS13-SCS7-l	volcaniclastic flow	granular sandstone	rooted, diffuse carbonate	14.9	n/a	n/a	44.7418	-112.5917	this study
lower Sage Creek mem., Renova Fm.	early Bridgerian	SCS-7[1]	TS13-SCS7-m	volcaniclastic flow	medium-grained sandstone	rooted, diffuse carbonate	16.5	n/a	n/a	44.7418	-112.5917	this study
lower Sage Creek mem., Renova Fm.	early Bridgerian	SCS-7[1]	TS13-SCS7-n	volcaniclastic flow, reworked	coarse-grained sandstone	rooted, diffuse carbonate	17.6	16.16	-3.98	44.7418	-112.5917	this study
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	SC-1	"low-energy fluvial or sheet flood"	n/r	"paleosol"	n/r	12.5	-1.3	44.75866	-112.5972	Kent-Corson et al., 2006
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	SC-2	"low-energy fluvial or sheet flood"	n/r	"sandy paleosol"	n/r	12.0	-0.8	44.75866	-112.5972	Kent-Corson et al., 2006
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	SC-2	"low-energy fluvial or sheet flood"	n/r	"sandy paleosol"	n/r	12.2	-0.5	44.75866	-112.5972	Kent-Corson et al., 2006
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	SC-3	"low-energy fluvial or sheet flood"	n/r	"paleosol"	n/r	13.6	-0.8	44.75866	-112.5972	Kent-Corson et al., 2006
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	SC-4	"low-energy fluvial or sheet flood"	n/r	"tuffaceous paleosol"	n/r	13.0	0.3	44.75866	-112.5972	Kent-Corson et al., 2006
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	SC-5	"low-energy fluvial or sheet flood"	n/r	"tuffaceous paleosol"	n/r	13.4	-0.2	44.75866	-112.5972	Kent-Corson et al., 2006
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	SC-6	"low-energy fluvial or sheet flood"	n/r	"paleosol"	n/r	12.9	0.2	44.75866	-112.5972	Kent-Corson et al., 2006
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	SC-7	"low-energy fluvial or sheet flood"	n/r	"paleosol"	n/r	12.4	-0.2	44.75866	-112.5972	Kent-Corson et al., 2006
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	SC-8	"low-energy fluvial or sheet flood"	n/r	"paleosol"	n/r	12.4	-2.0	44.75866	-112.5972	Kent-Corson et al., 2006
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	SC-9	"low-energy fluvial or sheet flood"	n/r	"paleosol"	n/r	12.9	-2.7	44.75866	-112.5972	Kent-Corson et al., 2006
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	20.2	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.0	12.16	-0.20	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	20.3	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.0	11.71	0.22	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	20.4	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.0	11.50	-0.58	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	20.5	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.0	12.11	-1.70	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	20.6	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.0	12.42	-1.12	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	20.7	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.0	12.24	-0.05	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	20.8	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.0	12.24	-2.91	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	20.9	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.0	11.99	-0.80	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	20.1	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.0	12.25	-0.50	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	20.11	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.0	11.72	-0.43	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	20.12	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.0	11.96	-0.93	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	20.13	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.0	12.13	-0.36	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	20.14	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.0	12.01	-0.75	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	19.1	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.9	11.75	0.02	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	19.2	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.9	11.80	0.09	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	19.3	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.9	12.72	-1.10	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	19.4	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.9	13.63	-1.60	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	19.5	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.9	12.02	0.19	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	19.6	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.9	11.77	-0.08	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	19.7	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.9	11.54	-0.41	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	19.8	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.9	11.79	-0.02	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	19.9	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.9	11.72	-0.41	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	19.1	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.9	12.26	-0.12	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	19.11	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.9	12.45	-0.47	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	19.12	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.9	11.81	0.11	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	19.13	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.9	12.45	-0.28	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	19.14	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	31.9	11.92	-0.10	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	18.1	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	32.5	12.22	-0.35	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	18.2	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	32.5	11.92	-1.32	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	18.3	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	32.5	11.88	-0.79	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	18.4a	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	32.5	11.95	-0.08	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	18.5	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	32.5	11.67	-0.58	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	18.6	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	32.5	12.27	-1.32	44.7587	-112.5972	Kent-Corson et al., 2010

upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	18.7	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	32.5	11.92	-0.79	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	18.8	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	32.5	12.29	0.68	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	18.9	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	32.5	11.96	-1.66	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	18.1	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	32.5	11.84	-1.02	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	18.11	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	32.5	12.07	0.32	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	18.12	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	32.5	12.35	-0.07	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	18.13	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	32.5	11.89	0.25	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	18.14	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	32.5	12.22	0.01	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	18.15	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	32.5	11.90	-1.10	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	18.17	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	32.5	11.76	-2.01	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	18.18	"low-energy fluvial or sheet flood"	n/r	"paleosol carbonate nodule"	32.5	11.86	-1.98	44.7587	-112.5972	Kent-Corson et al., 2010
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	11KM-081	n/r	n/r	carbonate nodule	1.0	12.12	-0.1	44.7586	-112.5977	Methner, 2016
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	11KM-082	n/r	n/r	carbonate nodule	1.2	12.34	0.0	44.7586	-112.5977	Methner, 2016
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	11KM-083	n/r	n/r	carbonate nodule	1.4	13.27	-0.6	44.7586	-112.5977	Methner, 2016
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	11KM-084	n/r	n/r	carbonate nodule	1.6	12.65	0.0	44.7586	-112.5977	Methner, 2016
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	11KM-085	n/r	n/r	carbonate nodule	1.8	12.93	-0.9	44.7586	-112.5977	Methner, 2016
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	11KM-086	n/r	n/r	carbonate nodule	2.0	12.56	0.4	44.7586	-112.5977	Methner, 2016
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	11KM-087	n/r	n/r	carbonate nodule	2.2	12.99	-0.2	44.7586	-112.5977	Methner, 2016
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	11KM-088	n/r	n/r	carbonate nodule	2.2	13.09	-0.4	44.7586	-112.5977	Methner, 2016
upper Sage Creek mem., Renova Fm.	late Bridgerian	n/r	11KM-089	n/r	n/r	carbonate nodule	2.6	12.09	-1.0	44.7586	-112.5977	Methner, 2016
upper Sage Creek mem., Renova Fm.	late Bridgerian	SCS-2[1]	TS12-SCS2-1	volcaniclastic flow	coarse-grained sandstone	rooted, diffuse carbonate	6.1	12.23	-1.42	44.7585	-112.5979	this study
upper Sage Creek mem., Renova Fm.	late Bridgerian	SCS-2[1]	TS12-SCS3-1	volcaniclastic flow, reworked	coarse-grained sandstone	rooted, diffuse carbonate	6.9	11.53	-0.37	44.7585	-112.5972	this study
upper Sage Creek mem., Renova Fm.	late Bridgerian	SCS-2[1]	TS12-SCS2-2	volcaniclastic flow	medium-grained sandstone	rooted, diffuse carbonate	8.6	12.20	-1.75	44.7585	-112.5978	this study
Sage Creek basin, MT: Dell member, Renova Fm (n=67)												
lower Dell mem., Renova Fm.	early Uintan	SCS-5[1]	TS12-SCS5-1	sandy mud flow, alluvial fan	medium-grained sandstone	carbonate nodule	24.4	15.86	-2.08	44.7606	-112.5984	this study
lower Dell mem., Renova Fm.	early Uintan	SCS-5[1]	TS12-SCS5-2	sandy mud flow, alluvial fan	medium-grained sandstone	rooted, diffuse carbonate	24.9	12.88	0.53	44.7606	-112.5984	this study
lower Dell mem., Renova Fm.	early Uintan	SCS-5[1]	TS12-SCS5-3	sandy mud flow, alluvial fan	medium-grained sandstone	carbonate nodule	25.2	14.59	-1.48	44.7606	-112.5984	this study
lower Dell mem., Renova Fm.	early Uintan	SCS-5[1]	TS12-SCS5-4	sandy mud flow, alluvial fan	medium-grained sandstone	carbonate nodule	25.6	12.90	-0.49	44.7606	-112.5984	this study
lower Dell mem., Renova Fm.	early Uintan	SCS-5[1]	TS12-SCS5-5	sandy mud flow, alluvial fan	medium-grained sandstone	carbonate nodule	26.0	13.39	-0.55	44.7606	-112.5984	this study
lower Dell mem., Renova Fm.	early Uintan	SCS-5[1]	TS12-SCS5-6	sandy mud flow, alluvial fan	medium-grained sandstone	carbonate nodule	28.8	13.66	0.52	44.7607	-112.5983	this study
lower Dell mem., Renova Fm.	early Uintan	SCS-5[1]	TS12-SCS5-7	sandy mud flow, alluvial fan	medium-grained sandstone	carbonate nodule	29.0	13.31	-0.13	44.7607	-112.5983	this study
lower Dell mem., Renova Fm.	early Uintan	SCS-5[1]	TS12-SCS5-8	sandy mud flow, alluvial fan	medium-grained sandstone	carbonate nodule	29.7	12.95	-0.28	44.7607	-112.5983	this study
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM1	n/r	n/r	"diffuse paleosol carbonate"	46.3	14.60	-2.60	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM2	n/r	n/r	"diffuse paleosol carbonate"	48.5	14.40	-2.50	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM4	n/r	n/r	"diffuse paleosol carbonate"	53.0	13.80	-1.10	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM5	n/r	n/r	"diffuse paleosol carbonate"	56.0	13.20	-3.70	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM7	n/r	n/r	"diffuse paleosol carbonate"	57.0	16.90	-3.20	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM6	n/r	n/r	"diffuse paleosol carbonate"	57.0	14.20	-4.00	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM8	n/r	n/r	"diffuse paleosol carbonate"	58.0	11.40	-2.20	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM9A	n/r	n/r	"diffuse paleosol carbonate"	58.0	16.40	-3.90	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM9B	n/r	n/r	"diffuse paleosol carbonate"	58.0	11.70	-2.00	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM10	n/r	n/r	"diffuse paleosol carbonate"	59.5	11.00	-2.40	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM11	n/r	n/r	"diffuse paleosol carbonate"	61.0	11.90	-2.30	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM12	n/r	n/r	"diffuse paleosol carbonate"	62.5	16.60	-3.40	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM13	n/r	n/r	"diffuse paleosol carbonate"	64.0	12.10	-3.50	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM14	n/r	n/r	"diffuse paleosol carbonate"	65.0	17.50	-3.30	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM16	n/r	n/r	"diffuse paleosol carbonate"	67.0	14.00	-5.10	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM15	n/r	n/r	"diffuse paleosol carbonate"	67.0	18.50	-2.90	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM17	n/r	n/r	"diffuse paleosol carbonate"	70.0	12.00	-3.60	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM18	n/r	n/r	"diffuse paleosol carbonate"	71.5	16.70	-4.00	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM19	n/r	n/r	"diffuse paleosol carbonate"	73.0	14.80	-4.80	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM20	n/r	n/r	"diffuse paleosol carbonate"	74.0	13.10	-2.00	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM21	n/r	n/r	"diffuse paleosol carbonate"	75.5	14.10	-4.80	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM22	n/r	n/r	"diffuse paleosol carbonate"	77.0	13.80	-3.40	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM23	n/r	n/r	"diffuse paleosol carbonate"	80.0	14.50	-5.40	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM24	n/r	n/r	"diffuse paleosol carbonate"	85.0	13.10	-3.20	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM25	n/r	n/r	"diffuse paleosol carbonate"	90.0	13.70	-3.40	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM30	n/r	n/r	"diffuse paleosol carbonate"	97.0	12.30	-3.60	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	06DM32	n/r	n/r	"diffuse paleosol carbonate"	102.0	13.50	-4.30	44.75333	-112.58100	Kent-Corson et al., 2006
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-116	tuffaceous overbank mudstone	n/r	carbonate nodule	4.2	12.18	-2.28	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-117	tuffaceous overbank mudstone	n/r	carbonate nodule	7.4	12.81	-4.21	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-118	tuffaceous overbank mudstone	n/r	carbonate nodule	10.3	16.64	-3.58	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-120	tuffaceous overbank mudstone	n/r	carbonate nodule	10.7	17.92	-3.75	44.7522	-112.58	Methner et al., 2016

upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-121	tuffaceous overbank mudstone	n/r	carbonate nodule	12.8	18.84	-3.26	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-123	tuffaceous overbank mudstone	n/r	carbonate nodule	14.4	12.58	-3.41	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-125	tuffaceous overbank mudstone	n/r	carbonate nodule	15.0	12.58	-2.35	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-127	tuffaceous overbank mudstone	n/r	carbonate nodule	17.1	12.49	-2.97	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-129	tuffaceous overbank mudstone	n/r	carbonate nodule	21.0	12.75	-2.40	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-130	tuffaceous overbank mudstone	n/r	carbonate nodule	22.9	19.28	-3.26	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-131	tuffaceous overbank mudstone	n/r	carbonate nodule	23.9	19.36	-2.95	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-132	tuffaceous overbank mudstone	n/r	carbonate nodule	25.7	18.26	-3.73	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-133	tuffaceous overbank mudstone	n/r	carbonate nodule	26.0	15.56	-5.33	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-134	tuffaceous overbank mudstone	n/r	carbonate nodule	27.1	19.63	-2.59	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-135	tuffaceous overbank mudstone	n/r	carbonate nodule	28.7	14.42	-1.04	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-136	tuffaceous overbank mudstone	n/r	carbonate nodule	29.4	15.87	-4.46	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-137	tuffaceous overbank mudstone	n/r	carbonate nodule	30.0	16.42	-4.25	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-138	tuffaceous overbank mudstone	n/r	carbonate nodule	30.6	14.57	-1.21	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-139	tuffaceous overbank mudstone	n/r	carbonate nodule	31.9	15.13	-1.70	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-140	tuffaceous overbank mudstone	n/r	carbonate nodule	32.6	16.22	-4.53	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-114	tuffaceous overbank mudstone	n/r	carbonate nodule	37.0	14.40	-3.14	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-113	tuffaceous overbank mudstone	n/r	carbonate nodule	37.2	15.42	-3.98	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	n/r	11-KM-106	tuffaceous overbank mudstone	n/r	carbonate nodule	47.4	15.62	-3.97	44.7522	-112.58	Methner et al., 2016
upper Dell mem., Renova Fm.	late Uintan	SCS-1[1]	TS12-SCS1-1	mud flow, alluvial fan	siltstone	carbonate nodule	5.6	12.96	-1.69	44.7693	-112.5979	this study
upper Dell mem., Renova Fm.	late Uintan	SCS-1[1]	TS12-SCS1-2	sandy mud flow, alluvial fan	fine-grained sandstone	rooted, diffuse carbonate	6.4	12.08	-0.66	44.7693	-112.5979	this study
upper Dell mem., Renova Fm.	late Uintan	SCS-1[1]	TS12-SCS1-3	mud flow, alluvial fan	siltstone	carbonate nodule	7.6	12.73	-1.70	44.7693	-112.5979	this study
upper Dell mem., Renova Fm.	late Uintan	SCS-1[1]	TS12-SCS1-4	mud flow, alluvial fan	siltstone	carbonate nodule	13.8	13.38	-1.29	44.7694	-112.5978	this study
upper Dell mem., Renova Fm.	late Uintan	SCS-1[1]	TS12-SCS1-5	lake margin(?), distal alluvial fan	micrite	rooted micrite	19.0	12.35	-0.61	44.7695	-112.5980	this study
upper Dell mem., Renova Fm.	late Uintan	SCS-1[1]	TS12-SCS1-6	sandy mud flow, alluvial fan	fine-grained sandstone	carbonate nodule	22.6	12.98	-0.62	44.7695	-112.5980	this study
upper Dell mem., Renova Fm.	late Uintan	SCS-1[1]	TS12-SCS1-7	mud flow, alluvial fan	siltstone	carbonate nodule	23.5	13.31	-1.12	44.7695	-112.5980	this study
upper Dell mem., Renova Fm.	late Uintan	SCS-1[1]	TS12-SCS1-8	sandy mud flow, alluvial fan	fine-grained sandstone	carbonate nodule	26.0	13.62	-0.85	44.7696	-112.5987	this study
upper Dell mem., Renova Fm.	late Uintan	SCS-1[1]	TS12-SCS1-10	lake margin(?), distal alluvial fan	micrite	rooted micrite	40.2	13.91	-0.53	44.7703	-112.5991	this study
Sage Creek basin, MT: Cook Ranch member, Renova Fm (n=23)												
lower Cook Ranch mem., Renova Fm.	Orellan	n/r	SC 43	"overbank mudstone"	mudstone	"paleosol"	n/r	15.48	-4.37	44.866	-112.5195	Kent-Corson et al., 2006
lower Cook Ranch mem., Renova Fm.	Orellan	n/r	SC 44	"overbank mudstone"	mudstone	"paleosol"	n/r	14.40	-2.82	44.866	-112.5195	Kent-Corson et al., 2006
lower Cook Ranch mem., Renova Fm.	Orellan	n/r	SC 44B	"overbank mudstone"	mudstone	"paleosol"	n/r	14.80	-2.46	44.866	-112.5195	Kent-Corson et al., 2006
lower Cook Ranch mem., Renova Fm.	Orellan	n/r	SC 45	"overbank mudstone"	mudstone	"paleosol"	n/r	14.27	-5.45	44.866	-112.5195	Kent-Corson et al., 2006
lower Cook Ranch mem., Renova Fm.	Orellan	n/r	SC 47B	"overbank mudstone"	mudstone	"paleosol"	n/r	15.71	-5.92	44.866	-112.5195	Kent-Corson et al., 2006
middle Cook Ranch mem., Renova Fm.	Orellan	n/r	CR-11	"overbank mudstone"	mudstone	"paleosol"	n/r	13.47	-2.77	44.866	-112.5195	Kent-Corson et al., 2006
middle Cook Ranch mem., Renova Fm.	Orellan	n/r	SC 1	"overbank mudstone"	mudstone	"paleosol"	n/r	13.34	-3.49	44.866	-112.5195	Kent-Corson et al., 2006
middle Cook Ranch mem., Renova Fm.	Orellan	n/r	CR-12	"overbank mudstone"	mudstone	"paleosol"	n/r	13.58	-3.13	44.752	-112.5752	Kent-Corson et al., 2006
middle Cook Ranch mem., Renova Fm.	Orellan	n/r	CR-13	"overbank mudstone"	mudstone	"paleosol"	n/r	13.44	-3.24	44.752	-112.5752	Kent-Corson et al., 2006
middle Cook Ranch mem., Renova Fm.	Orellan	n/r	SC 2B	"overbank mudstone"	mudstone	"paleosol"	n/r	13.42	-2.93	44.866	-112.5195	Kent-Corson et al., 2006
middle Cook Ranch mem., Renova Fm.	Orellan	n/r	CR-14	"overbank mudstone"	mudstone	"paleosol"	n/r	13.59	-3.03	44.752	-112.5752	Kent-Corson et al., 2006
middle Cook Ranch mem., Renova Fm.	Orellan	n/r	CR-15	"overbank mudstone"	mudstone	"paleosol"	n/r	14.08	-1.35	44.752	-112.5752	Kent-Corson et al., 2006
middle Cook Ranch mem., Renova Fm.	Orellan	n/r	CR-16	"overbank mudstone"	mudstone	"paleosol"	n/r	13.28	-1.65	44.752	-112.5752	Kent-Corson et al., 2006
middle Cook Ranch mem., Renova Fm.	Orellan	n/r	SC 6	"overbank mudstone"	mudstone	"paleosol"	n/r	13.45	-4.08	44.866	-112.5195	Kent-Corson et al., 2006
upper Cook Ranch mem., Renova Fm.	early Whitneyan	n/r	SC 8	"overbank mudstone"	mudstone	"paleosol"	n/r	15.42	-3.70	44.866	-112.5195	Kent-Corson et al., 2006
upper Cook Ranch mem., Renova Fm.	early Whitneyan	n/r	SC 9	"overbank mudstone"	mudstone	"paleosol"	n/r	13.74	-3.42	44.866	-112.5195	Kent-Corson et al., 2006
upper Cook Ranch mem., Renova Fm.	early Whitneyan	n/r	SC 10	"overbank mudstone"	mudstone	"paleosol"	n/r	14.68	-2.83	44.866	-112.5195	Kent-Corson et al., 2006
upper Cook Ranch mem., Renova Fm.	early Whitneyan	n/r	SC 11	"overbank mudstone"	mudstone	"paleosol"	n/r	14.63	-4.38	44.866	-112.5195	Kent-Corson et al., 2006
upper Cook Ranch mem., Renova Fm.	early Whitneyan	n/r	SC 12	"overbank mudstone"	mudstone	"paleosol"	n/r	13.78	-4.34	44.866	-112.5195	Kent-Corson et al., 2006
upper Cook Ranch mem., Renova Fm.	early Whitneyan	n/r	SC 15	"overbank mudstone"	mudstone	"paleosol"	n/r	14.86	-2.93	44.866	-112.5195	Kent-Corson et al., 2006
upper Cook Ranch mem., Renova Fm.	early Whitneyan	n/r	SC 17B	"overbank mudstone"	mudstone	"paleosol"	n/r	15.26	-4.85	44.866	-112.5195	Kent-Corson et al., 2006
upper Cook Ranch mem., Renova Fm.	early Whitneyan	n/r	SC 19	"overbank mudstone"	mudstone	"paleosol"	n/r	15.98	-4.80	44.866	-112.5195	Kent-Corson et al., 2006
upper Cook Ranch mem., Renova Fm.	early Whitneyan	n/r	SC 18	"overbank mudstone"	mudstone	"paleosol"	n/r	15.85	-4.38	44.866	-112.5195	Kent-Corson et al., 2006
Sage Creek basin, MT: White Hills member, Renova Fm (n=18)												
White Hills mem., Renova Fm.	Arikareean	TRC-5[1]	TS16-TRC-5A	fluvial overbank	very fine-grained sandstone	rooted, diffuse carbonate	0.2	14.94	-3.01	44.7929	-112.5743	this study
White Hills mem., Renova Fm.	Arikareean	TRC-5[1]	TS16-TRC-5B	fluvial overbank	very fine-grained sandstone	rooted, diffuse carbonate	0.5	n/a	n/a	44.7929	-112.5743	this study
White Hills mem., Renova Fm.	Arikareean	TRC-5[1]	TS16-TRC-5C	fluvial overbank	very fine-grained sandstone	rooted, diffuse carbonate	1.0	14.31	-4.46	44.7930	-112.5743	this study
White Hills mem., Renova Fm.	Arikareean	TRC-5[1]	TS16-TRC-5D	fluvial overbank	very fine-grained sandstone	rooted, diffuse carbonate	1.7	15.18	-3.15	44.7930	-112.5743	this study
White Hills mem., Renova Fm.	Arikareean	TRC-5[1]	TS16-TRC-5E	fluvial overbank	very fine-grained sandstone	rooted, diffuse carbonate	1.8	15.60	-4.42	44.7930	-112.5743	this study
White Hills mem., Renova Fm.	Arikareean	TRC-5[1]	TS16-TRC-5F	fluvial overbank	very fine-grained sandstone	rooted, diffuse carbonate	2.4	15.33	-2.59	44.7930	-112.5742	this study
White Hills mem., Renova Fm.	Arikareean	TRC-5[1]	TS16-TRC-5G	fluvial overbank	siltstone	rooted, diffuse carbonate	3.0	16.33	-3.89	44.7931	-112.5744	this study
White Hills mem., Renova Fm.	Arikareean	TRC-5[1]	TS16-TRC-5H	fluvial overbank	very fine-grained sandstone	rooted, diffuse carbonate	3.5	15.24	-4.56	44.7931	-112.5743	this study

White Hills mem., Renova Fm.	Arikareean	TRC-5[1]	TS16-TRC-5i	fluvial overbank	very fine-grained sandstone	rooted, diffuse carbonate	3.9	17.90	-2.41	44.7931	-112.5743	this study
White Hills mem., Renova Fm.	Arikareean	TRC-5[1]	TS16-TRC-5J	fluvial overbank	very fine-grained sandstone	rooted, diffuse carbonate	9.5	15.34	-2.99	44.7933	-112.5750	this study
White Hills mem., Renova Fm.	Arikareean	TRC-5[1]	TS16-TRC-5K	fluvial overbank	very fine-grained sandstone	rooted, diffuse carbonate	9.7	16.69	-2.21	44.7933	-112.5750	this study
White Hills mem., Renova Fm.	Arikareean	TRC-5[1]	TS16-TRC-5L	fluvial overbank	very fine-grained sandstone	rooted, diffuse carbonate	9.9	16.43	-4.40	44.7933	-112.5750	this study
White Hills mem., Renova Fm.	Arikareean	TRC-5[1]	TS16-TRC-5M	fluvial overbank	very fine-grained sandstone	rooted, diffuse carbonate	10.0	17.56	-2.09	44.7933	-112.5750	this study
White Hills mem., Renova Fm.	Arikareean	TRC-5[1]	TS16-TRC-5N	fluvial overbank	very fine-grained sandstone	rooted, diffuse carbonate	10.1	17.39	-2.17	44.7933	-112.5750	this study
White Hills mem., Renova Fm.	Arikareean	TRC-5[1]	TS16-TRC-5o	fluvial overbank	very fine-grained sandstone	rooted, diffuse carbonate	10.3	15.66	-3.20	44.7933	-112.5750	this study
White Hills mem., Renova Fm.	Arikareean	TRC-5[1]	TS16-TRC-5P	fluvial overbank	very fine-grained sandstone	rooted, diffuse carbonate	10.4	16.51	-3.54	44.7933	-112.5750	this study
White Hills mem., Renova Fm.	Arikareean	TRC-5[1]	TS16-TRC-5Q	fluvial overbank	very fine-grained sandstone	rooted, diffuse carbonate	11.0	16.25	-4.07	44.7933	-112.5750	this study
White Hills mem., Renova Fm.	Arikareean	TRC-5[1]	TS16-TRC-5R	fluvial overbank	very fine-grained sandstone	carbonate nodule	17.9	18.01	-2.36	44.7932	-112.5751	this study
White Hills mem., Renova Fm.	Arikareean	TRC-5[1]	TS16-TRC-5S	fluvial overbank	very fine-grained sandstone	rooted, diffuse carbonate	18.1	16.64	-3.98	44.7932	-112.5751	this study
Jefferson basin, MT (n=8)												
Bone Basin mem., Renova Fm.	Arikareean	JB-1[1]	TS13-JB-1a	fluvial overbank	siltstone	caliche horizon	1.6	12.65	-7.43	45.8059	-112.1119	this study
Bone Basin mem., Renova Fm.	Arikareean	JB-1[1]	TS13-JB-1b	fluvial overbank	siltstone	caliche horizon	2.4	12.17	-7.69	45.8059	-112.1119	this study
Bone Basin mem., Renova Fm.	Arikareean	JB-1[1]	TS13-JB-1c	fluvial overbank	siltstone	caliche horizon	9.3	n/a	n/a	45.8064	-112.1120	this study
Bone Basin mem., Renova Fm.	Arikareean	JB-1[1]	TS13-JB-1d	fluvial overbank	siltstone	caliche horizon	15.3	14.12	-7.61	45.8066	-112.1122	this study
Bone Basin mem., Renova Fm.	Arikareean	JB-1[1]	TS13-JB-1e	fluvial overbank	siltstone	caliche horizon	18.6	16.23	-6.49	45.8069	-112.1124	this study
Bone Basin mem., Renova Fm.	Arikareean	JB-1[1]	TS13-JB-1f	fluvial overbank	siltstone	rooted, diffuse carbonate	19.8	15.03	-7.52	45.8069	-112.1124	this study
Bone Basin mem., Renova Fm.	Arikareean	JB-1[1]	TS13-JB-1g	fluvial overbank	siltstone	rooted, diffuse carbonate	22.9	14.51	-7.42	45.8069	-112.1124	this study
Bone Basin mem., Renova Fm.	Arikareean	JB-1[1]	TS13-JB-1h	fluvial overbank	siltstone	rooted, diffuse carbonate	23.9	16.30	-7.28	45.8069	-112.1124	this study
Bone Basin mem., Renova Fm.	Arikareean	JB-1[1]	TS13-JB-1i	fluvial overbank	siltstone	rooted, diffuse carbonate	33.2	16.05	-6.71	45.8073	-112.1128	this study

[1]Detailed measured sections, including the stratigraphic unit/level at which each stable isotope sample was taken, are provided in Appendix 1.

[2]Section names are after those of Dunlap (1982).

[3]Stable isotope data from Kent-Corson et al. (2006) for the Sage Creek member of the Renova Formation are omitted from all statistical analyses for that unit.

n/a - Abundance of $CaCO_3$ in sample was insufficient to confidently measure $\delta^{18}O$ and $\delta^{13}C$; these samples were not used for statistical analyses in the manuscript.

n/r - Not reported in original reference.

Appendix II. Statistical analyses of stable isotope data from the Renova Formation (undifferentiated) in the Horse Prairie Basin.

Sample Name	Relative Stratigraphic Level (m)	$\delta^{18}O$ (‰) SMOW	$\delta^{13}C$ (‰) PDB	Reference
TS13-LP-1a	1.3	14.88	-2.73	this study
TS13-LP-1b	1.5	15.48	-2.33	this study
TS13-LP-1c	1.7	17.51	-3.48	this study
TS13-LP-1e	16.9	14.37	-1.22	this study
TS13-LP-1g	23.3	16.78	-2.08	this study
TS13-LP-1i	51.2	17.71	-1.56	this study
TS13-LP-1j	73.2	16.02	-0.50	this study
TS13-LP-1k	73.4	15.96	0.05	this study
TS13-LP-1L	74.5	15.51	-0.11	this study
TS13-LP-1m	75.2	14.60	0.60	this study
TS13-LP-1n	86.9	19.11	-0.56	this study
TS13-LP-1o	94.9	15.75	0.35	this study

n	min $\delta^{18}O$ (‰)	mean $\delta^{18}O$ (‰)	max $\delta^{18}O$ (‰)	range in $\delta^{18}O$ (‰)	σ	Line of Best Fit	R^2	p-value* of slope	Oldest predicted $\delta^{18}O \pm \sigma$ (y_1, ‰)	Youngest predicted $\delta^{18}O \pm \sigma$ (y_2, ‰)	$\Delta\delta^{18}O \pm \sigma$ (y_2-y_1, ‰)
12	14.37	16.14	19.11	4.74	1.40	y=0.007x+15.803	0.03	0.57	15.81±1.45	16.46±1.45	0.65±2.05

NA: Value not calculated for the purpose of this study

x_1=1 m

*p-values in **bold** indicate statistically significant linear relationships ($p < 0.05$)

x_2=94 m

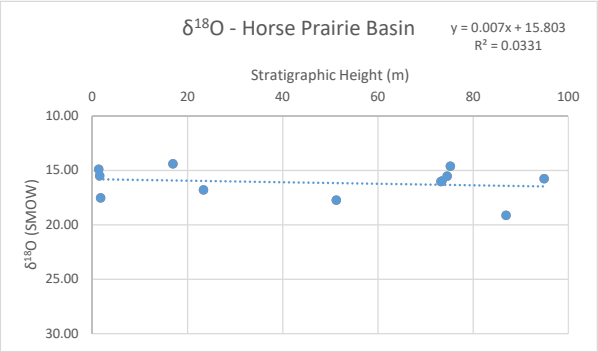
SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.182010635
R Square	**0.033127871**
Adjusted R Square	-0.063559342
Standard Error	1.447711614
Observations	12

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.718106083	0.718106083	0.342629292	0.571287272
Residual	10	20.95868919	2.095868919		
Total	11	21.67679527			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	15.80336355	0.710749557	22.23478495	7.60161E-10	14.21971485	17.38701225	14.21971485	17.38701225
X Variable 1	0.00703515	0.0120188	0.585345446	**0.571287272**	-0.019744406	0.033814706	-0.019744406	0.033814706



n	min $\delta^{13}C$ (‰)	mean $\delta^{13}C$ (‰)	max $\delta^{13}C$ (‰)	Range of $\delta^{13}C$ (‰)	σ (‰)	Line of Best Fit	R^2	p-value* of slope	Oldest predicted $\delta^{13}C \pm \sigma$ (y_1, ‰)	Youngest predicted $\delta^{13}C \pm \sigma$ (y_2, ‰)	$\Delta\delta^{13}C \pm \sigma$ (y_2-y_1, ‰)
12	-3.48	-1.13	0.60	4.08	1.13	y=0.0328x-2.6987	0.82	**4.6E-05**	-2.67±0.58	0.38±0.58	3.05±0.82

NA: Value not calculated for the purpose of this study

x_1=1 m

*p-values in **bold** indicate statistically significant linear relationships ($p < 0.05$)

x_2=94 m

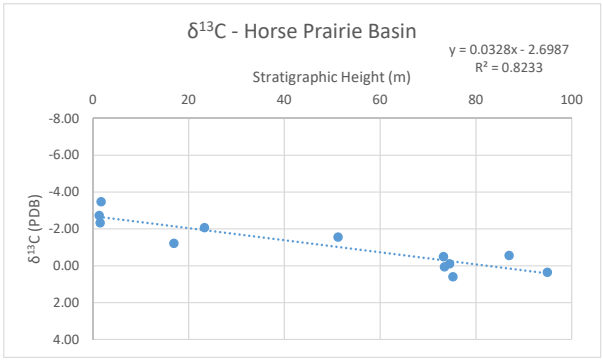
SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.907346299
R Square	**0.823277306**
Adjusted R Square	0.805605037
Standard Error	0.57842704
Observations	12

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	15.58658582	15.58658582	46.58582823	4.59506E-05
Residual	10	3.345778408	0.334577841		
Total	11	18.93236423			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-2.698672309	0.283976973	-9.5031378	2.5308E-06	-3.331412436	-2.065932181	-3.331412436	-2.06593218
X Variable 1	0.032775895	0.004802061	6.825381178	**4.59506E-05**	0.022076237	0.043475553	0.022076237	0.043475553



Appendix II. Statistical analyses of stable isotope data from the Shale/Sand Facies (informal; after Dunlap, 1982) in the Muddy Creek Basin.

Sample Name	Relative Stratigraphic Level (m)	$\delta^{18}O$ (‰) SMOW	$\delta^{13}C$ (‰) PDB	Reference
12-KM-440	0.9	16.62	-5.38	Methner, 2016
12-KM-441	1.5	16.90	-5.66	Methner, 2016
12-KM-442	2.2	17.11	-4.85	Methner, 2016
12-KM-443	2.6	16.39	-5.40	Methner, 2016
12-KM-444	3.1	17.50	-4.18	Methner, 2016
12-KM-445	3.6	16.30	-5.79	Methner, 2016
12-KM-446	4.0	16.78	-5.13	Methner, 2016
12-KM-447	4.4	16.78	-5.68	Methner, 2016
12-KM-448	4.6	16.12	-6.62	Methner, 2016
12-KM-449	5.2	16.23	-6.88	Methner, 2016
12-KM-450	13.3	16.56	-5.90	Methner, 2016
12-KM-451	13.6	14.97	-6.08	Methner, 2016
12-KM-452	13.8	15.79	-6.48	Methner, 2016
12-KM-453	14.1	17.39	-5.29	Methner, 2016
12-KM-454	14.4	16.98	-6.59	Methner, 2016
12-KM-455	14.8	16.26	-5.91	Methner, 2016
12-KM-456	15.1	17.70	-6.07	Methner, 2016
12-KM-464	36.3	17.50	-4.43	Methner, 2016
12-KM-465	37.1	17.19	-4.20	Methner, 2016
12-KM-467	37.7	16.84	-4.65	Methner, 2016
12-KM-469	38.7	18.83	-3.37	Methner, 2016
12-KM-470	39.3	17.39	-4.00	Methner, 2016
12-KM-471	39.7	17.99	-3.57	Methner, 2016
12-KM-472	40.2	18.07	-3.07	Methner, 2016
12-KM-473	40.7	16.59	-4.69	Methner, 2016
12-KM-474	41.4	15.91	-5.25	Methner, 2016
12-KM-475	42.4	17.36	-5.11	Methner, 2016
12-KM-476	43.0	18.11	-4.19	Methner, 2016
12-KM-477	43.6	17.69	-4.06	Methner, 2016
12-KM-478	44.2	16.22	-3.66	Methner, 2016
12-KM-479	45.0	16.61	-4.50	Methner, 2016
12-KM-480	45.5	15.90	-3.79	Methner, 2016
12-KM-481	46.1	15.95	-4.80	Methner, 2016
12-KM-482	46.8	16.87	-4.64	Methner, 2016
12-KM-483	47.5	15.83	-4.44	Methner, 2016
12-KM-484	48.3	16.45	-4.63	Methner, 2016
12-KM-485	48.9	17.76	-4.36	Methner, 2016
12-KM-486	49.5	16.51	-4.27	Methner, 2016
12-KM-487	51.1	16.89	-3.82	Methner, 2016
12-KM-488	53.0	18.28	-3.77	Methner, 2016
12-KM-489	53.6	17.33	-4.20	Methner, 2016
12-KM-490	55.0	17.47	-3.98	Methner, 2016
12-KM-491	55.6	16.75	-4.15	Methner, 2016
12-KM-492	56.9	17.60	-4.30	Methner, 2016
12-KM-498	67.4	17.21	-3.63	Methner, 2016
12-KM-499	67.8	17.61	-1.92	Methner, 2016
12-KM-500	68.2	16.35	-3.92	Methner, 2016
12-KM-501	68.6	18.35	-3.40	Methner, 2016
12-KM-502	69.4	16.66	-4.35	Methner, 2016
12-KM-503	70.2	18.94	-3.37	Methner, 2016
12-KM-504	71.0	15.34	-4.43	Methner, 2016
12-KM-505	71.8	17.78	-3.87	Methner, 2016
12-KM-506	72.8	15.60	-5.34	Methner, 2016
12-KM-507	73.8	15.12	-5.25	Methner, 2016

n	min $\delta^{18}O$ (‰)	mean $\delta^{18}O$ (‰)	max $\delta^{18}O$ (‰)	range in $\delta^{18}O$ (‰)	σ	Line of Best Fit	R^2	p-value* of slope	Oldest predicted $\delta^{18}O \pm \sigma$ (y_1, ‰)	Youngest predicted $\delta^{18}O \pm \sigma$ (y_2, ‰)	$\Delta\delta^{18}O \pm \sigma$ (y_2-y_1, ‰)
54	14.97	16.91	18.94	3.97	0.89	y=0.0055x+16.703	0.02	0.30	16.71±0.89	17.10±0.89	0.39±1.25

NA: Value not calculated for the purpose of this study

*p-values in **bold** indicate statistically significant linear relationships (p < 0.05)

x_1=1 m

x_2=73 m

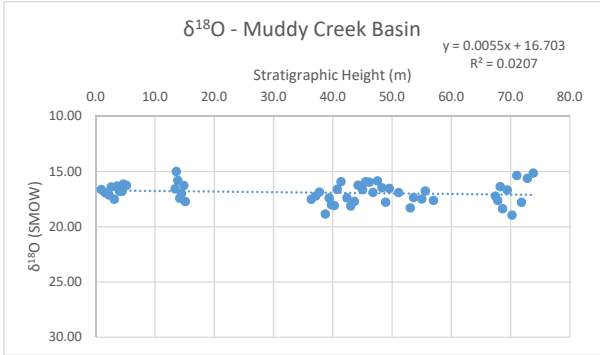
SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.143780967
R Square	**0.020672966**
Adjusted R Square	0.001839754
Standard Error	0.887206146
Observations	54

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.864027337	0.864027337	1.097686694	0.29961982
Residual	52	40.9310068	0.787134746		
Total	53	41.79503413			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	16.70262925	0.232824027	71.73928502	1.11469E-53	16.23543366	17.16982484	16.23543366	17.16982484
X Variable 1	0.00546864	0.005219635	1.047705442	**0.29961982**	-0.005005324	0.015942605	-0.005005324	0.015942605



n	min $\delta^{13}C$ (‰)	mean $\delta^{13}C$ (‰)	max $\delta^{13}C$ (‰)	Range of $\delta^{13}C$ (‰)	σ (‰)	Line of Best Fit	R^2	p-value* of slope	Oldest predicted $\delta^{13}C \pm \sigma$ (y_1, ‰)	Youngest predicted $\delta^{13}C \pm \sigma$ (y_2, ‰)	$\Delta\delta^{13}C \pm \sigma$ (y_2-y_1, ‰)
54	-6.88	-4.65	-1.92	4.96	1.01	y=0.0291x-5.764	0.45	**2.3E-08**	-5.73±0.75	-3.64±0.75	2.10±1.07

NA: Value not calculated for the purpose of this study

*p-values in **bold** indicate statistically significant linear relationships (p < 0.05)

x_1=1 m

x_2=73 m

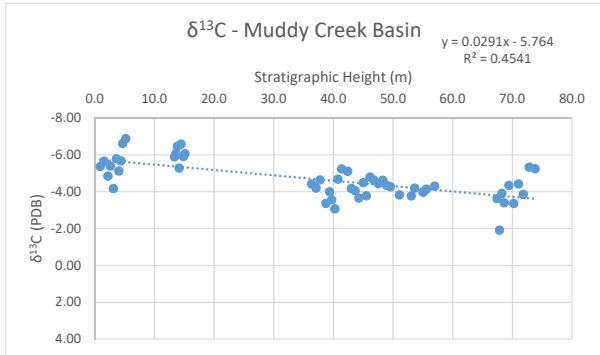
SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.673851612
R Square	**0.454075995**
Adjusted R Square	0.443577456
Standard Error	0.753123022
Observations	54

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	24.53192013	24.53192013	43.25135273	2.34166E-08
Residual	52	29.49410287	0.567194286		
Total	53	54.02602301			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-5.763979752	0.197637421	-29.1644149	6.72846E-34	-6.160568252	-5.367391252	-6.160568252	-5.36739125
X Variable 1	0.029139453	0.004430794	6.576576065	**2.34166E-08**	0.020248415	0.038030491	0.020248415	0.038030491



Appendix II. Statistical analyses of stable isotope data from the Sage Creek member of the Renova Formation in the Sage Creek Basin.

upper or lower Sage Creek mem.	Sample Name	Relative Stratigraphic Level (m)	$\delta^{18}O$ (‰) SMOW	$\delta^{13}C$ (‰) PDB	Reference
lower	8A	11.8	16.48	-3.23	Kent-Corson et al., 2010
lower	8C	11.8	17.68	-3.27	Kent-Corson et al., 2010
lower	8D	11.8	14.84	-4.39	Kent-Corson et al., 2010
lower	8E	11.8	15.17	-4.98	Kent-Corson et al., 2010
lower	8F	11.8	15.24	-4.54	Kent-Corson et al., 2010
lower	8G	11.8	13.79	-3.27	Kent-Corson et al., 2010
lower	8H	11.8	13.81	-2.93	Kent-Corson et al., 2010
lower	9A	12	15.92	-3.53	Kent-Corson et al., 2010
lower	9B	12	15.66	-3.76	Kent-Corson et al., 2010
lower	9C	12	17.09	-3.32	Kent-Corson et al., 2010
lower	9D	12	14.76	-3.43	Kent-Corson et al., 2010
lower	7A	12.5	17.12	-3.44	Kent-Corson et al., 2010
lower	7B	12.5	14.42	0.67	Kent-Corson et al., 2010
lower	7D	12.5	17.62	-3.32	Kent-Corson et al., 2010
lower	10A	13.3	17.59	-3.55	Kent-Corson et al., 2010
lower	10B	13.3	16.70	-3.46	Kent-Corson et al., 2010
lower	10C	13.3	17.94	-3.07	Kent-Corson et al., 2010
lower	10D	13.3	13.91	-2.13	Kent-Corson et al., 2010
lower	10E	13.3	15.36	-3.13	Kent-Corson et al., 2010
lower	10F	13.3	14.56	-1.03	Kent-Corson et al., 2010
lower	10G	13.3	23.37	-1.42	Kent-Corson et al., 2010
lower	12A	16.8	16.98	-4.57	Kent-Corson et al., 2010
lower	12B	16.8	17.23	-4.39	Kent-Corson et al., 2010
lower	12C	16.8	17.53	-4.05	Kent-Corson et al., 2010
lower	12D	16.8	16.48	-3.71	Kent-Corson et al., 2010
lower	12E	16.8	16.72	-4.07	Kent-Corson et al., 2010
lower	12F	16.8	17.92	-4.91	Kent-Corson et al., 2010
lower	12G	16.8	18.05	-4.15	Kent-Corson et al., 2010
lower	12H	16.8	17.85	-4.24	Kent-Corson et al., 2010
lower	12I	16.8	17.72	-3.66	Kent-Corson et al., 2010
lower	12J	16.8	18.84	-3.43	Kent-Corson et al., 2010
lower	13	17.3	16.44	-4.53	Kent-Corson et al., 2010
lower	16	17.4	14.55	-3.05	Kent-Corson et al., 2010
lower	15	17.5	15.47	-4.20	Kent-Corson et al., 2010
lower	17.1	17.5	17.71	-3.55	Kent-Corson et al., 2010
lower	17.2	17.5	17.46	-3.75	Kent-Corson et al., 2010
lower	17.3	17.5	18.82	-3.22	Kent-Corson et al., 2010
lower	17.4	17.5	18.08	-3.33	Kent-Corson et al., 2010
lower	17.5	17.5	16.89	0.00	Kent-Corson et al., 2010
lower	17.6	17.5	18.36	-2.85	Kent-Corson et al., 2010
lower	17.7	17.5	17.84	-3.37	Kent-Corson et al., 2010
lower	17.8	17.5	18.01	-3.54	Kent-Corson et al., 2010
lower	17.9	17.5	17.78	-3.25	Kent-Corson et al., 2010
lower	17.1	17.5	18.01	-3.13	Kent-Corson et al., 2010
lower	17.11	17.5	18.60	-2.93	Kent-Corson et al., 2010
lower	17.13	17.5	16.48	-3.78	Kent-Corson et al., 2010

upper or lower Sage Creek mem.	n	min $\delta^{18}O$ (‰)	mean $\delta^{18}O$ (‰)	max $\delta^{18}O$ (‰)	range in $\delta^{18}O$ (‰)	σ	Line of Best Fit	R^2	p-value* of slope	Oldest predicted $\delta^{18}O \pm \sigma$ (y_1, ‰)	Youngest predicted $\delta^{18}O \pm \sigma$ (y_2, ‰)	$\Delta\delta^{18}O \pm \sigma$ (y_2-y_1, ‰)
lower	56	13.70	16.57	23.37	9.67	1.80	NA	NA	NA	NA	NA	NA
upper	56	11.50	12.14	13.63	2.13	0.43	NA	NA	NA	NA	NA	NA

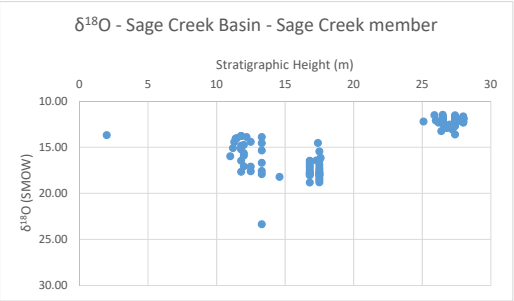
NA: Value not calculated for the purpose of this study

*p-values in **bold** indicate statistically significant linear relationships ($p < 0.05$)

Δδ18O (± σ) from lower to upper Sage Creek member

Δ means	σ
-4.43	**1.85**

*no linear regressions were calculated for the Sage Creek member.



upper or lower Sage Creek mem.	n	min $\delta^{13}C$ (‰)	mean $\delta^{13}C$ (‰)	max $\delta^{13}C$ (‰)	Range of $\delta^{13}C$ (‰)	σ (‰)	Line of Best Fit	R^2	p-value* of slope	Oldest predicted $\delta^{13}C \pm \sigma$ (y_1, ‰)	Youngest predicted $\delta^{13}C \pm \sigma$ (y_2, ‰)	$\Delta\delta^{13}C \pm \sigma$ (y_2-y_1, ‰)
lower	56	-4.98	-3.37	0.67	5.65	1.02	NA	NA	NA	NA	NA	NA
upper	56	-2.91	-0.58	0.68	3.59	0.71	NA	NA	NA	NA	NA	NA

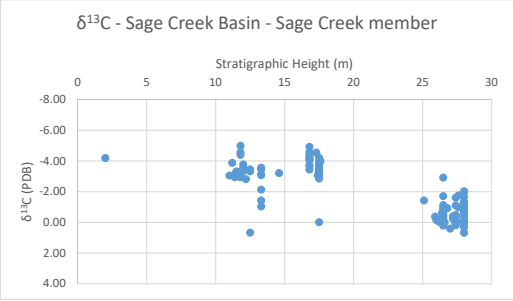
NA: Value not calculated for the purpose of this study

*p-values in **bold** indicate statistically significant linear relationships ($p < 0.05$)

Δδ18O (± σ) from lower to upper Sage Creek member

Δ means	σ
2.79	**1.24**

*no linear regressions were calculated for the Sage Creek member.



DATA CONTINUE ON NEXT PAGE

CONTINUED: Stable Isotope data for the Sage Creek member of the Renova Formation

lower	17.14	17.5	17.24	-3.93	Kent-Corson et al., 2010
lower	11KM-075	11.0	15.99	-3.05	Methner, 2016
lower	11KM-076	11.2	15.11	-3.87	Methner, 2016
lower	11KM-077	11.4	14.06	-2.93	Methner, 2016
lower	11KM-078	11.5	14.03	-3.31	Methner, 2016
lower	11KM-079	11.3	14.44	-3.04	Methner, 2016
lower	TS13-SCS7-a	2.0	13.70	-4.17	this study
lower	TS13-SCS7-j	12.2	13.90	-2.80	this study
lower	TS13-SCS7-k	14.6	18.22	-3.21	this study
lower	TS13-SCS7-n	17.6	16.16	-3.98	this study
upper	20.2	26.5	12.16	-0.20	Kent-Corson et al., 2010
upper	20.3	26.5	11.71	0.22	Kent-Corson et al., 2010
upper	20.4	26.5	11.50	-0.58	Kent-Corson et al., 2010
upper	20.5	26.5	12.11	-1.70	Kent-Corson et al., 2010
upper	20.6	26.5	12.42	-1.12	Kent-Corson et al., 2010
upper	20.7	26.5	12.24	-0.05	Kent-Corson et al., 2010
upper	20.8	26.5	12.24	-2.91	Kent-Corson et al., 2010
upper	20.9	26.5	11.99	-0.80	Kent-Corson et al., 2010
upper	20.1	26.5	12.25	-0.50	Kent-Corson et al., 2010
upper	20.11	26.5	11.72	-0.43	Kent-Corson et al., 2010
upper	20.12	26.5	11.96	-0.93	Kent-Corson et al., 2010
upper	20.13	26.5	12.13	-0.36	Kent-Corson et al., 2010
upper	20.14	26.5	12.01	-0.75	Kent-Corson et al., 2010
upper	19.1	27.4	11.75	0.02	Kent-Corson et al., 2010
upper	19.2	27.4	11.80	0.09	Kent-Corson et al., 2010
upper	19.3	27.4	12.72	-1.10	Kent-Corson et al., 2010
upper	19.4	27.4	13.63	-1.60	Kent-Corson et al., 2010
upper	19.5	27.4	12.02	0.19	Kent-Corson et al., 2010
upper	19.6	27.4	11.77	-0.08	Kent-Corson et al., 2010
upper	19.7	27.4	11.54	-0.41	Kent-Corson et al., 2010
upper	19.8	27.4	11.79	-0.02	Kent-Corson et al., 2010
upper	19.9	27.4	11.72	-0.41	Kent-Corson et al., 2010
upper	19.1	27.4	12.26	-0.12	Kent-Corson et al., 2010
upper	19.11	27.4	12.45	-0.47	Kent-Corson et al., 2010
upper	19.12	27.4	11.81	0.11	Kent-Corson et al., 2010
upper	19.13	27.4	12.45	-0.28	Kent-Corson et al., 2010
upper	19.14	27.4	11.92	-0.10	Kent-Corson et al., 2010
upper	18.1	28	12.22	-0.35	Kent-Corson et al., 2010
upper	18.2	28	11.92	-1.32	Kent-Corson et al., 2010
upper	18.3	28	11.88	-0.79	Kent-Corson et al., 2010
upper	18.4a	28	11.95	-0.08	Kent-Corson et al., 2010
upper	18.5	28	11.67	-0.58	Kent-Corson et al., 2010
upper	18.6	28	12.27	-1.32	Kent-Corson et al., 2010
upper	18.7	28	11.92	-0.79	Kent-Corson et al., 2010
upper	18.8	28	12.29	0.68	Kent-Corson et al., 2010
upper	18.9	28	11.96	-1.66	Kent-Corson et al., 2010
upper	18.1	28	11.84	-1.02	Kent-Corson et al., 2010
upper	18.11	28	12.07	0.32	Kent-Corson et al., 2010
upper	18.12	28	12.35	-0.07	Kent-Corson et al., 2010
upper	18.13	28	11.89	0.25	Kent-Corson et al., 2010
upper	18.14	28	12.22	0.01	Kent-Corson et al., 2010
upper	18.15	28	11.90	-1.10	Kent-Corson et al., 2010
upper	18.17	28	11.76	-2.01	Kent-Corson et al., 2010
upper	18.18	28	11.86	-1.98	Kent-Corson et al., 2010
upper	11KM-081	26	12.12	-0.14	Methner, 2016
upper	11KM-082	26.2	12.34	-0.02	Methner, 2016
upper	11KM-083	26.4	13.27	-0.60	Methner, 2016
upper	11KM-084	26.6	12.65	-0.01	Methner, 2016
upper	11KM-085	26.8	12.93	-0.92	Methner, 2016
upper	11KM-086	27	12.56	0.41	Methner, 2016
upper	11KM-087	27.2	12.99	-0.24	Methner, 2016
upper	11KM-088	27.2	13.09	-0.40	Methner, 2016
upper	11KM-089	27.6	12.09	-0.97	Methner, 2016
upper	SCS2-1	25.1	12.23	-1.42	this study
upper	SCS3-1	25.9	11.53	-0.37	this study
upper	SCS2-2	27.6	12.20	-1.75	this study

Appendix II. Statistical analyses of stable isotope data from the Dell member of the Renova Formation in the Sage Creek Basin.

Sample Name	Relative Stratigraphic Level (m)	$\delta^{18}O$ (‰) SMOW	$\delta^{13}C$ (‰) PDB	Reference
SCS5-1	24.4	15.86	-2.08	this study
SCS5-2	24.9	12.88	0.53	this study
SCS5-3	25.2	14.59	-1.48	this study
SCS5-4	25.6	12.90	-0.49	this study
SCS5-5	26.0	13.39	-0.55	this study
SCS5-6	28.8	13.66	0.52	this study
SCS5-7	29.0	13.31	-0.13	this study
SCS5-8	29.7	12.95	-0.28	this study
06DM1	34.0	14.60	-2.60	Kent-Corson et al., 2006
06DM2	35.0	14.40	-2.50	Kent-Corson et al., 2006
06DM4	36.0	13.80	-1.10	Kent-Corson et al., 2006
06DM5	37.0	13.20	-3.70	Kent-Corson et al., 2006
06DM7	38.0	16.90	-3.20	Kent-Corson et al., 2006
06DM6	39.0	14.20	-4.00	Kent-Corson et al., 2006
06DM8	40.0	11.40	-2.20	Kent-Corson et al., 2006
06DM9A	41.0	16.40	-3.90	Kent-Corson et al., 2006
06DM9B	42.0	11.70	-2.00	Kent-Corson et al., 2006
06DM10	43.0	11.00	-2.40	Kent-Corson et al., 2006
06DM11	44.0	11.90	-2.30	Kent-Corson et al., 2006
06DM12	45.0	16.60	-3.40	Kent-Corson et al., 2006
06DM13	46.0	12.10	-3.50	Kent-Corson et al., 2006
06DM14	47.0	17.50	-3.30	Kent-Corson et al., 2006
06DM16	48.0	14.00	-5.10	Kent-Corson et al., 2006
06DM15	49.0	18.50	-2.90	Kent-Corson et al., 2006
06DM17	50.0	12.00	-3.60	Kent-Corson et al., 2006
06DM18	51.0	16.70	-4.00	Kent-Corson et al., 2006
06DM19	52.0	14.80	-4.80	Kent-Corson et al., 2006
06DM20	53.0	13.10	-2.00	Kent-Corson et al., 2006
06DM21	54.0	14.10	-4.80	Kent-Corson et al., 2006
06DM22	55.0	13.80	-3.40	Kent-Corson et al., 2006
06DM23	56.0	14.50	-5.40	Kent-Corson et al., 2006
06DM24	57.0	13.10	-3.20	Kent-Corson et al., 2006
06DM25	58.0	13.70	-3.40	Kent-Corson et al., 2006
06DM30	59.0	12.30	-3.60	Kent-Corson et al., 2006
06DM32	60.0	13.50	-4.30	Kent-Corson et al., 2006
11-KM-116	34.2	12.18	-2.28	Methner et al., 2016
11-KM-117	37.4	12.81	-4.21	Methner et al., 2016
11-KM-118	40.3	16.64	-3.58	Methner et al., 2016
11-KM-120	40.7	17.92	-3.75	Methner et al., 2016
11-KM-121	42.8	18.84	-3.26	Methner et al., 2016
11-KM-123	44.4	12.58	-3.41	Methner et al., 2016
11-KM-125	45.0	12.58	-2.35	Methner et al., 2016
11-KM-127	47.1	12.49	-2.97	Methner et al., 2016
11-KM-129	51.0	12.75	-2.40	Methner et al., 2016
11-KM-130	52.9	19.28	-3.26	Methner et al., 2016
11-KM-131	53.9	19.36	-2.95	Methner et al., 2016
11-KM-132	55.7	18.26	-3.73	Methner et al., 2016
11-KM-133	56.0	15.56	-5.33	Methner et al., 2016
11-KM-134	57.1	19.63	-2.59	Methner et al., 2016
11-KM-135	58.7	14.42	-1.04	Methner et al., 2016

n	min $\delta^{18}O$ (‰)	mean $\delta^{18}O$ (‰)	max $\delta^{18}O$ (‰)	range in $\delta^{18}O$ (‰)	σ	Line of Best Fit	R^2	p-value* of slope	Oldest predicted $\delta^{18}O \pm \sigma$ (y_1, ‰)	Youngest predicted $\delta^{18}O \pm \sigma$ (y_2, ‰)	$\Delta\delta^{18}O \pm \sigma$ (y_2-y_1, ‰)
67	11.00	14.41	19.63	8.63	2.12	y=0.0419x+12.442	0.06	0.05	13.45±2.08	15.37±2.08	1.93±2.94

NA: Value not calculated for the purpose of this study

*p-values in **bold** indicate statistically significant linear relationships (p < 0.05)

x_1=24 m

x_2=70 m

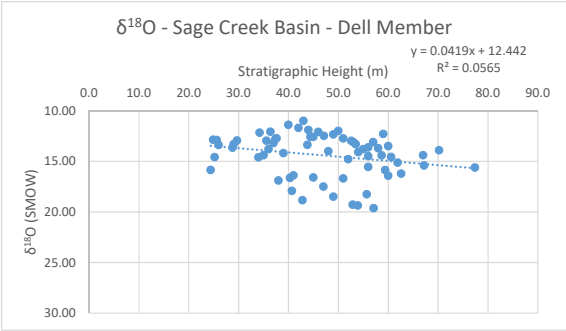
SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.237797639
R Square	**0.056547717**
Adjusted R Square	0.042033067
Standard Error	2.076703747
Observations	67

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	16.80186875	16.80186875	3.895906224	0.052657164
Residual	65	280.3253995	4.312698454		
Total	66	297.1272683			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	12.44169251	1.029884064	12.0806729	2.85301E-18	10.384872	14.49851301	10.384872	14.49851301
X Variable 1	0.041896643	0.021226333	1.973805012	**0.052657164**	-0.000495272	0.084288557	-0.000495272	0.084288557



n	min $\delta^{13}C$ (‰)	mean $\delta^{13}C$ (‰)	max $\delta^{13}C$ (‰)	Range of $\delta^{13}C$ (‰)	σ (‰)	Line of Best Fit	R^2	p-value* of slope	Oldest predicted $\delta^{13}C \pm \sigma$ (y_1, ‰)	Youngest predicted $\delta^{13}C \pm \sigma$ (y_2, ‰)	$\Delta\delta^{13}C \pm \sigma$ (y_2-y_1, ‰)
67	-5.40	-2.66	0.53	5.93	1.47	y=-0.053x-0.1652	0.19	**2.5E-04**	-1.44±1.34	-3.87±1.34	-2.44±1.89

NA: Value not calculated for the purpose of this study

*p-values in **bold** indicate statistically significant linear relationships (p < 0.05)

x_1=24 m

x_2=70 m

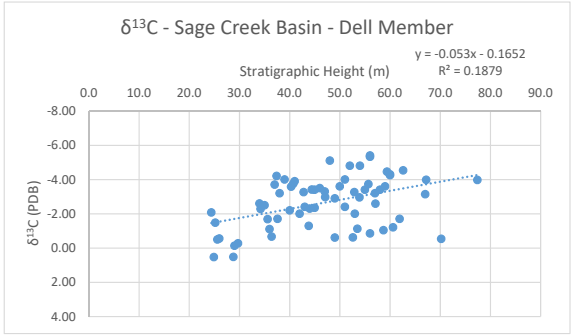
SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.433442862
R Square	**0.187872715**
Adjusted R Square	0.175378449
Standard Error	1.336715702
Observations	67

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	26.86773558	26.86773558	15.03671492	0.000248354
Residual	65	116.1425765	1.786808869		
Total	66	143.0103121			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-0.165190228	0.662907361	-0.24919052	0.803999169	-1.489107648	1.158727191	-1.489107648	1.158727191
X Variable 1	-0.052980489	0.013662793	-3.87772033	**0.000248354**	-0.08026697	-0.025694008	-0.08026697	-0.02569401



DATA CONTINUE ON NEXT PAGE

CONTINUED: Stable Isotope data for the Dell member of the Renova Formation

11-KM-136	59.4	15.87	-4.46	Methner et al., 2016
11-KM-137	60.0	16.42	-4.25	Methner et al., 2016
11-KM-138	60.6	14.57	-1.21	Methner et al., 2016
11-KM-139	61.9	15.13	-1.70	Methner et al., 2016
11-KM-140	62.6	16.22	-4.53	Methner et al., 2016
11-KM-114	67.0	14.40	-3.14	Methner et al., 2016
11-KM-113	67.2	15.42	-3.98	Methner et al., 2016
11-KM-106	77.4	15.62	-3.97	Methner et al., 2016
SCS1-1	35.6	12.96	-1.69	this study
SCS1-2	36.4	12.08	-0.66	this study
SCS1-3	37.6	12.73	-1.70	this study
SCS1-4	43.8	13.38	-1.29	this study
SCS1-5	49.0	12.35	-0.61	this study
SCS1-6	52.6	12.98	-0.62	this study
SCS1-7	53.5	13.31	-1.12	this study
SCS1-8	56.0	13.62	-0.85	this study
SCS1-10	70.2	13.91	-0.53	this study

Appendix II. Statistical analyses of stable isotope data from the Cook Ranch member of the Renova Formation in the Sage Creek Basin.

Sample Name	Relative Stratigraphic Level (m)	$\delta^{18}O$ (‰) SMOW	$\delta^{13}C$ (‰) PDB	Reference
SC 43	1	15.48	-4.37	Kent-Corson et al., 2006
SC 44	2	14.40	-2.82	Kent-Corson et al., 2006
SC 44B	3	14.80	-2.46	Kent-Corson et al., 2006
SC 45	4	14.27	-5.45	Kent-Corson et al., 2006
SC 47B	5	15.71	-5.92	Kent-Corson et al., 2006
CR-11	6	13.47	-2.77	Kent-Corson et al., 2006
SC 1	7	13.34	-3.49	Kent-Corson et al., 2006
CR-12	8	13.58	-3.13	Kent-Corson et al., 2006
CR-13	9	13.44	-3.24	Kent-Corson et al., 2006
SC 2B	10	13.42	-2.93	Kent-Corson et al., 2006
CR-14	11	13.59	-3.03	Kent-Corson et al., 2006
CR-15	12	14.08	-1.35	Kent-Corson et al., 2006
CR-16	13	13.28	-1.65	Kent-Corson et al., 2006
SC 6	14	13.45	-4.08	Kent-Corson et al., 2006
SC 8	15	15.42	-3.70	Kent-Corson et al., 2006
SC 9	16	13.74	-3.42	Kent-Corson et al., 2006
SC 10	17	14.68	-2.83	Kent-Corson et al., 2006
SC 11	18	14.63	-4.38	Kent-Corson et al., 2006
SC 12	19	13.78	-4.34	Kent-Corson et al., 2006
SC 15	20	14.86	-2.93	Kent-Corson et al., 2006
SC 17B	21	15.26	-4.85	Kent-Corson et al., 2006
SC 19	22	15.98	-4.80	Kent-Corson et al., 2006
SC 18	23	15.85	-4.38	Kent-Corson et al., 2006

n	min $\delta^{18}O$ (‰)	mean $\delta^{18}O$ (‰)	max $\delta^{18}O$ (‰)	range in $\delta^{18}O$ (‰)	σ	Line of Best Fit	R^2	p-value* of slope	Oldest predicted $\delta^{18}O \pm \sigma$ (y_1, ‰)	Youngest predicted $\delta^{18}O \pm \sigma$ (y_2, ‰)	$\Delta\delta^{18}O \pm \sigma$ (y_2-y_1, ‰)
23	13.28	14.37	15.98	2.70	0.91	y=0.0348x+13.953	0.07	0.23	13.99±0.89	14.75±0.89	0.76±1.27

NA: Value not calculated for the purpose of this study

*p-values in **bold** indicate statistically significant linear relationships ($p < 0.05$)

x_1=1 m

x_2=23 m

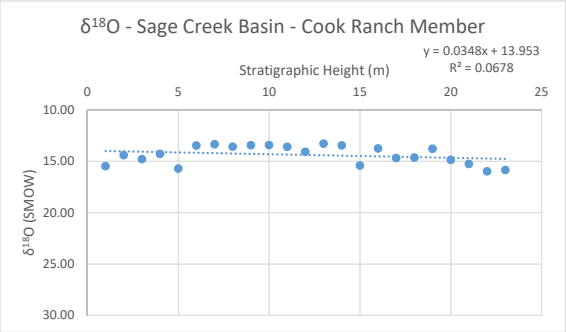
SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.260317192
R Square	**0.06776504**
Adjusted R Square	0.023372899
Standard Error	0.894854589
Observations	23

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1.222375253	1.222375253	1.526509848	0.230280944
Residual	21	16.81605943	0.800764735		
Total	22	18.03843468			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	13.95256965	0.38569245	36.17537664	2.10305E-20	13.15047829	14.75466101	13.15047829	14.75466101
X Variable 1	0.034754578	0.028129513	1.235520072	**0.230280944**	-0.023743947	0.093253103	-0.023743947	0.093253103



n	min $\delta^{13}C$ (‰)	mean $\delta^{13}C$ (‰)	max $\delta^{13}C$ (‰)	Range of $\delta^{13}C$ (‰)	σ (‰)	Line of Best Fit	R^2	p-value* of slope	Oldest predicted $\delta^{13}C \pm \sigma$ (y_1, ‰)	Youngest predicted $\delta^{13}C \pm \sigma$ (y_2, ‰)	$\Delta\delta^{13}C \pm \sigma$ (y_2-y_1, ‰)
23	-5.92	-3.58	-1.35	4.57	1.13	y=-0.0198x-3.3411	0.01	0.59	-3.36±1.15	-3.80±1.15	-0.43±1.62

NA: Value not calculated for the purpose of this study

*p-values in **bold** indicate statistically significant linear relationships ($p < 0.05$)

x_1=1 m

x_2=23 m

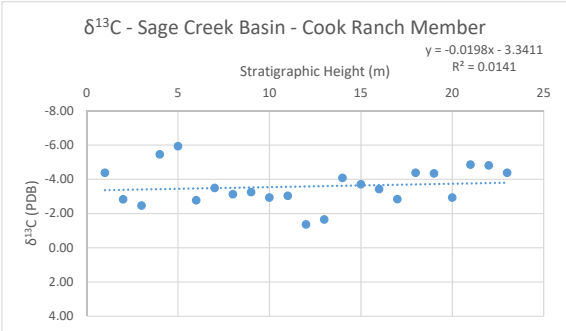
SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.118604864
R Square	**0.014067114**
Adjusted R Square	-0.032882071
Standard Error	1.148025272
Observations	23

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.394893364	0.394893364	0.299624236	0.589888784
Residual	21	27.67720251	1.317962024		
Total	22	28.07209587			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-3.341072332	0.494811878	-6.75220721	1.11416E-06	-4.370089965	-2.312054699	-4.370089965	-2.3120547
X Variable 1	-0.019753755	0.036087865	-0.54737943	**0.589888784**	-0.094802579	0.055295069	-0.094802579	0.055295069



Appendix II. Statistical analyses of stable isotope data from the White Hills member of the Renova Formation in the Sage Creek Basin.

Sample Name	Relative Stratigraphic Level (m)	$\delta^{18}O$ (‰) SMOW	$\delta^{13}C$ (‰) PDB	Reference
TRC-5A	0.2	14.94	-3.01	this study
TRC-5C	1.0	14.31	-4.46	this study
TRC-5D	1.7	15.18	-3.15	this study
TRC-5E	1.8	15.60	-4.42	this study
TRC-5F	2.4	15.33	-2.59	this study
TRC-5G	3.0	16.33	-3.89	this study
TRC-5H	3.5	15.24	-4.56	this study
TRC-5i	3.9	17.90	-2.41	this study
TRC-5J	9.5	15.34	-2.99	this study
TRC-5K	9.7	16.69	-2.21	this study
TRC-5L	9.9	16.43	-4.40	this study
TRC-5M	10.0	17.56	-2.09	this study
TRC-5N	10.1	17.39	-2.17	this study
TRC-5o	10.3	15.66	-3.20	this study
TRC-5P	10.4	16.51	-3.54	this study
TRC-5Q	11.0	16.25	-4.07	this study
TRC-5R	17.9	18.01	-2.36	this study
TRC-5S	18.1	16.64	-3.98	this study

n	min $\delta^{18}O$ (‰)	mean $\delta^{18}O$ (‰)	max $\delta^{18}O$ (‰)	range in $\delta^{18}O$ (‰)	σ	Line of Best Fit	R^2	p-value* of slope	Oldest predicted $\delta^{18}O \pm \sigma$ (y_1, ‰)	Youngest predicted $\delta^{18}O \pm \sigma$ (y_2, ‰)	$\Delta\delta^{18}O \pm \sigma$ (y_2-y_1, ‰)
18	14.31	16.18	18.01	3.70	1.07	y=0.1203x+15.289	0.39	**0.01**	15.41±0.86	17.45±0.86	2.05±1.22

NA: Value not calculated for the purpose of this study

*p-values in **bold** indicate statistically significant linear relationships (p < 0.05)

x_1=1 m

x_2=18 m

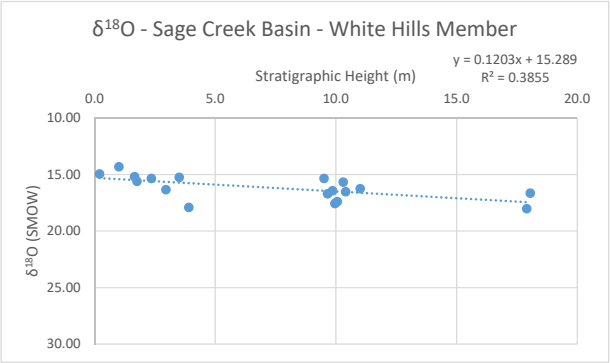
SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.620883316
R Square	**0.385496092**
Adjusted R Square	0.347089598
Standard Error	0.860576003
Observations	18

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	7.433507379	7.433507379	10.03726322	0.005963455
Residual	16	11.84945691	0.740591057		
Total	17	19.28296429			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	15.28850736	0.347855513	43.95074048	4.08819E-18	14.55108662	16.02592811	14.55108662	16.02592811
X Variable 1	0.120309734	0.037974591	3.168164015	**0.005963455**	0.039807196	0.200812271	0.039807196	0.200812271



n	min $\delta^{13}C$ (‰)	mean $\delta^{13}C$ (‰)	max $\delta^{13}C$ (‰)	Range of $\delta^{13}C$ (‰)	σ (‰)	Line of Best Fit	R^2	p-value* of slope	Oldest predicted $\delta^{13}C \pm \sigma$ (y_1, ‰)	Youngest predicted $\delta^{13}C \pm \sigma$ (y_2, ‰)	$\Delta\delta^{13}C \pm \sigma$ (y_2-y_1, ‰)
18	-4.56	-3.30	-2.09	2.47	0.88	y=0.034x-3.558	0.05	0.40	-3.52±0.89	-2.95±0.89	0.58±1.25

NA: Value not calculated for the purpose of this study

*p-values in **bold** indicate statistically significant linear relationships (p < 0.05)

x_1=1 m

x_2=18 m

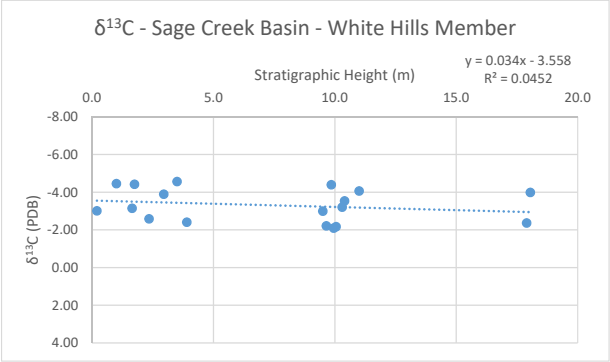
SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.212567138
R Square	**0.045184788**
Adjusted R Square	-0.014491162
Standard Error	0.886146355
Observations	18

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.594571128	0.594571128	0.757169141	0.397083173
Residual	16	12.5640858	0.785255362		
Total	17	13.15865693			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-3.557985934	0.358191367	-9.93319847	3.01511E-08	-4.31731771	-2.798654158	-4.31731771	-2.79865416
X Variable 1	0.034025599	0.039102933	0.870154665	**0.397083173**	-0.048868915	0.116920114	-0.048868915	0.116920114



Appendix II. Statistical analyses of stable isotope data from the Bone Basin member of the Renova Formation in the Jefferson Basin.

Sample Name	Relative Stratigraphic Level (m)	$\delta^{18}O$ (‰) SMOW	$\delta^{13}C$ (‰) PDB	Reference
JB-1a	1.6	12.65	-7.43	this study
JB-1b	2.4	12.17	-7.69	this study
JB-1d	15.3	14.12	-7.61	this study
JB-1e	18.6	16.23	-6.49	this study
JB-1f	19.8	15.03	-7.52	this study
JB-1g	22.9	14.51	-7.42	this study
JB-1h	23.9	16.30	-7.28	this study
JB-1i	33.2	16.05	-6.71	this study

n	min $\delta^{18}O$ (‰)	mean $\delta^{18}O$ (‰)	max $\delta^{18}O$ (‰)	range in $\delta^{18}O$ (‰)	σ	Line of Best Fit	R^2	p-value* of slope	Oldest predicted $\delta^{18}O \pm \sigma$ (y_1, ‰)	Youngest predicted $\delta^{18}O \pm \sigma$ (y_2, ‰)	$\Delta\delta^{18}O \pm \sigma$ (y_2-y_1, ‰)
8	12.17	14.63	16.30	4.13	1.59	y=0.1295x+12.403	0.76	**4.5E-03**	12.53±0.84	16.68±0.84	4.15±1.18

NA: Value not calculated for the purpose of this study

*p-values in **bold** indicate statistically significant linear relationships (p < 0.05)

x_1=1 m

x_2=33 m

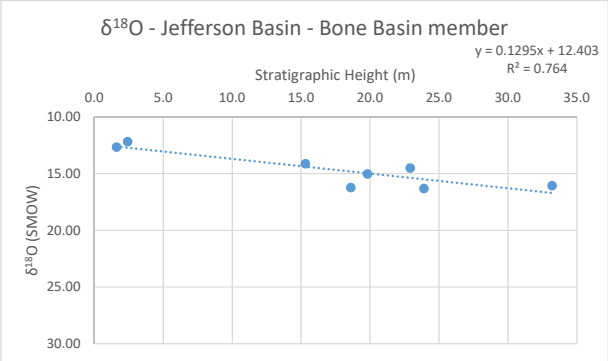
SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.874050804
R Square	**0.763964808**
Adjusted R Square	0.724625609
Standard Error	0.835629228
Observations	8

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	13.56048079	13.56048079	19.4199382	0.004534951
Residual	6	4.189657244	0.698276207		
Total	7	17.75013803			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	12.40324579	0.585907582	21.16928704	7.24272E-07	10.96958158	13.83691	10.96958158	13.83691
X Variable 1	0.129539626	0.029395356	4.406805895	**0.004534951**	0.057611782	0.20146747	0.057611782	0.20146747



n	min $\delta^{13}C$ (‰)	mean $\delta^{13}C$ (‰)	max $\delta^{13}C$ (‰)	Range of $\delta^{13}C$ (‰)	σ (‰)	Line of Best Fit	R^2	p-value* of slope	Oldest predicted $\delta^{13}C \pm \sigma$ (y_1, ‰)	Youngest predicted $\delta^{13}C \pm \sigma$ (y_2, ‰)	$\Delta\delta^{13}C \pm \sigma$ (y_2-y_1, ‰)
8	-7.69	-7.27	-6.49	1.20	0.43	y=0.022x-7.6474	0.30	0.16	-7.63±0.39	-6.92±0.39	0.70±0.55

NA: Value not calculated for the purpose of this study

*p-values in **bold** indicate statistically significant linear relationships (p < 0.05)

x_1=1 m

x_2=33 m

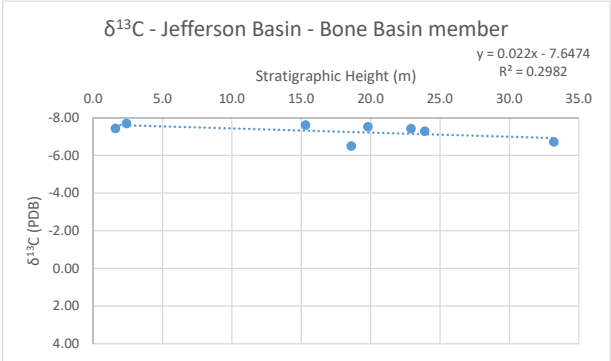
SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.546047718
R Square	**0.29816811**
Adjusted R Square	0.181196128
Standard Error	0.392039998
Observations	8

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.391778052	0.391778052	2.549055816	0.161473319
Residual	6	0.922172162	0.15369536		
Total	7	1.313950214			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-7.647367602	0.27488173	-27.8205744	1.4266E-07	-8.319978964	-6.97475624	-8.319978964	-6.97475624
X Variable 1	0.022018369	0.013790991	1.596576279	**0.161473319**	-0.01172697	0.055763708	-0.01172697	0.055763708



APPENDIX III-A:
DETRITAL ZIRCON SEPARATION

Rock samples were individually crushed and disaggregated using a jaw crusher and disk grinder. Disaggregated samples were individually processed on a Gemini table to remove muds and to separate heavy from light sand fractions. Heavy sand fractions were oven-dried and run through as lope Frantz to remove magnetic minerals. Settings for the slope Frantz were 100 volts at 0.4 angstroms (Å), 0.8 Å, and 1.2 Å. Final density separation of the nonmagnetic heavy fraction was run using methylene iodide (MEI; density of 3.3 g/cm^3). Samples were individually packaged and sent to the University of Arizona LaserChron center for final preparation, where they were mounted in a 1-inch epoxy puck with fragments of Sri Lanka standard zircon, polished to half of mean grain thickness (~20 µm), and imaged with BSE to illuminate internal structures.

APPENDIX III-B:

U-Pb GEOCHRONOLOGY: DETRITAL ZIRCON ANALYTICAL TECHNIQUES, UNIVERSITY OF ARIZONA LASERCHRON CENTER

[sample: TS13-JB-1k, Bone Basin member of the Renova Formation]

U-Pb geochronology of zircons is conducted by laser ablation-multicollector-inductively coupled plasma mass spectrometry (LA-MC-ICPMS) at the Arizona LaserChron Center (Gehrels et al., 2006, 2008). The analyses involve ablation of zircon with a Photon Machines Analyte G2 excimer laser (or, prior to May 2011, a New Wave UP193HE excimer laser) using a spot diameter of 30 µm. The ablated material is carried in helium into the plasma source of a Nu HR ICPMS, which is equipped with a flight tube of sufficient width that U, Th, and Pb isotopes are measured simultaneously. All measurements are made in static mode, using Faraday detectors with $3x10^{11}$ ohm resistors for ^{238}U, ^{232}Th, ^{208}Pb-^{206}Pb, and discrete dynode ion counters for ^{204}Pb and ^{202}Hg. Ion yields are ~0.8 mv per ppm. Each analysis consists of one 15-second integration on peaks with the laser off (for backgrounds), 15 one-second integrations with the laser firing, and a 30 second delay to purge the previous sample and prepare for the next analysis. The ablation pit is ~15 µm in depth.

For each analysis, the errors in determining $^{206}Pb/^{238}U$ and $^{206}Pb/^{204}Pb$ result in a measurement error of ~1-2% (at 2-sigma level) in the $^{206}Pb/^{238}U$ age. The errors in measurement of $^{206}Pb/^{207}Pb$ and $^{206}Pb/^{204}Pb$ also result in ~1-2% (at 2-sigma level) uncertainty in age for grains that are >1.0 Ga, but are substantially larger for younger grains due to low intensity of the ^{207}Pb signal. For most analyses, the cross-over in precision of $^{206}Pb/^{238}U$ and $^{206}Pb/^{207}Pb$ ages occurs at ~1.0 Ga.

^{204}Hg interference with ^{204}Pb is accounted for measurement of ^{202}Hg during laser ablation and subtraction of ^{204}Hg according to the natural $^{202}Hg/^{204}Hg$ of 4.35. This Hg correction is not significant for most analyses because LaserChron Hg backgrounds are low (generally ~150 cps at mass 204).

Common Pb correction is accomplished by using the Hg-corrected ^{204}Pb and assuming an initial Pb composition from Stacey and Kramers (1975). Uncertainties of 1.5 for $^{206}Pb/^{204}Pb$ and 0.3 for $^{207}Pb/^{204}Pb$ are applied to these compositional values based on the variation in Pb isotopic composition in modern crystal rocks.

Inter-element fractionation of Pb/U is generally ~5%, whereas apparent fractionation of Pb isotopes is generally <0.2%. In-run analysis of fragments of a large zircon crystal (generally every fifth measurement) with known age of 563.5 ± 3.2 Ma (2-sigma error) is used to correct for this fractionation. The uncertainty resulting from the calibration correction is generally 1-2% (2-sigma) for both $^{206}Pb/^{207}Pb$ and $^{206}Pb/^{238}U$ ages.

Concentrations of U and Th are calibrated relative to the Sri Lanka zircon standard, which contains ~518 ppm of U and 68 ppm of Th.

The best age for each grain was determined from the $^{206}Pb/^{238}U$ age for analyses with $^{206}Pb/^{238}U$ < 1000 Ma and from the $^{206}Pb/^{207}Pb$ age for analyses with $^{206}Pb/^{238}U$ age > 1000 Ma. Individual analyses with (1) >10% 1σ uncertainty in $^{206}Pb/^{238}U$ age; (2) >10% 1σ uncertainty in $^{206}Pb/^{207}Pb$ age for grains >500 Ma; (3) a $^{206}Pb/^{238}U$ age > 500 Ma and with >20% discordance; and (4) a $^{206}Pb/^{238}U$ age >500 Ma and with > 5% reverse discordance were not included in provenance analyses.

Gehrels, G.E., Valencia, V., and Pullen, A., 2006, Detrital zircon geochronology by laser ablation-multicollector ICPMS at the Arizona LaserChron Center, *in* Olszewski, T., ed., Geochronology: Emerging Opportunities: Paleontology Society Papers, v. 12, p. 67-76.

Gehrels, G.E., Valencia, V., and Ruiz, J., 2008, Enhanced precision, accuracy, efficiency, and spatial resolution of U-Pb ages by laser ablation-multicollector-inductively coupled plasma-mass spectrometry: Geochemistry, Geophysics, Geosystems, v. 9, Q03017, doi:10.1029/2007GC001805.

Stacey, J.S., and Kramers, J.D., 1975, Approximation of terrestrial lead isotope evolution by a two stage model: Earth and Planetary Science Letters, v. 26, p. 207-221.

APPENDIX III-C:
U-Pb GEOCHRONOLOGY: DETRITAL ZIRCON ANALYTICAL TECHNIQUES, UNIVERSITY OF CALGARY CENTRE FOR PURE AND APPLIED TECTONICS & THERMOCHRONOLOGY

[sample: TS16-TRC-5, White Hills member of the Renova Formation]
[sample: TS16-TRBT-10c, Blacktail Deer member of the Renova Formation]

U-Pb geochronology of zircons was conducted using a quadrupole LA-ICP-MS according to the methods described in Matthews and Guest (2016). All data acquisition parameters are listed in Table II-B. Grains from sample TS16-TRC-5 were analyzed using a 33µm beam, whereas grains from sample TS16-TRBT-10c were analyzed using a 22µm beam due to their small grain size. Rod-like colourless inclusions were very common in many of the samples and lead to problems with common lead in the young grains. These integration periods were shortened to avoid these issues. The reasons for all modifications to the integration periods are noted in the comments.

Table II-B	Data acquisition and laser settings
Laser	ASI Resochron
Type and wavelength	Excimer, 193 nm
Pulse width (ns)	20
Fluence	1.9 J/cm^2
Sample cell	Laurin-Technic M-50 Dual Volume
Spot size (µm)	33, 22
Sampling mode	Static spot
Repetition rate (Hz)	10
Ablation duration (s)	15
Pit depth	~12 µm; confirmed by optical profilometry
Carrier gas	UHP He (99.99999%)
Carrier gas flow (L min^{-1})	0.75
Supplemental N_2 (L min-1)	0.004
Mass spectrometer	Agilent 7700
Cool Gas (L min^{-1})	14
Carrier Gas (L min-1)	0.75; combined in y fitting with He in transport line to torch
RF power (W)	1350
Masses	91, 201, 202, 204, 206, 207, 208, 232, 238
Sample time per peak (s)	0.01, 0.01, 0.01, 0.03, 0.04, 0.08, 0.015, 0.015, 0.02
Acquisition mode	Time resolved analysis

Matthews, W.A. and Guest, B., 2016, A practical approach for collecting large-*n* detrital zircon U-Pb data sets by quadrupole LA-ICP-MS: Geostandards and Geoanalytical Research, v. 41, p. 161-180, doi: 10.1111.ggr.12146

APPENDIX III-D:
MAXIMUM DEPOSITIONAL AGES FROM DETRITAL ZIRCON

To help constrain the depositional age of each sample, we provide the weighted mean age of the youngest detrital zircon age cluster present as a maximum depositional age (MDA) of the sample. In this study, the "youngest cluster" is defined as the youngest mode of grains in the sample distribution with overlapping ages (within 1-σ error), with $n \geq 2$ (after Dickinson and Gehrels, 2009; Schwartz and Graham, 2017). As such, we report the calculated ages as YC1σ MDAs (after Dickinson and Gehrels, 2009). Within each cluster, we assume that all zircon grains are comagmatic (i.e., of the same source) and that scatter around that age can be explained by analytical uncertainty and/or subtle variation in crystallization age. For samples with peaks composed of compound, multi-modal clusters of analyses, the AgePick function in Isoplot 3.7 (Ludwig, 2008) was used to identify the youngest subgroup of zircon grains within the cluster.

Note: The MDA reported for the Bone Basin member of the Renova Formation, exposed in the Jefferson basin (sample JB-1k), was calculated using the youngest cluster of grains reported in this study and the youngest clusters of grains reported for two samples (R1 and R2) from the same location by Link et al. (2008).

Dickinson, W.R. and Gehrels, G.E., 2009, Use of U-Pb ages of detrital zircons to infer maximum depositional ages of strata: A test against a Colorado Plateau Mesozoic database: Earth and Planetary Science Letters, v. 288, p. 115-125.

Link, P.K., Fanning, C.M., and Stroup, C.N., 2008, Detrital zircon U-Pb geochronologic data for selected Cretaceous, Paleogene, Neogene, and Holocene sandstones and river sands in southwest Montana and east-central Idaho: Montana Bureau of Mines and Geology Open File Report 569, 5 p.

Ludwig, K.R., 2008, Isoplot/Ex version 3.7: A geochronological toolkit for Microsoft *Excel*: Berkeley Geochronology Center Special Publication, v. 4, p. 1-77.

Schwartz, T.M. and Graham, S.A., 2017, Depositional history and provenance of Paleogene strata in the Sage Creek basin, southwestern Montana: Geosphere, v. 13, no. 4., p. 1-25, doi: 10.1130/GES01450.1

Appendix IV. Compilation of new detrital zircon results presented in this study.

University of Arizona LaserChron Center

						Isotope ratios							Apparent ages (Ma)						
Analysis	U	206Pb	U/Th	206Pb*	±	207Pb*	±	206Pb*	±	error	206Pb*	±	207Pb*	±	206Pb*	±	Best age	±	Conc
	(ppm)	204Pb		207Pb*	(%)	235U*	(%)	238U	(%)	corr.	238U*	(Ma)	235U	(Ma)	207Pb*	(Ma)	(Ma)	(Ma)	(%)
TS13-JB-1K-98 <>	273	2898	0.6	21.9887	30.1	0.0235	31.9	0.0038	10.7	0.33	24.1	2.6	23.6	7.5	-30.0	743.9	24.1	2.6	NA
TS13-JB-1K-47 <>	236	3679	2.4	20.8332	31.4	0.0267	33.6	0.0040	11.9	0.35	25.9	3.1	26.7	8.9	99.3	760.5	25.9	3.1	NA
TS13-JB-1K-31 <>	197	48285	1.1	13.0271	15.9	0.0876	21.9	0.0083	15.0	0.69	53.2	7.9	85.3	17.9	1115.0	319.6	53.2	7.9	NA
TS13-JB-1K-83 <>	143	4723	3.2	28.2461	37.4	0.0535	37.6	0.0110	4.0	0.11	70.2	2.8	52.9	19.4	-676.9	1062.4	70.2	2.8	NA
TS13-JB-1K-55 <>	174	12147	1.5	24.4522	38.7	0.0625	39.3	0.0111	7.0	0.18	71.1	4.9	61.6	23.5	-294.0	1020.0	71.1	4.9	NA
TS13-JB-1K-38 <>	238	1500	2.3	17.1668	25.8	0.0898	26.2	0.0112	4.7	0.18	71.6	3.4	87.3	21.9	539.2	572.0	71.6	3.4	NA
TS13-JB-1K-14 <>	1349	51410	3.4	20.7852	2.9	0.0743	2.9	0.0112	0.6	0.20	71.8	0.4	72.8	2.0	104.7	67.5	71.8	0.4	NA
TS13-JB-1K-85 <>	181	5189	1.0	19.6340	18.3	0.0788	19.7	0.0112	7.2	0.37	71.9	5.2	77.0	14.6	237.7	424.5	71.9	5.2	NA
TS13-JB-1K-67 <>	236	12218	2.2	19.9805	12.9	0.0775	13.5	0.0112	4.1	0.30	72.0	2.9	75.8	9.9	197.3	300.9	72.0	2.9	NA
TS13-JB-1K-28 <>	108	5109	0.6	15.9364	24.5	0.0973	25.1	0.0113	5.4	0.21	72.1	3.8	94.3	22.6	699.7	529.1	72.1	3.8	NA
TS13-JB-1K-70 <>	355	13845	1.3	20.7051	11.9	0.0749	12.4	0.0113	3.5	0.29	72.1	2.5	73.4	8.8	113.9	281.6	72.1	2.5	NA
TS13-JB-1K-78 <>	93	6051	0.4	16.1992	35.0	0.0959	35.3	0.0113	4.7	0.13	72.2	3.3	92.9	31.4	664.8	771.9	72.2	3.3	NA
TS13-JB-1K-32 <>	147	7829	0.5	23.1472	17.9	0.0671	18.3	0.0113	3.9	0.21	72.3	2.8	66.0	11.7	-155.9	448.2	72.3	2.8	NA
TS13-JB-1K-95 <>	83	7886	0.5	23.5590	28.0	0.0661	28.9	0.0113	7.4	0.26	72.3	5.3	64.9	18.2	-199.9	712.6	72.3	5.3	NA
TS13-JB-1K-60 <>	332	26984	1.3	21.5396	13.0	0.0723	13.4	0.0113	3.3	0.25	72.4	2.4	70.9	9.2	19.8	312.7	72.4	2.4	NA
TS13-JB-1K-56 <>	178	13134	1.8	26.1823	26.6	0.0595	27.0	0.0113	4.6	0.17	72.4	3.3	58.7	15.4	-471.7	713.4	72.4	3.3	NA
TS13-JB-1K-66 <>	433	51026	1.6	21.0486	8.9	0.0742	9.3	0.0113	2.4	0.26	72.6	1.8	72.7	6.5	74.9	212.7	72.6	1.8	NA
TS13-JB-1K-36 <>	319	12930	1.6	23.3285	7.9	0.0671	8.0	0.0114	1.5	0.19	72.8	1.1	66.0	5.1	-175.4	196.0	72.8	1.1	NA
TS13-JB-1K-19 <>	343	24534	2.3	21.3690	9.4	0.0734	9.7	0.0114	2.5	0.26	72.9	1.8	71.9	6.7	38.8	224.4	72.9	1.8	NA
TS13-JB-1K-77 <>	450	26922	2.3	21.3471	7.0	0.0736	7.5	0.0114	2.6	0.35	73.1	1.9	72.1	5.2	41.3	167.8	73.1	1.9	NA
TS13-JB-1K-75 <>	225	21843	1.8	18.6528	17.1	0.0845	17.3	0.0114	2.4	0.14	73.3	1.7	82.4	13.7	354.8	389.3	73.3	1.7	NA
TS13-JB-1K-11 <>	152	10900	2.8	22.4131	13.8	0.0704	14.5	0.0114	4.3	0.30	73.4	3.2	69.1	9.7	-76.5	338.7	73.4	3.2	NA
TS13-JB-1K-10 <>	280	18038	1.6	20.2140	9.5	0.0781	9.9	0.0114	2.8	0.28	73.4	2.0	76.3	7.3	170.2	221.4	73.4	2.0	NA
TS13-JB-1K-21 <>	201	8185	1.9	20.1504	12.6	0.0786	12.9	0.0115	2.6	0.20	73.7	1.9	76.9	9.5	177.5	295.0	73.7	1.9	NA
TS13-JB-1K-12 <>	214	13702	2.1	21.0060	18.5	0.0754	19.1	0.0115	4.8	0.25	73.7	3.5	73.8	13.6	79.7	443.1	73.7	3.5	NA
TS13-JB-1K-61 <>	200	7509	0.5	25.2379	12.9	0.0628	13.6	0.0115	4.4	0.32	73.7	3.2	61.9	8.2	-375.4	336.5	73.7	3.2	NA
TS13-JB-1K-43 <>	69	5419	0.7	18.9395	74.9	0.0839	75.3	0.0115	8.3	0.11	73.8	6.1	81.8	59.3	320.2	2023.6	73.8	6.1	NA
TS13-JB-1K-97 <>	249	18200	0.8	20.2708	16.4	0.0784	17.2	0.0115	5.2	0.30	73.9	3.8	76.6	12.7	163.6	384.5	73.9	3.8	NA
TS13-JB-1K-13 <>	321	20383	1.0	23.3577	10.9	0.0681	11.2	0.0115	2.5	0.23	73.9	1.9	66.9	7.2	-178.5	271.7	73.9	1.9	NA
TS13-JB-1K-96 <>	166	15213	1.0	26.3479	31.1	0.0604	31.6	0.0116	5.5	0.17	74.0	4.0	59.6	18.3	-488.4	841.9	74.0	4.0	NA
TS13-JB-1K-4 <>	127	9672	1.4	21.9932	35.0	0.0725	35.2	0.0116	3.5	0.10	74.1	2.6	71.1	24.2	-30.5	871.8	74.1	2.6	NA
TS13-JB-1K-59 <>	135	1000	1.7	18.6285	17.4	0.0857	18.1	0.0116	4.9	0.27	74.2	3.6	83.5	14.5	357.7	395.0	74.2	3.6	NA
TS13-JB-1K-30 <>	66	2937	1.3	21.4309	74.9	0.0747	75.5	0.0116	9.1	0.12	74.4	6.7	73.1	53.3	31.9	2121.8	74.4	6.7	NA
TS13-JB-1K-9 <>	133	10240	0.5	23.6700	35.3	0.0676	35.5	0.0116	3.3	0.09	74.4	2.4	66.5	22.8	-211.7	911.5	74.4	2.4	NA
TS13-JB-1K-63 <>	280	12076	1.8	20.9699	16.8	0.0764	17.5	0.0116	4.8	0.27	74.4	3.5	74.7	12.6	83.8	401.8	74.4	3.5	NA
TS13-JB-1K-58 <>	113	9877	0.6	21.2994	19.5	0.0752	20.4	0.0116	6.1	0.30	74.5	4.5	73.7	14.5	46.7	469.7	74.5	4.5	NA
TS13-JB-1K-18 <>	92	8560	1.4	30.6040	73.6	0.0524	73.9	0.0116	6.3	0.09	74.5	4.7	51.8	37.4	-903.9	2462.1	74.5	4.7	NA
TS13-JB-1K-7 <>	73	4525	0.6	24.1041	60.8	0.0665	60.9	0.0116	4.1	0.07	74.5	3.1	65.4	38.6	-257.6	1688.5	74.5	3.1	NA
TS13-JB-1K-16 <>	214	9942	2.2	22.4313	23.6	0.0719	23.9	0.0117	3.6	0.15	74.9	2.7	70.5	16.3	-78.5	584.8	74.9	2.7	NA
TS13-JB-1K-23 <>	174	1300	1.1	13.9958	26.4	0.1153	30.0	0.0117	14.3	0.48	75.0	10.7	110.8	31.5	970.3	547.6	75.0	10.7	NA
TS13-JB-1K-89 <>	172	9692	2.7	21.6514	19.3	0.0750	20.4	0.0118	6.6	0.32	75.5	4.9	73.4	14.4	7.4	467.8	75.5	4.9	NA
TS13-JB-1K-6 <>	75	3550	1.1	18.9213	27.7	0.0859	28.3	0.0118	5.9	0.21	75.5	4.4	83.7	22.7	322.4	639.8	75.5	4.4	NA
TS13-JB-1K-15 <>	157	12539	1.3	21.7552	12.7	0.0748	13.3	0.0118	4.1	0.31	75.7	3.1	73.3	9.4	-4.1	307.1	75.7	3.1	NA
TS13-JB-1K-24 <>	79	4239	1.1	30.8818	61.5	0.0527	62.1	0.0118	8.1	0.13	75.7	6.1	52.2	31.6	-930.2	1960.7	75.7	6.1	NA
TS13-JB-1K-50 <>	111	11289	1.2	20.9140	35.3	0.0780	35.6	0.0118	4.6	0.13	75.8	3.5	76.2	26.2	90.1	861.0	75.8	3.5	NA
TS13-JB-1K-87 <>	102	3064	0.6	33.9760	33.7	0.0480	34.2	0.0118	5.9	0.17	75.9	4.5	47.6	15.9	-1217.9	1072.6	75.9	4.5	NA
TS13-JB-1K-2 <>	53	3795	0.9	15.4026	36.4	0.1061	37.9	0.0118	10.6	0.28	75.9	8.0	102.3	36.9	771.9	791.3	75.9	8.0	NA
TS13-JB-1K-57 <>	57	2576	1.1	22.7808	50.9	0.0720	52.8	0.0119	13.9	0.26	76.2	10.5	70.6	36.0	-116.5	1334.9	76.2	10.5	NA
TS13-JB-1K-52 <>	194	17780	1.8	18.2395	10.8	0.0902	11.8	0.0119	4.7	0.40	76.4	3.5	87.7	9.9	405.1	242.7	76.4	3.5	NA
TS13-JB-1K-91 <>	338	11827	1.3	20.9282	13.9	0.0787	14.2	0.0119	2.9	0.20	76.6	2.2	76.9	10.5	88.5	330.2	76.6	2.2	NA
TS13-JB-1K-26 <>	101	7709	0.9	23.6866	37.4	0.0696	37.8	0.0120	5.8	0.15	76.7	4.4	68.4	25.0	-213.5	968.2	76.7	4.4	NA

TS13-JB-1K-65 <>	91	4781	1.0	22.2068	25.4	0.0743	25.9	0.0120	4.9	0.19	76.7	3.8	72.8	18.2	-53.9	626.6	76.7	3.8	NA
TS13-JB-1K-33 <>	343	15983	5.4	20.3363	14.5	0.0811	14.6	0.0120	1.9	0.13	76.7	1.4	79.2	11.1	156.1	339.8	76.7	1.4	NA
TS13-JB-1K-86 <>	119	8603	1.7	22.2358	43.1	0.0746	43.4	0.0120	5.3	0.12	77.1	4.0	73.0	30.6	-57.1	1095.9	77.1	4.0	NA
TS13-JB-1K-90 <>	66	3309	1.1	21.9429	36.5	0.0757	37.6	0.0121	9.3	0.25	77.2	7.2	74.1	26.9	-24.9	909.6	77.2	7.2	NA
TS13-JB-1K-94 <>	93	6188	0.9	18.6286	28.5	0.0892	28.6	0.0121	3.2	0.11	77.3	2.5	86.8	23.8	357.7	654.5	77.3	2.5	NA
TS13-JB-1K-37 <>	49	4693	0.7	10.6487	160.8	0.1563	161.3	0.0121	12.1	0.07	77.4	9.3	147.5	225.0	1506.3	315.3	77.4	9.3	NA
TS13-JB-1K-42 <>	217	13589	1.4	20.1703	16.4	0.0825	16.6	0.0121	2.4	0.14	77.4	1.8	80.5	12.9	175.2	385.9	77.4	1.8	NA
TS13-JB-1K-20 <>	306	35204	10.2	14.4212	12.9	0.1156	13.4	0.0121	3.7	0.28	77.5	2.9	111.1	14.2	908.9	267.0	77.5	2.9	NA
TS13-JB-1K-22 <>	122	11277	1.1	19.3846	15.4	0.0865	16.0	0.0122	4.1	0.25	77.9	3.2	84.2	12.9	267.2	356.0	77.9	3.2	NA
TS13-JB-1K-72 <>	329	16914	1.0	21.1271	8.6	0.0799	8.9	0.0123	2.1	0.24	78.5	1.6	78.1	6.7	66.1	205.7	78.5	1.6	NA
TS13-JB-1K-8 <>	38	2873	0.7	9.4733	107.2	0.1785	108.1	0.0123	13.6	0.13	78.6	10.7	166.7	167.7	1724.1	119.0	78.6	10.7	NA
TS13-JB-1K-64 <>	172	10897	1.2	22.0457	19.6	0.0767	20.2	0.0123	4.9	0.24	78.6	3.9	75.1	14.7	-36.2	480.5	78.6	3.9	NA
TS13-JB-1K-46 <>	132	8476	1.3	29.9586	41.9	0.0565	43.2	0.0123	10.2	0.24	78.6	8.0	55.8	23.4	-842.4	1245.4	78.6	8.0	NA
TS13-JB-1K-53 <>	146	12716	1.2	23.0106	23.2	0.0736	24.5	0.0123	7.8	0.32	78.7	6.1	72.1	17.0	-141.3	581.0	78.7	6.1	NA
TS13-JB-1K-68 <>	210	4068	1.2	19.8325	11.5	0.0862	13.4	0.0124	6.8	0.51	79.5	5.4	84.0	10.8	214.5	267.7	79.5	5.4	NA
TS13-JB-1K-27 <>	64	4758	0.7	16.0332	29.8	0.1068	30.5	0.0124	6.5	0.21	79.6	5.1	103.0	29.9	686.9	649.5	79.6	5.1	NA
TS13-JB-1K-81 <>	44	2985	0.9	19.7822	35.9	0.0890	39.3	0.0128	16.0	0.41	81.8	13.0	86.5	32.6	220.4	856.4	81.8	13.0	NA
TS13-JB-1K-100 <>	88	1798	1.2	18.0960	68.9	0.1164	71.4	0.0153	18.9	0.26	97.7	18.3	111.8	75.8	422.8	1765.5	97.7	18.3	NA
TS13-JB-1K-88 <>	89	623	1.5	17.8837	28.6	0.1376	29.1	0.0179	5.3	0.18	114.1	6.0	130.9	35.8	449.1	647.3	114.1	6.0	NA
TS13-JB-1K-76 <>	423	15310	1.9	15.9343	12.6	0.1692	14.7	0.0196	7.5	0.51	124.9	9.2	158.7	21.6	700.0	270.2	124.9	9.2	NA
TS13-JB-1K-5 <>	81	174100	0.6	10.7799	0.7	3.1973	1.2	0.2500	0.9	0.79	1438.4	11.9	1456.5	9.1	1483.1	13.7	1483.1	13.7	97.0
TS13-JB-1K-82 <>	25	28039	0.9	9.9116	3.2	3.9267	3.6	0.2823	1.7	0.48	1602.8	24.6	1619.2	29.2	1640.6	58.9	1640.6	58.9	97.7
TS13-JB-1K-74 <>	117	116985	3.3	9.6949	0.7	4.1598	1.3	0.2925	1.1	0.86	1654.0	16.0	1666.1	10.5	1681.5	12.2	1681.5	12.2	98.4
TS13-JB-1K-99 <>	234	415704	2.9	9.2169	0.4	4.4177	1.1	0.2953	1.0	0.92	1668.0	15.3	1715.7	9.4	1774.3	8.2	1774.3	8.2	94.0
TS13-JB-1K-44 <>	238	426455	1.6	9.2004	0.5	4.6931	1.5	0.3132	1.4	0.95	1756.2	21.9	1766.0	12.6	1777.6	9.0	1777.6	9.0	98.8
TS13-JB-1K-69 <>	158	207272	1.9	9.2001	0.4	4.7198	1.2	0.3149	1.2	0.95	1764.9	18.2	1770.8	10.4	1777.6	7.2	1777.6	7.2	99.3
TS13-JB-1K-93 <>	149	52108	2.4	9.1514	0.5	4.5323	2.4	0.3008	2.4	0.98	1695.4	35.4	1736.9	20.2	1787.3	8.4	1787.3	8.4	94.9
TS13-JB-1K-41 <>	302	380524	1.8	8.9964	0.5	3.9314	5.1	0.2565	5.1	1.00	1472.0	66.8	1620.2	41.3	1818.4	8.2	1818.4	8.2	80.9
TS13-JB-1K-1 <>	98	136925	0.7	8.7372	0.6	5.4146	3.9	0.3431	3.9	0.99	1901.6	63.5	1887.2	33.5	1871.3	11.2	1871.3	11.2	101.6
TS13-JB-1K-62 <>	60	74032	1.7	8.2191	0.6	5.7794	1.4	0.3445	1.3	0.91	1908.3	21.4	1943.3	12.2	1980.8	10.2	1980.8	10.2	96.3
TS13-JB-1K-17 <>	121	256272	1.4	6.1964	0.3	10.1411	1.5	0.4557	1.5	0.98	2420.7	30.2	2447.7	14.1	2470.2	4.8	2470.2	4.8	98.0
TS13-JB-1K-51 <>	256	476574	5.9	6.1921	1.7	9.4520	5.2	0.4245	4.9	0.95	2280.8	94.2	2382.9	47.6	2471.4	28.0	2471.4	28.0	92.3
TS13-JB-1K-35 <>	226	276376	3.1	6.0954	0.2	8.7498	1.5	0.3868	1.5	0.99	2108.0	26.4	2312.3	13.6	2497.9	3.9	2497.9	3.9	84.4
TS13-JB-1K-25 <>	158	43737	2.0	5.7907	0.3	9.2566	3.6	0.3888	3.6	1.00	2117.1	64.1	2363.7	32.7	2583.9	5.3	2583.9	5.3	81.9
TS13-JB-1K-84 <>	162	528190	2.8	5.7065	0.5	10.0037	1.2	0.4140	1.2	0.93	2233.3	21.9	2435.1	11.5	2608.3	7.6	2608.3	7.6	85.6
TS13-JB-1K-54 <>	760	655689	3.7	5.4631	0.4	12.0817	1.0	0.4787	0.9	0.92	2521.6	19.0	2610.8	9.3	2680.6	6.3	2680.6	6.3	94.1

TS16-TRC-5									Data for Tera-Wasserburg plot[2]						Data for Wetherill plot[2]						
Sample	Spot	f206c	^{207}Pb CPS	^{206}Pb CPS	U (ppm)[1]	U/Th	$^{206}Pb/^{204}Pb$	1s %	$^{238}U/^{206}Pb$	$2s_x$ (%)	$^{207}Pb/^{206}Pb$	$2s_x$ (%)	$^{208}Pb/^{206}Pb$	$2s_x$ (%)	$^{207}Pb/^{235}Pb$	$2s_x$ (%)	$^{206}Pb/^{238}U$	$2s_x$ (%)	Rho	$^{208}Pb/^{232}Th$	$2s_x$ (%)
UK002	UK002_219	NA	50	920	341	1.9	NA	NA	284.0909	4.5	0.0540	20.7	NA	NA	0.0262	21.2	0.0035	4.5	0.00	NA	NA
UK002	UK002_88	NA	30	733	246	0.8	NA	NA	262.4672	2.7	0.0417	23.1	NA	NA	0.0219	23.3	0.0038	2.7	0.08	NA	NA
UK002	UK002_139	NA	39	895	317	2.1	NA	NA	261.7801	3.0	0.0461	21.0	NA	NA	0.0243	21.2	0.0038	3.0	0.01	NA	NA
UK002	UK002_296	NA	27	570	198	0.7	NA	NA	259.7403	3.3	0.0490	24.8	NA	NA	0.0260	25.1	0.0039	3.3	-0.13	NA	NA
UK002	UK002_152	NA	65	1313	468	0.8	NA	NA	259.0674	2.9	0.0493	15.9	NA	NA	0.0262	16.2	0.0039	2.9	0.30	NA	NA
UK002	UK002_128	NA	174	3730	1324	1.4	NA	NA	258.3979	2.1	0.0473	9.7	NA	NA	0.0252	9.9	0.0039	2.1	0.11	NA	NA
UK002	UK002_236	NA	64	1278	458	1.6	NA	NA	256.4103	2.7	0.0504	16.1	NA	NA	0.0271	16.3	0.0039	2.7	-0.20	NA	NA
UK002	UK002_292	NA	143	3100	1068	1.4	NA	NA	253.8071	2.6	0.0470	10.6	NA	NA	0.0255	10.9	0.0039	2.6	0.22	NA	NA
UK002	UK002_89	NA	31	552	171	2.0	NA	NA	253.1646	5.0	0.0670	28.2	NA	NA	0.0365	28.6	0.0040	5.0	-0.09	NA	NA
UK002	UK002_266	NA	25	555	187	2.6	NA	NA	252.5253	4.2	0.0490	24.7	NA	NA	0.0268	25.1	0.0040	4.2	-0.03	NA	NA
UK002	UK002_29	NA	103	2021	604	1.6	NA	NA	251.2563	2.9	0.0531	14.0	NA	NA	0.0291	14.3	0.0040	2.9	0.25	NA	NA
UK002	UK002_1	NA	35	695	232	1.5	NA	NA	250.0000	3.2	0.0500	23.0	NA	NA	0.0276	23.2	0.0040	3.2	0.15	NA	NA
UK002	UK002_182	NA	84	1930	658	1.9	NA	NA	248.7562	2.2	0.0469	14.0	NA	NA	0.0260	14.2	0.0040	2.2	0.15	NA	NA
UK002	UK002_56	NA	64	1360	445	1.3	NA	NA	246.9136	2.4	0.0512	15.9	NA	NA	0.0286	16.1	0.0041	2.4	0.08	NA	NA
UK002	UK002_155	NA	33	642	235	0.9	NA	NA	246.9136	3.3	0.0580	26.2	NA	NA	0.0324	26.4	0.0041	3.3	-0.17	NA	NA
UK002	UK002_133	NA	47	959	324	2.1	NA	NA	245.7002	3.0	0.0512	18.9	NA	NA	0.0287	19.2	0.0041	3.0	0.32	NA	NA
UK002	UK002_9	NA	34	702	211	1.1	NA	NA	243.3090	4.3	0.0510	27.7	NA	NA	0.0289	28.0	0.0041	4.3	0.08	NA	NA
UK002	UK002_116	NA	24	620	209	0.9	NA	NA	243.3090	3.7	0.0400	31.2	NA	NA	0.0227	31.4	0.0041	3.7	0.01	NA	NA
UK002	UK002_248	NA	18	308	126	2.2	NA	NA	242.7184	4.7	0.0510	32.3	NA	NA	0.0290	32.6	0.0041	4.7	0.20	NA	NA
UK002	UK002_177	NA	100	2070	680	1.5	NA	NA	240.3846	2.5	0.0525	13.0	NA	NA	0.0301	13.2	0.0042	2.5	0.13	NA	NA
UK002	UK002_47	NA	13	374	112	0.9	NA	NA	238.6635	4.9	0.0340	41.4	NA	NA	0.0196	41.7	0.0042	4.9	-0.01	NA	NA
UK002	UK002_100	NA	22	345	111	1.8	NA	NA	235.8491	8.8	0.0700	37.5	NA	NA	0.0409	38.6	0.0042	8.8	-0.21	NA	NA
UK002	UK002_255	NA	40	847	260	1.0	NA	NA	235.2941	2.7	0.0494	20.5	NA	NA	0.0289	20.7	0.0043	2.7	-0.01	NA	NA
UK002	UK002_289	NA	29	797	258	1.3	NA	NA	233.6449	3.6	0.0389	22.3	NA	NA	0.0230	22.6	0.0043	3.6	0.07	NA	NA
UK002	UK002_78	NA	88	1783	406	1.5	NA	NA	168.6341	2.4	0.0507	13.5	NA	NA	0.0415	13.8	0.0059	2.4	0.21	NA	NA
UK002	UK002_195	NA	506	10710	1955	0.1	NA	NA	136.0544	1.8	0.0473	6.0	NA	NA	0.0479	6.2	0.0074	1.8	0.01	NA	NA
UK002	UK002_246	NA	963	21600	4000	2.0	NA	NA	134.5895	1.7	0.0451	4.4	NA	NA	0.0462	4.7	0.0074	1.7	0.08	NA	NA
UK002	UK002_287	NA	63	1413	172	1.3	NA	NA	93.2836	2.7	0.0468	15.8	NA	NA	0.0692	16.0	0.0107	2.7	0.02	NA	NA
UK002	UK002_218	NA	38	852	103	2.0	NA	NA	91.9963	3.0	0.0502	20.6	NA	NA	0.0752	20.8	0.0109	3.0	-0.43	NA	NA
UK002	UK002_67	NA	75	1560	179	1.4	NA	NA	89.2857	2.5	0.0517	15.1	NA	NA	0.0798	15.3	0.0112	2.5	0.12	NA	NA
UK002	UK002_161	NA	77	1782	214	2.3	NA	NA	88.8889	2.5	0.0461	14.2	NA	NA	0.0715	14.5	0.0113	2.5	-0.07	NA	NA
UK002	UK002_66	NA	106	2130	232	1.6	NA	NA	88.4956	3.0	0.0497	13.9	NA	NA	0.0774	14.2	0.0113	3.0	0.15	NA	NA
UK002	UK002_124	NA	127	2422	282	0.7	NA	NA	87.1080	2.3	0.0527	10.9	NA	NA	0.0834	11.2	0.0115	2.3	0.21	NA	NA
UK002	UK002_207	NA	55	1179	139	1.2	NA	NA	86.9565	2.7	0.0493	17.3	NA	NA	0.0782	17.5	0.0115	2.7	0.11	NA	NA
UK002	UK002_85	NA	31	648	73	1.2	NA	NA	83.4725	4.0	0.0492	22.5	NA	NA	0.0813	22.9	0.0120	4.0	0.01	NA	NA
UK002	UK002_202	NA	420	9360	849	2.7	NA	NA	71.4286	1.8	0.0479	6.5	NA	NA	0.0925	6.7	0.0140	1.8	0.06	NA	NA
UK002	UK002_290	NA	125	2570	58	1.7	NA	NA	16.7785	2.3	0.0489	11.5	NA	NA	0.4018	11.7	0.0596	2.3	0.13	NA	NA
UK002	UK002_95	NA	581	10970	238	1.5	NA	NA	15.8228	1.7	0.0558	5.5	NA	NA	0.4862	5.7	0.0632	1.7	0.13	NA	NA
UK002	UK002_122	NA	696	12520	262	2.6	NA	NA	15.4560	1.9	0.0576	5.0	NA	NA	0.5138	5.3	0.0647	1.9	0.08	NA	NA
UK002	UK002_48	NA	375	6800	127	1.0	NA	NA	14.8810	1.9	0.0590	6.9	NA	NA	0.5467	7.2	0.0672	1.9	0.11	NA	NA
UK002	UK002_211	NA	1104	20270	439	1.6	NA	NA	14.8368	1.8	0.0572	4.3	NA	NA	0.5316	4.7	0.0674	1.8	0.32	NA	NA
UK002	UK002_53	NA	592	11180	204	2.4	NA	NA	14.8148	1.8	0.0546	5.3	NA	NA	0.5082	5.6	0.0675	1.8	0.23	NA	NA
UK002	UK002_185	NA	850	16300	331	0.8	NA	NA	14.7059	1.7	0.0541	4.5	NA	NA	0.5072	4.8	0.0680	1.7	0.23	NA	NA
UK002	UK002_54	NA	480	8870	159	1.9	NA	NA	14.4718	2.2	0.0550	6.5	NA	NA	0.5240	6.8	0.0691	2.2	0.47	NA	NA
UK002	UK002_80	NA	260	4440	86	1.7	NA	NA	14.4300	2.1	0.0600	8.4	NA	NA	0.5733	8.6	0.0693	2.1	0.13	NA	NA
UK002	UK002_299	NA	989	18800	344	2.3	NA	NA	14.4092	1.7	0.0557	4.2	NA	NA	0.5330	4.6	0.0694	1.7	0.30	NA	NA
UK002	UK002_181	NA	275	5270	99	1.9	NA	NA	14.2857	2.1	0.0563	8.1	NA	NA	0.5434	8.4	0.0700	2.1	0.00	NA	NA
UK002	UK002_281	NA	481	8720	162	2.8	NA	NA	14.2450	1.9	0.0575	6.1	NA	NA	0.5566	6.4	0.0702	1.9	0.47	NA	NA
UK002	UK002_82	NA	1302	24100	472	2.5	NA	NA	14.2268	1.7	0.0551	3.6	NA	NA	0.5340	4.0	0.0703	1.7	0.18	NA	NA
UK002	UK002_90	NA	247	4860	92	1.9	NA	NA	13.9082	2.2	0.0538	8.4	NA	NA	0.5334	8.6	0.0719	2.2	0.01	NA	NA
UK002	UK002_194	NA	747	13000	236	3.4	NA	NA	13.7552	1.8	0.0578	5.2	NA	NA	0.5794	5.6	0.0727	1.8	-0.06	NA	NA
UK002	UK002_235	NA	766	13510	245	4.7	NA	NA	13.1752	1.7	0.0582	4.9	NA	NA	0.6091	5.2	0.0759	1.7	-0.08	NA	NA
UK002	UK002_164	NA	1665	29570	451	1.8	NA	NA	11.0047	1.6	0.0589	3.3	NA	NA	0.7380	3.6	0.0909	1.6	0.20	NA	NA
UK002	UK002_136	NA	1072	17970	257	1.0	NA	NA	10.3842	1.7	0.0629	4.2	NA	NA	0.8352	4.5	0.0963	1.7	-0.07	NA	NA
UK002	UK002_123	NA	553	9620	126	1.5	NA	NA	9.7087	1.9	0.0613	5.5	NA	NA	0.8706	5.8	0.1030	1.9	0.11	NA	NA
UK002	UK002_33	NA	3480	51100	412	10.8	NA	NA	6.4433	1.6	0.0708	2.3	NA	NA	1.5150	2.8	0.1552	1.6	0.12	NA	NA
UK002	UK002_51	NA	3095	43990	347	13.6	NA	NA	6.1728	1.6	0.0736	2.5	NA	NA	1.6440	3.0	0.1620	1.6	0.24	NA	NA
UK002	UK002_226	NA	1770	24200	182	2.5	NA	NA	6.0976	1.9	0.0748	3.5	NA	NA	1.6914	4.0	0.1640	1.9	0.00	NA	NA
UK002	UK002_278	NA	2030	28470	214	1.2	NA	NA	6.0864	1.8	0.0733	3.0	NA	NA	1.6605	3.5	0.1643	1.8	0.39	NA	NA
UK002	UK002_260	NA	4100	57800	449	11.0	NA	NA	6.0205	1.6	0.0727	2.1	NA	NA	1.6650	2.7	0.1661	1.6	0.44	NA	NA
UK002	UK002_184	NA	1005	14140	113	3.1	NA	NA	6.0168	1.8	0.0744	4.5	NA	NA	1.7049	4.9	0.1662	1.8	0.17	NA	NA
UK002	UK002_61	NA	7430	106500	714	38.8	NA	NA	5.9737	1.8	0.0724	1.9	NA	NA	1.6711	2.6	0.1674	1.8	0.45	NA	NA
UK002	UK002_31	NA	2940	41000	307	2.6	NA	NA	5.9595	1.6	0.0735	2.6	NA	NA	1.7005	3.0	0.1678	1.6	0.05	NA	NA
UK002	UK002_238	NA	226	3260	27	2.3	NA	NA	5.9382	2.2	0.0757	8.7	NA	NA	1.7577	9.0	0.1684	2.2	0.05	NA	NA
UK002	UK002_254	NA	981	13710	104	0.6	NA	NA	5.8893	1.8	0.0735	4.3	NA	NA	1.7208	4.7	0.1698	1.8	0.04	NA	NA
UK002	UK002_239	NA	1461	20500	162	5.4	NA	NA	5.8824	1.8	0.0740	3.5	NA	NA	1.7345	3.9	0.1700	1.8	0.33	NA	NA
UK002	UK002_189	NA	907	13170	102	1.8	NA	NA	5.8617	1.7	0.0714	4.5	NA	NA	1.6795	4.8	0.1706	1.7	-0.02	NA	NA
UK002	UK002_129	NA	2020	26400	223	3.6	NA	NA	5.8275	1.7	0.0753	3.1	NA	NA	1.7816	3.5	0.1716	1.7	0.29	NA	NA
UK002	UK002_280	NA	432	6100	47	1.4	NA	NA	5.7703	2.0	0.0741	6.3	NA	NA	1.7706	6.6	0.1733	2.0	0.17	NA	NA
UK002	UK002_298	NA	1310	18800	135	2.7	NA	NA	5.7703	1.7	0.0713	3.6	NA	NA	1.7037	4.0	0.1733	1.7	0.35	NA	NA
UK002	UK002_242	NA	1015	13600	106	1.8	NA	NA	5.7372	1.7	0.0763	4.3	NA	NA	1.8337	4.6	0.1743	1.7	0.21	NA	NA
UK002	UK002_35	NA	922	13100	93	2.7	NA	NA	5.7143	1.9	0.0728	4.5	NA	NA	1.7566	4.9	0.1750	1.9	0.11	NA	NA
UK002	UK002_28	NA	526	7270	54	1.1	NA	NA	5.7013	2.0	0.0748	5.8	NA	NA	1.8090	6.2	0.1754	2.0	0.41	NA	NA
UK002	UK002_97	NA	3580	48100	360	9.0	NA	NA	5.6593	1.6	0.0770	2.4	NA	NA	1.8760	2.9	0.1767	1.6	0.22	NA	NA
UK002	UK002_167	NA	1720	23600	165	1.6	NA	NA	5.6433	1.6	0.0755	3.6	NA	NA	1.8446	4.0	0.1772	1.6	0.20	NA	NA
UK002	UK002_34	NA	228	3290	24	1.6	NA	NA	5.5960	2.0	0.0732	8.9	NA	NA	1.8036	9.1	0.1787	2.0	-0.11	NA	NA
UK002	UK002_11	NA	1545	20840	150	2.0	NA	NA	5.5866	1.7	0.0771	3.4	NA	NA	1.9029	3.8	0.1790	1.7	0.25	NA	NA
UK002	UK002_93	NA	599	7820	59	1.1	NA	NA	5.5866	1.9	0.0775	5.5	NA	NA	1.9127	5.8	0.1790	1.9	0.27	NA	NA
UK002	UK002_284	NA	449	6090	44	1.3	NA	NA	5.5494	2.0	0.0725	6.3	NA	NA	1.8013	6.6	0.1802	2.0	0.11	NA	NA
UK002	UK002_170	NA	1312	17540	134	1.6	NA	NA	5.5340	1.7	0.0771	3.8	NA	NA	1.9209	4.1	0.1807	1.7	0.17	NA	NA
UK002	UK002_270	NA	3510	48800	319	11.3	NA	NA	5.5006	1.8	0.0749	2.9	NA	NA	1.8775	3.4	0.1818	1.8	0.26	NA	NA
UK002	UK002_232	NA	786	10500	79	1.2	NA	NA	5.4975	1.9	0.0779	4.8	NA	NA	1.9538	5.2	0.1819	1.9	0.15	NA	NA
UK002	UK002_160	NA	291	3720	27	2.1	NA	NA	5.4377	2.1	0.0802	7.8	NA	NA	2.0336	8.1	0.1839	2.1	0.20	NA	NA
UK002	UK002_217	NA	814	10680	77	0.7	NA	NA	5.4289	1.7	0.0782	4.8	NA	NA	1.9861	5.1	0.1842	1.7	0.21	NA	NA
UK002	UK002_36	NA	3910	52100	366	2.5	NA	NA	5.3996	1.7	0.0766	2.2	NA	NA	1.9560	2.7	0.1852	1.7	0.46	NA	NA
UK002	UK002_26	NA	2051	26790	182	1.7	NA	NA	5.3879	1.6	0.0795	3.0	NA	NA	2.0344	3.5	0.1856	1.6	0.24	NA	NA
UK002	UK002_44	NA	1033	13420	94	1.1	NA	NA	5.3821	1.8	0.0777	4.3	NA	NA	1.9905	4.7	0.1858	1.8	0.09	NA	NA
UK002	UK002_91	NA	493	6750	55	1.2	NA	NA	5.3821	2.3	0.0750	6.3	NA	NA	1.9214	6.7	0.1858	2.3	0.26	NA	NA
UK002	UK002_148	NA	666	8570	62	1.3	NA	NA	5.3792	1.8	0.0809	5.2	NA	NA	2.0736	5.5	0.1859	1.8	0.15	NA	NA
UK002	UK002_249	NA	9950	130500	1025	1.5	NA	NA	5.3706	1.7	0.0772	1.6	NA	NA	1.9820	2.4	0.1862	1.7	0.11	NA	NA
UK002	UK002_105	NA	2830	36700	260	2.0	NA	NA	5.3648	1.7	0.0781	2.7	NA	NA	2.0072	3.1	0.1864	1.7	0.34	NA	NA
UK002	UK002_291	NA	2884	38380	246	3.9	NA	NA	5.3333	1.8	0.0781	2.8	NA	NA	2.0191	3.3	0.1875	1.8	-0.42	NA	NA
UK002	UK002_86	NA	948	12630	90	1.1	NA	NA	5.3248	1.9	0.0782	4.3	NA	NA	2.0249	4.7	0.1878	1.9	0.30	NA	NA
UK002	UK002_162	NA	4930	66000	473	2.9	NA	NA	5.2715	1.7	0.0767	2.0	NA	NA	2.0062	2.6	0.1897	1.7	0.44	NA	NA
UK002	UK002_193	NA	732	9440	67	1.3	NA	NA	5.2715	1.8	0.0785	4.9	NA	NA	2.0532	5.2	0.1897	1.8	0.19	NA	NA
UK002	UK002_108	NA	3360	44900	323	3.6	NA	NA	5.2493	1.7	0.0764	2.5	NA	NA	2.0067	3.0	0.1905	1.7	0.45	NA	NA
UK002	UK002_14	NA	6700	88400	591	2.7	NA	NA	5.1813	1.6	0.0779	1.7	NA	NA	2.0730	2.3	0.1930	1.6	0.44	NA	NA
UK002	UK002_212	NA	6150	79500	524	2.3	NA	NA	5.1706	1.6	0.0798	1.8	NA	NA	2.1279	2.4	0.1934	1.6	0.41	NA	NA
UK002	UK002_10	NA	2750	35600	228	2.3	NA	NA	5.1387	1.7	0.0793	2.7	NA	NA	2.1277	3.2	0.1946	1.7	0.18	NA	NA
UK002	UK002_273	NA	888	11880	82	1.4	NA	NA	5.1256	1.8	0.0775	4.5	NA	NA	2.0848	4.8	0.1951	1.8	0.21	NA	NA
UK002	UK002_243	NA	7650	97700	670	2.7	NA	NA	5.0607	1.6	0.0811	1.6	NA	NA	2.2093	2.2	0.1976	1.6	0.32	NA	NA
UK002	UK002_72	NA	3350	42200	277	2.6	NA	NA	4.9652	1.6	0.0824	2.5	NA	NA	2.2882	3.0	0.2014	1.6	0.43	NA	NA
UK002	UK002_210	NA	5060	64000	412	1.8	NA	NA	4.9554	1.7	0.0820	2.1	NA	NA	2.2816	2.7	0.2018	1.7	0.32	NA	NA
UK002	UK002_158	NA	2500	32800	215	2.7	NA	NA	4.9237	1.7	0.0803	2.8	NA	NA	2.2487	3.2	0.2031	1.7	0.18	NA	NA
UK002	UK002_265	NA	1590	20880	134	0.8	NA	NA	4.8900	1.7	0.0788	3.4	NA	NA	2.2219	3.8	0.2045	1.7	0.27	NA	NA
UK002	UK002_295	NA	1946	24880	157	1.2	NA	NA	4.8473	1.7	0.0808	3.1	NA	NA	2.2983	3.6	0.2063	1.7	0.36	NA	NA
UK002	UK002_286	NA	1564	19560	114	2.3	NA	NA	4.8170	1.7	0.0811	3.4	NA	NA	2.3214	3.8	0.2076	1.7	0.22	NA	NA
UK002	UK002_142	NA	13300	166000	1017	4.8	NA	NA	4.7037	1.6	0.0831	1.2	NA	NA	2.4348	2.0	0.2126	1.6	0.58	NA	NA
UK002	UK002_63	NA	5840	72800	424	7.2	NA	NA	4.6361	1.7	0.0832	1.9	NA	NA	2.4744	2.5	0.2157	1.7	0.50	NA	NA
UK002	UK002_146	NA	5400	66300	442	2.5	NA	NA	4.6318	1.7	0.0848	1.9	NA	NA	2.5244	2.5	0.2159	1.7	0.32	NA	NA
UK002	UK002_259	NA	2160	26700	162	1.6	NA	NA	4.4366	1.7	0.0852	2.9	NA	NA	2.6479	3.4	0.2254	1.7	0.20	NA	NA
UK002	UK002_169	NA	3050	36100	215	1.6	NA	NA	4.3898	1.7	0.0880	2.5	NA	NA	2.7640	3.0	0.2278	1.7	0.34	NA	NA
UK002	UK002_201	NA	2597	30390	172	2.6	NA	NA	4.2937	1.6	0.0874	2.7	NA	NA	2.8066	3.2	0.2329	1.6	0.14	NA	NA
UK002	UK002_190	NA	1427	16910	99	2.5	NA	NA	4.2680	1.8	0.0885	3.7	NA	NA	2.8590	4.2	0.2343	1.8	0.25	NA	NA
UK002	UK002_178	NA	5800	68300	468	4.4	NA	NA	4.2571	1.7	0.0884	2.2	NA	NA	2.8631	2.8	0.2349	1.7	-0.03	NA	NA
UK002	UK002_240	NA	2350	27790	160	2.8	NA	NA	4.2517	1.7	0.0873	2.8	NA	NA	2.8311	3.3	0.2352	1.7	0.40	NA	NA
UK002	UK002_40	NA	2570	30500	156	1.5	NA	NA	4.2141	1.7	0.0873	2.8	NA	NA	2.8564	3.3	0.2373	1.7	0.09	NA	NA
UK002	UK002_138	NA	2869	33170	187	0.9	NA	NA	4.1982	1.6	0.0895	2.6	NA	NA	2.9394	3.0	0.2382	1.6	0.25	NA	NA
UK002	UK002_32	NA	3170	35110	188	1.1	NA	NA	4.0816	1.8	0.0930	2.5	NA	NA	3.1416	3.0	0.2450	1.8	0.46	NA	NA
UK002	UK002_204	NA	2350	26900	148	1.4	NA	NA	4.0750	1.7	0.0910	2.8	NA	NA	3.0791	3.3	0.2454	1.7	0.46	NA	NA

	Dates															Accepted Ages[4]				
Spot	$^{207}Pb/^{206}Pb$	$2s_x$ (ABS)	$2s_{total}$ (ABS)	$^{206}Pb/^{238}U$	$2s_x$ (ABS)	$2s_{total}$ (ABS)	$^{207}Pb/^{235}Pb$	$2s_x$ (ABS)	$2s_{total}$ (ABS)	$^{208}Pb/^{232}Th$	$2s_x$ (ABS)	$2s_{total}$ (ABS)	Prob. Conc. (%)	% conc[3]	Comments	Date (Ma)	$2s_x$ (ABS)	$2s_x$ (%)	$2s_{total}$ (ABS)	$2s_{total}$ (%)
UK002_219	NA	NA	NA	22.7	1.0	1.1	26.3	5.5	5.5	NA	NA	NA	0.20	93.9		22.7	1.0	4.5	1.1	4.6
UK002_88	NA	NA	NA	24.5	0.7	0.7	22.0	5.1	5.1	NA	NA	NA	0.32	110.0		24.5	0.7	2.7	0.7	3.0
UK002_139	NA	NA	NA	24.6	0.7	0.8	24.4	5.1	5.1	NA	NA	NA	0.93	-761.9		24.6	0.7	3.0	0.8	3.2
UK002_296	NA	NA	NA	24.8	0.8	0.9	26.1	6.5	6.5	NA	NA	NA	0.69	83.2		24.8	0.8	3.3	0.9	3.5
UK002_152	NA	NA	NA	24.8	0.7	0.8	26.3	4.2	4.2	NA	NA	NA	0.47	84.7		24.8	0.7	2.9	0.8	3.2
UK002_128	NA	NA	NA	24.9	0.5	0.6	25.3	2.5	2.5	NA	NA	NA	0.74	61.3		24.9	0.5	2.1	0.6	2.5
UK002_236	NA	NA	NA	25.1	0.7	0.8	27.2	4.4	4.4	NA	NA	NA	0.37	88.2		25.1	0.7	2.7	0.8	3.0
UK002_292	NA	NA	NA	25.3	0.6	0.7	25.6	2.8	2.8	NA	NA	NA	0.85	48.5	CL	25.3	0.6	2.6	0.7	2.9
UK002_89	NA	NA	NA	25.4	1.3	1.3	36.4	10.2	10.2	NA	NA	NA	0.04	97.0	CL	25.4	1.3	5.0	1.3	5.1
UK002_266	NA	NA	NA	25.5	1.1	1.1	26.8	6.6	6.7	NA	NA	NA	0.69	82.8		25.5	1.1	4.2	1.1	4.4
UK002_29	NA	NA	NA	25.6	0.7	0.8	29.2	4.1	4.1	NA	NA	NA	0.07	92.3	CL	25.6	0.7	2.9	0.8	3.2
UK002_1	NA	NA	NA	25.7	0.8	0.9	27.6	6.3	6.3	NA	NA	NA	0.55	86.8		25.7	0.8	3.2	0.9	3.5
UK002_182	NA	NA	NA	25.9	0.6	0.7	26.1	3.7	3.7	NA	NA	NA	0.91	41.4		25.9	0.6	2.2	0.7	2.6
UK002_56	NA	NA	NA	26.1	0.6	0.7	28.6	4.5	4.6	NA	NA	NA	0.26	89.6		26.1	0.6	2.4	0.7	2.8
UK002_155	NA	NA	NA	26.1	0.9	0.9	32.4	8.4	8.4	NA	NA	NA	0.14	95.1	CL	26.1	0.9	3.3	0.9	3.5
UK002_133	NA	NA	NA	26.2	0.8	0.9	28.8	5.4	5.5	NA	NA	NA	0.33	89.5		26.2	0.8	3.0	0.9	3.3
UK002_9	NA	NA	NA	26.4	1.1	1.2	28.9	8.0	8.0	NA	NA	NA	0.53	89.0	CL	26.4	1.1	4.3	1.2	4.5
UK002_116	NA	NA	NA	26.4	1.0	1.0	22.8	7.1	7.1	NA	NA	NA	0.30	107.5	CL	26.4	1.0	3.7	1.0	3.9
UK002_248	NA	NA	NA	26.5	1.2	1.3	29.0	9.3	9.3	NA	NA	NA	0.59	89.0		26.5	1.2	4.7	1.3	4.9
UK002_177	NA	NA	NA	26.8	0.7	0.8	30.1	3.9	4.0	NA	NA	NA	0.08	91.3		26.8	0.7	2.5	0.8	2.8
UK002_47	NA	NA	NA	27.0	1.3	1.4	19.8	8.2	8.2	NA	NA	NA	0.08	103.4	CL	27.0	1.3	4.9	1.4	5.1
UK002_100	NA	NA	NA	27.3	2.4	2.4	40.7	15.4	15.4	NA	NA	NA	0.10	97.1	CL	27.3	2.4	8.8	2.4	8.7
UK002_255	NA	NA	NA	27.3	0.7	0.8	29.0	5.9	5.9	NA	NA	NA	0.58	83.6		27.3	0.7	2.7	0.8	3.0
UK002_289	NA	NA	NA	27.5	1.0	1.0	23.0	5.2	5.2	NA	NA	NA	0.08	106.5		27.5	1.0	3.6	1.0	3.8
UK002_78	NA	NA	NA	38.1	0.9	1.1	41.2	5.6	5.6	NA	NA	NA	0.25	83.2		38.1	0.9	2.4	1.1	2.8
UK002_195	NA	NA	NA	47.2	0.8	1.0	47.5	2.9	3.0	NA	NA	NA	0.82	26.7		47.2	0.8	1.7	1.0	2.2
UK002_246	NA	NA	NA	47.7	0.8	1.0	45.9	2.1	2.2	NA	NA	NA	0.09	195.0		47.7	0.8	1.7	1.0	2.2
UK002_287	NA	NA	NA	68.7	1.8	2.1	67.9	10.5	10.6	NA	NA	NA	0.88	-76.1		68.7	1.8	2.7	2.1	3.0
UK002_218	NA	NA	NA	69.7	2.0	2.3	73.7	14.8	14.8	NA	NA	NA	0.62	65.9		69.7	2.0	2.9	2.3	3.2
UK002_67	NA	NA	NA	71.8	1.8	2.1	78.0	11.5	11.5	NA	NA	NA	0.28	73.6		71.8	1.8	2.5	2.1	2.9
UK002_161	NA	NA	NA	72.1	1.8	2.0	70.1	9.8	9.9	NA	NA	NA	0.69	-2429.1		72.1	1.8	2.5	2.0	2.8
UK002_66	NA	NA	NA	72.4	2.2	2.4	75.7	10.3	10.4	NA	NA	NA	0.52	60.0	CL	72.4	2.2	3.0	2.4	3.3
UK002_124	NA	NA	NA	73.6	1.7	2.0	81.4	8.7	8.8	NA	NA	NA	0.07	76.7		73.6	1.7	2.3	2.0	2.7
UK002_207	NA	NA	NA	73.7	2.0	2.2	76.4	12.9	12.9	NA	NA	NA	0.67	54.5		73.7	2.0	2.7	2.2	3.0
UK002_85	NA	NA	NA	76.8	3.0	3.2	79.3	17.5	17.5	NA	NA	NA	0.77	51.2		76.8	3.0	4.0	3.2	4.2
UK002_202	NA	NA	NA	89.6	1.6	2.0	89.8	5.8	5.9	NA	NA	NA	0.95	5.0		89.6	1.6	1.8	2.0	2.2
UK002_290	NA	NA	NA	373.2	8.5	9.8	343.0	34.0	34.4	NA	NA	NA	0.07	-160.9		373.2	8.5	2.3	9.8	2.6
UK002_95	NA	NA	NA	395.1	6.5	8.3	402.3	19.0	19.8	NA	NA	NA	0.45	11.1		395.1	6.5	1.7	8.3	2.1
UK002_122	NA	NA	NA	404.1	7.3	9.0	421.0	18.3	19.1	NA	NA	NA	0.08	21.5		404.1	7.3	1.8	9.0	2.2
UK002_48	NA	NA	NA	419.3	7.7	9.4	442.8	25.8	26.5	NA	NA	NA	0.07	26.1		419.3	7.7	1.8	9.4	2.2
UK002_211	NA	NA	NA	420.5	7.5	9.3	432.8	16.6	17.6	NA	NA	NA	0.12	15.8	Z, LL	420.5	7.5	1.8	9.3	2.2
UK002_53	NA	NA	NA	421.1	7.5	9.3	417.2	19.3	20.1	NA	NA	NA	0.68	-6.4		421.1	7.5	1.8	9.3	2.2
UK002_185	NA	NA	NA	424.1	7.0	9.0	416.6	16.5	17.5	NA	NA	NA	0.36	-13.0		424.1	7.0	1.7	9.0	2.1
UK002_54	NA	NA	NA	430.7	9.0	10.6	427.8	23.9	24.6	NA	NA	NA	0.78	-4.5	CL	430.7	9.0	2.1	10.6	2.5
UK002_80	NA	NA	NA	431.9	8.8	10.5	460.1	32.0	32.6	NA	NA	NA	0.08	28.4		431.9	8.8	2.0	10.5	2.4
UK002_299	NA	NA	NA	432.5	7.0	9.0	433.8	16.1	17.1	NA	NA	NA	0.87	1.8		432.5	7.0	1.6	9.0	2.1
UK002_181	NA	NA	NA	436.2	8.8	10.5	440.7	30.0	30.6	NA	NA	NA	0.77	6.0		436.2	8.8	2.0	10.5	2.4
UK002_281	NA	NA	NA	437.4	7.9	9.7	449.3	23.3	24.0	NA	NA	NA	0.25	14.4		437.4	7.9	1.8	9.7	2.2
UK002_82	NA	NA	NA	437.9	7.0	9.1	434.5	14.0	15.2	NA	NA	NA	0.63	-5.2		437.9	7.0	1.6	9.1	2.1
UK002_90	NA	NA	NA	447.6	9.4	11.1	434.0	30.5	31.1	NA	NA	NA	0.39	-23.4		447.6	9.4	2.1	11.1	2.5
UK002_194	NA	NA	NA	452.4	8.0	10.0	464.1	20.7	21.6	NA	NA	NA	0.30	13.4		452.4	8.0	1.8	10.0	2.2
UK002_235	NA	NA	NA	471.6	7.6	9.8	483.0	20.0	21.0	NA	NA	NA	0.30	12.2		471.6	7.6	1.6	9.8	2.1
UK002_164	563.4	71.5	74.5	560.7	8.6	11.2	561.2	15.7	17.3	NA	NA	NA	0.95	0.5		560.7	8.6	1.5	11.2	2.0
UK002_136	704.9	88.5	90.9	592.7	9.6	12.3	616.5	20.8	22.1	NA	NA	NA	0.04	15.9		592.7	9.6	1.6	12.3	2.1
UK002_123	649.8	118.9	120.6	632.0	11.4	14.0	635.9	27.6	28.7	NA	NA	NA	0.79	2.7		632.0	11.4	1.8	14.0	2.2
UK002_33	951.6	47.5	51.4	930.0	14.0	18.2	936.5	17.3	20.0	NA	NA	NA	0.54	2.3		930.0	14.0	1.5	18.2	2.0
UK002_51	1030.5	50.1	53.7	967.9	14.7	19.1	987.2	18.8	21.5	NA	NA	NA	0.07	6.1		967.9	14.7	1.5	19.1	2.0
UK002_226	1063.1	70.4	73.0	979.0	16.9	20.9	1005.3	25.3	27.4	NA	NA	NA	0.09	7.9	LL	979.0	16.9	1.7	20.9	2.1
UK002_278	1022.3	60.5	63.5	980.6	16.7	20.7	993.6	22.2	24.6	NA	NA	NA	0.24	4.1	LL	980.6	16.7	1.7	20.7	2.1
UK002_260	1005.6	42.9	47.0	990.6	15.1	19.6	995.3	17.0	20.0	NA	NA	NA	0.58	1.5		990.6	15.1	1.5	19.6	2.0
UK002_184	1052.3	90.5	92.5	991.1	17.0	21.0	1010.4	31.1	32.8	NA	NA	NA	0.24	5.8		991.1	17.0	1.7	21.0	2.1
UK002_61	997.2	38.8	43.4	997.8	16.3	20.5	997.6	16.5	19.6	NA	NA	NA	0.98	-0.1	2Ages (1.5 Ga core w. 1.0 Ga high U/Th Rim)	997.8	16.3	1.6	20.5	2.1
UK002_31	1027.8	51.7	55.2	1000.0	14.8	19.4	1008.7	19.3	22.0	NA	NA	NA	0.46	2.7		1000.0	14.8	1.5	19.4	1.9
UK002_238	1087.1	175.2	176.2	1003.3	20.7	24.2	1030.0	58.2	59.2	NA	NA	NA	0.38	7.7		1003.3	20.7	2.1	24.2	2.4
UK002_254	1027.8	87.8	89.9	1011.0	16.4	20.7	1016.3	30.0	31.9	NA	NA	NA	0.75	1.6		1011.0	16.4	1.6	20.7	2.0
UK002_239	1041.5	71.1	73.6	1012.1	16.7	21.0	1021.4	25.4	27.6	NA	NA	NA	0.46	2.8		1012.1	16.7	1.7	21.0	2.1
UK002_189	968.9	92.4	94.5	1015.4	16.0	20.4	1000.8	30.8	32.5	NA	NA	NA	0.40	-4.8		1015.4	16.0	1.6	20.4	2.0
UK002_129	1076.5	61.6	64.5	1020.9	15.8	20.3	1038.8	22.7	25.2	NA	NA	NA	0.13	5.2		1020.9	15.8	1.5	20.3	2.0
UK002_280	1044.2	126.5	128.0	1030.3	18.7	22.7	1034.7	42.6	43.9	NA	NA	NA	0.84	1.3		1030.3	18.7	1.8	22.7	2.2
UK002_298	966.0	74.4	76.9	1030.3	16.5	20.9	1009.9	25.8	27.9	NA	NA	NA	0.11	-6.7		1030.3	16.5	1.6	20.9	2.0
UK002_242	1103.0	85.6	87.7	1035.8	16.1	20.7	1057.6	30.2	32.1	NA	NA	NA	0.16	6.1		1035.8	16.1	1.6	20.7	2.0
UK002_35	1008.4	91.6	93.6	1039.6	17.8	22.0	1029.6	31.6	33.3	NA	NA	NA	0.56	-3.1		1039.6	17.8	1.7	22.0	2.1
UK002_28	1063.1	117.2	118.8	1041.8	19.2	23.2	1048.7	40.2	41.7	NA	NA	NA	0.71	2.0		1041.8	19.2	1.8	23.2	2.2
UK002_97	1121.2	47.5	51.2	1048.9	15.8	20.5	1072.6	19.1	22.0	NA	NA	NA	0.03	6.4		1048.9	15.8	1.5	20.5	1.9
UK002_167	1081.8	72.2	74.7	1051.7	15.9	20.6	1061.5	26.0	28.2	NA	NA	NA	0.48	2.8		1051.7	15.9	1.5	20.6	2.0
UK002_34	1019.5	180.4	181.4	1059.9	19.3	23.4	1046.8	59.4	60.4	NA	NA	NA	0.68	-4.0		1059.9	19.3	1.8	23.4	2.2
UK002_11	1123.8	68.2	70.8	1061.5	16.1	20.9	1082.1	25.3	27.6	NA	NA	NA	0.12	5.5		1061.5	16.1	1.5	20.9	2.0
UK002_93	1134.1	110.2	111.9	1061.5	18.1	22.4	1085.5	38.9	40.4	NA	NA	NA	0.21	6.4		1061.5	18.1	1.7	22.4	2.1
UK002_284	1000.0	127.8	129.3	1068.1	20.0	24.0	1045.9	43.1	44.5	NA	NA	NA	0.33	-6.8		1068.1	20.0	1.9	24.0	2.3
UK002_170	1123.8	75.0	77.4	1070.8	16.6	21.3	1088.4	27.5	29.7	NA	NA	NA	0.24	4.7		1070.8	16.6	1.6	21.3	2.0
UK002_270	1065.8	58.3	61.4	1076.8	17.5	22.0	1073.2	22.5	25.0	NA	NA	NA	0.77	-1.0	CX6/8, CX7/6	1076.8	17.5	1.6	22.0	2.0
UK002_232	1144.3	95.8	97.7	1077.3	19.0	23.2	1099.7	34.8	36.6	NA	NA	NA	0.23	5.9		1077.3	19.0	1.8	23.2	2.1
UK002_160	1201.9	154.1	155.2	1088.2	21.5	25.4	1126.8	55.1	56.2	NA	NA	NA	0.17	9.5		1088.2	21.5	2.0	25.4	2.3
UK002_217	1152.0	96.3	98.1	1089.9	17.5	22.1	1110.8	34.8	36.5	NA	NA	NA	0.24	5.4		1089.9	17.5	1.6	22.1	2.0
UK002_36	1110.8	43.2	47.3	1095.3	16.6	21.5	1100.5	18.3	21.4	NA	NA	NA	0.57	1.4		1095.3	16.6	1.5	21.5	2.0
UK002_26	1184.6	60.2	63.1	1097.5	16.6	21.4	1127.1	23.6	26.1	NA	NA	NA	0.02	7.4		1097.5	16.6	1.5	21.4	1.9
UK002_44	1139.2	85.5	87.6	1098.6	18.0	22.6	1112.3	31.4	33.4	NA	NA	NA	0.43	3.6		1098.6	18.0	1.6	22.6	2.1
UK002_91	1068.5	127.4	128.8	1098.6	22.8	26.6	1088.5	44.9	46.2	NA	NA	NA	0.65	-2.8	LL	1098.6	22.8	2.1	26.6	2.4
UK002_148	1219.0	103.1	104.8	1099.1	18.2	22.7	1140.1	38.0	39.6	NA	NA	NA	0.04	9.8		1099.1	18.2	1.7	22.7	2.1
UK002_249	1126.4	32.5	37.7	1100.8	17.2	22.0	1109.4	15.9	19.4	NA	NA	NA	0.44	2.3	CL	1100.8	17.2	1.6	22.0	2.0
UK002_105	1149.4	52.7	56.0	1101.8	16.7	21.6	1118.0	21.2	24.0	NA	NA	NA	0.15	4.1		1101.8	16.7	1.5	21.6	2.0
UK002_291	1149.4	55.7	58.9	1107.8	18.6	23.1	1121.9	22.7	25.4	NA	NA	NA	0.42	3.6	SL6/8, SL7/6	1107.8	18.6	1.7	23.1	2.1
UK002_86	1152.0	84.7	86.8	1109.4	19.6	23.9	1123.9	31.8	33.7	NA	NA	NA	0.37	3.7		1109.4	19.6	1.8	23.9	2.2
UK002_162	1113.4	39.3	43.7	1119.7	17.1	22.1	1117.6	17.5	20.8	NA	NA	NA	0.81	-0.6		1119.7	17.1	1.5	22.1	2.0
UK002_193	1159.6	97.6	99.4	1119.7	18.4	23.0	1133.4	35.7	37.5	NA	NA	NA	0.46	3.4		1119.7	18.4	1.6	23.0	2.1
UK002_108	1105.6	50.1	53.7	1124.1	17.2	22.1	1117.8	20.4	23.3	NA	NA	NA	0.53	-1.7		1124.1	17.2	1.5	22.1	2.0
UK002_14	1144.3	34.7	39.6	1137.6	16.4	21.6	1139.9	16.1	19.7	NA	NA	NA	0.79	0.6		1137.6	16.4	1.4	21.6	1.9
UK002_212	1192.0	36.0	40.6	1139.8	17.0	22.1	1157.9	16.9	20.4	NA	NA	NA	0.05	4.4		1139.8	17.0	1.5	22.1	1.9
UK002_10	1179.6	54.1	57.3	1146.2	17.4	22.5	1157.9	22.1	24.9	NA	NA	NA	0.37	2.8		1146.2	17.4	1.5	22.5	2.0
UK002_273	1134.1	88.9	90.9	1148.9	19.0	23.7	1143.8	33.0	34.9	NA	NA	NA	0.77	-1.3		1148.9	19.0	1.7	23.7	2.1
UK002_243	1223.6	31.2	36.4	1162.4	16.6	22.0	1184.0	15.6	19.4	NA	NA	NA	0.02	5.0		1162.4	16.6	1.4	22.0	1.9
UK002_72	1255.0	48.8	52.3	1182.8	17.7	23.0	1208.6	21.1	24.1	NA	NA	NA	0.01	5.8		1182.8	17.7	1.5	23.0	1.9
UK002_210	1245.5	40.6	44.7	1185.0	18.2	23.4	1206.6	18.8	22.2	NA	NA	NA	0.05	4.9		1185.0	18.2	1.5	23.4	2.0
UK002_158	1204.4	55.0	58.2	1192.0	18.0	23.3	1196.4	22.8	25.6	NA	NA	NA	0.74	1.0		1192.0	18.0	1.5	23.3	2.0
UK002_265	1167.1	67.8	70.4	1199.4	18.2	23.5	1188.0	26.7	29.1	NA	NA	NA	0.41	-2.8		1199.4	18.2	1.5	23.5	2.0
UK002_295	1216.6	61.5	64.3	1209.1	18.7	23.9	1211.8	25.2	27.8	NA	NA	NA	0.83	0.6		1209.1	18.7	1.5	23.9	2.0
UK002_286	1223.9	67.3	69.9	1216.0	19.2	24.3	1218.9	27.2	29.7	NA	NA	NA	0.85	0.6	LL, CL	1216.0	19.2	1.6	24.3	2.0
UK002_142	1270.6	23.7	30.2	1242.7	17.6	23.3	1252.9	14.2	18.5	NA	NA	NA	0.16	2.2		1242.7	17.6	1.4	23.3	1.9
UK002_63	1273.9	37.1	41.5	1259.1	18.9	24.4	1264.6	18.2	21.8	NA	NA	NA	0.55	1.2		1259.1	18.9	1.5	24.4	1.9
UK002_146	1311.0	37.3	41.6	1260.2	18.9	24.4	1279.1	18.4	22.0	NA	NA	NA	0.08	3.9		1260.2	18.9	1.5	24.4	1.9
UK002_259	1320.1	56.6	59.6	1310.3	20.7	26.1	1314.0	25.1	27.9	NA	NA	NA	0.80	0.7		1310.3	20.7	1.6	26.1	2.0
UK002_169	1382.5	47.4	50.9	1323.0	20.3	25.9	1345.9	22.3	25.5	NA	NA	NA	0.06	4.3		1323.0	20.3	1.5	25.9	1.9
UK002_201	1369.3	52.1	55.3	1349.7	20.1	26.0	1357.3	23.7	26.8	NA	NA	NA	0.60	1.4		1349.7	20.1	1.5	26.0	1.9
UK002_190	1393.4	71.7	74.0	1357.0	22.3	27.7	1371.2	31.2	33.6	NA	NA	NA	0.40	2.6		1357.0	22.3	1.6	27.7	2.0
UK002_178	1391.2	42.4	46.2	1360.1	20.9	26.7	1372.3	21.0	24.4	NA	NA	NA	0.42	2.2	LL	1360.1	20.9	1.5	26.7	2.0
UK002_240	1367.1	54.7	57.7	1361.7	20.3	26.2	1363.8	24.7	27.6	NA	NA	NA	0.87	0.4		1361.7	20.3	1.5	26.2	1.9
UK002_40	1367.1	53.9	57.0	1372.6	21.0	26.8	1370.5	24.6	27.6	NA	NA	NA	0.89	-0.4		1372.6	21.0	1.5	26.8	2.0
UK002_138	1414.9	49.1	52.4	1377.3	20.3	26.3	1392.1	23.1	26.3	NA	NA	NA	0.27	2.7		1377.3	20.3	1.5	26.3	1.9
UK002_32	1487.9	46.5	49.9	1412.6	22.3	28.1	1442.9	23.3	26.5	NA	NA	NA	0.01	5.1		1412.6	22.3	1.6	28.1	2.0
UK002_204	1446.6	54.1	57.1	1414.7	22.1	28.0	1427.5	25.5	28.5	NA	NA	NA	0.30	2.2		1414.7	22.1	1.6	28.0	2.0

UK002	UK002_131	NA	1599	18210	99	1.5	NA	NA	4.0617	1.7	0.0916	3.5	NA	NA	3.1095	3.9	0.2462	1.8	0.27	NA	NA	1459.1	66.1	68.5	1418.8	22.5	28.3	1435.0	29.9	32.5	NA	NA	NA	0.32	2.8		1418.8	22.5	1.6	28.3	2.0
UK002	UK002_134	NA	2270	26380	150	2.9	NA	NA	4.0404	1.7	0.0876	3.1	NA	NA	2.9894	3.5	0.2475	1.7	0.56	NA	NA	1373.7	59.1	61.9	1425.6	21.8	27.8	1404.9	26.7	29.6	NA	NA	NA	0.07	-3.8		1425.6	21.8	1.5	27.8	2.0
UK002	UK002_81	NA	10930	121300	650	2.6	NA	NA	3.9308	1.6	0.0930	1.4	NA	NA	3.2621	2.1	0.2544	1.6	0.37	NA	NA	1487.9	26.0	31.7	1461.1	20.9	27.3	1472.1	16.4	20.8	NA	NA	NA	0.30	1.8		1461.1	20.9	1.4	27.3	1.9
UK002	UK002_8	NA	4740	52000	255	2.4	NA	NA	3.9246	1.7	0.0934	2.1	NA	NA	3.2813	2.7	0.2548	1.7	0.39	NA	NA	1496.0	40.4	44.3	1463.2	21.7	28.0	1476.6	21.0	24.7	NA	NA	NA	0.26	2.2		1463.2	21.7	1.5	28.0	1.9
UK002	UK002_174	NA	6220	68600	363	2.0	NA	NA	3.9185	1.6	0.0945	1.9	NA	NA	3.3252	2.5	0.2552	1.6	0.52	NA	NA	1518.1	35.0	39.4	1465.2	21.6	27.9	1487.0	19.4	23.3	NA	NA	NA	0.03	3.5		1465.2	21.6	1.5	27.9	1.9
UK002	UK002_163	NA	879	9560	53	2.1	NA	NA	3.9154	1.9	0.0954	4.7	NA	NA	3.3595	5.0	0.2554	1.9	0.04	NA	NA	1536.0	88.3	90.1	1466.3	24.3	30.1	1495.0	39.4	41.5	NA	NA	NA	0.21	4.5		1466.3	24.3	1.7	30.1	2.0
UK002	UK002_213	NA	1914	20900	108	1.6	NA	NA	3.8895	1.8	0.0935	3.2	NA	NA	3.3145	3.7	0.2571	1.8	0.34	NA	NA	1498.0	60.2	62.9	1475.0	23.6	29.6	1484.5	28.5	31.3	NA	NA	NA	0.53	1.5		1475.0	23.6	1.6	29.6	2.0
UK002	UK002_21	NA	4340	48300	229	2.4	NA	NA	3.8730	1.7	0.0940	2.2	NA	NA	3.3465	2.8	0.2582	1.7	0.43	NA	NA	1508.1	41.1	44.9	1480.6	22.7	28.9	1492.0	21.7	25.2	NA	NA	NA	0.34	1.8		1480.6	22.7	1.5	28.9	1.9
UK002	UK002_73	NA	5530	60100	299	3.7	NA	NA	3.8256	1.6	0.0944	1.9	NA	NA	3.4023	2.5	0.2614	1.6	0.29	NA	NA	1516.1	36.1	40.4	1497.0	21.1	27.8	1504.9	19.5	23.4	NA	NA	NA	0.51	1.3		1497.0	21.1	1.4	27.8	1.8
UK002	UK002_247	NA	10440	110700	587	5.5	NA	NA	3.7622	1.6	0.0971	1.4	NA	NA	3.5586	2.1	0.2658	1.6	0.31	NA	NA	1569.1	26.4	31.9	1519.4	21.1	27.9	1540.3	16.7	21.2	NA	NA	NA	0.06	3.2		1569.1	26.4	1.7	31.9	2.1
UK002	UK002_277	NA	1749	18140	83	1.0	NA	NA	3.4868	1.8	0.0978	3.3	NA	NA	3.8674	3.8	0.2868	1.8	0.30	NA	NA	1582.6	62.0	64.5	1625.5	25.8	32.3	1606.9	30.4	33.2	NA	NA	NA	0.27	-2.7		1582.6	62.0	3.9	64.5	4.0
UK002	UK002_113	NA	3560	36600	171	2.2	NA	NA	3.4317	1.6	0.0996	2.4	NA	NA	4.0018	2.9	0.2914	1.6	0.05	NA	NA	1616.6	45.4	48.8	1648.5	23.6	30.7	1634.6	23.8	27.3	NA	NA	NA	0.39	-2.0		1616.6	45.4	2.8	48.8	3.0
UK002	UK002_191	NA	5160	52600	251	1.1	NA	NA	3.4507	1.7	0.1006	1.9	NA	NA	4.0197	2.6	0.2898	1.7	0.52	NA	NA	1635.2	36.0	40.2	1640.5	24.6	31.4	1638.2	21.0	24.9	NA	NA	NA	0.84	-0.3		1635.2	36.0	2.2	40.2	2.5
UK002	UK002_38	NA	4970	51100	207	1.4	NA	NA	3.4376	1.6	0.1007	1.9	NA	NA	4.0390	2.5	0.2909	1.6	0.21	NA	NA	1637.0	36.2	40.3	1646.0	23.5	30.6	1642.1	20.6	24.6	NA	NA	NA	0.78	-0.5		1637.0	36.2	2.2	40.3	2.5
UK002	UK002_282	NA	3400	34130	151	2.2	NA	NA	3.3841	1.7	0.1010	2.5	NA	NA	4.1151	3.0	0.2955	1.7	0.27	NA	NA	1642.6	46.8	50.0	1669.0	24.4	31.5	1657.3	24.7	28.1	NA	NA	NA	0.43	-1.6		1642.6	46.8	2.8	50.0	3.0
UK002	UK002_220	NA	5010	51600	231	4.3	NA	NA	3.4977	1.7	0.1011	2.0	NA	NA	3.9854	2.6	0.2859	1.7	0.31	NA	NA	1644.4	36.8	40.9	1621.0	23.7	30.6	1631.2	21.0	24.9	NA	NA	NA	0.44	1.4		1644.4	36.8	2.2	40.9	2.5
UK002	UK002_214	NA	2175	22200	104	2.5	NA	NA	3.4783	1.7	0.1012	3.2	NA	NA	4.0116	3.6	0.2875	1.7	-0.06	NA	NA	1646.2	59.2	61.8	1629.0	25.0	31.7	1636.6	29.5	32.5	NA	NA	NA	0.71	1.0		1646.2	59.2	3.6	61.8	3.8
UK002	UK002_3	NA	5310	54200	227	1.9	NA	NA	3.4329	1.6	0.1016	1.9	NA	NA	4.0807	2.5	0.2913	1.6	0.33	NA	NA	1653.6	35.5	39.7	1648.0	23.2	30.4	1650.5	20.3	24.4	NA	NA	NA	0.85	0.3		1653.6	35.5	2.1	39.7	2.4
UK002	UK002_198	NA	1508	15220	71	2.3	NA	NA	3.5063	1.8	0.1016	3.5	NA	NA	3.9953	3.9	0.2852	1.8	0.26	NA	NA	1653.6	65.3	67.7	1617.5	25.2	31.7	1633.2	32.0	34.7	NA	NA	NA	0.37	2.2	CL	1653.6	65.3	3.9	67.7	4.2
UK002	UK002_274	NA	4390	43420	201	2.3	NA	NA	3.4831	1.6	0.1016	2.1	NA	NA	4.0219	2.7	0.2871	1.6	0.42	NA	NA	1653.6	39.5	43.3	1627.0	23.5	30.5	1638.6	21.8	25.6	NA	NA	NA	0.34	1.6		1653.6	39.5	2.4	43.3	2.6
UK002	UK002_156	NA	1729	17430	85	1.6	NA	NA	3.5474	1.7	0.1018	3.3	NA	NA	3.9568	3.7	0.2819	1.7	0.39	NA	NA	1657.2	60.3	62.9	1600.9	24.1	30.8	1625.4	29.8	32.7	NA	NA	NA	0.11	3.4		1657.2	60.3	3.6	62.9	3.9
UK002	UK002_187	NA	1357	13820	63	1.4	NA	NA	3.3738	1.7	0.1018	3.6	NA	NA	4.1603	4.0	0.2964	1.7	0.32	NA	NA	1657.2	67.6	69.9	1673.4	25.0	32.0	1666.2	32.9	35.6	NA	NA	NA	0.67	-1.0		1657.2	67.6	4.1	69.9	4.2
UK002	UK002_285	NA	4140	40710	178	1.1	NA	NA	3.3223	1.7	0.1025	2.2	NA	NA	4.2539	2.7	0.3010	1.7	0.47	NA	NA	1669.9	39.8	43.6	1696.3	25.0	32.1	1684.5	22.4	26.2	NA	NA	NA	0.34	-1.6		1669.9	39.8	2.4	43.6	2.6
UK002	UK002_84	NA	2041	20490	95	1.1	NA	NA	3.5323	1.8	0.1027	3.2	NA	NA	4.0088	3.6	0.2831	1.8	0.14	NA	NA	1673.5	58.6	61.2	1607.0	24.9	31.5	1636.0	29.4	32.4	NA	NA	NA	0.11	4.0		1673.5	58.6	3.5	61.2	3.8
UK002	UK002_27	NA	3710	38100	165	1.2	NA	NA	3.4106	1.6	0.1029	2.3	NA	NA	4.1599	2.8	0.2932	1.6	0.22	NA	NA	1677.1	42.7	46.2	1657.5	23.7	30.8	1666.2	23.1	26.8	NA	NA	NA	0.55	1.2		1677.1	42.7	2.5	46.2	2.8
UK002	UK002_245	NA	4800	48000	206	1.4	NA	NA	3.3025	1.6	0.1030	2.1	NA	NA	4.3003	2.6	0.3028	1.6	0.45	NA	NA	1678.9	38.4	42.2	1705.2	24.4	31.7	1693.4	21.7	25.7	NA	NA	NA	0.33	-1.6		1678.9	38.4	2.3	42.2	2.5
UK002	UK002_262	NA	2980	29310	131	4.3	NA	NA	3.3512	1.6	0.1034	2.5	NA	NA	4.2542	3.0	0.2984	1.6	0.23	NA	NA	1686.0	46.3	49.6	1683.4	23.9	31.2	1684.6	24.6	28.1	NA	NA	NA	0.94	0.2		1686.0	46.3	2.7	49.6	2.9
UK002	UK002_268	NA	4140	40600	181	1.5	NA	NA	3.3772	1.7	0.1034	2.1	NA	NA	4.2214	2.7	0.2961	1.7	0.42	NA	NA	1686.0	38.9	42.8	1671.9	24.4	31.5	1678.2	22.0	25.9	NA	NA	NA	0.62	0.8		1686.0	38.9	2.3	42.8	2.6
UK002	UK002_269	NA	3510	34420	150	2.7	NA	NA	3.3069	1.6	0.1036	2.4	NA	NA	4.3196	2.9	0.3024	1.6	0.35	NA	NA	1689.6	44.3	47.7	1703.2	24.2	31.6	1697.1	23.9	27.5	NA	NA	NA	0.66	-0.8		1689.6	44.3	2.6	47.7	2.8
UK002	UK002_96	NA	3290	33700	146	3.0	NA	NA	3.3378	1.7	0.1037	2.5	NA	NA	4.2837	3.0	0.2996	1.7	0.34	NA	NA	1691.4	46.2	49.5	1689.3	25.8	32.7	1690.2	25.1	28.6	NA	NA	NA	0.95	0.1		1691.4	46.2	2.7	49.5	2.9
UK002	UK002_135	NA	2028	20400	96	1.0	NA	NA	3.4542	1.7	0.1037	3.0	NA	NA	4.1393	3.5	0.2895	1.7	0.36	NA	NA	1691.4	55.1	57.9	1639.0	25.1	31.8	1662.1	28.3	31.3	NA	NA	NA	0.13	3.1		1691.4	55.1	3.3	57.9	3.5
UK002	UK002_49	NA	5350	53600	222	1.7	NA	NA	3.4341	1.6	0.1038	1.9	NA	NA	4.1676	2.5	0.2912	1.6	0.44	NA	NA	1693.2	35.1	39.3	1647.5	23.9	30.9	1667.7	20.6	24.7	NA	NA	NA	0.09	2.7		1693.2	35.1	2.1	39.3	2.4
UK002	UK002_92	NA	4870	48300	199	2.5	NA	NA	3.2248	1.7	0.1041	2.0	NA	NA	4.4510	2.6	0.3101	1.7	0.46	NA	NA	1698.5	37.1	41.1	1741.2	25.6	32.8	1721.9	21.7	25.7	NA	NA	NA	0.12	-2.5		1698.5	37.1	2.2	41.1	2.4
UK002	UK002_147	NA	4333	43130	197	4.2	NA	NA	3.3333	1.7	0.1043	2.2	NA	NA	4.3143	2.8	0.3000	1.7	0.31	NA	NA	1702.0	40.5	44.2	1691.3	25.2	32.2	1696.1	22.9	26.6	NA	NA	NA	0.73	0.6		1702.0	40.5	2.4	44.2	2.6
UK002	UK002_183	NA	4520	44780	194	1.4	NA	NA	3.3003	1.6	0.1045	2.1	NA	NA	4.3658	2.6	0.3030	1.6	0.28	NA	NA	1705.5	38.6	42.4	1706.2	24.1	31.5	1705.9	21.8	25.7	NA	NA	NA	0.98	0.0	LL	1705.5	38.6	2.3	42.4	2.5
UK002	UK002_70	NA	8730	86500	353	7.4	NA	NA	3.2755	1.6	0.1050	1.5	NA	NA	4.4200	2.2	0.3053	1.6	0.54	NA	NA	1714.3	27.4	32.6	1717.5	24.3	31.7	1716.1	18.2	22.8	NA	NA	NA	0.89	-0.2		1714.3	27.4	1.6	32.6	1.9
UK002	UK002_41	NA	9810	97100	408	5.6	NA	NA	3.3613	1.7	0.1051	1.5	NA	NA	4.3111	2.2	0.2975	1.7	0.52	NA	NA	1716.1	27.4	32.6	1678.9	24.4	31.5	1695.5	18.3	22.9	NA	NA	NA	0.12	2.2		1716.1	27.4	1.6	32.6	1.9
UK002	UK002_234	NA	6340	62000	278	1.8	NA	NA	3.3681	1.6	0.1051	1.9	NA	NA	4.3024	2.5	0.2969	1.6	0.23	NA	NA	1716.1	34.4	38.6	1675.9	23.8	31.0	1693.8	20.3	24.5	NA	NA	NA	0.19	2.3		1716.1	34.4	2.0	38.6	2.3
UK002	UK002_119	NA	5990	59500	277	0.7	NA	NA	3.3625	1.7	0.1052	1.8	NA	NA	4.3138	2.5	0.2974	1.7	0.62	NA	NA	1717.8	33.4	37.7	1678.4	24.4	31.5	1696.0	20.2	24.4	NA	NA	NA	0.07	2.3		1717.8	33.4	1.9	37.7	2.2
UK002	UK002_58	NA	6030	59200	237	3.0	NA	NA	3.3580	1.6	0.1054	1.9	NA	NA	4.3278	2.4	0.2978	1.6	0.48	NA	NA	1721.3	34.1	38.4	1680.4	23.6	30.9	1698.7	20.2	24.4	NA	NA	NA	0.10	2.4		1721.3	34.1	2.0	38.4	2.3
UK002	UK002_216	NA	5390	53000	228	4.6	NA	NA	3.3967	1.6	0.1054	2.0	NA	NA	4.2784	2.6	0.2944	1.6	0.28	NA	NA	1721.3	36.4	40.4	1663.5	24.0	31.2	1689.2	21.2	25.2	NA	NA	NA	0.06	3.4		1721.3	36.4	2.1	40.4	2.4
UK002	UK002_144	NA	9940	99400	451	3.3	NA	NA	3.3704	1.6	0.1056	1.5	NA	NA	4.3200	2.2	0.2967	1.6	0.48	NA	NA	1724.8	28.1	33.2	1674.9	23.2	30.6	1697.2	18.1	22.7	NA	NA	NA	0.04	2.9		1724.8	28.1	1.6	33.2	2.0
UK002	UK002_24	NA	6460	62700	252	3.2	NA	NA	3.2723	1.7	0.1057	1.9	NA	NA	4.4538	2.5	0.3056	1.7	0.51	NA	NA	1726.5	34.1	38.4	1719.0	25.3	32.5	1722.4	20.8	24.9	NA	NA	NA	0.77	0.4	LL	1726.5	34.1	2.0	38.4	2.2
UK002	UK002_16	NA	5240	52400	199	2.8	NA	NA	3.3445	1.9	0.1062	2.5	NA	NA	4.3782	3.1	0.2990	1.9	0.09	NA	NA	1735.2	45.9	49.1	1686.3	27.7	34.2	1708.2	25.8	29.2	NA	NA	NA	0.23	2.8	LL	1735.2	45.9	2.6	49.1	2.9
UK002	UK002_145	NA	4740	45940	218	1.0	NA	NA	3.3113	1.6	0.1064	2.1	NA	NA	4.4305	2.7	0.3020	1.6	0.39	NA	NA	1738.6	39.3	43.0	1701.2	24.0	31.4	1718.1	22.2	26.1	NA	NA	NA	0.19	2.2		1738.6	39.3	2.3	43.0	2.5
UK002	UK002_166	NA	6550	63800	294	4.6	NA	NA	3.3933	1.6	0.1065	1.8	NA	NA	4.3274	2.5	0.2947	1.6	0.17	NA	NA	1740.4	33.3	37.7	1665.0	24.2	31.3	1698.6	20.2	24.4	NA	NA	NA	0.02	4.3		1740.4	33.3	1.9	37.7	2.2
UK002	UK002_275	NA	3860	37200	136	2.2	NA	NA	3.0969	1.9	0.1065	2.6	NA	NA	4.7415	3.2	0.3229	1.9	0.32	NA	NA	1740.4	47.7	50.8	1803.9	30.3	37.0	1774.6	27.1	30.5	NA	NA	NA	0.08	-3.6	CL, LL, Z	1740.4	47.7	2.7	50.8	2.8
UK002	UK002_64	NA	5040	48600	191	2.1	NA	NA	3.3256	1.6	0.1066	2.0	NA	NA	4.4197	2.6	0.3007	1.6	0.21	NA	NA	1742.1	36.7	40.7	1694.8	23.8	31.2	1716.0	21.2	25.2	NA	NA	NA	0.13	2.7		1742.1	36.7	2.1	40.7	2.4
UK002	UK002_215	NA	1212	11750	52	2.1	NA	NA	3.3411	1.8	0.1067	3.9	NA	NA	4.4032	4.3	0.2993	1.8	0.27	NA	NA	1743.8	72.0	74.1	1687.8	27.1	33.8	1713.0	35.9	38.4	NA	NA	NA	0.20	3.2		1743.8	72.0	4.1	74.1	4.4
UK002	UK002_25	NA	8660	83500	346	2.8	NA	NA	3.2310	1.6	0.1071	1.6	NA	NA	4.5704	2.3	0.3095	1.6	0.62	NA	NA	1750.6	28.4	33.4	1738.2	25.0	32.4	1743.9	18.8	23.3	NA	NA	NA	0.57	0.7		1750.6	28.4	1.6	33.4	1.9
UK002	UK002_120	NA	12430	119200	527	6.8	NA	NA	3.0989	1.6	0.1071	1.3	NA	NA	4.7653	2.1	0.3227	1.6	0.52	NA	NA	1750.6	24.1	29.8	1802.9	25.2	33.0	1778.8	17.4	22.3	NA	NA	NA	0.03	-3.0		1750.6	24.1	1.4	29.8	1.7
UK002	UK002_4	NA	3380	32440	129	1.7	NA	NA	3.1918	1.7	0.1074	2.4	NA	NA	4.6394	2.9	0.3133	1.7	0.46	NA	NA	1755.8	43.4	46.8	1756.9	25.7	33.0	1756.4	24.3	27.9	NA	NA	NA	0.97	-0.1		1755.8	43.4	2.5	46.8	2.7
UK002	UK002_206	NA	5320	50400	206	2.6	NA	NA	3.1377	1.6	0.1077	1.9	NA	NA	4.7326	2.5	0.3187	1.6	0.55	NA	NA	1760.9	35.4	39.5	1783.4	25.1	32.8	1773.0	21.1	25.3	NA	NA	NA	0.35	-1.3		1760.9	35.4	2.0	39.5	2.2
UK002	UK002_223	NA	10900	103100	423	4.0	NA	NA	3.2103	1.6	0.1082	1.3	NA	NA	4.6471	2.1	0.3115	1.6	0.49	NA	NA	1769.3	24.5	30.1	1748.1	24.4	32.0	1757.8	17.4	22.2	NA	NA	NA	0.38	1.2		1769.3	24.5	1.4	30.1	1.7
UK002	UK002_225	NA	10730	102700	413	3.0	NA	NA	3.2113	1.6	0.1084	1.4	NA	NA	4.6542	2.1	0.3114	1.6	0.46	NA	NA	1772.7	25.7	31.1	1747.6	24.2	31.8	1759.1	17.7	22.5	NA	NA	NA	0.31	1.4		1772.7	25.7	1.5	31.1	1.8
UK002	UK002_18	NA	1269	12130	51	1.5	NA	NA	3.3535	1.8	0.1085	4.0	NA	NA	4.4611	4.4	0.2982	1.8	0.03	NA	NA	1774.4	73.6	75.7	1682.4	26.1	32.9	1723.8	36.5	39.0	NA	NA	NA	0.06	5.2		1774.4	73.6	4.2	75.7	4.5
UK002	UK002_45	NA	10280	98400	410	1.2	NA	NA	3.2680	1.6	0.1085	1.4	NA	NA	4.5778	2.1	0.3060	1.6	0.45	NA	NA	1774.4	26.1	31.4	1721.0	24.1	31.6	1745.2	17.9	22.6	NA	NA	NA	0.03	3.0		1774.4	26.1	1.5	31.4	1.8
UK002	UK002_94	NA	2416	22890	102	3.9	NA	NA	3.2489	1.7	0.1087	2.8	NA	NA	4.6132	3.3	0.3078	1.7	0.24	NA	NA	1777.7	51.6	54.5	1729.9	25.7	32.9	1751.7	27.5	30.8	NA	NA	NA	0.19	2.7		1777.7	51.6	2.9	54.5	3.1
UK002	UK002_12	NA	8060	75900	296	1.6	NA	NA	3.1756	1.6	0.1090	1.6	NA	NA	4.7326	2.2	0.3149	1.6	0.42	NA	NA	1782.8	28.6	33.5	1764.8	24.6	32.3	1773.0	18.8	23.3	NA	NA	NA	0.49	1.0		1782.8	28.6	1.6	33.5	1.9
UK002	UK002_60	NA	3430	32500	137	2.9	NA	NA	3.1546	1.7	0.1091	2.4	NA	NA	4.7685	2.9	0.3170	1.7	0.21	NA	NA	1784.4	43.7	47.0	1775.1	26.0	33.4	1779.4	24.5	28.2	NA	NA	NA	0.79	0.5		1784.4	43.7	2.4	47.0	2.6
UK002	UK002_176	NA	8320	79300	348	3.1	NA	NA	3.2531	1.6	0.1091	1.6	NA	NA	4.6241	2.2	0.3074	1.6	0.58	NA	NA	1784.4	28.3	33.2	1727.9	24.5	31.9	1753.6	18.7	23.3	NA	NA	NA	0.01	3.2		1784.4	28.3	1.6	33.2	1.9
UK002	UK002_115	NA	5560	52800	234	3.2	NA	NA	3.1837	1.7	0.1099	1.9	NA	NA	4.7596	2.5	0.3141	1.7	0.38	NA	NA	1797.7	34.1	38.3	1760.9	25.5	32.9	1777.8	21.0	25.2	NA	NA	NA	0.19	2.1		1797.7	34.1	1.9	38.3	2.2
UK002	UK002_149	NA	1183	11220	49	1.7	NA	NA	3.0012	1.8	0.1101	4.1	NA	NA	5.0582	4.4	0.3332	1.8	0.23	NA	NA	1801.1	74.1	76.1	1853.9	28.4	35.8	1829.1	37.6	40.1	NA	NA	NA	0.23	-2.9		1801.1	74.1	4.1	76.1	4.1
UK002	UK002_222	NA	5230	49200	201	4.4	NA	NA	3.1427	1.6	0.1103	2.1	NA	NA	4.8392	2.6	0.3182	1.6	0.26	NA	NA	1804.4	37.7	41.6	1780.9	25.4	33.0	1791.7	22.2	26.2	NA	NA	NA	0.46	1.3	LL	1804.4	37.7	2.1	41.6	2.3
UK002	UK002_257	NA	16500	153200	837	4.0	NA	NA	3.1153	1.8	0.1108	1.3	NA	NA	4.9040	2.2	0.3210	1.8	0.40	NA	NA	1812.6	23.3	29.1	1794.6	28.6	35.6	1802.9	18.8	23.4	NA	NA	NA	0.54	1.0	LL	1812.6	23.3	1.3	29.1	1.6
UK002	UK002_283	NA	2320	21600	90	0.5	NA	NA	3.2669	1.7	0.1108	3.0	NA	NA	4.6763	3.4	0.3061	1.7	0.00	NA	NA	1812.6	54.4	57.1	1721.5	25.0	32.3	1763.0	28.6	31.8	NA	NA	NA	0.03	5.0		1812.6	54.4	3.0	57.1	3.3
UK002	UK002_20	NA	8390	79200	294	2.5	NA	NA	3.0703	1.6	0.1111	1.6	NA	NA	4.9892	2.3	0.3257	1.6	0.22	NA	NA	1817.5	29.5	34.3	1817.5	25.3	33.1	1817.5	19.3	23.8	NA	NA	NA	1.00	0.0		1817.5	29.5	1.6	34.3	1.9
UK002	UK002_77	NA	10730	100200	424	4.1	NA	NA	3.1260	1.6	0.1113	1.4	NA	NA	4.9092	2.1	0.3199	1.6	0.51	NA	NA	1820.8	24.7	30.2	1789.2	25.4	33.0	1803.8	17.9	22.7	NA	NA	NA	0.19	1.7		1820.8	24.7	1.4	30.2	1.7
UK002	UK002_125	NA	2810	25400	110	1.4	NA	NA	3.0497	1.7	0.1115	2.6	NA	NA	5.0410	3.1	0.3279	1.7	0.31	NA	NA	1824.0	46.4	49.6	1828.2	27.2	34.6	1826.2	26.1	29.6	NA	NA	NA	0.90	-0.2		1824.0	46.4	2.5	49.6	2.7
UK002	UK002_253	NA	6000	55600	221	3.4	NA	NA	3.0874	1.7	0.1117	1.9	NA	NA	4.9884	2.5	0.3239	1.7	0.29	NA	NA	1827.3	33.7	37.9	1808.7	26.4	33.9	1817.4	21.2	25.4	NA	NA	NA	0.55	1.0		1827.3	33.7	1.8	37.9	2.1
UK002	UK002_15	NA	2670	24580	95	2.1	NA	NA	3.0883	1.7	0.1122	2.7	NA	NA	5.0092	3.2	0.3238	1.7	0.45	NA	NA	1835.4	49.0	52.0	1808.3	26.7	34.2	1820.9	27.0	30.4	NA	NA	NA	0.37	1.5		1835.4	49.0	2.7	52.0	2.9
UK002	UK002_98	NA	4580	41800	170	4.0	NA	NA	3.0404	1.7	0.1128	2.1	NA	NA	5.1153	2.7	0.3289	1.7	0.45	NA	NA	1845.0	37.5	41.3	1833.0	26.6	34.3	1838.7	22.6	26.6	NA	NA	NA	0.67	0.6		1845.0	37.5	2.0	41.3	2.2
UK002	UK002_224	NA	2327	21310	86	0.5	NA	NA	3.1576	1.7	0.1128	2.8	NA	NA	4.9256	3.3	0.3167	1.7	0.26	NA	NA	1845.0	50.5	53.4	1773.6	26.0	33.4	1806.7	27.5	30.8	NA	NA	NA	0.04	3.9		1845.0	50.5	2.7	53.4	3.0
UK002	UK002_241	NA	6460	58500	232	3.6	NA	NA	3.0665	1.6	0.1140	1.8	NA	NA	5.1257	2.5	0.3261	1.6	0.21	NA	NA	1864.1	33.3	37.5	1819.5	25.9	33.6	1840.4	20.9	25.2	NA	NA	NA	0.16	2.4		1864.1	33.3	1.8	37.5	2.0
UK002	UK002_137	NA	6700	60950	270	2.5	NA	NA	2.9718	1.7	0.1149	1.9	NA	NA	5.3310	2.5	0.3365	1.7	0.39	NA	NA	1878.3	34.0	38.2	1869.8	27.2	34.9	1873.8	21.6	25.8	NA	NA	NA	0.77	0.5	LL	1878.3	34.0	1.8	38.2	2.0
UK002	UK002_263	NA	12100	107300	429	3.3	NA	NA	3.0506	1.6	0.1153	1.4	NA	NA	5.2112	2.1	0.3278	1.6	0.43	NA	NA	1884.6	25.2	30.5	1827.7	25.6	33.4	1854.5	18.1	23.0	NA	NA	NA	0.03	3.0		1884.6	25.2	1.3	30.5	1.7
UK002	UK002_209	NA	5370	46800	180	3.7	NA	NA	2.9612	1.9	0.1166	1.9	NA	NA	5.4291	2.7	0.3377	1.9	0.82	NA	NA	1904.7	33.5	37.7	1875.6	31.7	38.6	1889.5	23.1	27.2	NA	NA	NA	0.13	1.5		1904.7	33.5	1.8	37.7	2.0
UK002	UK002_197	NA	2710	24200	94	0.5	NA	NA	2.9630	1.7	0.1171	2.6	NA	NA	5.4492	3.1	0.3375	1.7	0.30	NA	NA	1912.4	47.5	50.5	1874.6	27.7	35.4	1892.6	27.0	30.5	NA	NA	NA	0.27	2.0		1912.4	47.5	2.5	50.5	2.7
UK002	UK002_114	NA	450	3970	17	0.3	NA	NA	3.0395	2.3	0.1174	6.2	NA	NA	5.3256	6.6	0.3290	2.3	0.31	NA	NA	1917.0	111.8	113.1	1833.5	36.4	42.3	1873.0	56.7	58.4	NA	NA	NA	0.17	4.4		1917.0	111.8	5.8	113.1	6.1
UK002	UK002_199	NA	4450	38870	166	1.4	NA	NA	2.9420	1.8	0.1174	2.3	NA	NA	5.5020	2.9	0.3399	1.8	0.41	NA	NA	1917.0	41.7	45.1	1886.2	28.7	36.2	1900.9	25.0	28.8	NA	NA	NA	0.31	1.6		1917.0	41.7	2.2	45.1	2.4
UK002	UK002_244	NA	3015	26430	102	0.6	NA	NA	2.9265	1.7	0.1178	2.5	NA	NA	5.5500	3.1	0.3417	1.7	0.46	NA	NA	1923.1	45.5	48.6	1894.8	28.3	36.0	1908.4	26.4	30.0	NA	NA	NA	0.34	1.5		1923.1	45.5	2.4	48.6	2.6
UK002	UK002_261	NA	1139	9740	40	1.0	NA	NA	3.0021	1.8	0.1181	4.1	NA	NA	5.4241	4.5	0.3331	1.8	0.13	NA	NA	1927.7	73.9	75.9	1853.4	28.8	36.1	1888.7	38.5	41.1	NA	NA	NA	0.12	3.9		1927.7	73.9	3.8	75.9	4.1
UK002	UK002_118	NA	5950	52100	205	3.6	NA	NA	2.8637	1.6	0.1184	1.8	NA	NA	5.7007	2.4	0.3492	1.6	0.49	NA	NA	1932.2	32.0	36.3	1930.8	26.8	35.0	1931.5	20.7	25.2	NA	NA	NA	0.96	0.1		1932.2	32.0	1.7	36.3	1.9
UK002	UK002_37	NA	8480	74200	254	3.7	NA	NA	2.9214	1.7	0.1195	1.7	NA	NA	5.6400	2.4	0.3423	1.7	0.12	NA	NA	1948.8	30.0	34.6	1897.7	27.3	35.2	1922.2	20.4	24.9	NA	NA	NA	0.13	2.6	LL	1948.8	30.0	1.5	34.6	1.8
UK002	UK002_132	NA	5010	43500	166	1.4	NA	NA	2.8893	1.6	0.1195	2.0	NA	NA	5.7026	2.6	0.3461	1.6	0.20	NA	NA	1948.8	35.7	39.6	1915.9	27.0	35.1	1931.8	22.3	26.5	NA	NA	NA	0.31	1.7		1948.8	35.7	1.8	39.6	2.1
UK002	UK002_71	NA	5050	43600	151	3.2	NA	NA	2.8050	1.7	0.1214	2.0	NA	NA	5.9673	2.7	0.3565	1.7	0.54	NA	NA	1976.9	36.1	39.9	1965.6	29.4	37.3	1971.1	23.2	27.3	NA	NA	NA	0.67	0.6		1976.9	36.1	1.8	39.9	2.0
UK002	UK002_179	NA	4220	36100	140	2.0	NA	NA	2.8802	1.7	0.1214	2.2	NA	NA	5.8117	2.7	0.3472	1.7	0.47	NA	NA	1976.9	38.6	42.2	1921.2	27.8	35.7	1948.1	23.7	27.7	NA	NA	NA	0.04	2.8		1976.9	38.6	2.0	42.2	2.2
UK002	UK002_126	NA	3350	28400	107	2.0	NA	NA	2.8711	1.6	0.1215	2.4	NA	NA	5.8349	2.9	0.3483	1.6	0.27	NA	NA	1978.4	42.2	45.5	1926.5	27.3	35.4	1951.6	25.0	28.8	NA	NA	NA	0.11	2.6		1978.4	42.2	2.1	45.5	2.3
UK002	UK002_110	NA	2753	21030	72	1.3	NA	NA	2.5044	1.8	0.1365	2.7	NA	NA	7.5151	3.2	0.3993	1.8	0.38	NA	NA	2183.3	46.9	49.8	2165.8	33.2	41.5	2174.8	29.1	32.6	NA	NA	NA	0.61	0.8		2183.3	46.9	2.1	49.8	2.3
UK002	UK002_252	NA	17000	118000	346	2.3	NA	NA	2.3552	1.6	0.1455	1.3	NA	NA	8.5181	2.1	0.4246	1.6	0.62	NA	NA	2293.7	22.5	27.9	2281.3	31.4	40.8	2287.9	19.0	24.3	NA	NA	NA	0.60	0.5	LL	2293.7	22.5	1.0	27.9	1.2
UK002	UK002_127	NA	7340	49800	156	2.6	NA	NA	2.3079	1.6	0.1525	1.6	NA	NA	9.1109	2.3	0.4333	1.6	0.42	NA	NA	2374.1	27.9	32.3	2320.6	31.0	40.7	2349.2	20.9	25.8	NA	NA	NA	0.05	2.3		2374.1	27.9	1.2	32.3	1.4
UK002	UK002_42	NA	8310	53000	135	4.5	NA	NA	2.1589	1.7	0.1596	1.7	NA	NA	10.1930	2.4	0.4632	1.7	0.39	NA	NA	2451.4	28.2	32.5	2453.7	34.1	43.8	2452.4	21.8	26.7	NA	NA	NA	0.94	-0.1		2451.4	28.2	1.2	32.5	1.3
UK002	UK002_205	NA	3220	20460	59	0.9	NA	NA	2.1231	1.7	0.1612	2.6	NA	NA	10.4686	3.1	0.4710	1.7	0.33	NA	NA	2468.3	43.5	46.4	2487.9	35.0	44.8	2477.1	28.6	32.5	NA	NA	NA	0.56	-0.8		2468.3	43.5	1.8	46.4	1.9
UK002	UK002_294	NA	3930	25180	74	1.0	NA	NA	2.1786	2.1	0.1614	2.4	NA	NA	10.2145	3.2	0.4590	2.1	0.50	NA	NA	2470.4	41.3	44.3	2435.1	42.3	50.4	2454.4	29.7	33.4	NA	NA	NA	0.30	1.4	LL	2470.4	41.3	1.7	44.3	1.8
UK002	UK002_264	NA	3070	18770	55	0.6	NA	NA	2.0777	1.7	0.1679	2.4	NA	NA	11.1421	3.0	0.4813	1.7	0.34	NA	NA	2536.8	41.0	44.0	2532.9	35.5	45.4	2535.1	27.7	31.7	NA	NA	NA	0.91	0.2		2536.8	41.0	1.6	44.0	1.7
UK002	UK002_165	NA	4912	30010	87	1.2	NA	NA	2.0903	1.7	0.1702	2.0	NA	NA	11.2267	2.6	0.4784	1.7	0.31	NA	NA	2559.6	33.7	37.4	2520.3	34.5	44.6	2542.1	24.3	28.8	NA	NA	NA	0.22	1.5		2559.6	33.7	1.3	37.4	1.5
UK002	UK002_39	NA	37850	213300	599	2.7	NA	NA	1.9253	1.7	0.1842	0.9	NA	NA	13.1915	2.0	0.5194	1.7	0.65	NA	NA	2691.1	15.5	22.1	2696.6	38.4	48.6	2693.4	18.7	24.4	NA	NA	NA	0.83	-0.2	LL	2691.1	15.5	0.6	22.1	0.8
UK002	UK002_143	NA	2470	14100	37	0.8	NA	NA	1.9646	1.9	0.1858	2.9	NA	NA	13.0396	3.4	0.5090	1.9	0.52	NA	NA	2705.3	47.8	50.3	2652.4	40.6	50.1	2682.5	32.5	36.0	NA	NA	NA	0.10	2.0		2705.3	47.8	1.8	50.3	1.9
UK002	UK002_227	NA	15900	86000	202	1.4	NA	NA	1.8657	1.9	0.1868	1.2	NA	NA	13.8052	2.2	0.5360	1.9	0.86	NA	NA	2714.2	20.0	25.4	2766.7	42.5	52.2	2736.4	21.2	26.4	NA	NA	NA	0.02	-1.9		2714.2	20.0	0.7	25.4	0.9
UK002	UK002_17	NA	36400	200000	480	2.1	NA	NA	1.9459	1.6	0.1882	0.8	NA	NA	13.3352	1.8	0.5139	1.6	0.73	NA	NA	2726.5	13.3	20.6	2673.3	34.9	45.7	2703.7	16.9	23.0	NA	NA	NA	0.02	2.0		2726.5	13.3	0.5	20.6	0.8
UK002	UK002_104	NA	13900	73000	176	1.5	NA	NA	1.9150	1.7	0.1908	1.4	NA	NA	13.7378	2.2	0.5222	1.7	0.51	NA	NA	2749.1	23.8	28.5	2708.5	36.6	47.2	2731.8	20.8	26.1	NA	NA	NA	0.14	1.5	LL	2749.1	23.8	0.9	28.5	1.0
UK002	UK002_68	NA	6350	34000	79	1.1	NA	NA	1.9011	1.8	0.1930	1.8	NA	NA	13.9973	2.5	0.5260	1.8	0.75	NA	NA	2767.9	29.3	33.2	2724.6	39.8	49.8	2749.5	23.9	28.6	NA	NA	NA	0.06	1.6		2767.9	29.3	1.1	33.2	1.2
UK002	UK002_5	NA	37300	198800	456	2.2	NA	NA	1.8886	1.6	0.1938	0.8	NA	NA	14.1488	1.8	0.5295	1.6	0.64	NA	NA	2774.7	13.0	20.4	2739.3	35.1	46.3	2759.7	16.7	22.9	NA	NA	NA	0.14	1.3		2774.7	13.0	0.5	20.4	0.7
UK002	UK002_52	NA	4420	23410	54	2.5	NA	NA	1.8519	1.9	0.1955	2.4	NA	NA	14.5560	3.0	0.5400	1.9	0.34	NA	NA	2789.0	38.5	41.6	2783.4	42.6	52.4	2786.7	28.6	32.7	NA	NA	NA	0.88	0.2	LL	2789.0	38.5	1.4	41.6	1.5
UK002	UK002_251	NA	7150	37500	80	0.8	NA	NA	1.7699	1.8	0.2012	2.2	NA	NA	15.6739	2.8	0.5650	1.8	0.47	NA	NA	2836.0	35.6	38.9	2887.3	40.8	51.5	2857.1	26.7	31.1	NA	NA	NA	0.10	-1.8	CX6/8, CX7/6	2836.0	35.6	1.3	38.9	1.4
UK002	UK002_62	NA	4670	24100	59	1.9	NA	NA	1.8018	2.0	0.2026	2.1	NA	NA	15.5036	2.9	0.5550	2.0	0.78	NA	NA	2847.3	33.7	37.2	2845.9	45.6	55.2	2846.7	27.3	31.6	NA	NA	NA	0.96	0.0		2847.3	33.7	1.2	37.2	1.3
UK002	UK002_151	NA	9360	39800	89	1.3	NA	NA	1.6106	1.6	0.2426	1.5	NA	NA	20.7689	2.2	0.6209	1.6	0.53	NA	NA	3137.1	23.4	27.9	3113.5	40.0	52.1	3127.9	21.2	26.6	NA	NA	NA	0.40	0.8		3137.1	23.4	0.7	27.9	0.9
UK002	UK002_2	NA	44300	276800	1030	5.0	NA	NA	2.9070	1.6	0.1646	0.7	NA	NA	7.8071	1.7	0.3440	1.6	0.65	NA	NA	2503.5	12.4	20.3	1905.9	26.1	34.3	2209.0	15.7	21.7	NA	NA	NA	0.00	23.9						
UK002	UK002_6	NA	4720	49100	637	1.0	NA	NA	7.6982	3.1	0.1004	2.1	NA	NA	1.7982	3.8	0.1299	3.1	0.94	NA	NA	1631.5	39.5	43.4	787.3	23.0	25.1	1044.8	24.6	26.9	NA	NA	NA	0.00	51.7						
UK002	UK002_7	NA	37380	207100	608	3.2	NA	NA	2.2341	1.6	0.1867	0.8	NA	NA	11.5222	1.8	0.4476	1.6	0.84	NA	NA	2713.3	13.2	20.6	2384.6	32.5	42.2	2566.4	17.0	23.0	NA	NA	NA	0.00	12.1						
UK002	UK002_13	NA	3050	30500	139	2.9	NA	NA	3.5112	1.6	0.1041	2.6	NA	NA	4.0878	3.1	0.2848	1.6	0.49	NA	NA	1698.5	47.9	51.0	1615.5	23.4	30.3	1651.9	25.0	28.5	NA	NA	NA	0.00	4.9	LL					
UK002	UK002_19	NA	30270	166300	386	1.7	NA	NA	1.9662	1.7	0.1885	0.9	NA	NA	13.2187	1.9	0.5086	1.7	0.77	NA	NA	2729.1	14.0	21.1	2650.6	37.2	47.4	2695.4	18.1	23.9	NA	NA	NA	0.00	2.9	LL					
UK002	UK002_22	NA	11420	96400	398	2.0	NA	NA	3.2605	2.0	0.1230	1.4	NA	NA	5.2014	2.4	0.3067	2.0	0.89	NA	NA	2000.2	24.5	29.8	1724.4	30.4	36.6	1852.8	20.8	25.1	NA	NA	NA	0.00	13.8						
UK002	UK002_23	NA	3039	34800	193	3.0	NA	NA	4.4405	1.7	0.0911	2.4	NA	NA	2.8287	2.9	0.2252	1.7	0.42	NA	NA	1448.7	46.0	49.5	1309.3	19.6	25.3	1363.2	22.0	25.3	NA	NA	NA	0.00	9.6						
UK002	UK002_30	NA	7620	53500	160	1.1	NA	NA	2.4067	1.7	0.1489	1.6	NA	NA	8.5304	2.3	0.4155	1.7	0.58	NA	NA	2333.3	27.7	32.2	2240.0	31.6	40.6	2289.2	21.1	25.9	NA	NA	NA	0.00	4.0						
UK002	UK002_43	NA	1790	17800	81	0.6	NA	NA	3.4928	2.0	0.1055	3.4	NA	NA	4.1646	4.0	0.2863	2.0	0.46	NA	NA	1723.0	62.9	65.3	1623.0	28.4	34.4	1667.1	32.4	35.1	NA	NA	NA	0.01	5.8						
UK002	UK002_46	NA	4010	46400	397	4.0	NA	NA	6.3331	2.5	0.0902	2.3	NA	NA	1.9638	3.4	0.1579	2.5	0.91	NA	NA	1429.8	44.2	47.8	945.1	21.8	24.9	1103.2	22.9	25.4	NA	NA	NA	0.00	33.9						
UK002	UK002_50	NA	356	2570	850	1.2	NA	NA	220.2643	2.5	0.1480	8.1	NA	NA	0.0926	8.5	0.0045	2.5	0.01	NA	NA	NA	NA	NA	29.2	0.7	0.8	90.0	7.3	7.5	NA	NA	NA	0.00	98.7						
UK002	UK002_55	NA	10600	95600	898	3.5	NA	NA	6.0060	2.3	0.1163	1.4	NA	NA	2.6699	2.7	0.1665	2.3	0.92	NA	NA	1900.1	25.4	30.7	992.8	20.8	24.2	1320.2	19.7	23.2	NA	NA	NA	0.00	47.8						
UK002	UK002_57	NA	10570	49900	128	3.8	NA	NA	1.8188	1.8	0.2255	1.6	NA	NA	17.0943	2.4	0.5498	1.8	0.70	NA	NA	3020.4	25.7	30.0	2824.3	40.2	50.7	2940.1	22.8	27.8	NA	NA	NA	0.00	6.5						
UK002	UK002_59	NA	6870	58600	301	2.2	NA	NA	3.5224	2.2	0.1211	1.7	NA	NA	4.7404	2.8	0.2839	2.2	0.95	NA	NA	1972.5	30.6	35.0	1611.0	31.9	37.3	1774.4	23.7	27.4	NA	NA	NA	0.00	18.3						
UK002	UK002_65	NA	15800	119200	1850	18.8	NA	NA	10.1626	2.9	0.1314	1.4	NA	NA	1.7828	3.2	0.0984	2.9	0.94	NA	NA	2116.8	24.0	29.3	605.0	16.6	18.3	1039.2	20.7	23.3	NA	NA	NA	0.00	71.4						
UK002	UK002_69	NA	12590	180000	2144	74.8	NA	NA	7.3475	1.6	0.0733	1.3	NA	NA	1.3759	2.1	0.1361	1.6	0.71	NA	NA	1022.8	26.3	32.7	822.6	12.7	16.4	878.7	12.3	15.7	NA	NA	NA	0.00	19.6						

UK002	UK002_74	NA	4340	43900	188	2.0	NA	NA	3.2248	1.7	0.1025	2.1	NA	NA	4.3826	2.7	0.3101	1.7	0.50	NA	NA	1669.9	39.1	42.9	1741.2	26.5	33.6	1709.1	22.6	26.4	NA	NA	NA	0.01	-4.3	
UK002	UK002_75	NA	5140	49500	223	2.5	NA	NA	3.3400	1.7	0.1074	1.9	NA	NA	4.4336	2.5	0.2994	1.7	0.61	NA	NA	1755.8	34.8	39.0	1688.3	25.2	32.2	1718.6	21.1	25.2	NA	NA	NA	0.00	3.8	
UK002	UK002_76	NA	2585	22670	102	2.0	NA	NA	3.2637	2.0	0.1179	2.7	NA	NA	4.9809	3.3	0.3064	2.0	0.70	NA	NA	1924.6	47.6	50.6	1723.0	30.6	36.8	1816.1	28.2	31.5	NA	NA	NA	0.00	10.5	
UK002	UK002_79	NA	34700	189000	497	1.9	NA	NA	2.0433	1.6	0.1888	0.8	NA	NA	12.7399	1.8	0.4894	1.6	0.71	NA	NA	2731.7	14.0	21.1	2568.1	33.4	44.0	2660.6	16.9	23.0	NA	NA	NA	0.00	6.0	
UK002	UK002_83	NA	10200	93400	509	2.7	NA	NA	3.5575	1.7	0.1108	1.5	NA	NA	4.2944	2.2	0.2811	1.7	0.65	NA	NA	1812.6	26.8	31.9	1596.9	23.9	30.6	1692.3	18.5	23.0	NA	NA	NA	0.00	11.9	
UK002	UK002_87	NA	17110	136400	672	2.9	NA	NA	3.6765	2.6	0.1312	2.0	NA	NA	4.9204	3.2	0.2720	2.6	0.54	NA	NA	2114.1	34.9	38.7	1550.9	35.3	39.9	1805.8	27.4	30.7	NA	NA	NA	0.00	26.6	
UK002	UK002_99	NA	55600	307000	984	3.1	NA	NA	2.0467	1.7	0.1870	0.7	NA	NA	12.5978	1.8	0.4886	1.7	0.88	NA	NA	2716.0	11.3	19.4	2564.6	36.2	46.1	2650.1	17.3	23.3	NA	NA	NA	0.00	5.6	
UK002	UK002_101	NA	7640	79300	744	2.3	NA	NA	6.1501	2.7	0.0989	1.6	NA	NA	2.2173	3.1	0.1626	2.7	0.96	NA	NA	1603.5	29.6	34.6	971.2	24.3	27.2	1186.5	21.9	24.8	NA	NA	NA	0.00	39.4	
UK002	UK002_102	NA	16000	142000	697	7.9	NA	NA	3.5323	1.9	0.1156	1.1	NA	NA	4.5123	2.2	0.2831	1.9	0.86	NA	NA	1889.3	20.5	26.8	1607.0	26.8	33.0	1733.2	18.3	22.9	NA	NA	NA	0.00	14.9	
UK002	UK002_103	NA	8050	91900	571	2.0	NA	NA	4.2827	1.7	0.0908	1.6	NA	NA	2.9233	2.4	0.2335	1.7	0.62	NA	NA	1442.4	31.1	36.0	1352.8	20.9	26.7	1388.0	17.9	21.9	NA	NA	NA	0.00	6.2	
UK002	UK002_106	NA	18320	98400	259	0.7	NA	NA	1.9505	1.6	0.1922	1.1	NA	NA	13.5868	2.0	0.5127	1.6	0.57	NA	NA	2761.1	18.3	24.1	2668.1	35.4	46.1	2721.3	18.6	24.3	NA	NA	NA	0.00	3.4	
UK002	UK002_107	NA	4710	42800	265	2.8	NA	NA	4.0883	1.9	0.1131	2.0	NA	NA	3.8143	2.8	0.2446	1.9	0.72	NA	NA	1849.8	36.7	40.6	1410.6	24.0	29.5	1595.8	22.3	26.0	NA	NA	NA	0.00	23.7	
UK002	UK002_109	NA	1577	15520	77	1.9	NA	NA	3.7120	1.7	0.1048	3.4	NA	NA	3.8928	3.8	0.2694	1.7	0.13	NA	NA	1710.8	63.0	65.4	1537.8	23.9	30.2	1612.2	31.0	33.8	NA	NA	NA	0.00	10.1	
UK002	UK002_111	NA	5140	69600	748	3.3	NA	NA	7.0175	3.0	0.0774	1.9	NA	NA	1.5207	3.6	0.1425	3.0	0.97	NA	NA	1131.5	38.0	42.5	858.8	24.3	26.6	938.8	21.9	24.1	NA	NA	NA	0.00	24.1	
UK002	UK002_112	NA	6010	69600	474	3.1	NA	NA	4.7393	1.9	0.0893	1.9	NA	NA	2.5980	2.6	0.2110	1.9	0.71	NA	NA	1410.6	35.4	39.9	1234.1	21.2	26.1	1300.1	19.4	22.9	NA	NA	NA	0.00	12.5	
UK002	UK002_117	NA	17850	80100	223	4.1	NA	NA	1.9399	1.7	0.2306	1.1	NA	NA	16.3904	2.1	0.5155	1.7	0.75	NA	NA	3056.2	18.2	23.8	2680.1	37.9	48.1	2899.9	19.8	25.3	NA	NA	NA	0.00	12.3	
UK002	UK002_121	NA	4640	46100	226	2.6	NA	NA	3.5211	1.7	0.1044	2.0	NA	NA	4.0881	2.6	0.2840	1.7	0.39	NA	NA	1703.8	37.4	41.4	1611.5	24.0	30.7	1651.9	21.5	25.4	NA	NA	NA	0.00	5.4	
UK002	UK002_130	NA	15100	141000	611	8.3	NA	NA	3.3113	1.6	0.1105	1.3	NA	NA	4.6012	2.1	0.3020	1.6	0.61	NA	NA	1807.7	23.0	28.9	1701.2	24.3	31.6	1749.5	17.2	22.1	NA	NA	NA	0.00	5.9	
UK002	UK002_140	NA	7930	76900	352	2.4	NA	NA	3.3979	1.6	0.1068	1.7	NA	NA	4.3337	2.3	0.2943	1.6	0.38	NA	NA	1745.5	30.7	35.4	1663.0	24.1	31.2	1699.8	19.4	23.7	NA	NA	NA	0.00	4.7	
UK002	UK002_141	NA	652	12800	237	1.0	NA	NA	14.2045	1.7	0.0517	5.2	NA	NA	0.5018	5.5	0.0704	1.7	0.06	NA	NA	NA	NA	NA	438.6	7.4	9.3	412.9	18.7	19.5	NA	NA	NA	0.01	-61.1	
UK002	UK002_150	NA	986	9990	53	0.6	NA	NA	3.7779	1.7	0.1025	4.3	NA	NA	3.7409	4.6	0.2647	1.7	0.28	NA	NA	1669.9	78.8	80.8	1513.8	23.4	29.7	1580.2	36.9	39.2	NA	NA	NA	0.00	9.3	
UK002	UK002_153	NA	3170	22600	84	1.3	NA	NA	2.4213	2.1	0.1470	2.7	NA	NA	8.3708	3.4	0.4130	2.1	0.64	NA	NA	2311.3	46.3	49.1	2228.6	39.8	47.3	2272.0	31.1	34.5	NA	NA	NA	0.00	3.6	LL
UK002	UK002_154	NA	12220	130600	759	1.9	NA	NA	3.8402	1.7	0.0971	1.3	NA	NA	3.4863	2.1	0.2604	1.7	0.76	NA	NA	1569.1	24.5	30.3	1491.9	22.3	28.7	1524.1	16.8	21.3	NA	NA	NA	0.00	4.9	
UK002	UK002_157	NA	2870	29620	177	1.4	NA	NA	4.1051	1.9	0.1009	2.6	NA	NA	3.3890	3.2	0.2436	1.9	0.56	NA	NA	1640.7	47.9	51.1	1405.4	23.6	29.1	1501.9	25.0	28.2	NA	NA	NA	0.00	14.3	
UK002	UK002_159	NA	2290	31500	254	2.4	NA	NA	6.0606	1.7	0.0766	3.0	NA	NA	1.7427	3.5	0.1650	1.7	0.19	NA	NA	1110.8	60.9	63.8	984.5	15.2	19.6	1024.5	22.4	24.8	NA	NA	NA	0.00	11.4	
UK002	UK002_168	NA	2599	31700	212	1.8	NA	NA	5.1361	1.7	0.0847	2.8	NA	NA	2.2738	3.3	0.1947	1.7	0.17	NA	NA	1308.7	54.5	57.6	1146.8	17.7	22.7	1204.2	23.1	25.9	NA	NA	NA	0.00	12.4	
UK002	UK002_171	NA	11710	77700	817	2.2	NA	NA	5.7241	1.7	0.1540	1.3	NA	NA	3.7095	2.1	0.1747	1.7	0.86	NA	NA	2390.8	22.7	28.0	1038.0	16.0	20.6	1573.4	17.1	21.6	NA	NA	NA	0.00	56.6	
UK002	UK002_172	NA	14300	122000	1080	2.8	NA	NA	4.2373	3.0	0.1155	1.4	NA	NA	3.7583	3.3	0.2360	3.0	0.94	NA	NA	1887.7	25.8	31.0	1365.9	37.0	40.6	1583.9	26.7	29.8	NA	NA	NA	0.00	27.6	
UK002	UK002_173	NA	11370	60900	172	13.6	NA	NA	2.0777	1.6	0.1933	1.4	NA	NA	12.8277	2.1	0.4813	1.6	0.56	NA	NA	2770.4	22.4	27.4	2532.9	34.3	44.5	2667.1	20.1	25.5	NA	NA	NA	0.00	8.6	
UK002	UK002_175	NA	60900	352000	1489	3.8	NA	NA	2.6624	1.9	0.1799	0.7	NA	NA	9.3166	2.0	0.3756	1.9	0.95	NA	NA	2651.9	12.1	20.0	2055.7	33.5	41.1	2369.7	18.7	24.1	NA	NA	NA	0.00	22.5	
UK002	UK002_180	NA	3780	36900	167	2.1	NA	NA	3.4602	1.7	0.1064	2.3	NA	NA	4.2398	2.9	0.2890	1.7	0.57	NA	NA	1738.6	41.8	45.3	1636.5	25.1	31.8	1681.8	23.5	27.2	NA	NA	NA	0.00	5.9	
UK002	UK002_186	NA	6780	66400	296	2.9	NA	NA	3.4341	1.6	0.1053	1.7	NA	NA	4.2279	2.4	0.2912	1.6	0.37	NA	NA	1719.6	31.8	36.4	1647.5	23.5	30.6	1679.4	19.4	23.7	NA	NA	NA	0.01	4.2	
UK002	UK002_188	NA	11920	106200	541	4.2	NA	NA	3.1918	1.8	0.1157	1.4	NA	NA	4.9980	2.3	0.3133	1.8	0.83	NA	NA	1890.8	24.4	29.9	1756.9	28.4	35.2	1819.0	19.4	23.9	NA	NA	NA	0.00	7.1	
UK002	UK002_192	NA	7860	66300	269	2.3	NA	NA	3.0912	1.6	0.1229	1.6	NA	NA	5.4819	2.3	0.3235	1.6	0.55	NA	NA	1998.7	27.9	32.7	1806.8	25.5	33.2	1897.8	19.4	24.0	NA	NA	NA	0.00	9.6	
UK002	UK002_196	NA	10870	94300	363	10.7	NA	NA	2.9516	1.6	0.1195	1.3	NA	NA	5.5823	2.1	0.3388	1.6	0.58	NA	NA	1948.8	23.9	29.4	1880.9	26.4	34.4	1913.4	18.1	23.0	NA	NA	NA	0.00	3.5	
UK002	UK002_200	NA	2440	24850	123	2.3	NA	NA	3.8124	1.8	0.1022	2.9	NA	NA	3.6962	3.4	0.2623	1.8	0.52	NA	NA	1664.5	53.3	56.1	1501.6	23.6	29.7	1570.5	27.0	30.0	NA	NA	NA	0.00	9.8	
UK002	UK002_203	NA	12840	72300	208	1.2	NA	NA	2.1706	1.8	0.1843	1.3	NA	NA	11.7070	2.2	0.4607	1.8	0.76	NA	NA	2692.0	21.9	27.0	2442.6	36.2	45.4	2581.3	20.7	25.9	NA	NA	NA	0.00	9.3	
UK002	UK002_208	NA	4660	43700	193	3.3	NA	NA	3.4412	1.7	0.1111	2.0	NA	NA	4.4515	2.6	0.2906	1.7	0.51	NA	NA	1817.5	37.1	41.0	1644.5	24.2	31.1	1722.0	21.9	25.8	NA	NA	NA	0.00	9.5	
UK002	UK002_221	NA	2060	21400	119	4.7	NA	NA	4.2355	2.3	0.1020	3.0	NA	NA	3.3205	3.8	0.2361	2.3	0.85	NA	NA	1660.8	54.8	57.6	1366.4	28.5	33.0	1485.9	29.3	32.0	NA	NA	NA	0.00	17.7	
UK002	UK002_228	NA	63900	387000	1829	9.5	NA	NA	2.6178	3.7	0.1720	1.3	NA	NA	9.0593	3.9	0.3820	3.7	0.96	NA	NA	2577.2	21.4	26.7	2085.6	65.5	69.8	2344.0	35.6	38.7	NA	NA	NA	0.00	19.1	
UK002	UK002_229	NA	49000	342000	1300	16.5	NA	NA	2.9112	1.8	0.1498	1.0	NA	NA	7.0948	2.0	0.3435	1.8	0.83	NA	NA	2343.6	16.5	23.3	1903.5	29.2	36.7	2123.4	18.0	23.2	NA	NA	NA	0.00	18.8	
UK002	UK002_230	NA	6820	68200	320	1.1	NA	NA	3.5411	1.6	0.1031	1.7	NA	NA	4.0144	2.4	0.2824	1.6	0.57	NA	NA	1680.7	31.3	35.9	1603.4	23.2	30.1	1637.1	19.1	23.4	NA	NA	NA	0.00	4.6	
UK002	UK002_231	NA	634	7130	52	2.1	NA	NA	5.5804	2.1	0.0900	5.3	NA	NA	2.2237	5.7	0.1792	2.1	0.40	NA	NA	1425.5	100.9	102.6	1062.6	20.7	24.6	1188.5	39.8	41.5	NA	NA	NA	0.00	25.5	
UK002	UK002_233	NA	11740	130900	2140	22.1	NA	NA	8.7336	2.7	0.0930	1.4	NA	NA	1.4682	3.0	0.1145	2.7	0.96	NA	NA	1487.9	26.9	32.4	698.8	17.6	19.7	917.4	18.2	20.8	NA	NA	NA	0.00	53.0	
UK002	UK002_237	NA	20120	101700	284	1.4	NA	NA	2.0614	1.7	0.2038	1.0	NA	NA	13.6313	2.0	0.4851	1.7	0.85	NA	NA	2856.9	16.4	22.6	2549.4	36.7	46.4	2724.4	19.0	24.7	NA	NA	NA	0.00	10.8	
UK002	UK002_250	NA	12760	121800	568	4.3	NA	NA	3.3910	1.6	0.1078	1.3	NA	NA	4.3832	2.1	0.2949	1.6	0.56	NA	NA	1762.6	24.2	29.9	1666.0	23.3	30.6	1709.2	17.1	21.9	NA	NA	NA	0.00	5.5	
UK002	UK002_256	NA	16390	130200	465	3.9	NA	NA	2.7548	1.6	0.1292	1.1	NA	NA	6.4665	1.9	0.3630	1.6	0.57	NA	NA	2087.1	20.1	26.2	1996.4	27.0	35.6	2041.4	17.1	22.5	NA	NA	NA	0.00	4.3	
UK002	UK002_258	NA	4440	42500	220	3.1	NA	NA	3.5373	1.8	0.1077	2.0	NA	NA	4.1980	2.7	0.2827	1.8	0.77	NA	NA	1760.9	36.7	40.6	1604.9	25.7	32.1	1673.6	22.2	26.0	NA	NA	NA	0.00	8.9	
UK002	UK002_267	NA	4820	48700	355	7.9	NA	NA	5.3447	2.0	0.1009	2.0	NA	NA	2.6030	2.8	0.1871	2.0	0.79	NA	NA	1640.7	37.8	41.8	1105.6	20.1	24.3	1301.5	20.8	24.1	NA	NA	NA	0.00	32.6	
UK002	UK002_271	NA	10750	59000	160	0.8	NA	NA	1.9948	1.6	0.1866	1.3	NA	NA	12.8977	2.1	0.5013	1.6	0.50	NA	NA	2712.4	21.9	27.0	2619.4	33.9	44.7	2672.2	19.4	24.9	NA	NA	NA	0.00	3.4	
UK002	UK002_272	NA	5350	44200	165	2.3	NA	NA	2.8760	1.7	0.1240	2.0	NA	NA	5.9447	2.6	0.3477	1.7	0.40	NA	NA	2014.6	35.4	39.2	1923.6	28.7	36.5	1967.8	22.9	27.1	NA	NA	NA	0.00	4.5	
UK002	UK002_276	NA	2393	26700	404	2.1	NA	NA	6.9493	1.8	0.0885	3.0	NA	NA	1.7559	3.5	0.1439	1.8	0.51	NA	NA	1393.4	57.2	60.0	866.7	14.9	18.5	1029.3	22.7	25.1	NA	NA	NA	0.00	37.8	
UK002	UK002_279	NA	2470	25620	127	2.7	NA	NA	3.8168	1.8	0.0990	2.9	NA	NA	3.5763	3.4	0.2620	1.8	0.36	NA	NA	1605.4	54.4	57.2	1500.1	24.6	30.5	1544.3	27.3	30.3	NA	NA	NA	0.00	6.6	
UK002	UK002_288	NA	9600	84000	339	2.5	NA	NA	3.1546	1.7	0.1181	1.6	NA	NA	5.1619	2.4	0.3170	1.7	0.48	NA	NA	1927.7	28.6	33.4	1775.1	26.9	34.1	1846.4	20.1	24.5	NA	NA	NA	0.00	7.9	
UK002	UK002_293	NA	622	8350	74	3.6	NA	NA	6.8259	2.2	0.0769	5.3	NA	NA	1.5533	5.8	0.1465	2.2	0.47	NA	NA	1118.6	106.7	108.4	881.3	18.3	21.5	951.8	35.8	37.2	NA	NA	NA	0.00	21.2	
UK002	UK002_297	NA	25300	194000	1706	6.3	NA	NA	5.9207	2.1	0.1342	1.1	NA	NA	3.1252	2.4	0.1689	2.1	0.95	NA	NA	2153.6	19.2	25.5	1006.0	19.5	23.2	1438.9	18.2	22.2	NA	NA	NA	0.00	53.3	
UK002	UK002_300	NA	17200	124900	523	1.9	NA	NA	2.8736	2.3	0.1400	1.2	NA	NA	6.7175	2.6	0.3480	2.3	0.93	NA	NA	2227.2	20.3	26.2	1925.0	38.6	44.7	2074.9	23.0	27.2	NA	NA	NA	0.00	13.6	

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TS16-TRBT-10C									Data for Tera-Wasserburg plot[2]						Data for Wetherill plot[2]							Dates														Comments	Accepted Ages[4]				
Sample	Spot	f206c	^{207}Pb CPS	^{206}Pb CPS	U (ppm)[1]	U/Th	^{206}Pb/^{204}Pb	1s %	^{238}U/^{206}Pb	$2s_x$ (%)	^{207}Pb/^{206}Pb	$2s_x$ (%)	^{208}Pb/^{206}Pb	$2s_x$ (%)	^{207}Pb/^{235}Pb	$2s_x$ (%)	^{206}Pb/^{238}U	$2s_x$ (%)	Rho	^{208}Pb/^{232}Th	$2s_x$ (%)	^{207}Pb/^{206}Pb	$2s_x$ (ABS)	$2s_{total}$ (ABS)	^{206}Pb/^{238}U	$2s_x$ (ABS)	$2s_{total}$ (ABS)	^{207}Pb/^{235}Pb	$2s_x$ (ABS)	$2s_{total}$ (ABS)	^{208}Pb/^{232}Th	$2s_x$ (ABS)	$2s_{total}$ (ABS)	Prob. Conc. (%)	% conc[3]		Date (Ma)	$2s_x$ (ABS)	$2s_x$ (%)	$2s_{total}$ (ABS)	$2s_{total}$ (%)
UK007	UK007_279	NA	15	199	156	0.6	NA	NA	293.2551	11.7	0.0750	29.6	NA	NA	0.0353	31.8	0.0034	11.7	0.41	NA	NA	NA	NA	NA	21.9	2.6	2.6	35.2	11.0	11.0	NA	NA	NA	0.01	97.9	CL	21.9	2.6	11.7	2.6	12.1
UK007	UK007_45	NA	11	186	170	0.8	NA	NA	292.3977	7.1	0.0660	28.2	NA	NA	0.0311	29.1	0.0034	7.1	-0.12	NA	NA	NA	NA	NA	22.0	1.6	1.6	31.1	8.9	8.9	NA	NA	NA	0.05	97.3		22.0	1.6	7.0	1.6	7.0
UK007	UK007_248	NA	6	135	108	1.4	NA	NA	292.3977	9.1	0.0480	36.3	NA	NA	0.0226	37.5	0.0034	9.1	0.16	NA	NA	NA	NA	NA	22.0	2.0	2.0	22.7	8.4	8.4	NA	NA	NA	0.86	77.8	CL	22.0	2.0	9.1	2.0	9.2
UK007	UK007_21	NA	57	1300	1130	0.6	NA	NA	290.6977	4.0	0.0530	10.6	NA	NA	0.0251	11.4	0.0034	4.0	0.47	NA	NA	NA	NA	NA	22.1	0.9	0.9	25.2	2.8	2.9	NA	NA	NA	0.02	93.3		22.1	0.9	4.0	0.9	4.2
UK007	UK007_232	NA	4	102	94	1.1	NA	NA	286.5330	8.5	0.0930	42.0	NA	NA	0.0448	42.9	0.0035	8.5	0.00	NA	NA	NA	NA	NA	22.5	1.9	1.9	44.5	18.6	18.7	NA	NA	NA	0.02	98.5		22.5	1.9	8.5	1.9	8.6
UK007	UK007_22	NA	10	129	111	1.0	NA	NA	285.7143	7.5	0.0630	33.5	NA	NA	0.0304	34.3	0.0035	7.5	0.29	NA	NA	NA	NA	NA	22.5	1.7	1.7	30.4	10.3	10.3	NA	NA	NA	0.11	96.8		22.5	1.7	7.4	1.7	7.6
UK007	UK007_146	NA	8	152	122	1.2	NA	NA	279.3296	6.4	0.0420	32.8	NA	NA	0.0207	33.4	0.0036	6.4	0.24	NA	NA	NA	NA	NA	23.0	1.5	1.5	20.8	6.9	6.9	NA	NA	NA	0.51	110.2		23.0	1.5	6.4	1.5	6.6
UK007	UK007_278	NA	6	132	106	1.0	NA	NA	279.3296	7.7	0.0720	34.7	NA	NA	0.0355	35.5	0.0036	7.7	0.21	NA	NA	NA	NA	NA	23.0	1.8	1.8	35.5	12.4	12.4	NA	NA	NA	0.04	97.7		23.0	1.8	7.7	1.8	7.9
UK007	UK007_83	NA	6	156	147	1.0	NA	NA	278.5515	8.1	0.0550	35.7	NA	NA	0.0272	36.6	0.0036	8.1	-0.01	NA	NA	NA	NA	NA	23.1	1.9	1.9	27.3	9.8	9.9	NA	NA	NA	0.41	94.4		23.1	1.9	8.1	1.9	8.1
UK007	UK007_87	NA	82	1940	1950	1.1	NA	NA	278.5515	4.0	0.0451	9.7	NA	NA	0.0223	10.5	0.0036	4.0	-0.21	NA	NA	NA	NA	NA	23.1	0.9	1.0	22.4	2.3	2.4	NA	NA	NA	0.61	146.0		23.1	0.9	4.0	1.0	4.2
UK007	UK007_71	NA	26	320	209	0.7	NA	NA	277.7778	17.4	0.0990	32.7	NA	NA	0.0491	37.0	0.0036	17.4	-0.73	NA	NA	NA	NA	NA	23.2	4.0	4.0	48.7	17.6	17.6	NA	NA	NA	0.01	98.6		23.2	4.0	17.4	4.0	14.9
UK007	UK007_86	NA	11	214	191	0.8	NA	NA	277.0083	6.8	0.0670	25.7	NA	NA	0.0333	26.5	0.0036	6.8	0.10	NA	NA	NA	NA	NA	23.2	1.6	1.6	33.3	8.7	8.7	NA	NA	NA	0.02	97.2		23.2	1.6	6.7	1.6	6.8
UK007	UK007_143	NA	43	826	610	0.7	NA	NA	277.0083	7.5	0.0540	17.0	NA	NA	0.0269	18.6	0.0036	7.5	-0.11	NA	NA	NA	NA	NA	23.2	1.7	1.8	26.9	4.9	5.0	NA	NA	NA	0.17	93.7	CL	23.2	1.7	7.5	1.8	7.5
UK007	UK007_58	NA	8	217	183	1.0	NA	NA	276.2431	6.0	0.0380	30.8	NA	NA	0.0190	31.4	0.0036	6.0	-0.14	NA	NA	NA	NA	NA	23.3	1.4	1.4	19.1	5.9	5.9	NA	NA	NA	0.18	104.8		23.3	1.4	6.0	1.4	6.2
UK007	UK007_26	NA	14	295	270	0.7	NA	NA	275.4821	5.4	0.0480	22.5	NA	NA	0.0240	23.2	0.0036	5.4	-0.17	NA	NA	NA	NA	NA	23.4	1.3	1.3	24.1	5.5	5.5	NA	NA	NA	0.80	76.5		23.4	1.3	5.4	1.3	5.6
UK007	UK007_72	NA	4	97	71	0.9	NA	NA	275.4821	11.5	0.0630	51.4	NA	NA	0.0315	52.7	0.0036	11.5	-0.07	NA	NA	NA	NA	NA	23.4	2.7	2.7	31.5	16.4	16.4	NA	NA	NA	0.33	96.7	CL	23.4	2.7	11.4	2.7	11.4
UK007	UK007_155	NA	15	251	211	1.0	NA	NA	275.4821	6.5	0.0600	24.1	NA	NA	0.0300	25.0	0.0036	6.5	-0.05	NA	NA	NA	NA	NA	23.4	1.5	1.5	30.0	7.4	7.4	NA	NA	NA	0.08	96.1		23.4	1.5	6.5	1.5	6.5
UK007	UK007_37	NA	21	361	267	1.0	NA	NA	274.7253	8.2	0.0710	28.2	NA	NA	0.0356	29.4	0.0036	8.2	-0.16	NA	NA	NA	NA	NA	23.4	1.9	2.0	35.6	10.3	10.3	NA	NA	NA	0.02	97.6	CL	23.4	1.9	8.2	2.0	8.1
UK007	UK007_209	NA	13	307	269	0.7	NA	NA	274.7253	5.3	0.0480	20.6	NA	NA	0.0241	21.2	0.0036	5.3	0.10	NA	NA	NA	NA	NA	23.4	1.2	1.3	24.2	5.1	5.1	NA	NA	NA	0.77	76.4		23.4	1.2	5.3	1.3	5.4
UK007	UK007_212	NA	17	381	335	0.6	NA	NA	273.9726	4.3	0.0490	16.1	NA	NA	0.0247	16.7	0.0037	4.3	0.13	NA	NA	NA	NA	NA	23.5	1.0	1.1	24.7	4.1	4.1	NA	NA	NA	0.54	84.1		23.5	1.0	4.3	1.1	4.5
UK007	UK007_156	NA	10	212	175	0.7	NA	NA	272.4796	6.6	0.0550	25.5	NA	NA	0.0278	26.3	0.0037	6.6	-0.09	NA	NA	NA	NA	NA	23.6	1.5	1.6	27.9	7.2	7.3	NA	NA	NA	0.26	94.3		23.6	1.5	6.5	1.6	6.6
UK007	UK007_17	NA	12	229	179	0.9	NA	NA	270.2703	6.4	0.0550	20.1	NA	NA	0.0281	21.1	0.0037	6.4	0.13	NA	NA	NA	NA	NA	23.8	1.5	1.6	28.1	5.8	5.9	NA	NA	NA	0.14	94.2		23.8	1.5	6.4	1.6	6.5
UK007	UK007_52	NA	20	359	288	1.2	NA	NA	270.2703	5.8	0.0550	16.3	NA	NA	0.0281	17.3	0.0037	5.8	0.02	NA	NA	NA	NA	NA	23.8	1.4	1.4	28.1	4.8	4.8	NA	NA	NA	0.08	94.2		23.8	1.4	5.8	1.4	5.9
UK007	UK007_63	NA	23	425	369	1.1	NA	NA	270.2703	5.1	0.0570	16.6	NA	NA	0.0291	17.3	0.0037	5.1	-0.11	NA	NA	NA	NA	NA	23.8	1.2	1.3	29.1	5.0	5.0	NA	NA	NA	0.04	95.2		23.8	1.2	5.1	1.3	5.2
UK007	UK007_285	NA	16	390	330	1.2	NA	NA	270.2703	5.3	0.0510	16.6	NA	NA	0.0260	17.4	0.0037	5.3	-0.11	NA	NA	NA	NA	NA	23.8	1.3	1.3	26.1	4.5	4.5	NA	NA	NA	0.34	90.1		23.8	1.3	5.3	1.3	5.5
UK007	UK007_68	NA	8	210	167	0.8	NA	NA	269.5418	6.5	0.0580	26.1	NA	NA	0.0297	26.9	0.0037	6.5	-0.12	NA	NA	NA	NA	NA	23.9	1.5	1.6	29.7	7.9	7.9	NA	NA	NA	0.16	95.5		23.9	1.5	6.5	1.6	6.5
UK007	UK007_97	NA	9	194	160	0.9	NA	NA	269.5418	6.6	0.0520	24.0	NA	NA	0.0266	24.9	0.0037	6.6	-0.09	NA	NA	NA	NA	NA	23.9	1.6	1.6	26.7	6.6	6.6	NA	NA	NA	0.42	91.6		23.9	1.6	6.6	1.6	6.7
UK007	UK007_177	NA	12	333	272	1.0	NA	NA	269.5418	5.4	0.0410	20.2	NA	NA	0.0210	20.9	0.0037	5.4	0.13	NA	NA	NA	NA	NA	23.9	1.3	1.3	21.1	4.4	4.4	NA	NA	NA	0.20	108.3		23.9	1.3	5.4	1.3	5.6
UK007	UK007_38	NA	12	274	210	0.8	NA	NA	268.8172	5.3	0.0480	22.6	NA	NA	0.0246	23.2	0.0037	5.3	-0.14	NA	NA	NA	NA	NA	23.9	1.3	1.3	24.7	5.7	5.7	NA	NA	NA	0.80	75.9		23.9	1.3	5.3	1.3	5.5
UK007	UK007_196	NA	8	213	192	0.8	NA	NA	268.8172	6.2	0.0490	24.5	NA	NA	0.0251	25.3	0.0037	6.2	0.01	NA	NA	NA	NA	NA	23.9	1.5	1.5	25.2	6.3	6.3	NA	NA	NA	0.69	83.8		23.9	1.5	6.2	1.5	6.4
UK007	UK007_35	NA	12	337	272	0.8	NA	NA	268.0965	6.2	0.0420	23.2	NA	NA	0.0216	24.0	0.0037	6.2	-0.11	NA	NA	NA	NA	NA	24.0	1.5	1.5	21.7	5.2	5.2	NA	NA	NA	0.40	110.6		24.0	1.5	6.2	1.5	6.4
UK007	UK007_41	NA	14	250	215	0.8	NA	NA	268.0965	6.1	0.0580	24.1	NA	NA	0.0298	24.8	0.0037	6.1	0.17	NA	NA	NA	NA	NA	24.0	1.5	1.5	29.8	7.3	7.3	NA	NA	NA	0.11	95.5		24.0	1.5	6.1	1.5	6.2
UK007	UK007_136	NA	9	205	178	0.8	NA	NA	268.0965	6.1	0.0490	24.3	NA	NA	0.0252	25.1	0.0037	6.1	-0.06	NA	NA	NA	NA	NA	24.0	1.5	1.5	25.3	6.3	6.3	NA	NA	NA	0.70	83.8		24.0	1.5	6.1	1.5	6.2
UK007	UK007_164	NA	8	172	140	1.1	NA	NA	268.0965	7.8	0.0390	45.5	NA	NA	0.0201	46.2	0.0037	7.8	0.00	NA	NA	NA	NA	NA	24.0	1.9	1.9	20.2	9.2	9.2	NA	NA	NA	0.41	105.8		24.0	1.9	7.8	1.9	8.0
UK007	UK007_282	NA	11	270	215	0.9	NA	NA	266.6667	6.6	0.0470	25.2	NA	NA	0.0243	26.0	0.0038	6.6	-0.16	NA	NA	NA	NA	NA	24.1	1.6	1.6	24.4	6.3	6.3	NA	NA	NA	0.94	51.0		24.1	1.6	6.6	1.6	6.7
UK007	UK007_92	NA	11	263	229	0.9	NA	NA	265.9574	6.1	0.0540	25.8	NA	NA	0.0280	26.5	0.0038	6.1	0.22	NA	NA	NA	NA	NA	24.2	1.5	1.5	28.0	7.3	7.4	NA	NA	NA	0.28	93.5		24.2	1.5	6.1	1.5	6.2
UK007	UK007_112	NA	15	262	222	0.8	NA	NA	265.9574	5.7	0.0580	16.6	NA	NA	0.0301	17.5	0.0038	5.7	0.11	NA	NA	NA	NA	NA	24.2	1.4	1.4	30.1	5.2	5.2	NA	NA	NA	0.02	95.4		24.2	1.4	5.7	1.4	5.8
UK007	UK007_144	NA	5	106	91	0.8	NA	NA	265.9574	8.1	0.0740	33.9	NA	NA	0.0384	34.8	0.0038	8.1	-0.06	NA	NA	NA	NA	NA	24.2	2.0	2.0	38.2	13.1	13.1	NA	NA	NA	0.04	97.7		24.2	2.0	8.1	2.0	8.1
UK007	UK007_231	NA	8	276	204	0.9	NA	NA	265.9574	7.9	0.0440	26.9	NA	NA	0.0228	28.0	0.0038	7.9	0.18	NA	NA	NA	NA	NA	24.2	1.9	1.9	22.9	6.4	6.4	NA	NA	NA	0.68	121.9	CL	24.2	1.9	7.9	1.9	8.0
UK007	UK007_88	NA	27	481	341	0.8	NA	NA	265.2520	6.7	0.0660	24.1	NA	NA	0.0343	25.0	0.0038	6.7	-0.40	NA	NA	NA	NA	NA	24.3	1.6	1.6	34.3	8.4	8.4	NA	NA	NA	0.03	97.0	CL	24.3	1.6	6.6	1.6	6.5
UK007	UK007_195	NA	12	218	177	1.4	NA	NA	265.2520	6.0	0.0600	19.4	NA	NA	0.0312	20.3	0.0038	6.0	0.11	NA	NA	NA	NA	NA	24.3	1.4	1.5	31.2	6.2	6.3	NA	NA	NA	0.03	96.0		24.3	1.4	5.9	1.5	6.0
UK007	UK007_12	NA	11	211	164	1.3	NA	NA	264.5503	6.1	0.0600	20.3	NA	NA	0.0313	21.2	0.0038	6.1	0.10	NA	NA	NA	NA	NA	24.3	1.5	1.5	31.3	6.5	6.5	NA	NA	NA	0.03	96.0		24.3	1.5	6.0	1.5	6.1
UK007	UK007_124	NA	11	243	199	1.2	NA	NA	264.5503	5.6	0.0540	20.4	NA	NA	0.0281	21.2	0.0038	5.6	-0.04	NA	NA	NA	NA	NA	24.3	1.4	1.4	28.2	5.9	5.9	NA	NA	NA	0.21	93.4		24.3	1.4	5.6	1.4	5.7
UK007	UK007_101	NA	11	286	228	0.9	NA	NA	263.8522	5.4	0.0390	21.2	NA	NA	0.0204	21.8	0.0038	5.4	0.06	NA	NA	NA	NA	NA	24.4	1.3	1.3	20.5	4.4	4.4	NA	NA	NA	0.09	105.9		24.4	1.3	5.4	1.3	5.6
UK007	UK007_179	NA	22	439	364	0.5	NA	NA	263.1579	4.7	0.0490	17.9	NA	NA	0.0257	18.5	0.0038	4.7	-0.11	NA	NA	NA	NA	NA	24.4	1.2	1.2	25.7	4.7	4.7	NA	NA	NA	0.60	83.5		24.4	1.2	4.7	1.2	4.9
UK007	UK007_14	NA	21	446	348	0.8	NA	NA	262.4672	4.6	0.0530	14.1	NA	NA	0.0278	14.9	0.0038	4.6	0.04	NA	NA	NA	NA	NA	24.5	1.1	1.2	27.9	4.1	4.1	NA	NA	NA	0.11	92.5		24.5	1.1	4.6	1.2	4.8
UK007	UK007_244	NA	12	239	205	0.9	NA	NA	261.7801	6.4	0.0580	25.8	NA	NA	0.0305	26.6	0.0038	6.4	0.04	NA	NA	NA	NA	NA	24.6	1.6	1.6	30.6	8.0	8.0	NA	NA	NA	0.14	95.4		24.6	1.6	6.3	1.6	6.4
UK007	UK007_249	NA	9	151	119	1.0	NA	NA	261.0966	7.5	0.0730	27.9	NA	NA	0.0385	28.9	0.0038	7.5	0.05	NA	NA	NA	NA	NA	24.6	1.9	1.9	38.4	10.9	10.9	NA	NA	NA	0.01	97.6		24.6	1.9	7.5	1.9	7.6
UK007	UK007_269	NA	13	320	306	1.2	NA	NA	261.0966	5.3	0.0470	19.9	NA	NA	0.0248	20.6	0.0038	5.3	0.08	NA	NA	NA	NA	NA	24.6	1.3	1.4	24.9	5.1	5.1	NA	NA	NA	0.92	49.9		24.6	1.3	5.3	1.4	5.5
UK007	UK007_291	NA	14	294	248	1.0	NA	NA	261.0966	6.2	0.0440	21.1	NA	NA	0.0232	22.0	0.0038	6.2	0.09	NA	NA	NA	NA	NA	24.6	1.5	1.6	23.3	5.1	5.1	NA	NA	NA	0.61	122.3		24.6	1.5	6.2	1.6	6.4
UK007	UK007_80	NA	8	209	160	1.2	NA	NA	260.4167	6.6	0.0360	38.0	NA	NA	0.0191	38.5	0.0038	6.6	-0.06	NA	NA	NA	NA	NA	24.7	1.6	1.7	19.2	7.3	7.3	NA	NA	NA	0.14	103.9		24.7	1.6	6.6	1.7	6.8
UK007	UK007_73	NA	13	325	256	0.8	NA	NA	259.7403	6.0	0.0450	20.7	NA	NA	0.0239	21.5	0.0039	6.0	-0.03	NA	NA	NA	NA	NA	24.8	1.5	1.5	24.0	5.1	5.1	NA	NA	NA	0.76	144.5		24.8	1.5	6.0	1.5	6.1
UK007	UK007_117	NA	10	214	131	1.1	NA	NA	259.7403	12.4	0.0570	41.2	NA	NA	0.0303	43.1	0.0039	12.4	-0.14	NA	NA	NA	NA	NA	24.8	3.1	3.1	30.3	12.8	12.8	NA	NA	NA	0.42	95.0	CL	24.8	3.1	12.4	3.1	12.2
UK007	UK007_133	NA	13	282	220	0.8	NA	NA	259.7403	5.8	0.0410	24.8	NA	NA	0.0218	25.5	0.0039	5.8	-0.03	NA	NA	NA	NA	NA	24.8	1.4	1.5	21.9	5.5	5.5	NA	NA	NA	0.31	108.6		24.8	1.4	5.7	1.5	5.9
UK007	UK007_228	NA	12	251	201	0.7	NA	NA	259.7403	6.0	0.0580	27.6	NA	NA	0.0308	28.2	0.0039	6.0	-0.14	NA	NA	NA	NA	NA	24.8	1.5	1.5	30.8	8.6	8.6	NA	NA	NA	0.18	95.3		24.8	1.5	6.0	1.5	6.0
UK007	UK007_95	NA	16	321	258	1.0	NA	NA	259.0674	5.6	0.0510	20.3	NA	NA	0.0271	21.1	0.0039	5.6	0.27	NA	NA	NA	NA	NA	24.8	1.4	1.4	27.2	5.7	5.7	NA	NA	NA	0.39	89.7		24.8	1.4	5.6	1.4	5.8
UK007	UK007_102	NA	12	281	236	1.0	NA	NA	259.0674	6.1	0.0530	19.8	NA	NA	0.0282	20.7	0.0039	6.1	0.12	NA	NA	NA	NA	NA	24.8	1.5	1.5	28.2	5.8	5.8	NA	NA	NA	0.24	92.4		24.8	1.5	6.1	1.5	6.2
UK007	UK007_76	NA	13	260	217	0.8	NA	NA	258.3979	6.0	0.0460	23.5	NA	NA	0.0245	24.2	0.0039	6.0	-0.09	NA	NA	NA	NA	NA	24.9	1.5	1.5	24.6	5.9	5.9	NA	NA	NA	0.93	1145.0		24.9	1.5	5.9	1.5	6.1
UK007	UK007_25	NA	17	293	210	1.2	NA	NA	257.7320	6.2	0.0430	22.5	NA	NA	0.0230	23.4	0.0039	6.2	-0.17	NA	NA	NA	NA	NA	25.0	1.5	1.6	23.1	5.3	5.3	NA	NA	NA	0.52	114.9	CL	25.0	1.5	6.2	1.6	6.4
UK007	UK007_158	NA	24	463	411	0.6	NA	NA	257.7320	5.0	0.0440	16.4	NA	NA	0.0235	17.1	0.0039	5.0	0.17	NA	NA	NA	NA	NA	25.0	1.2	1.3	23.6	4.0	4.0	NA	NA	NA	0.50	122.6		25.0	1.2	5.0	1.3	5.2
UK007	UK007_216	NA	17	306	274	0.8	NA	NA	257.7320	6.3	0.0570	22.7	NA	NA	0.0305	23.5	0.0039	6.3	0.30	NA	NA	NA	NA	NA	25.0	1.6	1.6	30.5	7.1	7.1	NA	NA	NA	0.10	94.9	CL	25.0	1.6	6.3	1.6	6.4

UK007	UK007_44	NA	6	134	98	0.8	NA	NA	257.0694	10.6	0.0520	53.0	NA	NA	0.0279	54.1	0.0039	10.6	-0.14	NA	NA	NA	NA	NA	25.0	2.7	2.7	27.9	14.9	14.9	NA	NA	NA	0.71	91.2	CL	25.0	2.7	10.6	2.7	10.6
UK007	UK007_103	NA	9	243	174	0.8	NA	NA	257.0694	7.8	0.0430	32.0	NA	NA	0.0231	32.9	0.0039	7.8	0.36	NA	NA	NA	NA	NA	25.0	1.9	2.0	23.2	7.5	7.6	NA	NA	NA	0.60	114.9	CL	25.0	1.9	7.8	2.0	7.9
UK007	UK007_115	NA	12	273	233	0.8	NA	NA	257.0694	6.5	0.0550	21.8	NA	NA	0.0295	22.8	0.0039	6.5	-0.02	NA	NA	NA	NA	NA	25.0	1.6	1.7	29.5	6.6	6.6	NA	NA	NA	0.19	93.9	CL	25.0	1.6	6.5	1.7	6.6
UK007	UK007_198	NA	13	259	182	0.8	NA	NA	257.0694	8.9	0.0780	30.5	NA	NA	0.0418	31.7	0.0039	8.9	-0.16	NA	NA	NA	NA	NA	25.0	2.2	2.2	41.6	12.9	13.0	NA	NA	NA	0.01	97.8	CL	25.0	2.2	8.9	2.2	8.7
UK007	UK007_280	NA	6	148	112	1.2	NA	NA	257.0694	7.8	0.0560	35.0	NA	NA	0.0300	35.9	0.0039	7.8	0.14	NA	NA	NA	NA	NA	25.0	1.9	2.0	30.0	10.6	10.6	NA	NA	NA	0.34	94.5		25.0	1.9	7.8	2.0	7.9
UK007	UK007_16	NA	14	257	199	0.9	NA	NA	256.4103	6.5	0.0610	21.4	NA	NA	0.0328	22.4	0.0039	6.5	-0.32	NA	NA	NA	NA	NA	25.1	1.6	1.7	32.8	7.2	7.2	NA	NA	NA	0.05	96.1		25.1	1.6	6.5	1.7	6.4
UK007	UK007_186	NA	14	282	231	0.7	NA	NA	256.4103	6.0	0.0580	17.4	NA	NA	0.0312	18.4	0.0039	6.0	0.20	NA	NA	NA	NA	NA	25.1	1.5	1.5	31.2	5.7	5.7	NA	NA	NA	0.03	95.3		25.1	1.5	6.0	1.5	6.1
UK007	UK007_277	NA	12	293	212	0.8	NA	NA	254.4529	5.2	0.0490	21.2	NA	NA	0.0266	21.9	0.0039	5.2	0.04	NA	NA	NA	NA	NA	25.3	1.3	1.4	26.6	5.7	5.8	NA	NA	NA	0.65	82.9		25.3	1.3	5.2	1.4	5.4
UK007	UK007_292	NA	26	593	438	0.5	NA	NA	254.4529	4.7	0.0480	26.4	NA	NA	0.0260	26.8	0.0039	4.7	-0.34	NA	NA	NA	NA	NA	25.3	1.2	1.2	26.1	6.9	6.9	NA	NA	NA	0.83	74.5		25.3	1.2	4.7	1.2	4.9
UK007	UK007_36	NA	6	207	168	0.9	NA	NA	253.8071	6.8	0.0350	33.4	NA	NA	0.0190	34.1	0.0039	6.8	-0.01	NA	NA	NA	NA	NA	25.3	1.7	1.7	19.1	6.5	6.5	NA	NA	NA	0.06	103.6		25.3	1.7	6.8	1.7	7.0
UK007	UK007_46	NA	12	250	197	0.9	NA	NA	253.8071	5.6	0.0550	21.8	NA	NA	0.0299	22.5	0.0039	5.6	0.09	NA	NA	NA	NA	NA	25.3	1.4	1.4	29.9	6.6	6.7	NA	NA	NA	0.17	93.9		25.3	1.4	5.5	1.4	5.7
UK007	UK007_120	NA	11	230	189	1.3	NA	NA	253.8071	6.2	0.0550	21.9	NA	NA	0.0299	22.7	0.0039	6.2	0.00	NA	NA	NA	NA	NA	25.3	1.6	1.6	29.9	6.7	6.7	NA	NA	NA	0.19	93.9		25.3	1.6	6.2	1.6	6.3
UK007	UK007_121	NA	22	538	435	0.7	NA	NA	253.8071	4.6	0.0400	17.8	NA	NA	0.0217	18.4	0.0039	4.6	-0.08	NA	NA	NA	NA	NA	25.3	1.2	1.2	21.8	4.0	4.0	NA	NA	NA	0.10	107.2		25.3	1.2	4.6	1.2	4.9
UK007	UK007_157	NA	11	287	235	0.8	NA	NA	253.8071	5.3	0.0420	23.2	NA	NA	0.0228	23.8	0.0039	5.3	0.16	NA	NA	NA	NA	NA	25.3	1.4	1.4	22.9	5.4	5.4	NA	NA	NA	0.36	111.2		25.3	1.4	5.3	1.4	5.5
UK007	UK007_266	NA	20	515	391	0.8	NA	NA	253.8071	4.3	0.0480	14.4	NA	NA	0.0261	15.0	0.0039	4.3	0.05	NA	NA	NA	NA	NA	25.3	1.1	1.1	26.1	3.9	3.9	NA	NA	NA	0.69	74.5		25.3	1.1	4.3	1.1	4.5
UK007	UK007_287	NA	12	264	209	1.1	NA	NA	253.8071	7.1	0.0510	20.5	NA	NA	0.0277	21.7	0.0039	7.1	-0.01	NA	NA	NA	NA	NA	25.3	1.8	1.8	27.7	5.9	6.0	NA	NA	NA	0.44	89.5		25.3	1.8	7.1	1.8	7.2
UK007	UK007_23	NA	11	214	157	1.2	NA	NA	252.5253	6.1	0.0610	25.5	NA	NA	0.0333	26.2	0.0040	6.1	0.04	NA	NA	NA	NA	NA	25.5	1.5	1.6	33.3	8.6	8.6	NA	NA	NA	0.07	96.0		25.5	1.5	6.1	1.6	6.2
UK007	UK007_30	NA	16	297	224	0.8	NA	NA	252.5253	5.9	0.0540	17.5	NA	NA	0.0295	18.5	0.0040	5.9	0.06	NA	NA	NA	NA	NA	25.5	1.5	1.5	29.5	5.4	5.4	NA	NA	NA	0.14	93.1		25.5	1.5	5.8	1.5	5.9
UK007	UK007_105	NA	9	277	215	1.3	NA	NA	252.5253	4.9	0.0440	19.2	NA	NA	0.0240	19.8	0.0040	4.9	-0.04	NA	NA	NA	NA	NA	25.5	1.3	1.3	24.1	4.7	4.7	NA	NA	NA	0.58	123.0		25.5	1.3	4.9	1.3	5.1
UK007	UK007_178	NA	12	204	222	0.8	NA	NA	252.5253	9.5	0.0520	40.1	NA	NA	0.0284	41.2	0.0040	9.5	-0.10	NA	NA	NA	NA	NA	25.5	2.4	2.4	28.4	11.6	11.6	NA	NA	NA	0.63	91.1	INC(?)	25.5	2.4	9.5	2.4	9.5
UK007	UK007_140	NA	13	253	186	0.9	NA	NA	251.8892	5.5	0.0490	21.2	NA	NA	0.0268	21.9	0.0040	5.5	0.29	NA	NA	NA	NA	NA	25.5	1.4	1.5	26.9	5.8	5.8	NA	NA	NA	0.63	82.7		25.5	1.4	5.5	1.5	5.7
UK007	UK007_199	NA	43	984	789	0.5	NA	NA	251.8892	3.9	0.0465	10.7	NA	NA	0.0255	11.4	0.0040	3.9	-0.08	NA	NA	NA	NA	NA	25.5	1.0	1.1	25.5	2.9	2.9	NA	NA	NA	0.99	-8.1		25.5	1.0	3.9	1.1	4.2
UK007	UK007_250	NA	15	318	238	0.9	NA	NA	251.8892	5.3	0.0550	22.6	NA	NA	0.0301	23.2	0.0040	5.3	-0.08	NA	NA	NA	NA	NA	25.5	1.4	1.4	30.1	6.9	6.9	NA	NA	NA	0.20	93.8		25.5	1.4	5.3	1.4	5.4
UK007	UK007_273	NA	11	275	224	0.9	NA	NA	251.8892	6.9	0.0460	23.6	NA	NA	0.0252	24.5	0.0040	6.9	0.18	NA	NA	NA	NA	NA	25.5	1.7	1.8	25.3	6.1	6.1	NA	NA	NA	0.92	1172.0		25.5	1.7	6.8	1.8	7.0
UK007	UK007_10	NA	17	389	289	1.1	NA	NA	251.2563	5.7	0.0520	19.0	NA	NA	0.0285	19.9	0.0040	5.7	0.06	NA	NA	NA	NA	NA	25.6	1.5	1.5	28.6	5.6	5.6	NA	NA	NA	0.30	91.0		25.6	1.5	5.7	1.5	5.8
UK007	UK007_154	NA	11	243	189	1.0	NA	NA	251.2563	5.4	0.0470	22.1	NA	NA	0.0258	22.7	0.0040	5.4	-0.20	NA	NA	NA	NA	NA	25.6	1.4	1.4	25.9	5.8	5.8	NA	NA	NA	0.94	48.0		25.6	1.4	5.4	1.4	5.6
UK007	UK007_203	NA	54	1210	1220	0.9	NA	NA	251.2563	5.7	0.0460	17.5	NA	NA	0.0252	18.4	0.0040	5.7	-0.12	NA	NA	NA	NA	NA	25.6	1.5	1.5	25.3	4.6	4.6	NA	NA	NA	0.91	1174.7	CL	25.6	1.5	5.7	1.5	5.9
UK007	UK007_166	NA	21	454	367	0.9	NA	NA	250.6266	4.6	0.0480	14.4	NA	NA	0.0264	15.1	0.0040	4.6	-0.20	NA	NA	NA	NA	NA	25.7	1.2	1.2	26.5	3.9	4.0	NA	NA	NA	0.71	74.1		25.7	1.2	4.6	1.2	4.8
UK007	UK007_24	NA	19	297	180	0.9	NA	NA	250.0000	8.2	0.0630	22.2	NA	NA	0.0347	23.7	0.0040	8.2	0.04	NA	NA	NA	NA	NA	25.7	2.1	2.1	34.7	8.1	8.1	NA	NA	NA	0.03	96.4	CL	25.7	2.1	8.2	2.1	8.1
UK007	UK007_75	NA	15	270	212	1.0	NA	NA	250.0000	5.2	0.0520	20.9	NA	NA	0.0287	21.6	0.0040	5.2	-0.09	NA	NA	NA	NA	NA	25.7	1.3	1.4	28.7	6.1	6.1	NA	NA	NA	0.35	91.0		25.7	1.3	5.2	1.4	5.3
UK007	UK007_142	NA	8	168	154	1.3	NA	NA	250.0000	10.1	0.0480	36.2	NA	NA	0.0265	37.6	0.0040	10.1	0.03	NA	NA	NA	NA	NA	25.7	2.6	2.6	26.5	9.8	9.9	NA	NA	NA	0.87	74.1	CL	25.7	2.6	10.1	2.6	10.2
UK007	UK007_161	NA	13	350	269	1.0	NA	NA	250.0000	4.9	0.0540	18.6	NA	NA	0.0298	19.2	0.0040	4.9	0.06	NA	NA	NA	NA	NA	25.7	1.3	1.3	29.8	5.6	5.7	NA	NA	NA	0.16	93.1		25.7	1.3	4.9	1.3	5.0
UK007	UK007_239	NA	16	346	274	1.0	NA	NA	250.0000	5.3	0.0510	20.3	NA	NA	0.0281	21.0	0.0040	5.3	-0.03	NA	NA	NA	NA	NA	25.7	1.4	1.4	28.2	5.8	5.8	NA	NA	NA	0.42	89.3		25.7	1.4	5.3	1.4	5.4
UK007	UK007_245	NA	37	830	551	0.8	NA	NA	250.0000	4.8	0.0500	12.6	NA	NA	0.0276	13.5	0.0040	4.8	0.05	NA	NA	NA	NA	NA	25.7	1.2	1.3	27.6	3.7	3.7	NA	NA	NA	0.32	86.8	CL	25.7	1.2	4.8	1.3	4.9
UK007	UK007_238	NA	13	277	220	0.9	NA	NA	249.3766	6.1	0.0420	22.0	NA	NA	0.0232	22.8	0.0040	6.1	0.10	NA	NA	NA	NA	NA	25.8	1.6	1.6	23.3	5.3	5.3	NA	NA	NA	0.35	111.4		25.8	1.6	6.1	1.6	6.3
UK007	UK007_246	NA	12	204	167	0.9	NA	NA	248.1390	6.3	0.0640	25.1	NA	NA	0.0356	25.9	0.0040	6.3	0.13	NA	NA	NA	NA	NA	25.9	1.6	1.7	35.5	9.0	9.1	NA	NA	NA	0.03	96.5		25.9	1.6	6.3	1.7	6.4
UK007	UK007_253	NA	15	307	227	0.9	NA	NA	248.1390	5.6	0.0530	19.7	NA	NA	0.0294	20.5	0.0040	5.6	0.13	NA	NA	NA	NA	NA	25.9	1.4	1.5	29.5	5.9	6.0	NA	NA	NA	0.23	92.1		25.9	1.4	5.6	1.5	5.7
UK007	UK007_149	NA	11	246	188	1.0	NA	NA	247.5248	5.9	0.0580	20.9	NA	NA	0.0323	21.7	0.0040	5.9	-0.02	NA	NA	NA	NA	NA	26.0	1.5	1.6	32.3	6.9	6.9	NA	NA	NA	0.08	95.1		26.0	1.5	5.9	1.6	6.0
UK007	UK007_206	NA	11	197	140	0.8	NA	NA	247.5248	8.8	0.0710	32.7	NA	NA	0.0395	33.8	0.0040	8.8	0.07	NA	NA	NA	NA	NA	26.0	2.3	2.3	39.4	13.1	13.1	NA	NA	NA	0.04	97.3		26.0	2.3	8.8	2.3	8.8
UK007	UK007_237	NA	25	597	394	0.7	NA	NA	247.5248	4.8	0.0430	24.6	NA	NA	0.0240	25.1	0.0040	4.8	0.23	NA	NA	NA	NA	NA	26.0	1.2	1.3	24.0	6.0	6.0	NA	NA	NA	0.50	115.5	CL	26.0	1.2	4.8	1.3	4.9
UK007	UK007_93	NA	49	970	870	0.3	NA	NA	246.9136	4.6	0.0540	10.8	NA	NA	0.0302	11.8	0.0041	4.6	0.05	NA	NA	NA	NA	NA	26.1	1.2	1.2	30.2	3.5	3.5	NA	NA	NA	0.02	93.0		26.1	1.2	4.6	1.2	4.7
UK007	UK007_107	NA	15	307	237	1.2	NA	NA	246.9136	6.0	0.0570	16.8	NA	NA	0.0318	17.9	0.0041	6.0	0.04	NA	NA	NA	NA	NA	26.1	1.6	1.6	31.8	5.6	5.6	NA	NA	NA	0.05	94.7		26.1	1.6	6.0	1.6	6.0
UK007	UK007_274	NA	5	154	113	1.1	NA	NA	246.9136	6.4	0.0710	37.3	NA	NA	0.0396	37.8	0.0041	6.4	0.12	NA	NA	NA	NA	NA	26.1	1.7	1.7	39.5	14.6	14.7	NA	NA	NA	0.07	97.3		26.1	1.7	6.4	1.7	6.5
UK007	UK007_82	NA	11	231	188	1.0	NA	NA	246.3054	6.0	0.0550	23.6	NA	NA	0.0308	24.4	0.0041	6.0	-0.06	NA	NA	NA	NA	NA	26.1	1.6	1.6	30.8	7.4	7.4	NA	NA	NA	0.22	93.7		26.1	1.6	6.0	1.6	6.1
UK007	UK007_226	NA	8	223	170	0.9	NA	NA	246.3054	6.0	0.0440	26.9	NA	NA	0.0246	27.6	0.0041	6.0	0.14	NA	NA	NA	NA	NA	26.1	1.6	1.6	24.7	6.7	6.7	NA	NA	NA	0.67	123.6		26.1	1.6	6.0	1.6	6.1
UK007	UK007_234	NA	7	250	200	1.2	NA	NA	246.3054	6.8	0.0360	28.4	NA	NA	0.0202	29.2	0.0041	6.8	-0.04	NA	NA	NA	NA	NA	26.1	1.8	1.8	20.3	5.9	5.9	NA	NA	NA	0.06	104.1		26.1	1.8	6.8	1.8	7.1
UK007	UK007_290	NA	19	405	326	0.6	NA	NA	246.3054	4.9	0.0510	18.3	NA	NA	0.0285	19.0	0.0041	4.9	0.35	NA	NA	NA	NA	NA	26.1	1.3	1.3	28.6	5.3	5.4	NA	NA	NA	0.33	89.2		26.1	1.3	4.8	1.3	5.0
UK007	UK007_49	NA	20	368	284	0.9	NA	NA	245.7002	6.2	0.0520	18.0	NA	NA	0.0292	19.0	0.0041	6.2	0.17	NA	NA	NA	NA	NA	26.2	1.6	1.7	29.2	5.5	5.5	NA	NA	NA	0.27	90.8		26.2	1.6	6.2	1.7	6.3
UK007	UK007_208	NA	7	145	114	0.9	NA	NA	245.7002	7.6	0.0680	29.9	NA	NA	0.0382	30.9	0.0041	7.6	-0.07	NA	NA	NA	NA	NA	26.2	2.0	2.0	38.0	11.5	11.5	NA	NA	NA	0.05	97.0		26.2	2.0	7.6	2.0	7.6
UK007	UK007_33	NA	17	483	350	1.0	NA	NA	245.0980	5.0	0.0500	23.6	NA	NA	0.0281	24.1	0.0041	5.0	0.03	NA	NA	NA	NA	NA	26.2	1.3	1.4	28.2	6.7	6.7	NA	NA	NA	0.57	86.5	CL	26.2	1.3	5.0	1.4	5.2
UK007	UK007_40	NA	6	184	151	0.8	NA	NA	245.0980	5.8	0.0400	34.5	NA	NA	0.0225	35.0	0.0041	5.8	-0.09	NA	NA	NA	NA	NA	26.2	1.5	1.6	22.6	7.8	7.8	NA	NA	NA	0.37	107.5		26.2	1.5	5.8	1.6	6.0
UK007	UK007_125	NA	9	166	127	0.9	NA	NA	245.0980	7.6	0.0620	26.9	NA	NA	0.0349	27.9	0.0041	7.6	-0.04	NA	NA	NA	NA	NA	26.2	2.0	2.0	34.8	9.6	9.6	NA	NA	NA	0.08	96.1		26.2	2.0	7.6	2.0	7.6
UK007	UK007_135	NA	6	164	124	1.0	NA	NA	245.0980	7.6	0.0680	30.7	NA	NA	0.0383	31.6	0.0041	7.6	-0.33	NA	NA	NA	NA	NA	26.2	2.0	2.0	38.1	11.8	11.8	NA	NA	NA	0.06	97.0		26.2	2.0	7.6	2.0	7.5
UK007	UK007_219	NA	4	119	92	1.3	NA	NA	245.0980	9.4	0.0470	44.7	NA	NA	0.0264	45.7	0.0041	9.4	0.19	NA	NA	NA	NA	NA	26.2	2.5	2.5	26.5	11.9	11.9	NA	NA	NA	0.97	46.7		26.2	2.5	9.3	2.5	9.4
UK007	UK007_42	NA	9	158	114	1.3	NA	NA	244.4988	7.4	0.0640	31.5	NA	NA	0.0361	32.3	0.0041	7.4	0.17	NA	NA	NA	NA	NA	26.3	1.9	2.0	36.0	11.4	11.5	NA	NA	NA	0.09	96.5		26.3	1.9	7.4	2.0	7.5
UK007	UK007_150	NA	19	302	206	1.2	NA	NA	244.4988	5.2	0.0600	18.3	NA	NA	0.0338	19.1	0.0041	5.2	-0.01	NA	NA	NA	NA	NA	26.3	1.4	1.4	33.8	6.3	6.4	NA	NA	NA	0.02	95.6		26.3	1.4	5.2	1.4	5.3
UK007	UK007_169	NA	6	146	114	1.1	NA	NA	244.4988	7.6	0.0650	29.7	NA	NA	0.0367	30.7	0.0041	7.6	-0.12	NA	NA	NA	NA	NA	26.3	2.0	2.0	36.6	11.0	11.0	NA	NA	NA	0.07	96.6		26.3	2.0	7.6	2.0	7.6
UK007	UK007_53	NA	9	176	112	1.0	NA	NA	243.9024	8.8	0.0360	42.1	NA	NA	0.0204	43.0	0.0041	8.8	0.21	NA	NA	NA	NA	NA	26.4	2.3	2.4	20.5	8.7	8.7	NA	NA	NA	0.16	104.2	CL, DO	26.4	2.3	8.8	2.4	9.0
UK007	UK007_176	NA	5	160	117	1.2	NA	NA	243.9024	7.5	0.0350	43.5	NA	NA	0.0198	44.2	0.0041	7.5	0.19	NA	NA	NA	NA	NA	26.4	2.0	2.0	19.9	8.7	8.7	NA	NA	NA	0.13	103.7		26.4	2.0	7.5	2.0	7.6
UK007	UK007_116	NA	5	147	111	1.1	NA	NA	243.3090	6.7	0.0450	37.7	NA	NA	0.0255	38.2	0.0041	6.7	0.17	NA	NA	NA	NA	NA	26.4	1.8	1.8	25.6	9.7	9.7	NA	NA	NA	0.85	147.5		26.4	1.8	6.7	1.8	6.8
UK007	UK007_145	NA	15	428	322	1.0	NA	NA	243.3090	4.5	0.0390	17.3	NA	NA	0.0221	17.8	0.0041	4.5	0.09	NA	NA	NA	NA	NA	26.4	1.2	1.3	22.2	3.9	3.9	NA	NA	NA	0.03	106.3		26.4	1.2	4.5	1.3	4.8
UK007	UK007_222	NA	11	237	192	0.9	NA	NA	243.3090	6.6	0.0560	24.1	NA	NA	0.0317	25.0	0.0041	6.6	-0.17	NA	NA	NA	NA	NA	26.4	1.7	1.8	31.7	7.8	7.8	NA	NA	NA	0.20	94.2		26.4	1.7	6.5	1.8	6.6
UK007	UK007_240	NA	9	151	107	1.0	NA	NA	243.3090	7.2	0.0590	32.3	NA	NA	0.0334	33.1	0.0041	7.2	0.20	NA	NA	NA	NA	NA	26.4	1.9	1.9	33.4	10.9	10.9	NA	NA	NA	0.19	95.3		26.4	1.9	7.2	1.9	7.3
UK007	UK007_55	NA	23	418	316	0.8	NA	NA	242.7184	5.2	0.0550	15.4	NA	NA	0.0312	16.2	0.0041	5.2	0.16	NA	NA	NA	NA	NA	26.5	1.4	1.4	31.2	5.0	5.0	NA	NA	NA	0.06	93.6		26.5	1.4	5.2	1.4	5.3
UK007	UK007_141	NA	7	221	154	1.1	NA	NA	242.7184	6.8	0.0320	37.8	NA	NA	0.0182	38.4	0.0041	6.8	-0.09	NA	NA	NA	NA	NA	26.5	1.8	1.8	18.3	7.0	7.0	NA	NA	NA	0.02	102.7		26.5	1.8	6.8	1.8	7.1
UK007	UK007_180	NA	7	234	185	1.3	NA	NA	242.7184	5.7	0.0330	32.2	NA	NA	0.0187	32.7	0.0041	5.7	-0.08	NA	NA	NA	NA	NA	26.5	1.5	1.5	18.9	6.1	6.1	NA	NA	NA	0.02	103.0		26.5	1.5	5.7	1.5	6.0
UK007	UK007_261	NA	18	385	292	1.1	NA	NA	242.7184	4.9	0.0510	16.5	NA	NA	0.0290	17.2	0.0041	4.9	-0.01	NA	NA	NA	NA	NA	26.5	1.3	1.3	29.0	4.9	4.9	NA	NA	NA	0.33	89.0		26.5	1.3	4.9	1.3	5.0
UK007	UK007_257	NA	12	324	235	0.9	NA	NA	242.1308	6.1	0.0420	20.9	NA	NA	0.0239	21.8	0.0041	6.1	0.13	NA	NA	NA	NA	NA	26.6	1.6	1.7	24.0	5.2	5.2	NA	NA	NA	0.32	111.7		26.6	1.6	6.1	1.7	6.3
UK007	UK007_268	NA	7	155	129	1.3	NA	NA	242.1308	7.6	0.0330	41.3	NA	NA	0.0188	42.0	0.0041	7.6	0.22	NA	NA	NA	NA	NA	26.6	2.0	2.1	18.9	7.9	7.9	NA	NA	NA	0.05	103.0		26.6	2.0	7.6	2.1	7.8
UK007	UK007_54	NA	19	395	298	0.7	NA	NA	241.5459	5.1	0.0570	16.7	NA	NA	0.0325	17.4	0.0041	5.1	-0.22	NA	NA	NA	NA	NA	26.6	1.4	1.4	32.5	5.6	5.6	NA	NA	NA	0.05	94.6		26.6	1.4	5.1	1.4	5.1
UK007	UK007_31	NA	12	249	180	1.2	NA	NA	240.9639	5.2	0.0380	24.1	NA	NA	0.0217	24.6	0.0042	5.2	0.26	NA	NA	NA	NA	NA	26.7	1.4	1.4	21.8	5.3	5.3	NA	NA	NA	0.06	105.5		26.7	1.4	5.2	1.4	5.3
UK007	UK007_151	NA	11	281	217	0.8	NA	NA	240.9639	5.8	0.0440	21.2	NA	NA	0.0252	22.0	0.0042	5.8	0.09	NA	NA	NA	NA	NA	26.7	1.5	1.6	25.2	5.5	5.5	NA	NA	NA	0.60	124.1		26.7	1.5	5.8	1.6	5.9
UK007	UK007_184	NA	6	131	87	1.3	NA	NA	240.9639	7.1	0.0620	36.6	NA	NA	0.0355	37.3	0.0042	7.1	0.05	NA	NA	NA	NA	NA	26.7	1.9	1.9	35.4	13.0	13.0	NA	NA	NA	0.18	96.0	CL	26.7	1.9	7.0	1.9	7.1
UK007	UK007_243	NA	8	225	166	0.9	NA	NA	240.9639	7.1	0.0630	27.3	NA	NA	0.0360	28.2	0.0042	7.1	-0.13	NA	NA	NA	NA	NA	26.7	1.9	1.9	36.0	10.0	10.0	NA	NA	NA	0.08	96.2		26.7	1.9	7.0	1.9	7.0
UK007	UK007_259	NA	10	190	159	0.9	NA	NA	240.9639	7.2	0.0660	26.1	NA	NA	0.0378	27.0	0.0042	7.2	0.22	NA	NA	NA	NA	NA	26.7	1.9	1.9	37.6	10.0	10.0	NA	NA	NA	0.03	96.7		26.7	1.9	7.2	1.9	7.3
UK007	UK007_271	NA	8	180	150	0.8	NA	NA	240.9639	7.4	0.0600	27.8	NA	NA	0.0343	28.7	0.0042	7.4	-0.15	NA	NA	NA	NA	NA	26.7	2.0	2.0	34.3	9.7	9.7	NA	NA	NA	0.14	95.6	CL	26.7	2.0	7.4	2.0	7.4
UK007	UK007_2	NA	10	275	203	0.9	NA	NA	240.3846	6.0	0.0410	20.3	NA	NA	0.0235	21.2	0.0042	6.0	0.02	NA	NA	NA	NA	NA	26.8	1.6	1.6	23.6	4.9	5.0	NA	NA	NA	0.22	109.3		26.8	1.6	6.0	1.6	6.2
UK007	UK007_59	NA	13	262	216	0.8	NA	NA	240.3846	5.5	0.0500	21.8	NA	NA	0.0287	22.4	0.0042	5.5	-0.07	NA	NA	NA	NA	NA	26.8	1.5	1.5	28.7	6.4	6.4	NA	NA	NA	0.56	86.3		26.8	1.5	5.4	1.5	5.6
UK007	UK007_62	NA	12	240	185	1.2	NA	NA	239.8082	6.2	0.0590	18.9	NA	NA	0.0339	19.9	0.0042	6.2	-0.07	NA	NA	NA	NA	NA	26.8	1.7	1.7	33.9	6.6	6.6	NA	NA	NA	0.04	95.3		26.8	1.7	6.2	1.7	6.2
UK007	UK007_172	NA	9	234	156	0.9	NA	NA	239.8082	6.6	0.0450	30.7	NA	NA	0.0259	31.4	0.0042	6.6	0.09	NA	NA	NA	NA	NA	26.8	1.8	1.8	25.9	8.0	8.1	NA	NA	NA	0.83	148.2	CL	26.8	1.8	6.6	1.8	6.7
UK007	UK007_187	NA	9	211	181	1.1	NA	NA	239.8082	5.4	0.0440	29.1	NA	NA	0.0253	29.6	0.0042	5.4	0.13	NA	NA	NA	NA	NA	26.8	1.4	1.5	25.4	7.4	7.4	NA	NA	NA	0.69	124.2		26.8	1.4	5.3	1.5	5.5
UK007	UK007_4	NA	11	291	204	0.9	NA	NA	238.6635	5.3	0.0420	21.0	NA	NA	0.0243	21.6	0.0042	5.3	0.10	NA	NA	NA	NA	NA	27.0	1.4	1.5	24.3	5.2	5.2	NA	NA	NA	0.32	111.9		27.0	1.4	5.3	1.5	5.5
UK007	UK007_15	NA	10	203	148	1.2	NA	NA	238.6635	6.6	0.0540	25.9	NA	NA	0.0312	26.7	0.0042	6.6	0.17	NA	NA	NA	NA	NA	27.0	1.8	1.8	31.2	8.2	8.2	NA	NA	NA	0.30	92.7		27.0	1.8	6.6	1.8	6.7
UK007	UK007_18	NA	5	103	76	0.8	NA	NA	238.6635	7.3	0.0680	35.9	NA	NA	0.0393	36.6	0.0042	7.3	-0.07	NA	NA	NA	NA	NA	27.0	2.0	2.0	39.1	14.1	14.1	NA	NA	NA	0.09	96.9		27.0	2.0	7.3	2.0	7.3
UK007	UK007_27	NA	10	217	171	0.9	NA	NA	238.6635	5.9	0.0650	24.9	NA	NA	0.0376	25.6	0.0042	5.9	-0.06	NA	NA	NA	NA	NA	27.0	1.6	1.6	37.4	9.4	9.4	NA	NA	NA	0.03	96.5		27.0	1.6	5.9	1.6	6.0
UK007	UK007_138	NA	12	228	166	1.1	NA	NA	238.6635	6.8	0.0510	22.4	NA	NA	0.0295	23.4	0.0042	6.8	0.15	NA	NA	NA	NA	NA	27.0	1.8	1.9	29.5	6.8	6.8	NA	NA	NA	0.46	88.8		27.0	1.8	6.8	1.9	6.9
UK007	UK007_84	NA	9	232	171	0.8	NA	NA	238.0952	5.5	0.0450	23.1	NA	NA	0.0261	23.8	0.0042	5.5	-0.02	NA	NA	NA	NA	NA	27.0	1.5	1.5	26.1	6.1	6.1	NA	NA	NA	0.78	148.5		27.0	1.5	5.5	1.5	5.7
UK007	UK007_39	NA	4	167	116	1.0	NA	NA	237.5297	8.8	0.0520	35.9	NA	NA	0.0302	37.0	0.0042	8.8	-0.14	NA	NA	NA	NA	NA	27.1	2.4	2.4	30.2	11.0	11.0	NA	NA	NA	0.59	90.5		27.1	2.4	8.7	2.4	8.8
UK007	UK007_66	NA	21	468	348	0.8	NA	NA	237.5297	5.8	0.0440	14.4	NA	NA	0.0255	15.5	0.0042	5.8	0.25	NA	NA	NA	NA	NA	27.1	1.6	1.6	25.6	3.9	3.9	NA	NA	NA	0.44	124.5		27.1	1.6	5.8	1.6	6.0
UK007	UK007_167	NA	9	303	225	1.0	NA	NA	237.5297	5.9	0.0410	26.2	NA	NA	0.0238	26.9	0.0042	5.9	-0.16	NA	NA	NA	NA	NA	27.1	1.6	1.6	23.9	6.3	6.4	NA	NA	NA	0.34	109.4		27.1	1.6	5.9	1.6	6.1
UK007	UK007_288	NA	7	167	134	1.2	NA	NA	237.5297	6.1	0.0580	31.2	NA	NA	0.0337	31.8	0.0042	6.1	0.16	NA	NA	NA	NA	NA	27.1	1.7	1.7	33.6	10.5	10.5	NA	NA	NA	0.21	94.9		27.1	1.7	6.1	1.7	6.3
UK007	UK007_13	NA	10	232	183	1.0	NA	NA	236.9668	5.3	0.0440	22.4	NA	NA	0.0256	23.0	0.0042	5.3	0.02	NA	NA	NA	NA	NA	27.1	1.4	1.5	25.7	5.8	5.8	NA	NA	NA	0.62	124.5		27.1	1.4	5.3	1.5	5.5
UK007	UK007_202	NA	14	297	237	1.1	NA	NA	236.9668	6.3	0.0400	31.6	NA	NA	0.0233	32.2	0.0042	6.3	0.24	NA	NA	NA	NA	NA	27.1	1.7	1.8	23.4	7.4	7.4	NA	NA	NA	0.29	107.7		27.1	1.7	6.3	1.8	6.5
UK007	UK007_251	NA	13	262	163	0.9	NA	NA	236.9668	8.5	0.0520	30.5	NA	NA	0.0303	31.6	0.0042	8.5	0.06	NA	NA	NA	NA	NA	27.1	2.3	2.3	30.3	9.4	9.4	NA	NA	NA	0.52	90.5	CL	27.1	2.3	8.5	2.3	8.6
UK007	UK007_106	NA	6	155	114	1.0	NA	NA	236.4066	6.7	0.0620	31.9	NA	NA	0.0362	32.6	0.0042	6.7	0.18	NA	NA	NA	NA	NA	27.2	1.8	1.9	36.1	11.5	11.6	NA	NA	NA	0.12	96.0		27.2	1.8	6.7	1.9	6.9
UK007	UK007_281	NA	8	171	124	0.7	NA	NA	236.4066	8.4	0.0470	35.9	NA	NA	0.0274	36.9	0.0042	8.4	-0.08	NA	NA	NA	NA	NA	27.2	2.3	2.3	27.5	10.0	10.0	NA	NA	NA	0.96	44.7		27.2	2.3	8.4	2.3	8.5
UK007	UK007_211	NA	10	193	156	1.0	NA	NA	235.8491	7.0	0.0530	22.7	NA	NA	0.0310	23.8	0.0042	7.0	-0.10	NA	NA	NA	NA	NA	27.3	1.9	2.0	31.0	7.3	7.3	NA	NA	NA	0.34	91.7		27.3	1.9	7.0	2.0	7.1
UK007	UK007_218	NA	8	196	142	1.1	NA	NA	235.8491	6.4	0.0460	26.9	NA	NA	0.0269	27.7	0.0042	6.4	0.10	NA	NA	NA	NA	NA	27.3	1.7	1.8	26.9	7.4	7.4	NA	NA	NA	0.93	1244.7		27.3	1.7	6.4	1.8	6.5
UK007	UK007_299	NA	27	406	310	0.7	NA	NA	235.8491	4.6	0.0510	16.2	NA	NA	0.0298	16.9	0.0042	4.6	-0.05	NA	NA	NA	NA	NA	27.3	1.3	1.3	29.8	5.0	5.0	NA	NA	NA	0.33	88.7		27.3	1.3	4.6	1.3	4.8
UK007	UK007_91	NA	10	175	129	1.2	NA	NA	235.2941	7.5	0.0660	23.8	NA	NA	0.0387	25.0	0.0043	7.5	-0.01	NA	NA	NA	NA	NA	27.3	2.0	2.1	38.5	9.4	9.5	NA	NA	NA	0.02	96.6		27.3	2.0	7.5	2.1	7.4
UK007	UK007_227	NA	16	287	208	1.0	NA	NA	234.7418	5.3	0.0610	22.1	NA	NA	0.0358	22.7	0.0043	5.3	-0.07	NA	NA	NA	NA	NA	27.4	1.4	1.5	35.7	8.0	8.0	NA	NA	NA	0.04	95.7		27.4	1.4	5.3	1.5	5.4
UK007	UK007_9	NA	14	274	199	0.9	NA	NA	234.1920	5.8	0.0550	18.2	NA	NA	0.0324	19.1	0.0043	5.8	0.00	NA	NA	NA	NA	NA	27.5	1.6	1.6	32.4	6.1	6.1	NA	NA	NA	0.12	93.3		27.5	1.6	5.7	1.6	5.8
UK007	UK007_159	NA	14	292	213	0.9	NA	NA	234.1920	5.8	0.0540	20.3	NA	NA	0.0318	21.1	0.0043	5.8	0.02	NA	NA	NA	NA	NA	27.5	1.6	1.6	31.8	6.6	6.6	NA	NA	NA	0.20	92.6		27.5	1.6	5.7	1.6	5.9
UK007	UK007_194	NA	4	107	83	1.0	NA	NA	234.1920	7.3	0.0270	69.0	NA	NA	0.0159	69.4	0.0043	7.3	0.21	NA	NA	NA	NA	NA	27.5	2.0	2.0	16.0	11.0	11.0	NA	NA	NA	0.03	#NUM!		27.5	2.0	7.3	2.0	7.4
UK007	UK007_207	NA	10	200	150	1.4	NA	NA	233.6449	7.2	0.0520	26.8	NA	NA	0.0307	27.7	0.0043	7.2	0.05	NA	NA	NA	NA	NA	27.5	2.0	2.0	30.7	8.4	8.4	NA	NA	NA	0.46	90.4		27.5	2.0	7.2	2.0	7.3
UK007	UK007_173	NA	14	338	242	1.0	NA	NA	233.1002	5.6	0.0540	15.9	NA	NA	0.0319	16.9	0.0043	5.6	-0.08	NA	NA	NA	NA	NA	27.6	1.6	1.6	31.9	5.3	5.3	NA	NA	NA	0.13	92.6		27.6	1.6	5.6	1.6	5.7
UK007	UK007_182	NA	9	247	183	1.2	NA	NA	232.5581	6.8	0.0600	25.3	NA	NA	0.0356	26.2	0.0043	6.8	0.03	NA	NA	NA	NA	NA	27.7	1.9	1.9	35.5	9.1	9.1	NA	NA	NA	0.09	95.4		27.7	1.9	6.7	1.9	6.8
UK007	UK007_3	NA	6	113	78	1.2	NA	NA	232.0186	8.9	0.0800	33.9	NA	NA	0.0475	35.1	0.0043	8.9	0.04	NA	NA	NA	NA	NA	27.7	2.5	2.5	47.2	16.2	16.2	NA	NA	NA	0.02	97.7		27.7	2.5	8.9	2.5	8.9
UK007	UK007_174	NA	7	204	152	1.2	NA	NA	232.0186	6.3	0.0460	27.0	NA	NA	0.0273	27.7	0.0043	6.3	-0.20	NA	NA	NA	NA	NA	27.7	1.8	1.8	27.4	7.5	7.5	NA	NA	NA	0.93	1263.6		27.7	1.8	6.3	1.8	6.5
UK007	UK007_223	NA	14	283	201	1.1	NA	NA	232.0186	5.9	0.0570	18.5	NA	NA	0.0339	19.5	0.0043	5.9	0.08	NA	NA	NA	NA	NA	27.7	1.6	1.7	33.8	6.5	6.5	NA	NA	NA	0.06	94.4		27.7	1.6	5.9	1.7	6.0
UK007	UK007_189	NA	9	201	145	1.0	NA	NA	231.4815	6.1	0.0490	26.3	NA	NA	0.0292	27.0	0.0043	6.1	0.00	NA	NA	NA	NA	NA	27.8	1.7	1.7	29.2	7.8	7.8	NA	NA	NA	0.72	81.2		27.8	1.7	6.1	1.7	6.2
UK007	UK007_29	NA	12	240	166	1.0	NA	NA	229.3578	6.3	0.0580	18.4	NA	NA	0.0349	19.4	0.0044	6.3	0.12	NA	NA	NA	NA	NA	28.0	1.8	1.8	34.8	6.6	6.7	NA	NA	NA	0.04	94.7		28.0	1.8	6.3	1.8	6.3
UK007	UK007_90	NA	10	236	172	0.9	NA	NA	229.3578	5.9	0.0590	23.9	NA	NA	0.0355	24.6	0.0044	5.9	0.14	NA	NA	NA	NA	NA	28.0	1.6	1.7	35.4	8.6	8.6	NA	NA	NA	0.08	95.1		28.0	1.6	5.9	1.7	6.0
UK007	UK007_148	NA	15	330	194	1.1	NA	NA	229.3578	7.8	0.0640	27.4	NA	NA	0.0385	28.5	0.0044	7.8	-0.63	NA	NA	NA	NA	NA	28.0	2.2	2.2	38.3	10.7	10.7	NA	NA	NA	0.09	96.2	CL	28.0	2.2	7.8	2.2	7.6
UK007	UK007_190	NA	39	730	577	0.4	NA	NA	229.3578	5.1	0.0440	16.1	NA	NA	0.0265	16.9	0.0044	5.1	0.38	NA	NA	NA	NA	NA	28.0	1.4	1.5	26.5	4.4	4.4	NA	NA	NA	0.45	125.3		28.0	1.4	5.1	1.5	5.3
UK007	UK007_181	NA	6	144	101	1.0	NA	NA	228.8330	8.5	0.0770	35.7	NA	NA	0.0464	36.7	0.0044	8.5	0.05	NA	NA	NA	NA	NA	28.1	2.4	2.4	46.0	16.5	16.5	NA	NA	NA	0.03	97.5		28.1	2.4	8.5	2.4	8.5
UK007	UK007_260	NA	9	168	113	1.2	NA	NA	228.3105	7.1	0.0520	32.6	NA	NA	0.0314	33.3	0.0044	7.1	0.06	NA	NA	NA	NA	NA	28.2	2.0	2.0	31.4	10.3	10.3	NA	NA	NA	0.53	90.1		28.2	2.0	7.1	2.0	7.2
UK007	UK007_171	NA	25	373	225	1.1	NA	NA	227.7904	7.8	0.0760	30.3	NA	NA	0.0460	31.3	0.0044	7.8	-0.16	NA	NA	NA	NA	NA	28.2	2.2	2.2	45.7	14.0	14.0	NA	NA	NA	0.02	97.4	CL	28.2	2.2	7.8	2.2	7.7
UK007	UK007_297	NA	11	195	142	1.2	NA	NA	227.7904	7.0	0.0560	26.7	NA	NA	0.0339	27.6	0.0044	7.0	0.08	NA	NA	NA	NA	NA	28.2	2.0	2.0	33.8	9.2	9.2	NA	NA	NA	0.23	93.8		28.2	2.0	6.9	2.0	7.0
UK007	UK007_65	NA	14	230	155	0.8	NA	NA	227.2727	5.9	0.0580	23.2	NA	NA	0.0352	24.0	0.0044	5.9	0.12	NA	NA	NA	NA	NA	28.3	1.7	1.7	35.1	8.3	8.3	NA	NA	NA	0.10	94.7		28.3	1.7	5.9	1.7	6.0
UK007	UK007_262	NA	12	219	166	1.3	NA	NA	227.2727	5.7	0.0490	27.2	NA	NA	0.0297	27.8	0.0044	5.7	-0.12	NA	NA	NA	NA	NA	28.3	1.6	1.7	29.7	8.2	8.2	NA	NA	NA	0.73	80.9		28.3	1.6	5.7	1.7	5.9
UK007	UK007_111	NA	7	159	121	1.2	NA	NA	226.7574	7.6	0.0440	33.7	NA	NA	0.0268	34.6	0.0044	7.6	-0.16	NA	NA	NA	NA	NA	28.4	2.1	2.2	26.8	9.1	9.2	NA	NA	NA	0.75	125.6		28.4	2.1	7.5	2.2	7.7
UK007	UK007_113	NA	13	299	212	0.8	NA	NA	226.2443	6.4	0.0420	20.9	NA	NA	0.0256	21.8	0.0044	6.4	0.22	NA	NA	NA	NA	NA	28.4	1.8	1.9	25.7	5.5	5.5	NA	NA	NA	0.31	112.5		28.4	1.8	6.4	1.9	6.6

UK007	UK007_47	NA	8	138	107	1.4	NA	NA	225.7336	9.8	0.0680	46.7	NA	NA	0.0415	47.8	0.0044	9.8	-0.06	NA	NA	NA	NA	NA	28.5	2.8	2.8	41.3	19.3	19.3	NA	NA	NA	0.20	96.7	CL	28.5	2.8	9.8	2.8	9.7
UK007	UK007_163	NA	6	202	157	0.8	NA	NA	225.2252	6.2	0.0330	33.8	NA	NA	0.0202	34.4	0.0044	6.2	-0.11	NA	NA	NA	NA	NA	28.6	1.8	1.8	20.3	6.9	6.9	NA	NA	NA	0.02	103.3		28.6	1.8	6.2	1.8	6.5
UK007	UK007_229	NA	9	178	126	1.0	NA	NA	225.2252	11.8	0.0690	41.6	NA	NA	0.0422	43.3	0.0044	11.8	0.31	NA	NA	NA	NA	NA	28.6	3.4	3.4	42.0	17.8	17.8	NA	NA	NA	0.12	96.8	CL	28.6	3.4	11.7	3.4	12.0
UK007	UK007_294	NA	11	217	168	1.0	NA	NA	225.2252	6.8	0.0690	29.3	NA	NA	0.0422	30.1	0.0044	6.8	-0.12	NA	NA	NA	NA	NA	28.6	1.9	2.0	42.0	12.4	12.4	NA	NA	NA	0.04	96.8		28.6	1.9	6.8	2.0	6.8
UK007	UK007_236	NA	10	250	170	0.9	NA	NA	224.7191	6.4	0.0590	22.2	NA	NA	0.0362	23.1	0.0045	6.4	-0.03	NA	NA	NA	NA	NA	28.6	1.8	1.9	36.1	8.2	8.2	NA	NA	NA	0.08	95.0		28.6	1.8	6.4	1.9	6.4
UK007	UK007_160	NA	14	270	190	0.9	NA	NA	223.7136	6.9	0.0620	20.3	NA	NA	0.0382	21.4	0.0045	6.9	-0.10	NA	NA	NA	NA	NA	28.8	2.0	2.0	38.1	8.0	8.0	NA	NA	NA	0.03	95.7		28.8	2.0	6.8	2.0	6.8
UK007	UK007_28	NA	4	127	94	1.5	NA	NA	222.7171	9.2	0.0620	39.3	NA	NA	0.0384	40.4	0.0045	9.2	0.11	NA	NA	NA	NA	NA	28.9	2.7	2.7	38.2	15.2	15.2	NA	NA	NA	0.22	95.7	CL	28.9	2.7	9.2	2.7	9.3
UK007	UK007_96	NA	6	152	94	0.9	NA	NA	222.2222	12.9	0.0550	56.6	NA	NA	0.0341	58.1	0.0045	12.9	0.03	NA	NA	NA	NA	NA	28.9	3.7	3.8	34.1	19.5	19.5	NA	NA	NA	0.60	93.0	CL	28.9	3.7	12.9	3.8	12.9
UK007	UK007_118	NA	19	364	211	0.6	NA	NA	221.7295	6.6	0.0580	29.1	NA	NA	0.0361	29.8	0.0045	6.6	-0.27	NA	NA	NA	NA	NA	29.0	1.9	2.0	36.0	10.5	10.6	NA	NA	NA	0.22	94.5	CL	29.0	1.9	6.6	2.0	6.6
UK007	UK007_221	NA	8	204	144	1.1	NA	NA	220.2643	6.5	0.0540	28.8	NA	NA	0.0338	29.5	0.0045	6.5	-0.07	NA	NA	NA	NA	NA	29.2	1.9	1.9	33.8	9.8	9.8	NA	NA	NA	0.37	92.1		29.2	1.9	6.5	1.9	6.6
UK007	UK007_200	NA	4	135	94	1.2	NA	NA	219.7802	11.1	0.0480	47.1	NA	NA	0.0301	48.3	0.0046	11.1	-0.08	NA	NA	NA	NA	NA	29.3	3.2	3.3	30.1	14.3	14.4	NA	NA	NA	0.91	70.5	CL	29.3	3.2	11.0	3.3	11.1
UK007	UK007_224	NA	11	243	143	1.0	NA	NA	217.3913	11.0	0.0340	56.3	NA	NA	0.0216	57.4	0.0046	11.0	0.25	NA	NA	NA	NA	NA	29.6	3.2	3.3	21.7	12.3	12.3	NA	NA	NA	0.18	103.7	CL	29.6	3.2	10.9	3.3	11.0
UK007	UK007_217	NA	20	328	205	0.9	NA	NA	215.5172	5.8	0.0650	21.5	NA	NA	0.0416	22.3	0.0046	5.8	0.02	NA	NA	NA	NA	NA	29.8	1.7	1.8	41.4	9.0	9.1	NA	NA	NA	0.01	96.1	CL	29.8	1.7	5.8	1.8	5.9
UK007	UK007_272	NA	14	364	251	1.1	NA	NA	215.5172	5.4	0.0470	24.0	NA	NA	0.0301	24.6	0.0046	5.4	0.20	NA	NA	NA	NA	NA	29.8	1.6	1.7	30.1	7.3	7.3	NA	NA	NA	0.95	39.4		29.8	1.6	5.4	1.7	5.6
UK007	UK007_51	NA	8	174	123	0.8	NA	NA	213.2196	8.6	0.0490	29.5	NA	NA	0.0317	30.7	0.0047	8.6	0.21	NA	NA	NA	NA	NA	30.2	2.6	2.6	31.7	9.6	9.6	NA	NA	NA	0.75	79.6	CL	30.2	2.6	8.6	2.6	8.7
UK007	UK007_147	NA	13	265	192	0.5	NA	NA	212.7660	6.2	0.0490	23.2	NA	NA	0.0318	24.0	0.0047	6.2	-0.12	NA	NA	NA	NA	NA	30.2	1.9	1.9	31.7	7.5	7.5	NA	NA	NA	0.70	79.6		30.2	1.9	6.2	1.9	6.3
UK007	UK007_114	NA	11	206	142	0.8	NA	NA	210.9705	5.7	0.0520	27.7	NA	NA	0.0340	28.3	0.0047	5.7	0.01	NA	NA	NA	NA	NA	30.5	1.7	1.8	33.9	9.4	9.5	NA	NA	NA	0.47	89.3		30.5	1.7	5.7	1.8	5.8
UK007	UK007_192	NA	26	570	390	0.6	NA	NA	206.6116	6.3	0.0540	21.8	NA	NA	0.0360	22.7	0.0048	6.3	-0.09	NA	NA	NA	NA	NA	31.1	1.9	2.0	35.9	8.0	8.0	NA	NA	NA	0.25	91.6		31.1	1.9	6.3	2.0	6.3
UK007	UK007_104	NA	7	113	58	1.4	NA	NA	200.0000	12.7	0.0390	91.1	NA	NA	0.0269	92.0	0.0050	12.7	0.03	NA	NA	NA	NA	NA	32.2	4.1	4.1	26.9	24.5	24.5	NA	NA	NA	0.67	107.7	INC(?)	32.2	4.1	12.7	4.1	12.8
UK007	UK007_191	NA	19	350	192	1.0	NA	NA	195.6947	7.9	0.0520	23.6	NA	NA	0.0366	24.9	0.0051	7.9	0.29	NA	NA	NA	NA	NA	32.9	2.6	2.6	36.5	8.9	9.0	NA	NA	NA	0.39	88.5	CL	32.9	2.6	7.9	2.6	8.0
UK007	UK007_183	NA	10	222	134	2.6	NA	NA	195.3125	6.6	0.0660	22.4	NA	NA	0.0466	23.4	0.0051	6.6	-0.07	NA	NA	NA	NA	NA	32.9	2.2	2.2	46.2	10.6	10.6	NA	NA	NA	0.02	95.9		32.9	2.2	6.6	2.2	6.6
UK007	UK007_153	NA	14	309	160	2.7	NA	NA	188.6792	11.1	0.0510	33.9	NA	NA	0.0373	35.7	0.0053	11.1	0.25	NA	NA	NA	NA	NA	34.1	3.8	3.8	37.2	13.0	13.0	NA	NA	NA	0.63	85.9	CL	34.1	3.8	11.1	3.8	11.1
UK007	UK007_129	NA	514	7020	118	3.6	NA	NA	5.6948	3.4	0.0754	3.8	NA	NA	1.8256	5.1	0.1756	3.4	0.35	NA	NA	1079.2	75.8	78.2	1042.9	32.8	35.3	1054.7	33.4	35.1	NA	NA	NA	0.53	3.4		1042.9	32.8	3.1	35.3	3.4
UK007	UK007_1	NA	23	132	68	0.8	NA	NA	190.1141	8.2	0.2560	14.5	NA	NA	0.1857	16.6	0.0053	8.2	0.01	NA	NA	NA	NA	NA	33.8	2.8	2.8	172.9	26.4	26.6	NA	NA	NA	0.00	99.0						
UK007	UK007_5	NA	26	437	311	1.0	NA	NA	255.7545	5.6	0.0750	14.4	NA	NA	0.0404	15.4	0.0039	5.6	-0.06	NA	NA	NA	NA	NA	25.2	1.4	1.4	40.2	6.1	6.1	NA	NA	NA	0.00	97.6						
UK007	UK007_6	NA	14	224	166	1.3	NA	NA	259.0674	7.7	0.1000	20.3	NA	NA	0.0532	21.7	0.0039	7.7	0.17	NA	NA	NA	NA	NA	24.8	1.9	1.9	52.7	11.1	11.2	NA	NA	NA	0.00	98.5						
UK007	UK007_7	NA	67	1259	839	0.6	NA	NA	255.7545	5.0	0.0550	8.8	NA	NA	0.0297	10.1	0.0039	5.0	0.20	NA	NA	NA	NA	NA	25.2	1.2	1.3	29.7	3.0	3.0	NA	NA	NA	0.00	93.9	CL					
UK007	UK007_8	NA	106	1986	1840	0.4	NA	NA	280.8989	3.8	0.0536	6.6	NA	NA	0.0263	7.7	0.0036	3.8	0.35	NA	NA	NA	NA	NA	22.9	0.9	0.9	26.4	2.0	2.0	NA	NA	NA	0.00	93.5						
UK007	UK007_11	NA	2	151	116	1.2	NA	NA	257.7320	7.3	0.0180	69.3	NA	NA	0.0096	69.7	0.0039	7.3	0.07	NA	NA	NA	NA	NA	25.0	1.8	1.9	9.7	6.7	6.7	NA	NA	NA	0.00	#NUM!						
UK007	UK007_19	NA	10	145	117	1.0	NA	NA	277.0083	7.9	0.0960	21.2	NA	NA	0.0478	22.7	0.0036	7.9	-0.17	NA	NA	NA	NA	NA	23.2	1.8	1.9	47.4	10.5	10.5	NA	NA	NA	0.00	98.5						
UK007	UK007_20	NA	10	186	148	1.1	NA	NA	246.3054	7.0	0.0920	28.4	NA	NA	0.0515	29.2	0.0041	7.0	-0.20	NA	NA	NA	NA	NA	26.1	1.8	1.8	51.0	14.5	14.6	NA	NA	NA	0.00	98.2						
UK007	UK007_32	NA	14	232	191	1.0	NA	NA	268.0965	6.6	0.0730	21.6	NA	NA	0.0375	22.6	0.0037	6.6	-0.10	NA	NA	NA	NA	NA	24.0	1.6	1.6	37.4	8.3	8.3	NA	NA	NA	0.00	97.6						
UK007	UK007_34	NA	13	141	112	1.0	NA	NA	248.7562	8.4	0.2700	31.2	NA	NA	0.1497	32.4	0.0040	8.4	-0.05	NA	NA	NA	NA	NA	25.9	2.2	2.2	141.6	42.8	42.9	NA	NA	NA	0.00	99.2						
UK007	UK007_43	NA	6	144	109	1.0	NA	NA	245.7002	6.8	0.0250	60.1	NA	NA	0.0140	60.5	0.0041	6.8	0.08	NA	NA	NA	NA	NA	26.2	1.8	1.8	14.1	8.5	8.5	NA	NA	NA	0.00	#NUM!						
UK007	UK007_48	NA	26	435	367	0.8	NA	NA	279.3296	4.9	0.0650	16.2	NA	NA	0.0321	16.9	0.0036	4.9	-0.05	NA	NA	NA	NA	NA	23.0	1.1	1.2	32.1	5.3	5.4	NA	NA	NA	0.00	97.0						
UK007	UK007_50	NA	16	269	205	0.9	NA	NA	250.6266	6.0	0.0680	20.8	NA	NA	0.0374	21.7	0.0040	6.0	0.24	NA	NA	NA	NA	NA	25.7	1.5	1.6	37.3	7.9	8.0	NA	NA	NA	0.00	97.0						
UK007	UK007_56	NA	12	211	154	1.0	NA	NA	239.2344	6.9	0.0860	22.2	NA	NA	0.0496	23.2	0.0042	6.9	-0.23	NA	NA	NA	NA	NA	26.9	1.9	1.9	49.1	11.1	11.2	NA	NA	NA	0.00	98.0						
UK007	UK007_57	NA	21	280	214	0.9	NA	NA	250.0000	5.4	0.0760	15.6	NA	NA	0.0419	16.5	0.0040	5.4	-0.20	NA	NA	NA	NA	NA	25.7	1.4	1.4	41.7	6.7	6.8	NA	NA	NA	0.00	97.6						
UK007	UK007_60	NA	9	288	227	0.8	NA	NA	261.0966	6.9	0.0300	26.8	NA	NA	0.0158	27.7	0.0038	6.9	-0.03	NA	NA	NA	NA	NA	24.6	1.7	1.7	16.0	4.4	4.4	NA	NA	NA	0.00	102.1						
UK007	UK007_61	NA	18	177	148	1.0	NA	NA	280.8989	6.3	0.1110	18.8	NA	NA	0.0545	19.8	0.0036	6.3	0.16	NA	NA	NA	NA	NA	22.9	1.4	1.5	53.9	10.4	10.4	NA	NA	NA	0.00	98.7						
UK007	UK007_64	NA	7	119	104	1.3	NA	NA	265.2520	7.9	0.0910	30.0	NA	NA	0.0473	31.0	0.0038	7.9	0.12	NA	NA	NA	NA	NA	24.3	1.9	1.9	46.9	14.2	14.2	NA	NA	NA	0.00	98.3						
UK007	UK007_67	NA	11	202	149	0.9	NA	NA	238.6635	6.3	0.0800	23.1	NA	NA	0.0462	23.9	0.0042	6.3	-0.12	NA	NA	NA	NA	NA	27.0	1.7	1.7	45.9	10.7	10.8	NA	NA	NA	0.00	97.7						
UK007	UK007_69	NA	20	350	236	0.9	NA	NA	223.7136	5.6	0.0620	15.5	NA	NA	0.0382	16.5	0.0045	5.6	0.00	NA	NA	NA	NA	NA	28.8	1.6	1.6	38.1	6.2	6.2	NA	NA	NA	0.00	95.7						
UK007	UK007_70	NA	10	213	151	0.9	NA	NA	235.2941	6.7	0.0260	49.9	NA	NA	0.0152	50.4	0.0043	6.7	0.20	NA	NA	NA	NA	NA	27.3	1.8	1.9	15.4	7.7	7.7	NA	NA	NA	0.00	#NUM!						
UK007	UK007_74	NA	18	343	278	0.8	NA	NA	274.7253	6.0	0.0650	18.6	NA	NA	0.0326	19.5	0.0036	6.0	-0.14	NA	NA	NA	NA	NA	23.4	1.4	1.4	32.6	6.3	6.3	NA	NA	NA	0.01	97.0						
UK007	UK007_77	NA	8	97	66	0.9	NA	NA	222.2222	9.3	0.1070	35.0	NA	NA	0.0664	36.2	0.0045	9.3	0.09	NA	NA	NA	NA	NA	28.9	2.7	2.7	65.3	22.9	22.9	NA	NA	NA	0.00	98.3						
UK007	UK007_78	NA	31	499	491	1.4	NA	NA	285.7143	4.6	0.0630	13.5	NA	NA	0.0304	14.3	0.0035	4.6	-0.04	NA	NA	NA	NA	NA	22.5	1.0	1.1	30.4	4.3	4.3	NA	NA	NA	0.00	96.8						
UK007	UK007_79	NA	14	243	196	1.0	NA	NA	246.3054	6.5	0.0630	16.3	NA	NA	0.0353	17.6	0.0041	6.5	-0.13	NA	NA	NA	NA	NA	26.1	1.7	1.7	35.2	6.1	6.1	NA	NA	NA	0.01	96.3						
UK007	UK007_81	NA	38	240	160	0.9	NA	NA	246.9136	8.5	0.1320	24.0	NA	NA	0.0737	25.4	0.0041	8.5	-0.03	NA	NA	NA	NA	NA	26.1	2.2	2.2	72.2	17.7	17.8	NA	NA	NA	0.00	98.8	CL					
UK007	UK007_85	NA	10	128	107	1.0	NA	NA	244.4988	7.5	0.0930	28.1	NA	NA	0.0524	29.1	0.0041	7.5	-0.14	NA	NA	NA	NA	NA	26.3	2.0	2.0	51.9	14.7	14.8	NA	NA	NA	0.00	98.2						
UK007	UK007_89	NA	14	276	233	0.7	NA	NA	257.7320	6.9	0.0700	21.7	NA	NA	0.0374	22.8	0.0039	6.9	-0.05	NA	NA	NA	NA	NA	25.0	1.7	1.7	37.3	8.4	8.4	NA	NA	NA	0.00	97.3						
UK007	UK007_94	NA	7	161	155	0.9	NA	NA	303.0303	6.7	0.0850	28.5	NA	NA	0.0387	29.3	0.0033	6.7	-0.04	NA	NA	NA	NA	NA	21.2	1.4	1.5	38.5	11.1	11.1	NA	NA	NA	0.00	98.4						
UK007	UK007_98	NA	88	713	547	5.0	NA	NA	234.7418	5.2	0.1380	11.7	NA	NA	0.0811	12.8	0.0043	5.2	0.29	NA	NA	NA	NA	NA	27.4	1.4	1.5	79.1	9.7	9.8	NA	NA	NA	0.00	98.8						
UK007	UK007_99	NA	25	246	226	0.7	NA	NA	298.5075	6.2	0.0970	15.1	NA	NA	0.0448	16.3	0.0034	6.2	-0.09	NA	NA	NA	NA	NA	21.6	1.3	1.4	44.5	7.1	7.1	NA	NA	NA	0.00	98.6						
UK007	UK007_100	NA	5	158	107	0.9	NA	NA	236.4066	7.4	0.0260	52.1	NA	NA	0.0152	52.7	0.0042	7.4	-0.15	NA	NA	NA	NA	NA	27.2	2.0	2.0	15.3	8.0	8.0	NA	NA	NA	0.00	#NUM!						
UK007	UK007_108	NA	6	138	95	0.9	NA	NA	223.7136	7.6	0.0940	33.9	NA	NA	0.0579	34.7	0.0045	7.6	-0.14	NA	NA	NA	NA	NA	28.8	2.2	2.2	57.2	19.3	19.3	NA	NA	NA	0.00	98.1						
UK007	UK007_109	NA	2650	28700	841	6.8	NA	NA	9.5147	4.1	0.0976	2.4	NA	NA	1.4143	4.8	0.1051	4.1	0.93	NA	NA	1578.8	45.5	48.9	644.2	25.1	26.5	895.0	28.4	30.0	NA	NA	NA	0.00	59.2						
UK007	UK007_110	NA	6	117	97	0.8	NA	NA	260.4167	8.6	0.1400	41.2	NA	NA	0.0741	42.1	0.0038	8.6	0.12	NA	NA	NA	NA	NA	24.7	2.1	2.2	72.6	29.5	29.5	NA	NA	NA	0.00	98.9						
UK007	UK007_119	NA	7	118	80	1.5	NA	NA	240.9639	9.4	0.0890	30.6	NA	NA	0.0509	32.1	0.0042	9.4	0.03	NA	NA	NA	NA	NA	26.7	2.5	2.5	50.4	15.8	15.8	NA	NA	NA	0.00	98.1						
UK007	UK007_122	NA	21	413	297	0.9	NA	NA	235.2941	4.9	0.0580	14.0	NA	NA	0.0340	14.8	0.0043	4.9	0.05	NA	NA	NA	NA	NA	27.3	1.3	1.4	33.9	4.9	5.0	NA	NA	NA	0.01	94.8						
UK007	UK007_123	NA	17	256	217	0.5	NA	NA	280.1120	7.9	0.0780	25.9	NA	NA	0.0384	27.1	0.0036	7.9	-0.21	NA	NA	NA	NA	NA	23.0	1.8	1.8	38.3	10.2	10.2	NA	NA	NA	0.00	98.0	CL, Z					
UK007	UK007_126	NA	6	158	115	0.9	NA	NA	242.7184	7.1	0.0780	28.4	NA	NA	0.0443	29.3	0.0041	7.1	-0.03	NA	NA	NA	NA	NA	26.5	1.9	1.9	44.0	12.6	12.6	NA	NA	NA	0.01	97.7						
UK007	UK007_127	NA	19	133	88	0.9	NA	NA	202.4291	9.2	0.2200	21.5	NA	NA	0.1498	23.4	0.0049	9.2	0.14	NA	NA	NA	NA	NA	31.8	2.9	2.9	141.8	31.0	31.1	NA	NA	NA	0.00	98.9						
UK007	UK007_128	NA	24	373	292	0.8	NA	NA	255.7545	5.3	0.0680	14.3	NA	NA	0.0367	15.2	0.0039	5.3	-0.13	NA	NA	NA	NA	NA	25.2	1.3	1.4	36.6	5.5	5.5	NA	NA	NA	0.00	97.1						
UK007	UK007_130	NA	47	187	82	0.9	NA	NA	135.1351	10.2	0.2660	15.9	NA	NA	0.2714	18.9	0.0074	10.2	0.55	NA	NA	NA	NA	NA	47.5	4.8	4.9	243.8	41.0	41.2	NA	NA	NA	0.00	98.6						
UK007	UK007_131	NA	4	155	106	1.0	NA	NA	223.7136	7.1	0.0160	93.5	NA	NA	0.0099	93.7	0.0045	7.1	-0.04	NA	NA	NA	NA	NA	28.8	2.0	2.1	10.0	9.3	9.3	NA	NA	NA	0.00	#NUM!						
UK007	UK007_132	NA	40	325	251	1.4	NA	NA	234.7418	5.4	0.1260	11.6	NA	NA	0.0740	12.8	0.0043	5.4	0.22	NA	NA	NA	NA	NA	27.4	1.5	1.5	72.5	8.9	9.0	NA	NA	NA	0.00	98.7						
UK007	UK007_134	NA	7	220	181	0.8	NA	NA	266.6667	6.7	0.0310	32.6	NA	NA	0.0160	33.3	0.0038	6.7	0.09	NA	NA	NA	NA	NA	24.1	1.6	1.6	16.1	5.3	5.3	NA	NA	NA	0.00	102.3						
UK007	UK007_137	NA	13	179	126	0.7	NA	NA	238.0952	6.8	0.1170	23.9	NA	NA	0.0678	24.9	0.0042	6.8	-0.09	NA	NA	NA	NA	NA	27.0	1.8	1.9	66.6	16.0	16.1	NA	NA	NA	0.00	98.6						
UK007	UK007_139	NA	16	190	159	1.0	NA	NA	259.0674	6.5	0.1800	29.3	NA	NA	0.0958	30.0	0.0039	6.5	0.00	NA	NA	NA	NA	NA	24.8	1.6	1.7	92.9	26.7	26.7	NA	NA	NA	0.00	99.1						
UK007	UK007_152	NA	9	146	131	1.2	NA	NA	277.7778	7.5	0.1000	29.3	NA	NA	0.0496	30.3	0.0036	7.5	-0.01	NA	NA	NA	NA	NA	23.2	1.7	1.8	49.2	14.5	14.6	NA	NA	NA	0.00	98.6						
UK007	UK007_162	NA	12	188	144	1.1	NA	NA	240.3846	6.8	0.0730	21.7	NA	NA	0.0419	22.8	0.0042	6.8	0.09	NA	NA	NA	NA	NA	26.8	1.8	1.9	41.6	9.3	9.3	NA	NA	NA	0.00	97.4						
UK007	UK007_165	NA	16	262	229	0.9	NA	NA	279.3296	5.6	0.0700	16.9	NA	NA	0.0346	17.8	0.0036	5.6	0.13	NA	NA	NA	NA	NA	23.0	1.3	1.3	34.5	6.0	6.0	NA	NA	NA	0.00	97.5						
UK007	UK007_168	NA	11	154	110	0.8	NA	NA	236.9668	7.2	0.0770	24.5	NA	NA	0.0448	25.5	0.0042	7.2	0.17	NA	NA	NA	NA	NA	27.1	1.9	2.0	44.5	11.1	11.1	NA	NA	NA	0.00	97.6						
UK007	UK007_170	NA	12	252	180	1.0	NA	NA	247.5248	6.3	0.0700	21.1	NA	NA	0.0390	22.0	0.0040	6.3	0.03	NA	NA	NA	NA	NA	26.0	1.6	1.7	38.8	8.4	8.4	NA	NA	NA	0.00	97.2						
UK007	UK007_175	NA	47	239	236	1.2	NA	NA	219.2982	7.1	0.2900	20.2	NA	NA	0.1823	21.4	0.0046	7.1	0.27	NA	NA	NA	NA	NA	29.3	2.1	2.1	170.1	33.4	33.5	NA	NA	NA	0.00	99.1						
UK007	UK007_185	NA	20	286	231	1.1	NA	NA	255.1020	5.1	0.0740	17.2	NA	NA	0.0400	18.0	0.0039	5.1	-0.28	NA	NA	NA	NA	NA	25.2	1.3	1.3	39.8	7.0	7.0	NA	NA	NA	0.00	97.6						
UK007	UK007_188	NA	17	289	246	0.9	NA	NA	261.7801	5.5	0.0650	15.1	NA	NA	0.0342	16.0	0.0038	5.5	0.04	NA	NA	NA	NA	NA	24.6	1.3	1.4	34.2	5.4	5.4	NA	NA	NA	0.00	96.8						
UK007	UK007_193	NA	11	133	93	0.7	NA	NA	210.9705	8.1	0.0920	25.7	NA	NA	0.0601	26.9	0.0047	8.1	0.28	NA	NA	NA	NA	NA	30.5	2.5	2.5	59.3	15.5	15.5	NA	NA	NA	0.00	97.9						
UK007	UK007_197	NA	65	123	49	1.1	NA	NA	108.6957	13.2	0.5600	16.3	NA	NA	0.7104	21.0	0.0092	13.2	0.75	NA	NA	NA	NA	NA	59.0	7.8	7.8	545.0	88.7	89.0	NA	NA	NA	0.00	98.7						
UK007	UK007_201	NA	16	313	221	0.9	NA	NA	234.7418	5.4	0.0580	14.9	NA	NA	0.0341	15.9	0.0043	5.4	0.37	NA	NA	NA	NA	NA	27.4	1.5	1.5	34.0	5.3	5.3	NA	NA	NA	0.01	94.8						
UK007	UK007_204	NA	17	283	283	1.0	NA	NA	308.6420	5.5	0.0640	18.9	NA	NA	0.0286	19.7	0.0032	5.5	-0.01	NA	NA	NA	NA	NA	20.9	1.1	1.2	28.6	5.6	5.6	NA	NA	NA	0.01	97.2						
UK007	UK007_205	NA	15	260	207	0.9	NA	NA	248.1390	6.2	0.0870	22.9	NA	NA	0.0483	23.7	0.0040	6.2	-0.20	NA	NA	NA	NA	NA	25.9	1.6	1.6	47.9	11.1	11.1	NA	NA	NA	0.00	98.1	CL					
UK007	UK007_210	NA	19	310	244	1.0	NA	NA	235.8491	6.4	0.0730	18.8	NA	NA	0.0427	19.8	0.0042	6.4	0.24	NA	NA	NA	NA	NA	27.3	1.7	1.8	42.4	8.2	8.3	NA	NA	NA	0.00	97.3						
UK007	UK007_213	NA	1250	12000	467	1.7	NA	NA	10.5263	13.3	0.0982	5.6	NA	NA	1.2863	14.5	0.0950	13.3	0.96	NA	NA	1590.2	104.9	106.5	585.0	74.6	75.0	839.6	82.9	83.4	NA	NA	NA	0.00	63.2	2Ages (Cenozoic w. Proterozoic core)					
UK007	UK007_214	NA	8	124	104	0.9	NA	NA	242.7184	8.8	0.1110	42.8	NA	NA	0.0631	43.7	0.0041	8.8	-0.05	NA	NA	NA	NA	NA	26.5	2.3	2.4	62.1	26.3	26.4	NA	NA	NA	0.01	98.5						
UK007	UK007_215	NA	18	252	231	1.1	NA	NA	268.8172	6.4	0.0680	21.4	NA	NA	0.0349	22.4	0.0037	6.4	0.06	NA	NA	NA	NA	NA	23.9	1.5	1.6	34.8	7.7	7.7	NA	NA	NA	0.00	97.2						
UK007	UK007_220	NA	10	184	165	0.8	NA	NA	256.4103	5.5	0.0750	22.6	NA	NA	0.0403	23.2	0.0039	5.5	-0.08	NA	NA	NA	NA	NA	25.1	1.4	1.4	40.1	9.1	9.2	NA	NA	NA	0.00	97.7						
UK007	UK007_225	NA	15	239	151	1.1	NA	NA	215.9827	6.0	0.0700	20.3	NA	NA	0.0447	21.2	0.0046	6.0	-0.07	NA	NA	NA	NA	NA	29.8	1.8	1.8	44.4	9.2	9.2	NA	NA	NA	0.00	96.8						
UK007	UK007_230	NA	6	142	116	1.2	NA	NA	257.7320	6.7	0.0870	32.4	NA	NA	0.0465	33.1	0.0039	6.7	-0.30	NA	NA	NA	NA	NA	25.0	1.7	1.7	46.2	15.0	15.0	NA	NA	NA	0.01	98.2						
UK007	UK007_233	NA	13	231	172	1.0	NA	NA	236.4066	6.3	0.0780	26.7	NA	NA	0.0455	27.4	0.0042	6.3	-0.15	NA	NA	NA	NA	NA	27.2	1.7	1.8	45.2	12.1	12.1	NA	NA	NA	0.00	97.6						
UK007	UK007_235	NA	11	196	178	1.1	NA	NA	279.3296	6.3	0.0810	22.2	NA	NA	0.0400	23.1	0.0036	6.3	0.04	NA	NA	NA	NA	NA	23.0	1.4	1.5	39.8	9.0	9.0	NA	NA	NA	0.00	98.1						
UK007	UK007_241	NA	14	258	212	1.2	NA	NA	254.4529	6.3	0.0990	28.9	NA	NA	0.0536	29.6	0.0039	6.3	-0.01	NA	NA	NA	NA	NA	25.3	1.6	1.6	53.1	15.3	15.3	NA	NA	NA	0.00	98.4						
UK007	UK007_242	NA	7	133	108	1.4	NA	NA	255.7545	7.2	0.1080	31.1	NA	NA	0.0582	31.9	0.0039	7.2	-0.38	NA	NA	NA	NA	NA	25.2	1.8	1.8	57.5	17.8	17.9	NA	NA	NA	0.00	98.6						
UK007	UK007_247	NA	9	170	123	1.1	NA	NA	233.6449	7.5	0.0750	25.9	NA	NA	0.0443	27.0	0.0043	7.5	-0.16	NA	NA	NA	NA	NA	27.5	2.1	2.1	44.0	11.6	11.6	NA	NA	NA	0.01	97.4						
UK007	UK007_252	NA	11	144	119	1.3	NA	NA	268.0965	8.5	0.0860	26.8	NA	NA	0.0442	28.1	0.0037	8.5	-0.08	NA	NA	NA	NA	NA	24.0	2.0	2.1	43.9	12.1	12.1	NA	NA	NA	0.00	98.2						
UK007	UK007_254	NA	9	151	99	1.3	NA	NA	221.7295	8.2	0.0880	28.0	NA	NA	0.0547	29.1	0.0045	8.2	0.13	NA	NA	NA	NA	NA	29.0	2.4	2.4	54.1	15.4	15.4	NA	NA	NA	0.00	97.9						
UK007	UK007_255	NA	14	244	166	0.9	NA	NA	224.2152	6.9	0.0790	21.4	NA	NA	0.0486	22.4	0.0045	6.9	-0.15	NA	NA	NA	NA	NA	28.7	2.0	2.0	48.2	10.6	10.6	NA	NA	NA	0.00	97.6						
UK007	UK007_256	NA	20	277	219	0.9	NA	NA	259.7403	6.2	0.0760	16.2	NA	NA	0.0403	17.4	0.0039	6.2	0.03	NA	NA	NA	NA	NA	24.8	1.5	1.6	40.2	6.8	6.9	NA	NA	NA	0.00	97.7						
UK007	UK007_258	NA	5	207	155	0.8	NA	NA	246.3054	6.7	0.0190	49.5	NA	NA	0.0106	50.0	0.0041	6.7	0.40	NA	NA	NA	NA	NA	26.1	1.8	1.8	10.7	5.3	5.3	NA	NA	NA	0.00	#NUM!						
UK007	UK007_263	NA	17	226	181	0.8	NA	NA	254.4529	5.7	0.0780	20.3	NA	NA	0.0423	21.0	0.0039	5.7	0.26	NA	NA	NA	NA	NA	25.3	1.4	1.5	42.0	8.7	8.7	NA	NA	NA	0.00	97.8						
UK007	UK007_264	NA	13	191	171	0.8	NA	NA	259.7403	6.8	0.0690	24.9	NA	NA	0.0366	25.8	0.0039	6.8	0.26	NA	NA	NA	NA	NA	24.8	1.7	1.7	36.5	9.3	9.3	NA	NA	NA	0.01	97.2						
UK007	UK007_265	NA	14	193	154	1.1	NA	NA	257.0694	7.4	0.1010	20.6	NA	NA	0.0542	21.9	0.0039	7.4	-0.04	NA	NA	NA	NA	NA	25.0	1.9	1.9	53.6	11.4	11.4	NA	NA	NA	0.00	98.5						
UK007	UK007_267	NA	18	286	208	1.0	NA	NA	216.9197	5.9	0.0760	16.9	NA	NA	0.0483	17.9	0.0046	5.9	-0.16	NA	NA	NA	NA	NA	29.6	1.8	1.8	47.9	8.4	8.4	NA	NA	NA	0.00	97.3						
UK007	UK007_270	NA	15	240	199	0.9	NA	NA	267.3797	5.3	0.0610	17.5	NA	NA	0.0315	18.3	0.0037	5.3	0.11	NA	NA	NA	NA	NA	24.1	1.3	1.3	31.4	5.7	5.7	NA	NA	NA	0.01	96.2						
UK007	UK007_275	NA	12	207	167	1.3	NA	NA	258.3979	5.6	0.0740	22.1	NA	NA	0.0395	22.8	0.0039	5.6	0.15	NA	NA	NA	NA	NA	24.9	1.4	1.4	39.3	8.8	8.8	NA	NA	NA	0.00	97.6						
UK007	UK007_276	NA	85	230	105	0.9	NA	NA	140.8451	8.6	0.3400	13.2	NA	NA	0.3328	15.7	0.0071	8.6	0.60	NA	NA	NA	NA	NA	45.6	3.9	3.9	291.7	39.9	40.1	NA	NA	NA	0.00	98.8						
UK007	UK007_283	NA	15	222	176	0.9	NA	NA	244.4988	7.8	0.0730	20.9	NA	NA	0.0412	22.3	0.0041	7.8	0.13	NA	NA	NA	NA	NA	26.3	2.1	2.1	41.0	9.0	9.0	NA	NA	NA	0.00	97.4						
UK007	UK007_284	NA	20	150	138	1.3	NA	NA	224.2152	7.2	0.1560	18.0	NA	NA	0.0959	19.4	0.0045	7.2	0.10	NA	NA	NA	NA	NA	28.7	2.1	2.1	93.0	17.2	17.3	NA	NA	NA	0.00	98.8						
UK007	UK007_286	NA	15	221	202	0.9	NA	NA	295.8580	6.9	0.0840	16.8	NA	NA	0.0391	18.2	0.0034	6.9	-0.13	NA	NA	NA	NA	NA	21.8	1.5	1.5	39.0	6.9	7.0	NA	NA	NA	0.00	98.3						
UK007	UK007_289	NA	16	183	163	0.9	NA	NA	264.5503	7.0	0.1280	23.1	NA	NA	0.0667	24.1	0.0038	7.0	-0.24	NA	NA	NA	NA	NA	24.3	1.7	1.7	65.6	15.3	15.4	NA	NA	NA	0.00	98.8						
UK007	UK007_293	NA	9	201	158	1.0	NA	NA	233.1002	6.0	0.0290	29.4	NA	NA	0.0172	30.0	0.0043	6.0	0.35	NA	NA	NA	NA	NA	27.6	1.7	1.7	17.3	5.1	5.1	NA	NA	NA	0.00	#NUM!						
UK007	UK007_295	NA	10	166	141	1.2	NA	NA	235.8491	7.2	0.0850	27.1	NA	NA	0.0497	28.0	0.0042	7.2	-0.22	NA	NA	NA	NA	NA	27.3	1.9	2.0	49.2	13.5	13.5	NA	NA	NA	0.00	97.9						
UK007	UK007_296	NA	22	297	231	0.9	NA	NA	234.1920	5.2	0.0760	14.3	NA	NA	0.0447	15.2	0.0043	5.2	0.09	NA	NA	NA	NA	NA	27.5	1.4	1.5	44.4	6.6	6.7	NA	NA	NA	0.00	97.5						
UK007	UK007_298	NA	15	220	179	1.5	NA	NA	260.4167	5.1	0.0750	21.1	NA	NA	0.0397	21.7	0.0038	5.1	-0.17	NA	NA	NA	NA	NA	24.7	1.3	1.3	39.5	8.4	8.4	NA	NA	NA	0.00	97.7						
UK007	UK007_300	NA	11	192	146	1.0	NA	NA	235.8491	6.7	0.0690	22.9	NA	NA	0.0403	23.8	0.0042	6.7	-0.02	NA	NA	NA	NA	NA	27.3	1.8	1.9	40.2	9.4	9.4	NA	NA	NA	0.01	97.0						

[1]Concentration uncertainty 5%

[2]Data not corrected for common lead

[3]Concordance calculated as ($^{206}Pb/^{238}U$ age/^{207}Pb-^{206}Pb Age)*100

[4]Accepted dates have probability of concordance >1%

Decay constants of Jaffey et al. (1971) used with modification after Mattinson (1987)

bd = below detection, NA = not available

s_x includes all random uncertainties (s_{m}, ε); s_{total} inlcudes all random and systematic uncertainties (s_{m}, ε, ε', s_{λ}, λ)

Comments: LU - Low uranium concentration; CL - analysis affected by common Pb; DO - pit drilled out of grain; LL - affected by lead loss; SL - sloping 6/8 or 7/6 age, suggestive of age heterogeneity; 2Ages - age heterogeneity; CX - complex age structure; Inc - inclusion; Z - zoned; Inh - inheritance; E - analysis is not sound, eliminated