

# Dating and Characterising a Newly Discovered Sedimentary Basin in the East Tennant Region

Thesis submitted in accordance with the requirements of the University of  
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## **DATING AND CHARACTERISING A NEWLY DISCOVERED SEDIMENTARY BASIN IN THE EAST TENNANT REGION**

### **CHARACTERISING A NEW BASIN IN THE EAST TENNANT REGION**

#### **ABSTRACT**

An unknown sedimentary sequence was discovered in the newly defined Brunette Downs Rift Corridor. The sequence is interpreted to lie within a half graben structure, beneath the Helen Springs Volcanics (297m) and extend to basement (724m). This study analyses these sediments to establish; when they were deposited, under what conditions, and from what source. The unknown sedimentary rocks were defined as Unit A through F, with a notable unconformity splitting units A and B. Maximum depositional ages were established above and below the unconformity, using U–Pb detrital zircon dating. These yielded ages of  $902 \pm 34$  Ma and  $1649 \pm 37$  Ma respectively, based on youngest concordant grain. In situ–laser ablation inductively coupled plasma reaction cell mass spectrometry (LA-ICP-MS/MS) Rb–Sr dating established a minimum depositional age of  $1547 \pm 13$  Ma for shales in the sequence below the unconformity. Initial  $^{87}\text{Sr}/^{86}\text{Sr}$  values and rare earth element compositions of these shales suggest that this age dates diagenetic phases that grew in equilibrium with Mesoproterozoic sea water. Therefore, this age may effectively date deposition of this sedimentary package. NDIBK10 sediments were compared to a database of surrounding sedimentary and igneous provinces. The age distribution of detrital zircon grains show that the unknown sediments are most similar to the lower McArthur Group (Glyde Package), or Bullita Group (Favenc Package). The shale Rb–Sr age of  $1547 \pm 13$  Ma suggests that the Favenc Package is the most likely of these possibilities. The sandstones are likely sourced from the Aileron Province, possibly due to uplift related to the Chewings Event. La/Sm ratios from shales indicate that the source was primarily felsic, comparable to average upper continental crust (AUCC). Th/U ratios and Ce anomalies indicate that ocean waters were oxic/sub-oxic becoming more oxic during deposition.

#### **KEYWORDS**

McArthur Basin, Northern Territory, Geochronology, U–Pb, Zircon, Rb–Sr, Shale, Carbonate, Glauconite, Geochemistry, Sedimentology

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## INTRODUCTION

The East Tennant Project, as part of the MinEx CRC's National Drilling Initiative, aims to better constrain basement geology and prospectivity of the region between Tenant Creek and the Queensland border. Ten diamond drill holes were drilled through sedimentary cover sequences and basement totalling nearly 4000m. Along with this work, a new seismic line by Geoscience Australia was conducted in 2019 which aimed to test possible correlations between the Beetaloo and Carrara Domains (Figs 2, 3), as well as examine the nature of the structure of the region between these areas.

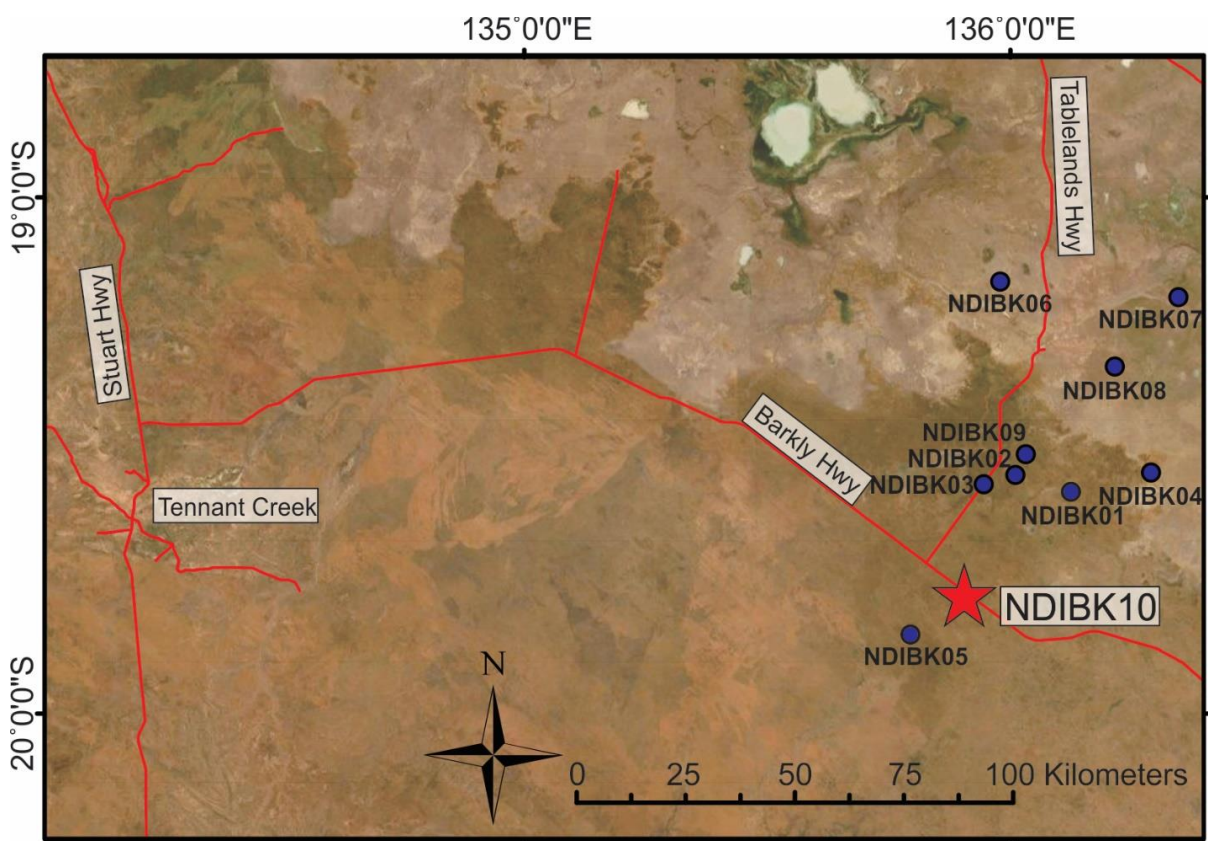
Stratigraphic hole-NDIBK10 was drilled targeting a low magnetic/gravity corridor, interpreted as a locally thicker Georgina Basin sequence. However, instead of hitting basement below the Georgina Basin, an unknown sedimentary sequence was discovered from 297 to 734m, with basement intercepted at the bottom of the hole.

The aims of this study are to; unravel the source region of the original sediments, understand when they were deposited, under which depositional conditions, and finally determine if these sedimentary rocks still record the chemistry of the environment at which they formed, or have been overprinted by later diagenesis or hydrothermal alteration. Detrital zircon U–Pb dating is used to constrain maximum depositional ages and look at potential provenance of these sediments. In–situ Rb–Sr dating of shales and glauconites is used to constrain minimum depositional ages, and to triage the data to investigate the nature of the fluids that were in equilibrium with the dated phases. The sedimentology of the rocks is examined to understand the original depositional environment. The chemical composition of both shales and carbonates are also examined to understand the chemical conditions during and after deposition. Used in conjunction, these methods shed light on the history of this newly discovered basin and sedimentary sequence.



## GEOLOGICAL SETTING

NDIBK10 was drilled at S19.7756754, E135.8956725, approximately 200km east off Tennant Creek, close to the junction of Barkly and Tableland highways (Fig. 1, 2). Using the recent Geoscience Australia, Barkly Seismic Line, it is interpreted that the drill hole lies within the Brunette Downs Rift Corridor, near the boundary of the Carrara Domain (Southby et al., 2021). The drill hole passes through a locally thickened half graben, similar to those seen in the seismic line. Sedimentary rocks that from the unknown portion of the drill hole are likely correlated to sediments from the greater McArthur Basin, South Nicholson Basin or the Mount Isa Province.



**Figure 1: Location map showing all 10 holes drilled as part of the MinEx CRC National Drilling Initiative East Tennant Project in relation to major roads. Background map from Google Earth. Hwy = Highway.**

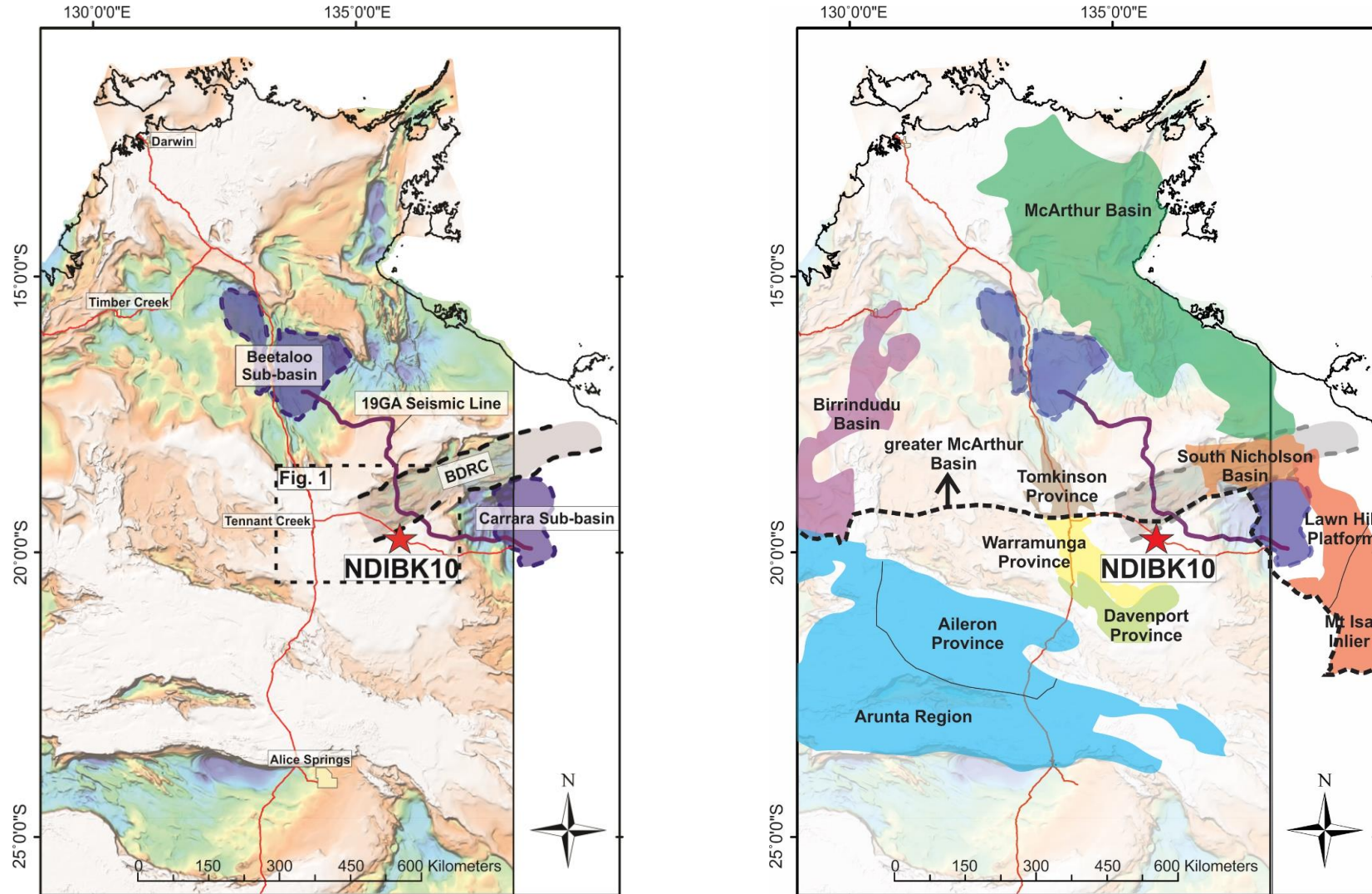


Figure 2: (left) SEABASE™ depth to basement map showing the 19GA seismic line, the extent of the Brunette Downs Rift Corridor (BDR) and surrounding basins, location of the drill hole studied (Carson et al. 2021), and extent of Fig 1. (right) location of main basins and provinces discussed in this thesis. The southern extent of the informally named ‘greater McArthur Basin is marked with a bold dashed line.

The top portion of the drill hole passes through ~300 meters of the extensive Cambrian to Devonian Georgina Basin, which covers much of the surrounding region. The Georgina Basin was deposited in an intracratonic environment, and is thought to be part of the interconnected Centralian Superbasin during the Cambrian (Walter et al., 1995). NDIBK10 passes through the Thornton Limestone, the lowermost unit of the Narpa Group, distributed in the southern Georgina Basin ranging in thickness from 23 m to >400 m (Ahmad & Munson, 2013). The Thornton Limestone is typically fossiliferous with a diverse assemblage of middle Cambrian species (Shergold et al., 1985). Sedimentary rocks of the Thornton Limestone are mostly marine bioclastic carbonates with limestones, dolostones, mudstones and chert beds, deposited in a peritidal to marine environment (Ahmad & Munson, 2013).

The base of the Georgina Basin is marked by the Helen Springs Volcanics of the Kalkarindji Province, which extends over large areas of the Northern Territory, northern Western Australia and western South Australia (Ware et al. 2018). It is part of a large igneous province that formed in the middle Cambrian erupting continental flood basalts (Ware et al. 2018). The Helen Springs Volcanics overlie an unconformity, below which lies the newly discovered unknown sedimentary sequence.

The McArthur Basin crops out to the north and west of the drill hole (Fig. 2). It is a large multiphase basin, deposited during the Paleo-Mesoproterozoic. The basin extends over 180000 km<sup>2</sup> and ranges in thickness from 5-15 km (Ahmad & Munson, 2013). The basin is divided into five lithostratigraphic packages; being, from the top to bottom the Wilton, Favenc, Glyde, Goyder and the Redbank Packages (Rawlings, 1999). These

stratigraphic packages, consist of different amounts of siliciclastic and carbonate rocks (Jackson et al., 2000), and are extensive throughout the McArthur Basin. They are investigated as possible correlatives for the unknown sediments in NDIBK10. The McArthur Basin has previously been correlated with the Tomkinson Province, the Birrindudu Basin, and the sub-surface Beetaloo Sub-basin, to form the 'greater McArthur Basin' (Close et al. 2014). More recently, the South Nicholson Basin has also been added to this depositional system (Yang et al., 2020 ; Carson et al., 2021).

NDIBK10 lies adjacent to the Warramunga Province and the Tomkinson Province to the west (Fig 2.). These provinces along with the Davenport Province make up the Tennant Creek Inlier (Ahmad & Munson, 2013). The oldest rocks of the Warramunga Province predate the Tennant Creek event of ca 1850 Ma. These are the Warramunga Formation, Junalki Formation and the Woodenjerrie beds (Ahmad & Munson, 2013). These are conformably overlain by the Tennent Creek Group and unconformably overlain by the Ooradidgee Group. The province experienced four episodes of felsic magmatism and volcanism occurring between 1850 Ma and 1711 Ma (Ahmad & Munson, 2013). Mafic magmatism occurred in three episodes between 1850 Ma and 1800 Ma (Ahmad & Munson, 2013). The Warramunga Province is bounded by the Tomkinson and Davenport Provinces to the north and south, respectively, and extends underneath the Georgina Basin to the east and west (Ahmad & Munson, 2013).

The Tomkinson Province forms the northernmost part of the Tennant Region, directly to the north of the Warramunga Province. Three groups comprise the Tomkinson Province, from oldest to youngest these are the Tomkinson Creek Group, the Namerinni

Group and the Renner Group (Ahmad & Munson, 2013). These have been correlated to the Tawallah Group, The McArthur Group, and the Roper Group, respectively, of the McArthur Basin (Munson, 2016).

### **Brunette Downs Rift Corridor**

The Brunette Downs Rift Corridor was imaged by Geoscience Australia in its recent Barkly Deep Crustal Reflection Seismic Survey (Fig. 2, 3). It is situated next to the Carrara Domain to the east where it is bound by a steeply dipping, basement penetrating fault (Carson et al., 2021). A complex fault zone separates its western edge from the Beetaloo-McArthur Domain. Aeromagnetic images show several SW–NE trending structures within the Brunette Downs Rift Corridor. Seismic interpretations of the structures reveal two south-easterly dipping half-grabens. These are controlled by steeply dipping, extensional headwall faults with sub-parallel subsidiary faults (Carson et al., 2021). The half-grabens extend to depths of approximately 6km and are interpreted by Carson et al. (2021) to contain all four ‘superbasin’ sequences of the Mount Isa region: the Paleoproterozoic Leichhardt, Calvert and Isa superbasins and the Mesoproterozoic Roper superbasin (Carson et al., 2021).

It appears that rifting and syn-depositional growth faulting occurred in two distinct stages, based on relative sediment thickness between packages. Stratal thickening can be seen to the northwest of the Leichhardt Superbasin, away from the bounding faults. Whereas, both the Calvert and Isa Superbasin reflectors show stratal thickening in the opposite direction, to the southeast, towards the bounding fault (Carson et al., 2021). The structural changes coincide with regional rifting events, the initial opening of the Calvert Superbasin at ca 1725 Ma and the River Extensional Event at ca 1640 Ma (Southgate et al., 2000, Carr et al., 2019).

The half-grabens defined in the 2019 seismic survey lie along strike from similarly trending half-graben structures identified in seismic lines 17GA-SN1, and 17GA-SN5 located in Mount Drummond. There is also evidence of east-west extensional faulting systems on the Lawn Hill Platform in Queensland, meaning that there is a continuation of the corridor extending over 400 km to the east. (Scott et al., 1998, Bradshaw et al., 2000)

### **Carrara Domain**

NDIBK10 was drilled close to the western boundary of the Carrara Domain (Fig. 3). Seismic line 19GA-B1 shows the Carrara Domain extending to the Queensland-Northern Territory border. The Carrara Domain's western edge is characterised by a basement high covered by only the Georgina Basin, lacking any underlying Proterozoic sedimentary rocks. This passes into the western edge of the Carrara Sub-basin, part of the South Nicholson Basin. The Carrara Sub-basin is interpreted from seismic to be up to 10 000 m deep. It is interpreted to be made up of the Leichhardt (ca. 1790–1750 Ma), Calvert (ca. 1735–1690 Ma), Isa (ca. 1670–1575 Ma) and Roper Superbasins (ca. 1500–1400 Ma) (Jackson et al., 2000, Southgate et al., 2000, Abbott & Sweet, 2000). The stratigraphy of the Carrara Sub-basin is currently being further understood through the drilling of the Carrara-1 drill hole to a depth of 1750m. The Carrara Sub-basin is highly prospective for hydrocarbons.

### 19GA Barkly Seismic Line

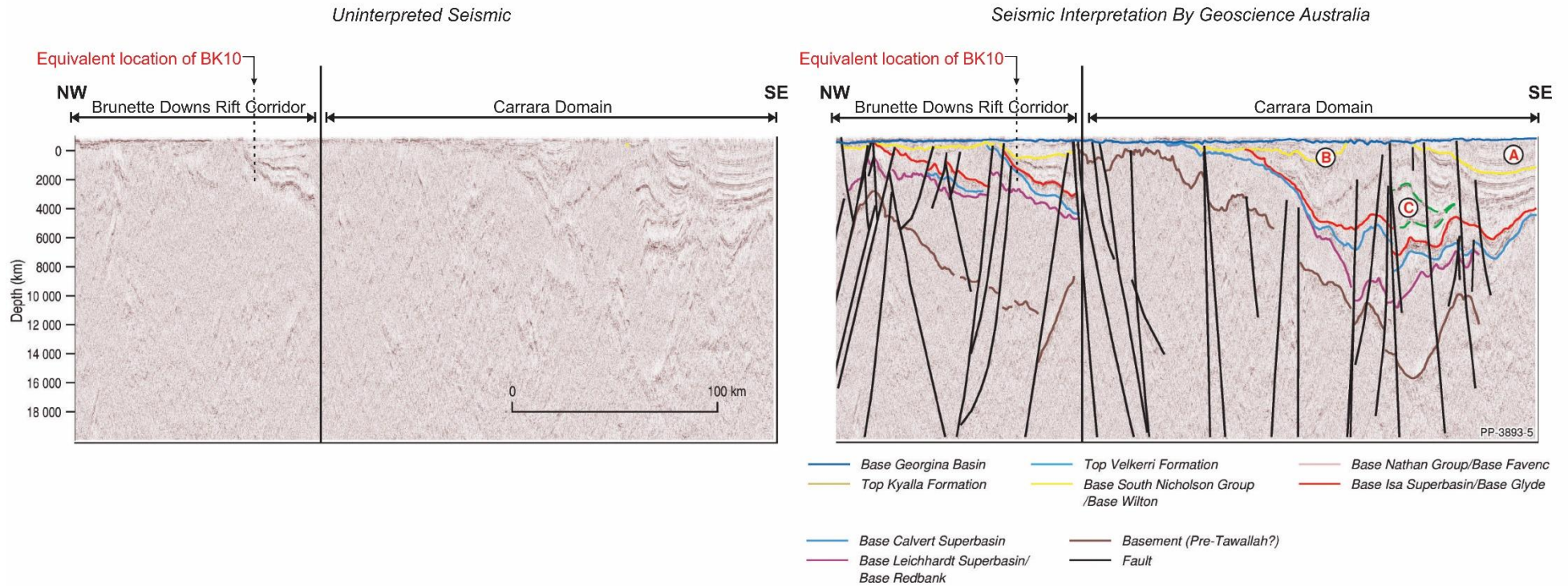


Figure 3 Modified from (Southby et al, 2021) shows recently acquired seismic data uninterpreted (left) and interpreted (right) of the Brunette Downs Rift Corridor and Carrara Domain. With an equivalent structural location of the NDIBK10 drill hole (labelled BK10), note- NDIBK10 drill hole is ~40km south west of 19GA seismic line within the Brunette Downs Rift Corridor.

## **METHODS**

### **Sample Selection**

Samples used in the study were taken from diamond drill core, hole NDIBK10, part of the East Tennant project and the MinEx CRC. Sampling took place at Alice Springs core library and transported back to Adelaide for processing. Total borehole length was 765.65m, samples were targeted from 297 to 734m between the overlying Helen Springs Volcanics and basement contact. A total of 198 samples were collected.

Two arenite samples were taken at either end of the unknown sedimentary succession, for detrital zircon analysis, to help constrain the maximum age of deposition. One hundred and twenty two shale samples were collected at a resolution of approximately two metres.

Samples were targeted to be the finest grained and darkest in colour possible, to try to minimise detrital contamination. Some shale samples also contained glauconite grains.

Shale/glauconite samples were dated using Rb–Sr laser ablation inductively coupled reaction cell mass spectrometry (LAICP-MS/MS) to constrain a minimum depositional age (Subarkah et al. 2021). They were also analysed, along with 74 carbonate samples, for trace and major elemental geochemistry, to understand the paleo-redox and connectivity of the basin with the wider ocean. Carbonate samples were taken at a similar resolution in doloarenite beds and were targeted using dilute HCl for the highest carbonate component.

### **Sedimentology**

A detailed stratigraphic log was recorded before sampling of the drill core. Characteristics logged were, grain size, shape, sorting, colour, sedimentary structures and notes. The stratigraphic log was digitised with sample locations using EasyCore software.



### Uranium-Lead detrital zircon analysis

Preparation of two arenite samples was done following Yang et al. (2018). Zircon grains were separated from crushed samples by sieving and panning using conventional magnetic techniques. Individual zircon grains were picked and mounted to an epoxy-resin mount and then polished to expose the grains. Mounts were carbon coated at Adelaide Microscopy to allow them to be imaged with cathodoluminescence using a Hitachi FlexSEM 1000 SEM. LA-ICP-MS analysis was conducted on an Agilent 7900x with attached RESolution LR 193nm Excimer laser system. Standards used for calibration were Plesovice, MG-1 and GEMOC GJ (Table 1)

**Table 1: Shows standards used for U–Pb dating with ages and errors (2 $\sigma$ )**

Name	206/238 Age (MA)	+/- (2 $\sigma$ )	207/235 Age (Ma)	+/- (2 $\sigma$ )	207/206 Age (Ma)	+/- (2 $\sigma$ )	Reference
<b>Plesovice</b>	337.13	0.37	337.27	0.11	339.22	0.25	Sláama et al., 2008,
<b>MG-1</b>	490	0.3	190	0.03	491.8	0.6	Fletcher et al., 2004
<b>GEMOC GJ</b>	600.7	1.1	602	1	607.7	4.3	Jackson et al., 2004

Data were processed using LADR software. Signals were picked based on rare earth element (REE) patterns and  $^{207}\text{Pb}/^{206}\text{Pb}$  ages. A series of cut offs were explored for the concordance of zircon grains. A cut off of 10% was applied to all grains that were plotted using IsoplotR and Excel. The youngest population was calculated using three or more grains that yield a mean with a MSWD less than one. However maximum depositional ages were defined using single grain ages. This follows the logic that there should be no reason that any two detrital zircon grains would have the same age in a sample. Kernel density estimates were produced using MATLAB.

### **Rubidium – strontium shale and glauconite analysis**

The method from Subarkah et al. (2021) was followed for in-situ Rb–Sr dating. Samples were cut into chips targeted on areas with low detrital component. Rock chips were set in epoxy mounts and polished to expose the chip face. Analysis of samples was carried out at Adelaide Microscopy using LA-ICP-MS/MS with a RESOLUTION-LR ArF 193nm excimer laser, and an Agilent 8900x ICP-MS/MS. Standards used for calibration were MICA-MG, MDC and NIST-610 (Table 2)

**Table 2 Shows standards used for Rb–Sr dating with ages and errors (2 $\sigma$ )**

Name	Age (Ma)	+/- (2 $\sigma$ )	Reference
<b>MICA-MG</b>	519.4	6.5	Hogmalm et al. 2017
<b>MDC</b>	493.4	1.4	Redaa et al. 2018 Subarkah et al. 2021
<b>NIST-610</b>	Element Quantification	-	Jochum et al., 2016

Eighty spots per sample were focussed along a selected lamination for shales, avoiding as many visible detrital grains as possible. For glauconite samples, individual glauconite grains could be targeted, for sample BK10-111 (sample list Appx. B), carbonate was also targeted as a co-genetic low Rb phase. Data were processed using LADR and plotted using IsoplotR and Excel, which was also used to examine REE patterns.

### **Trace and major element analysis of carbonates and shales**

Thirty carbonate samples were prepared for geochemistry using is situ LA-ICP-MS. Rock chips were selected in areas with the lowest detrital component. Three rock chips per epoxy mount were set and polished using the automatic polisher. Samples were analysed at Adelaide Microscopy, targeting areas with high calcium and magnesium. Standard NIST-610 and NIST-612 were used for elemental quantification.

Sixty five shale samples were prepared for solution ICP-MS. Approximately every second sample was selected from the highest shale section of the sequence giving a resolution approximately 4m. Every sample was analysed in the shale-rich section between the carbonates, giving a resolution of approximately 2 meters. Ten samples were selected from below the last carbonate component of the hole because these sedimentary rocks were interpreted to be deposited in a marginal marine depositional environment and it was thought that their chemistry would be unlikely to reflect a wider basin chemistry. All samples were prepared using the ring mill, with a quartz flush between each sample to avoid contamination. Samples were then prepared in 15 ml Teflon vials, and were dissolved using 6 molar nitric acid, 6 molar hydrochloric acid and 28 molar hydrofluoric acid. Each sample was then diluted into two test tubes for analysis. A 1:1000 dilution was used for analysis of REE and a 1:100000 for major elements. These were processed at Adelaide Microscopy using the Solution ICP-MS - Agilent 8900x QQQ-ICP-MS. Standards were prepared using SCO-1(shale), JDO-1 (carbonate), and BCR-2 (basalt).

## **OBSERVATIONS AND RESULTS**

### **Sedimentology**

The sedimentary rocks were logged in detail from 277–740m, between the base of the Helen Springs Volcanics and basement. Sedimentary rocks were divided into six distinct units that were defined in NDIBK10 HyLogger Data Package 0107 (Smith, 2021), which correlated with changes in physical rock properties. Packages are referred to as Sedimentary Unit A, B, C, D, E and F (Fig. 4).

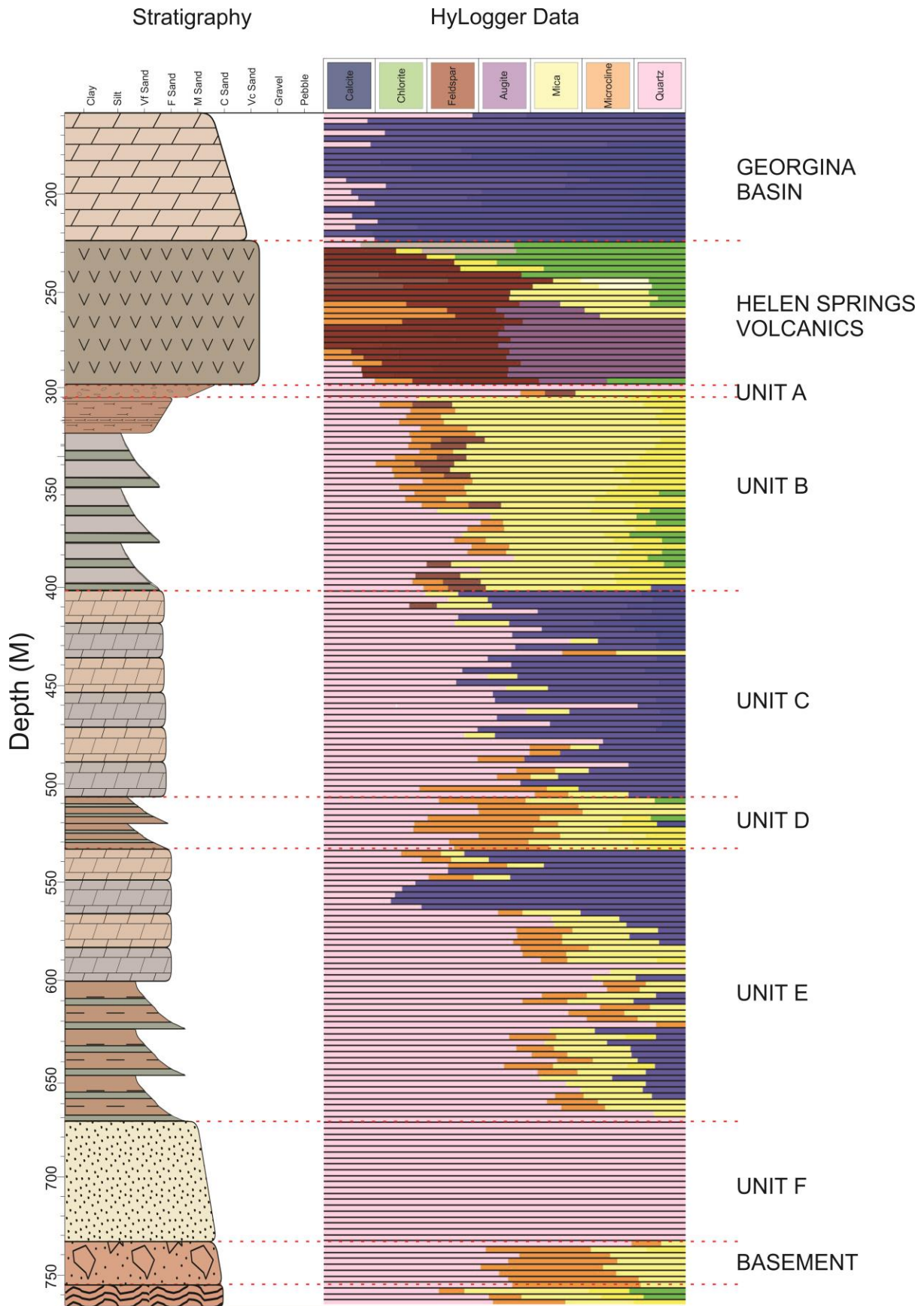


Figure 4: Shows simplified stratigraphic log correlated to HyLogger data from the Northern Territory Geological Survey (NTGS), and the division of sedimentary units used for the rest of the study.

SEDIMENTARY UNIT A

Unit A appears between 297–303m it is bounded by the Helen Springs Volcanics above and an erosional unconformity below. It is made up of 1–2 cm bedded quartz rich coarse sand, maroon to brown in colour, with limited calcite cement. There is also a 50cm package of sedimentary breccia with clasts of elongate fine silt and milky quartz pebbles (Fig. 5).

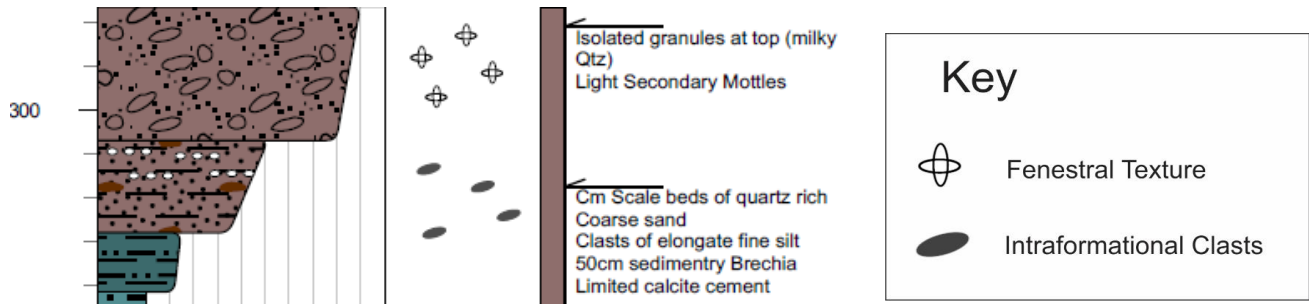


Figure 5: Representative interval of Unit A from stratigraphic log (Appendix A). With core tray photography from Geoscience Australia both dry (above) and wet (below).

## SEDIMENTARY UNIT B

Unit B appears from 303–403m depth, it is bounded by an erosional unconformity at its top and the first appearance of carbonates at its base. It is exclusively clastic, with lithologies ranging in grain size from mud to coarse sand. Turbidites are common throughout the unit becoming more frequent, and thicker, toward the base, these range in size from decimetre scale up to 3m. Turbidites frequently have distinctive erosional bases below intraformational conglomerates made of shale rip up clasts. The sequences typically fine up to silts often with interbeds of coarser grained sand throughout. Flaser bedding, cross bedding and slumped bedding are common in sandy interbeds (Fig. 6)

### Lithofacies

**LF1** is comprised of green-grey or maroon silt, mm scale laminations, often appearing as lenses with flaser bedding. **LF2** is comprised of fine sand, 0.5 to 1 cm scale laminations, often fining upward, often containing cross bedding. Sometimes this facies shows slumped bedding. **LF3** is comprised of medium-coarse sand cm scale laminations, usually toward the base of turbidites, sometimes contains cross bedding. **LF4** is comprised of an intraformational conglomerate and up to 3 mm diameter quartz grains, usually at the base of turbidites with an erosional base. **LF5** is a dark-grey to black organic rich shale that has a vitreous appearance on bedding surfaces.

**Table 3: Lithofacies description from Unit B.**

Name	Description
<b>BLF1: laminated silt</b>	Green-grey/maroon, mm laminated, lensed bedding, flaser beds.
<b>BLF2: laminated sand</b>	Green-grey, 0.5-1 cm laminated, fining upward, cross bedding, slumped bedding.
<b>BLF3: medium sand</b>	Grey, cm scale laminated, fining upward, cross bedding
<b>BLF4: conglomerate</b>	Grey-green/maroon, massive, erosional bases, clasts up to 3 cm
<b>BLF5 organic shale</b>	Black/grey, mm laminated

**Table 4: Stacking Patterns from Unit B.**

Depth (m)	Stacking Pattern
<b>303-310</b>	BLF1, and BLF2 are interbedded with occasional erosional surfaces
<b>310-320</b>	BLF1 appears well laminated but as a homogenous shale
<b>320-325</b>	BLF2 is interbedded with BLF5
<b>325-355</b>	BLF1, BLF2 and BLF3 appear in fining upward sequences of turbidites
<b>355-360</b>	BLF2, BLF3 and BLF4 appear in fining upward sequence of turbidite
<b>360-375</b>	BLF1, BLF2 and BLF3 are interbedded with local fining upward sequences
<b>375-403</b>	BLF1, BLF2, BLF3 and BLF4 appear in fining upward sequences of proximal turbidites

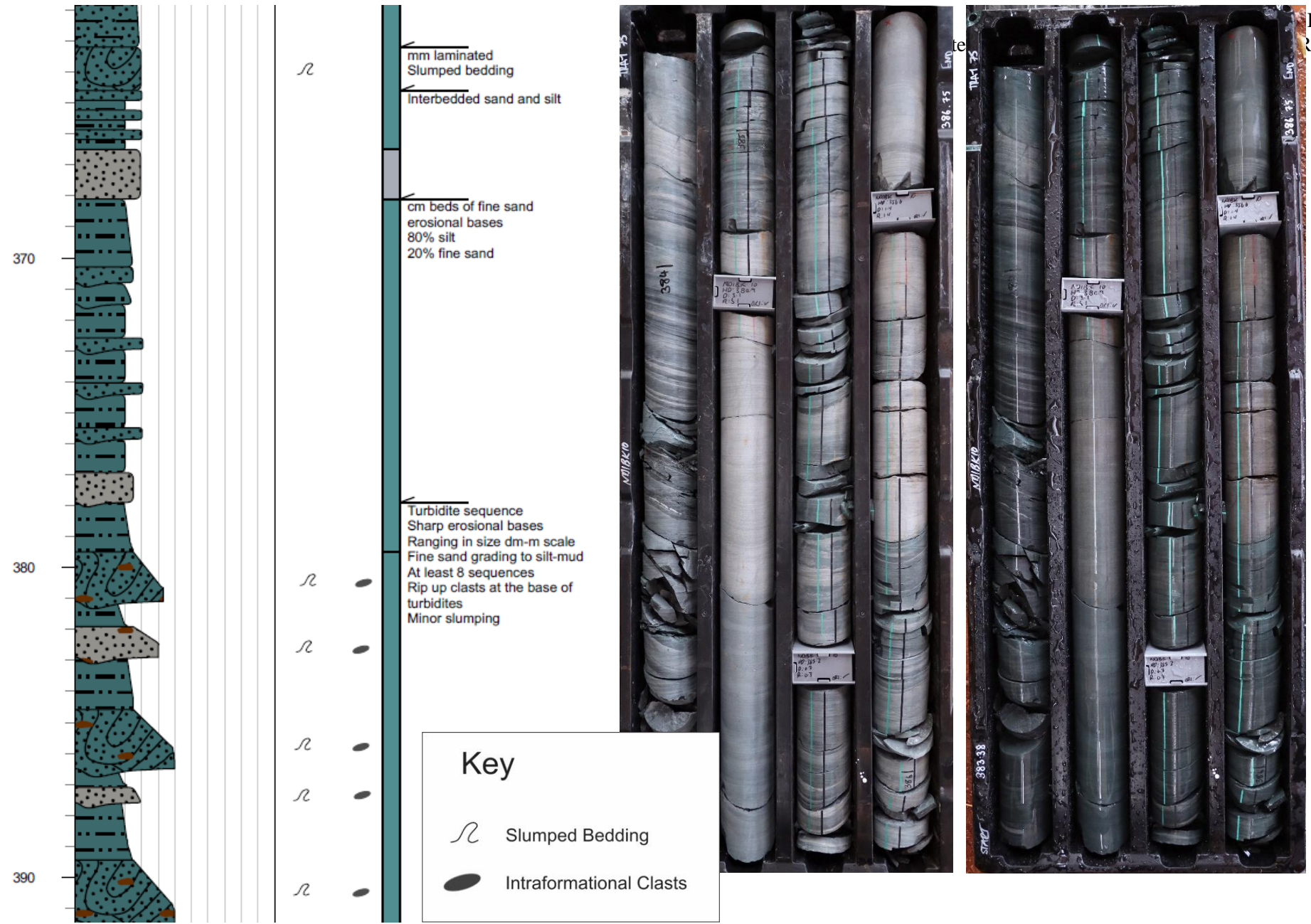


Figure 6: Representative interval of Unit B from stratigraphic log (Appendix A). With core tray photography from Geoscience Australia both dry (left) and wet (right).



## SEDIMENTARY UNIT C

Unit C appears from 403–506m, it is defined by the first appearance of carbonates at its top and the disappearance of carbonates at its base. Sediments are predominantly doloarenites that fizzed weakly with 10% conc. HCl when scratched. These are interbedded with minor shale and sand layers. Fining upward sequences were still common, however, less extensive and often broken by shale interbeds. Bases of fining upward sequences are composed of dolorudites with intraformational clasts. Evidence of microbial lamination appeared throughout Unit C as oncolites and stromatolites, these carbonates often had a purple fenestral texture. Syneresis cracks were common throughout the unit (Fig. 7)

### Lithofacies

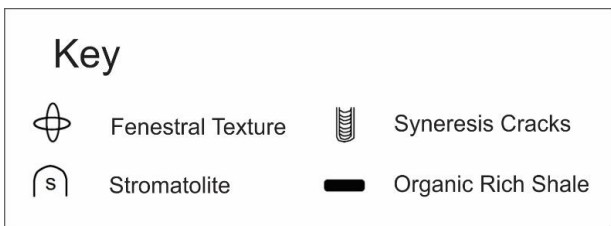
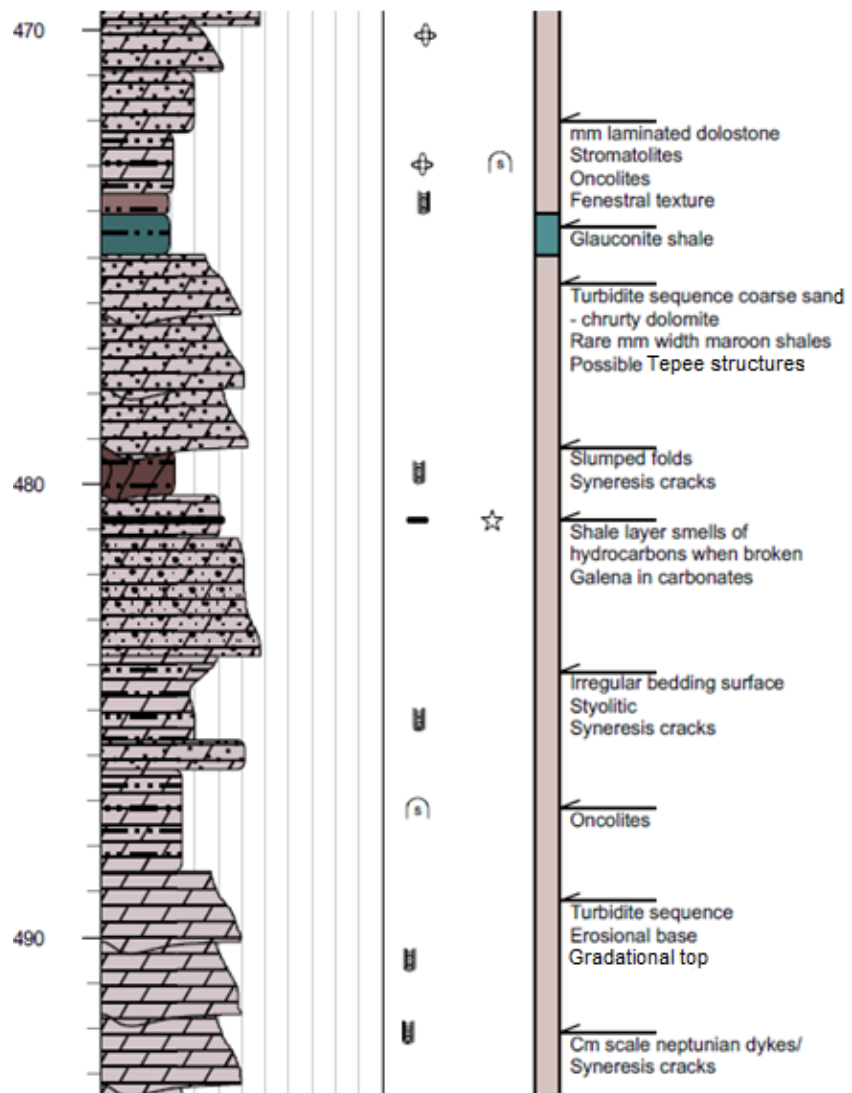
**LF1** is comprised of green-grey or maroon silt, mm scale laminations, often appearing as lenses with flaser bedding often with no carbonate component. **LF2** is comprised fine grained doloarenite, quartz grains with carbonate matrix, often slumped. This facies often contains glauconite grains and sometimes shows evidence for microbial activity with stromatolites and oncolites. **LF3** is comprised medium grained doloarenite, quartz grains with carbonate matrix, often slumped. This lithofacies often contains glauconite grains. **LF4** is comprised of a conglomerate with a doloarenite matrix and intraformational clasts up to 5mm. **LF5** is comprised of a very fine cherty carbonate with secondary porosity vugs and fenestral alteration. **LF6** is comprised of a dark organic-rich shale that smelled of hydrocarbons when broken. **LF7**, is comprised of medium sand that looks to have been altered differently to surrounding beds, has sharp erosional base.

**Table 5: Lithofacies description from Unit C.**

Name	Description
<b>CLF1: laminated silt</b>	Green-grey/maroon, mm laminated, lensed bedding, flaser beds.
<b>CLF2: fine grained doloarenite</b>	Grey/brown, fine grained doloarenite, mm scale laminations, often slumped. Sometimes contains stromatolites and oncolites.
<b>CLF3: medium grained doloaretie</b>	Grey/brown medium grained doloarenite, cm scale bedding often slumped. Often contains glauconite grains. Contains syneresis cracks. Sometimes contains stromatolites and oncolites
<b>CLF4: matrix supported conglomerate</b>	Grey/maroon conglomerate with massive doloarenite matrix and intraformational clasts up to 5mm. Contains syneresis cracks
<b>CLF5: chert</b>	Grey/green, very fine cherty carbonate with secondary porosity vugs and fenestral alteration
<b>CLF6: organic shale</b>	Dark black/grey, organic rich shale mm laminations.
<b>CLF7 orange sand</b>	Orange/ yellow sand medium sand, cm bedded, looks weathered/ altered

**Table 6: Stacking Patterns from Unit C.**

Depth (m)	Stacking Pattern
<b>403-411</b>	CLF2, CLF3 and CLF4 are interbedded in a series of proximal turbidites
<b>411-415</b>	CLF5 is interbedded with CLF3 and CLF4 2 distinct beds of CLF5
<b>415-417</b>	CLF4 forms a distinctive conglomerate bed
<b>417-423</b>	CLF2, CLF3, CLF4 are interbedded in fining upward sequences
<b>423-432</b>	CLF1 interbeds appear in CLF2, CLF3 and CLF4 fining upward sequences
<b>432-435</b>	CLF2, CLF3 and CLF6 are interbedded
<b>435-440</b>	CLF2, CLF3 and CLF4 are interbedded
<b>440-446</b>	CLF2, CLF3 CLF4 and CLF6 are interbedded in fining upward sequences
<b>446-460</b>	CLF2, CLF3 and CLF4 are interbedded in fining upward sequences
<b>460-470</b>	CLF3 and CLF4 are interbedded
<b>470-474</b>	CLF1 CLF2 and CLF3 are interbedded
<b>474-480</b>	CLF2, CLF3 and CLF4 are interbedded in fining upward sequences
<b>480-482</b>	CLF3, CLF4 and CLF6 are interbedded
<b>482-499</b>	CLF2, CLF3 and CLF4 are interbedded in a series of turbidites
<b>499-502</b>	CLF7 appears in a fining upward sequence
<b>502- 506</b>	CLF3 and CLF4 are interbedded in a fining upward sequence with erosional base.



**Figure 7: Representative interval of Unit C from stratigraphic log (Appendix A). With core tray photography from Geoscience Australia both dry (left) and wet (right).**

## SEDIMENTARY UNIT D

Unit D appears from 506–534m. It is composed of exclusively clastic material and is defined on both ends by the appearance of carbonate. Sediments are mostly homogenous silts with cross bedding, rare, starved ripples and discreet slump folds, syneresis cracks continue throughout Unit D. At 520m, grain size increases to medium sands with proximal turbidites and distinct erosional bases. At the base of the unit galena mineralisation is present between bedding surfaces (Fig. 8)

### Lithofacies

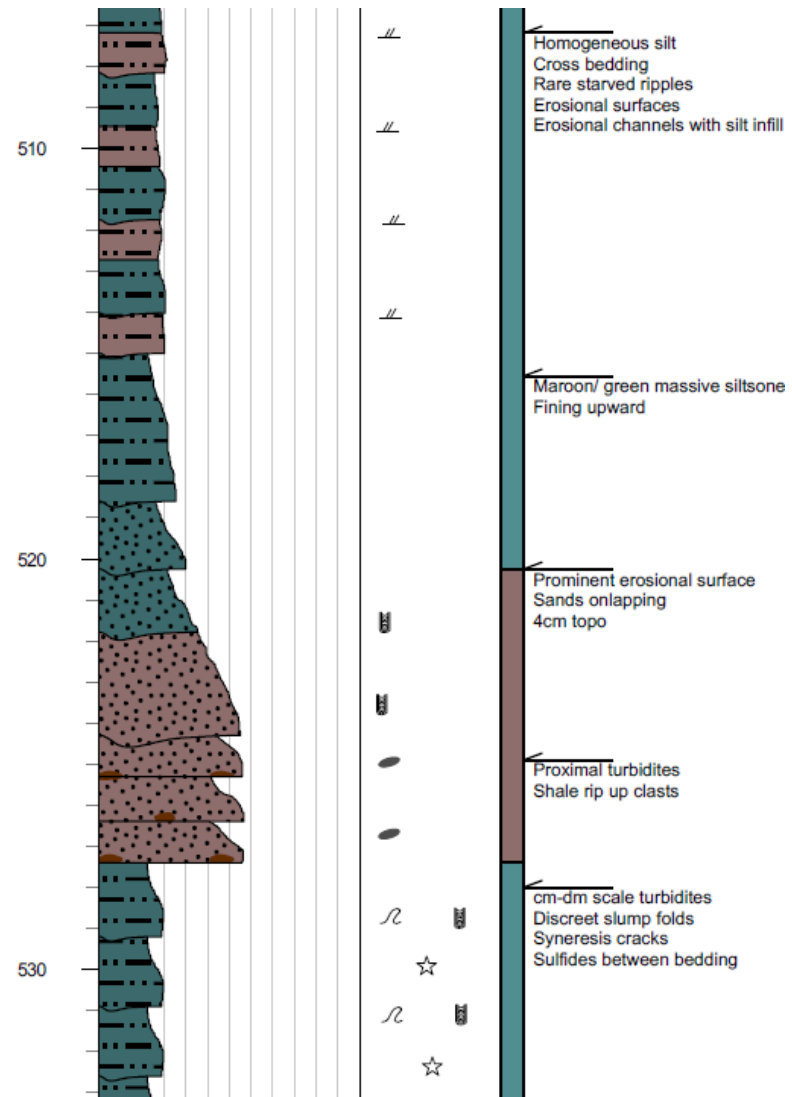
**LF1** is comprised of homogenous green-grey or maroon silt, mm scale laminations. It contains cross bedding and rare starved ripples. **LF2** comprises maroon fine sand with mm-cm scale laminations. This facies contains syneresis cracks and discreet slump folds. **LF3** is comprised of coarse sands with 1cm scale laminations. **LF4** is comprised of clastic conglomerate with intraformational shale clasts and erosional bases.

**Table 7: Lithofacies description from Unit D.**

Name	Description
<b>DLF1: homogenous silt</b>	Green-grey/maroon, silt, mm laminated, homogenous, cross bedding, starved ripples
<b>DLF2: laminated fine sand</b>	Maroon, fine sand, mm-cm scale laminations, syneresis cracks, slumped folds
<b>DLF3: coarse sand</b>	Grey/ maroon coarse sand, 1cm scale laminations, syneresis cracks
<b>DLF4: conglomerate</b>	Grey-green/maroon, of clastic conglomerate with intraformational shale clasts and erosional bases.

**Table 8: Stacking Patterns from Unit D.**

Depth (m)	Stacking Pattern
<b>506-515</b>	DLF1 is homogenous throughout
<b>515-519</b>	DLF1 and DLF2 form a fining upward sequence
<b>519-527</b>	DLF1, DLF2, DLF3, DLF4 form a coarse turbidite sequence
<b>527-534</b>	DLF1 and DLF2 form fining upward sequences



Key	
	Cross Bedding
	Sulphide Mineralisation
	Slumped Bedding
	Syneresis Cracks
	Intraformational Clasts

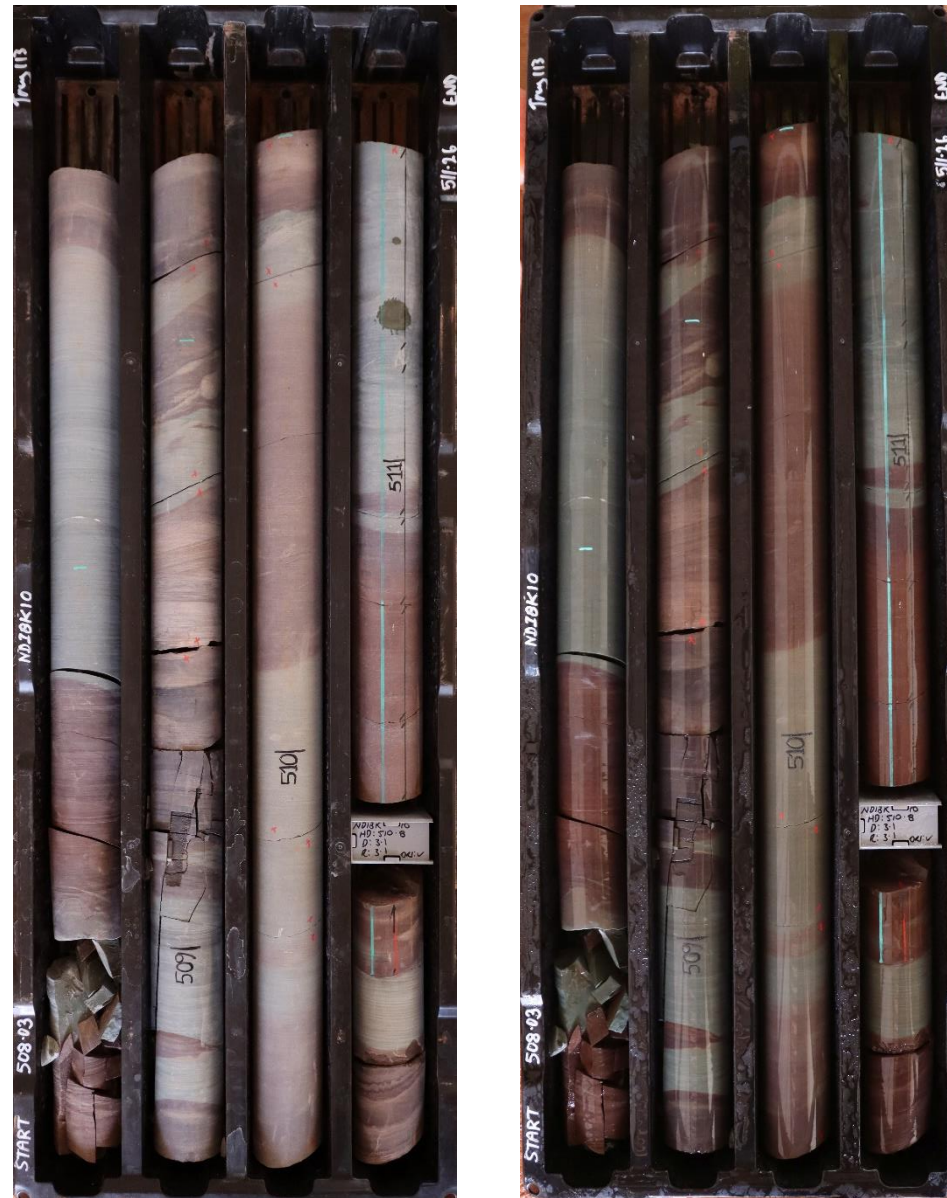


Figure 8: Representative interval of Unit D from stratigraphic log (Appendix A). With core tray photography from Geoscience Australia both dry (left) and wet (right).

## SEDIMENTARY UNIT E

Unit E appears from 534–670m it is defined at its top by the reappearance of carbonates and its base by a distinctive pristine quartz arenite. Sediments are a mixture of interbedded doloarenites and clastic silt beds, Carbonate becomes less common and eventually disappears towards the base of the unit. Proximal turbidites are common toward the top of the unit, often slumped and containing shale rip up clasts. Turbidite sequences become less defined moving lower with mainly finely laminated interbedded, maroon and green silts and sands. Flaser bedding, cross bedding, isolated ripples and flame structures were observed in clastic layers. Syneresis cracks appeared throughout (Fig. 9)

### Lithofacies

**LF1** is comprised of green-grey or maroon silt, mm scale laminations, often appearing as lenses with flaser bedding often with no carbonate component. **LF2** is comprised fine grained doloarenite, quartz grains with carbonate matrix, often slumped. This facies often contains glauconite grains. **LF3** is comprised medium grained doloarenite, quartz grains with carbonate matrix, often slumped. Glauconite grains are common. **LF4** is comprised of a conglomerate with a doloarenite matrix and intraformational clasts up to 5mm. **LF5** is comprised of clastic fine sand, often slumped, often containing syneresis cracks. **LF6** is comprised of clastic medium sands, often with slumped bedding, syneresis cracks and containing glauconite grains. **LF7** is comprised of clastic coarse sands often with erosional bases, syneresis cracks and slumped bedding. **LF8** is comprised of clastic intraformational conglomerate, usually at the base of turbidites with an erosional base. It contains intraformational clasts up to 3cm and quartz grains. **LF9** is comprised of dark organic rich shale with mm scale laminations.

**Table 9: Lithofacies description from Unit E.**

Name	Description
<b>ELF1: laminated silt</b>	Green-grey/maroon, silt, mm laminated, homogenous, cross bedding, starved ripples
<b>ELF2: fine grained doloarenite</b>	Grey/brown, fine grained doloarenite, mm scale laminations, often slumped.
<b>ELF3: medium grained doloarenite</b>	Grey/brown medium grained doloarenite, cm scale bedding often slumped. Often contains glauconite grains.
<b>ELF4: doloarenite conglomerate</b>	Grey/maroon conglomerate with massive doloarenite matrix and intraformational clasts up to 5mm.
<b>ELF5: fine sand</b>	Maroon, fine sand, mm-cm scale laminations, syneresis cracks, slumped folds, climbing ripples
<b>ELF6: medium sand</b>	Maroon, medium sand, cm scale laminations, syneresis cracks, slumped folds, occasional cross bedding
<b>ELF7: coarse sand</b>	Grey/ maroon coarse sand, 1cm scale laminations
<b>ELF8: conglomerate</b>	Grey-green/maroon, massive, erosional bases, clasts up to 3 cm
<b>ELF9: organic shale</b>	Dark black/grey, organic rich shale mm laminations.

**Table 10: Stacking Patterns from Unit E.**

Depth (m)	Stacking Pattern
<b>534-546</b>	ELF1, ELF2, ELF3, ELF5 and ELF6 interbedded in fining upward sequences.
<b>546-563</b>	ELF5 ELF6, ELF7, ELF8, interbedded in proximal turbidite sequence with occasional interbed of ELF9.
<b>563-573</b>	ELF6, ELF7 and ELF8 interbedded with glauconite grains
<b>573-581</b>	ELF1, ELF2, ELF3, ELF5 and ELF6 interbedded with occasional interbed of ELF9
<b>581-590</b>	ELF6 and ELF7 interbedded
<b>590-595</b>	ELF6, ELF7 and ELF8 form turbidite sequence
<b>595-626</b>	ELF5, LF6 and ELF7 appear interbedded with occasional ELF1 interbed
<b>626-633</b>	ELF5, ELF6 and ELF7 form fining upward sequences
<b>633-647</b>	ELF5 and ELF6 interbedded with occasional ELF1 interbed
<b>647-670</b>	ELF5. ELF6 and ELF7 are interbedded with occasional ELF1 interbed

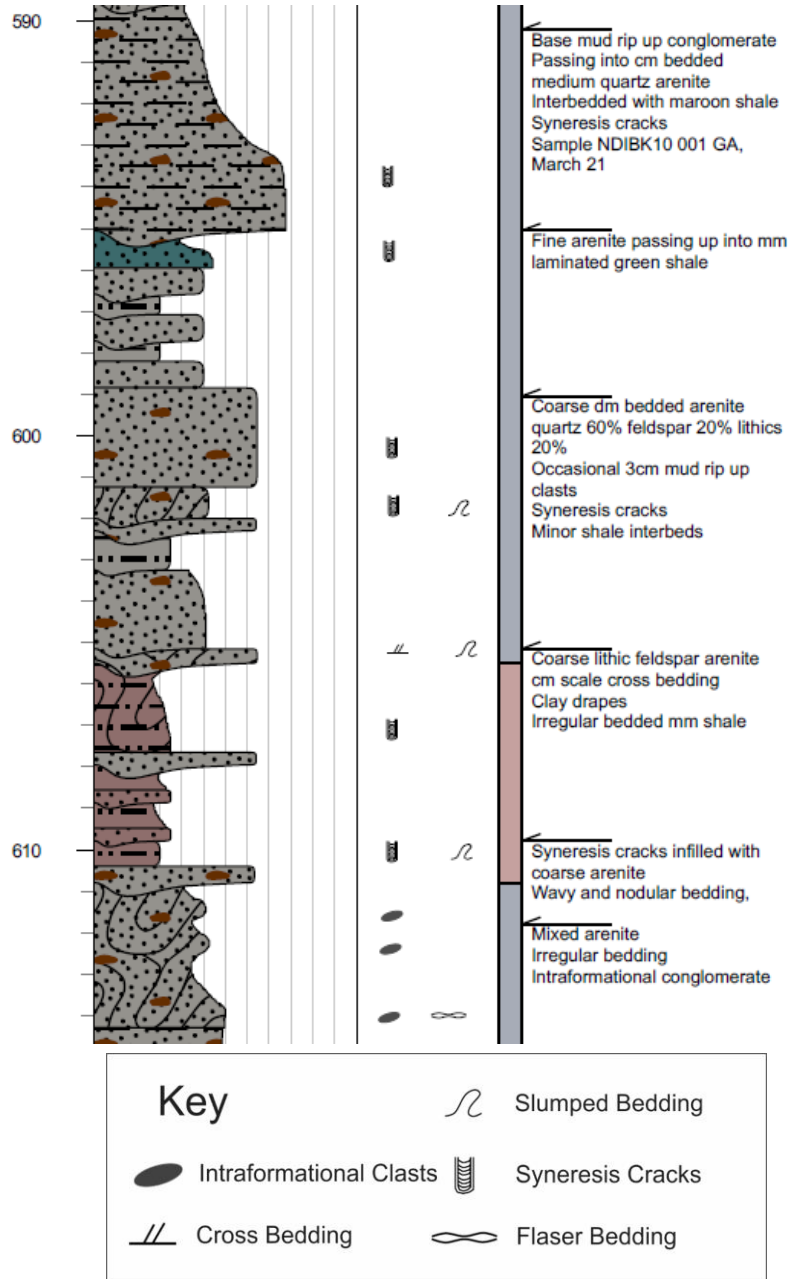


Figure 9: Representative interval of Unit E from stratigraphic log (Appendix A). With core tray photography from Geoscience Australia both dry (left) and wet (right).



## SEDIMENTARY UNIT F

Unit F appears from 670-724m. Sediments are a distinctive, extremely mature, quartz arenite, composed of greater than 95% quartz. Bedding is generally massive and can be picked out by occasional maroon clay drapes. Granule layers occur that are comprised of angular quartz grains up to 2mm. There is minor sulphide mineralisation towards the base of the unit close to basement contact. At 721m the quartz arenite becomes interbedded with granule conglomerates and breccias containing clasts of quartz, feldspar and basement gneiss fragments up to 1cm. The basement contact marks the lower boundary of Unit F (Fig. 10).

### Lithofacies

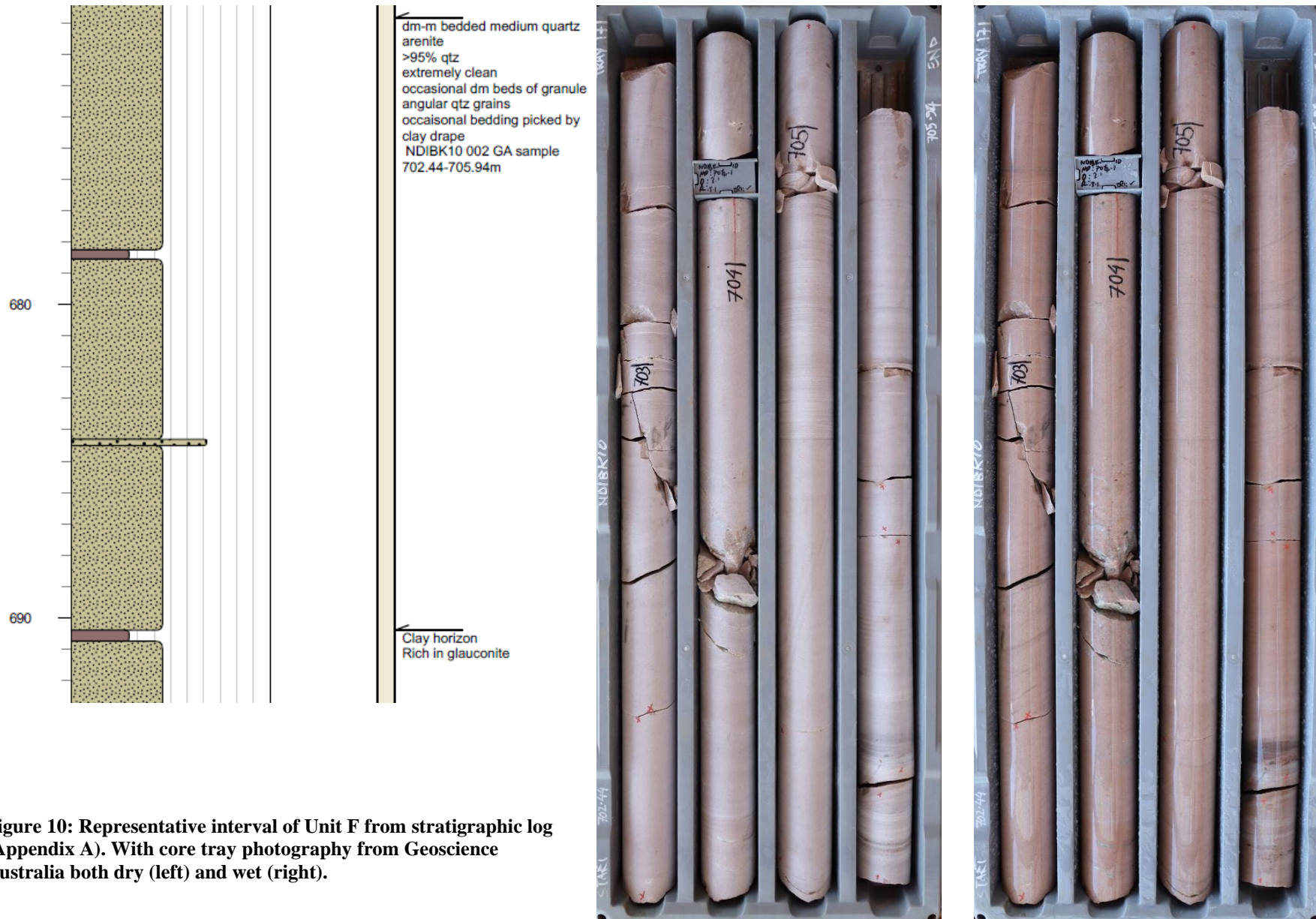
**LF1** is comprised of extremely clean massive quartz arenite, occasional bedding surface 1-2m beds. **LF2** is comprised of rare mm laminated maroon clay drape. **LF3** is comprised of rare conglomerate comprised of granule quartz grains.

**Table 11: Lithofacies description from Unit F.**

Name	Description
<b>FLF1: quartz arenite</b>	Grey clean fine grain quartzite, 1-2 m massive bedding
<b>FLF2: clay</b>	Maroon, mm scale isolated clay beds
<b>FLF3: conglomerate</b>	Grey conglomerate, cm bedded, rounded grains, mostly quartz.

**Table 12: Stacking Patterns from Unit F.**

Depth (m)	Stacking Pattern
<b>670-700</b>	FLF1 dominated with occasional FLF2 bed
<b>700-720</b>	FLF1 dominated with occasional FLF2 and FLF3 bed
<b>720-724</b>	FLF1 and FLF3 interbedded becoming more FLF3



**Figure 10: Representative interval of Unit F from stratigraphic log (Appendix A). With core tray photography from Geoscience Australia both dry (left) and wet (right).**

## BASEMENT

The top of the basement is marked by a brecciated unconformity at 734m. Basement is unweathered with no saprolite layer developed. It is made up of biotite, K-feldspar gneisses with K-feldspar and quartz leucosomes. The gneiss has contorted foliation throughout. Further away from the contact it passes into granites and pegmatites as well as a biotite, hornblende, muscovite gneiss (Fig. 11).

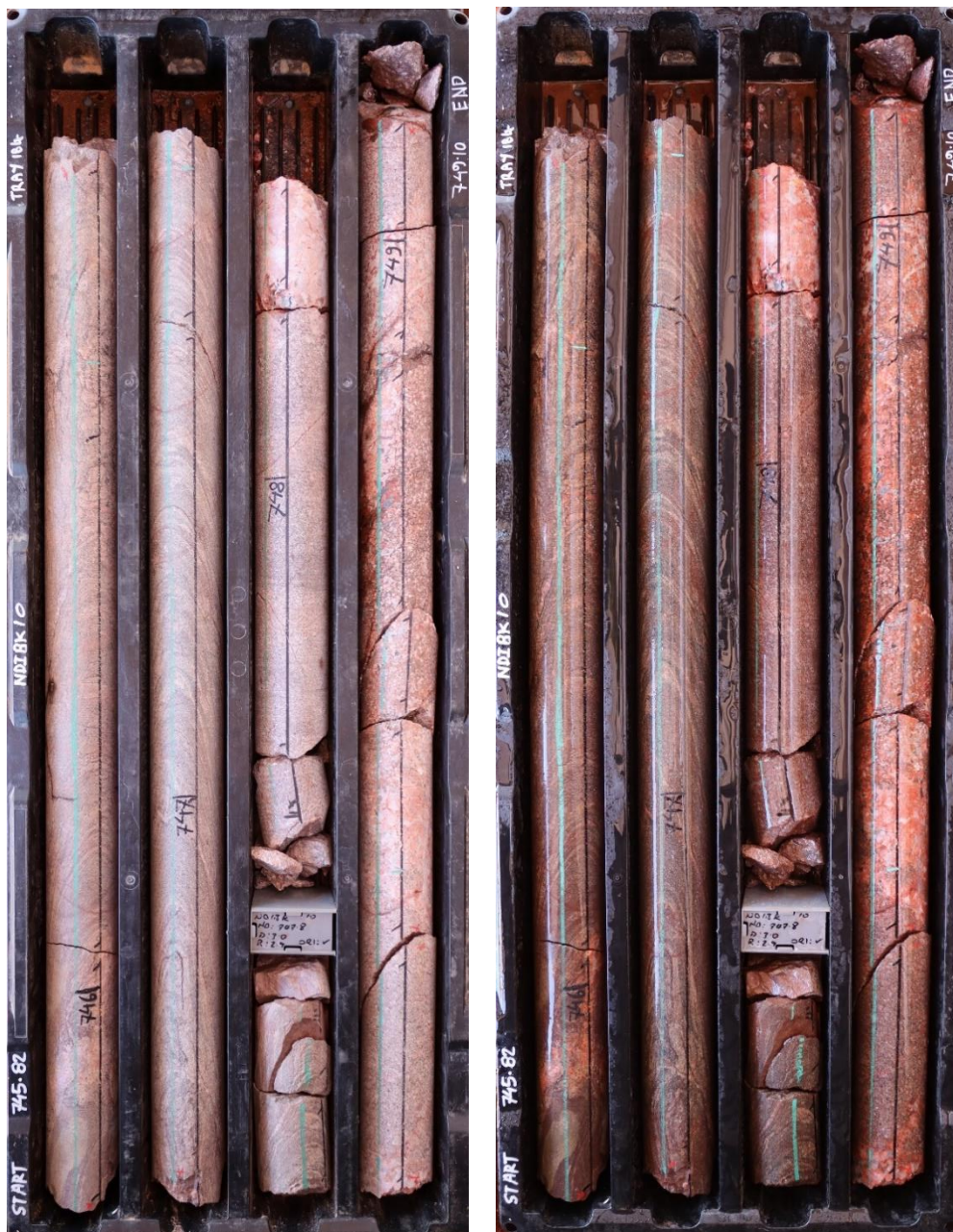


Figure 11: Core tray photography of basement from Geoscience Australia both dry (left) and wet (right).

## Geochronology

### U–PB IN DETRITAL ZIRCONS

Sample BK10-001 was collected from the top of the unknown sediments in Unit A, from 298.58–299.2m depth. The sample was poorly sorted, coarse grained arkose arenite containing 40% quartz, 35% feldspar and 25% lithics. There were light secondary mottles and isolated milky quartz granules at the top. Sample BK10-173 was collected from the base of the unknown sediments in unit F, from 678.25-680m depth. The sample was well sorted, extremely clean quartz arenite with >95% quartz composition.

Ages of detrital zircons were interrogated to constrain the maximum age of deposition for both ends of the unknown sedimentary sequence, to examine correlations with the greater McArthur Basin, and possible source regions.

Sample BK10-001 had 220 zircon grains analysed, 182 were within 10% of concordance (Fig. 12).  $^{206}\text{Pb}/^{238}\text{U}$  ages from three youngest near-concordant grains calculated a statistically significant population with a weighted mean of  $1021 \pm 20$  Ma (2 sigma error) and a youngest single concordant  $^{206}\text{Pb}/^{238}\text{U}$  age of  $902 \pm 34$  Ma (2 sigma error). The youngest single grain was ~100 million years younger than the next youngest grain. The  $^{206}\text{Pb}/^{238}\text{U}$  age is quoted because this analysis was slightly reversely discordant making this age older than the corresponding  $^{207}\text{Pb}/^{206}\text{Pb}$  age. Because of the importance of the maximum depositional age, the oldest of the  $^{207}\text{Pb}/^{206}\text{Pb}$  and  $^{206}\text{Pb}/^{238}\text{U}$  ages is quoted to be conservative. Analyses showed a major peak at ca.1600 Ma, minor peaks at ca.1100, ca.1300 and 1761 Ma, and scattered data from 1942–2680 Ma.

Sample BK10-173 had 204 zircon grains analysed, 80 were within 10% of concordance (Fig12.). The eleven youngest near concordant grains from BK10-173 were used to calculate

a statistically significant population with a weighted mean of  $1660 \pm 11$  Ma (2 sigma error) and a youngest single concordant  $^{207}\text{Pb}/^{206}\text{Pb}$  age of  $1649 \pm 37$  Ma (2 sigma error). Analyses showed a major peak at ca. 1825 Ma, a minor peak at ca. 1655 Ma and scattered data from 1996–3082 Ma.

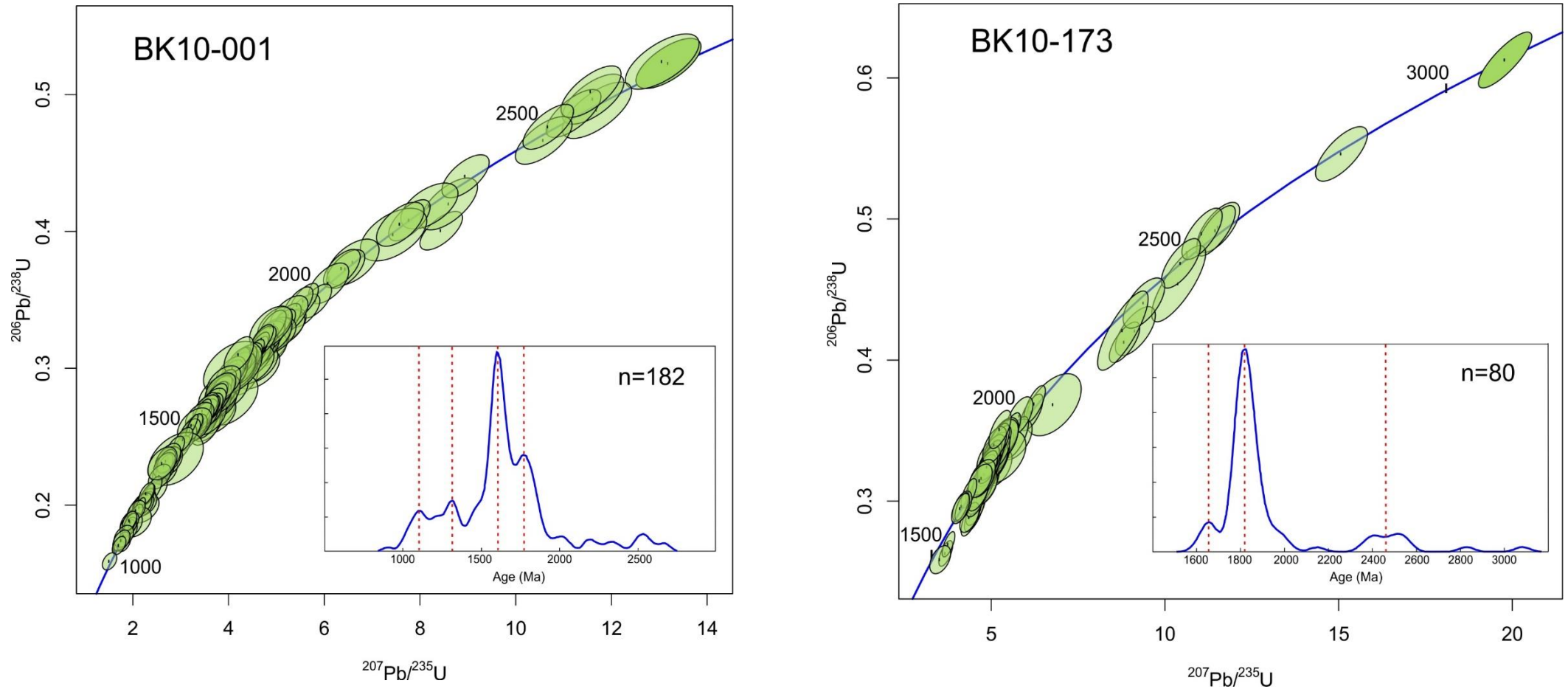


Figure 12: U-Pb Concordia plots of detrital zircon grains from BK10-001 and BK10-173 (analysis restricted to those within 10% of concordance). Associated kernel density estimation (KDE) plots are presented as inserts showing peaks and spread in age distribution. n = number of analyses. Error ellipses plotted at 2 standard deviation level.

## RB–SR AGES OF SHALES AND GLAUCONITES

Shales and glauconites were analysed for their Rb–Sr ages to establish a minimum age of deposition (Fig 13, 14). Analyses were triaged using their initial  $^{87}\text{Sr}/^{86}\text{Sr}$  ratio and REE content to investigate the nature of the fluids in equilibrium with the analysed phases (Subarkah et al., 2021). Five shale samples and two glauconite samples were selected to be dated. Shales were selected throughout the drill core between 321–574m based on depths with low aluminium content. Shale samples were all black–dark grey in colour, BK10-028 and BK10-164 contained micaceous lamellae. BK10-111 was selected from a prominent contact between shale and carbonate at 480m depth. BK10-080 contained glauconite at a depth of 434m, which occurred as rounded fine grains in a carbonate matrix. BK10-126 contained glauconite at a depth of 501m, which occurred in an intraformational rip up clast in a shale matrix.

Sample BK10-111 had an age of  $1547 \pm 13\text{Ma}$  (2 sigma error) with an initial  $^{87}\text{Sr}/^{86}\text{Sr}$  value of 0.7057. A total of 127 spots were analysed 105 were from shale lamellae, 22 were from the carbonate contact, tying the isochron to the y-axis due to the negligible Rb content of carbonate (Fig. 13).

Four shale samples returned isochrons that suggest ages between  $1433 \pm 24\text{ Ma}$  and  $1476 \pm 29\text{ Ma}$ , with elevated initial  $^{87}\text{Sr}/^{86}\text{Sr}$  values  $>0.725$  (Fig. 14)

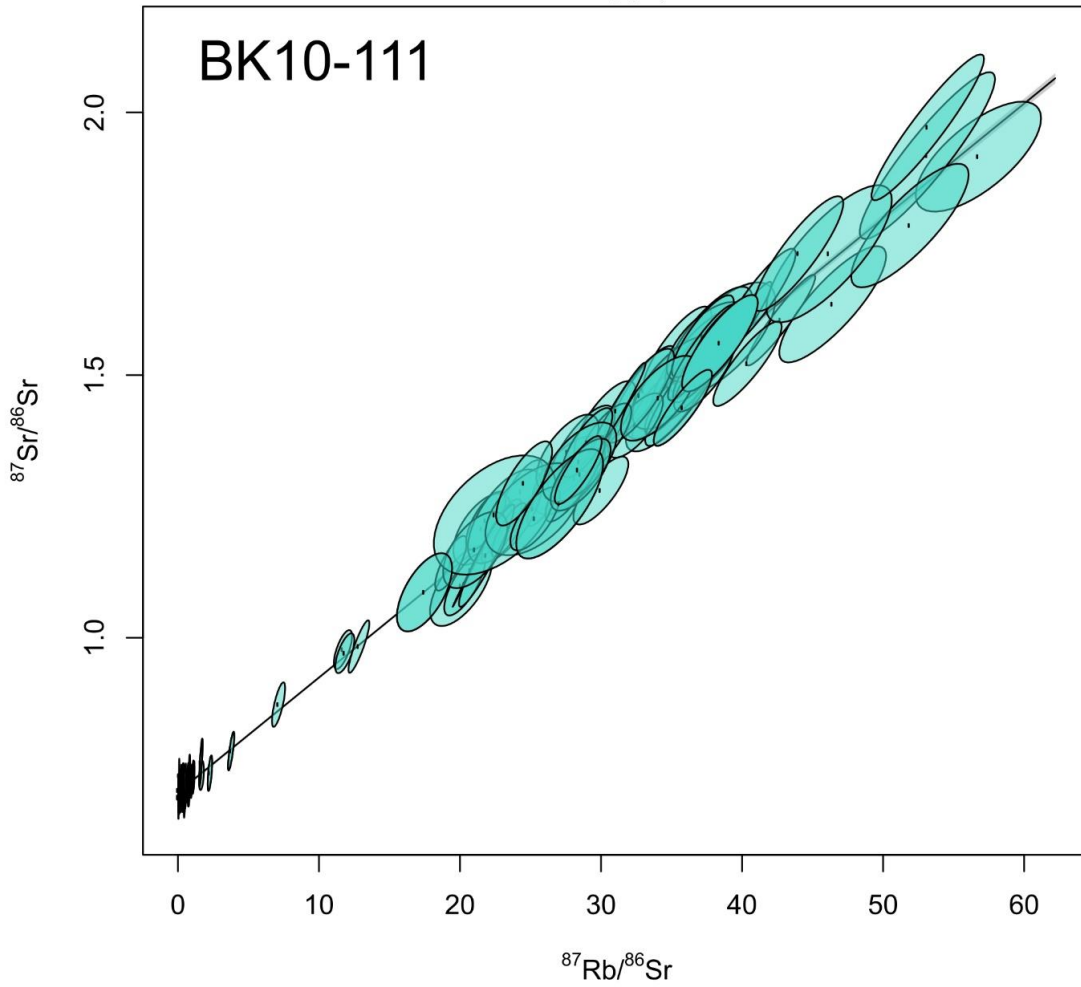
Analysis of glauconites in sample BK10-080 returned an age of  $1249 \pm 17\text{Ma}$  with an initial  $^{87}\text{Sr}/^{86}\text{Sr}$  ratio of 0.7494. Glauconites in sample BK10-126 returned an age of  $1350 \pm 12\text{ Ma}$  with an initial  $^{87}\text{Sr}/^{86}\text{Sr}$  value of 0.7268 (Fig 13).

**Table 13: Summary of Rb–Sr ages and corresponding errors.**

Sample ID	Sample type	Depth (M)	Initial $^{87}\text{Sr}/^{86}\text{Sr}$	+/- ( $2\sigma$ )	Age (Ma)	+/-( $2\sigma$ )	MSWD
<b>BK10-014</b>	Shale	321.29	0.7356	0.0072	1440.5	38.4	2.1
<b>BK10-028</b>	Shale	345.89	0.7279	0.0078	1476.3	29.6	1.9
<b>BK10-045</b>	Shale	373.20	0.7420	0.0110	1433.6	48.9	1.7
<b>BK10-080</b>	Glaucinite	434.74	0.7494	0.0075	1249.71	16.70	4.3
<b>BK10-111</b>	Shale/Carb	480.22	0.7057	0.0017	1547.17	12.74	2.1
<b>BK10-126</b>	Glaucinite	500.96	0.7268	0.0016	1350.30	23.1	0.22
<b>BK10-164</b>	Shale	573.58	0.7250	0.0110	1451.9	50.1	1.4

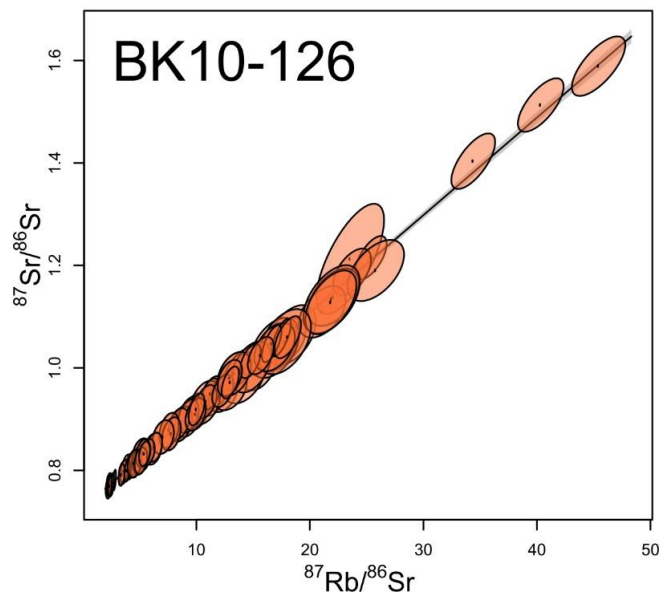
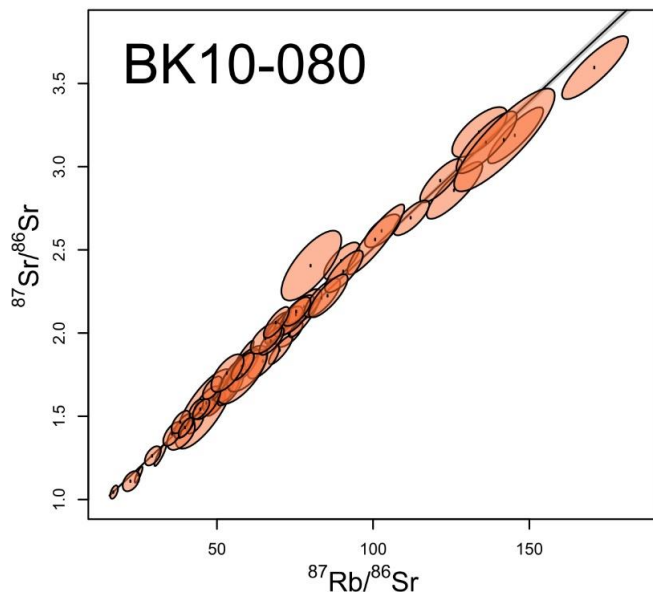


age =  $1547.17 \pm 6.44$  |  $12.74$  |  $18.33$  Ma (n=127)  
 $(^{87}\text{Sr}/^{86}\text{Sr})_o = 0.7057 \pm 0.0017$  |  $0.0034$  |  $0.0048$   
MSWD = 2.1,  $p(c^2) = 2.3e-11$



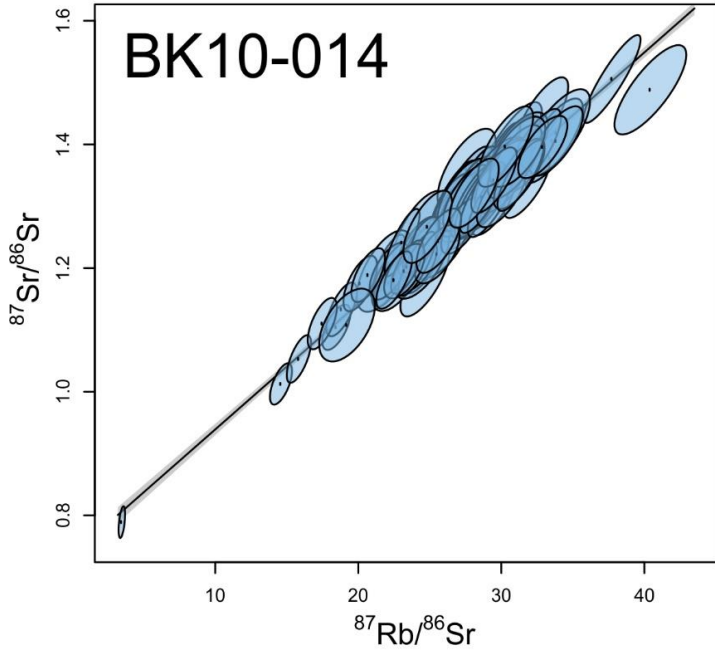
age =  $1249.71 \pm 8.33$  |  $16.70$  |  $34.70$  Ma (n=55)  
 $(^{87}\text{Sr}/^{86}\text{Sr})_o = 0.7494 \pm 0.0075$  |  $0.0151$  |  $0.0313$   
MSWD = 4.3,  $p(c^2) = 0$

age =  $1350.3 \pm 11.7$  |  $23.1$  Ma (n=127)  
 $(^{87}\text{Sr}/^{86}\text{Sr})_o = 0.7268 \pm 0.0016$  |  $0.0032$   
MSWD = 0.22,  $p(c^2) = 1$

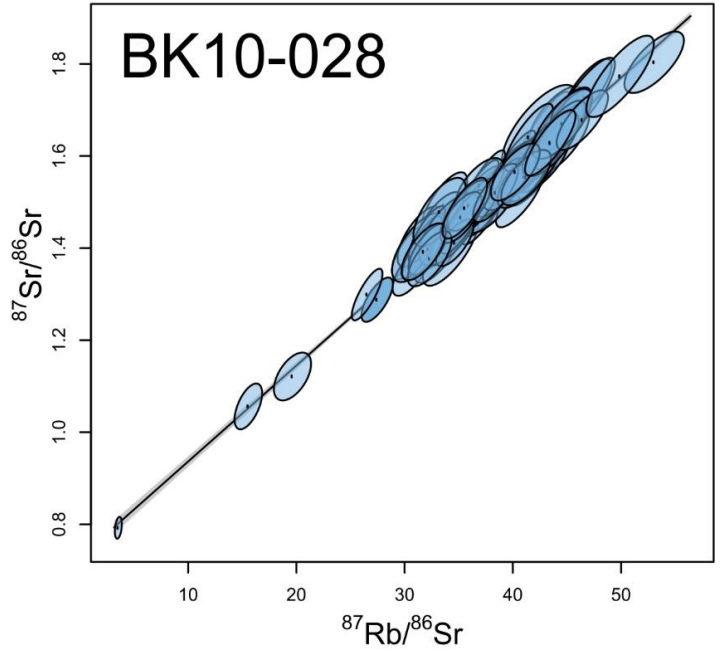


**Figure 13 : Isochrons from analysed samples with ages and initial  $^{87}\text{Sr}/^{86}\text{Sr}$  values. Shale/carbonate BK-111 (teal), glauconite (orange), with associated  $1\sigma$  |  $2\sigma$  |  $3\sigma$  errors ( $2\sigma$  are quoted), initial  $^{87}\text{Sr}/^{86}\text{Sr}$  ratios, and mean squared weighted deviation (MSWD). BK10-111 (480.22 m), BK10-080 (434.74 m), BK10-126 (500.96 m).**

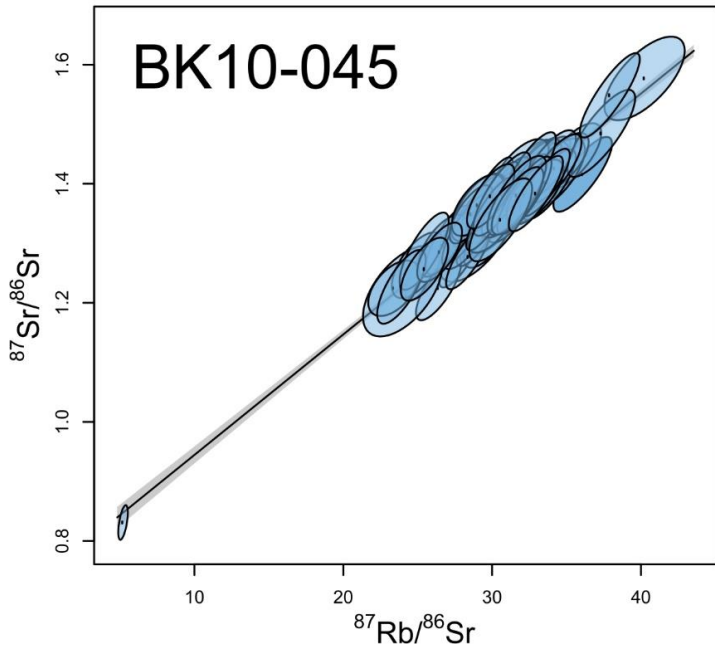
age =  $1440.5 \pm 19.3$  | 38.4 | 55.6 Ma (n=80)  
 $(^{87}\text{Sr}/^{86}\text{Sr})_0 = 0.7356 \pm 0.0072$  | 0.0144 | 0.0209  
 MSWD = 2.1,  $p(c^2) = 5.6e-08$



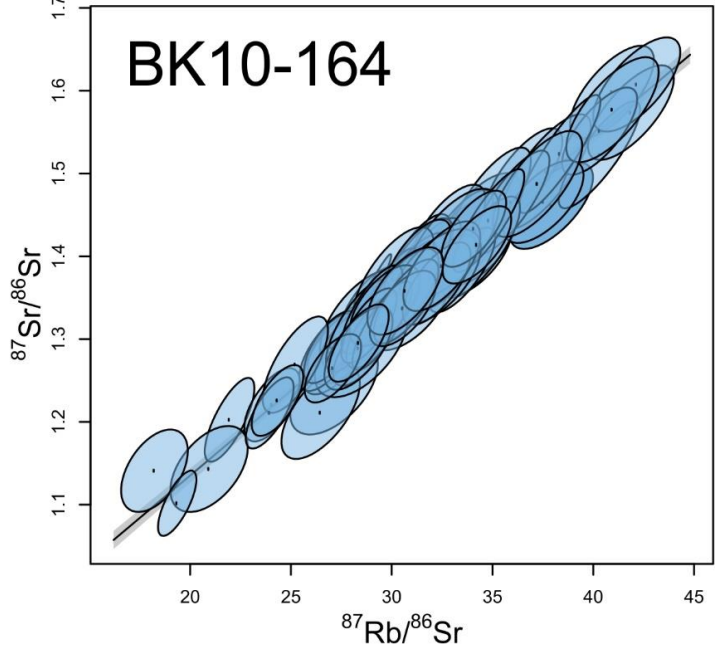
age =  $1476.3 \pm 14.9$  | 29.6 | 40.4 Ma (n=79)  
 $(^{87}\text{Sr}/^{86}\text{Sr})_0 = 0.7279 \pm 0.0078$  | 0.0156 | 0.0212  
 MSWD = 1.9,  $p(c^2) = 7.5e-06$



age =  $1433.6 \pm 24.5$  | 48.9 | 62.9 Ma (n=80)  
 $(^{87}\text{Sr}/^{86}\text{Sr})_0 = 0.742 \pm 0.011$  | 0.021 | 0.027  
 MSWD = 1.7,  $p(c^2) = 0.00024$



age =  $1451.9 \pm 25.2$  | 50.1 | 59.9 Ma (n=80)  
 $(^{87}\text{Sr}/^{86}\text{Sr})_0 = 0.725 \pm 0.011$  | 0.022 | 0.027  
 MSWD = 1.4,  $p(c^2) = 0.0076$



**Figure 14 Isochrons from analysed shale samples (blue) with ages and initial  $^{87}\text{Sr}/^{86}\text{Sr}$  values. with associated  $1\sigma$  |  $2\sigma$  |  $3\sigma$  errors ( $2\sigma$  are quoted), initial  $^{87}\text{Sr}/^{86}\text{Sr}$  ratios, and mean squared weighted deviation (MSWD). BK10-014 (321.29 m), BK10-028 (345.89 m), BK10-045 (373.20 m), BK10-164 (573.58 m).**

## **Geochemistry**

Sixty five shale samples were analysed for major and trace elements using solution ICP-MS. REEs were normalised to Post Archean Australian Shale (PAAS), major and trace elements were normalised to aluminium. Samples were diluted to 1:1000 for trace elements and 1:100000 for major elements. Al concentrations range from 4.7 wt. % to 18.1 wt.%, averaging 10.2 wt.%. U concentrations range from 1.5 ppm to 6.5 ppm, averaging 3.9 ppm. Th concentrations range from 10.2 ppm to 31.8 ppm, averaging 21.2 ppm. Mo concentrations range from <0.5 ppm to 5.9 ppm, averaging 0.7 ppm. La concentrations range from 27.8 ppm to 84.5 ppm, averaging 48.5 ppm. Sm concentrations range from 4.6 ppm to 19.9 ppm, averaging 8.1 ppm. Eu anomalies range from 0.77 to 0.92 with an average of 0.86. Ce anomalies range from 0.80 to 0.95 with an average of 0.89.

Thirty carbonate samples were analysed for major and trace elements using in-situ LA-ICP-MS. REEs were normalised to PAAS. Mg concentrations range from 6.4 wt. % to 12.0 wt.%, averaging 10.8 wt.%. Mg concentrations range from 10.8 wt. % to 23.5 wt.%, averaging 21.2 wt.%. Mn concentrations range from 1.3 wt. % to 706 ppm, averaging 2211 ppm. Sr concentrations range from 9.6 ppm to 77.3 ppm, averaging 26.8 ppm. Ce anomalies range from 1.01 to 1.25 with an average of 1.11.

## DISCUSSION

### CONSTRAINTS ON THE DEPOSITIONAL AGE OF THE SEDIMENTARY PACKAGE

Two depositional windows were constrained by maximum depositional ages from detrital zircons. Sample BK-001 from the top UNIT A returned a maximum depositional age of  $902 \pm 34$  Ma. The sample was taken close the contact with the Helen Springs Volcanics that is elsewhere precisely dated to ca. 511 Ma (error less than one million years) (Jourdan et al. 2014). Therefore, Unit A is constrained to being deposited between 936–511 Ma. Unit A could potentially be an extension of the older sequences of the Georgina Basin. These sediments overly an erosional unconformity, separating them from the rest of the sedimentary sequence, which is the main focus of the study.

The sedimentary rocks below Unit A are all feasibly part of the same depositional package. The maximum depositional age of Unit F, at the base of the sequence is constrained by sample BK10-173, which returns a maximum depositional age of  $1649 \pm 37$  Ma. This is interpreted to be the maximum depositional age for the complete sedimentary package below the sub Unit A unconformity. The sample showed a prominent peak in age distribution at ca. 1825 Ma showing a significant detrital input of grains this age.

In-situ Rb–Sr ages from shale and glauconite samples were used to constrain a minimum depositional age, or, in a couple of cases, ages that may be within error of deposition. Rb–Sr dating of shales aims to date clay minerals that form during deposition or early diagenesis. Most clays found in modern sediments are products of biochemical weathering in soils (Wilson, 2004). However, in Proterozoic sediments, an absence of terrestrial life is thought to have hindered soil formation (Rafiei et al., 2020). Therefore, clay minerals were mostly formed from processes related to alteration of feldspar during early diagenesis on the ocean

floor (Rafiei et al., 2020). This can be tested by comparing initial shale  $^{87}\text{Sr}/^{86}\text{Sr}$  ratios, to those of Mesoproterozoic sea water, to see if Rb–Sr isotopic ratios were feasibly in equilibrium with coeval sea water. Mesoproterozoic sea water has  $^{87}\text{Sr}/^{86}\text{Sr}$  ratios between 0.703 and 0.705 (Shields et al. 2002). If  $^{87}\text{Sr}/^{86}\text{Sr}$  ratios are elevated it may reflect late diagenetic, or hydrothermal isotopic resetting of the shale (Subarkah et al. 2021). In addition, the REE content of the analyzed shale can also be compared to that of sea water. Hence, areas with the lowest detrital component were targeted and data evaluated based on whether they have been hydrothermally altered.

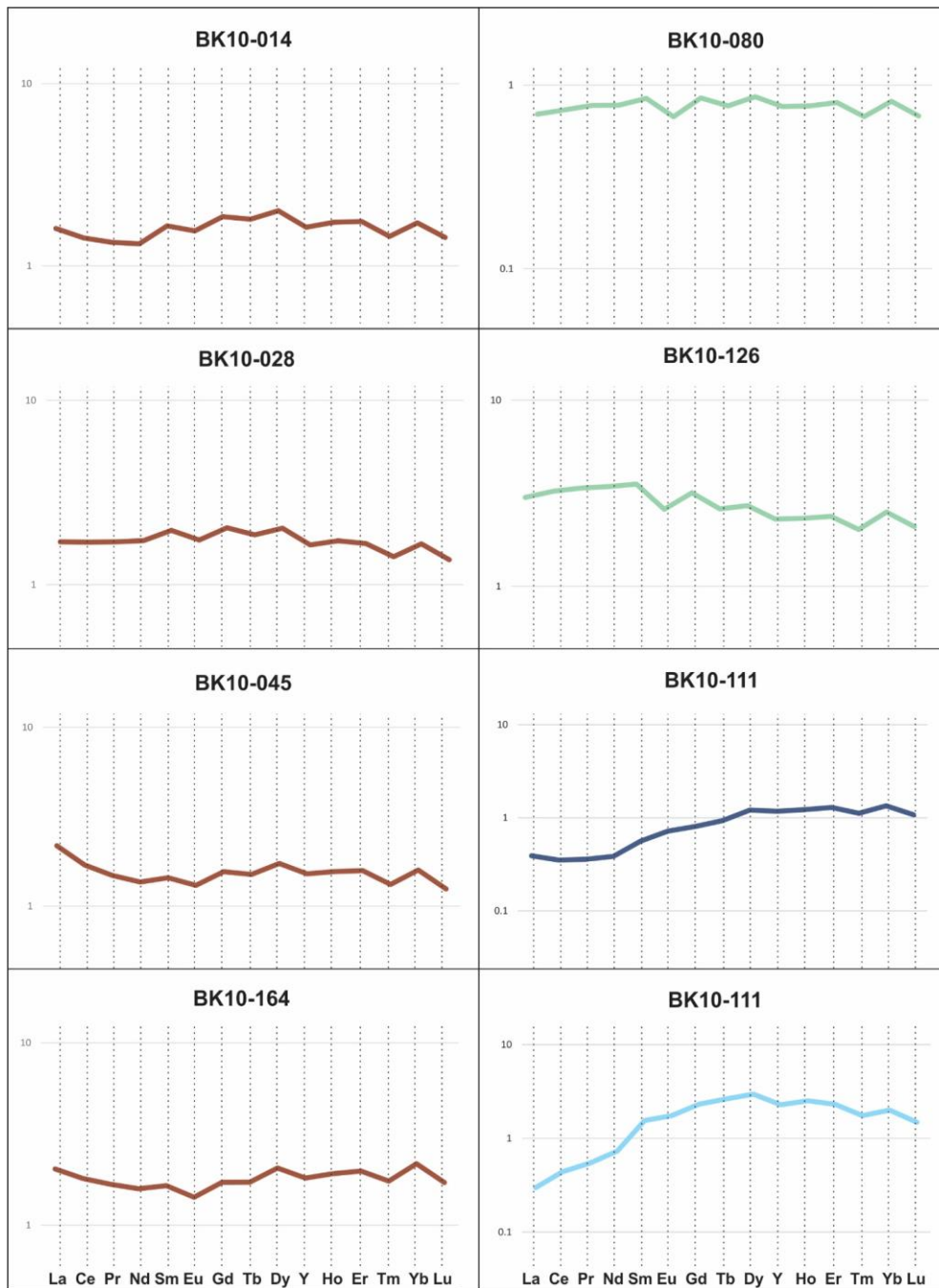
Glaucinite forms as a chemical precipitate in the water column, at the oxic/anoxic boundary, as it contains both oxidised and reduced forms of iron. Glaucinite is almost always authigenic and is rarely found as a detrital phase (Baldermann et al., 2017). This provides confidence that glaucinite will either return an age of deposition, or a younger age if the mineral has been reset or altered. This can also be assessed using the initial  $^{87}\text{Sr}/^{86}\text{Sr}$  values and REE contents. Both the shale and glaucinite were used in analysis to constrain the lower boundary of the depositional window.

Glaucinite analyses returned younger ages ( $1250 \pm 17$  Ma and  $1350 \pm 12$  Ma) than those obtained from the shale samples. Glaucinite is known to have a reasonably low isotopic closure temperature (Stein et al., 1992, Clauer et al., 1994) of  $\sim 200$  °C. They also react more easily to diagenetic fluids compared to shales (Zhang et al., 2021). This could lead to glaucinite grains being more easily reset compared to shale samples. REE patterns show a generally flat trend with a negative europium anomaly ranging from 0.77–0.79 (Fig. 15). Initial  $^{87}\text{Sr}/^{86}\text{Sr}$  values are enriched to higher ratios (0.7494 and 0.7268) compared to contemporary sea water (0.703–0.705) (Shields et al 2002). Therefore, it is interpreted that

the glauconite samples have indeed been hydrothermally reset yielding a younger age than when they were formed.

Shale samples BK10-014, 028, 045 and 164 returned elevated initial  $^{87}\text{Sr}/^{86}\text{Sr}$  values of 0.7356, 0.7279, 0.7420 and 0.7250 respectively. These samples corresponded with ages between 1476 Ma and 1433Ma and have comparatively large errors. REE patterns for all four samples show comparable trends. REE elements are overall higher than Post Archean Australian Shale (PAAS) (Nance & Taylor 1976), and show enrichment in light REE's (Fig. 15). This suggests that these sediments have been hydrothermally altered by a fluid enriched in REE's, particularly the more mobile light REE's, and that ages are not indicative of a depositional age.

Sample BK10-111 preserved the oldest Rb–Sr age and is thought to preserve the age closest to deposition. It has an initial  $^{87}\text{Sr}/^{86}\text{Sr}$  ratio of 0.7057, the lowest of all analyses, and closest to typical Paleoproterozoic–Mesoproterozoic sea water ratios (Kuznetsov et al., 2012). REE patterns from these shales show very similar patterns, and are similar to PAAS, aside from a depletion in LREE (Fig. 15). REE patterns from the carbonate analyses preserve a 'hump' shape from an enrichment in middle REEs, typical for carbonates precipitated from Proterozoic sea water (Ward et al. 2019). Therefore, it is tentatively suggested that BK10-111 may date early diagenesis in equilibrium with coeval seawater, and is likely within error of the age of deposition. This age of  $1547 \pm 13$  Ma is used as a minimum depositional age for sediments below the unconformity (Fig. 16).



**Figure 15: Rare earth element patterns from Rb/Sr analysis, normalised to PAAS. Shale samples (red), glauconite samples (green). BK10-111 split into shale (dark blue) and carbonate (light blue) components.**

Combined with detrital zircon U–Pb analysis, a depositional window can be established between 1534 Ma and 1671 Ma (at maximum 2 sigma error) for sedimentary units B, C, D, E and F. And a depositional window of 936–511 Ma (including errors) for unit A. This was used as a cut off when correlating these sediments to known sediments in the region (Fig. 16)

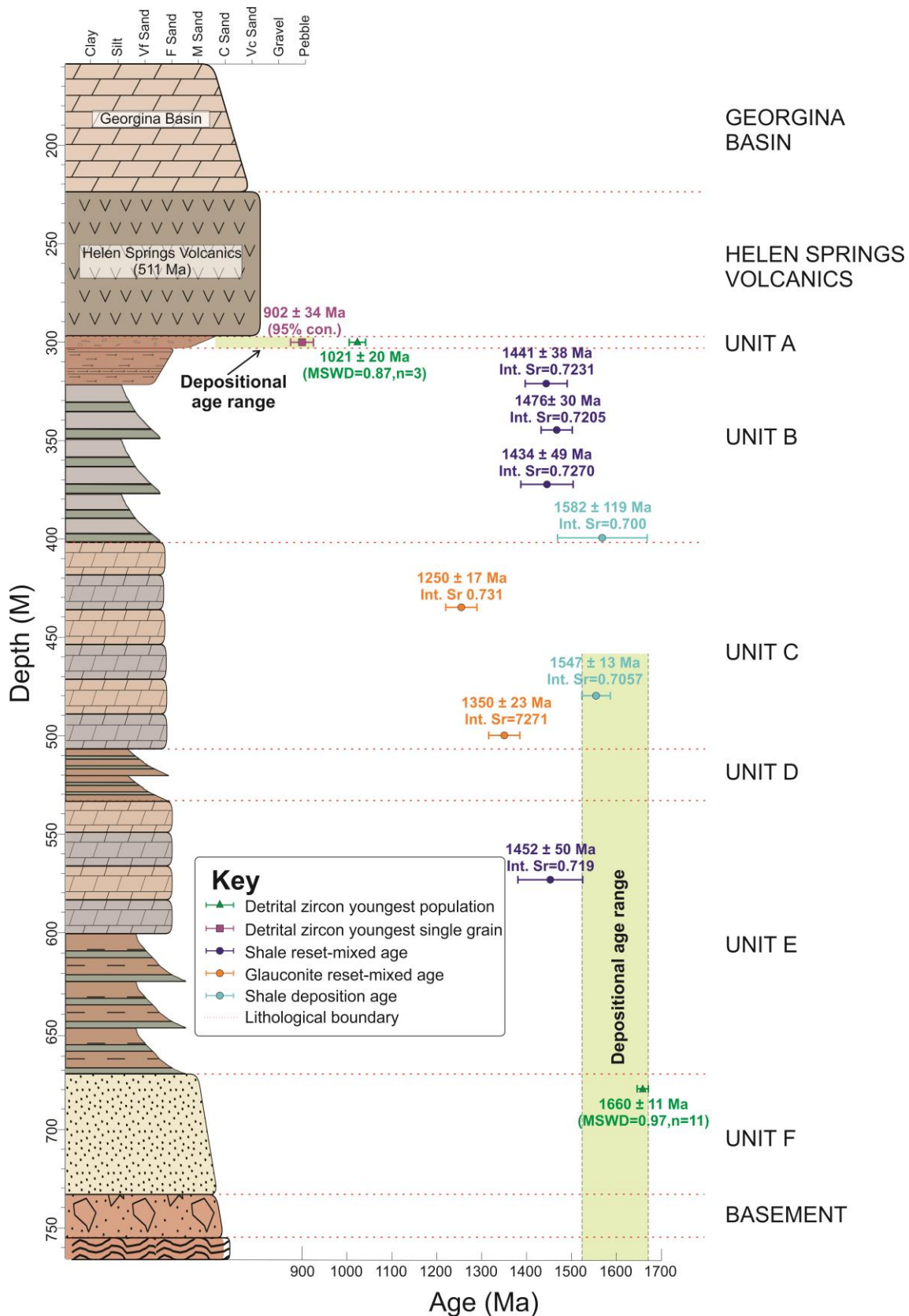


Figure 16: Simplified stratigraphic log showing depth compared to all age results from sediments, and depositional windows established from results. In addition, a shale sample BK10-SHALE-1 was analysed by Dr Morgan Blades that yielded an age of  $1582 \pm 119$  Ma, but also with a low initial  $^{87}\text{Sr}/^{86}\text{Sr}$  ratio of 0.700 that supports the interpretation of BK10-111.



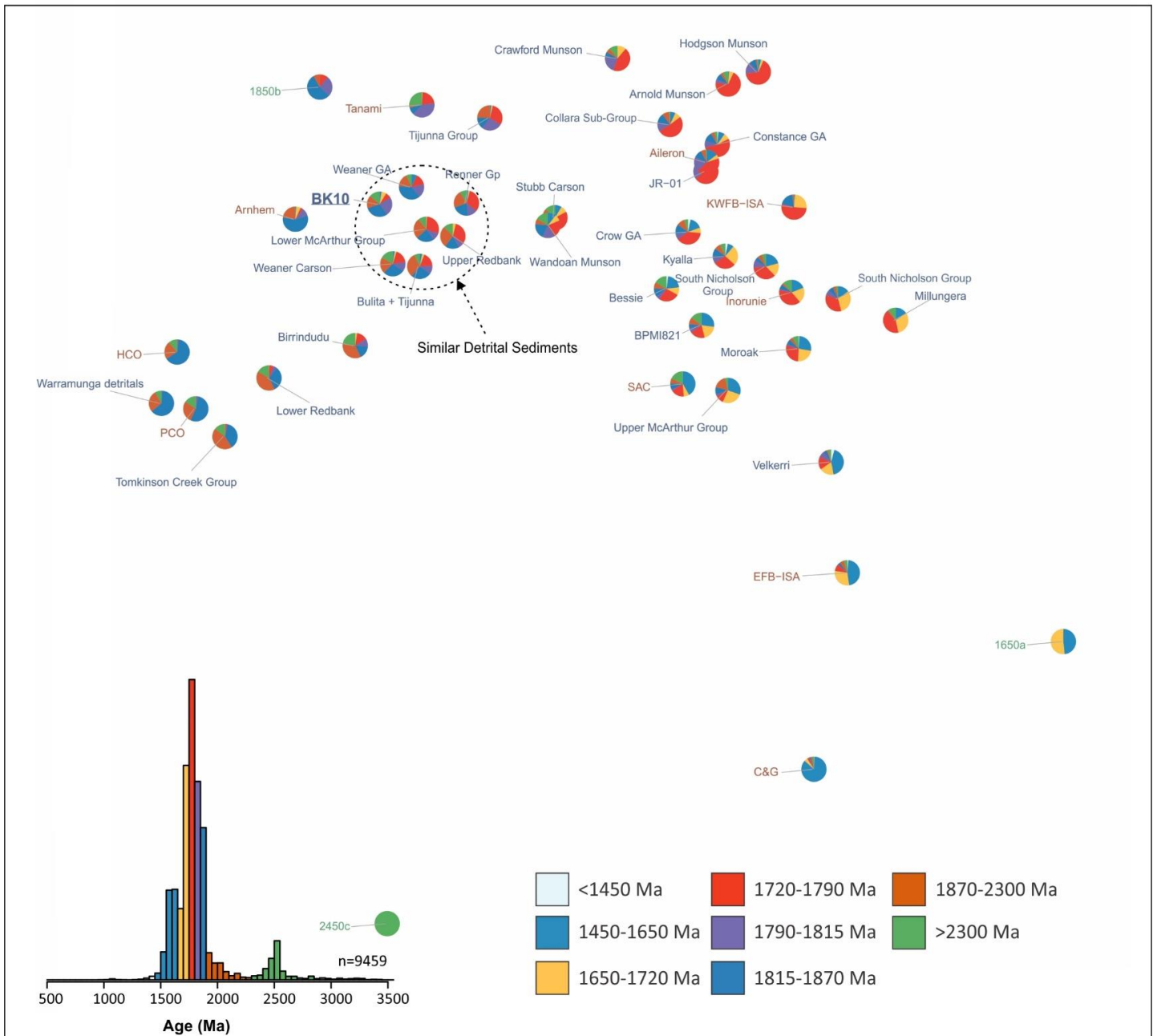
### **Possible Correlations with NDIBK10 Sedimentary Rocks?**

Detrital zircons from sample BK10-173 were used to analyse the provenance. Due to the fact that the NDIBK10 sediments are currently uncorrelated, the first step was to use a multiphase dimensional scaling (MDS) plot, an analysis tool developed by Vermeesch (2013) (Fig. 17). This allows us to plot the sample against a large data set containing detrital sediments from the region, and also to igneous domains from the North Australian Craton (NAC). However, it should be noted that although plotted on the same MDS plot, detrital and igneous samples must be interpreted differently. Detrital age arrays are used to try to correlate sediments to those found in other basins, suggesting that they were connected during deposition. Igneous domains are used to interpret where the sediments may have been eroded from, it is important to use the maximum depositional age as a cut off, and to consider which domains were experiencing uplift when looking at these. It should also be noted that sediments can be recycled from one basin to another, which would give a similar distribution of detrital ages. Points that plot close to each other on an MDS plot are less dissimilar to each other than to other points (Vermeesch, 2013).

Sample BK10-173 plots close to a number of different detrital samples which were considered as possible correlations (Fig. 17). These are the Weaner Sandstone, Bullita and Tjunna Groups from the Birrindudu Basin, the Lower McArthur Group, and the upper Redbank Package from the McArthur Basin, and the Renner Group from the Tomkinson Province. These lie close to an 1850 Ma synthetic point (artificially calculated at  $1850 \pm 50$  Ma) due to a high proportion of detrital zircons with this age.

It is also important to note that the samples plot away from sediments from the upper McArthur Group, taken from the Barney Creek, and Lynott Formations. Other sediments

from the McArthur Basin such as the lower Redbank Package and the Roper Group also do not show similarities to the sample. Samples from the Tomkinson Province, Warramunga Province and South Nicholson Basin can also be ruled out due to the differences in age distribution.



**Figure 17** Multidimensional scaling (MDS) plot of BK10-173 compared to sedimentary and igneous samples from surrounding regions. Similar detrital sediments are circled for further analysis. Insert (bottom left) shows age distribution of all data and age bins (bottom right) represented on pie charts. Database from Dr. Bo Yang, Dr Morgan Blades.

Further examining detrital samples that plotted close to sample BK10-172 (Fig. 18). Sediments from the Birrindudu basin are geographically distant from the location of the drill hole. The Bullita Group and the Tjunna Group is also too young as it is constrained by a youngest detrital zircon age of  $1452 \pm 48$  Ma (2SD) (Munson et al., 2018), making it too youthful to be a correlation with the NDIBK10 lower sedimentary package. The Bullita Group is currently poorly constrained, it is underlain by the Wattie Group, which has a maximum depositional age of  $1550 \pm 48$  Ma (2SD) (Krositcin & Carson, 2017), which overlaps with the proposed shale depositional age constrained by Rb–Sr dating. However, these sediments are geographically distant from the NDIBK10 drill hole. The McArthur Basin has an equivalent sequence to the Bullita Group called the Nathan Group (Close et al. 2014). Detrital zircon U–Pb data are unavailable from this sequence, but if it has a similar provenance to the Bullita Group, it may well correlate with the NDIBK10 sediments.

The Renner Group of the Tomkinson Province is geographically the closest of the possible correlations. However, the Renner Group accumulated during the ca. 1500–1430 Ma time interval (Ahmed & Munson, 2013). Making the sediments too young to correlate to the sediments in NDIBK10.

It seems more likely that the sediments are part of the McArthur Basin. Both the lower McArthur Group and the upper Redbank Package both plot close to the unknown sediments on the MDS plot. The Redbank Package has a well constrained minimum depositional age of ca. 1710 Ma (Rawlings, 2002) from the overlying Tanumbirini Rhyolite. Making it too old to correlate with the NDIBK10 sedimentary sequence.



The MDS plot can also be used to consider the source regions of the sediments.

Both the Arnhem and Tanami provinces plot nearby to NDIBK10. However, both of these provinces are geographically distant to the drill hole and weren't experiencing uplift during this time window. Little study has been conducted into the source region of the lower McArthur Group (and none from the Nathan Group). However, it seems more likely that the Aileron Province to the south could be a prominent source region for sediments of this age. This is due to uplift in the region due to the Chewings Event at ca. 1600–1570 Ma (Claoué-Long et al., 2008). This would require more robust detrital studies of both the lower McArthur Group and the paleo-tectonism to draw any firm conclusions. Another possibility is that the sediments are being recycled from another sedimentary basin, which would reflect the source basins age distribution of zircons.

### **What Kind of Environment Were the Sediments Deposited In?**

#### SEDIMENTOLOGY

To determine the environment that the sediments were deposited the physical depositional conditions were firstly examined. Lithofacies defined in results were used to form facies associations (table 12) and depositional environments. Local tectonics were considered based on the 19GA seismic line, as well as changing sea levels. The sequence is discussed moving up stratigraphy, starting with the oldest sediments.

Unit F sedimentary rocks are well sorted suggesting they are mature. Extremely clean quartzites (FLF1) preserve crossbedding formed from currents such as tides

or waves. Conglomerate interbeds (FLF3) could have been deposited during high energy storm events. Mud flasers (FLF2) form from bi-directional, intermittent flows, typically in tidal environments, discounting a fluvial depositional environment. It is interpreted Unit F may have been deposited in a shallow water high energy shelf environment.

Passing into Unit E there is a sharp change to finer grained and more mixed sediments. These sediments include mud rip-up clasts, which are formed when sediments dry out due to exposure (ELF8). The cracked sediments are then ripped up and incorporated as mud clasts during the next flooding event. There is evidence that some sediments were exposed to currents based off of cross bedding (ELF1, ELF6). Climbing ripple form is environments where there is an excess input of sediment (ELF5). It is interpreted that these sediments were deposited in a lagoonal or tidal flat environment with with parasequences of flooding and shallowing up. This means sea levels regressed between unit F and E, this could be due to gradual infilling of the half graben (Fig. 3).

Passing up further in Unit E there is an increase in carbonate component forming doloarenite (ELF2, ELF3, ELF4). Finely laminated stromatolites provide evidence that the sediments were deposited in the photic zone (ELF2). Stromatolites and oncolites require relatively warm water to form. They also require a relatively low energy environment. Doloarenite are still interbedded with clastic material. It is interpreted as a marine transgression into a shallow marine depositional environment.

The base of Unit D has another distinctive change into homogenous fine-grained clastic shales with distal turbidites. There is evidence of slumped bedding, a soft

sediment deformation (DLF2), which occurs during deposition of fine sediments with a high deposition rate. Rip up clasts at the base of turbidites are deposited during intermittent high energy events (DLF4). Towards the top of Unit D homogenous shales are finely laminated (DLF1), typical of a low energy, deep marine environment. The sediments in Unit D are interpreted to have been deposited in gradually deepening environment with gradually lower energy. The Deepening of the half graben could be due to extension of the half-graben triggering activation of the bounding normal faults.

Unit C is comprised mainly of dolarenite with clastic interbeds. The base of Unit C is marked by a series of fining upward sequences ranging from coarse to fine sand with slumped bedding (CLF2, CLF3). Moving higher in the sequence, laminated stromatolites become more common (CLF2, CLF3), suggesting the depositional environment is becoming shallower into the photic zone. There are abundant syneresis cracks throughout Unit C (CLF4). These form on the ocean floor from changes in salinity, causing sediments to contract, before being infilled. Sediments are interpreted to have been deposited in a shallow water environment, possibly in a lagoonal system where salinity changes.

The base of Unit B shows evidence for another marine transgression marked by the disappearance of carbonates. Unit B begins with a sequence of distal turbidites with intraformational rip up clasts and slumped bedding (BLF4, BLF2). Moving up the turbidites become more proximal and lower energy. It is interpreted that these sediments were deposited in a slope environment with a high sedimentation rate. Becoming lower in energy as ocean levels rise towards a maximum flooding surface further up in the sediments.

Overall, there is evidence for two distinct marine transgressions. The first transgression occurs throughout Unit E moving from a tidal lagoon to a deep marine environment in Unit D. The Second transgression occurs at the base of unit B passing from a shallow marine environment to marine shelf environment. These transgressions may have been due to deepening caused by rifting and activation of the half graben bounding faults. Between these, there is evidence for gradual marine regressions to varying degrees. These could occur due to the gradual infill of sediment into the half graben wedge causing a relative lowering of sea level.

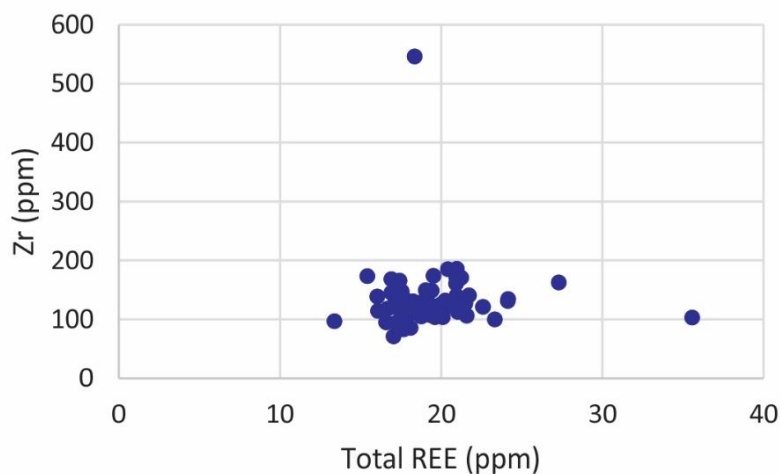


## SHALE GEOCHEMISTRY

### Detrital Contamination

The chemical depositional conditions of the sediments can also be tested. Through the use of paleo-redox proxies in both shales and carbonates. Before proceeding, samples must be tested for detrital input and hydrothermal alteration to make sure that the proxies record the conditions accurately.

Shales are tested for detrital contamination by comparing their zirconium content to the total REE content (Fig. 19). This is because most Zr is held in zircon grains, a detrital component of most sediments. If total REEs correlate with Zr, it indicates that the REE elements may be reflecting detrital zircon chemistry, not the water chemistry of authigenic minerals and therefore potentially containing chemical information about paleo-water chemistry. There was no correlation for the shale samples tested (Fig. 19).



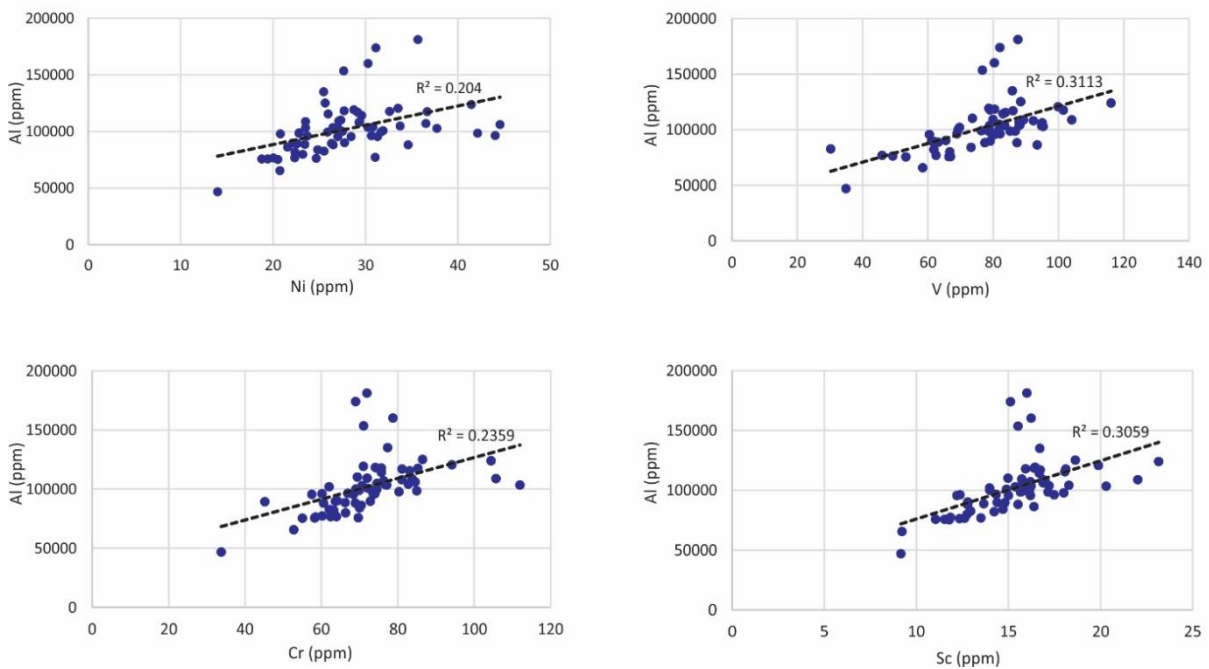
**Figure 19: Plot comparing Zr concentration to Total REE concentration. Note- there is no increasing correlation between the two.**

Each element is plotted against aluminium, which is generally sourced from erosion of aluminosilicates. If there is a positive correlation with increasing Al concentrations it suggests that the element has been transported into the basin and does not represent the

depositional environment (Fig. 20). Elements were filtered based on their  $R^2$  value, this helped select which paleo-redox proxies to use. Elements with high correlations have been filtered out and were not used for paleo-redox proxies (Table 14). All elements were normalised to Al to reduce the influence of the detrital component.

**Table 14: Shows the  $R^2$  value of all analysed elemental concentrations against Aluminium concentrations.**

Element	$R^2$	Element	$R^2$	Element	$R^2$	Element	$R^2$	Element	$R^2$	Element	$R^2$
Sc	0.3059	Zn	0.1662	Nb	0.0049	Ce	0.1454	Dy	0.1398	Ta	0.0076
V	0.3113	Ga	0.1168	Mo	0.0090	Pr	0.1164	Ho	0.1863	Pb	0.1592
Cr	0.2359	Ge	0.2349	Cd	0.1793	Nd	0.0985	Er	0.1584	Th	0.1409
Mn	0.0337	Rb	0.0024	in	0.3363	Sm	0.0763	Tm	0.2508	U	0.0234
Co	0.0458	Sr	0.0819	Cs	0.0284	Eu	0.0832	Yb	0.1156	Mg	0.0042
Ni	0.2040	Y	0.1097	Ba	0.0024	Gd	0.0731	Lu	0.2243	P	0.0012
Cu	0.0019	Zr	0.0293	La	0.1165	Tb	0.1242	Hf	0.0244	Ca	0.4179
Ti	0.0675	Fe	0.1106								



**Figure 20: Shows increasing correlations between aluminium with nickel (top left), vanadium (top right), chromium (bottom left), and scandium (bottom right). Based on this none of these elements were used as paleo-redox proxies.**

### Hydrothermal Activity

Hydrothermal activity during deposition can be tested using the Eu anomaly (Eu\*). Eu can reduce to form  $\text{Eu}^{2+}$  ions and substitute for  $\text{Ca}^{2+}$  in minerals such as plagioclase.

Hydrothermal fluids are commonly enriched in Eu due to their reaction with feldspar.

Shales from NDIBK10 have Eu\* ranging from 0.8190–0.9243, this suggests that the hydrothermal impact on the shales are relatively small.

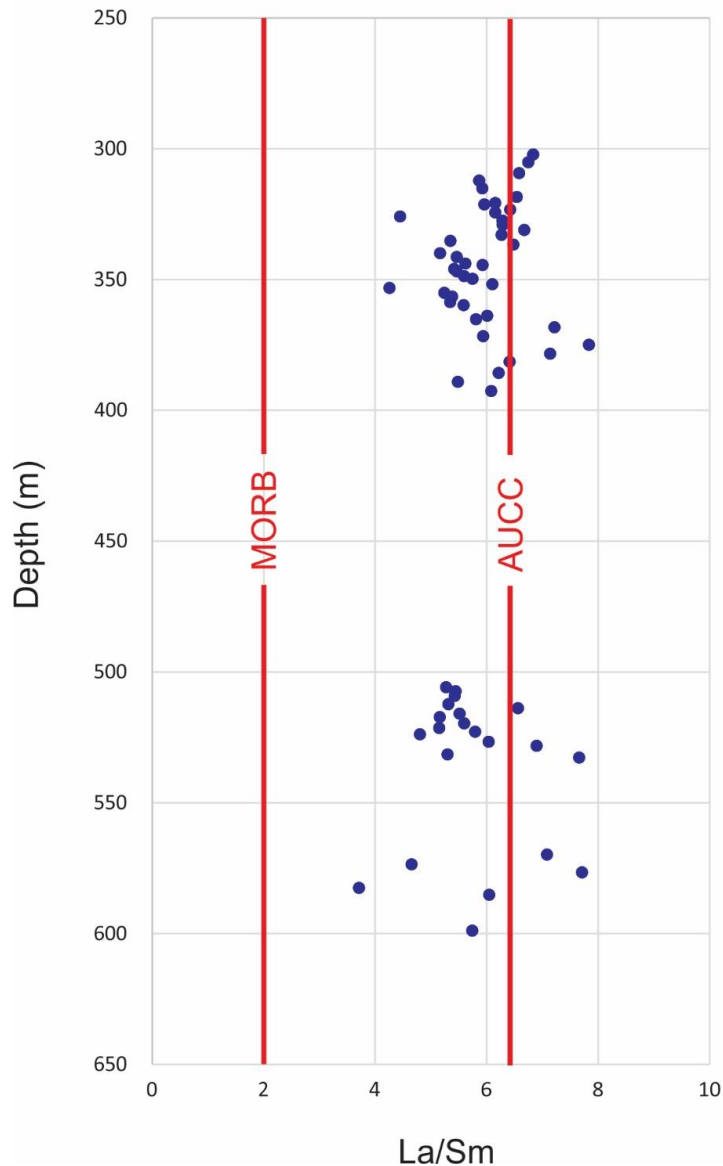
The  $\text{Al}/(\text{Al}+\text{Fe}+\text{Mn})$  ratio can also be used to test for the presence of hydrothermal fluids (Bostrom and Peterson 1969; Xiao et al., 2002). Fe and Mn are both elements abundant in hydrothermal plume fluids. Values below 0.4 suggest signs of hydrothermal activity (Rona et al., 1983). The  $\text{Al}/(\text{Al}+\text{Fe}+\text{Mn})$  ratio shows a range between 0.80–0.55, also suggesting minimal hydrothermal influence.

### Provenance Analysis

La/Sm ratios were used to test the provenance of shales, testing how mafic or felsic the source region was (Yang et al.2018). Mafic rocks are derived from partial melting of the upper mantle, and are depleted in light REE, such as La. Felsic rocks are derived from a component of continental melting (Winter et al, 2010), which are enriched in light REE.

Therefore, lower La/Sm ratios indicates a more mafic source region. La/Sm ratios are plotted against depth with mid-ocean ridge basalt (MORB) and average upper continental crust (AUCC), for comparison (Fig. 21). Ratios show a spread in La/Sm ratios for lower portions of shales. This could suggest sediments were sourced from a mixed region or from multiple regions. Further up in the drill hole, in the top section of

shales the spread in La/Sm ratios becomes lower around the AUCC guideline. This could indicate a change to a more felsic less mixed source region at ~350m depth.



**Figure 21: Shows La/Sm ratios compared to depth of samples. It includes the La/Sm ratios of mid ocean ridge bassalt (MORB) and average upper cotinental crust (AUCC). Higher La/Sm ratios indicate more felsic source regions.**

### Redox Conditions of Shales

A series of proxies were tested to determine the redox state of the water the sediments were deposited in. The cerium anomaly (Ce\*) versus praseodymium anomaly (Pr\*) tests

to make to make sure that the Ce anomaly is true and not influenced by the lanthanum anomaly. Cerium is also redox sensitive, it can exist in both a +3 and a +4 oxidation state. Ce can be partially oxidised in sea water under oxic conditions, where it is then removed by Mn oxides. This causes the residual sea water to be depleted in Ce compared to other REEs. Shale samples plot strongly in the 'Oxic' field (Fig. 22)(Cox et al., 2021). This plots relatively close to the cerium anomaly seen in modern ocean and is unusual for sediments of this age. Proterozoic oceans were stratified with a thin layer of oxic water above a mostly anoxic and euxinic ocean. This may indicate that the sediments were deposited in relatively shallow water depths or possibly in an 'oxia oasis'(Laakso et al., 2018)

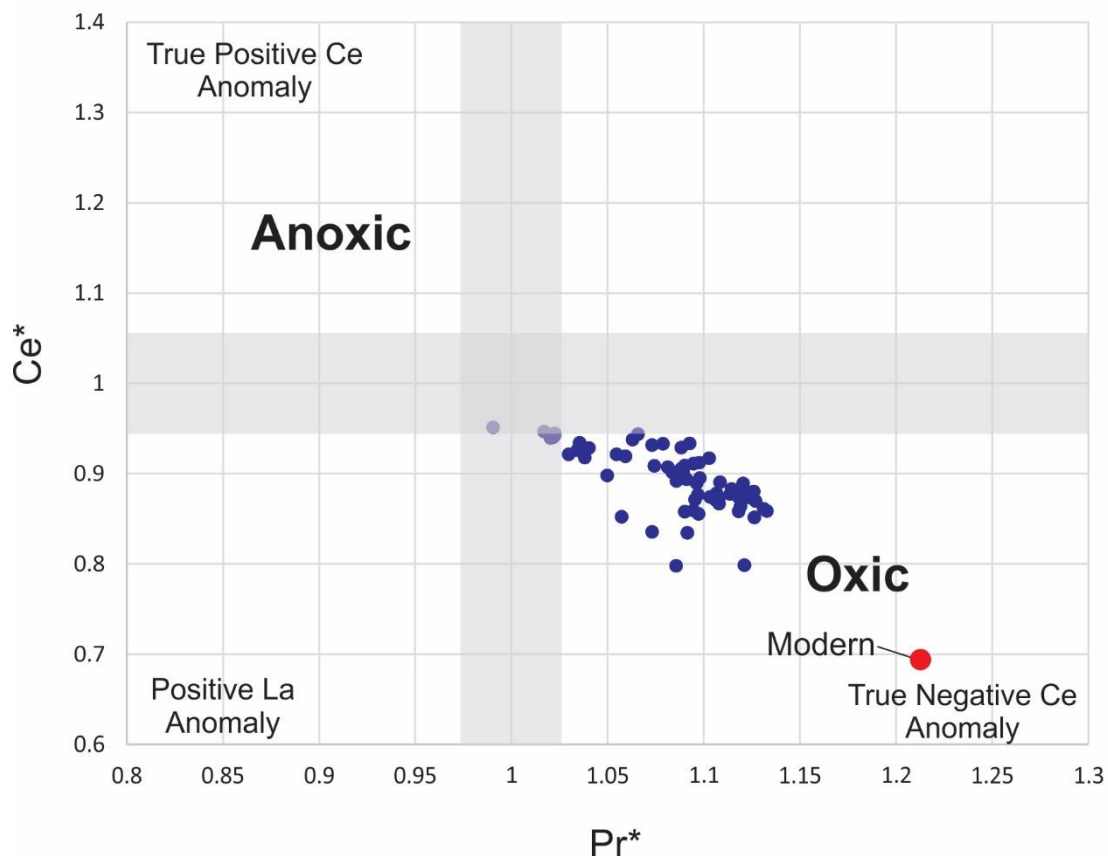
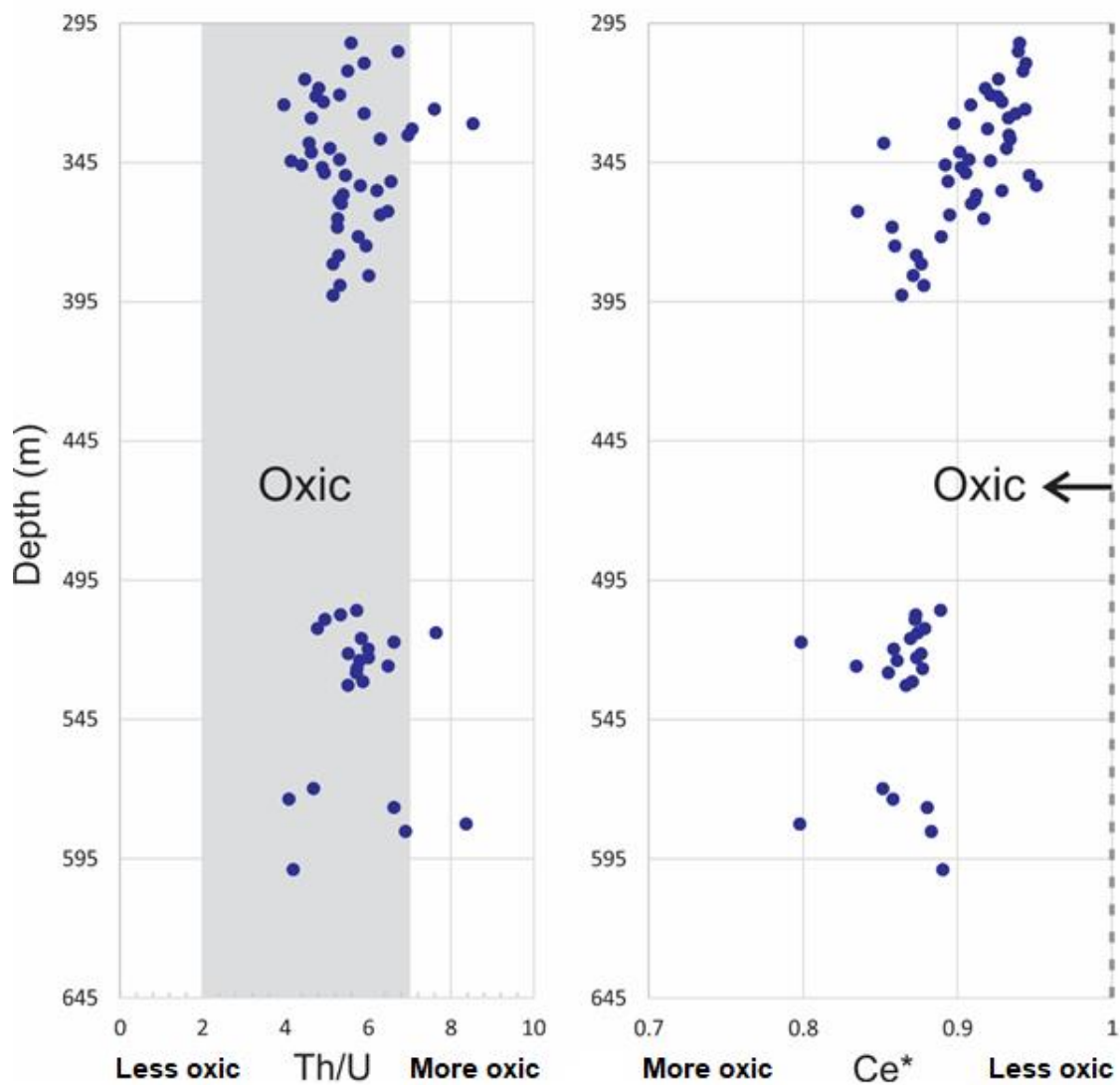


Figure 22: Cerium versus presadinium anomilies, fieds indicate if samples reflect true positive cerium anomilies (top left), positive lanthenum anomilies (bottom left) or tue negative cerium anomilies (bottmo right). The fields also represent redox, anoxic conditions (top right) and oxic conditions (bottom left). Red dot indicates the average Ce\*/Pr\* ratio of modern sea water.

Thorium/ uranium ratios have been used to further test the redox conditions (Wignall, 1994). Thorium is insoluble in ocean water, it only has one oxidation state of +4. Uranium alternatively exists in as  $U^{6+}$  ions but can be reduced under anoxic conditions to immobile  $U^{+4}$  ions which are removed from the water column and deposited (Lyons et al., 2014).  $Th/U < 2$  in sediments indicates anoxic conditions, values between 2 and 7 indicate oxic conditions (Wignall and Twitchett, 1996). Values from NDIBK10 shales ranged from 3.96–8.83, further supporting an interpretation that the sediments were deposited under oxic conditions (Fig. 23).

Th/U ratios and Ce anomalies were plotted against depth to see how they change over time. Shale samples from the base of the sedimentary sequence have Th/u ratios and Ce anomalies that support oxic conditions. Moving up stratigraphy to the top shale section, Th/U ratios show a step toward less oxic conditions at ~300m, this coincides with a general trend towards less oxic conditions in the Ce anomaly. This coincides with the transgressional sea level change in Unit B noted in the sedimentology.



**Figure 23: Shows paleo-redox proxies compared to depth. For thorium/uranium ratios (left), higher values represent more oxic conditions, grey field indicates oxic condition. For cerium anomaly (right), values below 1 indicate oxic conditions, lower values indicate more oxic conditions.**

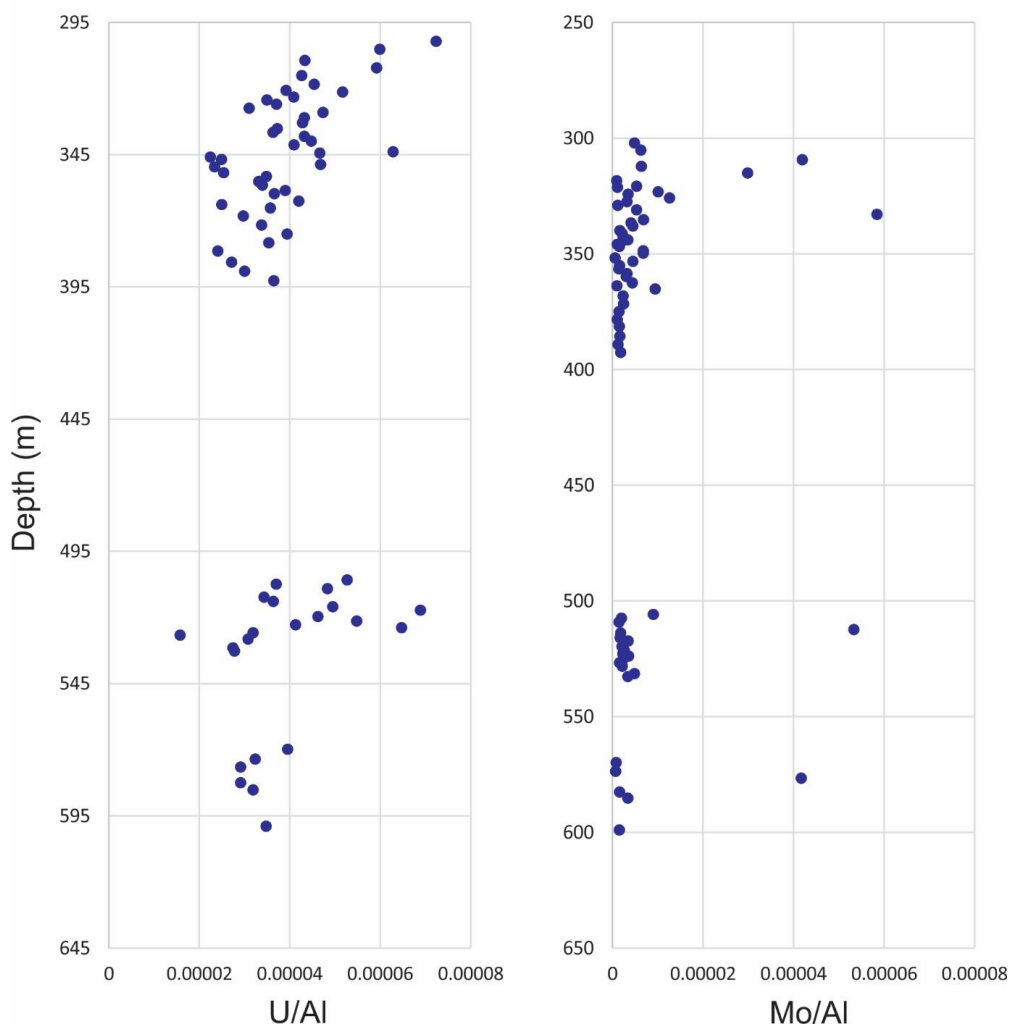
Oxic depositional conditions are also supported by low U/Al and Mo/Al ratios (Fig. 24).

Mo is stable and unreactive under oxic conditions, in solution with sea water as molybdate anions ( $\text{MoO}_4^{2-}$ ). Mo is the most highly concentrated transition metal in seawater. This means that sediments record very low Mo concentrations, modern oxic sediments typically contain between 1–5 ppm (Morford et al., 2009). Mo is removed from sea water under anoxic and euxinic conditions and is incorporated into sediments.

U is stable in oxic–suboxic conditions, in solution with sea water as  $U^{6+}$  ions.

Carbonates formed in oxic–suboxic environments record very low concentrations of U, modern oxic sediments typically contain between 1–5 ppm (Morford et al., 2009). U is removed from sea water under euxinic conditions and is incorporated into sediments.

U/Al ratios follow the shape of the Ce anomaly, supporting that as conditions become less oxic in Unit B, U concentrations decrease.



**Figure 24:** Shows U/Al ratios compared to depth (left), is a paleo-redox proxy where lower values represent more oxic conditions. Note- U/Al ratios present a similar trend to Ce anomaly (Fig. 23). Mo/Al ratios compared to depth (right), is a paleo-redox proxy where lower values represent more oxic conditions.

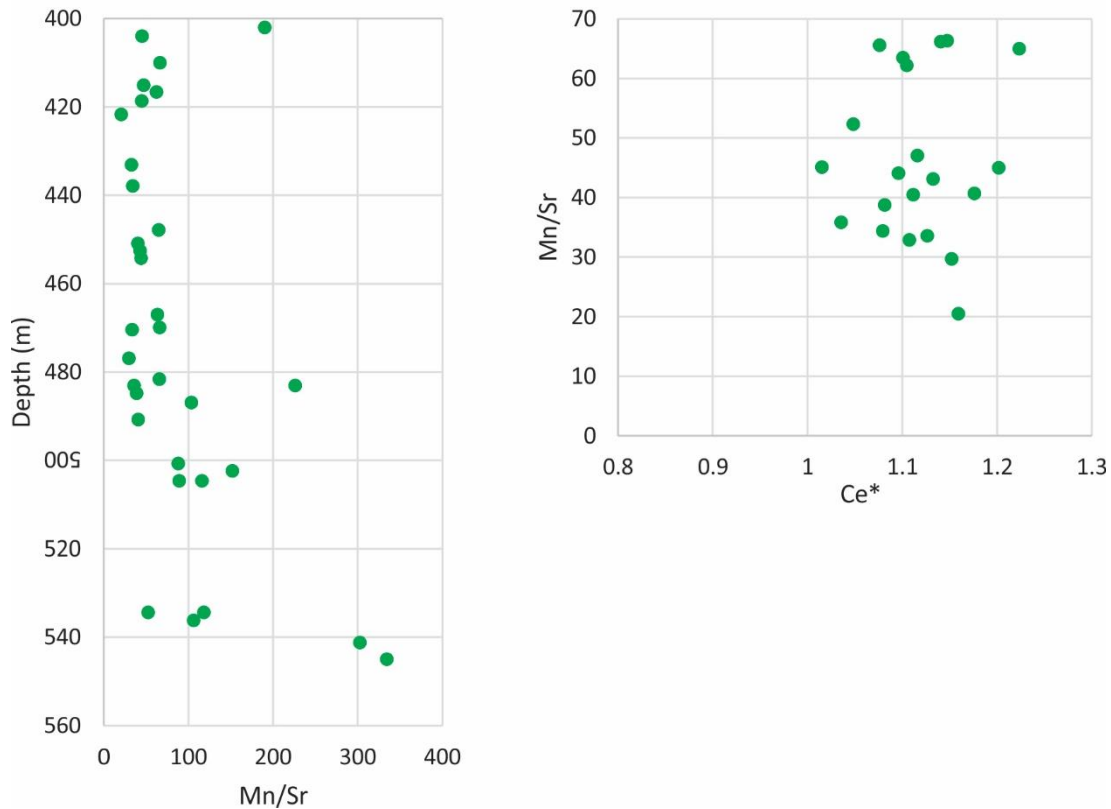


## CARBONATE GEOCHEMISTRY

### Hydrothermal Contamination

Carbonates from Unit C and Unit E were analysed using in-situ LA-ICP-MS, for redox proxies. Carbonates must also be tested for post depositional alteration as they are extremely reactive to diagenetic fluids. This was done using Mn/Sr ratios. During recrystallisation, Mn is preferentially incorporated into marine carbonates while Sr is leached out, this causes an increase in Mn/Sr ratios. A range of cut off values have been used to filter data some studies used up to  $Mn/Sr < 10$  (Peral et al., 2007, Gilleaudeau et al., 2016). Mn/Sr ratios from NDIBK10 returned ratios between 20–334, unusually high which usually indicates considerable diagenetic alteration (Fig. 25). Although it seems that the Mn/Sr ratio has been altered, REE patterns may still be preserved. Meteoric fluids have low REE concentrations compared to marine carbonates, meaning that a large volume of fluids is required to reset REE patterns (Banner & Hanson, 1990). Mn/Sr require a much smaller volume of fluid to be reset, making it entirely possible that sample with elevated Mn/Sr values could still be used for REE analysis.

Furthermore, some unique depositional settings, proximal to a river mouth have elevated Mn/Sr during the Proterozoic meaning that elevated Mn/Sr ratios could be primary (Satish-Kumar et al., 2021). Therefore, proxies were tested in a cross plot against Mn/Sr ratios before they are used to test paleo-redox. Assuming that elevated Mn/Sr ratios are caused by meteoric fluids, a positive correlation to REE indicates that they have been reset as well. REE did not show a positive correlation with Mn/Sr however were filtered based on Mn/Sr ratios with a cut of 70 for further analysis.



**Figure 25:** Shows Mn/Sr ratios compared to depth (left) is a test for post depositional hydrothermal alteration in carbonates. A variety of cut off values have been used in previous literature, carbonate samples returned unusually high Mn/Sr ratios. Mn/Sr vs cerium anomaly (right), shows there is no correlation between the two, however positive cerium anomalies lead to the conclusion that carbonate samples have been hydrothermally altered and no longer record the water chemistry during deposition.

Ce anomalies returned a positive excursion (Fig. 25). Ce is bound to Mn-oxyhydroxides molecules leading to water chemistry with a depletion in Ce. Positive Ce anomalies may be caused by enrichment of Ce relative to other REEs through mobilization of Ce as its +3 ion under reducing condition during early diagenesis. Being reprecipitated as the oxidised form from alteration. The presence of pyrite in samples may have been formed during early diagenesis and supports the existence of reducing pore water conditions. Therefore, no further analysis of carbonate geochemistry was undertaken as it is believed they do not reflect the chemistry of water during deposition.

## CONCLUSIONS

The study set out to test sediments from between 297m and 724m from the NDIBK10 drill hole. It is interpreted that the drill hole is located within the Brunette Downs Rift Corridor and passes through a half-graben structure, similar to those seen in the 19GA-B1 seismic line. The unknown sediments are overlain by the Neoproterozoic to Palaeozoic Georgina Basin and Helen Springs Volcanics. Sedimentary rocks are divided into distinctive units A through F based on their sedimentology and HyLogger Data.

The uppermost unit is separated from the rest by an erosional unconformity.

U–Pb geochronology from detrital zircons were used to constrain the maximum depositional ages above and below the unconformity. A sample above the unconformity from Unit A returned a maximum depositional age of  $902 \pm 34$  Ma. A sample from the base of the sediments in Unit F returned a maximum depositional age of  $1649 \pm 37$  Ma.

Rb–Sr geochronology from shales, carbonates and glauconite grains were used to constrain a minimum depositional age from sediments below the unconformity. A shale/carbonate sample from Unit C returned a minimum depositional age of  $1547 \pm 13$  Ma. Combined with results from U–Pb geochronology a depositional window between 1534 Ma and 1671 Ma was established.

Provenance was tested by comparing detrital age distribution using an MDS plot.

NDIBK10 sediments most likely correlate to the Nathan group, of the Favenc package, in the McArthur Basin. Sediments were possibly sourced from the Aileron Province due to uplift during the depositional window, or could have been recycled from a basin, moving from a mixed source to a primarily felsic source at 350m depth.

Shale geochemistry showed that sediments were deposited in a primarily oxic environment becoming less oxic in Unit B at ~350m depth based on Th/U ratios and Ce anomalies. Indicating the sequence may have been deposited in an 'oxygen oasis'. This change coincides with one of two transgressional sequences defined from the sedimentology. This is interpreted to be due to local rifting within the Brunnete Downs Rift Corridor leading to deepening of the half graben wedge. With periods of regression due to gradual sedimentary infill.

Since deposition it appears that the sedimentary rocks have experienced weak hydrothermal alteration. Fluids appear to have reacted with carbonates and glauconite minerals. However, shales and detrital sediments still record information about the timing and conditions of deposition, revealing an in depth history of a newly discovered sedimentary sequence, in a highly prospective area.

## **ACKNOWLEDGMENTS**

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

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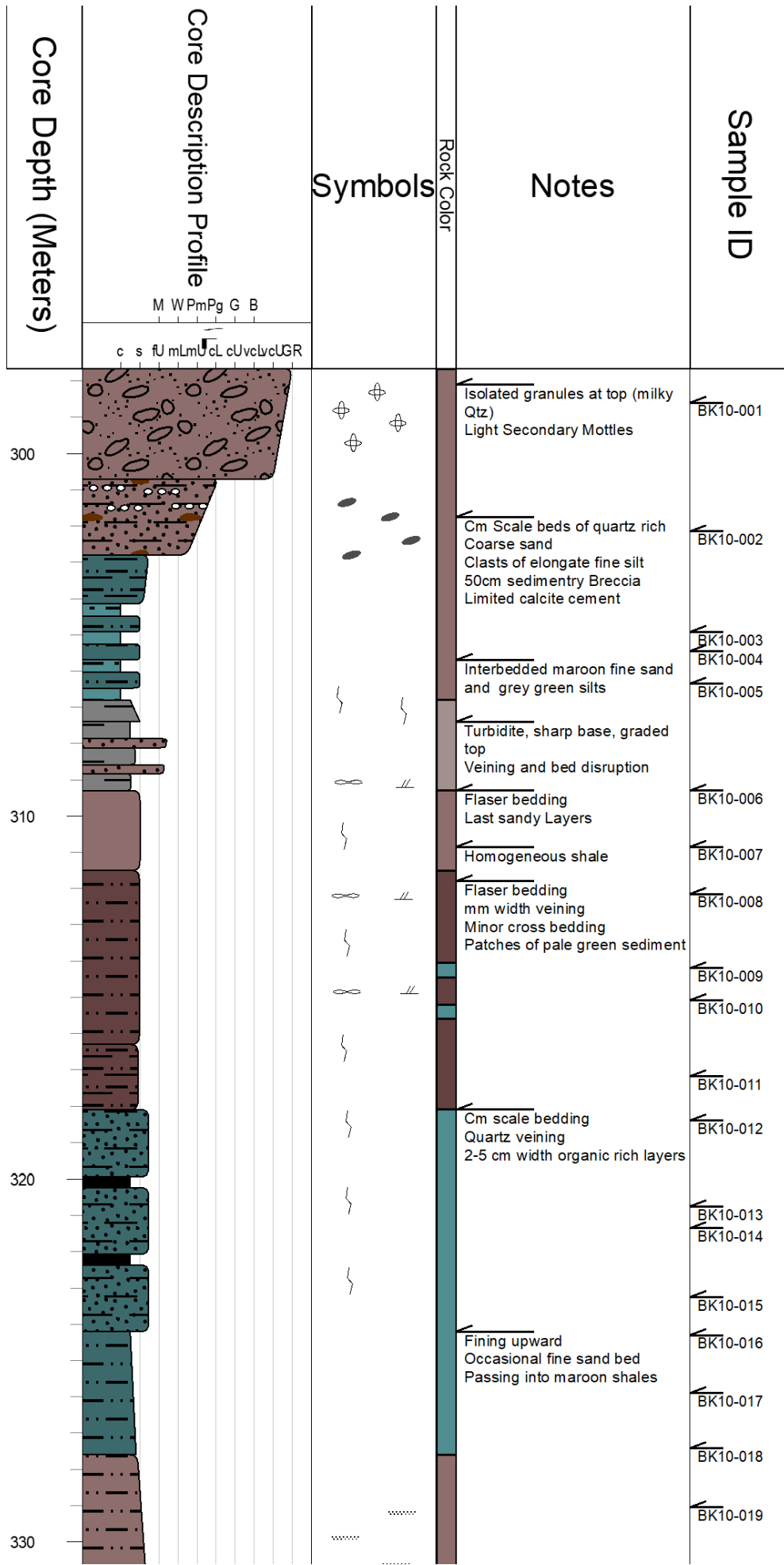
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**APPENDIX A: FULL KEY FOR STRATIGRAPHIC LOG**

Stratigraphic Log Key			
	Fenestral Texture		Sand Interbeds
	Intraformational Clasts		Fibrous Alteration
	Veining		Slumped Bedding
	Flaser Bedding		Sulphide Mineralisation
	Cross Bedding		Pebbles
	Secondary Porosity		Syneresis Cracks
	Stromatolite		Organic Rich Shale
	Climbing Ripples		Flame Structures

**APPENDIX B: FULL STRATIGRAPHIC LOG**

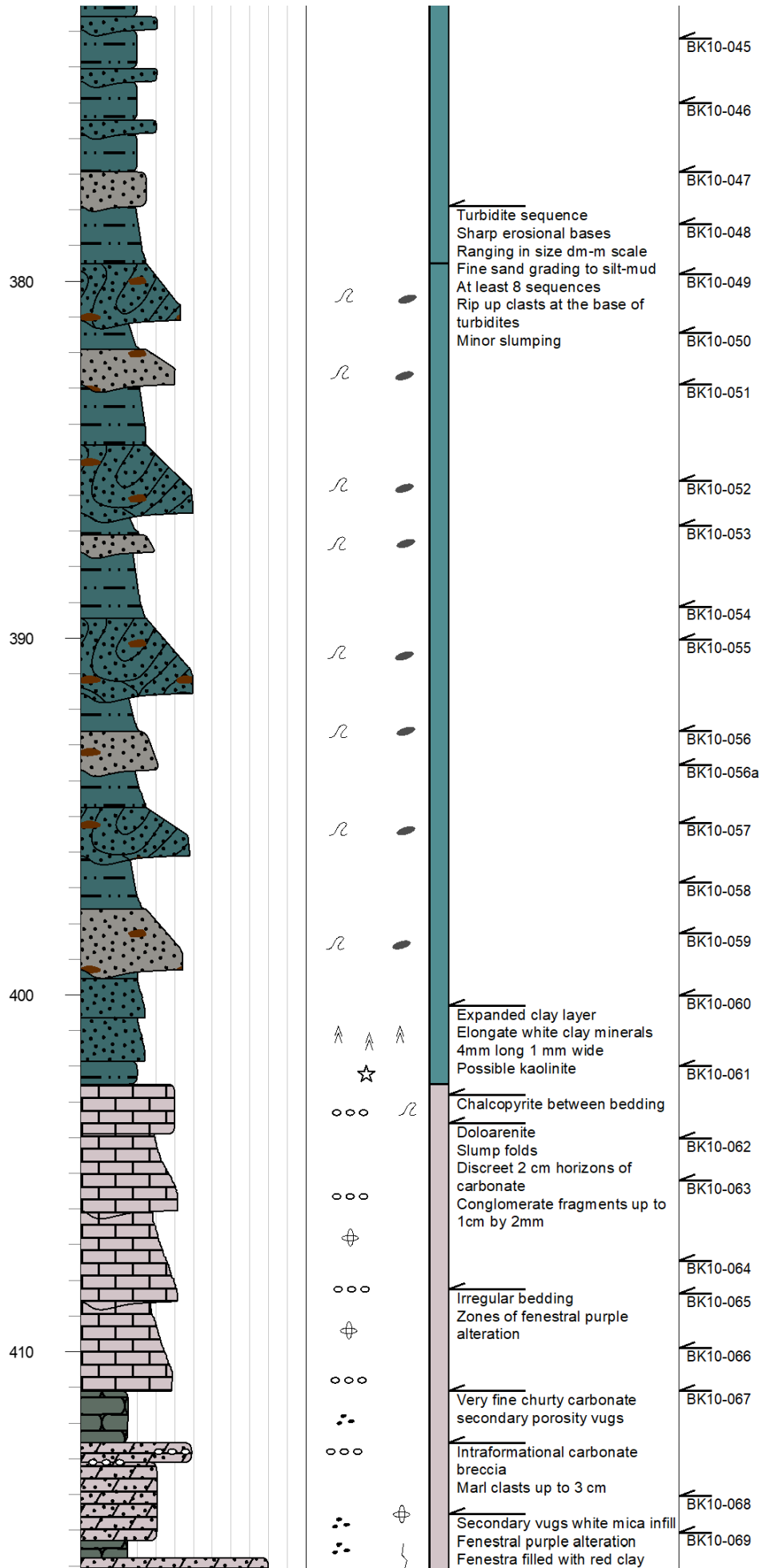




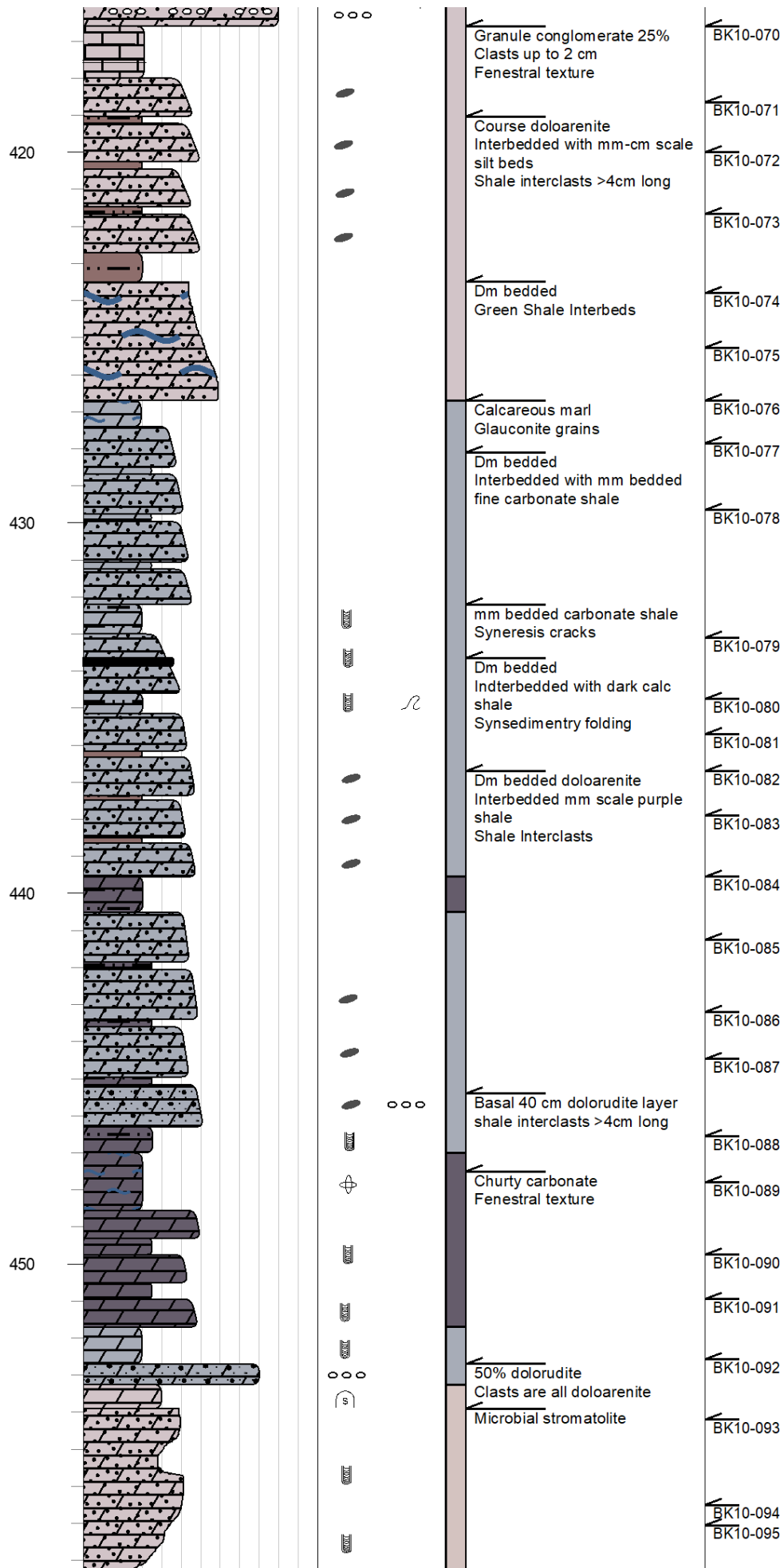
Samuel Rasch  
 Characterising a New Basin in the East Tennant Region



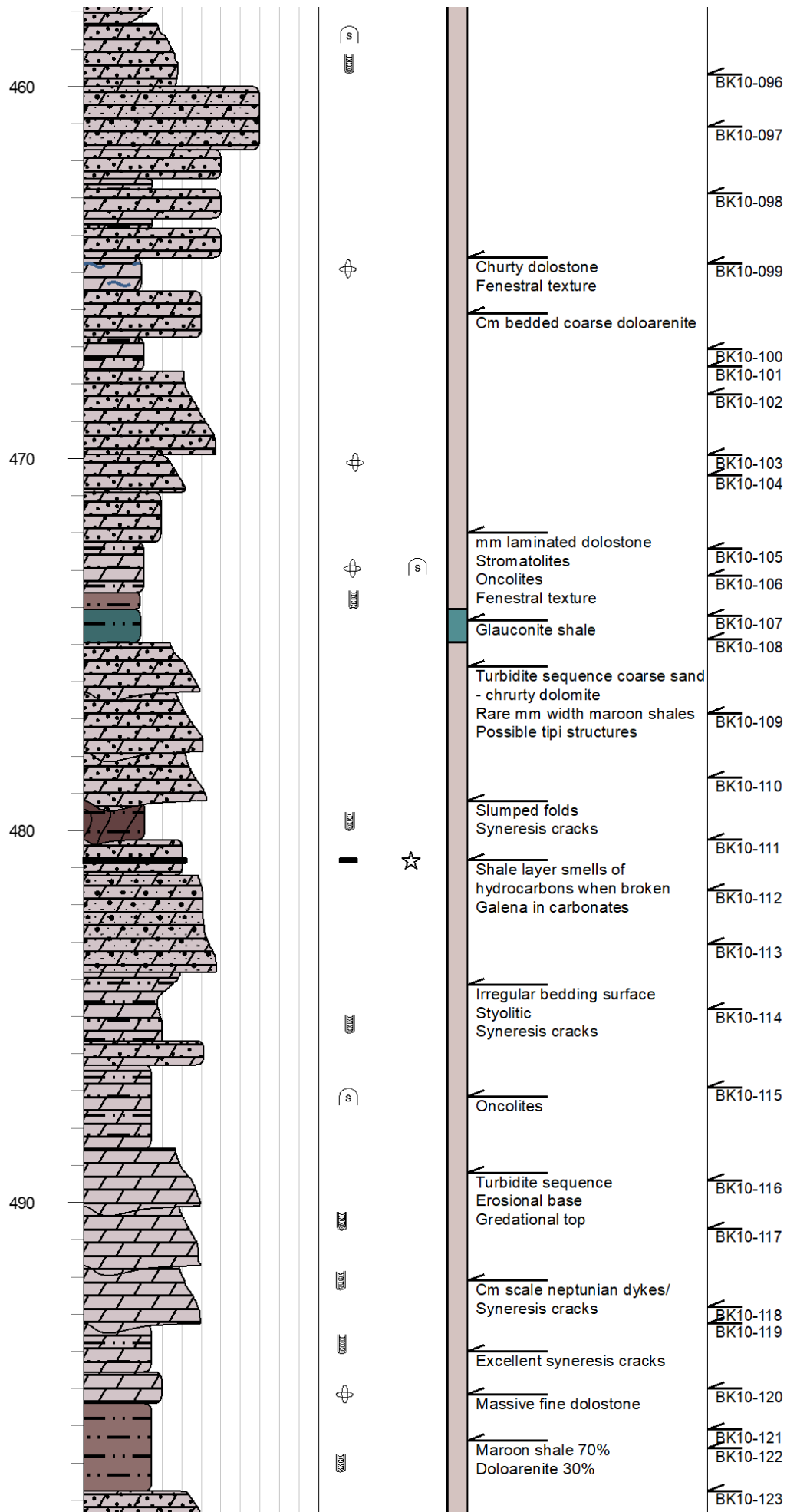
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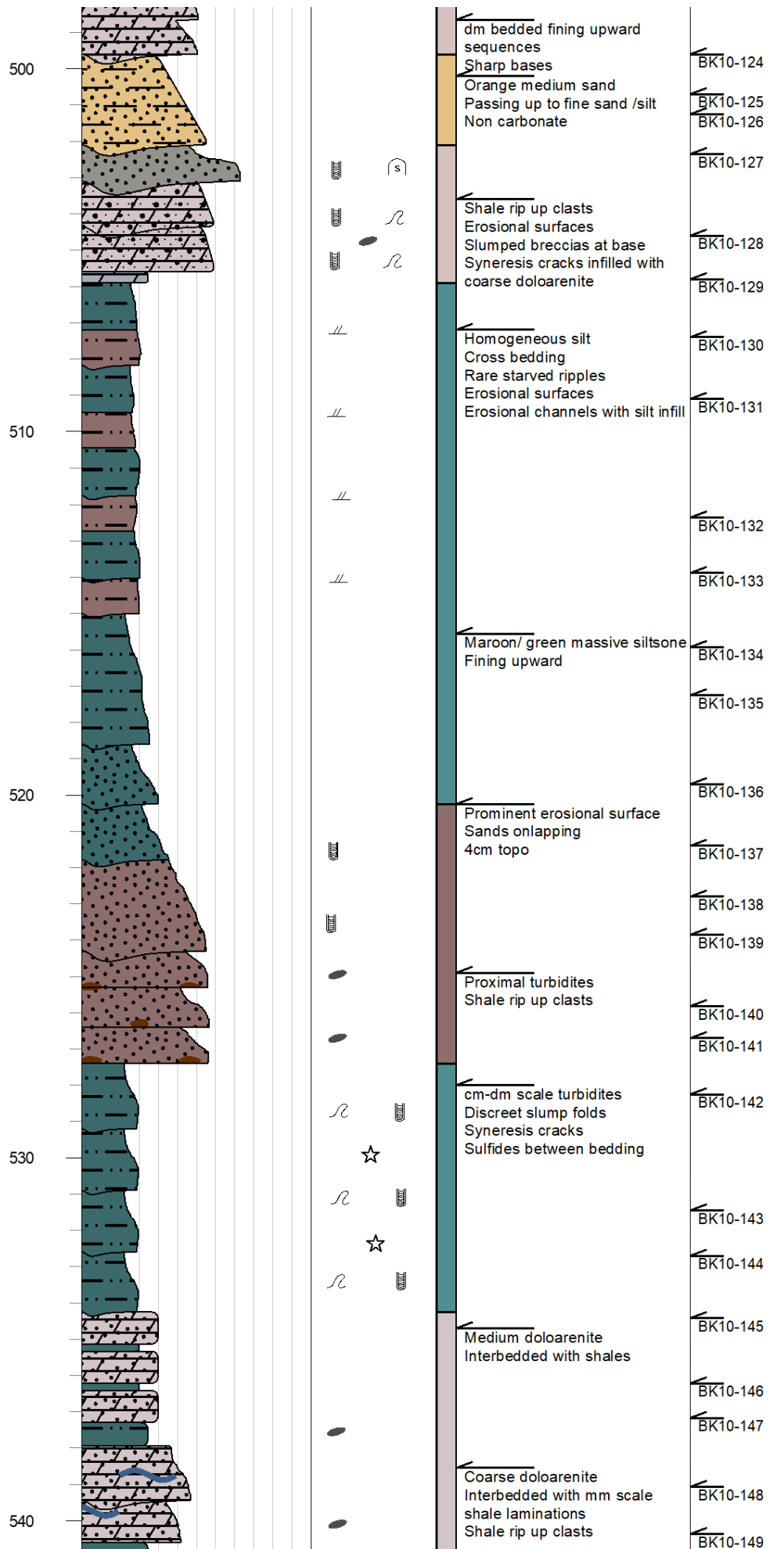
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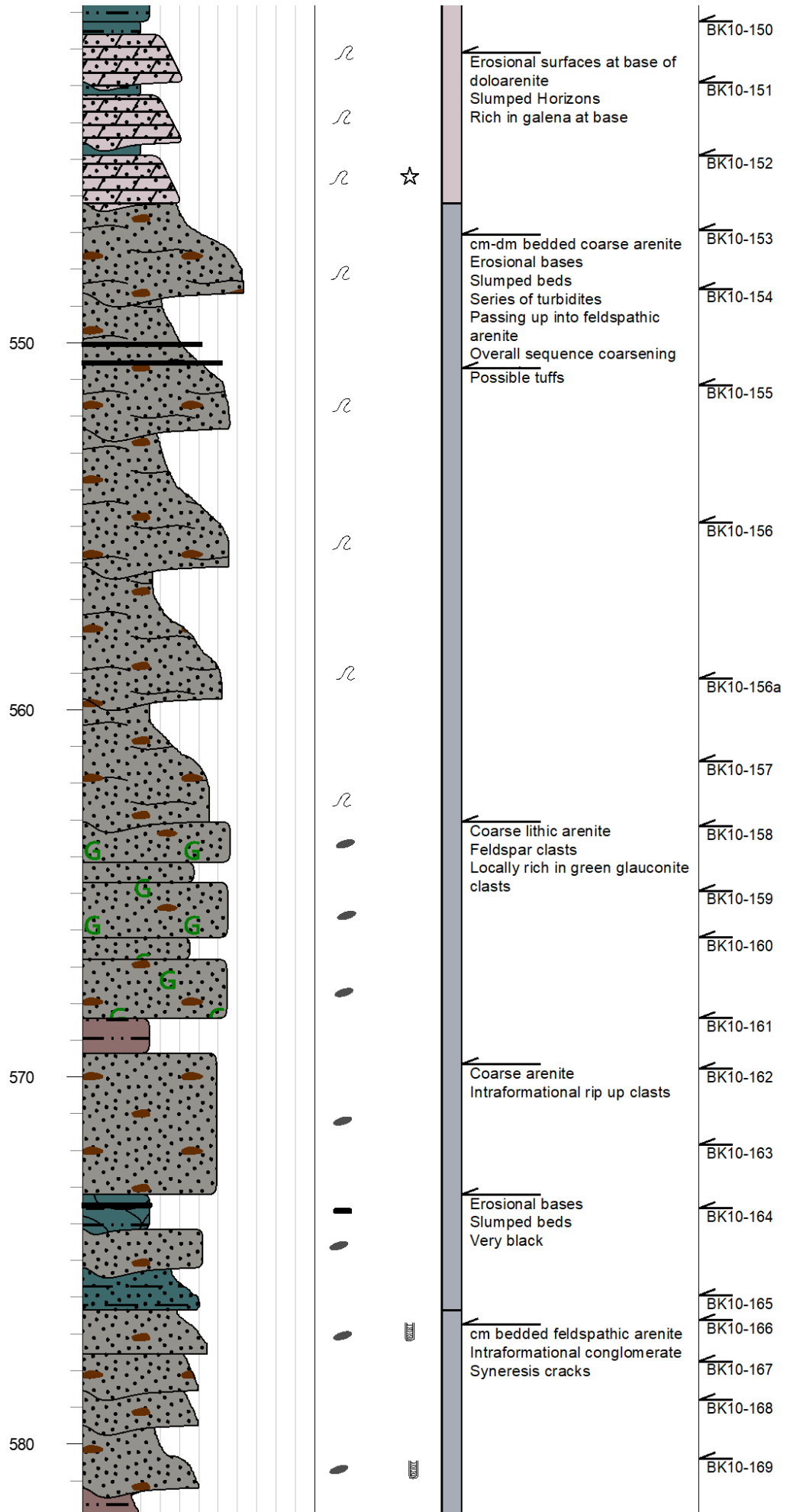
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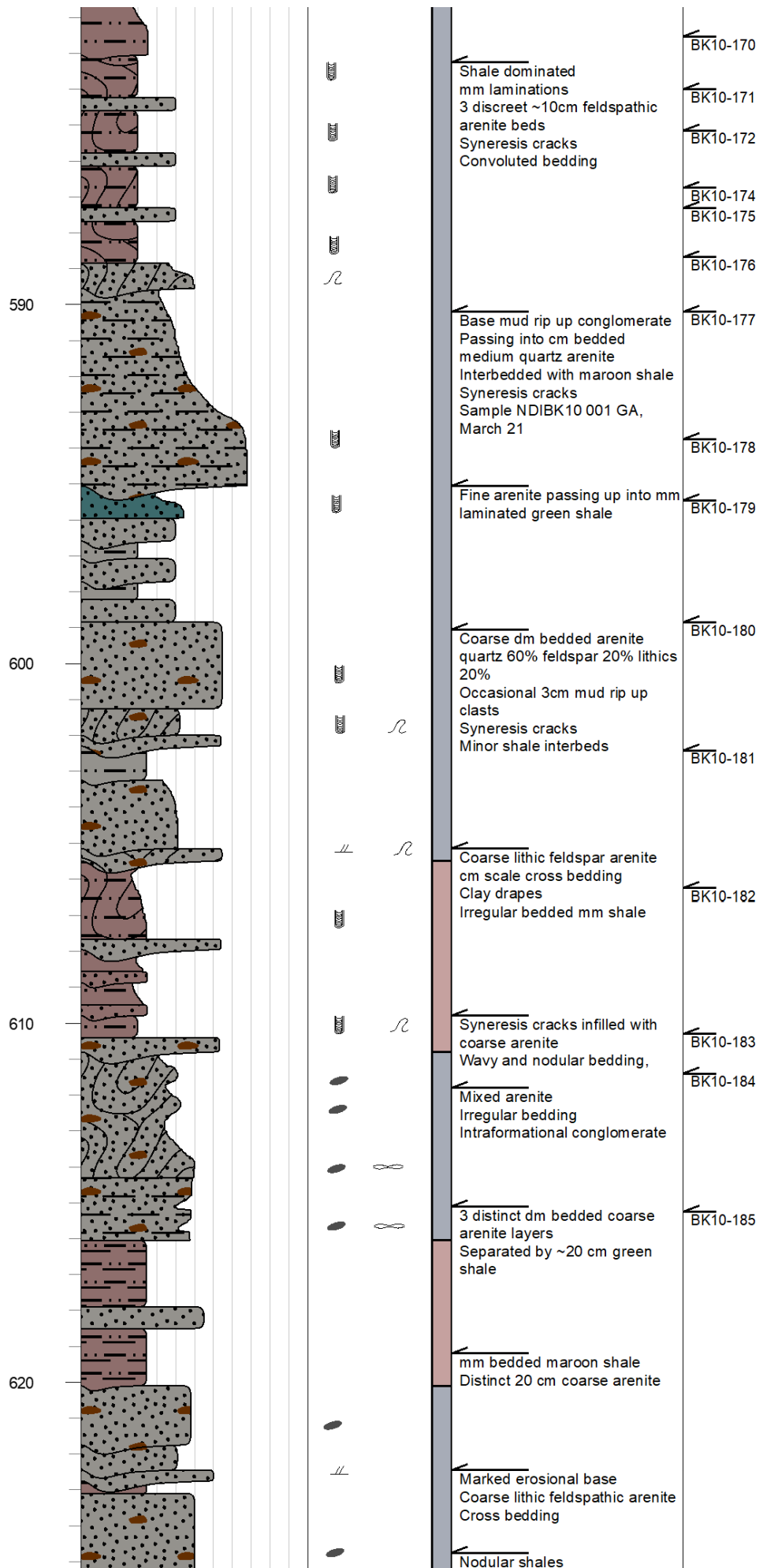
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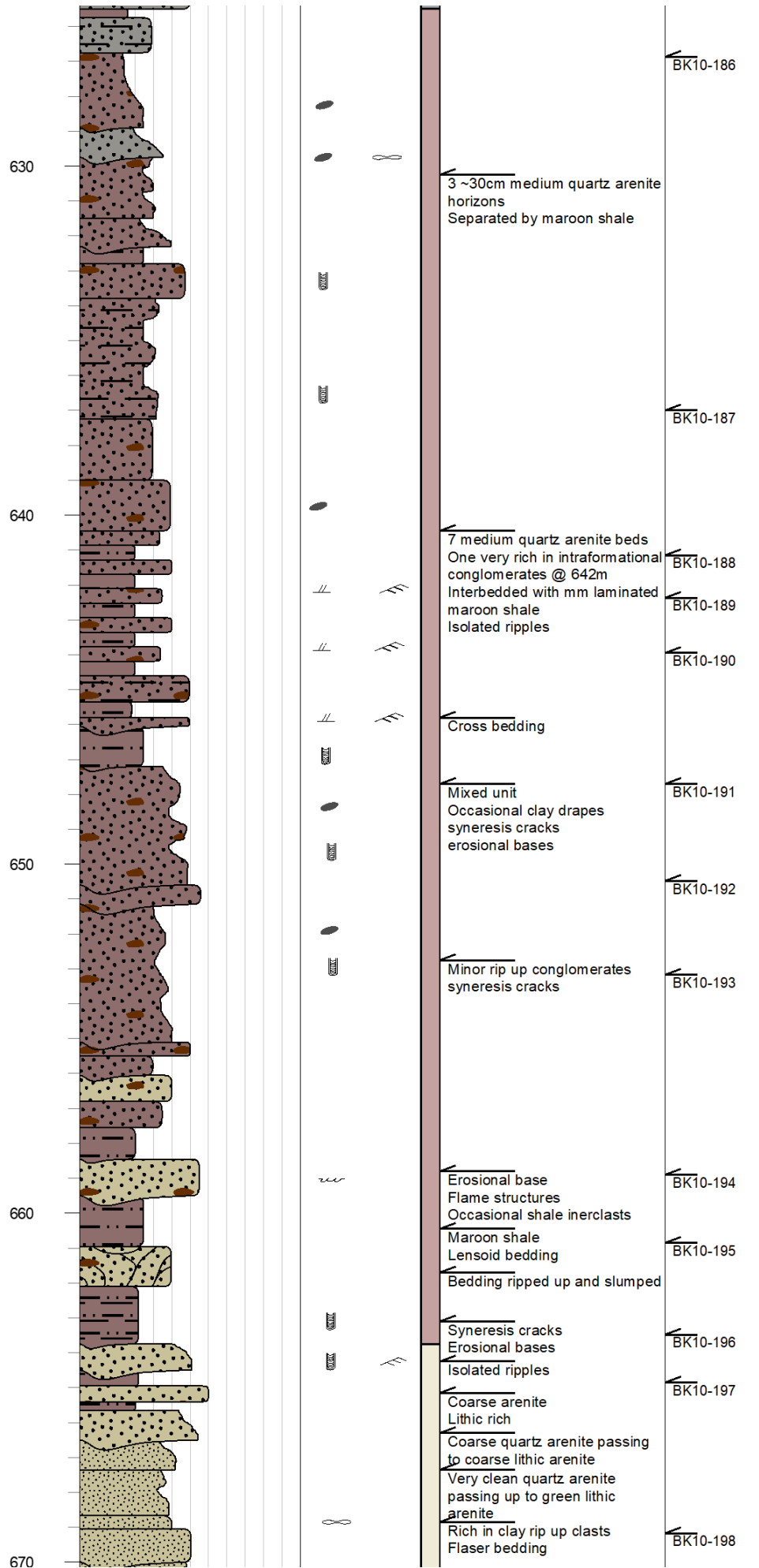


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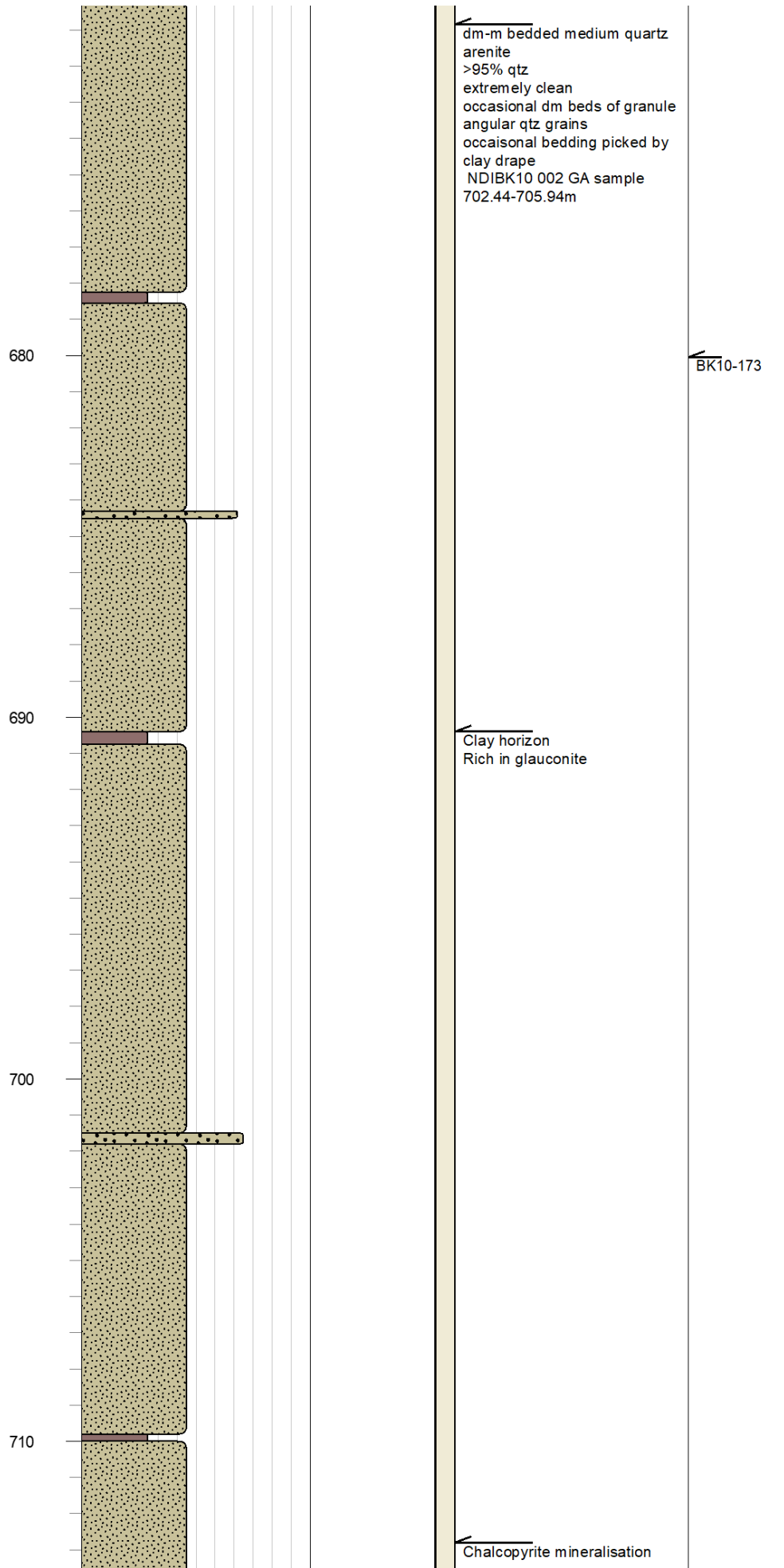


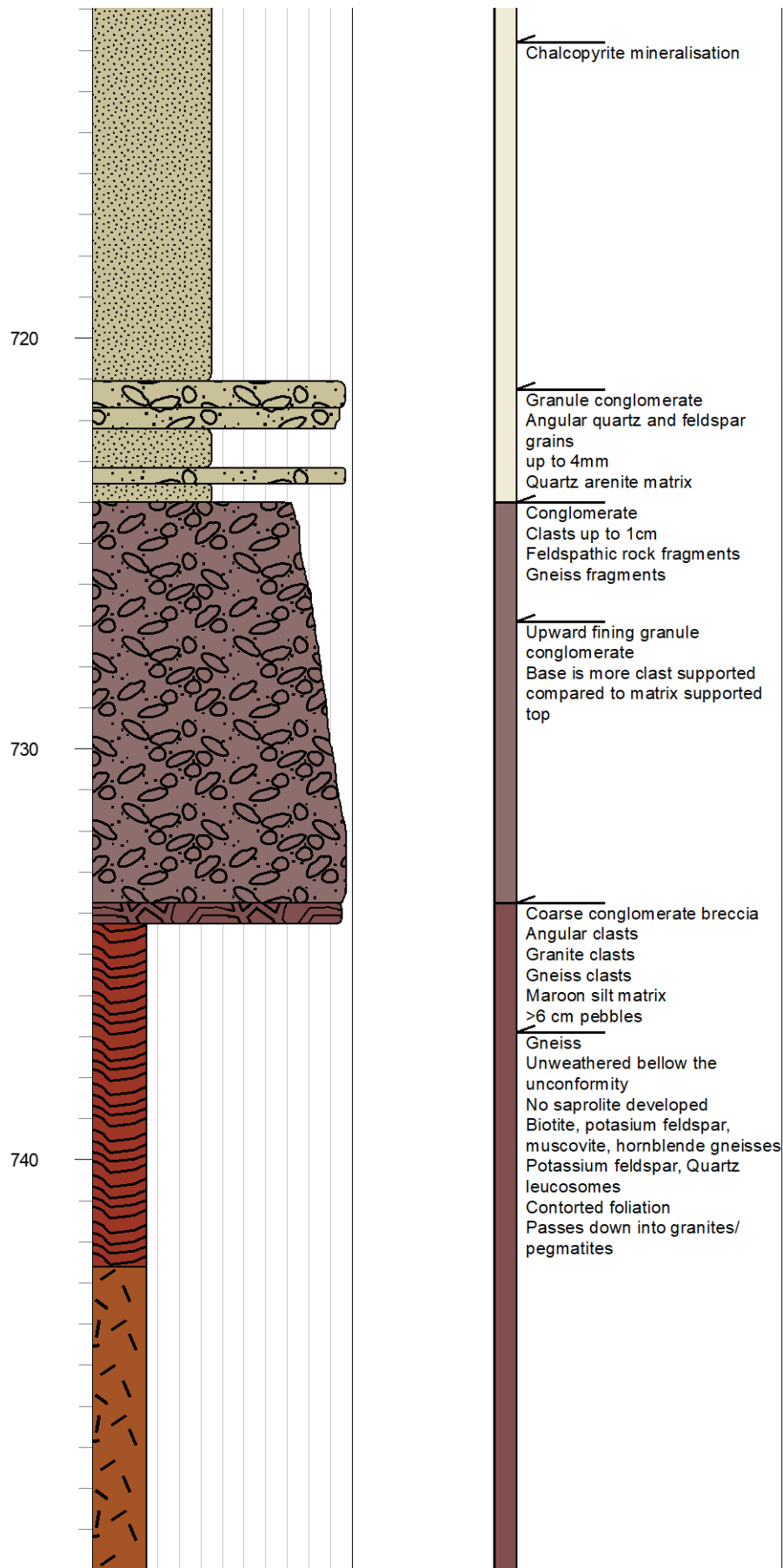


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### APPENDIX C: SAMPLE LIST AND TYPE OF ANALYSIS FROM NDIBK10

U/Pb Zircon	Solution ICPMS	Rb/Sr age	In-Situ LA-ICPMS
Sample	Depth(m)	Rock Type	Analysis
BK10-001	298.58	Sand	U/Pb Zircon
BK10-002	302.13	Shale	Solution ICPMS
BK10-003	304.98	Shale	-
BK10-004	305.18	Shale	Solution ICPMS
BK10-005	306.35	Shale	-
BK10-006	309.33	Shale	Solution ICPMS
BK10-007	310.9	Shale	-
BK10-008	312.15	Shale	Solution ICPMS
BK10-009	314.19	Shale	-
BK10-010	315.11	Shale	Solution ICPMS
BK10-011	317.17	Shale	-
BK10-012	318.41	Shale	Solution ICPMS
BK10-013	320.76	Shale	Solution ICPMS
BK10-014	321.29	Shale	Rb/Sr Age
BK10-015	323.26	Shale	Solution ICPMS
BK10-016	324.3	Shale	Solution ICPMS
BK10-017	325.9	Shale	Solution ICPMS
BK10-018	327.43	Shale	Solution ICPMS
BK10-019	329.07	Shale	Solution ICPMS
BK10-020	331.07	Shale	Solution ICPMS
BK10-020a	332.95	Shale	Solution ICPMS
BK10-021	335.2	Shale	Solution ICPMS
BK10-022	336.6	Shale	Solution ICPMS
BK10-023	338.05	Shale	Solution ICPMS
BK10-024	339.91	Shale	Solution ICPMS
BK10-025	341.33	Shale	Solution ICPMS
BK10-026	343.92	Shale	Solution ICPMS
BK10-027	344.44	Shale	Solution ICPMS
BK10-028	345.91	Shale	Rb/Sr Age
BK10-029	346.81	Shale	Solution ICPMS
BK10-030	348.73	Shale	Solution ICPMS
BK10-031	349.67	Shale	Solution ICPMS
BK10-032	351.8	Shale	Solution ICPMS
BK10-033	353.25	Shale	Solution ICPMS

BK10-034	355.1	Shale	Solution ICPMS
BK10-035	356.52	Shale	Solution ICPMS
BK10-036	358.58	Shale	Solution ICPMS
BK10-037	359.78	Shale	Solution ICPMS
BK10-038	362.56	Shale	Solution ICPMS
BK10-039	363.84	Shale	Solution ICPMS
BK10-040	365.14	Shale	Solution ICPMS
BK10-041	367.02	Shale	-
BK10-042	368.23	Shale	Solution ICPMS
BK10-043	369.94	Shale	-
BK10-044	371.63	Shale	Solution ICPMS
BK10-045	373.2	Shale	Rb/Sr age
BK10-046	374.98	Shale	Solution ICPMS
BK10-047	376.9	Shale	-
BK10-048	378.38	Shale	Solution ICPMS
BK10-049	379.87	Shale	-
BK10-050	381.42	Shale	Solution ICPMS
BK10-051	382.95	Shale	-
BK10-052	385.63	Shale	Solution ICPMS
BK10-053	386.85	Shale	-
BK10-054	389.12	Shale	Solution ICPMS
BK10-055	390.26	Shale	-
BK10-056	392.64	Shale	Solution ICPMS
BK10-056a	393.55	Shale	-
BK10-057	395.18	Shale	-
BK10-058	396.83	Shale	-
BK10-059	398.28	Shale	-
BK10-060	400.02	Shale	-
BK10-061	402	Carbonate	In Situ LA-ICPMS
BK10-062	404	Carbonate	In Situ LA-ICPMS
BK10-063	405.2	Carbonate	-
BK10-064	407.44	Carbonate	-
BK10-065	408.37	Carbonate	-
BK10-066	409.99	Carbonate	In Situ LA-ICPMS
BK10-067	411.13	Carbonate	-
BK10-068	414.03	Carbonate	-
BK10-069	415.06	Carbonate	In Situ LA-ICPMS
BK10-070	416.6	Carbonate	In Situ LA-ICPMS
BK10-071	418.64	Carbonate	In Situ LA-ICPMS
BK10-072	420	Carbonate	-
BK10-073	421.7	Carbonate	-

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BK10-074	423.81	Carbonate	-
BK10-075	425.27	Carbonate	-
BK10-076	426.73	Carbonate	-
BK10-077	427.87	Carbonate	-
BK10-078	429.7	Carbonate	-
BK10-079	433.1	Carbonate	In Situ LA-ICPMS
BK10-080	434.74	Glauconite	Rb/Sr Age
BK10-081	435.7	Carbonate	-
BK10-082	436.56	Carbonate	-
BK10-083	437.91	Carbonate	In Situ LA-ICPMS
BK10-084	439.56	Carbonate	-
BK10-085	441.26	Carbonate	-
BK10-086	443.22	Carbonate	-
BK10-087	444.46	Carbonate	-
BK10-088	446.54	Carbonate	-
BK10-089	447.81	Carbonate	In Situ LA-ICPMS
BK10-090	449.8	Carbonate	-
BK10-091	450.9	Carbonate	In Situ LA-ICPMS
BK10-092	452.59	Carbonate	In Situ LA-ICPMS
BK10-093	454.22	Carbonate	In Situ LA-ICPMS
BK10-094	456.5	Carbonate	-
BK10-095	457	Carbonate	-
BK10-096	459.69	Carbonate	-
BK10-097	461.07	Carbonate	-
BK10-098	462.86	Carbonate	-
BK10-099	464.76	Carbonate	-
BK10-100	467.03	Carbonate	In Situ LA-ICPMS
BK10-101	467.35	Carbonate	-
BK10-102	468.22	Carbonate	-
BK10-103	469.92	Carbonate	In Situ LA-ICPMS
BK10-104	470.45	Carbonate	In Situ LA-ICPMS
BK10-105	472.43	Carbonate	-
BK10-106	473.14	Carbonate	-
BK10-107	474.26	Carbonate	-
BK10-108	474.86	Carbonate	-
BK10-109	476.87	Carbonate	In Situ LA-ICPMS
BK10-110	478.58	Carbonate	-
BK10-111	480.22	Shale/ Carbonate	Rb/Sr Age
BK10-112	481.61	Carbonate	In Situ LA-ICPMS
BK10-113	483.03	Carbonate	In Situ LA-ICPMS
BK10-114	484.8	Carbonate	In Situ LA-ICPMS
BK10-115	486.91	Carbonate	In Situ LA-ICPMS

BK10-116	489.4	Carbonate	-
BK10-117	490.76	Carbonate	In Situ LA-ICPMS
BK10-118	492.81	Carbonate	-
BK10-119	493	Carbonate	-
BK10-120	495.02	Carbonate	-
BK10-121	496.09	Carbonate	-
BK10-122	496.32	Carbonate	-
BK10-123	497.81	Carbonate	-
BK10-124	499.64	Carbonate	-
BK10-125	500.7	Carbonate	In Situ LA-ICPMS
BK10-126	500.96	Glauconite	Rb/Sr Age
BK10-127	502.36	Carbonate	In Situ LA-ICPMS
BK10-128	504.6	Carbonate	In Situ LA-ICPMS
BK10-129	505.81	Shale	Solution ICPMS
BK10-130	507.4	Shale	Solution ICPMS
BK10-131	509.1	Shale	Solution ICPMS
BK10-132	512.36	Shale	Solution ICPMS
BK10-133	513.89	Shale	Solution ICPMS
BK10-134	515.93	Shale	Solution ICPMS
BK10-135	517.26	Shale	Solution ICPMS
BK10-136	519.69	Shale	Solution ICPMS
BK10-137	521.4	Shale	Solution ICPMS
BK10-138	522.8	Shale	Solution ICPMS
BK10-139	523.85	Shale	Solution ICPMS
BK10-140	525.82	Shale	Solution ICPMS
BK10-141	526.7	Shale	Solution ICPMS
BK10-142	528.23	Shale	Solution ICPMS
BK10-143	531.46	Shale	Solution ICPMS
BK10-144	532.71	Shale	Solution ICPMS
BK10-145	534.41	Carbonate	In Situ LA-ICPMS
BK10-146	536.2	Carbonate	In Situ LA-ICPMS
BK10-147	537.2	Carbonate	-
BK10-148	539.05	Carbonate	In Situ LA-ICPMS
BK10-149	540.38	Carbonate	-
BK10-150	541.22	Carbonate	In Situ LA-ICPMS
BK10-151	542.9	Carbonate	-
BK10-152	544.95	Shale	-
BK10-153	546.92	Shale	-
BK10-154	548.59	Shale	-
BK10-155	551.16	Shale	-
BK10-156	554.88	Shale	-
BK10-156a	559.17	Shale	-
BK10-157	561.46	Shale	-

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BK10-158	563.13	Shale	-
BK10-159	564.93	Shale	-
BK10-160	566.23	Shale	-
BK10-161	568.44	Shale	-
BK10-162	569.79	Shale	Solution ICPMS
BK10-163	571.81	Shale	-
BK10-164	573.58	Shale	Rb/Sr Age
BK10-165	575.93	Shale	-
BK10-166	576.6	Shale	Solution ICPMS
BK10-167	577.77	Shale	-
BK10-168	578.8	Shale	-
BK10-169	580.4	Shale	-
BK10-170	582.52	Shale	Solution ICPMS
BK10-171	584	Shale	-
BK10-172	585.15	Shale	Solution ICPMS
BK10-174	586.73	Shale	-
BK10-175	587.3	Shale	-
BK10-176	588.68	Shale	-
BK10-177	590.25	Shale	-
BK10-178	593.76	Shale	-
BK10-179	595.48	Shale	-

BK10-180	598.91	Shale	Solution ICPMS
BK10-181	602.54	Shale	-
BK10-182	606.25	Shale	-
BK10-183	610.3	Shale	-
BK10-184	611.4	Shale	-
BK10-185	615.28	Shale	-
BK10-186	626.85	Shale	-
BK10-187	637	Shale	-
BK10-188	641.17	Shale	-
BK10-189	642.37	Shale	-
BK10-190	643.94	Shale	-
BK10-191	647.77	Shale	-
BK10-192	650.5	Shale	-
BK10-193	653.18	Shale	-
BK10-194	658.92	Shale	-
BK10-195	660.84	Shale	-
BK10-196	663.47	Shale	-
BK10-197	664.85	Shale	-
BK10-198	669.17	Shale	-
BK10-173	678.25	Sand	U/Pb Zircon

**APPENDIX D: SHALE GEOCHEMISTRY REE**

depths	Sample	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Y	Ho	Er	Tm	Yb	Lu	Total REE	Eu*	Ce*	Pr*
302.13	BK002b	1.772761	1.618857	1.672371	1.655314	1.760863	1.609945	1.782339	1.594356	1.635978	1.405251	1.435085	1.358481	1.095599	1.213421	0.974446	22.58507	0.908768	0.940193	1.021617
305.18	BK004b	1.490181	1.374954	1.437712	1.444403	1.49852	1.261842	1.506766	1.359366	1.410517	1.183799	1.214933	1.19382	0.989365	1.122167	0.90182	19.39016	0.839752	0.939361	1.020196
309.33	BK006b	1.439038	1.339477	1.398179	1.39614	1.483619	1.246866	1.476429	1.274875	1.338329	1.104534	1.176322	1.152696	0.966479	1.087851	0.880213	18.76105	0.842466	0.944317	1.022422
312.15	BK008b	1.309673	1.248361	1.339614	1.375063	1.515294	1.30236	1.51843	1.372388	1.419206	1.169146	1.278779	1.239906	1.035257	1.174051	0.962368	19.2599	0.858589	0.942473	1.022464
315.11	BK010b	1.17489	1.085482	1.168188	1.167417	1.34688	1.221277	1.433795	1.283803	1.364325	1.09538	1.190456	1.189825	0.982062	1.124881	0.932052	17.76071	0.878833	0.926547	1.03774
318.41	BK012b	1.51167	1.372216	1.478065	1.477206	1.568339	1.362906	1.62143	1.508963	1.61944	1.310007	1.41277	1.345271	1.119769	1.272273	1.015162	20.99549	0.854667	0.91801	1.038154
320.76	BK013b	1.138803	1.008048	1.050838	1.033147	1.255411	1.150717	1.406665	1.343054	1.43899	1.156075	1.258725	1.251935	1.069226	1.202993	0.987159	17.75179	0.865925	0.921487	1.029708
321.29	BK014b	1.148018	1.037782	1.09397	1.078116	1.308143	1.152556	1.413011	1.325392	1.421015	1.11171	1.253086	1.229324	1.021603	1.171034	0.959401	17.72416	0.847738	0.926038	1.034236
323.26	BK015b	1.032123	0.913762	0.938062	0.88978	1.09057	1.031667	1.297576	1.240515	1.31629	1.034832	1.158608	1.154652	0.977985	1.116832	0.897594	16.09085	0.867254	0.928648	1.040337
324.3	BK016b	1.804789	1.747087	2.048848	2.082113	1.990218	1.55588	1.786659	1.611247	1.683026	1.366986	1.460406	1.423085	1.180488	1.312303	1.101253	24.15439	0.825097	0.908545	1.074237
325.9	BK017b	1.021599	1.078432	1.277785	1.332763	1.558318	1.358846	1.521666	1.340788	1.354707	1.071965	1.187442	1.154912	0.977214	1.081258	0.898045	18.21574	0.882435	0.943894	1.065823
327.43	BK018b	1.304692	1.26587	1.39647	1.363587	1.409281	1.238973	1.392372	1.268156	1.321285	1.045029	1.175322	1.161636	1.002742	1.131986	0.927513	18.40491	0.884475	0.937819	1.062908
329.07	BK019b	1.320169	1.285939	1.439128	1.383706	1.424378	1.236467	1.42971	1.34751	1.420978	1.124393	1.279804	1.231746	1.020802	1.197631	0.953562	19.09592	0.866455	0.932945	1.078866
331.07	BK020a-b	1.319273	1.1685	1.283504	1.279263	1.341313	1.145222	1.323131	1.155648	1.202994	0.969696	1.069965	1.035637	0.896861	1.016026	0.819837	17.02687	0.859653	0.897972	1.049791
332.95	BK020b-b	1.325387	1.264754	1.427794	1.436327	1.435278	1.215286	1.31111	1.139357	1.157345	0.890058	0.997636	0.980783	0.85494	0.96099	0.80902	17.20606	0.885913	0.919394	1.059341
335.2	BK021b	1.176889	1.213367	1.435871	1.42333	1.493444	1.310959	1.362993	1.19854	1.224171	0.938525	1.075881	1.032106	0.889972	1.029482	0.850059	17.65559	0.918857	0.933398	1.092613
336.6	BK22b	1.470944	1.360371	1.441823	1.425191	1.540576	1.400131	1.489305	1.446049	1.45401	1.194471	1.323712	1.272209	1.154847	1.199848	1.09157	20.26506	0.924347	0.934121	1.035492
338.05	BK023b	1.774489	1.299894	1.310954	1.18278	1.122576	0.957926	1.120081	1.104291	1.19916	0.966731	1.062442	1.049455	0.888581	1.03268	0.845397	16.91744	0.854278	0.852271	1.057259
339.91	BK024b	1.018964	1.029643	1.198204	1.21098	1.338876	1.127097	1.353267	1.194258	1.262838	0.954959	1.109387	1.079335	0.900411	1.049678	0.850257	16.67815	0.837335	0.931841	1.073048
341.33	BK025b	1.0818	1.0433	1.237723	1.250643	1.344503	1.156032	1.468648	1.316131	1.373176	1.063337	1.214498	1.179515	0.996529	1.157822	0.908081	17.79174	0.822678	0.901621	1.083558
343.92	BK026b	1.276172	1.230942	1.442277	1.44516	1.541735	1.291795	1.545746	1.379248	1.409854	1.118467	1.240011	1.215024	1.051431	1.186462	0.982942	19.35727	0.836796	0.907316	1.081364
344.44	BK027b	1.12025	1.055031	1.170678	1.167816	1.283079	1.128438	1.366146	1.247763	1.321876	1.079658	1.144362	1.129779	0.96246	1.097471	0.878945	17.15375	0.85232	0.921275	1.054672
345.91	BK028b	1.233581	1.173374	1.402733	1.422475	1.545539	1.349247	1.607997	1.552364	1.597715	1.286418	1.465329	1.410355	1.302214	1.376238	1.204472	20.93005	0.855872	0.892001	1.085762
346.81	BK029b	1.293483	1.244845	1.471342	1.465753	1.60616	1.445588	1.647101	1.592484	1.560115	1.251132	1.437143	1.373312	1.29878	1.331683	1.217625	21.23655	0.888771	0.902356	1.089245
348.73	BK030b	1.238634	1.198673	1.415187	1.410614	1.502276	1.260832	1.528541	1.386816	1.446635	1.144815	1.288221	1.245776	1.055261	1.213751	0.995237	19.33127	0.832039	0.905362	1.088327
349.67	BK031b	1.553173	1.519071	1.658458	1.750885	1.83437	1.547266	1.887335	1.611627	1.751029	1.288854	1.512418	1.46433	1.363452	1.346465	1.245865	23.3346	0.831567	0.94649	1.01692
351.8	BK032b	1.391064	1.29336	1.505028	1.470915	1.546958	1.370357	1.507948	1.391315	1.452176	1.15163	1.332654	1.291786	1.159668	1.19235	1.040393	20.0976	0.897225	0.893868	1.091167
353.25	BK033b	2.272587	2.340406	2.6647	3.092436	3.621757	3.154727	3.733379	2.797541	2.487334	1.79135	1.966329	1.700211	1.355654	1.444217	1.148347	35.57098	0.857929	0.951058	0.990495
355.1	BK034b	1.210714	1.246553	1.488052	1.499862	1.56835	1.301521	1.544859	1.389195	1.429055	1.150409	1.278852	1.262108	1.085373	1.177592	0.973114	19.60561	0.836152	0.928712	1.088271
356.52	BK035b	1.238122	1.237929	1.487345	1.483204	1.561833	1.319791	1.546264	1.400767	1.458132	1.157579	1.305191	1.2638	1.076954	1.200578	0.966023	19.70351	0.849271	0.912238	1.097649
358.58	BK036b	1.327923	1.322028	1.585079	1.586222	1.685554	1.39043	1.66129	1.535443	1.645806	1.306724	1.478204	1.456098	1.238165	1.397204	1.120123	21.73629	0.830912	0.911231	1.094583
359.78	BK037b	1.31875	1.285372	1.515981	1.504723	1.602539	1.384544	1.60746	1.493489	1.555699	1.265498	1.411308	1.409707	1.217697	1.358482	1.107424	21.03867	0.862645	0.909077	1.090061

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depths	Sample	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Y	Ho	Er	Tm	Yb	Lu	Total REE	Eu*	Ce*	Pr*
362.56	BK038b	1.407894	1.058699	1.140899	1.067607	1.105081	1.02308	1.232194	1.26516	1.388238	1.12583	1.251031	1.261032	1.0904	1.202751	0.980408	17.60031	0.876744	0.835341	1.073137
363.84	BK039b	1.306288	1.241534	1.473243	1.450051	1.474771	1.233054	1.489042	1.386653	1.487781	1.233881	1.365131	1.328654	1.15384	1.302611	1.042705	19.96924	0.832083	0.894956	1.098003
365.14	BK040b	1.57417	1.576579	1.877493	1.838283	1.8393	1.467322	1.651584	1.403846	1.439461	1.125129	1.292199	1.257012	1.073459	1.190531	0.978934	21.5853	0.841877	0.917066	1.102844
368.23	BK042b	1.465716	1.220429	1.381289	1.315669	1.37824	1.215695	1.479073	1.405462	1.503496	1.178828	1.34128	1.312524	1.115112	1.220013	0.983073	19.5159	0.851466	0.857719	1.090072
371.63	BK044b	1.106828	1.042161	1.240218	1.228166	1.265096	1.050457	1.286561	1.179405	1.230383	0.977361	1.105166	1.093902	0.921259	1.025567	0.830403	16.58293	0.823382	0.889499	1.096231
374.98	BK046b	1.48198	1.219481	1.358602	1.263075	1.283961	1.095165	1.275558	1.229819	1.326757	1.067885	1.204547	1.213961	1.048661	1.196472	0.967817	18.23374	0.855763	0.859424	1.094687
378.38	BK048b	1.358849	1.183516	1.351326	1.257051	1.29136	1.084441	1.326604	1.28326	1.402803	1.103139	1.265643	1.248936	1.091741	1.257763	0.997729	18.50416	0.828537	0.87339	1.10789
381.42	BK050b	1.47322	1.325099	1.55104	1.508725	1.559717	1.317688	1.586307	1.502025	1.621264	1.241341	1.454287	1.426454	1.197496	1.380604	1.100911	21.24618	0.837714	0.876603	1.096967
385.63	BK052b	1.356748	1.215395	1.433837	1.409523	1.481251	1.267353	1.534972	1.404158	1.46906	1.148646	1.313446	1.274235	1.093042	1.231595	0.98331	19.61657	0.840491	0.871401	1.095481
389.12	BK054b	1.346029	1.276494	1.569431	1.575457	1.666051	1.369368	1.604389	1.430171	1.454163	1.104229	1.274677	1.248827	1.058133	1.194302	0.958371	20.13009	0.83757	0.878254	1.106699
392.64	BK056b	1.349338	1.228564	1.498746	1.459796	1.505796	1.255106	1.528943	1.424373	1.511764	1.165495	1.346666	1.346719	1.140153	1.271007	1.02635	20.05882	0.827183	0.86392	1.119137
505.81	BK130a-b	1.063166	1.048205	1.30743	1.298917	1.368983	1.187957	1.300814	1.194425	1.259721	0.988611	1.109524	1.085834	0.917585	1.061582	0.851917	17.04467	0.890214	0.889071	1.120481
507.4	BK130b-b	1.22563	1.163746	1.449888	1.427621	1.528964	1.329889	1.511944	1.391979	1.454666	1.121129	1.256313	1.245301	1.087791	1.229106	0.983172	19.40714	0.874679	0.872994	1.124861
509.1	BK131b	1.191271	1.131805	1.412445	1.403684	1.490476	1.24902	1.452362	1.33006	1.371989	1.083681	1.211824	1.200781	1.008291	1.158984	0.936164	18.63284	0.848925	0.872531	1.120601
512.36	BK132b	1.34534	1.294226	1.612204	1.598763	1.718198	1.497209	1.687895	1.531142	1.555526	1.156027	1.342511	1.305191	1.107507	1.245212	0.988703	20.98565	0.87917	0.878788	1.120787
513.89	BK133b	1.202203	1.079511	1.26828	1.22399	1.243886	1.070462	1.275813	1.209623	1.324632	1.052532	1.190738	1.225352	1.034447	1.184291	0.961217	17.54698	0.849743	0.87424	1.103348
515.93	BK134b	1.212479	1.145601	1.431799	1.408915	1.491536	1.268527	1.484411	1.368372	1.437354	1.091298	1.278341	1.240736	1.056221	1.217063	0.999993	19.13264	0.852523	0.869472	1.126997
517.26	BK135b	0.762741	0.631331	0.819292	0.845856	1.003692	0.915471	1.078506	1.012217	1.083176	1.000233	0.944639	0.925468	0.760484	0.882847	0.710581	13.37653	0.8799	0.798637	1.121144
519.69	BK136b	1.015581	0.944174	1.190687	1.170121	1.231451	1.051764	1.243242	1.108209	1.178921	1.098503	1.045135	1.029854	0.879779	1.024303	0.818741	16.03047	0.850025	0.85861	1.132808
521.4	BK137b	1.003529	0.975092	1.233378	1.238446	1.323295	1.103205	1.319806	1.239469	1.30411	1.209245	1.173412	1.181935	1.020926	1.172084	0.920889	17.41882	0.834781	0.876461	1.122367
522.8	BK138b	1.242724	1.170445	1.444523	1.42539	1.45541	1.225806	1.412209	1.259002	1.278982	1.165748	1.111073	1.116078	0.964888	1.111313	0.878073	18.26166	0.855027	0.873577	1.118362
523.85	BK139b	1.128494	1.094151	1.431149	1.463278	1.594509	1.388803	1.527272	1.298262	1.312134	1.08902	1.09184	1.039737	0.856425	0.987908	0.790552	18.09353	0.889957	0.860965	1.131052
525.82	BK140b	1.41436	1.085795	1.196839	1.107378	1.195777	1.130091	1.387784	1.461709	1.701068	1.320688	1.581966	1.611152	1.368292	1.577989	1.28409	20.42498	0.877258	0.834545	1.091475
526.7	BK141b	1.511986	1.407954	1.703302	1.660875	1.70005	1.465864	1.639188	1.446052	1.536594	1.172451	1.37312	1.357378	1.142536	1.312297	1.061083	21.49073	0.878109	0.877342	1.113855
528.23	BK142b	1.378386	1.166331	1.349191	1.296216	1.356166	1.216979	1.409453	1.342588	1.439875	1.139902	1.298535	1.295249	1.089902	1.250683	1.015654	19.04511	0.88024	0.855263	1.097297
531.46	BK143b	1.528262	1.413275	1.723809	1.718139	1.957321	1.729291	2.081785	1.810575	1.851109	1.345701	1.56135	1.535962	1.287594	1.434142	1.145533	24.12385	0.856681	0.870729	1.106233
532.71	BK144b	2.015509	1.728259	1.973086	1.834746	1.786057	1.486342	1.813379	1.849746	2.095591	1.588466	1.90223	1.985301	1.688488	1.984957	1.570203	27.30236	0.825899	0.866649	1.108035
569.79	BK162b	1.009359	0.857551	1.004524	0.927597	0.967041	0.838522	1.024521	1.038405	1.181508	1.154951	1.096476	1.153586	1.014789	1.179425	0.963121	15.41138	0.842426	0.851642	1.126291
573.58	BK164b	1.153317	1.086094	1.38863	1.420306	1.682825	1.411288	1.764653	1.587255	1.657387	1.213427	1.444198	1.435269	1.206379	1.39838	1.127642	20.97705	0.818967	0.858223	1.118051
576.6	BK166b	1.231821	1.102103	1.272344	1.158583	1.083774	0.941724	1.064771	1.071226	1.213939	1.168306	1.130212	1.189921	1.053952	1.235223	1.002205	16.9201	0.87665	0.880331	1.125978
582.52	BK170b	0.94804	0.792288	1.039875	1.158208	1.734539	1.663953	2.041892	1.797839	1.777439	1.251615	1.519532	1.453465	1.222724	1.414593	1.137106	20.95311	0.884164	0.797956	1.085542
585.15	BK172b	1.386866	1.308023	1.581847	1.540247	1.557187	1.332252	1.565161	1.440473	1.547633	1.215097	1.410321	1.406887	1.189783	1.374947	1.088939	20.94566	0.853368	0.883112	1.114453
598.91	BK180b	1.008696	0.9659	1.1664	1.146405	1.19282	0.942355	1.266185	1.223951	1.401316	1.198653	1.32583	1.416144	1.268457	1.549682	1.282832	18.35563	0.766793	0.890488	1.10844



## APPENDIX E: SHALE GEOCHEMISTRY MAJOR ELEMENTS

Sample Name	depths	Mg	Al	P	Ca	Ca	Ti	Fe	Fe
BK002a	302.13	12556.95	89660.66	425.4878	5375.417	5495.146	2417.075	33888.73	33832.62
BK004a	305.18	16684.94	90138.42	400.4271	1398.515	1396.21	3061.934	42737.54	42588.28
BK006a	309.33	14149.61	95526.05	336.6772	1276.085	1326.218	2952.691	36690.27	36555.13
BK008a	312.15	13994.5	100852.5	365.3203	1342.433	1396.654	2900.834	43485.85	42978.69
BK010a	315.11	15000.73	104817.1	389.0107	1459.056	1532.79	2882.522	62006.74	61843.94
BK012a	318.41	12778.18	107978.7	291.7744	1016.176	1117.098	3318.66	26496.39	26387.75
BK013a	320.76	15051.12	98611.15	329.1485	1844.116	1896.795	3211.646	38217.64	37315.33
BK014a	321.29	14448.84	96498.51	390.968	2682.733	2744.369	3079.222	46922.65	46944.48
BK015a	323.26	15371.66	107051.3	303.6956	1402.976	1450.145	2898.166	43438.47	43684.92
BK016a	324.3	14455.54	117642.4	488.0336	1774.529	1731.499	3470.358	40736.45	41195.19
BK017a	325.9	17758.83	117840.4	383.7212	1764.882	1885.946	3254.263	60953.84	61364.88
BK018a	327.43	17626.94	120641.2	427.0689	1906.61	1931.49	3253.948	53151.04	52559.48
BK019a	329.07	16435.95	108723.7	382.6386	1354.853	1375.672	3328.483	42564.51	42456.61
BK020a-a	331.07	15596.44	100137.1	341.8616	1264.151	1321.196	2916.023	46109.51	45635.81
BK020b-a	332.95	16655.85	103551.4	314.3574	1182.709	1302.607	2661.824	50947.21	49939.02
BK021a	335.2	17811.23	116945	312.1181	1263.951	1405.921	1405.25	56169.99	56216.03
BK022a	336.6	16585.33	103866.1	351.091	3089.309	3114.179	3078.009	47017.15	46543.54
BK023a	338.05	12667.07	77338.25	301.9599	1873.163	1935.308	2809.312	37179.7	36799.58
BK024a	339.91	17278.07	96206.99	378.4769	6435.65	6241.549	3027.579	51568.61	51673.1
BK025a	341.33	17242.06	102801	411.9645	2178.299	2222.462	3061.522	49919.39	49496.57
BK026a	343.92	16760.8	95621.97	400.1713	2926.959	2960.897	2871.991	43610.9	43258.67
BK027a	344.44	15459.95	88204.05	420.062	2499.374	2624.022	3039.982	47013.82	47391.9
BK028a	345.91	22232.12	181198.6	420.4858	130566.5	145011.9	4016.912	64950.64	64760.31
BK029a	346.81	20629.8	174013.6	474.5579	178103.3	200720.5	3861.906	44591.46	44077.54
BK030a	348.73	17391.44	106186.8	390.2137	1469.929	1475.062	3330.06	46252.15	46041.08
BK031a	349.67	22506.67	160206.2	395.5052	119284.1	136710.1	2733.016	50506.71	49728.75
BK032a	351.8	21185.5	153545.7	388.3868	119836.6	136641.2	3319.069	51227.06	50648.38
BK033a	353.25	19222.84	102011.2	662.7265	72062.98	73150.43	2926.649	61486.16	61539.07
BK034a	355.1	19042.28	118369.3	399.1312	39910.59	40761.52	3154.16	49203.53	49040.76
BK035a	356.52	17554.68	110154.9	413.3196	40740.48	40558.41	2945.901	45072.03	44957.39
BK036a	358.58	17374.28	99673.48	438.9268	1346.639	1437.773	3594.797	47332.38	46635.67
BK037a	359.78	18451.81	109284.6	509.5919	44863.94	44510.34	2848.83	65424.47	64886.54
BK038a	362.56	21437.23	135049.4	402.1099	46847.21	46646.41	3750.555	57245.94	57006.86
BK039a	363.84	19310.1	125157.9	460.6761	40281.14	40833.75	3868.018	47559.23	46813.52
BK040a	365.14	18954.01	119255.8	475.0927	40001.47	40871.85	3379.496	48793.05	47989.78
BK042a	368.23	21386.05	123948.3	820.8426	11985.8	11894	3998.389	55288.77	55613.07
BK044a	371.63	16878.09	89782.15	390.8219	9701.152	10044.72	2676.509	41210.38	40490.02
BK046a	374.98	17600.72	98940.79	406.5982	9635.579	9666.136	2925.286	47227.48	47518.69
BK048a	378.38	16162.39	95561.52	400.221	9300.474	9368.995	3195.073	38873.15	39279.36
BK050a	381.42	20132.53	114132	491.6537	9843.007	10016.57	3604.319	48130.1	47317.58
BK052a	385.63	22205.01	115496.5	511.1924	9718.871	9834.875	3653.96	53025.37	52384.7
BK054a	389.12	18965.8	99547.01	505.8195	9243.651	9418.219	2534.775	42654.13	41711.24
BK056a	392.64	19248.47	103822.8	425.2421	9777.142	9869.424	3027.718	42267.49	41271.24

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Sample Name	depths	Mg	Al	P	Ca	Ca	Ti	Fe	Fe
BK130a-a	505.81	15982.3	82664.34	320.6901	1917.92	2003.305	940.9533	63292.66	62183.58
BK130b-a	507.4	14616.24	88639.99	436.2935	1313.146	1491.544	3042.711	60915.65	59936.8
BK131a	509.1	14511.75	76325.86	353.9242	1014.161	940.6524	2172.072	54285.01	54249.24
BK132a	512.36	17129.78	84002.75	460.7062	4179.891	4298.68	3307.758	69140.54	69224.55
BK133a	513.89	14450.47	81982.83	336.5577	764.9068	830.7596	3578.576	30374.77	30061.38
BK134a	515.93	16353.83	76817.38	393.4118	5492.87	5573.362	1670.612	54094.09	53349.13
BK135a	517.26	50650.3	46858.13	305.7413	73953.03	75038.6	2048.673	34398.67	34538.8
BK136a	519.69	16918.74	76741.94	391.5022	6395.805	6587.658	3322.109	31260.4	30609.99
BK137a	521.4	18410.47	75424.83	408.7702	8208.257	8406.673	3375.359	29152	29282.21
BK138a	522.8	17510.66	79959.12	427.3091	3356.789	3333.541	3442.289	39472.01	38844.18
BK139a	523.85	20362.51	75684.92	421.7747	10956	10752.47	2740.974	60885.5	60242.12
BK140a	525.82	17707.82	103470.6	322.1227	648.8586	772.7368	5363.158	29699.83	29486.11
BK141a	526.7	17378.47	97884.7	436.9305	843.9678	960.3442	4056.99	29458.63	29357.72
BK142a	528.23	19110.82	98567.8	445.7225	1017.536	1077.281	3969.312	32364.42	31966.15
BK143a	531.46	20236.4	104218	669.5496	1272.752	1387.914	4080.158	33719.65	32945.22
BK144a	532.71	18699.03	108879.5	442.3764	961.8261	941.7895	5612.582	28279.11	28009.21
BK162a	569.79	27640.76	75708.26	443.3609	27154.82	27419.11	3774.541	35810.22	35032.38
BK164a	573.58	13945.9	86267.28	910.4806	1789.553	1756.466	3995.446	22264.81	22269.53
BK166a	576.6	16886.87	96168.83	347.2726	718.9859	843.1521	4297.25	35021.98	34675
BK170a	582.52	15321.83	89334.31	1530.48	2985.17	3042.233	2484.458	36670.73	36019.7
BK172a	585.15	13545.46	88231.13	635.1838	1121.971	1198.029	2856.306	38277.26	38176.24
BK180a	598.91	28209.56	65581.44	744.0816	31935.73	31543.47	4199.157	32293.44	32564.61

**APPENDIX F: SHALE GEOCHEMISTRY TRACE ELEMENTS**

Sample Name	depths	Sc	V	Cr	Mn	Co	Co	Ni	Ni	Cu	Zn	Ga	Ga	Ge	Ge	Rb	Sr
BK002b	302.13	14.80348	79.05922	72.79547	209.8744	20.25617	18.9529	26.32522	24.40283	10.24454	21.42455	46.94114	28.67166		0.068844	327.3503	47.58236
BK004b	305.18	12.78562	65.49309	64.16694	194.2785	25.14303	25.65779	27.73545	28.39548	4.031159	22.39928	44.80185	27.00096		0.070974	255.2815	28.66067
BK006b	309.33	12.19686	60.46638	57.47654	147.9221	24.83485	23.17913	28.45189	26.40632	5.723708	25.44124	39.0915	25.16996		0.054936	276.8308	27.20674
BK008b	312.15	14.89255	78.3047	72.08185	155.2902	23.97587	22.80235	31.89789	30.13398	4.294884	28.02852	47.24904	29.95557		0.06529	329.137	30.54104
BK010b	315.11	15.73537	81.91704	74.55619	197.3335	21.82583	20.1768	33.74837	32.12993	1.925959	42.09484	48.26762	31.03428		0.10603	324.334	29.70881
BK012b	318.41	16.98285	92.32057	81.04462	142.7525	29.9019	27.57835	29.2965	27.30106	417.6658	34.01525	51.38437	34.16686		0.052327	348.6841	80.13444
BK013b	320.76	15.65221	85.21044	73.33188	206.8735	43.9073	38.3196	42.13647	37.3791	1542.289	62.14604	46.21818	30.18762		0.07084	339.0856	38.44021
BK014b	321.29	14.33418	80.07	66.9066	204.9624	66.29583	62.92096	44.04494	41.56167	2047.103	63.17986	31.06954	28.07872		0.088361	282.187	36.2822
BK015b	323.26	16.18743	87.92134	76.28827	226.3097	46.67532	43.75759	36.54868	34.56766	138.3715	57.59154	44.58971	32.01728		0.069238	313.8961	34.74857
BK016b	324.3	18.1055	101.4574	85.25728	171.2869	27.44041	25.77239	36.68421	34.77105	24.81669	40.0717	52.44736	35.05692		0.070478	324.9134	118.9998
BK017b	325.9	15.92482	79.03347	75.66789	254.7118	22.10897	20.85254	32.60158	30.73964	6.278146	56.26504	46.87626	31.0943		0.104307	319.4893	26.60173
BK018b	327.43	19.88403	99.88614	94.14315	259.7199	22.5319	21.62627	33.51478	33.11869	5.264058	66.60886	55.12873	37.88692		0.106052	392.7764	31.78536
BK019b	329.07	16.89669	89.26354	83.71932	271.6359	19.76845	18.57309	29.38101	28.45822	3.346974	57.42954	51.08478	32.62487		0.075604	325.6566	28.3688
BK020a-b	331.07	13.98149	69.30543	68.99243	266.7778	22.29686	20.64463	27.50794	25.95008	5.455947	56.50226	43.50727	28.7218		0.085394	316.7927	26.12725
BK020b-b	332.95	16.22794	78.84996	77.07854	243.101	19.18636	18.152	26.47796	25.94062	5.686943	53.43323	46.20004	30.14145		0.09646	323.6089	26.80467
BK021b	335.2	16.72707	86.06609	81.12519	271.4241	20.2386	19.1419	29.14658	27.50719	6.628833	60.96856	48.49638	32.81723		0.096877	340.2199	29.08848
BK22a	336.6	15.98606	83.55465	76.73027	278.0196	22.40191	20.8628	30.80572	28.55749	4.549683	74.26519	49.53368	32.16754		0.121524	352.5792	47.8514
BK023b	338.05	11.84758	66.78558	60.18643	201.233	43.66332	41.432	31.05655	30.3052	11.30139	52.18838	32.93848	22.97954		0.05975	273.0472	64.57374
BK024b	339.91	12.36842	68.89608	60.12225	231.5913	48.67882	46.59772	30.63391	30.06655	19.87948	56.87891	53.27328	23.68007		0.077438	277.8126	52.6822
BK025b	341.33	15.37497	95.3135	70.65475	255.4631	48.99313	45.90028	37.73516	36.17687	26.98528	70.76299	35.57372	28.91221		0.080188	294.4151	33.42436
BK026b	343.92	14.99129	80.39548	68.34218	257.8883	41.24915	39.11561	31.29509	30.69186	35.91294	66.61527	40.494	29.15692		0.126698	338.8467	29.65063
BK027b	344.44	12.76997	87.2672	60.52817	420.9647	50.28074	47.76919	34.62521	33.79667	317.3267	91.29228	29.04794	23.83721	0.047631	0.210659	283.993	26.35659
BK028b	345.91	15.99788	87.53515	71.91417	257.1853	62.65364	59.26697	35.67624	34.75135	37.24166	78.6256	38.05399	30.57713	0.077752	0.336932	308.6605	48.81723
BK029b	346.81	15.10007	82.06489	68.92279	299.1	47.10495	45.31628	31.12572	31.22882	9.213422	83.20736	42.10993	27.38863	0.134168	0.418061	307.1064	61.12987
BK030b	348.73	16.88502	95.01701	84.56535	261.544	44.43984	42.79798	44.55855	44.39589	6.680353	68.74076	43.05514	30.77894	0.094522	0.367795	322.1161	29.95607
BK031b	349.67	16.23018	80.35243	78.71476	315.2907	28.89288	28.62984	30.28328	33.29141	20.94162	75.07994	46.22645	33.41552	0.104808	0.380384	333.7236	47.43832
BK032b	351.8	15.51051	76.7057	71.04624	295.0532	20.72964	19.68476	27.65649	27.48284	28.37042	76.72249	44.43174	29.78251	0.112731	0.385834	325.0703	42.88385
BK033b	353.25	13.96909	69.71229	62.0349	2493.285	33.89281	32.76644	26.78769	27.06721	24.12308	62.79325	38.57434	26.07905	0.067956	0.251538	301.3135	46.52069
BK034b	355.1	16.39561	80.44421	74.14408	272.4872	39.39486	37.92543	27.68261	27.94316	19.64632	64.28374	47.83976	30.70914	0.073733	0.278667	329.1013	35.38371
BK035b	356.52	14.97821	73.62226	69.4166	274.2606	27.28838	26.10652	27.3309	26.90418	19.05411	65.5329	44.45195	28.86559	0.065764	0.286636	304.456	32.74609
BK036b	358.58	16.01457	81.63228	74.46147	276.1419	41.53078	39.85646	31.69112	31.65013	6.710446	68.30768	46.47446	30.43462	0.090935	0.35344	312.5823	30.3532
BK037b	359.78	15.72029	79.92005	71.95568	3730.946	34.91997	33.91265	27.12082	26.81914	6.034861	69.73855	43.39029	28.5449	0.07759	0.329428	313.4002	32.98123

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Sample Name	depths	Sc	V	Cr	Mn	Co	Co	Ni	Ni	Cu	Zn	Ga	Ga	Ge	Ge	Rb	Sr
BK038b	362.56	16.70018	85.83883	77.3364	277.2103	25.74731	25.05672	25.4642	25.83669	20.82635	64.84331	47.31613	32.01333	0.062324	0.265972	342.5257	38.82287
BK039b	363.84	18.63384	88.4142	86.47462	280.8037	29.52375	28.65026	25.62801	25.90025	43.27131	64.17793	51.13209	33.1286	0.064032	0.280066	325.4524	37.03258
BK040b	365.14	16.44934	78.63278	70.95795	339.7776	71.80587	70.02877	28.73217	29.01383	22.11599	60.35854	46.16879	30.05396	0.054976	0.227163	304.3794	34.34154
BK042b	368.23	23.1508	116.0901	104.4044	428.9309	49.15965	46.62278	41.46808	41.5678	50.66628	97.44662	69.55931	44.81633	0.088958	0.343867	459.1044	59.61075
BK044b	371.63	14.38527	61.15065	63.61237	264.6451	23.0325	21.67701	22.11486	21.69225	76.771	53.4907	39.92098	25.5688	0.032725	0.150324	330.8683	32.58338
BK046b	374.98	15.72342	76.36896	69.89191	273.3606	20.5076	19.93753	22.81228	22.1851	21.30247	61.91908	44.4835	29.37122		0.143034	321.0622	37.83098
BK048b	378.38	16.19345	80.18774	73.58308	248.8753	27.65706	26.61179	27.00274	27.30432	7.69983	61.60274	45.64405	29.04713	0.061232	0.262521	313.7059	39.93102
BK050b	381.42	16.68002	82.97768	75.67671	285.0755	26.17297	25.39319	29.57926	29.72807	15.52121	70.06298	47.19879	30.66619	0.031654	0.144046	311.8326	41.15892
BK052b	385.63	18.05737	83.78383	83.06971	289.0089	21.02378	20.29824	25.94194	26.24057	22.6138	66.94769	47.25116	32.10289	0.029636	0.15071	317.9466	38.88092
BK054b	389.12	16.13704	77.75565	69.36219	259.5907	19.77251	18.94976	25.89468	25.14508	32.56963	70.65569	45.18123	29.16515		0.107094	365.6799	37.88819
BK056b	392.64	17.20284	87.94987	76.76179	265.0752	24.8483	24.23906	30.24361	30.39654	4.119165	73.77384	49.04211	31.11845		0.136425	347.9436	38.66184
BK130a-b	505.81	12.94921	30.24209	62.08802	149.4124	20.74635	20.05799	25.52301	25.78551	4.900259	57.27585	42.2376	24.43363	0.064366	0.281572	318.5639	32.38312
BK130b-b	507.4	13.65258	63.20588	66.17349	140.0724	21.22135	20.29772	23.44659	24.80092	17.58697	57.68497	41.55639	24.65583	0.118344	0.495275	324.5276	35.03293
BK131b	509.1	12.34556	49.26533	58.43123	134.2537	41.99498	40.45739	24.67269	25.69678	6.203063	64.3164	40.68631	23.00031	0.077692	0.312504	345.5492	31.53598
BK132b	512.36	14.69756	73.25432	69.97993	231.2175	18.67674	18.51058	24.84236	25.39332	5.261049	59.4927	44.4386	27.46682	0.036076	0.186073	326.4474	37.24497
BK133b	513.89	14.22073	61.82785	63.25423	131.7899	34.42404	33.43255	22.35236	22.2037	6.548042	59.73624	45.26587	26.0345		0.098964	377.1467	34.12125
BK134b	515.93	13.49692	45.96538	62.39454	313.9768	25.78994	25.22593	22.34886	23.06024	8.969741	54.71992	42.0193	23.99301		0.121704	360.5056	36.73514
BK135b	517.26	9.158706	34.92804	33.78188	3021.61	19.6156	19.64031	13.98705	14.19697	5.251577	39.7988	24.66699	14.00939		0.092347	216.1632	27.41171
BK136b	519.69	12.62411	62.52306	63.94175	324.294	21.40031	20.80523	20.03283	20.53567	14.40502	55.65159	40.49987	23.31487		0.10237	343.8301	32.13401
BK137b	521.4	11.78983	53.27292	55.01586	304.4591	25.23341	24.36145	20.51901	20.50472	14.97403	52.93203	38.58354	21.11548		0.077058	319.9488	30.1025
BK138b	522.8	12.7581	66.72435	66.30232	189.7727	25.71218	25.25539	23.20558	23.66721	38.67008	61.44066	41.11838	24.167		0.096235	348.6641	33.29554
BK139b	523.85	11.531	66.44106	58.22951	415.9723	15.81964	15.48073	19.41463	19.95198	96.00432	54.8609	35.3629	22.26229		0.155967	356.3398	28.78893
BK140b	525.82	20.30182	94.85767	111.9572	154.4975	24.22262	24.05313	23.50925	24.16821	6.226668	66.32081	52.38081	33.26087		0.106403	356.8858	40.21305
BK141b	526.7	17.99575	78.96897	80.27224	136.266	28.06118	27.59764	20.77873	21.15234	9.332522	60.50168	48.13785	28.99365		0.106843	404.2068	35.86756
BK142b	528.23	17.15006	86.7241	84.92904	143.4231	22.07508	22.01427	22.79042	23.64079	14.72661	60.64185	48.20133	30.28671	0.046633	0.211099	345.6571	37.47372
BK143b	531.46	18.27819	88.17449	82.72371	159.9824	24.69962	24.26319	26.96327	28.22406	6.290504	66.18473	51.57796	33.41187	0.075477	0.283605	387.4068	37.54333
BK144b	532.71	22.01681	104.0858	105.6605	134.6085	38.07344	37.90964	23.49538	24.16384	12.98329	55.53029	54.97347	36.22826		0.112396	365.6755	40.76285
BK162b	569.79	11.03859	66.89272	69.62231	1046.784	29.28999	28.5612	18.76775	19.46759	2.500314	50.0911	40.51063	22.83539		0.099142	357.86	34.5128
BK164b	573.58	16.38762	93.50217	70.38924	120.7948	28.99773	28.51837	21.55767	22.36369	2.844033	54.99724	50.64698	27.99389		0.099584	401.6466	42.85843
BK166b	576.6	17.4836	82.14566	73.98115	147.0513	40.98244	40.84791	23.6989	24.54889	4627.498	64.87832	42.07906	29.15111		0.107422	415.418	40.1319
BK170b	582.52	12.7957	61.78101	45.1907	141.5057	52.41284	51.01372	22.61687	23.32264	4.641235	66.33159	39.52405	25.29241		0.10912	386.8593	35.40736
BK172b	585.15	15.51171	77.45073	68.8815	156.1681	30.18073	29.58006	26.50521	27.57533	5.287726	74.15397	47.9123	27.16302		0.119349	415.7307	40.06121
BK180b	598.91	9.223443	58.41374	52.77976	1588.32	43.98817	43.3641	20.73857	22.03287	6.563125	61.60168	46.81462	19.67927		0.089471	324.0884	40.25748

Samuel Rasch  
Characterising a New Basin in the East Tennant Region

Sample Name	depths	Y	Zr	Nb	Mo	Mo	Cd	In	In	Cs	Ba	Hf	Ta	Pb	Th	U
BK002b	302.13	36.86615	121.2136	12.17869	1.120623	1.125418	0.0249	10.34006	10.10914	20.52193	476.1377	3.551411	1.296789	37.43373	23.75883	4.255542
BK004b	305.18	32.3415	123.5907	12.04568	0.482298	0.508612	0.015844	7.464879	6.762618	17.37058	424.1518	3.293269	1.112063	8.393111	19.20831	2.857347
BK006b	309.33	28.50582	105.1117	11.3273	0.183631	0.179964	0.010205	6.922182	6.880321	17.99236	408.3318	3.12896	1.408153	11.56179	19.35217	3.278095
BK008b	312.15	31.86501	119.9502	12.17463	0.316535	0.338175	0.014501	8.047915	7.91728	20.87306	452.567	3.550806	1.422415	7.824869	22.021	4.000384
BK010b	315.11	28.58158	109.5771	11.47835	0.093261	0.10342	0.01865	8.037597	7.972357	19.20727	447.6107	3.220891	1.049226	8.583381	21.88289	4.905108
BK012b	318.41	35.82904	128.2031	13.87979	0.129578	0.127348	0.038267	8.966662	9.111944	20.76549	493.1444	3.803358	1.411713	11.39762	24.73328	5.148044
BK013b	320.76	31.61899	129.9703	12.71065	0.669057	0.723111	0.040796	8.252064	8.802699	20.22712	435.9179	4.096483	1.229188	17.86055	26.37312	4.971597
BK014b	321.29	30.31073	134.6113	12.09396	1.44976	1.487194	0.074793	7.575421	7.556424	16.7949	114.1029	3.980494	1.210684	17.01368	20.6645	4.364755
BK015b	323.26	28.04754	114.6871	11.7852	5.958608	6.049802	0.027987	8.096236	8.038339	18.21429	357.2473	3.450435	1.120988	9.535456	21.81444	4.435345
BK016b	324.3	37.71054	134.7398	13.12093	0.44845	0.438423	0.01634	8.865896	8.710494	18.69339	523.5691	4.001778	1.243246	6.573664	25.71106	6.488901
BK017b	325.9	28.83884	110.5503	11.82808	3.932101	4.014428	0.02309	7.793731	7.831232	19.01082	433.7007	3.282475	1.132444	5.402425	21.29495	2.803333
BK018b	327.43	33.61239	125.7574	14.51013	0.735436	0.749903	0.028624	9.323288	9.480608	24.29582	490.4645	3.660097	1.55916	5.997705	25.68982	4.35377
BK019b	329.07	30.89414	125.8297	14.16287	0.09724	0.109641	0.019219	8.394645	8.135749	19.88232	486.2385	3.680153	1.29548	5.635724	23.04098	4.98603
BK020a-b	331.07	26.20149	121.0272	12.44083	0.094536	0.102245	0.022007	6.892735	6.966265	21.71822	393.5865	3.618093	1.413848	5.413378	19.45736	2.281687
BK020b-b	332.95	24.2205	94.21522	11.11095	0.061816	0.063472	0.019368	7.281068	7.24324	21.13625	407.309	2.807496	1.833167	5.288248	19.70748	2.791134
BK021b	335.2	25.96669	83.28109	7.239671	0.057917	0.062145	0.022881	7.454129	7.39925	21.49997	420.7302	2.592238	0.382625	5.363468	20.81516	2.990645
BK22a	336.6	33.19969	131.8432	14.88565	0.162485	0.161525	0.057278	8.778669	8.425518	21.0502	521.5024	4.01994	1.842914	8.462234	22.31694	3.548005
BK023b	338.05	26.21985	145.272	11.26698	0.497616	0.526019	0.027199	6.002938	5.991459	13.91837	257.9712	4.238018	0.974575	7.449457	17.66015	3.863111
BK024b	339.91	26.42475	118.4334	9.344021	0.34099	0.350366	0.019434	6.276204	6.055568	14.61193	730.1175	3.483189	0.516273	32.22912	16.95793	3.344683
BK025b	341.33	29.19078	119.6684	11.96497	1.051128	1.084587	0.028117	7.418001	7.447866	21.13227	195.9461	3.695414	1.072001	13.29138	20.22288	4.374504
BK026b	343.92	31.16231	106.9125	11.1113	1.110737	1.094277	0.218728	7.199212	7.278077	21.16095	308.4718	3.237489	1.004252	16.77683	19.8771	3.744052
BK027b	344.44	29.76487	129.9991	10.11499	4.02736	4.006936	0.443082	6.17366	6.226283	16.94562	160.6737	3.777645	0.747341	35.94245	17.12329	4.140669
BK028b	345.91	34.27162	160.6485	13.31473	3.178992	3.131084	0.29746	8.013702	8.168443	19.73926	211.0829	4.894033	1.232042	66.15487	19.61758	4.471946
BK029b	346.81	35.57935	171.1207	13.93233	0.659895	0.535123	0.596918	7.56906	7.650403	19.36634	380.6152	5.091226	1.32065	128.1726	21.1363	4.327439
BK030b	348.73	31.50214	115.6332	13.03282	0.835483	0.803667	0.306049	8.002351	8.086167	22.02927	312.7847	3.524872	1.281999	27.76362	21.50869	4.35301
BK031b	349.67	34.37039	100.1958	10.466	0.40084	0.324276	0.390615	8.68393	8.142149	20.99343	409.3214	3.10739	0.694878	9.485535	21.20313	3.888888
BK032b	351.8	31.91027	103.7221	12.26555	0.309317	0.22725	0.400849	7.852617	8.077971	21.54521	379.1063	3.350584	1.12349	6.589936	21.61398	3.302059
BK033b	353.25	49.10345	102.9618	12.83064	0.218119	0.188058	0.277224	6.865245	6.962222	17.1326	296.8715	3.096134	1.23258	14.81326	18.22105	3.136244
BK034b	355.1	30.88911	104.0867	12.42445	0.201869	0.164167	0.288875	7.728059	7.857064	22.62712	407.2075	3.140369	1.094401	7.488705	20.03497	3.226641
BK035b	356.52	31.30876	111.0086	12.1227	0.201761	0.156829	0.1948	7.524208	7.586029	20.11645	374.628	3.437392	0.937792	8.177725	20.15624	3.742115
BK036b	358.58	34.34886	140.4583	14.94976	0.290586	0.270569	0.247464	8.300529	8.403538	21.20029	403.1614	4.222771	1.442004	87.57624	22.92468	4.331577
BK037b	359.78	34.67653	112.2711	11.89254	0.213202	0.188083	0.225497	7.739629	7.769568	19.21784	358.675	3.49611	0.76505	6.320458	20.98379	3.920358

Samuel Rasch  
Characterising a New Basin in the East Tennant Region

Sample Name	depths	Y	Zr	Nb	Mo	Mo	Cd	In	In	Cs	Ba	Hf	Ta	Pb	Th	U
BK038b	362.56	30.44643	108.6636	13.58555	0.214681	0.185048	0.24048	8.241957	8.229251	24.64826	367.8999	3.358847	1.256804	4.940548	21.34569	3.299766
BK039b	363.84	33.77212	125.2775	16.14526	0.239303	0.200185	0.248074	9.580669	9.506354	21.06017	437.7062	3.854472	1.471358	5.787087	26.01795	4.134221
BK040b	365.14	29.29883	105.9886	13.36669	0.24376	0.195172	0.273126	7.966916	8.02333	20.04628	361.519	3.340016	1.088815	7.084106	21.63518	4.114828
BK042b	368.23	47.17926	173.6657	21.04644	0.389081	0.325323	0.292577	11.84463	11.96793	28.47128	583.4885	5.422651	1.821293	9.809614	31.57728	6.010366
BK044b	371.63	26.74335	94.8777	10.19344	0.104066	0.103565	0.0952	6.664476	6.722682	19.52996	330.3679	2.944195	0.863266	4.76463	19.44917	3.378276
BK046b	374.98	29.04412	120.2212	12.91709	0.121765	0.113965	0.091966	7.717179	7.751624	22.49834	354.485	3.672855	0.931401	5.431221	21.95047	3.691196
BK048b	378.38	30.04417	125.4458	13.7931	0.209511	0.188869	0.113526	7.700801	7.716088	21.23582	380.419	3.817765	1.102329	21.46907	21.4757	4.066234
BK050b	381.42	33.17392	127.2742	13.45486	0.191102	0.159581	0.231381	8.020223	8.055806	19.98777	396.9067	3.936727	1.000595	29.44494	22.17785	4.308123
BK052b	385.63	31.38471	118.589	14.94151	0.144523	0.131898	0.070346	8.097192	8.12096	22.35466	361.7987	3.692821	1.298611	8.743694	22.85822	3.802203
BK054b	389.12	30.43756	116.0843	11.04763	0.098268	0.092881	0.069041	7.225575	7.374348	20.49821	360.6797	3.675016	0.665884	8.70504	20.71302	3.896359
BK056b	392.64	31.56574	107.9624	13.34039	0.234637	0.224689	0.06822	7.882913	7.879105	18.88016	383.0643	3.369678	1.008039	25.22363	21.68052	4.208448
BK130a-b	505.81	25.99715	71.04279	3.870209	0.273776	0.22035	0.329206	5.152859	5.313793	20.77712	390.2402	2.232303	0.256878	9.275072	17.35209	3.032846
BK130b-b	507.4	30.34976	148.8293	13.54052	0.543535	0.461787	0.521939	6.214931	6.382335	21.58036	387.1989	4.487975	1.104591	9.817197	18.95945	3.556125
BK131b	509.1	28.60382	128.4591	10.85844	0.51882	0.429455	0.391376	6.174661	6.37115	19.43305	393.7152	3.917754	0.81331	10.05202	18.65601	3.76916
BK132b	512.36	31.12216	117.137	14.87169	0.396494	0.394334	0.064725	6.80947	6.888612	23.90132	366.7585	3.562934	1.441517	11.15677	17.86862	3.744918
BK133b	513.89	27.81283	147.6976	16.24984	0.147219	0.140523	0.049441	7.00793	7.014366	22.22143	416.8323	4.392162	1.510132	8.15026	19.88605	2.603807
BK134b	515.93	28.16227	124.2985	8.734599	0.133411	0.125001	0.067381	5.395048	5.412875	21.32482	379.6147	3.702453	0.597374	10.58978	17.43025	2.988541
BK135b	517.26	26.85167	96.66741	9.286933	0.168561	0.159323	0.032216	3.415893	3.386805	11.97378	274.7527	2.859076	0.819344	6.367084	10.21363	1.543325
BK136b	519.69	29.20766	139.0454	14.08934	4.422267	4.482715	0.066713	5.597997	5.795962	19.73187	367.7288	4.252776	1.133494	7.828673	17.26623	2.880141
BK137b	521.4	31.54663	165.6402	13.37988	0.122329	0.125887	0.055021	5.415936	5.597455	17.10494	369.2568	5.04737	1.065106	8.117706	17.2618	3.127024
BK138b	522.8	30.05304	130.612	14.95388	0.143713	0.148364	0.052136	5.733669	5.741196	21.31808	357.1821	3.905014	1.583209	7.502196	17.88392	2.97924
BK139b	523.85	28.7196	85.33897	12.35362	0.188562	0.1735	0.05841	5.341731	5.473955	23.58116	275.5962	2.626089	1.07387	8.887639	15.91913	2.74748
BK140b	525.82	35.92793	185.1786	23.55023	0.278094	0.270917	0.100821	10.02942	10.26383	29.23751	430.9389	5.710857	2.917024	8.64591	31.75563	4.900012
BK141b	526.7	30.68538	126.9129	17.47958	0.136138	0.14768	0.068041	8.164039	8.346496	23.22009	407.2464	4.001933	1.344436	6.849823	22.31738	3.898103
BK142b	528.23	29.84633	149.3492	17.06704	0.327743	0.289345	0.155551	7.475691	7.534126	25.18586	392.3501	4.466097	1.354885	9.869002	21.0283	3.681928
BK143b	531.46	35.45129	131.1197	18.87683	0.223011	0.189447	0.200605	8.208897	8.230002	33.11084	409.1085	4.022791	1.661841	12.17929	22.22678	3.788231
BK144b	532.71	42.26791	162.8829	25.00729	0.588039	0.595261	0.098072	10.0221	10.00547	30.24788	409.1787	5.059753	2.776597	9.714879	31.24781	5.670059
BK162b	569.79	27.68659	173.3554	15.93247	0.400625	0.407333	0.069411	6.217333	6.254238	22.1901	370.9747	5.252791	1.364638	8.821774	19.20577	4.109528
BK164b	573.58	32.40761	185.9372	15.28225	0.551233	0.565279	0.076572	6.695597	6.639514	25.74879	477.0757	5.688906	1.006273	8.285348	22.02701	5.398724
BK166b	576.6	31.59752	168.2992	17.35582	0.234184	0.217114	0.080291	7.135849	7.117068	28.39437	285.2813	5.010915	1.427174	20.75504	20.10414	3.034959
BK170b	582.52	33.93564	170.7121	17.30016	0.314384	0.302648	0.088817	5.799494	5.848788	29.17472	315.3141	5.969645	1.467812	9.142601	23.55908	2.8157
BK172b	585.15	32.69438	140.0414	12.43818	0.387579	0.373419	0.076713	6.947847	7.097817	24.15371	428.395	4.307285	0.740134	9.390562	20.87744	3.024518
BK180b	598.91	32.45191	546.3843	18.95669	0.650319	0.644455	0.257889	6.485994	6.653336	15.16119	555.8892	15.38986	1.733278	12.51149	25.01513	5.97055

**APPENDIX G: ALL DETRITAL ZIRCON DATA- BK-001**

Analysis	207Pb/235U(calc)	Unc[07/35] 2σ	206Pb/238U	Unc[06/38] 2σ	238U/206PbAge	Unc[38/06]	207Pb/235U(calc)Age	Unc[07/35]2σ	206Pb/238U Age	Unc[06/38]2σ	207Pb/206Pb Age	Unc[07/06] 2σ	Conc[06/38][07/06]	Conc[06/38][07/35]	Conc[07/35][07/06]
BK10-001 - 058	4.246143746	0.135345893	0.31036002	0.005427035	1741	30	1683	54	1742	30	1598	39	109	104	105
BK10-001 - 025	2.633583756	0.131081253	0.23069305	0.005307371	1337	29	1310	65	1338	31	1254	54	107	102	104
BK10-001 - 036	1.946961212	0.065147031	0.18858875	0.002880753	1113	17	1097	37	1114	17	1053	29	106	102	104
BK10-001 - 177	4.119092095	0.232436257	0.30040853	0.008067573	1691	45	1658	94	1693	45	1603	88	106	102	103
BK10-001 - 063	4.224910674	0.116832143	0.3043557	0.004639214	1711	26	1679	46	1713	26	1626	31	105	102	103
BK10-001 - 170	4.923615471	0.204384106	0.33061432	0.006666145	1838	35	1806	75	1841	37	1756	57	105	102	103
BK10-001 - 188	1.523469654	0.064400231	0.15896762	0.00256644	951	15	940	40	951	15	902	34	105	101	104
BK10-001 - 017	4.067984928	0.129262099	0.29659322	0.005308698	1672	29	1648	52	1674	30	1604	43	104	102	103
BK10-001 - 018	4.727869981	0.121062072	0.32137268	0.004518327	1796	24	1772	45	1796	25	1732	27	104	101	102
BK10-001 - 052	4.08797043	0.118214954	0.2961926	0.004341229	1670	24	1652	48	1672	25	1615	34	104	101	102
BK10-001 - 065	2.086669094	0.077845615	0.19616175	0.003083724	1153	18	1144	43	1155	18	1115	37	104	101	103
BK10-001 - 087	3.932535525	0.152506702	0.290141	0.005177884	1639	29	1620	63	1642	29	1581	53	104	101	102
BK10-001 - 102	11.64821672	0.300036019	0.50261722	0.007884677	2623	40	2577	66	2625	41	2529	40	104	102	102
BK10-001 - 133	2.763243321	0.100469715	0.23489185	0.004617424	1359	25	1346	49	1360	27	1312	44	104	101	103
BK10-001 - 161	4.238203955	0.134097787	0.3019851	0.005742537	1699	32	1681	53	1701	32	1642	30	104	101	102
BK10-001 - 167	4.992746962	0.158137746	0.33226895	0.005275817	1847	29	1818	58	1849	29	1773	44	104	102	103
BK10-001 - 216	4.953583537	0.140506572	0.33115478	0.004886131	1841	27	1811	51	1844	27	1765	32	104	102	103
BK10-001 - 004	2.912367182	0.086848083	0.24195405	0.003587455	1396	20	1385	41	1397	21	1354	31	103	101	102
BK10-001 - 010	3.255636523	0.073365469	0.25860157	0.003354661	1481	19	1471	33	1483	19	1443	13	103	101	102
BK10-001 - 022	5.474733474	0.154263651	0.34632988	0.00554703	1915	31	1897	53	1917	31	1866	33	103	101	102
BK10-001 - 042	2.715177423	0.085803639	0.23192787	0.003737713	1345	20	1333	42	1345	22	1301	33	103	101	102
BK10-001 - 050	3.486168431	0.090273038	0.26910944	0.003717246	1534	21	1524	39	1536	21	1497	24	103	101	102
BK10-001 - 098	4.334481827	0.12941457	0.30559717	0.005078875	1719	27	1700	51	1719	29	1665	38	103	101	102
BK10-001 - 125	3.951378541	0.114975197	0.28914842	0.004377294	1636	24	1624	47	1637	25	1595	33	103	101	102
BK10-001 - 136	1.966713751	0.058550033	0.18785548	0.002639807	1109	16	1104	33	1110	16	1080	26	103	101	102
BK10-001 - 142	4.307096925	0.121329831	0.303594	0.004432888	1708	24	1695	48	1709	25	1666	32	103	101	102
BK10-001 - 151	2.302709038	0.071053744	0.20855863	0.003369449	1220	19	1213	37	1221	20	1185	28	103	101	102
BK10-001 - 153	2.679762236	0.097023707	0.22943535	0.003909031	1331	22	1323	48	1332	23	1296	40	103	101	102
BK10-001 - 158	2.754571265	0.108062334	0.23328484	0.004010745	1350	23	1343	53	1352	23	1317	48	103	101	102
BK10-001 - 009	5.290261137	0.172210649	0.33885351	0.006139399	1881	32	1867	61	1881	34	1841	48	102	101	101
BK10-001 - 044	3.861690879	0.113525376	0.28482614	0.00434713	1614	24	1606	47	1616	25	1583	33	102	101	101
BK10-001 - 051	4.05207467	0.119997208	0.29308218	0.004214367	1655	23	1645	49	1657	24	1618	31	102	101	102
BK10-001 - 056	3.562789751	0.110680656	0.27152122	0.004750495	1546	27	1541	48	1549	27	1522	34	102	101	101
BK10-001 - 060	3.42462077	0.120540238	0.26475819	0.004452864	1513	25	1510	53	1514	25	1491	48	102	100	101

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BK10-001 - 069	4.661064497	0.117665246	0.31605778	0.004328281	1770	24	1760	44	1770	24	1736	24	102	101	101
BK10-001 - 076	4.154191119	0.126604907	0.29617229	0.004327102	1671	24	1665	51	1672	24	1643	39	102	100	101
BK10-001 - 090	13.12667602	0.363955255	0.52389332	0.008637119	2717	43	2689	75	2716	45	2660	48	102	101	101
BK10-001 - 117	6.411953028	0.180963985	0.37314248	0.005779618	2043	31	2034	57	2044	32	2012	39	102	100	101
BK10-001 - 118	9.011042392	0.249876336	0.44090597	0.006434438	2352	34	2339	65	2355	34	2316	40	102	101	101
BK10-001 - 163	3.86351461	0.142522018	0.2847479	0.00488952	1614	28	1606	59	1615	28	1578	47	102	101	102
BK10-001 - 165	5.610437935	0.153241065	0.3493743	0.005294826	1930	29	1918	52	1932	29	1891	32	102	101	101
BK10-001 - 168	4.757937823	0.132297839	0.32035816	0.004396566	1790	25	1778	49	1791	25	1750	33	102	101	102
BK10-001 - 200	4.267463684	0.119027138	0.30130019	0.004288825	1697	24	1687	47	1698	24	1663	32	102	101	101
BK10-001 - 214	11.70513015	0.307350101	0.49736376	0.007489028	2599	39	2581	68	2602	39	2554	43	102	101	101
BK10-001 - 217	4.233202416	0.152905834	0.29962944	0.005284346	1687	29	1680	61	1689	30	1660	50	102	101	101
BK10-001 - 003	3.08261861	0.092300904	0.24799751	0.003844509	1427	21	1428	43	1428	22	1414	31	101	100	101
BK10-001 - 005	2.675855341	0.088500689	0.22794163	0.00420427	1321	23	1322	44	1324	24	1308	29	101	100	101
BK10-001 - 008	2.155963555	0.056588396	0.19805635	0.003010612	1166	18	1167	31	1165	18	1158	20	101	100	101
BK10-001 - 019	1.826757097	0.085509528	0.17752001	0.003280578	1052	19	1055	49	1053	19	1044	44	101	100	101
BK10-001 - 020	5.257435656	0.1412784	0.33611399	0.004764992	1866	26	1862	50	1868	26	1847	33	101	100	101
BK10-001 - 023	4.808107305	0.126661302	0.32007258	0.004600536	1789	25	1786	47	1790	26	1772	30	101	100	101
BK10-001 - 027	3.546727562	0.116461915	0.27027974	0.004273941	1541	24	1538	50	1542	24	1522	42	101	100	101
BK10-001 - 031	6.647155709	0.233837159	0.37798171	0.006960552	2064	38	2066	73	2067	38	2055	58	101	100	101
BK10-001 - 032	3.465625716	0.097336636	0.26550862	0.003986086	1517	22	1519	43	1518	23	1508	30	101	100	101
BK10-001 - 043	13.30317637	0.336261334	0.52343586	0.007489169	2711	39	2701	68	2714	39	2680	41	101	100	101
BK10-001 - 048	3.88628781	0.101860384	0.2842855	0.003953902	1612	22	1611	42	1613	22	1597	27	101	100	101
BK10-001 - 062	4.444094044	0.134481319	0.30718202	0.004904688	1725	27	1721	52	1727	28	1703	37	101	100	101
BK10-001 - 066	4.876796442	0.147101717	0.32251357	0.005049009	1802	27	1798	54	1802	28	1781	41	101	100	101
BK10-001 - 070	3.227021235	0.098276608	0.2545234	0.003688842	1460	21	1464	45	1462	21	1453	33	101	100	101
BK10-001 - 078	4.554663456	0.112321945	0.31076397	0.004525969	1743	25	1741	43	1744	25	1727	24	101	100	101
BK10-001 - 088	4.035347993	0.110651947	0.29000277	0.004922505	1641	28	1641	45	1642	28	1625	31	101	100	101
BK10-001 - 096	4.125411665	0.127764018	0.29403894	0.004571175	1661	24	1659	51	1662	26	1645	39	101	100	101
BK10-001 - 099	3.851141669	0.132666667	0.2831033	0.004942457	1605	27	1604	55	1607	28	1584	44	101	100	101
BK10-001 - 100	7.638778381	0.221611282	0.40512951	0.006526403	2193	36	2189	64	2193	35	2174	46	101	100	101
BK10-001 - 129	5.164221994	0.136447857	0.33210531	0.004590922	1848	25	1847	49	1849	26	1833	30	101	100	101
BK10-001 - 137	3.752781727	0.112780815	0.27861047	0.004508042	1582	25	1583	48	1584	26	1571	34	101	100	101
BK10-001 - 148	10.75182477	0.267818088	0.47717882	0.006749743	2512	35	2502	62	2515	36	2483	36	101	101	101
BK10-001 - 156	1.723775453	0.062921102	0.1708117	0.002897284	1015	16	1017	37	1017	17	1009	30	101	100	101
BK10-001 - 159	3.796775109	0.103904158	0.28036066	0.004451881	1591	24	1592	44	1593	25	1580	29	101	100	101
BK10-001 - 172	4.926550308	0.140490256	0.32402293	0.004940247	1808	27	1807	52	1809	28	1794	34	101	100	101
BK10-001 - 181	4.312565208	0.12832737	0.30096871	0.004499066	1694	25	1696	50	1696	25	1684	37	101	100	101
BK10-001 - 185	11.27866909	0.286077657	0.48678601	0.007155996	2554	38	2546	65	2557	38	2530	38	101	100	101
BK10-001 - 202	1.772864963	0.073479291	0.17430308	0.003287274	1035	19	1036	43	1036	20	1023	38	101	100	101
BK10-001 - 206	3.303114962	0.088982621	0.25806869	0.00365208	1479	20	1482	40	1480	21	1472	26	101	100	101



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BK10-001 - 007	3.782434129	0.126402559	0.27833611	0.005252585	1581	28	1589	53	1583	30	1583	45	100	100	100
BK10-001 - 011	6.136925132	0.184201455	0.36268582	0.006105957	1992	33	1996	60	1995	34	1986	45	100	100	101
BK10-001 - 015	2.676690211	0.079573145	0.22645307	0.003233525	1316	19	1322	39	1316	19	1320	30	100	100	100
BK10-001 - 016	4.391976927	0.116198108	0.30286068	0.004255147	1704	24	1711	45	1705	24	1708	27	100	100	100
BK10-001 - 068	4.43364165	0.11504268	0.30446792	0.004145938	1713	23	1719	45	1713	23	1713	28	100	100	100
BK10-001 - 079	3.908862347	0.122321733	0.28388807	0.004710097	1610	25	1616	51	1611	27	1607	38	100	100	101
BK10-001 - 081	4.786643734	0.120012564	0.31740121	0.004431769	1775	25	1783	45	1777	25	1775	26	100	100	100
BK10-001 - 093	3.890720571	0.142581669	0.28254075	0.005511613	1603	30	1612	59	1604	31	1606	51	100	100	100
BK10-001 - 108	2.780154284	0.11303117	0.23195833	0.004586807	1343	25	1350	55	1345	27	1346	49	100	100	100
BK10-001 - 111	3.707593993	0.119067743	0.27541124	0.004346714	1568	24	1573	51	1568	25	1567	40	100	100	100
BK10-001 - 114	2.095448327	0.06171014	0.19395743	0.002789017	1143	16	1147	34	1143	16	1142	25	100	100	100
BK10-001 - 115	4.646235979	0.109401081	0.31283372	0.004354483	1754	24	1758	41	1755	24	1750	21	100	100	100
BK10-001 - 120	8.247601253	0.253290443	0.41855319	0.006858431	2254	37	2259	69	2254	37	2252	56	100	100	100
BK10-001 - 123	4.000908772	0.111540462	0.28760951	0.004149616	1629	24	1634	46	1630	24	1628	28	100	100	100
BK10-001 - 132	7.830471377	0.206154495	0.40820142	0.006061933	2207	33	2212	58	2207	33	2205	38	100	100	100
BK10-001 - 140	1.989599401	0.066116624	0.1873909	0.002858074	1107	17	1112	37	1107	17	1110	30	100	100	100
BK10-001 - 164	6.486389193	0.179648913	0.37299866	0.0058681	2041	32	2044	57	2043	32	2036	41	100	100	100
BK10-001 - 169	4.264575803	0.147702847	0.29790656	0.005763374	1679	31	1687	58	1681	33	1677	49	100	100	101
BK10-001 - 171	3.31455729	0.142727257	0.2584332	0.005197638	1481	30	1484	64	1482	30	1476	58	100	100	101
BK10-001 - 174	4.002543871	0.115417438	0.28747832	0.004162923	1627	23	1635	47	1629	24	1632	32	100	100	100
BK10-001 - 175	3.930035222	0.106123332	0.28470007	0.004104721	1615	23	1620	44	1615	23	1614	29	100	100	100
BK10-001 - 186	2.332275175	0.068176613	0.20790625	0.003253664	1217	18	1222	36	1218	19	1216	26	100	100	100
BK10-001 - 189	1.942973995	0.065449316	0.18436443	0.002888514	1090	17	1096	37	1091	17	1095	30	100	100	100
BK10-001 - 195	3.835908871	0.177677569	0.28116461	0.006021441	1595	34	1600	74	1597	34	1592	66	100	100	101
BK10-001 - 198	3.809249634	0.110920544	0.27998316	0.004068494	1591	23	1595	46	1591	23	1588	33	100	100	100
BK10-001 - 201	3.891480578	0.105270933	0.28244091	0.003848969	1604	22	1612	44	1604	22	1612	28	100	100	100
BK10-001 - 204	4.998318423	0.184838907	0.32414797	0.005444612	1809	30	1819	67	1810	30	1819	59	100	100	100
BK10-001 - 212	4.966330966	0.16508325	0.3242239	0.005557441	1808	31	1814	60	1810	31	1809	49	100	100	100
BK10-001 - 218	3.878392453	0.106574736	0.28294999	0.00456909	1605	26	1609	44	1606	26	1601	31	100	100	100
BK10-001 - 001	4.614782903	0.113546312	0.30885808	0.004290337	1733	24	1752	43	1735	24	1759	24	99	99	100
BK10-001 - 012	4.703030455	0.137282962	0.31187139	0.004740187	1750	27	1768	52	1750	27	1771	38	99	99	100
BK10-001 - 024	3.757448273	0.109608765	0.2768964	0.004113715	1575	23	1584	46	1576	23	1584	35	99	99	100
BK10-001 - 028	2.661955032	0.096469996	0.22524916	0.003758142	1308	21	1318	48	1310	22	1318	41	99	99	100
BK10-001 - 039	5.054856425	0.13982972	0.32459096	0.005039749	1810	27	1829	51	1812	28	1836	35	99	99	100
BK10-001 - 049	3.729984851	0.121120601	0.27484243	0.004268655	1565	24	1578	51	1565	24	1584	42	99	99	100
BK10-001 - 054	10.6623191	0.280557174	0.46684576	0.007242966	2468	38	2494	66	2470	38	2503	43	99	99	100
BK10-001 - 055	1.798438691	0.058325423	0.17432499	0.002752573	1034	15	1045	34	1036	16	1051	27	99	99	99
BK10-001 - 086	3.655776089	0.114191532	0.27197734	0.004142815	1549	24	1562	49	1551	24	1567	37	99	99	100
BK10-001 - 091	3.56495547	0.105723246	0.2683344	0.003811137	1532	22	1542	46	1532	22	1542	34	99	99	100
BK10-001 - 095	3.826614258	0.114083901	0.27925444	0.004194	1588	24	1598	48	1588	24	1600	36	99	99	100

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BK10-001 - 097	3.313609746	0.114448979	0.25666808	0.004402767	1471	24	1484	51	1473	25	1491	42	99	99	100
BK10-001 - 106	2.710646979	0.083272964	0.22727924	0.003808986	1319	22	1331	41	1320	22	1338	32	99	99	99
BK10-001 - 112	7.501345933	0.267421242	0.39805056	0.008139231	2158	43	2173	77	2160	44	2175	71	99	99	100
BK10-001 - 116	1.935471016	0.053789225	0.18345759	0.002530574	1085	15	1093	30	1086	15	1096	21	99	99	100
BK10-001 - 126	2.219911777	0.084107052	0.20080926	0.003335744	1179	20	1187	45	1180	20	1189	37	99	99	100
BK10-001 - 127	11.79241677	0.328936475	0.48935417	0.008346076	2564	44	2588	72	2568	44	2593	48	99	99	100
BK10-001 - 130	2.577418517	0.096841771	0.22105936	0.003913845	1286	21	1294	49	1287	23	1294	43	99	99	100
BK10-001 - 150	4.468774411	0.126261073	0.30488438	0.004519467	1716	25	1725	49	1715	25	1725	34	99	99	100
BK10-001 - 162	4.858372998	0.119520472	0.31858374	0.00408038	1782	23	1795	44	1783	23	1797	24	99	99	100
BK10-001 - 176	3.613896857	0.112740134	0.27035896	0.004368619	1542	25	1553	48	1543	25	1553	34	99	99	100
BK10-001 - 182	3.16035409	0.103952512	0.24899696	0.004064704	1432	23	1448	48	1433	23	1454	31	99	99	100
BK10-001 - 205	4.766102718	0.145669027	0.3146237	0.005129992	1762	28	1779	54	1763	29	1786	42	99	99	100
BK10-001 - 210	3.809138473	0.120203029	0.27846487	0.004903586	1582	27	1595	50	1584	28	1600	40	99	99	100
BK10-001 - 213	3.305303494	0.089263892	0.25717554	0.003627435	1474	20	1482	40	1475	21	1483	28	99	100	100
BK10-001 - 013	4.363019701	0.128050749	0.29818353	0.004498639	1682	25	1705	50	1682	25	1722	37	98	99	99
BK10-001 - 030	4.636912673	0.137852608	0.30901862	0.004608717	1734	25	1756	52	1736	26	1765	37	98	99	99
BK10-001 - 075	3.732851188	0.115250687	0.27410496	0.004150854	1561	23	1578	49	1562	24	1589	36	98	99	99
BK10-001 - 082	5.233178324	0.168349432	0.3298736	0.005354319	1835	30	1858	60	1838	30	1869	51	98	99	99
BK10-001 - 107	5.310522289	0.155886393	0.33160496	0.005074165	1844	28	1871	55	1846	28	1888	42	98	99	99
BK10-001 - 110	3.895655277	0.126651714	0.2808545	0.004484501	1594	25	1613	52	1596	25	1624	40	98	99	99
BK10-001 - 138	1.97758419	0.093646923	0.18524566	0.003955882	1096	22	1108	52	1096	23	1116	50	98	99	99
BK10-001 - 141	2.293439231	0.08412449	0.20405762	0.003390197	1195	20	1210	44	1197	20	1224	38	98	99	99
BK10-001 - 143	3.033551195	0.088768616	0.24229957	0.003507162	1398	20	1416	41	1399	20	1429	30	98	99	99
BK10-001 - 149	5.871870721	0.154185214	0.34955131	0.005214765	1930	28	1957	51	1932	29	1972	35	98	99	99
BK10-001 - 166	3.760468081	0.118159128	0.27500849	0.004303909	1565	25	1584	50	1566	25	1596	40	98	99	99
BK10-001 - 173	5.003255289	0.161781671	0.32148574	0.005287978	1796	29	1820	59	1797	30	1831	43	98	99	99
BK10-001 - 207	3.78380712	0.126512986	0.27535553	0.004730827	1566	26	1589	53	1568	27	1606	44	98	99	99
BK10-001 - 220	5.605802709	0.160806316	0.34229824	0.0051252	1896	28	1917	55	1898	28	1928	39	98	99	99
BK10-001 - 002	3.926300754	0.112342132	0.28026719	0.004505077	1591	25	1619	46	1593	26	1642	37	97	98	99
BK10-001 - 014	2.246722615	0.086335936	0.20033239	0.003530018	1176	20	1196	46	1177	21	1218	41	97	98	98
BK10-001 - 029	3.504475621	0.098579005	0.2624207	0.003867395	1501	21	1528	43	1502	22	1551	30	97	98	99
BK10-001 - 045	8.665041517	0.274012022	0.42061303	0.008027514	2261	42	2303	73	2263	43	2330	50	97	98	99
BK10-001 - 047	3.745130799	0.145853976	0.27325964	0.004756489	1556	27	1581	62	1557	27	1603	51	97	98	99
BK10-001 - 072	3.626863655	0.117503334	0.26771735	0.004194388	1527	24	1555	50	1529	24	1581	40	97	98	98
BK10-001 - 073	2.459408471	0.072494888	0.21201396	0.003886351	1238	22	1260	37	1240	23	1280	28	97	98	98
BK10-001 - 128	4.523724821	0.189522499	0.30288296	0.006182691	1703	34	1735	73	1706	35	1758	66	97	98	99
BK10-001 - 131	4.76166611	0.143678732	0.31187864	0.006330184	1745	36	1778	54	1750	36	1803	32	97	98	99
BK10-001 - 139	2.266079823	0.10636784	0.20129985	0.003715463	1180	21	1202	56	1182	22	1224	52	97	98	98
BK10-001 - 146	3.913982754	0.10794836	0.27924185	0.003944646	1586	22	1617	45	1588	22	1644	32	97	98	98
BK10-001 - 219	4.915413675	0.161342205	0.31693771	0.005550876	1773	30	1805	59	1775	31	1832	49	97	98	99

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BK10-001 - 061	4.868261965	0.168584631	0.31340364	0.005398703	1757	28	1797	62	1757	30	1828	53	96	98	98
BK10-001 - 113	4.053923266	0.168165036	0.28360301	0.005486344	1606	30	1645	68	1609	31	1681	57	96	98	98
BK10-001 - 154	3.668612701	0.118055919	0.26933287	0.004335196	1535	25	1565	50	1537	25	1593	41	96	98	98
BK10-001 - 183	1.924857285	0.07410093	0.18102996	0.003088564	1072	18	1090	42	1073	18	1112	38	96	98	98
BK10-001 - 203	3.589160941	0.108036937	0.26579407	0.004226708	1516	24	1547	47	1519	24	1576	34	96	98	98
BK10-001 - 040	3.962972951	0.119919724	0.27847356	0.00501058	1583	27	1627	49	1584	28	1671	39	95	97	97
BK10-001 - 057	2.921578538	0.214081028	0.23387373	0.008451525	1354	46	1388	102	1355	49	1423	105	95	98	98
BK10-001 - 103	2.724243475	0.09828591	0.2242013	0.003678042	1304	21	1335	48	1304	21	1373	40	95	98	97
BK10-001 - 135	3.568805767	0.089248481	0.26214352	0.003897196	1499	22	1543	39	1501	22	1587	23	95	97	97
BK10-001 - 194	3.612786642	0.159409767	0.26442726	0.005287484	1511	30	1552	68	1512	30	1593	59	95	97	97
BK10-001 - 199	3.636056227	0.109150589	0.2655616	0.00392388	1516	22	1557	47	1518	22	1602	36	95	97	97
BK10-001 - 209	3.858346506	0.141811497	0.27503399	0.005037462	1563	27	1605	59	1566	29	1647	52	95	98	97
BK10-001 - 053	2.247616035	0.117511295	0.19790495	0.00459155	1163	25	1196	63	1164	27	1243	67	94	97	96
BK10-001 - 155	2.497605917	0.096315281	0.21178401	0.004143984	1237	22	1271	49	1238	24	1318	45	94	97	96
BK10-001 - 190	4.663260376	0.178296799	0.30312296	0.005677395	1705	31	1761	67	1707	32	1816	55	94	97	97
BK10-001 - 192	3.895371417	0.121292519	0.27428918	0.00400353	1560	23	1613	50	1563	23	1668	37	94	97	97
BK10-001 - 034	3.635695814	0.101492577	0.26356912	0.004140258	1508	23	1557	43	1508	24	1614	32	93	97	96
BK10-001 - 074	4.402912498	0.11662737	0.29120587	0.0043296	1647	24	1713	45	1648	24	1780	32	93	96	96
BK10-001 - 083	2.075892665	0.128708979	0.18802325	0.004501186	1108	27	1141	71	1111	27	1189	72	93	97	96
BK10-001 - 101	3.557099562	0.104075443	0.25907174	0.004154977	1484	24	1540	45	1485	24	1602	35	93	96	96
BK10-001 - 178	4.635484651	0.199629163	0.29970945	0.006409643	1689	34	1756	76	1690	36	1823	66	93	96	96
BK10-001 - 046	1.83506071	0.060025462	0.1724937	0.002733463	1025	15	1058	35	1026	16	1111	29	92	97	95
BK10-001 - 092	3.548248848	0.122764955	0.25674128	0.005106223	1470	29	1538	53	1473	29	1619	47	91	96	95
BK10-001 - 122	8.500510075	0.220231629	0.4004488	0.00579692	2171	31	2286	59	2171	31	2379	38	91	95	96
BK10-001 - 184	3.597899073	0.126843858	0.25892616	0.004743542	1481	27	1549	55	1484	27	1624	49	91	96	95
BK10-001 - 191	3.789768076	0.1561192	0.26622043	0.005924279	1518	31	1591	66	1522	34	1675	63	91	96	95
BK10-001 - 197	3.846359729	0.135022871	0.26809466	0.004561933	1529	26	1603	56	1531	26	1685	49	91	96	95
BK10-001 - 105	4.105324338	0.20411773	0.27726518	0.00749693	1574	42	1655	82	1578	43	1745	83	90	95	95
BK10-001 - 211	3.89940145	0.17757316	0.26684157	0.00555302	1521	30	1614	73	1525	32	1722	73	89	94	94
BK10-001 - 021	3.391054916	0.085711274	0.24699595	0.003518895	1419	20	1502	38	1423	20	1609	25	88	95	93
BK10-001 - 064	2.349296558	0.095568178	0.19811825	0.003230733	1164	19	1227	50	1165	19	1324	47	88	95	93
BK10-001 - 085	3.777521458	0.133161746	0.26116317	0.004930773	1494	26	1588	56	1496	28	1702	44	88	94	93
BK10-001 - 089	2.37680879	0.091993916	0.1994565	0.00339063	1171	20	1236	48	1172	20	1334	43	88	95	93
BK10-001 - 109	4.583003628	0.145440351	0.28996731	0.005057732	1642	28	1746	55	1641	29	1860	44	88	94	94
BK10-001 - 193	3.158727572	0.107927922	0.23689256	0.004114912	1369	22	1447	49	1371	24	1551	43	88	95	93
BK10-001 - 038	4.162702078	0.123747662	0.27294328	0.004398624	1554	24	1667	50	1556	25	1798	38	87	93	93
BK10-001 - 119	2.220778958	0.070694396	0.19012396	0.00286198	1120	17	1188	38	1122	17	1293	31	87	94	92
BK10-001 - 157	3.146811014	0.115294432	0.23148635	0.005807462	1343	37	1444	53	1342	34	1581	42	85	93	91
BK10-001 - 180	3.757542537	0.114036274	0.2567092	0.004156523	1472	23	1584	48	1473	24	1724	36	85	93	92
BK10-001 - 094	3.803070786	0.201308433	0.25574817	0.005309536	1468	30	1593	84	1468	30	1751	67	84	92	91

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BK10-001 - 033	4.98892002	0.142348673	0.2929271	0.004924504	1653	28	1817	52	1656	28	1997	34	83	91	91
BK10-001 - 208	3.229187667	0.092215078	0.22804884	0.004147392	1322	23	1464	42	1324	24	1664	33	80	90	88
BK10-001 - 059	10.37792857	0.289998419	0.38815378	0.008030267	2112	44	2469	69	2114	44	2762	37	77	86	89
BK10-001 - 067	3.322007592	0.114406951	0.22554621	0.004131145	1308	23	1486	51	1311	24	1738	42	75	88	86
BK10-001 - 121	2.813864891	0.084160894	0.20203557	0.003551275	1185	21	1359	41	1186	21	1633	34	73	87	83
BK10-001 - 071	3.38042888	0.101262467	0.2214446	0.004655538	1290	26	1500	45	1289	27	1800	35	72	86	83
BK10-001 - 145	3.503396931	0.145843671	0.22284086	0.004634906	1294	27	1528	64	1297	27	1856	71	70	85	82
BK10-001 - 104	3.463674359	0.111023115	0.20871612	0.004808162	1219	28	1519	49	1222	28	1950	34	63	80	78
BK10-001 - 187	10.63342995	0.486067205	0.3439491	0.00815159	1901	42	2492	114	1906	45	3003	120	63	76	83
BK10-001 - 080	2.46097204	0.083256874	0.1703269	0.004420557	1013	27	1261	43	1014	26	1701	37	60	80	74
BK10-001 - 037	3.687604159	0.449915224	0.19375167	0.01246449	1143	68	1569	191	1142	73	2194	263	52	73	72
BK10-001 - 006	4.956572021	0.235512645	0.20867822	0.00676076	1221	38	1812	86	1222	40	2571	59	48	67	70
BK10-001 - 026	1.53738737	0.094852427	0.11403585	0.003070354	694	17	945	58	696	19	1574	88	44	74	60

**APPENDIX H: ALL DETRITAL ZIRCON DATA- BK-173**

Analysis	207Pb/235U(Calc)	Unc[07/35]2σ	206Pb/238U	Unc[06/38]2σ	238U/206PbAge	Unc[38/06]2σ	207Pb/235UAge	Unc[07/35]2σ	206Pb/238UAge	Unc[06/38]2σ	207Pb/206PbAge	Unc[07/06]2σ	Conc[06/38][07/06]	Conc[06/38][07/35]	Conc[07/35][07/06]
BK10-173 - 190	5.289504603	0.151520599	0.351732164	0.005494669	1939	31	1867	53	1943	30	1776	34	109	104	105
BK10-173 - 086	5.115685534	0.159292414	0.340001007	0.005460983	1885	30	1839	57	1887	30	1779	40	106	103	103
BK10-173 - 202	5.231697446	0.150132438	0.341617555	0.005791031	1894	31	1858	53	1894	32	1807	36	105	102	103
BK10-173 - 037	5.837345643	0.170121288	0.361000855	0.00557896	1983	31	1952	57	1987	31	1914	41	104	102	102
BK10-173 - 127	5.093797872	0.149810032	0.335284016	0.00514649	1862	28	1835	54	1864	29	1797	39	104	102	102
BK10-173 - 186	5.409779294	0.182826862	0.345455522	0.005960997	1909	33	1886	64	1913	33	1847	51	104	101	102
BK10-173 - 156	5.569016335	0.142716941	0.349521408	0.005428579	1931	30	1911	49	1932	30	1881	30	103	101	102
BK10-173 - 161	5.319805503	0.141496205	0.342347034	0.004916369	1895	27	1872	50	1898	27	1834	32	103	101	102
BK10-173 - 189	5.362256653	0.189972825	0.342930118	0.006650999	1898	35	1879	67	1901	37	1846	54	103	101	102
BK10-173 - 195	11.13816012	0.279120846	0.490279474	0.00760373	2569	39	2535	64	2572	40	2498	38	103	101	101
BK10-173 - 087	5.370418433	0.178989953	0.342434419	0.006303004	1897	34	1880	63	1898	35	1854	51	102	101	101
BK10-173 - 092	5.17016326	0.165392122	0.335656819	0.005584501	1863	31	1848	59	1866	31	1823	47	102	101	101
BK10-173 - 099	4.967161377	0.144649506	0.327595952	0.005100014	1825	28	1814	53	1827	28	1789	38	102	101	101
BK10-173 - 110	5.010982962	0.135385558	0.329605796	0.005796869	1834	32	1821	49	1836	32	1797	33	102	101	101
BK10-173 - 123	4.984217673	0.132295197	0.327696066	0.004931802	1827	27	1817	48	1827	27	1791	31	102	101	101
BK10-173 - 130	5.057974345	0.144831427	0.331186988	0.005186294	1841	28	1829	52	1844	29	1807	37	102	101	101
BK10-173 - 169	4.385155192	0.112372765	0.306032839	0.004275636	1719	24	1710	44	1721	24	1686	27	102	101	101
BK10-173 - 016	6.250975978	0.15373556	0.368860411	0.005421883	2024	30	2012	49	2024	30	1998	28	101	101	101
BK10-173 - 017	4.96135952	0.128335809	0.325919326	0.004627926	1817	26	1813	47	1819	26	1806	24	101	100	100
BK10-173 - 028	4.889396895	0.143632626	0.324203856	0.004912254	1810	27	1800	53	1810	27	1788	36	101	101	101
BK10-173 - 045	4.174724316	0.128980221	0.296737757	0.004571245	1673	25	1669	52	1675	26	1660	38	101	100	101
BK10-173 - 046	5.147850222	0.132354722	0.332159995	0.004805161	1849	26	1844	47	1849	27	1835	29	101	100	100
BK10-173 - 048	5.143883206	0.165694608	0.332197562	0.005448188	1846	30	1843	59	1849	30	1836	49	101	100	100
BK10-173 - 052	4.952064418	0.138360357	0.325296838	0.005244511	1812	30	1811	51	1816	29	1803	33	101	100	100
BK10-173 - 095	4.92829642	0.131723206	0.324428208	0.004853201	1811	26	1807	48	1811	27	1797	31	101	100	101
BK10-173 - 128	5.15307773	0.129282607	0.332739931	0.004423163	1851	25	1845	46	1852	25	1829	27	101	100	101
BK10-173 - 157	11.543609	0.291445875	0.492057256	0.007310605	2578	38	2568	65	2580	38	2549	34	101	100	101
BK10-173 - 187	11.617458	0.298699688	0.494590456	0.007303806	2588	38	2574	66	2590	38	2552	41	101	101	101
BK10-173 - 188	4.944775843	0.160007538	0.3249671	0.005763583	1811	32	1810	59	1814	32	1797	44	101	100	101
BK10-173 - 197	4.141986463	0.120126209	0.295031875	0.004399004	1665	25	1663	48	1667	25	1649	35	101	100	101
BK10-173 - 201	4.182695565	0.104491104	0.296256579	0.004052862	1672	23	1671	42	1673	23	1657	24	101	100	101
BK10-173 - 006	19.78912182	0.457637121	0.612917165	0.008118941	3081	41	3081	71	3082	41	3082	27	100	100	100
BK10-173 - 009	4.855759755	0.134049897	0.320670641	0.00463837	1790	26	1795	50	1793	26	1799	35	100	100	100
BK10-173 - 044	4.81669671	0.144480648	0.318541103	0.006091202	1783	33	1788	54	1783	34	1791	40	100	100	100

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BK10-173 - 051	4.751658558	0.170327999	0.316758175	0.005518305	1771	31	1776	64	1774	31	1776	51	100	100	100
BK10-173 - 068	4.71434167	0.164532238	0.314721583	0.005096853	1763	27	1770	62	1764	29	1764	47	100	100	100
BK10-173 - 070	10.48416488	0.278378372	0.468894798	0.007126893	2477	38	2479	66	2479	38	2476	39	100	100	100
BK10-173 - 102	5.163277899	0.144591333	0.330593604	0.005853694	1839	32	1847	52	1841	33	1847	33	100	100	100
BK10-173 - 105	5.394237739	0.135955679	0.338359449	0.00480479	1876	27	1884	47	1879	27	1881	30	100	100	100
BK10-173 - 111	5.153934108	0.139305172	0.330980996	0.005007951	1842	27	1845	50	1843	28	1839	33	100	100	100
BK10-173 - 117	5.076900196	0.130256752	0.327450379	0.004386719	1826	24	1832	47	1826	24	1831	27	100	100	100
BK10-173 - 118	5.443033864	0.135683534	0.339362776	0.004741373	1883	26	1892	47	1884	26	1892	29	100	100	100
BK10-173 - 124	5.30062922	0.138089005	0.33495822	0.005371108	1859	29	1869	49	1862	30	1870	31	100	100	100
BK10-173 - 134	5.090535285	0.171499901	0.328747878	0.005945613	1831	32	1835	62	1832	33	1830	52	100	100	100
BK10-173 - 135	4.970715933	0.141339706	0.324514954	0.004769955	1810	27	1814	52	1812	27	1810	36	100	100	100
BK10-173 - 163	5.175457689	0.129147738	0.331564915	0.004660683	1844	26	1849	46	1846	26	1842	27	100	100	100
BK10-173 - 177	6.197853783	0.160113958	0.363417738	0.005337683	1996	29	2004	52	1998	29	2003	32	100	100	100
BK10-173 - 007	5.052681636	0.132038834	0.325333509	0.004949788	1815	27	1828	48	1816	28	1842	31	99	99	99
BK10-173 - 038	5.014909656	0.129130525	0.324253924	0.004508554	1809	25	1822	47	1810	25	1833	29	99	99	99
BK10-173 - 077	4.991022187	0.138125246	0.324092414	0.004814072	1805	27	1818	50	1810	27	1822	35	99	100	100
BK10-173 - 091	15.15939337	0.377169269	0.547278829	0.007928907	2809	41	2825	70	2814	41	2829	40	99	100	100
BK10-173 - 138	4.943235833	0.138063465	0.321587394	0.00472973	1797	26	1810	51	1797	26	1815	36	99	99	100
BK10-173 - 153	4.871974411	0.134490216	0.319817385	0.004667675	1787	25	1797	50	1789	26	1799	34	99	100	100
BK10-173 - 033	4.988522932	0.142172809	0.322134605	0.005965598	1797	33	1817	52	1800	33	1837	36	98	99	99
BK10-173 - 034	4.857274889	0.140604169	0.317163396	0.005413146	1771	30	1795	52	1776	30	1816	41	98	99	99
BK10-173 - 035	5.166951789	0.158682199	0.329180642	0.006511169	1835	36	1847	57	1834	36	1862	42	98	99	99
BK10-173 - 055	9.419597388	0.274611706	0.440397285	0.00739824	2352	39	2380	69	2352	40	2399	48	98	99	99
BK10-173 - 062	5.741851767	0.16966719	0.345930417	0.006081738	1912	33	1938	57	1915	34	1959	36	98	99	99
BK10-173 - 176	5.336663243	0.289094181	0.331320633	0.007826033	1845	43	1875	102	1845	44	1892	94	98	98	99
BK10-173 - 072	5.73221356	0.184567778	0.344530331	0.005877163	1905	33	1936	62	1908	33	1963	56	97	99	99
BK10-173 - 010	10.40115497	0.342356252	0.455101272	0.011230144	2414	59	2471	81	2418	60	2518	47	96	98	98
BK10-173 - 049	4.958281538	0.135512584	0.318036311	0.005256554	1778	29	1812	50	1780	29	1848	33	96	98	98
BK10-173 - 074	4.640327129	0.148780824	0.306378483	0.005322101	1721	30	1757	56	1723	30	1794	41	96	98	98
BK10-173 - 112	8.842163819	0.295017894	0.421822172	0.010726674	2264	62	2322	77	2269	58	2362	47	96	98	98
BK10-173 - 116	4.746519358	0.180870037	0.310148943	0.005614455	1739	32	1775	68	1741	32	1809	63	96	98	98
BK10-173 - 050	4.784463733	0.145241205	0.309786768	0.004937056	1737	27	1782	54	1740	28	1830	38	95	98	97
BK10-173 - 056	4.654862767	0.130965651	0.304619894	0.005759389	1714	32	1759	49	1714	32	1804	37	95	97	98
BK10-173 - 101	4.616945387	0.137855443	0.303449403	0.005454375	1706	33	1752	52	1708	31	1799	39	95	97	97
BK10-173 - 083	5.269952985	0.154692319	0.323817969	0.005286078	1806	28	1864	55	1808	30	1923	42	94	97	97
BK10-173 - 104	6.820972048	0.303951379	0.369209366	0.009502164	2022	49	2088	93	2026	52	2147	89	94	97	97
BK10-173 - 114	3.788376439	0.094331871	0.269701239	0.003667659	1538	21	1590	40	1539	21	1652	24	93	97	96
BK10-173 - 164	8.903233348	0.224309398	0.413143622	0.005925074	2227	32	2328	59	2229	32	2405	35	93	96	97
BK10-173 - 167	9.209957186	0.25580708	0.421714694	0.007423129	2263	38	2359	66	2268	40	2432	48	93	96	97
BK10-173 - 173	4.97442256	0.139605511	0.312193477	0.004996473	1750	28	1815	51	1751	28	1880	31	93	96	97

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BK10-173 - 159	3.553815706	0.12857718	0.259106359	0.004139276	1482	23	1539	56	1485	24	1607	50	92	96	96
BK10-173 - 039	4.385930989	0.127087822	0.288980343	0.004338308	1634	25	1710	50	1636	25	1800	39	91	96	95
BK10-173 - 098	4.566644284	0.13028186	0.295119246	0.004965399	1666	28	1743	50	1667	28	1832	35	91	96	95
BK10-173 - 113	3.713183604	0.097193015	0.263279378	0.003779239	1505	21	1574	41	1507	22	1657	28	91	96	95
BK10-173 - 196	4.476502622	0.13359838	0.290294667	0.005738934	1641	34	1727	52	1643	32	1814	34	91	95	95
BK10-173 - 081	4.534130146	0.129611001	0.291520419	0.005306349	1648	30	1737	50	1649	30	1836	33	90	95	95
BK10-173 - 023	7.59067738	0.244600851	0.375337727	0.007478084	2052	41	2184	70	2054	41	2309	52	89	94	95
BK10-173 - 029	4.80908002	0.1353001	0.299606947	0.005359627	1686	29	1786	50	1689	30	1902	38	89	95	94
BK10-173 - 065	4.552888832	0.129005697	0.290662581	0.00429102	1642	24	1741	49	1645	24	1856	37	89	94	94
BK10-173 - 119	6.406852632	0.235524449	0.344928246	0.00845775	1908	48	2033	75	1910	47	2155	47	89	94	94
BK10-173 - 191	4.46793237	0.170531523	0.288680393	0.004973543	1632	28	1725	66	1635	28	1827	59	89	95	94
BK10-173 - 158	3.953953088	0.121828826	0.26782894	0.00459756	1524	26	1625	50	1530	26	1746	38	88	94	93
BK10-173 - 184	5.498616592	0.152559786	0.317492215	0.005050823	1775	28	1900	53	1777	28	2029	37	88	94	94
BK10-173 - 005	4.540891968	0.202971865	0.286783826	0.009265302	1631	54	1738	78	1625	53	1874	43	87	93	93
BK10-173 - 061	6.645086641	0.203681563	0.347028743	0.006819262	1920	38	2065	63	1920	38	2210	43	87	93	93
BK10-173 - 120	9.184218596	0.239762591	0.402332776	0.006729671	2178	36	2357	62	2180	36	2508	35	87	92	94
BK10-173 - 030	8.926742116	0.2771819	0.395905653	0.008187816	2147	44	2331	72	2150	44	2493	70	86	92	94
BK10-173 - 008	4.141149238	0.125286828	0.270321937	0.004776353	1541	27	1662	50	1542	27	1816	29	85	93	92
BK10-173 - 014	4.127031175	0.121193136	0.269550483	0.004615207	1537	26	1660	49	1539	26	1818	38	85	93	91
BK10-173 - 181	4.131827379	0.114364005	0.270070783	0.004282345	1538	23	1661	46	1541	24	1807	35	85	93	92
BK10-173 - 192	3.922299816	0.124901872	0.262124918	0.006099525	1499	35	1618	52	1501	35	1762	40	85	93	92
BK10-173 - 026	4.133430426	0.13662815	0.268395561	0.00665933	1529	37	1661	55	1533	38	1827	28	84	92	91
BK10-173 - 094	4.321033909	0.127989287	0.271969065	0.005455	1551	32	1697	50	1551	31	1869	30	83	91	91
BK10-173 - 175	3.683956603	0.135813955	0.249131847	0.004730245	1428	26	1568	58	1434	27	1748	52	82	91	90
BK10-173 - 015	3.980215203	0.159287374	0.257431147	0.004905901	1476	27	1630	65	1477	28	1836	59	80	91	89
BK10-173 - 165	4.041645869	0.109016494	0.257662367	0.004027498	1476	24	1643	44	1478	23	1852	31	80	90	89
BK10-173 - 018	3.73121405	0.116127805	0.247218928	0.004246937	1421	24	1578	49	1424	24	1793	35	79	90	88
BK10-173 - 200	3.943612238	0.114783271	0.252347316	0.004745552	1447	27	1623	47	1451	27	1845	37	79	89	88
BK10-173 - 139	3.915577794	0.127630873	0.250885328	0.00525053	1444	29	1617	53	1443	30	1840	39	78	89	88
BK10-173 - 075	3.965006814	0.143916374	0.250998335	0.00770282	1441	45	1627	59	1444	44	1870	36	77	89	87
BK10-173 - 204	7.739864132	0.28194573	0.343137423	0.006537391	1898	36	2201	80	1902	36	2486	69	77	86	89
BK10-173 - 066	7.87709248	0.247313009	0.345577641	0.008620107	1909	46	2217	70	1913	48	2509	46	76	86	88
BK10-173 - 027	3.947355323	0.120566834	0.247256205	0.005916626	1423	33	1623	50	1424	34	1889	27	75	88	86
BK10-173 - 140	3.70635212	0.105831565	0.237115743	0.003547938	1370	20	1573	45	1372	21	1846	33	74	87	85
BK10-173 - 155	4.657650615	0.151909548	0.266242653	0.005368421	1521	31	1760	57	1522	31	2047	35	74	86	86
BK10-173 - 040	4.369299547	0.173186245	0.25605379	0.005656883	1466	33	1707	68	1470	32	2011	51	73	86	85
BK10-173 - 142	5.172370832	0.140990324	0.275241846	0.005208783	1564	30	1848	50	1567	30	2168	30	72	85	85
BK10-173 - 203	3.318303832	0.12199966	0.218737766	0.00584038	1273	34	1485	55	1275	34	1791	37	71	86	83
BK10-173 - 097	3.762435165	0.095958751	0.23212365	0.003757577	1345	22	1585	40	1346	22	1915	23	70	85	83
BK10-173 - 129	3.335421028	0.091171512	0.217904245	0.003953804	1270	23	1489	41	1271	23	1807	30	70	85	82

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BK10-173 - 041	3.881694738	0.118569382	0.232885892	0.005618885	1349	33	1610	49	1350	33	1962	30	69	84	82
BK10-173 - 121	3.039555883	0.109817404	0.200644642	0.004870833	1177	30	1418	51	1179	29	1792	38	66	83	79
BK10-173 - 136	3.348254522	0.109882576	0.211874417	0.005487586	1238	32	1492	49	1239	32	1864	26	66	83	80
BK10-173 - 019	4.252549793	0.112363918	0.234514785	0.004344888	1357	26	1684	45	1358	25	2117	39	64	81	80
BK10-173 - 080	3.04882557	0.098152294	0.19775735	0.00323483	1161	18	1420	46	1163	19	1826	42	64	82	78
BK10-173 - 107	6.957792203	0.191098577	0.29310492	0.005668936	1656	32	2106	58	1657	32	2570	31	64	79	82
BK10-173 - 108	3.318682667	0.091525132	0.20732465	0.00382545	1213	22	1485	41	1215	22	1891	34	64	82	79
BK10-173 - 149	3.048438482	0.074014843	0.198533257	0.002847311	1167	17	1420	34	1167	17	1813	20	64	82	78
BK10-173 - 002	2.982445315	0.141545405	0.192497085	0.007203958	1136	45	1403	67	1135	42	1839	27	62	81	76
BK10-173 - 199	8.360135315	0.448918434	0.307973598	0.015857897	1732	94	2271	122	1731	89	2791	45	62	76	81
BK10-173 - 085	2.759091037	0.085544501	0.182344311	0.003238692	1078	20	1345	42	1080	19	1791	39	60	80	75
BK10-173 - 171	2.785121757	0.078576171	0.182191181	0.003297161	1077	20	1352	38	1079	20	1805	31	60	80	75
BK10-173 - 011	2.273636075	0.077227459	0.163373456	0.003114002	974	18	1204	41	975	19	1644	36	59	81	73
BK10-173 - 090	2.747634528	0.091023244	0.179649726	0.004354873	1063	25	1341	44	1065	26	1811	38	59	79	74
BK10-173 - 122	2.933174836	0.099124552	0.185806174	0.004190627	1099	25	1391	47	1099	25	1861	43	59	79	75
BK10-173 - 168	4.570294114	0.144512988	0.231112138	0.004761386	1339	28	1744	55	1340	28	2255	32	59	77	77
BK10-173 - 067	3.514246091	0.116774178	0.201452304	0.003891333	1180	23	1530	51	1183	23	2048	66	58	77	75
BK10-173 - 088	3.361153146	0.096058838	0.197880208	0.003950379	1163	23	1495	43	1164	23	1998	27	58	78	75
BK10-173 - 089	2.821989133	0.088397858	0.179014462	0.004326814	1062	26	1361	43	1062	26	1860	26	57	78	73
BK10-173 - 093	3.728591778	0.108209575	0.205347939	0.00413552	1203	25	1578	46	1204	24	2115	29	57	76	75
BK10-173 - 193	2.545222127	0.073423883	0.166610983	0.003184924	992	19	1285	37	993	19	1804	30	55	77	71
BK10-173 - 053	2.896327264	0.094484825	0.174303304	0.003824331	1032	22	1381	45	1036	23	1963	35	53	75	70
BK10-173 - 137	5.356914173	0.168511825	0.230111823	0.006086708	1331	35	1878	59	1335	35	2541	38	53	71	74
BK10-173 - 152	2.32484288	0.076967095	0.156109538	0.003509795	935	21	1220	40	935	21	1753	27	53	77	70
BK10-173 - 025	2.534147415	0.071267447	0.162169403	0.003763661	966	23	1282	36	969	22	1855	33	52	76	69
BK10-173 - 060	5.195339235	0.301229796	0.226405001	0.006202853	1314	34	1852	107	1316	36	2520	87	52	71	73
BK10-173 - 084	2.154010468	0.091290979	0.148461502	0.004901245	890	28	1166	49	892	29	1715	28	52	77	68
BK10-173 - 179	2.229728661	0.078568358	0.150320041	0.003992308	901	25	1190	42	903	24	1743	36	52	76	68
BK10-173 - 031	2.458631062	0.067517802	0.157534477	0.002724217	942	17	1260	35	943	16	1852	30	51	75	68
BK10-173 - 109	8.487608905	1.0512906	0.26980231	0.015352248	1532	81	2285	283	1540	88	3037	208	51	67	75
BK10-173 - 148	1.897938012	0.056880321	0.13699298	0.003152205	827	19	1080	32	828	19	1622	19	51	77	67
BK10-173 - 160	2.524545386	0.061479528	0.160229816	0.002546491	957	15	1279	31	958	15	1861	23	51	75	69
BK10-173 - 106	2.246632638	0.080058245	0.148023133	0.003059128	888	18	1196	43	890	18	1795	46	50	74	67
BK10-173 - 170	2.089402699	0.071463385	0.143198044	0.003184942	861	19	1145	39	863	19	1720	28	50	75	67
BK10-173 - 001	2.140176583	0.094695431	0.141521109	0.005897506	852	39	1162	51	853	36	1794	37	48	73	65
BK10-173 - 003	2.745335298	0.072420356	0.161627426	0.002823763	966	17	1341	35	966	17	2003	24	48	72	67
BK10-173 - 054	2.268301917	0.092785704	0.146123541	0.003974078	876	23	1202	49	879	24	1842	47	48	73	65
BK10-173 - 103	3.096487583	0.077872497	0.170174342	0.002699516	1012	16	1432	36	1013	16	2112	29	48	71	68
BK10-173 - 115	2.001295565	0.057061954	0.13702608	0.002848265	826	17	1116	32	828	17	1725	29	48	74	65
BK10-173 - 131	3.046832429	0.121898882	0.168699922	0.003058987	1002	19	1419	57	1005	18	2106	56	48	71	67



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BK10-173 - 057	2.030896412	0.05308167	0.137211329	0.002349115	829	15	1126	29	829	14	1747	30	47	74	64
BK10-173 - 058	13.47011229	0.517051528	0.301608389	0.008559273	1699	48	2713	104	1699	48	3583	150	47	63	76
BK10-173 - 071	2.384484438	0.069680464	0.148948519	0.002839346	894	17	1238	36	895	17	1889	34	47	72	66
BK10-173 - 178	1.970305753	0.052878435	0.134382651	0.002229282	810	14	1105	30	813	13	1731	29	47	74	64
BK10-173 - 047	2.119402352	0.058409474	0.13741064	0.002738645	829	17	1155	32	830	17	1823	32	46	72	63
BK10-173 - 004	2.257770274	0.074752106	0.140944472	0.003316297	848	20	1199	40	850	20	1899	22	45	71	63
BK10-173 - 100	3.479352756	0.124162363	0.173596035	0.005347525	1029	32	1523	54	1032	32	2289	35	45	68	67
BK10-173 - 144	3.121597282	0.100349507	0.163478607	0.003027464	974	18	1438	46	976	18	2202	42	44	68	65
BK10-173 - 141	2.286177178	0.0681522	0.138459153	0.002444338	835	14	1208	36	836	15	1946	33	43	69	62
BK10-173 - 154	2.094335911	0.089336481	0.131418903	0.004703666	796	28	1147	49	796	28	1874	35	42	69	61
BK10-173 - 151	2.305638414	0.069842558	0.135933908	0.002944228	820	18	1214	37	822	18	1994	21	41	68	61
BK10-173 - 147	1.655273465	0.078822256	0.11306826	0.004881814	684	27	992	47	691	30	1721	23	40	70	58
BK10-173 - 166	1.890982455	0.055058027	0.120727416	0.00198284	734	12	1078	31	735	12	1849	31	40	68	58
BK10-173 - 143	1.819218291	0.054922563	0.116855182	0.002282211	712	14	1052	32	712	14	1838	37	39	68	57
BK10-173 - 024	1.601392271	0.048290916	0.108155465	0.002519895	661	15	971	29	662	15	1756	30	38	68	55
BK10-173 - 183	1.753006785	0.062386944	0.113931881	0.003350566	695	21	1028	37	696	20	1817	33	38	68	57
BK10-173 - 021	1.715040827	0.053364351	0.110816305	0.00246507	676	15	1014	32	677	15	1838	32	37	67	55
BK10-173 - 059	1.805402895	0.079366699	0.112913569	0.002622511	688	16	1047	46	690	16	1893	49	36	66	55
BK10-173 - 133	3.3769179	0.214989425	0.148437242	0.005417914	889	32	1499	95	892	33	2503	74	36	60	60
BK10-173 - 172	1.403175858	0.037940189	0.097754283	0.001587835	600	10	890	24	601	10	1687	25	36	68	53
BK10-173 - 032	1.111481398	0.030791359	0.085101907	0.00143003	525	9	759	21	527	9	1523	23	35	69	50
BK10-173 - 042	3.152235044	0.099475588	0.141772658	0.003068559	853	18	1446	46	855	18	2468	38	35	59	59
BK10-173 - 064	2.700855236	0.189138978	0.133504389	0.004486189	807	25	1329	93	808	27	2304	90	35	61	58
BK10-173 - 198	1.597684634	0.06051596	0.104312772	0.002936858	637	17	969	37	640	18	1810	38	35	66	54
BK10-173 - 013	1.632543188	0.047581603	0.103640115	0.001770009	635	11	983	29	636	11	1870	36	34	65	53
BK10-173 - 194	1.747396292	0.049931813	0.107175683	0.00176656	656	11	1026	29	656	11	1920	35	34	64	53
BK10-173 - 020	1.477115114	0.059745968	0.097004338	0.003227819	595	19	921	37	597	20	1808	30	33	65	51
BK10-173 - 073	1.269330204	0.048736356	0.088351921	0.00219727	546	15	832	32	546	14	1697	28	32	66	49
BK10-173 - 182	1.228746255	0.045366779	0.08687736	0.002202361	537	14	814	30	537	14	1657	30	32	66	49
BK10-173 - 082	1.12384722	0.030922468	0.079909894	0.001353275	495	8	765	21	496	8	1657	27	30	65	46
BK10-173 - 126	1.417213494	0.060425185	0.089885957	0.001860112	555	11	896	38	555	11	1860	54	30	62	48
BK10-173 - 180	1.904944882	0.068406288	0.10469076	0.001686384	641	10	1083	39	642	10	2115	59	30	59	51
BK10-173 - 076	1.605282374	0.055386291	0.094211555	0.002238422	580	14	972	34	580	14	2006	27	29	60	48
BK10-173 - 012	1.167563493	0.034572978	0.078844081	0.0013404	488	8	786	23	489	8	1759	33	28	62	45
BK10-173 - 043	1.076090784	0.053925174	0.075645258	0.002365147	470	14	742	37	470	15	1678	40	28	63	44
BK10-173 - 069	2.343961345	0.288433974	0.110036401	0.007344165	675	45	1226	151	673	45	2385	164	28	55	51
BK10-173 - 063	1.837186085	0.091488616	0.096351089	0.003769749	591	26	1059	53	593	23	2205	43	27	56	48
BK10-173 - 079	1.558214955	0.045204616	0.088925265	0.001778181	548	11	954	28	549	11	2055	44	27	58	46
BK10-173 - 132	2.169293592	0.060214242	0.101435977	0.002082698	622	12	1171	33	623	13	2396	34	26	53	49
BK10-173 - 146	1.190076106	0.031938456	0.077237059	0.001409661	479	9	796	21	480	9	1818	23	26	60	44

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BK10-173 - 036	1.141616235	0.052939143	0.073269764	0.002169886	455	13	773	36	456	13	1849	38	25	59	42
BK10-173 - 185	1.02171661	0.030756948	0.069900046	0.001221915	435	8	715	22	436	8	1724	38	25	61	41
BK10-173 - 174	1.234167737	0.058663488	0.075017532	0.001458086	466	9	816	39	466	9	1938	60	24	57	42
BK10-173 - 150	1.076181613	0.095243258	0.067237853	0.005908531	417	34	742	66	419	37	1886	31	22	56	39
BK10-173 - 022	2.059015238	0.088435529	0.063004676	0.001814247	393	11	1135	49	394	11	3095	78	13	35	37
BK10-173 - 078	1.14741964	0.048040346	0.051959324	0.001470605	327	10	776	32	327	9	2449	54	13	42	32
BK10-173 - 145	1.113460636	0.047901597	0.047311336	0.001545347	298	10	760	33	298	10	2547	44	12	39	30
BK10-173 - 125	0.947865073	0.046722228	0.036188579	0.000873456	228	5	677	33	229	6	2742	82	8	34	25
BK10-173 - 162	1.117858666	0.045252308	0.033031513	0.001066082	210	7	762	31	209	7	3143	56	7	27	24
BK10-173 - 096	0.475190547	0.039767694	0.016517914	0.000761416	106	5	395	33	106	5	2887	118	4	27	14

### APPENDIX I: CARBONATE GEOCHEMISTRY MAJOR ELEMENTS

Sample	24Mg	27Al	31P	43Ca	55Mn	57Fe
BK10-61	95342.44	611.3804	23.92666	224276.5	13064.16	38787.3
BK10-62	107340.6	7921.438	66.07147	219905	8140.482	21377.04
BK10-66	64444.44	120348.4	283.0521	107670.8	1703.708	35647.66
BK10-69	105943	26870.29	500.8499	200766.5	1881.544	19477.48
BK10-70	108499.6	27007.5	444.1056	203421.3	1542.289	13893.09
BK10-71	115206.6	14570.44	111.2676	219004	1677.252	8931.621
BK10-72	106719.3	27474.29	248.874	198018.6	1329.253	22850.22
BK10-79	112523.4	18325.73	181.5365	211105.3	706.3736	15868.36
BK10-83	116351.3	6673.108	69.14237	227756.2	918.2856	10728.11
BK10-89	112714.6	17219.09	171.7674	214536.4	1035.559	13421.66
BK10-91	118534.8	929.8164	20.87261	233596.9	1384.984	9977.676
BK10-92	119774.4	85.77436	51.76642	235043.7	1029.208	8382.527
BK10-93	115417.6	7740.927	123.2918	226706.4	1233.889	11100.01
BK10-100	106777	10131.31	92.23383	209003.2	1137.978	11535.52
BK10-103	117365.9	4187.362	68.70235	230131	1311.387	10228.86
BK10-104	117143	4738.323	43.16167	228087.9	1333.007	11797.11
BK10-109	114284.7	8980.604	127.1629	225546.2	1130.234	12049.08
BK10-112	116103.9	2922.15	101.4133	232208.3	917.6226	11896.92
BK10-113	98543.96	37859.95	416.1245	182036.3	1485.397	27500.93
BK10-114	104744.4	31353.71	285.4662	198495.9	935.8282	18931.36
BK10-115	105233.9	27176.13	119.4334	202304.8	1070.774	20809.06
BK10-117	109642.6	12740.64	90.78914	217141.4	1883.247	20660.69
BK10-125	105070.1	26542.15	301.1683	201622.9	1225.997	22564.59
BK10-127	105310.2	22751.31	550.4311	204461.9	2039.103	23600.62
BK10-128	96029.5	31395.94	185.8831	191220.4	3119.785	37093.26
BK10-145	107230.9	9301.807	110.2308	221198.3	2611.317	23879.72
BK10-146	115375.3	970.8606	39.0272	231893.4	1996.414	15188.92
BK10-148	112652.1	9886.907	130.9533	221874.7	1963.076	15657.21
BK10-113-MX	92996.93	54220.48	789.1314	170743.5	1470.855	24404.81
BK10-128-MX	109440.3	382.1109	9.404526	229434.9	2731.665	25743.61
BK10-150	106990.6	13604.6	151.1064	217801.9	2223.33	21579.23
BK10-152-MX	107341.9	43.22227	5.65463	230952.6	3438.881	26566.44
BK10-152-RA	107651	19.03325	4.582811	230597.1	3296.368	26716.84

**APPENDIX J: CARBONATE GEOCHEMISTRY TRACE ELEMENTS**

Sample	45Sc	47Ti	51V	52Cr	59Co	60Ni	63Cu	66Zn	85Rb	88Sr	90Zr	93Nb	95Mo	137Ba	178Hf	181Ta	208Pb	232Th	238U
BK10-61	0.379904	8.515243	1.486947	1.380523	0.882109	0.382901	0.140453	6.392676	2.279233	15.41029	0.242518	0.028422	0.178692	5.937647	0.01278	0.002703	0.980906	0.12177	0.071281
BK10-62	2.098994	330.2853	10.35136	8.090749	9.477212	3.912093	3.710994	35.19372	29.62203	44.22776	9.068969	1.355628	0.442377	66.67385	0.285709	0.108336	277.4157	2.304229	1.561763
BK10-66	8.552699	2019.063	45.89648	50.66149	7.230742	18.63361	27.48175	51.2576	476.079	77.31244	180.8472	8.01534	0.126471	1455.494	4.635333	0.750278	97.14636	10.23024	2.238953
BK10-69	6.023241	1159.94	18.13936	14.68021	4.040907	6.998689	7.300638	21.54586	118.0482	30.22707	891.4581	5.259658	0.104283	280.8521	24.71557	0.546378	71.58757	9.445297	3.471832
BK10-70	5.247544	1611.152	19.66459	17.17306	4.430268	8.480896	5.933035	27.32559	108.618	33.02112	70.07391	6.09307	0.085557	207.0559	2.379255	0.540789	19.67916	10.06934	1.983295
BK10-71	1.853046	424.7729	8.758865	7.590363	2.558327	3.469619	5.366102	15.60949	56.75947	26.74015	28.2624	2.861076	0.058168	90.53715	0.744647	0.894122	10.41279	2.409668	1.007179
BK10-72	5.065342	1024.17	20.43433	15.03781	4.746669	9.573366	12.54313	37.64127	139.0068	29.97423	21.29049	4.462856	0.071779	141.5966	0.688756	0.457678	5.512613	5.976222	0.668983
BK10-79	4.154154	664.4493	15.97522	10.99174	1.889551	6.147716	4.721974	28.26696	62.46184	34.91588	24.0134	3.101212	0.045404	103.7597	0.656247	0.266719	6.012099	3.998515	0.924554
BK10-83	1.195847	133.1591	4.19336	2.997264	1.344419	1.838802	0.84924	31.64965	20.72493	26.53003	7.459189	0.59289	0.089454	50.25405	0.227238	0.051241	168.5526	1.249109	0.5861
BK10-89	2.575202	493.3736	14.18769	9.962296	3.02374	5.48076	3.097512	26.89148	67.38963	29.85232	21.1285	1.998726	0.087106	112.3792	0.63726	0.1661	95.49578	3.321174	0.827908
BK10-91	0.959217	30.20176	4.309381	2.231257	0.760595	0.863658	0.161898	6.47947	3.397522	22.22198	7.827488	0.09251	0.04387	6.442139	0.227904	0.008576	2.491412	0.822709	0.383182
BK10-92	0.512679	14.12089	3.323214	1.468053	0.710169	0.651648	0.688643	8.49082	0.229374	25.60142	0.137194	0.030442	0.11675	3.414495	0.003593	0.00205	0.814296	0.076377	0.408364
BK10-93	1.995196	216.4983	7.836178	7.101285	1.722522	2.70238	1.684423	14.73754	31.99153	28.46135	10.31146	0.731138	0.105906	56.33133	0.333208	0.072121	9.392013	2.051398	0.712625
BK10-100	1.450919	491.9461	9.10408	6.362748	2.438345	3.281763	1.754024	16.24213	37.76574	25.14438	125.0475	1.623111	0.129512	77.44843	3.852459	0.160977	1.951748	3.549629	1.848907
BK10-103	0.704035	170.1573	5.535464	3.077785	2.048501	1.75585	0.761624	9.568987	12.983	21.34872	9.837523	0.540456	0.096627	40.25566	0.231127	0.044844	5.247169	0.736282	1.487753
BK10-104	0.715293	250.8715	4.949436	3.407015	1.738127	1.75063	1.0301	9.063209	15.80148	20.37218	44.54626	0.751358	0.053224	44.46433	1.071034	0.049376	6.363076	1.255006	0.490082
BK10-109	1.757305	235.1838	7.407083	4.735259	1.843321	2.487725	1.06926	12.95048	30.79435	33.8037	11.89442	0.954839	0.101614	49.7566	0.3668	0.08275	2.894714	1.614032	0.821728
BK10-112	1.066007	91.54408	5.527782	2.578193	0.974339	1.349165	0.304141	9.908146	12.31406	30.88972	3.389158	0.333181	0.135444	21.52017	0.095892	0.023993	1.075152	0.417857	2.518795
BK10-113	10.81332	5337.021	65.6063	107.2322	4.370445	14.73419	4.743726	36.3307	138.5214	23.59335	1549.162	9.859773	0.515986	213.7371	38.99515	0.668958	5.471219	20.54806	7.52857
BK10-114	5.314985	1423.041	29.65017	17.79825	3.350943	10.31578	2.428805	28.82731	104.5945	26.65517	26.0858	5.032325	0.119705	214.8377	0.83247	0.406768	3.459259	5.127797	2.31575
BK10-115	5.272562	1155.716	25.06888	14.82973	11.5065	11.72099	6.959684	44.18573	104.3878	27.31267	24.94048	4.026054	0.491184	205.5175	0.746512	0.353149	14.57808	4.890165	1.811873
BK10-117	4.634766	432.3228	20.15324	10.02949	5.644104	5.070165	2.263512	15.61877	37.92325	18.40901	16.61522	1.172451	0.289715	76.68979	0.477057	0.089094	2.085962	1.902662	0.757193
BK10-125	5.008137	922.1818	27.28851	14.68976	5.056279	10.05147	2.591466	33.12273	85.04208	31.20229	19.27005	3.210755	0.14899	206.3355	0.630562	0.272872	3.464841	4.688796	1.63074
BK10-127	6.321794	849.7036	26.40526	12.12647	6.142423	8.318307	4.706336	26.20909	80.40534	23.45822	50.03445	2.592194	0.114789	168.9244	1.378699	0.221647	3.251399	3.856853	1.252102
BK10-128	2.572296	576.347	17.26739	12.2239	9.403704	9.459657	3.682232	33.87659	76.6775	20.28773	17.37874	2.300282	0.104614	284.3225	0.577776	0.201122	7.95525	5.237172	1.374
BK10-145	1.664513	260.8528	7.598485	6.507117	3.44596	2.650119	1.221508	17.71096	30.61896	22.51492	28.33236	0.981904	0.141393	72.99916	0.804059	0.08386	8.883476	2.654401	0.804318
BK10-146	0.426247	33.71796	10.95861	2.150929	3.649549	1.548636	0.541907	8.500893	3.398678	17.55071	1.540228	0.083051	0.057406	4.793404	0.047438	0.007761	1.858928	0.204289	0.390349
BK10-148	1.799048	307.2231	12.78203	6.132581	2.222521	2.650589	238.977	25.27167	30.85127	18.37763	10.69624	1.253835	0.091434	73.94802	0.317681	0.105337	16.54457	1.917107	1.696161
BK10-113-	8.892872	4176.33	41.91952	62.8108	3.455034	9.365905	2.229011	31.56462	201.8526	42.50289	258.3096	17.42021	0.430853	526.3167	6.335703	1.34111	12.59528	40.73472	6.869211
BK10-128-	0.592511	15.39133	4.422704	1.997215	0.840892	0.507902	0.086904	4.664412	1.226903	12.3328	0.253525	0.033618	0.041994	3.52281	0.010522	0.005146	0.486775	0.108434	0.032133
BK10-150	2.79708	462.7829	12.68281	9.347609	1.832324	3.847221	1.751964	22.63538	44.23356	23.50812	10.49512	1.744815	0.092353	119.3251	0.332596	0.143231	3.152704	2.434276	0.83536
BK10-152-	2.582903	3.097671	5.369056	1.486419	0.842138	0.459314	0.17701	3.753402	0.121495	11.10975	0.036112	0.007111	0.123943	2.73202	0.003394	0.001031	4.314483	0.033249	0.014272
BK10-152-	0.769377	0.700467	2.232107	1.104488	0.497472	0.263831	0.075784	4.249904	0.121677	9.6065	0.002696	0.000284	0.056837	4.536216	0.000678	0.000209	2.300794	0.005534	0.000371

**APPENDIX K: CARBONATE GEOCHEMISTRY REE NORMALISED TO PAAS**

Source File	139La	140Ce	141Pr	146Nd	147Sm	153Eu	157Gd	159Tb	163Dy	89Y	165Ho	166Er	169Tm	172Yb	175Lu	Ce*	Eu*
BK10-61	0.035904	0.06822	0.104427	0.157942	0.424769	0.453268	0.748136	0.757106	0.77536	0.554149	0.565277	0.467336	0.319361	0.36533	0.272217	1.114124	0.804061
BK10-62	0.139417	0.172076	0.190239	0.223413	0.300382	0.264401	0.362014	0.337449	0.370968	0.296941	0.299899	0.272171	0.196237	0.225236	0.171407	1.056602	0.801794
BK10-66	0.451577	0.427869	0.389524	0.403488	0.461138	0.605413	0.501507	0.436229	0.493972	0.409796	0.418802	0.431984	0.370345	0.478762	0.392678	1.020183	1.258918
BK10-69	0.340207	0.503734	0.473661	0.532118	0.732695	0.640366	0.872082	0.810612	0.968291	0.919726	0.852146	0.922816	0.830329	1.146348	0.945788	1.254863	0.801103
BK10-70	0.725226	0.869092	0.843932	0.895879	0.941435	0.762801	0.872236	0.713768	0.77822	0.597961	0.627098	0.611736	0.493387	0.619054	0.464126	1.110901	0.841781
BK10-71	0.191497	0.226016	0.223737	0.242783	0.281581	0.245114	0.312319	0.280471	0.324606	0.296333	0.269445	0.262483	0.202032	0.242431	0.183049	1.091914	0.826546
BK10-72	0.400315	0.550273	0.540249	0.578973	0.58709	0.449339	0.551054	0.445117	0.480308	0.353753	0.377164	0.36135	0.284352	0.354763	0.264519	1.18326	0.789995
BK10-79	0.603682	0.779428	0.766756	0.832031	0.850687	0.669302	0.767685	0.614473	0.66021	0.521114	0.514554	0.484026	0.365002	0.443025	0.330273	1.145627	0.82822
BK10-83	0.122664	0.153472	0.157345	0.174793	0.211866	0.183855	0.239643	0.20454	0.232942	0.198288	0.187992	0.179041	0.136265	0.163265	0.1204	1.104701	0.81595
BK10-89	0.340655	0.391092	0.384949	0.406587	0.397299	0.317852	0.373547	0.301311	0.333982	0.276395	0.266662	0.257847	0.202403	0.252919	0.189871	1.079991	0.825076
BK10-91	0.05911	0.09401	0.102558	0.123799	0.209545	0.216888	0.287221	0.278205	0.319674	0.252671	0.245488	0.22162	0.16036	0.190298	0.136905	1.207425	0.884072
BK10-92	0.061954	0.082329	0.090394	0.115208	0.193676	0.19746	0.276097	0.267836	0.314933	0.270692	0.249476	0.232111	0.166485	0.196344	0.142622	1.100133	0.853907
BK10-93	0.116083	0.147902	0.151401	0.175534	0.234965	0.217173	0.287482	0.244665	0.274762	0.236536	0.216901	0.202977	0.151196	0.182032	0.134421	1.115644	0.8356
BK10-100	0.117838	0.146285	0.154047	0.185792	0.279736	0.269429	0.368484	0.339547	0.401431	0.361618	0.334109	0.330351	0.260187	0.328385	0.251431	1.085754	0.83919
BK10-103	0.053883	0.080704	0.10133	0.129366	0.198667	0.1864	0.252972	0.225774	0.257727	0.226512	0.203424	0.190627	0.136768	0.159682	0.116657	1.092191	0.831469
BK10-104	0.133221	0.162776	0.164928	0.177291	0.200684	0.184911	0.215116	0.186218	0.212892	0.181293	0.168798	0.161899	0.120429	0.145213	0.106452	1.098135	0.889959
BK10-109	0.279254	0.332986	0.321569	0.358842	0.447057	0.379659	0.510595	0.45658	0.530251	0.456066	0.430603	0.429906	0.329163	0.408865	0.309026	1.111192	0.794647
BK10-112	0.128599	0.163917	0.156042	0.186649	0.261118	0.260316	0.344686	0.313959	0.37015	0.353652	0.305482	0.302429	0.223976	0.266041	0.199099	1.157137	0.867703
BK10-113	0.462749	0.603181	0.65664	0.797707	1.162947	1.109146	1.541905	1.522904	2.034527	2.039276	1.876782	2.152119	1.864701	2.52337	2.039975	1.094238	0.828285
BK10-114	0.682339	0.67725	0.65935	0.702326	0.711984	0.583259	0.686358	0.539621	0.58532	0.442901	0.445401	0.422756	0.318647	0.393007	0.288435	1.009697	0.834355
BK10-115	0.43312	0.496728	0.485232	0.527088	0.617202	0.51867	0.636014	0.562066	0.640048	0.483004	0.4937	0.479204	0.363489	0.458484	0.332528	1.083528	0.827835
BK10-117	0.212644	0.24122	0.247081	0.281826	0.399619	0.363729	0.503791	0.500538	0.604885	0.490442	0.490228	0.513223	0.424489	0.578557	0.461697	1.052369	0.810644
BK10-125	0.360152	0.496006	0.497742	0.567659	0.698386	0.614652	0.73612	0.622169	0.688031	0.537904	0.52397	0.494558	0.362791	0.440573	0.317197	1.171499	0.85725
BK10-127	0.29106	0.350088	0.384001	0.456041	0.685644	0.592016	0.859002	0.790827	0.894956	0.662678	0.673263	0.643478	0.481434	0.597767	0.443933	1.047176	0.771414
BK10-128	0.427103	0.567702	0.650812	0.794246	1.077156	0.83825	1.135075	0.889843	0.910303	0.624668	0.645181	0.581327	0.412749	0.506016	0.363401	1.076778	0.758092
BK10-145	0.209514	0.269741	0.285735	0.318488	0.404148	0.33425	0.480164	0.396926	0.435913	0.356718	0.329244	0.308413	0.221759	0.267079	0.192261	1.102447	0.758763
BK10-146	0.04712	0.087718	0.123024	0.17057	0.307358	0.323337	0.418358	0.364711	0.393206	0.317724	0.283248	0.247259	0.166254	0.19386	0.137207	1.152103	0.901695
BK10-148	0.17256	0.217781	0.222506	0.250827	0.308478	0.248759	0.343752	0.294068	0.338399	0.275314	0.265872	0.260261	0.19152	0.235617	0.170918	1.111422	0.763914
BK10-113	3.374653	3.692684	3.926722	4.142012	3.413076	1.81821	2.696902	1.954056	2.196534	1.818044	1.816183	1.927419	1.517534	2.002359	1.50673	1.014408	0.599292
BK10-128	0.0231	0.056149	0.093836	0.144128	0.382944	0.382151	0.582229	0.536983	0.576987	0.384172	0.401024	0.35519	0.245543	0.294931	0.200018	1.206015	0.80932
BK10-150	0.186349	0.230345	0.228764	0.267867	0.379665	0.341373	0.472333	0.406111	0.4608	0.364331	0.346104	0.331215	0.238338	0.295231	0.209747	1.115634	0.806129
BK10-152	0.080478	0.16282	0.269736	0.403228	0.882887	0.762678	1.195387	1.112523	1.213275	0.752675	0.854643	0.759328	0.524102	0.658889	0.476046	1.105097	0.742394
BK10-152	0.139666	0.270785	0.41847	0.620008	1.16667	0.680835	1.599014	1.403477	1.506563	1.012356	1.081273	0.951807	0.623617	0.731014	0.512593	1.120074	0.498473

**APPENDIX L: RB—SR REE DATA NORMALISED TO PAAS**

Sample	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Y	Ho	Er	Tm	Yb	Lu
Bk10-14 - 1	2.091561	1.671652	1.53296	1.650159	1.699593	1.711476	2.002979	1.507093	1.819072	1.474006	1.548266	1.694924	1.136753	1.395501	1.450876
Bk10-14 - 2	1.194209	0.994374	0.874444	0.886789	1.135159	1.029961	1.472011	1.545931	1.845194	1.473777	1.503305	1.596364	1.073332	1.528248	1.217647
Bk10-14 - 3	1.341786	1.147534	1.302101	1.310531	2.047908	2.037319	2.481043	3.34583	3.234565	2.504862	2.545732	2.956201	2.523699	2.513219	2.149706
Bk10-14 - 4	1.825147	1.566385	1.603845	1.536844	1.730926	1.671098	1.767309	1.554682	1.948012	1.355082	1.552775	1.488089	1.332812	1.421483	1.424312
Bk10-14 - 5	1.443957	1.233331	1.170578	1.048981	1.350287	1.560297	1.671184	1.87765	2.187084	1.861217	1.939379	2.020451	1.547671	1.830963	1.383556
Bk10-14 - 6	1.379765	1.283764	1.331227	1.261651	1.535355	1.440548	1.583079	1.459957	1.782317	1.440222	1.70473	1.446284	1.264213	1.549467	1.238089
Bk10-14 - 7	1.423655	1.477483	1.54855	1.557664	1.829648	1.788869	1.854277	1.521536	1.876833	1.402877	1.564885	1.528751	1.410978	1.393476	1.138721
Bk10-14 - 8	1.046582	1.056358	1.151456	1.11707	1.470222	1.163362	1.49935	1.548265	1.745419	1.364198	1.51602	1.604835	1.294006	1.583899	1.050408
Bk10-14 - 9	1.315558	1.151173	1.107685	1.068621	1.343436	1.320148	1.559342	1.775772	1.793533	1.438912	1.552578	1.490953	1.44212	1.442028	1.362438
Bk10-14 - 10	2.08837	1.783487	1.487254	1.268487	1.38401	1.103036	1.713736	1.854738	1.881252	1.477221	1.533324	1.661601	1.210978	1.620605	1.27954
Bk10-14 - 11	1.751709	1.536235	1.345298	1.260122	1.553501	1.585218	1.542014	1.543588	1.633236	1.419287	1.770046	1.508195	1.341666	1.391835	1.499799
Bk10-14 - 12	1.424597	1.230982	1.203201	1.056379	1.036655	1.053561	1.399208	1.441205	1.573223	1.370068	1.453345	1.45252	1.380814	1.553269	1.202799
Bk10-14 - 13	1.131803	1.010013	0.90986	0.872261	1.162851	1.114843	1.28809	1.300632	1.370642	1.267396	1.480356	1.373612	1.048172	1.437678	1.047084
Bk10-14 - 14	1.04801	1.055573	1.004884	1.065994	1.306604	1.208547	1.525233	1.536665	1.850251	1.462218	1.411501	1.517021	1.285051	1.932493	1.642822
Bk10-14 - 15	1.784652	1.412733	1.221801	1.158878	1.562833	1.476858	1.626926	1.815946	2.103036	1.701244	1.903866	1.873932	1.550201	1.87582	1.410992
Bk10-14 - 16	1.90694	1.747345	1.708744	1.504308	1.783738	1.912216	1.9765	1.899258	2.008654	1.562517	1.605725	1.472967	1.869061	1.813703	1.270414
Bk10-14 - 17	1.262113	1.065623	0.941236	0.974626	1.153505	1.410663	1.388914	1.598933	1.706997	1.461997	1.485182	1.499047	1.489215	1.687071	1.127872
Bk10-14 - 18	3.273654	2.766829	2.569553	2.432575	2.869195	2.409613	3.595721	3.151516	3.25213	3.117366	2.71513	3.285189	2.482382	3.757133	2.546856
Bk10-14 - 19	1.517748	1.396342	1.308401	1.272597	1.904529	1.219996	1.349709	1.380219	1.753817	1.39345	1.499115	1.463239	1.447934	1.318403	1.14652
Bk10-14 - 20	1.755599	1.587571	1.471558	1.326536	1.53815	1.394882	1.438559	1.445826	1.710656	1.219359	1.330653	1.36632	1.289747	1.347298	0.898443
Bk10-14 - 21	2.699181	2.061242	1.684772	1.464387	1.341853	1.364025	1.731784	1.464	1.919352	1.418341	1.656103	1.654668	1.44747	1.616277	1.490945
Bk10-14 - 22	1.050631	1.124563	1.286763	1.469098	2.656768	2.443725	2.896656	2.256297	2.320522	1.747028	1.897276	1.785435	1.630496	1.902365	1.446135
Bk10-14 - 27	1.710285	1.398459	1.276765	1.267754	1.267898	1.252366	1.468209	1.458917	1.706411	1.376836	1.394653	1.680577	1.294004	1.508649	1.18014
Bk10-14 - 29	1.966594	1.812904	1.725535	1.730762	2.410121	2.310833	2.374091	3.103576	2.876047	2.467662	2.702841	2.648172	2.479484	2.609055	2.396622
Bk10-14 - 30	1.582148	1.696945	1.659588	1.827444	2.565764	2.049039	2.738613	2.287976	2.392326	1.794245	2.051927	1.807961	1.534844	1.947996	1.537268
Bk10-14 - 31	1.217089	1.191295	1.134626	1.158007	1.782648	1.872007	2.406325	2.268843	2.283628	1.891667	1.931118	2.104899	1.471569	2.005671	1.511353
Bk10-14 - 32	1.104093	1.143729	1.314502	1.474572	2.574884	2.310536	2.529593	2.059869	2.043462	1.506301	1.533953	1.401528	1.007766	1.388913	1.119282
Bk10-14 - 33	2.465745	2.320317	2.269713	2.372904	2.882781	2.370426	2.224958	2.078227	2.071998	1.491655	1.439506	1.716543	1.300338	1.401551	1.259112
Bk10-14 - 34	3.177754	2.337443	1.946962	1.756869	1.689479	1.335943	1.554262	1.341689	1.674843	1.29529	1.436008	1.399079	0.846506	1.308782	1.053384
Bk10-14 - 35	1.939408	1.942026	1.945304	2.033896	2.384911	1.846583	2.478334	1.849339	1.86052	1.488476	1.61045	1.685662	1.364916	1.503387	1.255167
Bk10-14 - 36	2.263208	2.075479	1.937576	1.983646	2.520246	2.080242	2.318419	1.892732	1.941563	1.471433	1.59341	1.628261	1.144098	1.443647	1.262019
Bk10-14 - 37	1.248839	1.221619	1.272298	1.352996	1.754242	1.807486	1.928575	1.543949	1.760685	1.378042	1.492429	1.465435	1.297493	1.292268	1.198546
Bk10-14 - 38	1.371238	1.114876	0.989029	0.988363	1.425766	1.168767	1.531045	1.616511	2.009381	1.572777	1.933322	1.591644	1.212107	1.840778	1.597989
Bk10-14 - 39	1.186977	1.148698	1.114878	1.157019	1.527178	1.497938	1.966051	1.916687	2.344366	1.908985	2.308479	1.872948	1.607595	1.883158	1.687432
Bk10-14 - 40	1.271598	1.133787	1.023534	1.039944	1.142239	1.199215	1.262298	1.25485	1.462979	1.272674	1.46719	1.520533	1.192829	1.216018	1.028943
Bk10-14 - 41	1.146103	1.122035	1.148204	1.100235	1.571579	1.677441	2.07114	2.121148	2.465493	2.099918	2.216589	2.184993	1.659488	2.342784	1.767314
Bk10-14 - 42	1.582444	1.392965	1.298092	1.307922	1.48774	1.538123	1.973081	1.725889	2.156733	1.664513	1.708329	1.779922	1.521513	1.864018	1.35809
Bk10-14 - 43	1.503331	1.403554	1.383643	1.43055	1.797341	1.583143	1.867555	1.783515	1.98611	1.649121	1.747709	1.682891	1.421312	1.820363	1.520126
Bk10-14 - 44	3.090089	2.36531	2.00898	1.860955	1.964724	1.843675	1.818292	1.350037	1.582403	1.243181	1.310191	1.379403	1.322364	1.413773	1.080192

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Bk10-14 - 45	1.579715	1.266659	1.119811	1.054811	1.178583	1.21417	1.520284	1.652041	1.904932	1.4857	1.696193	1.570477	1.263856	1.622183	1.328297
Bk10-14 - 46	1.576456	1.413464	1.315292	1.315328	1.577894	1.674926	2.179495	1.85758	2.005129	1.644823	1.763466	2.000367	1.366706	2.050195	1.731115
Bk10-14 - 47	1.631657	1.372717	1.291659	1.208656	1.35553	1.363676	1.503624	1.435963	1.631977	1.399809	1.405519	1.551658	1.163245	1.440861	1.268232
Bk10-14 - 48	1.87107	1.572168	1.426964	1.361825	1.506876	1.97218	2.212567	2.262763	2.59624	2.181268	2.132522	2.261106	1.874889	2.276291	1.623709
Bk10-14 - 49	1.715409	1.882632	1.8291	1.902702	2.516275	1.843326	2.268197	2.809662	2.651159	2.218275	2.221763	2.313794	1.994784	2.317315	1.796661
Bk10-14 - 50	1.553631	1.373326	1.294384	1.241441	1.26147	1.255425	1.659845	1.478571	1.663443	1.326954	1.203172	1.409312	1.271435	1.414023	1.183966
Bk10-14 - 51	2.486223	2.130834	1.979505	1.891312	1.869351	1.676066	1.984127	1.705613	1.685053	1.36495	1.463141	1.479711	1.20478	1.414632	1.27826
Bk10-14 - 52	1.575148	1.390668	1.178813	1.115542	1.403672	1.425482	2.062522	2.017892	2.589401	1.956592	2.217053	2.050918	1.654747	2.10216	1.852125
Bk10-14 - 53	2.832112	2.170499	1.887202	1.628293	1.547443	1.220483	1.761227	1.469336	1.844929	1.404016	1.541094	1.618433	1.210091	1.450646	1.391844
Bk10-14 - 54	1.525164	1.373125	1.231877	1.215632	1.348955	1.415231	1.446573	1.270382	1.722008	1.403363	1.511176	1.444599	1.370956	1.447074	1.089977
Bk10-14 - 56	1.195052	1.145586	1.170895	1.259816	1.899128	2.009682	2.112042	1.911592	2.081145	1.590577	1.836607	1.690486	1.404666	1.690212	1.46002
Bk10-14 - 57	2.050259	1.689678	1.54667	1.400032	1.755306	1.339239	1.595265	1.501133	1.673323	1.31714	1.392536	1.412216	0.956338	1.349348	0.956219
Bk10-14 - 58	1.530476	1.535822	1.556627	1.62286	2.285951	2.139521	2.698196	2.522665	2.964411	2.56141	2.482682	2.732979	2.109457	2.875198	2.106006
Bk10-14 - 59	2.018819	1.698514	1.545955	1.413317	1.965645	1.697915	2.07128	2.115502	2.155843	1.810719	2.039351	1.887222	1.669675	1.726609	1.827643
Bk10-14 - 60	0.936091	0.919232	0.87783	0.89108	1.313399	1.156151	1.812709	1.683058	2.074861	1.791522	1.984791	1.801717	1.475306	1.878599	1.854071
Bk10-14 - 61	1.864346	1.547601	1.397231	1.256623	1.444607	1.304114	1.441216	1.595616	1.501129	1.235945	1.34228	1.317422	1.122371	1.423597	1.152066
Bk10-14 - 62	1.018019	0.986132	0.991389	0.94825	1.329785	1.101995	1.609045	1.352251	1.579024	1.287928	1.443452	1.520638	1.209676	1.366807	1.187273
Bk10-14 - 63	1.190912	1.081208	0.984974	0.96285	1.338616	1.230374	1.645838	1.461253	1.762113	1.456448	1.437342	1.455914	1.471002	1.413225	1.351691
Bk10-14 - 64	1.155437	1.071653	1.027122	1.123359	1.707308	1.473073	1.763509	1.746926	1.705787	1.514601	1.507673	1.548409	1.319764	1.327774	1.310804
Bk10-14 - 65	1.846363	1.420439	1.246092	1.183852	1.722307	1.56923	1.840546	2.333584	2.715876	2.05358	2.325915	2.269685	1.984435	2.350687	2.107079
Bk10-14 - 66	1.717039	1.473565	1.381715	1.313463	1.705736	1.861124	2.049457	1.951617	2.529938	1.977462	2.127392	2.219441	1.622658	2.171352	1.842091
Bk10-14 - 68	1.14036	1.107486	1.086459	1.059931	1.241782	1.277071	1.598929	1.71786	1.950042	1.577498	1.500051	1.752026	1.481987	1.405819	1.445117
Bk10-14 - 69	1.21341	1.12162	1.056252	1.106938	1.393829	1.317332	1.633765	1.674681	1.76302	1.450355	1.552632	1.467075	1.279644	1.653033	1.509051
Bk10-14 - 70	1.564968	1.246318	1.113201	1.081296	1.324769	1.310463	1.610528	1.443739	1.688809	1.310921	1.303143	1.507171	1.130338	1.333949	1.137927
Bk10-14 - 71	1.293099	1.133165	1.07087	1.104983	1.539577	1.373761	1.777883	1.736209	1.920935	1.510806	1.600924	1.600592	1.303281	1.674283	1.28275
Bk10-14 - 72	0.967324	0.929649	0.890415	0.951292	1.253778	1.211975	1.669411	1.904053	1.861062	1.778251	1.877277	1.711482	1.506488	1.617294	1.332543
Bk10-14 - 73	1.139303	1.081434	1.032355	0.998342	1.41538	1.227956	1.623721	1.75626	2.082021	1.620898	1.886263	1.686614	1.654903	1.749044	1.422735
Bk10-14 - 74	1.192571	1.178287	1.123166	1.159232	1.496677	1.719823	2.825234	2.989562	3.155181	2.745533	2.732096	2.966441	1.963338	2.904012	2.419901
Bk10-14 - 75	1.4123	1.339992	1.35767	1.432087	1.614236	1.820061	1.86782	1.869417	1.78918	1.744744	1.71266	1.698623	1.462012	1.60077	1.577578
Bk10-14 - 76	1.200587	1.158119	1.109653	1.061668	1.38885	1.262673	1.470332	1.652342	1.829686	1.364571	1.384518	1.539321	1.287855	1.503749	1.100516
Bk10-14 - 77	1.139453	1.076029	1.072846	1.081288	1.367559	1.164889	1.410896	1.275721	1.441393	1.205303	1.214547	1.571535	1.219697	1.282871	1.141249
Bk10-14 - 78	1.982244	1.751807	1.592331	1.563749	1.879306	1.930842	2.087418	1.955604	2.427666	2.006298	2.182355	2.045762	1.945142	1.708417	1.641435
Bk10-14 - 79	1.179674	1.046147	1.06378	1.040991	1.433516	1.591437	1.81417	1.779601	2.113907	1.745919	1.933917	1.953482	1.587573	1.654514	1.382235
Bk10-14 - 80	1.107682	1.060076	1.101052	1.040706	1.354365	1.242233	1.510784	1.225668	1.37155	1.228245	1.458282	1.429233	1.104365	1.641714	1.096884
	1.602555	1.423667	1.344747	1.320575	1.655941	1.555588	1.863191	1.802671	2.005026	1.627094	1.732345	1.750369	1.44965	1.719744	1.430521

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Bk10-28 - 1	2.053062	1.910986	1.944272	1.849154	2.011445	1.520845	1.744914	1.474033	1.604987	1.405377	1.515908	1.483777	1.226745	1.466223	1.257131
Bk10-28 - 2	2.706556	2.309783	2.186504	2.092455	2.041954	1.878039	1.895939	1.741445	1.618379	1.350086	1.324798	1.407643	1.103261	1.650418	1.00379
Bk10-28 - 3	2.120449	2.1101	2.115179	2.099874	2.180168	1.834877	1.934314	1.590638	1.552318	1.282037	1.440957	1.386607	0.918937	1.358826	1.267353
Bk10-28 - 4	1.6481	1.639378	1.597154	1.543894	1.561862	1.582454	1.865063	1.846185	1.77627	1.512015	1.659913	1.729067	1.54635	1.616942	1.423231
Bk10-28 - 5	1.633421	1.626547	1.554039	1.593359	1.69633	1.613473	1.881957	1.491424	1.782396	1.387117	1.402299	1.375484	1.059542	1.494757	1.537731
Bk10-28 - 6	2.006708	2.068109	2.211447	2.500288	3.33417	2.773887	4.269032	3.426334	3.723055	2.879891	2.904041	2.83443	2.098014	2.365849	2.142654
Bk10-28 - 7	2.209592	2.264878	2.319332	2.283967	2.327971	1.837498	2.220405	1.89293	1.814335	1.692139	1.515194	1.748214	1.382695	1.686532	1.200468
Bk10-28 - 8	1.55942	1.466574	1.418335	1.446579	1.516949	1.343866	1.888815	1.808413	1.910331	1.516171	1.795141	1.45772	1.318819	1.717368	1.507615
Bk10-28 - 9	1.600368	1.641462	1.684979	1.657272	1.996238	1.676476	1.966763	1.583657	1.57299	1.328909	1.447032	1.432388	1.193577	1.185744	1.155689
Bk10-28 - 10	2.005607	1.830026	1.813363	1.757846	1.812084	1.434138	1.682618	1.398509	1.262232	1.203802	1.222719	1.215826	1.09935	1.327161	1.024654
Bk10-28 - 11	1.745015	1.556374	1.499604	1.487413	1.668562	1.608553	1.586527	1.456936	1.57336	1.28471	1.37674	1.223858	0.965439	1.367712	1.144181
Bk10-28 - 12	1.203962	1.15657	1.097566	1.119551	1.615688	1.443122	1.900652	1.95184	2.178413	1.787488	1.853267	1.917238	1.504	1.903077	1.868082
Bk10-28 - 13	1.900314	1.966149	1.954481	1.969784	2.113405	1.609991	2.007152	1.736233	1.93417	1.546089	1.591144	1.590681	1.369708	1.852296	1.513704
Bk10-28 - 14	1.552975	1.498956	1.49916	1.509382	1.782625	1.589899	1.713208	1.907223	2.266991	1.7562	1.843728	1.806531	1.38078	2.017613	1.691401
Bk10-28 - 15	1.610324	1.572783	1.577769	1.519896	1.773296	1.516276	1.668303	1.594032	1.609363	1.313612	1.325144	1.212129	1.126174	1.520219	1.036821
Bk10-28 - 16	2.180562	2.087658	2.086865	2.075553	2.268552	2.005327	2.23895	1.712723	1.896022	1.462812	1.650809	1.429736	1.231859	1.49278	1.337089
Bk10-28 - 17	1.073015	1.11628	1.129754	1.118068	1.178792	1.285566	1.151213	1.396037	1.513826	1.311682	1.360619	1.285681	1.268408	1.316285	1.112741
Bk10-28 - 18	1.525149	1.566417	1.622613	1.61619	1.83301	1.779508	2.114524	1.796642	2.08251	1.874691	1.725636	1.758838	1.774358	1.764457	1.594648
Bk10-28 - 19	1.90475	1.908868	1.946238	1.987744	2.115499	2.010869	2.027878	1.955255	2.402764	1.645102	1.8085	1.867339	1.346061	1.804749	1.265718
Bk10-28 - 20	1.135232	1.112799	1.084264	1.104211	1.496331	1.246189	1.456784	1.448503	1.771557	1.363824	1.417347	1.353143	1.161425	1.402421	1.090758
Bk10-28 - 21	2.267782	2.201038	2.255657	2.257356	2.481385	1.963235	1.973499	1.535243	1.548533	1.289918	1.239624	1.271382	1.011192	1.060099	1.071173
Bk10-28 - 22	1.412184	1.486801	1.467284	1.46845	1.622554	1.464093	1.69809	1.556019	1.828628	1.531948	1.616839	1.741678	1.329714	1.471467	1.503907
Bk10-28 - 23	2.050865	1.973761	2.01158	2.044319	2.148446	1.493113	2.107035	1.850653	1.850818	1.448277	1.554212	1.375797	1.20205	1.416062	1.522368
Bk10-28 - 24	1.894264	1.787842	1.762851	1.704434	1.8928	1.559639	1.840209	1.761564	1.698916	1.373828	1.512615	1.380694	1.197162	1.396858	1.270222
Bk10-28 - 25	2.664594	2.690165	2.648555	2.568897	2.686934	2.418361	2.753865	2.193532	2.206762	1.767389	1.889369	1.780577	1.500721	1.664374	1.503023
Bk10-28 - 26	1.557026	1.481379	1.476587	1.442999	1.499892	1.394537	1.642723	1.293168	1.603114	1.357677	1.449137	1.487484	1.167701	1.554906	1.246016
Bk10-28 - 27	1.607526	1.516398	1.49688	1.528194	1.549571	1.320552	1.401982	1.417601	1.60468	1.348229	1.37596	1.313205	1.144565	1.426459	1.116441
Bk10-28 - 28	1.925294	1.838941	1.8421	1.781772	1.743021	1.552739	1.788641	1.565495	1.602777	1.415484	1.600548	1.417964	1.591063	1.363246	1.095494
Bk10-28 - 29	3.303974	3.4339	3.637423	3.676296	3.994124	3.537581	3.508808	3.225541	3.072527	2.31568	2.560018	2.342453	2.129013	2.429233	1.855034
Bk10-28 - 30	1.816443	1.701158	1.802765	1.817075	2.081046	1.793705	2.058989	1.658413	1.732283	1.407865	1.479442	1.378318	1.063632	1.531494	1.170479
Bk10-28 - 31	1.139955	1.122868	1.115253	1.171695	1.45872	1.228208	1.409801	1.308681	1.486255	1.249954	1.344946	1.397702	0.970851	1.172024	1.041867
Bk10-28 - 32	1.922759	1.870305	1.796019	1.77075	1.825261	1.744185	1.911528	1.789674	1.812398	1.694159	1.722638	1.561314	1.521075	1.682117	1.427243
Bk10-28 - 33	1.56257	1.622646	1.651426	1.644044	1.939928	1.831088	2.191139	2.145802	2.470805	2.298029	2.190767	2.173274	1.9262	2.280489	1.962444
Bk10-28 - 34	1.433935	1.43978	1.490291	1.457935	1.573916	1.456533	1.582148	1.601894	1.564833	1.310364	1.329688	1.300424	1.174445	1.558043	0.936286
Bk10-28 - 35	1.992473	1.875344	1.883189	1.87402	1.946169	1.759787	2.341655	1.991403	2.439441	2.102687	2.330379	2.510731	1.962912	2.152942	1.910829
Bk10-28 - 36	1.429203	1.393808	1.375986	1.430866	1.671519	1.37413	1.546677	1.641786	1.541933	1.369689	1.543288	1.4424	1.256801	1.33293	1.369882
Bk10-28 - 37	1.915808	1.909819	1.900791	2.007072	2.280955	1.873006	2.221947	2.223726	2.162046	1.778875	1.95612	1.849278	1.637816	1.668481	1.427065
Bk10-28 - 38	1.413186	1.377414	1.392858	1.355823	1.750151	1.648528	2.080129	2.018009	2.573782	2.391867	2.328414	2.344571	1.961291	2.281897	1.563009
Bk10-28 - 39	1.511194	1.498958	1.502371	1.550202	1.785861	1.444249	1.70698	1.726162	1.734448	1.30864	1.278788	1.423441	1.155437	1.349336	1.190817
Bk10-28 - 40	1.389021	1.453685	1.394257	1.455735	1.473282	1.26244	1.559896	1.302335	1.317243	1.198092	1.145535	1.264822	1.18181	1.084485	0.930576
Bk10-28 - 41	1.41882	1.465435	1.452139	1.540847	1.88483	1.533725	2.02844	1.941545	2.265751	1.940602	1.892757	2.077546	1.719431	2.03804	1.518409



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Bk10-28 - 42	1.43375	1.471988	1.509556	1.482609	1.468838	1.511521	1.645636	1.35237	1.388004	1.097741	1.14985	1.094928	0.936362	1.195556	0.837671
Bk10-28 - 43	1.498698	1.488821	1.539762	1.518565	1.750487	1.776602	1.805306	1.583808	1.603069	1.362646	1.334097	1.425276	1.20705	1.410097	1.086006
Bk10-28 - 48	2.02253	2.600259	2.399927	2.786304	3.324854	2.684475	2.566303	2.256912	2.010319	1.541289	1.584423	1.560481	1.268884	1.701616	1.129684
Bk10-28 - 49	1.23609	1.156296	1.154152	1.083852	1.611886	1.46676	1.563275	1.654308	1.671669	1.692971	1.797794	1.817419	1.31223	1.794818	1.24682
Bk10-28 - 50	1.382663	1.411839	1.526082	1.575441	2.208604	1.809892	2.444137	1.9058	1.915086	1.43102	1.514647	1.48723	1.28007	1.385928	0.994887
Bk10-28 - 51	1.423109	1.377535	1.390174	1.41638	1.623891	1.501948	1.709712	1.482841	1.87612	1.352681	1.320823	1.466078	0.92848	1.471139	1.018672
Bk10-28 - 52	2.049042	1.956445	1.877376	1.908453	2.174917	1.494379	1.876117	1.592675	1.575511	1.317379	1.271119	1.485936	0.90827	1.471811	1.244855
Bk10-28 - 53	2.37367	2.415265	2.506658	2.455581	2.344271	1.516157	2.251923	1.853965	1.793429	1.431543	1.376359	1.39661	1.202525	1.293242	1.158616
Bk10-28 - 54	1.640231	1.636344	1.595173	1.619898	1.71839	1.453416	1.731778	1.690411	1.908502	1.464216	1.642294	1.566246	1.267011	1.758153	1.379457
Bk10-28 - 55	1.640312	1.624834	1.571949	1.655773	1.752873	1.573428	1.876907	1.789369	2.069511	1.836702	1.867103	1.973508	1.718691	1.77468	1.383558
Bk10-28 - 56	1.79185	1.820613	1.853511	1.866791	2.133637	1.795941	1.806413	1.49669	1.77246	1.489493	1.609451	1.42352	1.508424	1.415619	1.251661
Bk10-28 - 58	1.980664	2.00068	2.066991	2.192042	2.219575	2.316974	2.32649	1.809149	1.828701	1.472029	1.586107	1.588479	1.102215	1.680388	0.986644
Bk10-28 - 59	1.236874	1.253449	1.261705	1.301939	1.415606	1.216514	1.352503	1.250067	1.365611	1.24432	1.234336	1.268626	1.187081	1.137077	0.950863
Bk10-28 - 60	2.180699	2.273614	2.26746	2.267497	2.453877	1.879772	1.720092	1.415025	1.316546	1.06006	0.959797	1.206403	0.795659	1.07181	1.088081
Bk10-28 - 61	1.298542	1.368921	1.30846	1.377478	1.419119	1.346425	1.598796	1.265438	1.369616	1.18546	1.415354	1.18818	1.077683	1.338821	0.90068
Bk10-28 - 62	2.435946	2.570747	2.699063	2.892742	4.262182	4.825789	6.886633	6.656608	6.415437	4.642018	6.715627	4.403493	4.901576	4.412178	4.504572
Bk10-28 - 63	1.569379	1.557548	1.609033	1.695629	2.317815	2.556358	2.89741	3.066577	3.577859	2.605397	2.667687	2.851328	2.138685	2.487752	2.274385
Bk10-28 - 64	1.971309	1.916017	1.895959	1.85897	2.03663	1.942837	1.977503	1.889053	1.87665	1.567317	1.8052	1.807165	1.580752	1.68369	1.489167
Bk10-28 - 65	1.587092	1.47688	1.47152	1.511494	1.571535	1.310348	1.73844	1.443549	1.674496	1.378603	1.414919	1.451895	1.218503	1.539115	1.08028
Bk10-28 - 66	1.292253	1.312812	1.337733	1.346461	1.500787	1.316997	1.626852	1.365425	1.398204	1.148892	1.192384	1.114872	1.031149	1.167348	0.834679
Bk10-28 - 67	1.39441	1.387143	1.398568	1.418789	1.821892	1.711549	2.347639	1.929435	2.264709	1.931347	1.938305	1.912249	1.750882	1.986858	1.691801
Bk10-28 - 68	1.711406	1.621606	1.681935	1.726443	2.183564	2.123228	2.481111	2.589841	6.346278	3.249998	3.003892	2.713299	2.0929	2.57652	1.877189
Bk10-28 - 69	1.220174	1.216349	1.280904	1.304833	1.586228	1.660505	1.847225	1.683042	1.670321	1.36137	1.454665	1.305776	1.180039	1.478261	0.99049
Bk10-28 - 70	1.69841	1.639635	1.635607	1.634622	1.832351	1.474587	1.753304	1.550085	1.828775	1.43742	1.510584	1.519539	1.06485	1.235167	1.116869
Bk10-28 - 71	1.682493	1.645049	1.605432	1.691741	1.888991	1.60111	1.784231	1.665222	1.579875	1.251342	1.312103	1.135251	1.077221	1.164068	0.907926
Bk10-28 - 72	1.78307	1.849003	1.864346	2.151315	2.63853	2.647437	3.070632	2.590966	2.492799	2.000253	1.886672	1.795921	1.461147	1.824475	1.412151
Bk10-28 - 73	1.251358	1.334139	1.351079	1.339477	1.695674	1.656403	1.670778	1.855933	1.882709	1.739222	1.99474	1.787977	1.496096	1.689029	1.639737
Bk10-28 - 74	1.325782	1.35437	1.335688	1.394453	1.62034	1.404654	1.896859	1.985497	2.13178	1.825875	1.951907	1.674589	1.609652	1.929821	1.657751
Bk10-28 - 75	1.554755	1.533473	1.67668	1.649866	2.134676	1.862903	2.174751	2.22979	2.762405	2.238533	2.275172	2.1852	1.670826	2.120487	1.555317
Bk10-28 - 76	1.682156	1.725295	1.71419	1.857015	2.089766	1.778316	1.93053	1.650947	1.733512	1.488227	1.49656	1.348623	1.239345	1.362902	1.236747
Bk10-28 - 77	1.041773	1.076375	1.104507	1.0983	1.404383	1.278777	1.099955	1.541652	1.510164	1.323952	1.323981	1.418282	1.25545	1.335377	0.964294
Bk10-28 - 78	1.288396	1.310011	1.291255	1.484601	1.779806	1.735227	2.16538	1.915871	1.95118	1.641731	1.759836	1.533497	1.464613	1.749105	1.296397
Bk10-28 - 79	1.92218	1.969965	2.050906	2.023551	2.27753	1.90067	2.534436	2.965551	3.460011	3.010363	2.839272	3.150772	3.020573	3.320011	2.262133
Bk10-28 - 80	1.580186	1.659138	1.64644	1.558849	1.898257	1.573337	1.957792	1.894442	1.937346	1.664842	1.986196	1.901865	1.523	1.650156	1.215607
	1.709129	1.700861	1.709053	1.733372	1.970361	1.745994	2.035814	1.864341	2.025639	1.643857	1.729537	1.670825	1.41811	1.664526	1.366316

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Bk10-45 - 1	1.86844	1.352991	1.198562	1.130761	1.431223	1.115673	1.618561	1.584579	1.511882	1.430106	1.381545	1.454802	1.281923	1.391772	1.290472
Bk10-45 - 2	1.956706	1.625249	1.427725	1.257084	1.313637	1.068704	1.477434	1.519911	1.855722	1.696762	1.902514	1.933718	1.466709	1.86081	1.249097
Bk10-45 - 3	2.249896	1.750941	1.463259	1.31311	1.246659	1.092678	1.445114	1.326545	1.299327	1.352776	1.288131	1.400912	1.102766	1.344883	1.182396
Bk10-45 - 4	1.894928	1.499483	1.235566	1.172298	1.099746	1.052754	1.457274	1.294078	1.620459	1.537201	1.360497	1.524355	1.445847	1.68813	1.241488
Bk10-45 - 5	2.038818	1.590969	1.362835	1.307294	1.350598	1.090935	1.401954	1.325361	1.556949	1.524096	1.714331	1.60627	1.473771	1.814841	1.250976
Bk10-45 - 6	1.489531	1.140561	1.12103	0.964054	1.258041	1.061852	1.560267	1.360972	1.587436	1.350821	1.48549	1.360143	1.083331	1.460383	1.180826
Bk10-45 - 7	2.201475	1.579856	1.280825	1.238806	1.268949	1.071538	1.595127	1.617221	2.202734	1.613448	1.622104	1.689575	1.304585	1.834004	1.22441
Bk10-45 - 8	2.017331	1.527094	1.254261	1.211482	1.313148	1.275379	1.404681	1.231362	1.474885	1.236611	1.27724	1.40664	1.144146	1.414166	1.07233
Bk10-45 - 10	1.782099	1.430245	1.26042	1.204866	1.368361	1.384452	1.790327	1.85748	2.19459	1.920549	2.085843	2.043905	1.49132	1.920405	1.580602
Bk10-45 - 11	2.441003	2.140182	1.963056	1.875635	1.928091	1.81313	1.895619	1.718744	1.829944	1.646406	1.640718	1.773405	1.396851	1.369181	1.526372
Bk10-45 - 12	2.80441	2.332036	2.071576	2.039873	2.151793	1.757034	2.128067	2.235572	2.631111	2.058447	2.030652	2.122154	1.738984	2.279997	1.857041
Bk10-45 - 13	2.381418	1.720355	1.354197	1.244613	1.145077	1.256158	1.266377	1.203104	1.526354	1.286125	1.265924	1.577159	1.116986	1.416556	1.147135
Bk10-45 - 14	2.350069	2.046288	1.8035	1.737933	1.727446	1.926957	1.801799	1.524709	1.847282	1.668374	1.6135	1.750802	1.399702	1.798751	1.645694
Bk10-45 - 15	1.94418	1.425495	1.236954	1.137644	1.146831	1.10524	1.428947	1.368928	1.668036	1.429075	1.437144	1.481922	1.082983	1.438101	1.202166
Bk10-45 - 16	2.23968	1.884432	1.722143	1.666889	1.655768	1.661167	1.724062	1.942315	1.702118	1.542239	1.603034	1.672019	1.427328	1.63381	1.159116
Bk10-45 - 17	2.039809	1.745156	1.612935	1.520092	1.587298	1.440001	1.722504	1.152631	1.556251	1.339295	1.393087	1.518117	1.258095	1.461334	1.103688
Bk10-45 - 18	1.84728	1.416982	1.152627	1.194618	1.100171	1.003267	1.381986	1.362647	1.499586	1.418262	1.469473	1.389937	1.408335	1.350803	1.232517
Bk10-45 - 19	2.080935	1.637239	1.375179	1.26531	1.517964	1.183205	1.13758	1.213179	1.62491	1.325807	1.347067	1.328658	0.931148	1.264285	0.954839
Bk10-45 - 20	2.662457	2.162745	1.895826	1.789552	1.872513	1.841279	2.0327	1.871788	1.989025	1.580862	1.771596	1.971775	1.184866	1.692779	1.180305
Bk10-45 - 21	2.29491	1.798061	1.525727	1.45124	1.529819	1.304962	1.211216	1.417897	1.395729	1.283443	1.280416	1.30822	1.03102	1.448176	1.027829
Bk10-45 - 22	1.91018	1.658361	1.56995	1.489766	1.568456	1.415593	1.440677	1.428279	1.50344	1.261979	1.289988	1.253561	1.263799	1.476066	0.949079
Bk10-45 - 23	2.083485	1.563286	1.30158	1.262035	1.259405	1.21377	1.581156	1.548249	1.83514	1.648987	1.626126	1.742483	1.696198	1.92724	1.42218
Bk10-45 - 24	2.023672	1.711529	1.606469	1.540894	1.789597	1.299906	2.208316	1.81235	2.044109	1.768212	1.73073	1.954135	1.317828	1.488863	1.439007
Bk10-45 - 25	2.151569	1.612392	1.36485	1.249054	1.236112	1.208575	1.701182	1.200171	1.692086	1.525374	1.596935	1.552099	1.402874	1.623387	1.416518
Bk10-45 - 26	1.987338	1.584237	1.493575	1.245644	1.3541	1.309064	1.647321	1.262865	1.566845	1.261745	1.415271	1.350217	1.073027	1.347666	0.901372
Bk10-45 - 27	2.13702	1.533763	1.320325	1.231447	1.032622	1.324514	1.375089	1.169495	1.446149	1.471178	1.096507	1.275479	1.210773	1.166825	0.909028
Bk10-45 - 28	2.082266	1.604227	1.424044	1.306292	1.263488	1.076943	1.318427	1.47847	1.383865	1.423328	1.490832	1.464437	1.136263	1.663844	1.067414
Bk10-45 - 29	1.963309	1.628332	1.641093	1.419473	1.430032	1.365142	1.580345	1.393638	1.491036	1.18773	1.296981	1.254188	1.193996	1.389878	1.335734
Bk10-45 - 30	1.972468	1.464177	1.26522	1.167625	1.294888	1.096252	1.407336	1.329706	1.680073	1.598349	1.425477	1.538929	1.456072	1.500554	1.413681
Bk10-45 - 31	2.068147	1.565555	1.359548	1.18522	1.212928	1.257673	1.563252	1.969362	2.559372	2.105326	2.303137	2.108277	1.642532	1.95153	1.326843
Bk10-45 - 32	2.781043	2.109429	1.794566	1.643846	1.478956	1.381741	1.706722	1.859604	1.91981	1.788918	1.931761	1.813025	1.514569	2.108394	1.363891
Bk10-45 - 33	2.248457	1.913678	1.789875	1.612	1.838505	1.525534	1.828717	1.523433	1.823346	1.447999	1.538484	1.545893	1.430925	1.406368	0.956305
Bk10-45 - 35	2.084029	1.47108	1.285222	1.068288	1.066583	1.007384	1.297123	1.241754	1.520445	1.349061	1.193594	1.627611	1.179954	1.475271	0.913816
Bk10-45 - 36	1.919941	1.395236	1.105969	1.03978	1.324401	1.079354	1.387846	1.489088	1.942532	1.841292	1.752998	1.792396	1.557533	1.914736	1.776547
Bk10-45 - 37	2.872616	2.139271	1.886384	1.806871	1.825483	1.524582	2.232757	1.692724	1.919506	1.585138	1.625184	1.624556	1.392337	1.61342	1.142723
Bk10-45 - 38	3.922597	2.331766	1.831439	1.524948	1.492389	1.234133	1.421858	1.574748	1.63574	1.512389	1.709081	1.702957	1.712394	1.583763	1.04777
Bk10-45 - 39	1.760843	1.315542	1.130996	1.075473	1.117622	1.096771	1.252325	1.102833	1.379422	1.312322	1.493754	1.278611	1.078312	1.325441	1.135145
Bk10-45 - 40	1.838194	1.45638	1.12624	1.013656	1.188764	1.033194	1.23235	1.452587	1.785564	1.615262	1.51756	1.682939	1.365931	1.489559	1.354829

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Bk10-45 - 41	2.218619	1.627023	1.396661	1.279215	1.599235	1.148405	1.705921	2.077026	2.19829	1.923613	1.893816	2.028238	1.626014	2.100987	1.703895
Bk10-45 - 42	2.022089	1.534516	1.214309	1.15956	1.31031	1.24111	1.711638	1.538848	1.757402	1.611042	1.595708	1.514294	1.569825	1.612625	1.164491
Bk10-45 - 43	2.062205	1.682835	1.52843	1.426647	1.801442	1.645422	2.12911	2.175146	2.108111	1.918511	2.007794	1.948592	1.489452	2.053432	1.231146
Bk10-45 - 44	2.571353	1.929875	1.662583	1.51643	1.648006	1.286522	1.709128	1.730753	1.92303	1.663262	1.64691	2.045158	1.608479	1.4821	1.286092
Bk10-45 - 45	2.240254	1.958447	1.737542	1.629634	1.519893	1.251147	1.56013	1.10811	1.306267	1.141003	1.132347	1.085851	1.257287	1.128476	0.950689
Bk10-45 - 46	1.794652	1.477121	1.329674	1.200393	1.475512	1.127105	1.430188	1.714418	1.963488	1.609661	1.6632	1.634471	1.270349	1.925211	1.451504
Bk10-45 - 47	3.20369	2.670001	2.573802	2.2902	2.132515	1.956841	1.530725	1.737089	1.820229	1.709482	1.672776	1.664569	1.695961	1.798309	1.255133
Bk10-45 - 48	2.186762	1.648983	1.390599	1.196222	1.039077	0.925777	1.405027	1.316938	1.639738	1.390712	1.358623	1.419682	1.347551	1.565502	1.133056
Bk10-45 - 49	2.584825	2.062785	1.874368	1.755914	1.865504	1.509458	1.944216	1.843462	1.697682	1.395402	1.590728	1.440033	1.09796	1.362463	1.137141
Bk10-45 - 50	2.056294	1.710689	1.643617	1.458817	1.549458	1.514984	2.057274	1.76994	1.956621	1.714156	1.666883	1.613536	1.170453	1.635108	1.423464
Bk10-45 - 51	2.148539	1.802266	1.705071	1.652657	1.908319	1.640193	1.694607	1.911919	2.027904	1.723326	1.865311	1.817302	1.432285	1.717523	1.365245
Bk10-45 - 52	1.675925	1.361754	1.165938	1.015759	1.154768	0.963974	0.985372	1.061159	1.144107	1.155319	1.175319	1.291824	0.919028	1.247386	0.888987
Bk10-45 - 53	1.77249	1.453384	1.273042	1.188979	1.359192	1.426042	1.49649	1.578902	1.592501	1.502156	1.626422	1.817375	1.508788	1.521642	1.242622
Bk10-45 - 54	2.362286	1.704639	1.422903	1.341843	1.352705	1.240655	1.395608	1.433504	1.634862	1.429995	1.664446	1.523801	1.388076	1.359271	1.135459
Bk10-45 - 57	3.015703	2.171469	1.922456	1.634092	1.208014	1.570024	1.139273	0.929908	1.389361	1.178205	0.988611	1.360126	1.477836	1.48908	1.088777
Bk10-45 - 58	2.229089	1.920682	1.785353	1.669111	1.60426	1.445566	1.352189	1.318506	1.317705	1.069611	0.984544	0.937858	1.024846	1.001982	0.890343
Bk10-45 - 59	2.603707	2.163808	1.950158	1.756369	1.890939	1.565973	1.800089	1.526067	1.572499	1.314757	1.474281	1.295053	0.990916	1.254486	0.882636
Bk10-45 - 60	1.904248	1.546773	1.341601	1.251459	1.405709	1.213749	1.347009	1.405014	1.510028	1.393678	1.540455	1.619517	1.12698	1.322391	1.207419
Bk10-45 - 61	2.172544	1.695177	1.519436	1.414413	1.336797	1.25735	1.500785	1.449347	1.559345	1.251663	1.332871	1.309897	1.103551	1.379938	0.956577
Bk10-45 - 62	1.609547	1.26637	1.020274	0.89011	1.033022	0.85582	1.201245	1.228861	1.559613	1.364688	1.198803	1.230989	1.042005	1.559134	1.157372
Bk10-45 - 63	2.117502	1.65517	1.490667	1.285185	1.402772	1.311042	1.48785	1.483753	1.986956	1.600046	1.702792	1.764852	1.22211	1.68801	1.055442
Bk10-45 - 65	2.092629	1.556711	1.3287	1.300611	1.676677	1.608563	2.244206	2.292978	2.77796	2.416839	3.107443	2.406217	2.233028	2.531762	2.01356
Bk10-45 - 66	2.15916	1.530214	1.201907	1.070208	1.166599	1.092272	1.234036	1.323181	1.647654	1.444489	1.417254	1.51887	1.400889	1.834939	1.532859
Bk10-45 - 67	2.219606	1.713872	1.508501	1.459176	1.566581	1.414843	1.949888	1.63302	1.977003	1.778793	2.020571	1.809049	1.480452	1.833034	2.136359
Bk10-45 - 68	1.699917	1.368401	1.171539	1.085541	1.30189	1.340138	1.576815	1.325832	1.732418	1.351507	1.19375	1.212991	1.028339	1.606621	1.398594
Bk10-45 - 69	2.498839	1.884043	1.676227	1.675838	1.937865	1.728759	2.157932	2.083168	2.114351	1.748835	1.879516	1.67909	1.28542	1.520833	1.089418
Bk10-45 - 70	2.046435	1.509894	1.33355	1.134366	1.364496	1.212221	1.653087	1.81194	2.185481	2.012686	2.208634	2.192941	1.928311	2.274347	2.025955
Bk10-45 - 71	1.770659	1.34604	1.115269	1.013136	1.170943	1.132458	1.344072	1.056985	1.412929	1.263475	1.381813	1.363148	0.996393	1.481887	1.026866
Bk10-45 - 72	2.027101	1.620438	1.424368	1.334607	1.422182	1.27563	1.228671	1.192121	1.499146	1.279642	1.3644	1.236165	1.056488	1.550849	1.092617
Bk10-45 - 73	2.243678	1.870862	1.522647	1.336216	1.439811	1.270228	1.277195	1.353607	1.434642	1.315098	1.243847	1.288791	1.065006	1.324467	1.032196
Bk10-45 - 75	2.284271	1.773075	1.449995	1.307916	1.336904	1.047839	1.194438	1.117	1.280747	1.107897	1.230539	0.998496	1.019967	1.199258	1.00542
Bk10-45 - 76	2.562361	1.879384	1.69719	1.369121	1.606425	1.55231	1.665044	1.748703	1.960906	1.769168	2.059219	2.044418	1.476946	1.987824	1.566082
Bk10-45 - 77	1.803456	1.438721	1.30005	1.182817	1.203993	1.095503	1.249355	1.110454	1.671457	1.246929	1.426778	1.409026	1.154735	1.439534	0.897972
Bk10-45 - 78	2.217347	1.894553	1.712705	1.571886	1.745407	1.626701	1.805301	1.631587	2.002685	1.608616	1.454804	1.571482	1.62583	1.547644	1.316496
Bk10-45 - 79	1.775495	1.316919	1.058501	1.032012	1.035137	1.005687	1.093328	1.551314	1.65377	1.624152	1.443231	1.70959	1.323373	1.737211	1.510728
Bk10-45 - 80	2.563421	1.863494	1.577658	1.360505	1.263592	1.057984	1.219532	1.074723	1.272695	1.149836	1.11338	1.072531	0.840608	1.25452	0.810834
	2.174449	1.695608	1.481166	1.362871	1.440857	1.304254	1.555962	1.504104	1.729627	1.515183	1.558548	1.577731	1.320021	1.590078	1.246549

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Bk10-111 - 1	0.771598	0.827016	1.068142	1.353477	2.264047	1.539566	3.288001	3.025733	2.576366	2.336432	2.674595	2.172993	2.053208	1.838069	1.74941
Bk10-111 - 2	0.456705	0.322082	0.27341	0.251157	0.317744	0.426652	0.380468	0.525919	0.671592	0.677603	0.729814	0.810427	0.836409	0.81602	0.554125
Bk10-111 - 3	0.342583	0.315093	0.326408	0.38787	0.484966	0.819054	0.901043	1.223756	1.53846	1.69644	1.652087	1.856633	1.588396	2.216012	1.601128
Bk10-111 - 4	0.212744	0.203739	0.222698	0.241458	0.430375	0.4669	0.606307	0.700207	0.878535	0.903065	0.903471	1.003895	0.797082	0.948931	0.772492
Bk10-111 - 5	0.11693	0.100262	0.104607	0.09736	0.34178	0.398169	0.525285	0.598981	1.022843	0.94075	0.896474	0.892586	0.900973	1.201535	0.760956
Bk10-111 - 6	0.09857	0.078601	0.076471	0.084471	0.148033	0.175218	0.185571	0.219282	0.296312	0.387017	0.341059	0.3409	0.363067	0.588365	0.353479
Bk10-111 - 7	0.203287	0.220179	0.27208	0.371825	0.651	0.722337	1.085384	1.076957	1.269254	1.237561	1.176203	1.342845	1.207388	1.135557	1.197226
Bk10-111 - 9	0.653741	0.367307	0.314864	0.284049	0.415419	2.260737	0.731217	0.788783	1.064849	1.113823	1.193065	1.041865	1.174841	1.334983	0.750478
Bk10-111 - 10	0.405136	0.398688	0.398912	0.443492	0.469076	0.801678	0.88017	1.09455	1.275459	1.344281	1.510771	1.437971	1.48276	1.561798	1.224863
Bk10-111 - 11	0.213234	0.184765	0.185155	0.2212	0.306978	0.321502	0.47294	0.596577	0.798956	0.801101	0.980037	0.813664	0.719866	1.119259	0.865778
Bk10-111 - 12	0.513777	0.408665	0.392086	0.443282	0.706373	0.819746	0.938297	1.199355	1.280078	1.293166	1.3721	1.378163	1.067798	1.447986	1.171635
Bk10-111 - 13	0.439723	0.349723	0.348753	0.345811	0.57474	0.458283	0.801949	0.823054	1.204187	1.186028	1.11918	1.334158	0.979643	1.454392	1.202216
Bk10-111 - 14	0.384709	0.346664	0.407586	0.453341	0.756279	0.955389	1.183309	1.351374	1.62917	1.464099	1.555311	1.376447	1.448275	1.2009	1.364518
Bk10-111 - 16	0.507808	0.449209	0.485625	0.508474	0.553613	0.831099	0.912898	1.180135	1.456954	1.457067	1.526849	1.748482	1.540765	1.925173	1.206063
Bk10-111 - 17	0.274154	0.197998	0.191454	0.205687	0.268807	0.477273	0.607669	0.594216	0.757263	0.919627	0.726567	0.892041	0.915557	1.055708	0.690574
Bk10-111 - 18	0.642676	0.682992	0.668231	0.702874	0.632144	0.635072	0.774628	0.860551	1.060376	0.981318	1.010945	1.229916	0.9507	1.161798	0.793147
Bk10-111 - 19	0.803249	1.014367	1.068855	0.972044	1.029795	0.607346	0.664838	0.917577	0.991994	0.982218	1.058843	1.210857	0.904832	0.937169	0.935205
Bk10-111 - 20	0.478964	0.439705	0.443786	0.50915	0.823433	1.242395	1.748467	2.195037	2.939183	2.884944	3.063857	3.167326	2.56123	3.352729	2.318718
Bk10-111 - 22	0.45677	0.492525	0.562997	0.580168	0.971419	1.154454	1.47655	1.739174	1.771084	1.533141	1.995598	2.291442	2.366339	2.140157	2.242838
Bk10-111 - 23	0.318996	0.326337	0.357448	0.440871	0.731763	1.113978	0.978579	0.999415	1.043902	0.953899	0.953018	0.967745	0.863807	1.031506	0.771724
Bk10-111 - 24	0.182354	0.137207	0.129372	0.138506	0.269402	0.40015	0.42282	0.495002	0.903094	0.855562	0.839632	0.853312	0.835467	0.983388	0.861814
Bk10-111 - 25	0.308557	0.262236	0.276228	0.310783	0.55558	0.714422	0.770979	1.079364	1.408295	1.370799	1.380689	1.307205	1.25627	1.78404	1.111707
Bk10-111 - 26	0.154197	0.136544	0.138951	0.148823	0.270276	0.553165	0.405729	0.509985	0.790513	0.750704	0.687045	0.970959	0.840378	0.818768	0.687537
Bk10-111 - 27	0.118921	0.095937	0.110388	0.10946	0.249709	0.564166	0.432627	0.428893	0.822223	0.674571	0.756522	0.699407	0.687521	0.900851	0.76163
Bk10-111 - 28	0.563693	0.435234	0.426282	0.494648	0.674008	0.927512	0.911951	0.87579	1.46947	1.12417	1.307018	1.237849	1.104561	1.203401	1.037302
Bk10-111 - 29	0.465983	0.459249	0.479242	0.491961	0.765572	0.673417	0.793264	0.976052	1.330659	1.348147	1.209139	1.451918	1.339176	1.61649	1.289385
Bk10-111 - 30	0.81244	0.61068	0.554086	0.607786	0.829014	0.740211	0.941366	1.018957	1.435971	1.247239	1.452864	1.32577	0.896482	1.041094	1.258988
Bk10-111 - 31	0.499543	0.37626	0.355518	0.409279	0.681305	0.956731	1.148101	1.044576	1.422859	1.354403	1.222856	1.475925	1.12072	1.547472	1.218458
Bk10-111 - 32	0.352432	0.326961	0.362708	0.395492	0.574071	0.833776	0.931158	1.203064	2.089011	1.712174	1.97794	2.192228	1.831837	2.036706	1.649783
Bk10-111 - 33	0.449103	0.363405	0.358515	0.386415	0.728591	0.830002	1.29117	1.527559	2.037422	2.199725	2.083464	2.470796	1.874852	2.453643	1.935568
Bk10-111 - 34	0.451269	0.420668	0.388362	0.389484	0.74133	0.627221	1.078467	1.301573	1.655726	1.952851	2.202696	2.281553	1.586123	2.241891	1.656375
Bk10-111 - 35	0.292757	0.25983	0.293591	0.313165	0.604645	0.743582	0.836939	0.933902	1.21871	1.271314	1.180706	1.375465	1.214204	1.433603	1.304041
Bk10-111 - 36	0.262728	0.235281	0.25724	0.286169	0.415974	0.570179	0.682634	0.748733	1.251446	1.157809	1.168541	1.247554	1.014618	1.374803	1.021918
Bk10-111 - 37	0.372174	0.34525	0.355008	0.380032	0.541584	0.877951	1.014573	1.298469	1.757202	1.459515	1.646604	1.679313	1.407663	1.615919	1.238948
Bk10-111 - 38	0.761503	0.675517	0.638514	0.621667	0.763579	0.699975	1.172464	1.419577	1.865492	1.956525	1.887669	1.972841	1.711489	2.152535	1.814228
Bk10-111 - 39	0.349091	0.293953	0.289145	0.287456	0.402076	0.664393	0.733856	0.77535	1.094938	1.111773	1.119763	1.234276	1.240627	1.291134	1.048517
Bk10-111 - 40	0.199545	0.184235	0.195381	0.239481	0.45301	0.489017	0.538928	0.830439	1.082599	1.144885	1.221292	1.119565	0.999736	1.47313	0.827256

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Bk10-111 - 41	0.651197	0.549449	0.593965	0.583368	0.651777	0.771648	0.965075	0.827193	1.114519	1.022531	1.099393	1.051813	1.035133	1.100752	0.989487
Bk10-111 - 42	0.522254	0.420023	0.367557	0.361548	0.431032	0.586782	0.709059	0.841895	1.191743	1.160183	1.095591	1.247731	1.076075	1.497132	1.226292
Bk10-111 - 43	0.407035	0.356975	0.489025	0.402163	0.466107	0.43356	0.619983	0.804108	1.018473	0.953887	0.939514	0.96624	0.922472	1.141005	0.655059
Bk10-111 - 44	0.366285	0.231795	0.189182	0.232187	0.364666	0.576479	0.523978	0.728193	1.179126	0.996365	1.0469	1.001079	0.908828	1.122344	1.003564
Bk10-111 - 45	0.536419	0.510619	0.477177	0.47634	0.546969	0.587601	0.568718	0.807471	0.976813	0.972999	1.011809	1.012709	0.895199	1.071076	1.082885
Bk10-111 - 46	0.203326	0.210633	0.225919	0.267408	0.404023	0.449925	0.456081	0.547236	0.796242	0.800257	0.863493	0.944485	0.780974	0.961568	0.805064
Bk10-111 - 47	0.783125	0.744108	0.70944	0.782042	0.830364	0.982103	1.143348	1.256673	1.86394	1.623733	1.613559	1.956812	1.386917	1.792588	1.47809
Bk10-111 - 48	0.178161	0.16619	0.183555	0.211951	0.402036	0.429537	0.553789	0.906121	1.112639	1.092205	1.020928	1.128155	0.916971	1.254871	1.094418
Bk10-111 - 49	0.408868	0.39537	0.372941	0.387816	0.593677	0.518714	0.631353	0.684301	0.988523	1.000169	0.877825	1.007164	0.804648	1.084376	0.859698
Bk10-111 - 50	0.239407	0.163867	0.140205	0.181461	0.400663	0.631999	0.827802	0.876107	1.331435	1.426851	1.488888	1.75674	1.480956	1.900918	1.218142
Bk10-111 - 51	0.362635	0.321542	0.278999	0.332934	0.46362	0.666622	0.727071	1.045211	1.463064	1.368395	1.414962	1.495357	1.15679	1.70898	1.484717
Bk10-111 - 52	0.2229	0.200226	0.210823	0.262306	0.348791	0.570326	0.650143	0.774495	0.934736	0.893757	0.824145	0.925059	0.923356	1.125299	0.855109
Bk10-111 - 53	0.139756	0.115669	0.112489	0.11568	0.233117	0.503929	0.540072	0.646085	0.882851	0.946354	0.988134	1.199621	1.037084	1.443546	0.987458
Bk10-111 - 54	0.150213	0.123617	0.125443	0.137555	0.2184	0.191921	0.33407	0.542692	0.613518	0.590394	0.544174	0.721693	0.665378	0.785352	0.594541
Bk10-111 - 55	0.751154	0.507727	0.389578	0.326369	0.547305	1.246453	0.679813	0.776232	0.930353	0.897916	1.024055	0.890291	1.03473	0.980628	0.629468
Bk10-111 - 56	0.263348	0.205407	0.186251	0.237853	0.565909	0.590157	0.84998	1.151847	1.373414	1.410337	1.59096	1.461918	1.234018	1.4042	1.565384
Bk10-111 - 57	0.367547	0.363909	0.412856	0.416602	0.675322	1.017905	1.153984	1.222247	1.762813	1.564618	1.869833	1.904415	1.515716	1.707608	1.301757
Bk10-111 - 58	0.532308	0.535465	0.561508	0.555575	0.594098	0.801216	0.877188	1.025083	1.273675	1.273663	1.364083	1.349144	1.196647	1.286139	1.044395
Bk10-111 - 59	0.147979	0.12025	0.143644	0.14724	0.329754	0.488801	0.485785	0.756164	0.978857	0.997066	1.007402	1.124495	0.950412	1.105797	1.068109
Bk10-111 - 60	0.173763	0.149648	0.131194	0.189902	0.326998	0.43234	0.473644	0.725749	0.892887	0.922314	0.98268	1.01001	0.808043	1.199133	1.003025
Bk10-111 - 61	0.342291	0.277475	0.263182	0.266648	0.39009	0.550452	0.748458	0.875122	1.278828	1.278861	1.360891	1.487989	1.288033	1.438198	1.130362
Bk10-111 - 62	0.454202	0.43035	0.465108	0.621823	0.961087	0.918233	1.124192	1.032552	1.247045	1.124606	1.121951	1.189242	0.966015	1.218766	0.746408
Bk10-111 - 63	0.257644	0.175874	0.155947	0.122619	0.196706	0.392528	0.31984	0.377731	0.518563	0.52231	0.555854	0.57405	0.590805	0.666612	0.524026
Bk10-111 - 64	0.377268	0.500395	0.538902	0.549566	0.559679	0.534267	0.548807	0.539511	0.654537	0.706346	0.641181	0.75942	0.718465	0.78469	0.786582
Bk10-111 - 65	0.899016	0.861378	0.86927	0.944249	1.145043	0.832961	0.981391	0.786134	1.034375	0.823757	0.944305	0.954379	0.694958	0.926905	0.629624
Bk10-111 - 66	0.332592	0.23962	0.314585	0.32478	0.415817	0.617824	0.395368	0.548865	0.751725	0.753748	0.833743	0.89007	0.568602	0.770299	0.717802
Bk10-111 - 67	0.180346	0.149777	0.150645	0.140851	0.195491	1.576574	0.409729	0.441958	0.547592	0.659232	0.757633	0.651122	0.683951	0.86992	0.510416
Bk10-111 - 68	0.356023	0.331829	0.409297	0.516863	0.843184	1.10418	1.254608	1.030368	1.104074	0.930383	1.044727	0.941788	0.853473	0.864771	0.604736
Bk10-111 - 69	0.323369	0.319429	0.333186	0.381576	0.729252	0.707114	0.963914	1.121041	1.595514	1.562865	1.56188	1.784533	1.607475	1.832459	1.695297
Bk10-111 - 70	0.385178	0.508144	0.418626	0.386197	0.416233	0.460661	0.375109	0.606797	0.651036	0.660007	0.729183	0.804694	0.622216	0.703836	0.656592
Bk10-111 - 71	0.173165	0.275293	0.409432	0.549823	1.288651	1.400411	1.792404	2.083788	2.257179	1.782049	1.86733	1.933392	1.370963	1.709558	1.275218
Bk10-111 - 72	0.273464	0.351525	0.367817	0.472072	0.769679	1.038324	1.264943	1.433712	1.611154	1.426705	1.414762	1.288257	0.920243	0.958204	0.773553
Bk10-111 - 73	0.208644	0.321231	0.458773	0.565086	1.229958	1.457432	2.081658	2.311796	2.640521	2.138367	2.151648	2.002377	1.374013	1.618921	1.126015
Bk10-111 - 74	0.189985	0.286118	0.373613	0.521564	1.069841	1.075998	1.484918	1.870795	1.988184	1.501722	1.483363	1.483272	0.825295	1.165759	0.799023
Bk10-111 - 75	0.228629	0.285534	0.350482	0.445543	0.738241	0.920177	1.169862	1.427424	1.498578	1.26083	1.323416	1.206838	1.051773	1.151316	0.944206
Bk10-111 - 76	0.248518	0.378366	0.463758	0.623896	1.445611	1.539691	2.232957	2.427754	2.671702	2.221385	2.281462	2.113949	1.750599	1.557428	1.375471
Bk10-111 - 77	0.143302	0.300141	0.486403	0.790093	1.978294	2.459482	3.361933	3.588146	3.958088	2.779803	3.007106	2.744898	2.03406	2.293509	1.898711
Bk10-111 - 78	0.189176	0.344666	0.525067	0.811321	2.023651	2.039959	2.804316	3.348022	3.619293	2.663497	3.234645	2.546184	2.002724	2.17867	1.491569
Bk10-111 - 79	0.246474	0.343383	0.413008	0.507182	0.902619	1.01216	1.631655	1.556807	1.839717	1.52114	1.526916	1.41287	1.117064	1.255467	0.949216
Bk10-111 - 80	0.27673	0.373367	0.379304	0.487453	0.891177	1.009062	1.481409	1.580886	1.801742	1.49069	1.562196	1.371768	1.079567	1.175481	1.050083

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Bk10-111 - 81	0.364783	0.49469	0.536405	0.691272	1.332882	1.259941	1.813756	2.128649	2.320595	1.903685	2.058882	1.857263	1.390776	1.554258	1.313909
Bk10-111 - 82	0.405316	0.514709	0.597559	0.681202	1.307236	1.52989	2.035969	2.263871	2.315972	1.878246	2.169486	1.740444	1.297694	1.316917	1.159299
Bk10-111 - 83	0.172429	0.341133	0.552359	0.811912	2.015622	2.298604	2.626367	3.083662	3.210651	2.209744	2.503528	2.200119	1.662031	1.905504	1.309912
Bk10-111 - 84	0.257018	0.397578	0.526802	0.697478	1.508363	1.510223	2.238091	2.671673	3.052495	2.343716	2.52285	2.148902	1.77732	2.174053	1.312336
Bk10-111 - 85	0.354414	0.500782	0.557113	0.754457	1.415548	1.566806	2.061292	2.380385	2.757921	2.204302	2.297484	2.125796	1.828711	1.878686	1.494885
Bk10-111 - 86	0.341108	0.51134	0.569574	0.752595	1.535604	1.84042	2.179124	2.279503	2.666593	2.28757	2.401358	2.090908	1.749697	2.178649	1.241066
Bk10-111 - 87	0.273275	0.454764	0.61543	0.874469	2.10174	2.44691	2.977416	3.610181	3.57179	2.576236	2.752868	2.663594	2.084162	1.839513	1.700518
Bk10-111 - 88	0.313165	0.466097	0.544194	0.73348	1.575811	1.784034	2.312304	2.547078	2.821537	2.233215	2.665874	2.387615	1.816801	2.059807	1.625105
Bk10-111 - 89	0.464482	0.644977	0.622949	0.798839	1.335706	1.771447	2.23748	2.083697	2.765133	2.291181	2.669658	2.38736	1.987344	2.366592	1.56425
Bk10-111 - 90	0.318285	0.508347	0.645945	0.880178	2.018202	2.186044	2.711304	3.258191	4.087201	2.928079	3.404819	3.09733	2.381313	2.296519	1.864765
Bk10-111 - 91	0.35205	0.546227	0.669823	0.880911	1.870492	2.076909	2.972578	3.53864	3.480631	2.98648	3.290814	3.131689	2.138857	2.585707	1.632099
Bk10-111 - 92	0.358113	0.533021	0.675638	0.933972	2.05136	2.023648	2.991592	3.379968	3.780651	2.917806	3.360209	2.926492	2.275638	2.753777	1.807537
Bk10-111 - 93	0.37324	0.54058	0.621047	0.888676	1.471394	1.774304	2.228986	3.128109	3.46274	2.590437	2.817356	2.59573	2.11333	2.348054	1.768452
Bk10-111 - 94	0.342133	0.511414	0.604484	0.807474	1.686193	1.946244	2.540305	2.993627	3.399453	2.519388	2.984363	2.749228	2.088466	2.370006	1.49493
Bk10-111 - 95	0.392244	0.559109	0.674858	0.920782	1.994537	2.212862	2.659021	3.113342	3.669202	2.808547	3.184419	3.044182	2.601353	2.724065	2.094175
Bk10-111 - 96	0.284493	0.407605	0.485679	0.654688	1.225817	1.458731	1.841284	2.256854	2.93052	2.08918	2.470006	2.528362	1.653243	2.180129	1.999648
Bk10-111 - 97	0.422445	0.573544	0.714794	0.95191	1.72518	2.216191	2.922454	3.1815	3.643617	2.752268	3.072908	2.842095	1.888415	2.448347	1.796202
Bk10-111 - 98	0.278458	0.438917	0.608755	0.761772	1.877481	1.984697	2.795764	2.926923	3.476292	2.474323	2.541427	2.763759	1.76913	2.379116	1.772252
Bk10-111 - 99	0.294061	0.449015	0.569197	0.746875	1.770661	2.11847	2.870327	3.084697	3.334313	2.505121	2.891019	2.437755	2.095221	1.988153	1.496624
Bk10-111 - 100	0.310162	0.486814	0.673402	0.861795	1.94859	2.232736	3.240314	3.721774	4.061601	3.146291	3.421998	3.140988	2.327737	2.627949	1.994692
Bk10-111 - 101	0.240939	0.41121	0.547687	0.826059	1.997447	1.96134	2.736555	3.270131	3.611404	2.794881	3.060777	2.886323	1.917952	2.606503	1.676948
Bk10-111 - 102	0.387201	0.526878	0.601852	0.697729	1.575796	1.483437	1.966326	2.305811	2.74253	2.14785	2.26436	2.240962	1.874675	2.10379	1.580331
Bk10-111 - 103	0.412244	0.531391	0.543273	0.69154	1.398283	1.564886	2.057295	2.21283	2.810857	2.126128	2.221309	2.148012	1.674414	1.833079	1.313476
Bk10-111 - 104	0.352434	0.498518	0.579785	0.818889	1.65055	2.032416	2.486507	2.707469	3.392461	2.410752	2.824389	2.346828	1.79584	2.12995	1.842458
Bk10-111 - 106	0.340254	0.504051	0.56547	0.739191	1.282174	1.521282	2.053366	2.424648	2.540335	2.140808	2.414911	2.141702	1.607459	2.078895	1.531368
Bk10-111 - 107	0.259481	0.408269	0.549582	0.714244	1.627258	1.892763	2.279793	2.471541	2.687676	1.907636	2.129106	2.114324	1.514687	1.882063	1.107309
Bk10-111 - 108	0.240616	0.396675	0.564812	0.806199	1.661205	2.060716	2.587969	2.864766	3.055849	2.24374	2.428863	2.250741	1.757746	1.953196	1.511256
Bk10-111 - 109	0.288496	0.394716	0.535723	0.704773	1.586353	1.483579	2.266393	2.670558	3.123819	2.510715	2.974965	2.958548	1.9749	2.242235	2.028985
Bk10-111 - 110	0.244382	0.383391	0.512764	0.702549	1.344158	1.830074	2.385546	2.436017	2.685006	2.122713	2.262349	1.932444	1.531609	2.082938	1.077319
	0.356821	0.384212	0.427294	0.512567	0.92334	1.097055	1.363439	1.557626	1.854437	1.580746	1.697351	1.663979	1.350111	1.586221	1.226356

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Bk10-164 - 1	1.94428	1.773974	1.692901	1.622403	1.757394	1.388966	1.639776	1.667787	1.981034	1.626788	1.906673	1.810594	1.367884	1.884886	1.363004
Bk10-164 - 2	2.017355	1.818994	1.755984	1.760438	1.89883	1.686972	2.553586	2.446743	3.332774	2.777553	3.054168	3.209621	2.953782	3.686364	3.024985
Bk10-164 - 4	1.560569	1.421683	1.295026	1.341763	1.361502	1.383903	1.706238	1.674917	2.008407	1.609528	1.779058	1.721364	1.51312	1.931785	1.491041
Bk10-164 - 5	1.956516	1.769209	1.526668	1.430106	1.479742	1.406499	1.721256	1.398401	1.74973	1.621477	1.806404	1.787973	1.605367	2.177283	1.695025
Bk10-164 - 6	2.596364	2.761585	2.965011	3.094379	3.069519	2.421057	2.412549	2.052763	2.44628	1.969164	2.039268	2.111178	1.79817	2.576617	1.903976
Bk10-164 - 7	2.798981	2.3829	2.073704	1.819089	1.768693	1.41745	1.640539	1.593262	1.892796	1.654078	1.843589	1.924479	1.855125	2.235982	1.702953
Bk10-164 - 8	2.111586	1.860785	1.72761	1.689295	1.76298	1.793553	1.891683	2.09275	2.534855	2.024495	2.247696	2.245573	1.960042	2.374083	1.702175
Bk10-164 - 9	1.952487	1.677057	1.563596	1.424653	1.424535	1.409168	1.407606	1.804664	1.965541	1.68638	1.786465	1.78755	1.789494	2.181321	1.578045
Bk10-164 - 10	2.509957	2.113543	1.875827	1.726765	1.6752	1.447472	1.706638	1.554577	1.836407	1.6064	1.737325	1.754027	1.58123	1.858801	1.533016
Bk10-164 - 11	2.158033	1.947442	1.832529	1.641922	1.562049	1.345773	1.614752	1.378152	1.686388	1.455123	1.378529	1.498218	1.550775	1.770208	1.395951
Bk10-164 - 12	1.675143	1.407475	1.343536	1.263625	1.813899	1.529571	2.229554	2.636714	3.009528	2.878406	2.938788	3.058007	3.080983	4.044076	3.748586
Bk10-164 - 13	1.963533	1.577755	1.321023	1.15123	1.243562	1.245611	1.353953	1.54178	1.580372	1.378919	1.544237	1.57705	1.279876	1.562606	1.263621
Bk10-164 - 14	2.872507	2.281306	1.888289	1.61537	1.449141	1.161989	1.678907	1.769484	2.025659	1.783022	1.867805	1.985098	1.529079	2.08437	1.586585
Bk10-164 - 15	2.196402	2.007961	1.850881	1.722976	1.909122	1.576998	2.273547	2.194084	2.540792	2.339389	2.468673	2.530794	2.375871	2.592619	2.235462
Bk10-164 - 16	1.943159	1.6559	1.435699	1.29829	1.311113	1.271845	1.553924	1.564201	2.058434	1.756781	1.762209	1.983421	1.849105	2.012914	1.86413
Bk10-164 - 17	2.798059	2.445303	2.257972	2.097515	2.036	1.612237	1.668498	1.640494	2.001672	1.60245	1.891388	1.777406	1.46383	1.781017	1.560012
Bk10-164 - 18	2.285668	1.843241	1.511211	1.31187	1.169179	1.181637	1.403452	1.497307	2.083891	1.656074	1.780924	1.744951	1.627044	2.0107	1.392276
Bk10-164 - 19	1.941987	1.832701	1.730262	1.683551	1.722481	1.279518	1.359523	1.42254	1.624002	1.392164	1.589033	1.568355	1.417732	1.716161	1.347174
Bk10-164 - 20	1.833707	1.518491	1.272022	1.216545	1.108189	1.013316	1.122551	1.139377	1.614761	1.394135	1.434074	1.656179	1.391413	1.799955	1.437016
Bk10-164 - 21	1.590948	1.325417	1.114625	1.102855	1.159848	1.26513	1.723542	1.833945	2.490167	2.057348	2.154184	2.291153	1.978553	2.763621	1.868211
Bk10-164 - 22	2.074606	2.089799	2.071284	2.014917	1.897315	1.629235	1.407615	1.366495	1.540929	1.366531	1.298671	1.331606	1.48712	1.751179	1.335232
Bk10-164 - 23	1.88318	1.805267	1.823878	1.738779	1.708861	1.354706	1.67229	1.502891	1.697965	1.568583	1.549668	1.607985	1.505159	1.707404	1.324085
Bk10-164 - 24	1.720458	1.629696	1.554415	1.49977	1.579408	1.289358	1.484173	1.455399	1.686711	1.33439	1.42243	1.438398	1.246656	1.496576	1.011216
Bk10-164 - 25	1.45787	1.269711	1.171334	1.102619	1.271986	1.136915	1.5196	1.486262	1.88768	1.62169	1.664812	1.775109	1.349788	2.103487	1.509227
Bk10-164 - 26	2.756986	2.343693	2.100085	1.800639	1.625135	1.323398	1.497708	1.517234	1.949545	1.679969	1.777642	1.873594	1.588595	2.127203	1.707888
Bk10-164 - 28	1.650183	1.505976	1.360862	1.321709	1.301039	1.371717	1.823477	1.695141	2.082094	1.795933	1.866043	1.840878	1.526904	1.911988	1.507258
Bk10-164 - 29	3.375322	3.477883	3.574816	3.699027	3.433533	2.899655	2.593348	2.089809	2.014838	1.786287	1.914813	1.885196	1.330561	1.939346	1.343435
Bk10-164 - 30	1.754013	1.473506	1.376377	1.176044	1.326417	1.623804	2.075114	2.220871	2.741686	2.603192	2.603636	3.079728	2.580141	3.591759	2.664735
Bk10-164 - 31	2.084973	1.84834	1.79003	1.625117	1.688684	1.338221	1.563715	1.364321	1.536232	1.348891	1.544488	1.551333	1.314962	1.669626	1.247359
Bk10-164 - 32	2.005592	1.46747	1.463821	1.378121	1.452385	1.536576	1.671718	1.399392	1.821539	1.61869	1.880755	1.682712	1.493124	1.956298	1.447703
Bk10-164 - 33	1.910552	1.595688	1.448465	1.251776	1.561604	1.260517	2.028022	1.659791	2.103464	1.799647	1.928336	1.798369	1.905498	1.935975	1.753073
Bk10-164 - 34	1.416203	1.23213	1.093331	0.93621	0.95526	0.887171	1.077285	1.32262	1.557263	1.400296	1.397187	1.627561	1.230799	1.899194	1.322618
Bk10-164 - 35	1.890119	1.634161	1.482607	1.453275	1.682706	1.42196	1.800389	1.869996	2.120512	1.863641	1.940251	1.85638	1.666802	1.914451	1.817685
Bk10-164 - 37	1.321347	1.144324	1.064858	1.018785	1.195466	0.917473	1.425424	1.324673	1.404029	1.420632	1.582742	1.547243	1.345822	1.533429	1.549208
Bk10-164 - 38	1.787161	1.506131	1.310816	1.173203	1.358957	1.0805	1.363092	1.903826	1.814266	1.84534	1.769988	1.690984	1.614971	2.135689	1.570105
Bk10-164 - 39	1.680769	1.411864	1.243232	1.110898	1.33925	1.347246	1.901858	1.736855	2.082274	1.760609	1.93393	1.746623	2.480832	1.958219	1.718308
Bk10-164 - 40	1.916916	1.720493	1.561297	1.483127	1.540599	1.302396	1.623592	1.72561	1.994629	1.762444	1.723221	1.916258	1.528318	1.966374	1.578651

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Bk10-164 - 41	2.769557	2.256609	2.583457	2.644634	2.717047	1.974958	2.156835	1.89343	2.186749	2.039945	2.1545	2.265242	1.889467	2.783414	1.939929
Bk10-164 - 42	1.740263	1.521672	1.311192	1.18183	1.203395	1.127752	1.538431	1.324644	1.916647	1.612336	1.77713	1.649001	1.5546	1.919887	1.523648
Bk10-164 - 43	1.95012	1.775432	1.605812	1.481817	1.597452	1.500441	1.598039	1.802465	2.038658	1.849235	2.183964	1.845197	1.613787	2.002909	1.656218
Bk10-164 - 44	2.045273	1.959715	1.994953	1.961277	2.138365	1.671959	2.145525	2.244522	2.85804	2.822785	2.638684	2.995936	2.556877	2.833215	2.298649
Bk10-164 - 45	2.010091	1.779244	1.576054	1.555709	1.760456	1.421652	1.692408	1.577943	1.905607	1.64568	1.747505	1.994043	1.600715	1.884843	1.445888
Bk10-164 - 46	1.607139	1.452614	1.320135	1.247331	1.25215	1.082873	1.55596	1.583131	2.096109	1.856802	1.809884	1.990242	1.599961	2.573928	1.712931
Bk10-164 - 47	2.965227	2.546085	2.474159	2.282373	2.159021	1.586846	2.021039	1.696335	2.173395	1.950742	2.132366	2.058765	1.931127	2.29303	1.722962
Bk10-164 - 48	1.757139	1.531581	1.38588	1.334393	1.602663	1.617322	1.795737	1.726715	1.835656	1.785718	1.875309	1.914865	1.626559	2.167428	1.886276
Bk10-164 - 49	2.145388	1.849483	1.642493	1.49879	1.463127	1.397022	1.687694	1.897738	2.22641	2.055629	2.145872	2.314433	1.844967	2.349588	1.725719
Bk10-164 - 50	1.576864	1.346274	1.212413	1.144528	1.327507	1.081636	1.776331	1.858525	2.54212	2.281892	2.345421	2.545738	2.411071	3.122451	2.292875
Bk10-164 - 52	2.306374	2.29288	2.194511	2.344588	2.330134	1.89575	2.062653	1.895286	2.131949	1.916501	2.008663	2.164999	1.785075	2.251388	2.273922
Bk10-164 - 53	1.926291	1.540474	1.409037	1.172316	1.249964	1.316238	1.475469	1.644563	2.351682	2.021646	2.392916	2.238883	1.854654	2.796522	1.852116
Bk10-164 - 54	2.901591	3.008844	3.08539	3.047605	2.790807	2.149125	2.355869	1.994004	1.98672	1.529194	1.698269	1.556623	1.566202	1.647841	1.271974
Bk10-164 - 55	2.483935	2.401993	2.381021	2.402203	2.270171	1.35129	1.893014	1.552701	1.668213	1.586555	1.683615	1.640937	1.39754	2.074937	1.55901
Bk10-164 - 56	2.492511	2.467619	2.394809	2.294416	2.240027	1.783628	1.731491	1.542994	2.056129	1.61559	1.809808	1.632637	1.376472	1.782182	1.553214
Bk10-164 - 57	1.807722	1.53888	1.451271	1.304324	1.559727	1.37175	1.667474	1.906193	2.333667	1.948968	2.093416	2.165295	1.774357	2.230308	1.764291
Bk10-164 - 58	1.352664	1.188356	1.107274	1.16368	1.188163	0.930962	1.322036	1.528215	1.734561	1.578634	1.879006	1.759492	1.465229	1.52005	1.371017
Bk10-164 - 59	1.943086	1.56959	1.271797	1.098479	1.18863	1.07434	1.43226	1.544225	1.995565	1.649442	1.901109	1.907237	1.544681	2.024492	1.710959
Bk10-164 - 60	1.799026	1.432037	1.287155	1.074221	1.109656	1.117044	1.153154	1.377333	1.758079	1.548448	1.553997	1.671581	1.670226	2.120958	1.879841
Bk10-164 - 62	2.123967	1.843645	1.564746	1.475511	1.490858	1.283592	1.579405	1.69288	1.930039	1.680828	1.714961	1.908464	1.71435	1.96065	1.724035
Bk10-164 - 63	1.904431	1.803869	1.80728	1.715904	1.737343	1.1847	1.614507	1.665547	1.868101	1.656637	1.870954	1.799064	1.857548	1.932772	1.560528
Bk10-164 - 64	1.790167	1.603743	1.510441	1.374288	1.476602	1.248275	1.50554	1.67303	1.871276	1.706689	1.747995	1.78733	1.897275	1.927339	1.59527
Bk10-164 - 65	1.720797	1.637023	1.559134	1.610435	1.858038	1.646424	2.193022	1.862684	2.194594	1.920022	2.047183	2.085036	1.674017	2.273279	1.350441
Bk10-164 - 66	1.98364	1.698292	1.610411	1.481992	1.680123	1.721035	1.926551	2.163473	2.853262	2.914169	2.994028	3.101338	2.902894	3.423868	3.182018
Bk10-164 - 67	3.405033	2.924122	2.682965	2.536029	2.268669	1.63815	2.277596	1.994647	2.317114	1.960314	2.030115	2.251782	1.845758	2.131051	1.751058
Bk10-164 - 68	2.28032	1.934986	1.62704	1.446154	1.533054	1.089132	1.663218	1.81014	2.484892	2.19778	2.154039	2.222745	2.182219	2.819653	1.920899
Bk10-164 - 69	1.654824	1.462141	1.297541	1.267858	1.314914	1.274103	1.523915	1.766069	1.84541	1.812748	1.680377	2.017731	1.965667	2.233263	1.489231
Bk10-164 - 70	1.818364	1.814591	1.857065	1.851677	2.06789	1.739819	2.190502	2.334476	2.509628	2.020157	2.1721	2.202146	1.799104	2.185348	1.716647
Bk10-164 - 71	1.923311	1.665816	1.490877	1.331133	1.583889	1.295634	1.378417	1.930345	2.27885	2.039348	2.203105	2.544829	1.806884	2.41435	1.966041
Bk10-164 - 72	2.277928	1.836872	1.581454	1.437025	1.662466	1.706027	1.786521	1.621357	2.009563	1.650475	1.764754	1.88687	1.438563	1.967622	1.56002
Bk10-164 - 73	1.687468	1.439675	1.270254	1.177754	1.243546	1.285792	1.640068	1.755562	2.194301	2.076252	2.172994	2.288654	1.898533	2.365253	1.928875
Bk10-164 - 75	2.226432	1.89266	1.685407	1.485501	1.366712	1.249297	1.46717	1.374408	1.701946	1.530323	1.68013	1.757751	1.446224	1.931509	1.630911
Bk10-164 - 76	1.536094	1.324418	1.230584	1.148341	1.190182	1.181226	1.308378	1.404291	1.862547	1.570164	1.590616	1.912852	1.610658	2.053094	1.589979
Bk10-164 - 77	1.648353	1.474257	1.340511	1.216125	1.154825	0.964003	1.063839	1.130159	1.390381	1.311201	1.399708	1.606443	1.316582	1.582317	1.30125
Bk10-164 - 78	2.086963	1.95682	1.753348	1.712029	2.07047	1.775174	2.143341	2.165893	2.57014	2.108055	2.111067	2.312523	1.880105	2.505635	1.80311
Bk10-164 - 79	1.688241	1.443475	1.353748	1.256688	1.262917	0.999492	1.23514	1.607338	1.822803	1.757018	1.852716	2.019719	1.875175	1.910315	1.545049
Bk10-164 - 80	1.690876	1.561975	1.446126	1.540069	2.070648	1.880064	2.343071	2.216626	2.257843	1.916846	1.881423	2.176662	1.67513	2.017037	1.677594
	2.032716	1.802116	1.674103	1.582401	1.645719	1.421271	1.717461	1.720338	2.057543	1.810422	1.914984	1.979271	1.743443	2.171044	1.713992



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bk10-80 - 1	0.838028	0.751421	0.743675	0.674985	0.727689	0.563425	0.742465	0.854023	1.091308	0.960937	0.982762	1.165172	0.882099	1.205899	0.865713
bk10-80 - 2	1.030726	1.124677	1.178177	1.158572	1.109255	0.899373	1.001123	0.839337	0.993316	1.016029	0.995648	1.034919	0.973361	1.189633	0.81655
bk10-80 - 3	0.348583	0.36858	0.389863	0.404085	0.487925	0.327514	0.402474	0.443101	0.530748	0.475938	0.431653	0.524553	0.492795	0.60087	0.364962
bk10-80 - 4	0.271379	0.236675	0.242525	0.223315	0.237698	0.26616	0.367159	0.431498	0.521595	0.453423	0.454098	0.496308	0.472254	0.482871	0.416602
bk10-80 - 5	0.347498	0.398055	0.401377	0.458553	0.420952	0.47441	0.707843	0.620513	0.720562	0.670638	0.60714	0.743356	0.5027	0.703414	0.518378
bk10-80 - 6	0.522043	0.597943	0.69324	0.775183	1.279104	1.071501	1.46617	1.086897	1.03143	0.954337	0.894076	1.009659	0.886193	0.934219	0.699249
bk10-80 - 7	0.929558	1.058458	1.129297	1.195593	1.312356	1.028523	1.352237	1.091201	1.466724	1.21143	1.243802	1.405215	1.212944	1.282798	0.878058
bk10-80 - 8	0.373739	0.430454	0.439288	0.467684	0.485627	0.476087	0.507791	0.532372	0.599718	0.593427	0.565437	0.621019	0.482446	0.778511	0.625462
bk10-80 - 9	0.337937	0.412749	0.458377	0.452681	0.485468	0.30018	0.409792	0.447501	0.571042	0.451413	0.421615	0.446732	0.423742	0.565448	0.417426
bk10-80 - 10	0.114757	0.132777	0.138986	0.153755	0.236246	0.181823	0.326773	0.298439	0.402821	0.432165	0.47037	0.401616	0.339708	0.497198	0.340961
bk10-80 - 11	0.247515	0.268132	0.306284	0.27067	0.396543	0.231581	0.285275	0.319142	0.509451	0.489655	0.536837	0.524057	0.449148	0.67488	0.461604
bk10-80 - 12	0.305969	0.307092	0.339514	0.328005	0.417461	0.333863	0.544577	0.446259	0.580682	0.58743	0.596417	0.571932	0.42476	0.681253	0.525884
bk10-80 - 13	0.42582	0.437999	0.466672	0.42834	0.388986	0.3231	0.400991	0.475217	0.589874	0.556099	0.518123	0.592693	0.549691	0.633036	0.624118
bk10-80 - 14	0.184542	0.188233	0.197136	0.207706	0.341562	0.359822	0.447731	0.333813	0.551593	0.468212	0.51117	0.520953	0.330372	0.574681	0.601996
bk10-80 - 15	0.328751	0.354922	0.401119	0.385158	0.465803	0.340487	0.409751	0.400863	0.558778	0.480161	0.495886	0.472911	0.377609	0.517131	0.360618
bk10-80 - 16	0.3942	0.43766	0.443556	0.489759	0.3627	0.494809	0.401022	0.521192	0.637045	0.597697	0.511193	0.611427	0.412886	0.65857	0.333505
bk10-80 - 17	1.215562	1.270845	1.345388	1.304731	1.311976	0.871465	1.054538	1.125203	1.169118	1.131292	1.183081	1.252966	1.055058	1.213095	1.133644
bk10-80 - 18	1.438736	1.423684	1.422544	1.44594	1.47302	1.027455	1.332848	1.072025	1.318153	1.026617	1.035442	1.034385	1.048839	1.175484	0.817369
bk10-80 - 19	0.570554	0.611018	0.6449	0.674735	0.770698	0.643442	0.801508	0.804112	0.876506	0.771355	0.81735	0.79056	0.71715	0.711306	0.74994
bk10-80 - 20	0.653514	0.780165	0.831711	0.841498	0.640949	0.554036	0.801847	0.499377	0.649515	0.540343	0.541827	0.643235	0.453898	0.65973	0.530168
bk10-80 - 21	0.167529	0.170157	0.178266	0.1783	0.251733	0.160311	0.259825	0.345434	0.466362	0.424663	0.404076	0.421834	0.246558	0.506082	0.399383
bk10-80 - 22	0.438822	0.399497	0.382745	0.364271	0.344587	0.257992	0.313296	0.3516	0.426157	0.3915	0.406664	0.530277	0.204531	0.302629	0.385928
bk10-80 - 23	0.335696	0.323179	0.312911	0.314827	0.331439	0.250878	0.296554	0.356586	0.419455	0.403963	0.42715	0.439265	0.379846	0.432189	0.329923
bk10-80 - 24	0.22384	0.186433	0.214354	0.198096	0.342964	0.272312	0.543394	0.522075	0.575164	0.643607	0.460921	0.49965	0.497463	0.77606	0.551127
bk10-80 - 24	0.139104	0.147877	0.179006	0.213942	0.362281	0.303303	0.580747	0.372435	0.550461	0.419764	0.403405	0.391749	0.491444	0.525377	0.338587
bk10-80 - 25	0.471018	0.553842	0.621698	0.578029	0.581215	0.548921	0.4901	0.589469	0.595674	0.56137	0.52753	0.581405	0.341988	0.407581	0.462914
bk10-80 - 26	0.647548	0.774971	0.819674	0.862243	1.254885	0.927615	1.005555	1.100682	1.075605	1.020479	1.041975	0.947399	0.881991	1.047288	0.818831
bk10-80 - 27	0.613933	0.742585	0.857276	1.003938	1.3879	1.063588	1.642505	1.49292	1.371605	1.128329	1.319639	1.266253	0.913704	1.027428	0.883096
bk10-80 - 28	0.845607	0.835669	0.837219	0.812145	0.897454	0.600452	0.815864	0.736825	1.037132	0.904387	0.857783	0.890791	0.780989	1.020679	0.897846
bk10-80 - 29	0.73409	0.634889	0.649656	0.582371	0.535497	0.570604	0.597735	0.620568	0.879095	0.831115	0.996821	0.996451	0.976274	1.041437	0.881375
bk10-80 - 30	0.670066	0.718063	0.724256	0.715214	0.729129	0.65365	0.82794	0.8966	0.841092	0.785961	0.813342	0.834245	0.85096	0.728105	0.738913
bk10-80 - 31	0.187204	0.186431	0.192611	0.263733	0.234158	0.232929	0.371519	0.295445	0.353044	0.291482	0.30729	0.228919	0.130426	0.413862	0.268691
bk10-80 - 32	0.369424	0.422598	0.470098	0.493441	0.356114	0.352721	0.427509	0.357375	0.40989	0.356036	0.379982	0.341779	0.343208	0.43702	0.316008
bk10-80 - 33	0.358891	0.491152	0.569381	0.523259	0.871157	0.646113	0.843309	0.676036	0.724571	0.615696	0.681076	0.71758	0.632584	0.622652	0.533696
bk10-80 - 34	1.14226	1.447054	1.870546	2.060597	3.157483	2.71611	3.647214	2.580192	2.328095	1.208468	1.395713	0.957772	0.674511	0.585368	0.553281
bk10-80 - 35	1.295817	1.55004	1.659056	1.609398	1.500295	0.950846	1.035397	0.60116	0.745864	0.578171	0.620793	0.610033	0.554564	0.552552	0.605287

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bk10-80 - 36	0.718575	0.832144	0.855558	0.9158	0.913265	0.708484	0.839503	0.882551	0.989829	0.826716	0.812226	0.939719	0.819414	0.72021	0.707555
bk10-80 - 37	0.919712	1.072824	1.104515	1.06468	1.016716	0.679178	0.70029	0.838213	0.962178	0.885304	0.866924	0.936944	0.970995	0.9771	0.678285
bk10-80 - 38	0.201329	0.233879	0.283985	0.23133	0.227259	0.274677	0.329372	0.383818	0.39314	0.396479	0.39996	0.446124	0.256914	0.568554	0.362565
bk10-80 - 39	0.691534	0.830315	0.90354	0.904333	0.901434	0.830634	0.844689	0.784884	0.625626	0.610079	0.681197	0.691962	0.583274	0.652624	0.632721
bk10-80 - 40	0.200747	0.260225	0.276057	0.316394	0.464094	0.424009	0.616226	0.56298	0.664054	0.528476	0.531711	0.581236	0.443964	0.437134	0.406589
bk10-80 - 41	0.402765	0.463306	0.520811	0.508641	0.64106	0.438096	0.560292	0.497388	0.591605	0.531767	0.596692	0.530331	0.455762	0.448199	0.567517
bk10-80 - 42	1.046499	1.022717	1.012212	0.993704	1.014125	0.787231	0.808062	0.872407	1.099988	1.125057	1.167298	1.250253	1.037756	1.299792	0.982718
bk10-80 - 43	3.916815	3.006254	2.733614	2.542691	2.098174	1.462981	1.696765	1.429513	1.390841	1.224656	1.271487	1.158183	0.897092	1.20666	1.038945
bk10-80 - 44	1.823695	2.038032	2.159377	2.15546	2.075044	1.475863	1.843285	1.526349	1.695383	1.43499	1.389442	1.453539	1.096576	1.506496	1.41901
bk10-80 - 45	1.684055	1.706597	1.755673	1.695906	1.634353	1.243983	1.577023	1.477904	1.486729	1.503959	1.342378	1.595607	1.327322	1.752952	1.256878
bk10-80 - 46	1.298007	1.336143	1.335407	1.371901	1.426925	0.994213	1.372654	1.339402	1.415827	1.385708	1.400484	1.484337	1.266337	1.322713	1.348334
bk10-80 - 47	1.993571	2.274546	2.462675	2.383639	2.128938	1.569239	1.996342	1.68052	1.974117	1.861485	1.674755	2.184264	1.724328	2.195211	1.987145
bk10-80 - 48	0.830973	0.755551	0.748621	0.724007	0.732413	0.599636	0.813037	0.961154	1.154271	1.091827	1.044585	1.284064	1.019045	1.292669	1.039066
bk10-80 - 49	0.907367	1.05649	1.105017	1.138729	1.11082	0.802076	0.902115	0.819171	0.771195	0.651376	0.714861	0.606822	0.692785	0.673956	0.665359
bk10-80 - 50	0.707212	0.750859	0.904641	0.92274	1.277679	1.173195	1.577167	1.211887	1.422429	1.215289	1.129877	1.16888	1.043756	1.16506	1.114702
bk10-80 - 51	0.229299	0.274803	0.321953	0.292249	0.477803	0.419173	0.526663	0.451246	0.451735	0.440786	0.483182	0.369555	0.352362	0.429927	0.393887
bk10-80 - 52	0.476472	0.541024	0.611825	0.616174	0.760732	0.619791	0.757114	0.759705	0.858355	0.734945	0.778765	0.79199	0.643008	0.747377	0.744132
bk10-80 - 53	0.324988	0.381418	0.487021	0.58552	0.845674	0.860764	1.141375	0.82665	0.833912	0.608492	0.718318	0.565923	0.515426	0.67573	0.523374
bk10-80 - 54	0.273088	0.288789	0.298106	0.306596	0.325581	0.323165	0.451471	0.487653	0.564539	0.522225	0.513892	0.600716	0.53087	0.645724	0.427271
	0.693945	0.732762	0.775145	0.777914	0.846589	0.672069	0.851197	0.769652	0.863909	0.763876	0.770475	0.8029	0.673922	0.81608	0.678966

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bk10-126 - 1	3.251981	3.213668	3.211992	3.231814	3.290388	2.532729	3.536576	2.806987	3.19119	2.792131	2.613069	2.76374	2.58066	2.833465	2.465338
bk10-126 - 2	1.928695	2.208201	2.297011	2.399178	2.476234	1.977985	2.3126	2.260294	2.417361	2.074429	2.121441	2.220883	1.801147	2.434549	1.946113
bk10-126 - 3	2.561356	2.952429	3.067296	3.189088	3.370524	2.311105	2.944216	2.538519	2.662735	2.343882	2.291217	2.408462	2.22194	2.761407	2.310835
bk10-126 - 4	2.770952	3.08466	3.213478	3.276591	3.423374	2.327663	2.859785	2.224269	2.767098	2.083214	2.241804	2.143932	1.971332	2.459767	1.939685
bk10-126 - 5	3.320742	3.373849	3.447449	3.409093	3.214683	2.282404	2.902141	2.306076	2.704826	2.16554	2.352207	2.129134	1.994428	2.508994	2.058929
bk10-126 - 6	2.137137	2.419588	2.506258	2.486392	2.598683	1.844959	2.317493	2.146067	2.411696	2.128221	1.91077	2.210988	1.893601	2.498911	2.085142
bk10-126 - 7	2.006622	2.3169	2.37315	2.578013	3.05917	2.219584	2.45412	2.260328	2.493552	2.07623	2.303348	2.17922	1.844822	2.202644	2.14368
bk10-126 - 8	3.217704	3.618593	3.814614	3.897271	3.892811	2.893115	3.591065	2.896104	2.940559	2.450793	2.500964	2.433293	1.897499	2.548045	2.099905
bk10-126 - 9	3.260075	3.741808	3.913204	4.008706	3.850768	2.687893	3.073672	2.537022	2.585663	2.154589	2.121632	2.213259	1.990695	2.401484	2.011917
bk10-126 - 10	3.574559	3.839118	3.953203	4.02488	3.91573	2.96426	3.367215	2.699978	2.59579	2.227493	2.309237	2.360615	2.007891	2.253439	1.985119
bk10-126 - 11	2.908906	3.203559	3.268456	3.341545	3.293929	2.367041	3.193644	2.496801	2.558636	2.352811	2.160171	2.292912	2.038749	2.527805	2.293037
bk10-126 - 12	2.286991	2.603171	2.651187	2.801268	3.080248	2.4629	2.679354	2.433352	2.722876	2.385882	2.281765	2.214825	2.079342	2.858747	2.132174
bk10-126 - 13	3.375789	3.581023	3.647207	3.6092	3.683648	2.460267	2.90446	2.611287	2.535881	2.303483	2.554045	2.288543	1.952483	2.738194	2.16507
bk10-126 - 14	2.518251	2.89358	3.019647	3.124258	3.270301	2.775202	3.045969	2.568368	2.577269	2.174455	2.25188	2.175558	2.036191	2.624757	2.283976
bk10-126 - 15	4.297975	3.828398	3.669092	3.611886	3.441794	2.307021	2.782645	2.366616	2.422734	2.176224	2.099585	2.294116	2.085224	2.485005	2.090919
bk10-126 - 16	3.131241	3.331468	3.411117	3.413686	3.408488	2.134274	2.919307	2.193198	2.141295	1.854423	2.011584	2.160749	1.706235	1.993513	1.846617
bk10-126 - 17	2.495453	2.642417	2.704087	2.768394	2.82507	2.0877	2.458143	2.106062	2.308714	1.995783	2.071239	2.10283	1.828748	2.484974	1.914801
bk10-126 - 18	2.720277	3.151033	3.263382	3.264408	3.287194	2.308444	3.051164	2.272195	2.390249	2.12467	2.124528	2.315393	1.95622	2.337131	2.13672
bk10-126 - 19	2.841584	3.14966	3.261622	3.381257	3.543734	2.50384	3.272266	2.561881	2.759241	2.335867	2.335094	2.303758	1.922909	2.541726	2.083017
bk10-126 - 20	2.904841	3.165486	3.287061	3.367516	3.536358	2.795601	3.237813	2.95647	2.891602	2.492896	2.572477	2.556609	2.15089	2.746468	1.86061
bk10-126 - 21	2.756053	3.105006	3.169852	3.218712	3.38335	2.465395	2.978004	2.640835	2.739976	2.305994	2.232378	2.320759	2.055415	2.355525	2.17452
bk10-126 - 22	2.734216	3.132136	3.326422	3.345643	3.786071	2.76828	3.440231	3.024657	3.207419	2.775586	2.77116	2.858665	2.357974	3.097813	2.443489
bk10-126 - 23	3.103736	3.417692	3.636264	4.001349	5.051214	4.059116	5.58721	4.309897	4.018394	3.117072	3.201687	3.011089	2.228825	2.595004	2.092629
bk10-126 - 24	2.06146	2.29573	2.369468	2.455955	2.572997	2.233212	2.597576	2.215876	2.291178	2.173843	2.035931	2.471891	2.086136	2.586806	2.104507
bk10-126 - 25	2.28993	2.590753	2.710559	2.760623	2.884748	2.324198	2.898818	2.433204	2.365652	2.087581	2.134695	2.175943	1.932604	2.303248	1.848158
bk10-126 - 26	5.475054	5.305428	5.37131	5.320857	5.364621	3.801288	4.444114	3.28969	3.279582	2.640793	2.762142	2.463792	2.211458	2.581139	2.307662
bk10-126 - 27	2.540947	2.897102	3.003066	3.125901	3.52027	2.529335	2.945492	2.627834	2.549866	2.202191	2.274549	2.195247	1.877585	2.139428	1.967817
bk10-126 - 28	2.887517	3.19316	3.418154	3.407516	3.524464	2.559182	3.124689	2.448206	2.565123	2.306505	2.275506	2.402411	2.398138	2.668665	2.242549
bk10-126 - 29	2.360542	2.663616	2.833189	2.87687	3.073931	2.194434	2.732334	2.328098	2.501539	2.126053	2.123647	2.237056	1.75312	2.376977	2.024688
bk10-126 - 30	2.852308	3.053938	3.199472	3.320697	3.436325	2.459947	3.390124	2.707844	2.661489	2.37266	2.366778	2.515241	2.070207	2.601414	1.958983
bk10-126 - 31	1.950983	2.113677	2.189869	2.31294	2.611688	2.11712	2.74258	2.672264	3.041899	2.593708	2.770979	2.627391	2.558367	3.010276	2.445588
bk10-126 - 32	3.006996	3.368903	3.626852	3.730475	3.954534	2.395046	3.546976	2.880198	2.870128	2.449373	2.659911	2.573783	2.074577	2.391011	1.991465
bk10-126 - 33	2.398948	2.653751	2.812331	2.836086	2.991032	2.214172	2.684669	2.369757	2.504668	2.098008	2.065945	1.991792	1.886412	2.272126	1.947732
bk10-126 - 34	2.817523	3.036016	3.189926	3.10073	3.231729	2.328297	2.67965	2.151931	2.387081	2.094949	2.19204	2.167443	1.75765	2.294578	1.968958

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bk10-126 - 35	2.101811	2.296623	2.489329	2.680276	3.233603	2.520422	3.516178	3.128246	3.364242	2.821113	2.792142	2.641112	2.435242	2.870728	2.70263
bk10-126 - 36	2.406101	2.683203	2.927427	2.978624	3.220395	2.468629	3.103576	2.686274	2.586641	2.203536	2.314543	2.520183	1.837192	2.394442	1.938099
bk10-126 - 37	2.530587	2.838805	2.97155	3.069761	3.226651	2.272206	3.20757	2.49842	2.668715	2.115562	2.138686	2.191837	1.909739	2.233872	1.854252
bk10-126 - 38	1.831882	1.987147	2.143386	2.208749	2.650934	1.871315	2.418767	2.324201	2.413612	2.231168	2.324374	2.517569	1.989564	2.497797	2.196825
bk10-126 - 39	4.49265	5.026705	5.313847	5.326767	5.006192	3.433759	4.003848	3.027449	2.879597	2.365842	2.391314	2.494305	2.087996	2.422145	2.113583
bk10-126 - 40	3.304714	3.809953	4.178043	4.430814	4.885552	3.772373	5.049398	4.116469	4.458957	3.438128	3.440724	3.455327	2.838307	3.225707	2.724195
bk10-126 - 41	0.182232	0.217762	0.230944	0.243683	0.276913	0.18556	0.274409	0.32242	0.2413	0.23834	0.225525	0.233212	0.231415	0.248285	0.290371
bk10-126 - 42	3.331371	3.500172	3.617778	3.738241	3.715128	2.691231	3.155653	2.533199	2.896238	2.364741	2.454078	2.41689	2.121642	2.600707	2.074916
bk10-126 - 43	3.173722	3.485171	3.625286	3.796284	3.733936	2.881425	3.623833	2.684166	2.837939	2.37283	2.342673	2.502744	2.060147	2.590032	2.258331
bk10-126 - 44	2.276874	2.492923	2.578481	2.736206	2.850888	2.167002	2.777583	2.401963	2.461962	2.12225	2.211515	2.336646	1.757935	2.158629	1.990788
bk10-126 - 45	7.242096	7.666214	7.802882	7.751694	7.245599	4.904354	5.162375	3.289855	2.937183	2.232158	2.308289	2.268877	1.965999	2.350951	1.8898
bk10-126 - 46	4.485566	4.956171	5.058762	5.089786	4.941479	3.335073	3.953695	2.707169	2.776959	2.272395	2.131025	2.234768	2.054766	2.516018	2.112221
bk10-126 - 47	4.583654	5.096826	5.446535	5.528474	5.633149	3.96147	4.601119	3.220576	3.256565	2.637371	2.765085	2.730764	2.193929	3.151585	2.363368
bk10-126 - 48	2.202628	2.463712	2.688814	2.860575	3.234991	2.626069	3.385152	2.954323	3.133523	2.538339	2.532452	2.629504	2.380897	2.534346	2.18883
bk10-126 - 49	3.461588	3.268843	3.351042	3.719407	3.937832	3.137201	4.160029	3.353843	3.346765	2.667137	2.540332	2.718096	2.065954	2.804013	2.287746
bk10-126 - 50	3.079961	3.275405	3.560879	3.688334	4.031106	3.183143	4.282433	3.487887	3.402598	2.980443	3.094191	2.990996	2.377082	2.914966	2.457496
bk10-126 - 51	1.930972	2.160119	2.293419	2.397497	2.964258	2.181702	2.872518	2.721509	3.086631	2.697208	2.640846	2.928391	2.269252	2.990308	2.473104
bk10-126 - 52	2.149655	2.390846	2.578502	2.727334	3.21681	2.393203	3.391654	2.969055	2.999873	2.443385	2.4286	2.216532	1.901747	2.647417	2.158885
bk10-126 - 53	2.543972	2.790325	2.952248	3.063571	3.109141	2.28256	2.806832	2.471139	2.454685	2.200742	2.228807	2.253351	1.943399	2.338421	2.058851
bk10-126 - 54	2.37597	2.719319	2.87215	3.018574	3.369393	2.533421	3.489662	2.955893	2.848839	2.576786	2.660957	2.597118	1.982719	2.608472	2.225491
bk10-126 - 55	3.395823	3.658532	3.835381	3.878758	3.805057	2.996556	3.45494	2.871056	3.193586	2.593577	2.501801	2.977163	2.551405	3.139652	2.637091
bk10-126 - 56	2.288487	2.516852	2.588201	2.716637	2.764741	2.161346	2.734654	2.198549	2.863773	2.279939	2.13259	2.280865	1.975872	2.419395	2.271624
bk10-126 - 57	3.750761	3.908766	4.035609	4.077003	4.184899	3.085452	3.55983	2.905184	3.040491	2.578516	2.596487	2.666851	2.209962	2.902141	2.429263
bk10-126 - 58	3.083117	3.465163	3.680384	3.735611	4.265677	3.107988	4.299063	3.430492	3.494296	2.860726	2.921656	2.950536	2.31455	2.788596	2.280639
bk10-126 - 59	2.256786	2.518984	2.658726	2.760198	2.852909	2.313927	2.833486	2.416819	2.617601	2.141725	2.29721	2.251933	1.883468	2.325584	2.101879
bk10-126 - 60	2.339032	2.547137	2.741382	2.79795	2.862873	2.264864	3.050158	2.515679	2.729132	2.371222	2.421719	2.574558	1.979653	2.743419	2.270561
bk10-126 - 61	2.8251	3.14386	3.274221	3.335393	3.624001	2.755903	3.479729	3.15101	3.463159	3.10742	3.070833	3.136788	2.849995	3.349488	2.78855
bk10-126 - 62	7.474961	8.156583	8.514047	8.669125	8.325713	5.895891	6.572543	4.096012	3.592525	2.616505	2.668903	2.613117	2.25748	2.730505	2.120376
bk10-126 - 63	2.841483	3.077314	3.165595	3.245831	3.28205	2.42973	2.843873	2.554678	2.555056	2.281058	2.319269	2.434398	1.984765	2.657555	1.971243
bk10-126 - 64	2.17358	2.424605	2.601252	2.72356	3.045072	2.256529	2.962086	2.770191	2.705577	2.366339	2.570076	2.592634	2.251723	2.60292	2.167736
bk10-126 - 65	2.753045	3.059379	3.159824	3.317162	3.345983	2.695326	3.208582	2.482931	2.730542	2.424001	2.450146	2.521771	2.260575	2.598256	2.379791
bk10-126 - 66	6.20555	6.835945	7.112646	7.060877	6.873032	4.483906	5.186722	3.508163	3.051625	2.39334	2.380544	2.353489	2.023523	2.62039	2.12468
bk10-126 - 67	15.52627	16.32852	16.20377	16.01693	13.64252	9.153306	9.144745	5.335521	3.957374	2.706938	2.913492	2.822495	2.282564	3.006797	2.212834
bk10-126 - 68	3.152131	3.471162	3.590238	3.674969	3.717568	2.888542	3.289866	2.710484	2.884154	2.375834	2.427996	2.273232	2.051557	2.293163	2.149016
bk10-126 - 69	3.121136	3.459967	3.74945	3.714172	3.902065	2.678928	3.407327	2.597459	2.532787	2.15094	2.277407	2.199017	1.880766	2.330008	1.696612
bk10-126 - 70	4.560897	5.111041	5.336033	5.451393	5.158412	3.542895	3.639523	2.748946	2.661573	2.221588	2.249174	2.216078	1.919915	2.374502	1.923601

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bk10-126 - 71	2.923758	3.163843	3.363624	3.51023	3.686256	2.797415	3.515154	3.036039	3.076115	2.528434	2.513577	2.507014	2.195779	2.643818	2.344793
bk10-126 - 72	2.479948	2.576687	2.671309	2.877054	2.998245	2.33537	3.068713	2.677637	3.018391	2.631333	2.650908	2.91319	2.324717	3.077454	2.750963
bk10-126 - 73	3.48444	3.820511	4.222391	4.381367	4.844892	3.788837	3.946601	3.401014	3.733139	2.930159	3.01957	2.992941	2.370692	3.058927	2.198598
bk10-126 - 74	3.011955	3.322874	3.480934	3.635272	3.865161	3.037428	3.885108	3.177136	3.344585	2.741633	2.723631	2.954291	2.457767	2.973031	2.432005
bk10-126 - 75	2.318104	2.543732	2.657179	2.791475	3.119372	2.18047	3.184762	2.726467	3.016208	2.679082	2.583481	2.769951	2.374493	2.825454	2.656211
bk10-126 - 76	2.758779	2.916437	2.950504	3.06082	3.310713	2.127447	2.878104	2.534312	2.601239	2.206298	2.201368	2.316168	2.016523	2.442661	1.974618
bk10-126 - 77	3.615196	3.63669	3.74504	3.831839	3.769582	2.754171	3.501879	2.630748	3.294008	2.594476	2.627805	2.702542	2.464373	2.783755	2.438396
bk10-126 - 78	10.26563	11.07254	11.69113	11.70877	11.64819	8.124647	8.11517	5.222854	3.956513	2.819384	2.981412	2.698675	2.258869	2.825504	2.32128
bk10-126 - 79	3.27253	3.444897	3.70837	3.699005	3.957091	2.572855	3.291875	2.670956	2.741807	2.262992	2.29826	2.226745	2.029638	2.440343	1.950173
bk10-126 - 80	2.483123	2.78417	2.94368	3.034772	3.365816	2.499335	3.145374	2.577672	2.868318	2.484589	2.419812	2.582158	2.143501	2.881811	2.368172
bk10-126 - 81	1.485996	1.655708	1.722075	1.826108	1.988554	1.448114	1.968563	2.013972	2.307111	2.139946	2.128968	2.464322	1.903809	2.245441	2.029005
bk10-126 - 82	1.383046	1.466673	1.539711	1.571792	1.827916	1.376339	1.842565	2.082709	2.360949	2.099479	2.057496	2.182669	1.833458	2.207485	2.138733
bk10-126 - 83	2.231944	1.895745	1.804528	1.728674	1.78606	1.501305	1.857345	1.663444	1.929172	1.855162	1.959052	2.004005	1.537307	2.312168	1.709772
bk10-126 - 84	3.06508	2.682059	2.542321	2.485334	2.353422	1.675679	2.219286	1.911612	2.063927	1.968717	2.017565	2.028322	1.738613	2.330122	1.747734
bk10-126 - 85	1.278404	1.299128	1.345345	1.318245	1.491438	1.304588	1.693176	1.579437	1.949026	1.73748	1.547647	1.723515	1.497064	1.894251	1.489852
bk10-126 - 86	2.00339	1.922435	1.906797	1.903663	2.050614	1.592444	2.014712	1.898559	2.087609	1.953879	2.021365	2.146971	1.64607	1.895118	1.75994
bk10-126 - 87	1.682503	1.630397	1.677252	1.638915	1.83286	1.403935	1.902826	1.761466	1.962448	1.778884	1.838065	2.094279	1.728505	1.976908	1.706619
bk10-126 - 88	2.175625	2.35319	2.431606	2.472013	2.794599	2.109944	2.597146	2.233221	2.377221	2.085749	1.960975	2.214792	1.81014	2.289671	1.983265
bk10-126 - 89	1.915164	2.013579	2.096157	1.999402	2.045666	1.63687	1.942336	1.751541	2.022117	1.755968	1.691857	1.72835	1.739824	2.129021	1.721482
bk10-126 - 90	1.228067	1.319588	1.403183	1.411234	1.652578	1.350979	1.890543	1.990969	2.38765	2.106711	2.047085	2.273657	2.070886	2.548862	1.972283
bk10-126 - 91	1.18003	1.231124	1.343292	1.331701	1.581192	1.558391	1.935574	1.84256	2.102365	1.985777	1.784025	2.034329	1.761429	2.183553	1.892939
bk10-126 - 92	2.441865	2.215199	2.282293	2.183237	2.373202	1.774322	2.335446	2.178837	2.279579	2.147927	2.184508	2.236029	2.076997	2.624197	2.066361
bk10-126 - 93	1.11951	1.235595	1.304471	1.257667	1.571415	1.396213	1.806026	1.810355	2.303742	2.079802	2.069372	2.278807	1.957002	2.525435	1.922785
bk10-126 - 94	1.243526	1.280669	1.300101	1.407916	1.386833	1.323647	1.548948	1.57085	1.928671	1.723547	1.702221	1.796054	1.417574	1.948039	1.70587
bk10-126 - 95	2.551718	2.565879	2.568534	2.598888	2.660262	1.860547	2.304645	2.227781	2.483174	2.224369	2.255688	2.254181	2.118875	2.558468	2.163603
bk10-126 - 96	1.452858	1.552588	1.644919	1.670626	1.756775	1.391749	1.696378	1.707247	1.740903	1.61082	1.568828	1.748242	1.333666	1.747809	1.554503
bk10-126 - 97	1.715858	1.829851	1.919387	2.008318	2.28057	1.648895	2.512384	2.049234	2.330482	1.927991	1.910461	1.9393	1.685965	1.930522	1.771796
bk10-126 - 98	4.808646	5.342425	5.774366	5.618421	4.811501	2.914737	3.452467	2.426307	2.184058	1.673777	1.683395	1.67256	1.33243	1.94021	1.457103
bk10-126 - 99	1.448742	1.559975	1.581862	1.616429	1.899586	1.291469	1.701703	1.576545	1.828881	1.603854	1.594701	1.772936	1.594247	1.639908	1.508872
bk10-126 - 100	3.197673	3.515072	3.557616	3.527998	3.4271	2.496951	2.857772	2.390077	2.84111	2.496544	2.362578	2.796032	2.221197	3.000116	2.501809
	3.004066	3.238048	3.369453	3.433362	3.541241	2.594813	3.182121	2.60811	2.713096	2.298612	2.316665	2.375775	2.019336	2.503763	2.094972





















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bk10-126 - 55	228.7953	115.7442	736.834	423.1665	490.2046	426.4094	290.8404	0.929476	26.6013	9.176358	4.529815	0.811685
bk10-126 - 56	229.6167	110.2161	760.9271	396.7775	466.5967	401.3941	253.5859	0.939054	24.0721	8.647137	4.987937	0.822863
bk10-126 - 57	238.0002	85.54306	760.443	376.384	448.7641	382.1877	310.4103	-0.12191	24.34643	9.696028	5.255791	0.834814
bk10-126 - 58	226.6818	115.5156	714.5957	433.765	502.4851	438.019	274.6721	-0.12113	31.02607	8.333703	4.28473	0.810336
bk10-126 - 59	228.4349	114.1183	740.538	425.3934	492.6918	427.2805	231.6363	0.396405	21.85674	8.439663	4.530603	0.815401
bk10-126 - 60	228.5636	89.05319	723.7022	420.0262	488.6994	423.7911	258.9319	0.394329	24.79048	8.647545	4.481007	0.814109
bk10-126 - 61	245.4887	112.782	786.8397	477.368	549.3678	481.163	524.7467	-0.12137	24.8449	10.78676	4.288601	0.807564
bk10-126 - 62	247.866	138.2531	762.1206	557.0262	634.4516	562.634	257.3397	1.907027	42.46395	8.359335	3.557548	0.795452
bk10-126 - 63	242.0953	85.5421	768.1071	78.86082	135.5542	78.8537	250.656	-0.11918	26.73587	8.118995	25.37827	1.215028
bk10-126 - 64	238.3524	113.4028	755.4456	48.79336	104.4586	48.63111	249.7244	0.383562	26.40323	8.302284	40.3323	1.513067
bk10-126 - 65	236.5081	114.8636	744.2074	531.6739	603.878	534.6232	253.5993	0.411788	27.37567	8.761523	3.642644	0.798362
bk10-126 - 66	243.5113	112.5613	758.5475	505.1606	574.1556	505.6474	219.5897	0.91784	43.96382	7.816143	3.908224	0.799218
bk10-126 - 67	232.1659	113.5814	767.7571	584.8712	658.5411	588.8967	271.4442	-0.11995	75.88725	8.866358	3.415753	0.791122
bk10-126 - 68	234.4288	131.3059	751.8028	804.2129	883.6271	804.8155	225.8678	0.405501	28.61361	8.329308	2.43154	0.769797
bk10-126 - 69	231.4917	120.2865	730.3116	809.0896	892.1737	818.4301	228.6252	-0.11932	28.87078	8.178368	2.347473	0.773035
bk10-126 - 70	234.7542	113.1721	754.252	423.7866	488.4561	426.3248	248.4069	0.910632	32.53621	7.695183	4.63035	0.809233
bk10-126 - 71	240.2628	103.4291	756.7029	83.08656	139.6565	84.48072	244.3287	-0.11641	28.90892	8.22815	23.71649	1.187107
bk10-126 - 72	240.1063	107.242	765.155	883.2995	959.9633	882.3074	301.8385	-0.11702	22.03045	10.04966	2.254172	0.76525
bk10-126 - 73	244.8093	127.6283	781.9877	59.20646	117.9457	57.63047	284.5538	-0.11551	35.50905	8.601955	34.38911	1.403477
bk10-126 - 74	238.5223	119.512	751.2111	43.08153	96.6831	42.18475	263.7382	-0.11501	24.45952	9.171028	45.42661	1.588906
bk10-126 - 75	230.7927	130.2467	743.4128	367.0173	427.7857	365.3172	272.7485	0.398326	23.8361	8.490367	5.275793	0.825163
bk10-126 - 76	241.2389	106.6174	738.6563	845.0571	925.2657	846.3728	236.8318	0.395391	20.58088	7.732585	2.274422	0.77011
bk10-126 - 77	237.1792	109.3587	738.8974	831.9244	909.5024	834.1798	307.2712	1.378377	28.64492	8.772343	2.312448	0.771272
bk10-126 - 78	229.3067	115.2043	722.3148	674.1141	745.8063	678.2007	260.2015	0.38652	53.85204	7.838834	2.790399	0.781195
bk10-126 - 79	232.1525	116.1131	715.2174	711.0006	780.123	710.1836	226.4859	0.389406	25.43504	7.461769	2.619094	0.775713
bk10-126 - 80	223.7459	103.0806	736.2084	802.9799	877.0326	805.8489	271.6329	0.893893	24.82005	8.563997	2.386303	0.769116
bk10-126 - 81	335.5428	185.3409	940.2885	136.0203	205.1837	137.8552	251.5279	-0.12541	20.90123	7.542052	17.97171	1.053035
bk10-126 - 82	346.2212	121.1507	937.3927	132.689	203.7237	134.9454	265.4189	-0.11441	25.34888	7.098607	18.34739	1.064162
bk10-126 - 83	361.111	154.1058	940.876	115.9491	184.362	116.3036	235.5039	-0.11338	18.59828	6.556645	21.09144	1.109441
bk10-126 - 84	362.6603	168.6551	947.8578	199.0507	271.8111	202.4425	246.874	1.378321	24.61478	6.51174	12.3733	0.950639
bk10-126 - 85	355.4539	142.8039	943.7252	157.9751	226.9967	160.1324	216.1086	-0.11165	16.97645	5.795542	15.51922	0.998683
bk10-126 - 86	364.5592	126.6914	958.9755	96.57038	165.5844	97.47212	229.2521	0.840979	19.32666	7.114404	25.7984	1.190123
bk10-126 - 87	356.353	160.9097	965.3025	113.5746	186.1815	115.6073	228.5467	0.355645	19.60493	5.831299	22.07499	1.137982
bk10-126 - 88	353.666	138.1739	926.8849	139.8494	207.8209	140.2879	249.3131	-0.11132	28.01091	6.851506	17.23313	1.040404
bk10-126 - 89	352.867	165.4491	914.5514	166.9419	237.5945	169.9209	220.2888	0.366496	22.66319	5.983963	14.22256	0.985617
bk10-126 - 90	349.3972	152.4723	949.3466	190.1418	260.0231	191.8007	248.2592	0.356806	21.59201	6.958183	12.97973	0.957841
bk10-126 - 91	340.4563	139.0828	907.5798	246.57	321.5164	251.5005	224.4126	-0.10525	19.59581	8.410304	9.566785	0.910803
bk10-126 - 92	345.6078	147.2723	932.1051	224.5768	301.9511	230.3819	266.0338	0.362138	29.64214	7.212548	10.77716	0.932431
bk10-126 - 93	337.6184	151.7733	947.6677	176.324	248.4978	176.898	257.1549	-0.1159	20.89565	7.159545	14.0012	0.999395
bk10-126 - 94	346.2644	177.2087	928.0517	109.9084	180.7309	112.7876	221.6773	0.363504	18.81911	6.002099	21.91263	1.133896
bk10-126 - 95	344.2235	179.4506	924.0051	142.117	211.9154	144.3835	317.6506	0.830505	23.68005	7.442731	16.89238	1.039057
bk10-126 - 96	356.1897	182.341	951.7054	112.9049	186.372	115.649	196.6931	0.858042	17.49451	5.833285	21.84799	1.127873
bk10-126 - 97	347.6613	244.842	913.5746	133.3671	202.3993	135.5661	207.2873	0.356855	24.1399	5.781351	17.78399	1.05115
bk10-126 - 98	344.798	243.1496	919.4034	160.7532	233.8943	165.3861	200.2246	0.891863	34.26161	5.65096	14.83724	1.00169
bk10-126 - 99	352.6445	164.4287	952.1381	146.3599	218.8624	148.6256	197.6533	0.371534	20.91115	6.001334	16.89934	1.040499
bk10-126 - 100	332.6248	193.3184	888.5442	173.1902	244.9247	175.4021	282.0415	0.453427	35.83699	8.310681	13.33279	0.988229

**APPENDIX N: RB—SR MAJOR ELEMENT DATA**

Sample	23Na	24Mg	27Al	29Si	31P	39K	43Ca	48Ti	55Mn	56Fe
Bk10-14 - 1	3228.105	25725.07	214991.6	516317.1	914.7524	118877.6	3223.564	10160.35	426.8103	105257.5
Bk10-14 - 2	2814.725	26060.03	204399.5	555456.5	161.1247	111058.6	1174.911	5617.594	418.8327	92120.3
Bk10-14 - 3	2753.953	31535.49	218430.4	512667.3	482.9974	110740.6	2071.334	9291.203	531.357	110563.4
Bk10-14 - 4	2993.084	24962.4	211961	538703.7	461.7664	120389.7	1729.3	4249.959	398.8373	93363.83
Bk10-14 - 5	2578.447	27562.77	214897.7	536024.5	240.8482	105002.2	1283.31	4646.369	426.9063	106362
Bk10-14 - 6	3050.252	25117.04	214608.8	528245.6	481.5302	114853.7	1961.452	4079.969	395.5517	106415
Bk10-14 - 7	2566.781	26075.52	203332	555661.4	219.0715	106256.1	1190.412	4304.811	414.4685	99135.63
Bk10-14 - 8	2861.443	29300.26	213447.4	528293.3	243.1183	111499.6	1354.731	7174.43	442.0451	104654.5
Bk10-14 - 9	3013.977	25731.28	217624.9	534220.5	383.2741	116564.7	1940.117	5370.694	395.4656	94015.08
Bk10-14 - 10	3044.139	32594.73	225197	517968.5	223.3052	115374.5	1182.43	4363.598	409.4058	98720.02
Bk10-14 - 11	2855.964	31224.89	216621	524826.8	165.9556	115154.5	1080.679	5551.316	427.151	101307.5
Bk10-14 - 12	2584.513	24991.37	199712.1	553774.9	137.1287	103301.7	1240.645	9774.491	411.2921	103303.7
Bk10-14 - 13	2708.201	26954.24	211927.1	543985.7	154.1567	111162.4	1520.405	4380.512	411.4966	96064.88
Bk10-14 - 14	2520.842	28024.86	192870.6	573710.4	126.1197	99242.41	1447.963	4218.732	476.6346	96643.44
Bk10-14 - 15	2767.135	24255.98	209320.6	530115.2	481.5623	106232.6	2178.548	5802.63	376.4772	117587.3
Bk10-14 - 16	3018.611	27313.27	227684.6	518496.3	240.6803	119666.3	1434.114	5018.159	412.2602	95828.12
Bk10-14 - 17	2896.45	28195.87	224009.9	508055.9	371.2858	115801.7	1447.001	5360.183	460.5854	112647
Bk10-14 - 18	2706.162	27059.53	223477.5	515782.4	606.7361	110651.9	2648.865	4388.666	408.8215	111007.8
Bk10-14 - 19	2834.711	27160.22	225414.2	510857.6	277.2587	118404.3	1864.956	7218.441	460.9668	104666
Bk10-14 - 20	2810.078	24942.57	209980.9	554673.1	248.5338	114407.7	1889.198	4014.399	374.4627	85859.87
Bk10-14 - 21	2732.723	27015.14	221591.1	520494.2	288.624	115607.7	1575.161	5169.677	394.1417	104155.8
Bk10-14 - 22	2920.343	26454.17	214766.9	538574	2400.766	111893.6	5089.551	6119.643	414.5861	90543.71
Bk10-14 - 23	4142.863	25007.56	208843.4	510294.5	12006.8	111665.8	28372.82	5650.006	616.4264	92020.14
Bk10-14 - 24	4033.76	25509.55	208365.5	518406.2	9585.786	115134.3	23359.62	4960.309	542.8127	88882.44
Bk10-14 - 25	3682.466	27529.4	216023.5	502781.4	7588.307	114237.6	17455.16	5209.899	561.3071	103882.2
Bk10-14 - 26	3322.622	25591.02	210708.2	521084.4	4422.862	120471.9	11094.46	4424.205	470.1929	97126.83
Bk10-14 - 27	2672.937	24864.77	209603.3	531770.5	329.0127	116573.7	1558.413	4979.812	386.4447	106444.2
Bk10-14 - 28	2774.258	24327.14	197690.5	538396.2	2526.857	110490.4	4007.238	3672.566	383.487	111422.6
Bk10-14 - 29	2693.711	25326.54	199817.7	546216.6	303.9022	111238.6	2551.902	5223.853	379.6946	105165.9
Bk10-14 - 30	2752.414	28254.04	214794.6	525353.5	859.4778	111988	2656.152	4228.455	416.1153	107790.3
Bk10-14 - 31	2770.433	23513.38	205329.9	543601.3	833.1037	109577.9	2967.071	4750.027	393.0827	105368.3
Bk10-14 - 32	3135.139	29558.42	215716.1	520980.4	2622.559	109982.1	6550.432	5152.58	507.7225	105043.2
Bk10-14 - 33	2619.929	27948.65	219919.5	522038.8	787.7609	109442.4	2363.078	5810.05	470.4769	107593.3
Bk10-14 - 34	2811.92	26413.29	203341.3	546544.4	522.8492	115077.7	1753.062	3845.76	412.3128	98352.19
Bk10-14 - 35	2853.969	26144.14	218010.5	524809	1119.03	117290.4	2751.012	4673.108	408.472	101014.6
Bk10-14 - 36	2972.273	24354.66	203275	553841.8	1069.816	113851.9	3170.905	4299.128	426.8197	91820.9
Bk10-14 - 37	2943.953	29505.81	222869.9	514893.6	870.7875	116974.4	2959.088	5456.563	434.6069	102309.3
Bk10-14 - 38	2655.394	23998.33	210749.5	553190.6	178.4548	109679	1139.368	6206.149	389.1199	91013.88
Bk10-14 - 39	2858.153	28081.24	215393.9	521985.9	295.8441	113304.7	1441.709	4896.414	449.0859	110454.7
Bk10-14 - 40	2721.936	24609.59	200696.8	549268.5	122.6578	109201.3	1201.12	6706.316	372.7485	104414.1
Bk10-14 - 41	2880.135	27754.01	215951.2	531114.3	270.2375	114620.8	1704.54	4902.494	462.4176	99436.41
Bk10-14 - 42	2888.531	25097.93	206859.4	519999.3	285.509	112277	1448.428	4877.375	398.9859	124974.2
Bk10-14 - 43	3054.135	26745.21	222080.7	515448.8	533.1022	117910.8	2205.91	4442.193	402.9932	106281.9
Bk10-14 - 44	2766.159	25198.41	205636.7	562613.4	307.5519	112138.5	1461.952	4472.686	376.1354	84118.95
Bk10-14 - 45	2685.227	24389.4	201584.5	537780.6	225.7104	107916.2	2392.042	5155.695	394.7191	116676.6
Bk10-14 - 46	2765.547	29750.05	213147.9	492858.6	184.1287	113259.9	1456.43	7511.364	450.9251	137722
Bk10-14 - 47	2915.158	29984.23	219506.5	523011.5	172.7197	116715.5	1336.589	4470.945	460.9064	100636.7
Bk10-14 - 48	2875.724	27270.44	223146.9	522923.8	256.2477	118514.4	1416.055	7205.345	422.3036	94984.85
Bk10-14 - 49	2684.426	27124.34	228638.2	509747.2	260.1094	120141.6	1544.527	5133.765	387.7355	103207.9
Bk10-14 - 50	2827.526	27700.4	226250.7	517087.1	268.2675	119798	1354.229	5761.963	420.5853	97779.47
Bk10-14 - 51	2920.105	26363.4	217788.1	522443.3	527.8949	113979.3	2322.226	4210.993	406.0658	108126.5
Bk10-14 - 52	2850.296	26047.51	223643.6	532149.8	136.6503	120303.8	1315.856	6235.453	375.3216	86029.67
Bk10-14 - 53	2979.23	27285.84	223166.6	520468.9	424.866	113536.5	2069.826	5024.399	412.2386	103690.5
Bk10-14 - 54	2513.903	24264.86	197142.3	564251	156.3074	108153.2	1661.388	7936.483	370.856	92748.84
Bk10-14 - 55	2864.805	23256.75	191006.7	539962.6	15103.52	106583.5	32180.39	4091.205	518.9504	83407.44
Bk10-14 - 56	3016.321	28866.39	214400.9	520852.3	1420.478	112261.9	3895.87	5810.781	502.4927	108140
Bk10-14 - 57	2918.711	25793.13	220610.5	526955.5	431.7531	118883.6	1985.153	4810.664	426.0844	96325
Bk10-14 - 58	3041.604	32998.61	212436.4	519651.9	784.15	114882.4	2754.847	5006.192	450.0205	106988.2
Bk10-14 - 59	2757.804	27420.16	220857.5	523968.4	236.4514	116319.8	1722.555	5759.264	434.294	99580.54



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Bk10-14 - 60	2554.376	24062.62	197651	573428.1	110.488	107644.6	1398.214	6315.243	368.1169	85649.28
Bk10-14 - 61	2699.027	25744.46	204508.9	547878.4	466.6081	110773.6	1884.727	5714.352	389.9229	99130.56
Bk10-14 - 62	2498.237	27490.87	204218.2	471189.7	131.0234	108286	2335.194	4806.367	485.3287	177862.6
Bk10-14 - 63	2632.809	26140.19	211996.4	523682.2	239.5046	114186.9	1985.977	5329.115	436.7022	112545.8
Bk10-14 - 64	2917.84	24385.68	206249.5	545859.8	840.5859	113462.2	3009.02	6317.938	367.8701	95858.06
Bk10-14 - 65	2772.746	25847.54	212412.5	529800	289.9243	116316.5	3646.572	4345.835	382.426	103228.7
Bk10-14 - 66	2898.027	28879.9	229500.2	511005.2	271.9711	119169.8	2261.044	5043.311	416.5516	99637.67
Bk10-14 - 67	2670.807	26707.26	215422.4	527910.7	392.7193	112892.5	2074.001	4133.284	420.2564	105902.6
Bk10-14 - 68	2677.239	23684.1	211351.4	541611.4	261.3495	112436.6	1929.371	3605.434	396.0737	101260.8
Bk10-14 - 69	2657.675	24425.38	204601.3	547777.9	214.453	117400.3	2035.972	4160.669	378.7826	95585.11
Bk10-14 - 70	2756.983	26608.02	216364.5	533375.7	561.0144	116494.9	2697.374	4350.048	394.6655	95621.25
Bk10-14 - 71	2794.143	27491.17	218704.8	524364	610.8856	116826.3	3119.147	4794.701	410.4471	100079.2
Bk10-14 - 72	2894.425	25764.82	216375	529449.5	296.0832	123023	2454.544	5168.277	400.2952	93405.85
Bk10-14 - 73	2868.394	26212.74	210230.1	557102.5	173.5962	110961.1	1972.191	4369.205	400.7989	84915.01
Bk10-14 - 74	2345.996	25753.9	203273.6	559216	167.6357	113983	1665.958	4303.56	390.7439	87973.96
Bk10-14 - 75	2605.575	25665.18	201355.6	548002.2	156.919	113253.3	1624.139	5286.438	412.4222	100803.3
Bk10-14 - 76	2711.52	24114.82	204839.2	558301.2	414.8588	110376.8	1227.906	3843.651	370.5855	93002.64
Bk10-14 - 77	2508.08	30751.42	209195.1	525180.1	130.221	105415	823.5512	5341.248	590.4746	119318.7
Bk10-14 - 78	2865.7	25926.23	221950.3	530883.7	240.5869	116842.9	1484.894	4086.096	377.2489	94446.22
Bk10-14 - 79	3034.917	25731.28	219648.8	532000.9	311.4826	120115.2	1661.728	7768.994	371.8247	88522.67
Bk10-14 - 80	3092.807	25265.39	215178.1	552506.3	293.8566	114839	1378.955	4625.734	377.0104	81749.77
Bk10-28 - 1	1795.754	27571.57	194712.6	532155.1	375.0494	119204.2	1765.208	4504.508	481.3035	116532.9
Bk10-28 - 2	1899.299	27964.68	197783.3	504765.1	617.8478	120677.5	1931.235	8463.291	499.0346	134502.8
Bk10-28 - 3	1871.02	26474.43	185282.9	557746.3	469.1586	117724.5	1689.304	4443.504	441.6908	103040
Bk10-28 - 4	1866.89	28057.24	196417.2	520693.3	454.9147	120560.5	2069.229	9020.925	510.9486	119500.9
Bk10-28 - 5	1879.013	27988.65	189462.9	553064.7	529.319	112447.7	1921.396	5964.59	541.8124	105458.9
Bk10-28 - 6	1821.911	29180.93	190583.2	545228.5	5527.946	110900.7	13477.5	3999.64	501.6962	97769.74
Bk10-28 - 7	1779.294	26964.78	192389.4	529318.3	683.5316	112828.1	1908.931	4683.246	481.6147	128019.8
Bk10-28 - 8	1936.978	28428.75	195568.5	531743.2	530.5464	114545.1	1957.546	5395.458	523.86	118529.7
Bk10-28 - 9	1844.312	26449.51	191773.2	560087	621.6118	112242.4	1972.44	3762.92	427.806	100041.5
Bk10-28 - 10	1909.285	29757.45	199661.7	512223.9	313.2861	110094.9	1617.288	4110.073	514.1693	138996.2
Bk10-28 - 11	1747.602	28151.53	192714	552604.1	397.8343	111468.8	1796.179	5879.14	483.6627	103996.1
Bk10-28 - 12	1758.46	27872.35	199501.2	545991.6	739.2822	108977.9	2140.788	4236.976	504.5577	107515.6
Bk10-28 - 13	1829.981	42021.66	202330.8	495325.8	793.5499	109661.6	2525.949	4453.702	595.0562	139606.2
Bk10-28 - 14	1753.891	27000.52	193315.4	545547.1	278.7659	111953.7	1585.871	4996.718	442.2711	112283.7
Bk10-28 - 15	2020.157	26116.18	195725.3	538593.8	505.5718	121718	1817.195	8090.52	472.1797	104154.6
Bk10-28 - 16	1962.301	25066.85	185688.5	568653.8	411.3623	115185.8	1580.457	5278.101	478.0599	94872.14
Bk10-28 - 17	1682.432	29661.82	188206.1	543759.6	459.3871	108390.6	1647.001	5233.319	552.3366	119779.6
Bk10-28 - 18	1698.194	28422.29	195065.9	525569.6	894.4416	110091.5	2428.961	4227.326	613.6445	130129.1
Bk10-28 - 19	2062.101	25995.12	190124.1	558087.6	1013.485	117269.8	2376.258	5783.453	486.0153	95877.4
Bk10-28 - 20	1760.424	23671.66	167447.4	613006	356.6621	101053.4	1343.223	4518.546	423.048	85724.45
Bk10-28 - 21	1862.148	29736.8	196189.5	528295.5	387.5986	114398	1742.321	7467.567	577.3245	118515.6
Bk10-28 - 22	1911.746	31276.99	197819.1	525322.7	409.9602	107870.7	2067.988	6574.183	572.3442	125371.3
Bk10-28 - 23	1788.605	31567.88	192594.1	543347.7	633.9743	104279.7	2143.036	4201.755	634.1099	117949.3
Bk10-28 - 24	1958.471	22919.71	193338.5	529849	559.6343	119838.4	1755.842	3977.59	403.8797	124590
Bk10-28 - 25	2123.028	28486.03	201071.7	526539.3	792.4432	118257.9	2048.928	4052.248	604.0512	114980.9
Bk10-28 - 26	1848.275	26069.64	185892.2	554314.9	363.4384	116526	1357.537	5329.942	490.117	107042.7
Bk10-28 - 27	1912.414	25638.78	186357.1	566733	327.3624	112771.9	1517.645	4542.363	400.2598	99053
Bk10-28 - 28	1726.466	26757.94	180239.2	541824.7	317.211	101394	1408.47	5883.666	465.4887	139154.1
Bk10-28 - 29	1836.998	26362.13	178474.3	562431	1324.986	107828.4	3601.697	4655.464	508.3379	111766.5
Bk10-28 - 30	1893.169	26100.43	184786	537675	680.6271	106123.4	2156.865	4666.272	520.8282	134654.8
Bk10-28 - 31	1744.842	30357.66	182779.4	523099.3	374.6685	108375.6	1803.693	6632.693	682.216	143457
Bk10-28 - 32	1939.09	27919.84	191451.2	543997.5	396.9618	114488.1	1793.983	5398.276	525.893	111222.7
Bk10-28 - 33	1878.107	26566.27	193693.9	550105	535.431	114417.9	2234.942	6072.738	495.6782	103043.2
Bk10-28 - 34	1986.438	30463.2	194885	512146	488.4857	110941.2	2525.917	5700.172	621.6291	139521.3
Bk10-28 - 35	1755.861	26242.49	178283.5	564111.6	297.1637	102734.8	1601.374	8411.841	472.9438	115217.9
Bk10-28 - 36	2032.966	25240.75	195371.8	548718.1	368.1927	112405.1	2044.952	6155.551	416.1901	106486.2
Bk10-28 - 37	1857.431	25184.64	189591.1	532658.5	1307.742	112352.2	3555.64	4395.146	422.3983	127820.9
Bk10-28 - 38	1893.955	29768.57	201881.6	522849.2	501.937	120548.2	2170.487	6830.553	494.1434	112234.7
Bk10-28 - 39	2054.011	26332.91	182088.1	567778.5	420.3368	104631.5	2131.535	3917.395	491.0361	109442.2



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Bk10-45 - 20	2050.307	29478.75	188074.3	534377.2	622.7892	114616.7	2492.088	13168.23	512.0388	113673
Bk10-45 - 21	2080.118	30977.12	192507.5	526648.5	449.6926	115139.5	2005.922	6638.303	561.0945	122184.2
Bk10-45 - 22	1731.795	24677.38	161364.1	599450.1	437.3525	102948.7	1850.097	6475.609	437.1409	99932.73
Bk10-45 - 23	1936.195	29302.3	189437.9	533318.4	377.9942	112728.2	2197.629	5747.755	512.4569	123544
Bk10-45 - 24	1780.012	27383.55	175054.5	566667.6	1484.813	110862	4499.261	5171.199	493.8323	105803.9
Bk10-45 - 25	1946.756	29340.68	195647	532968	375.3822	116835.1	1900.972	5385.892	480.6411	114303
Bk10-45 - 26	1916.328	28166.63	192477.7	539320.2	723.173	117762.7	2543.789	3994.996	515.1502	111855.7
Bk10-45 - 27	1949.122	30304.29	201555	526673.3	544.8582	117938.9	2586.408	4236.386	502.6762	112972
Bk10-45 - 28	1998.371	27872.86	187283.6	545328.5	441.3006	116949.3	2093.398	4169.916	509.0079	112609.4
Bk10-45 - 29	1903.51	27982.78	175394.1	562845.4	498.9962	114597.6	1874.578	6195.141	486.433	107402.4
Bk10-45 - 30	1891.634	28818.23	183905.6	549026.9	361.6793	110313.3	1737.143	5868.867	538.1797	116718.5
Bk10-45 - 31	1949.265	28573.88	187698.6	544285.1	434.0636	112567.9	1953.595	6742.69	510.2246	114475.5
Bk10-45 - 32	1791.528	28132.48	179220	532501.8	434.9392	109291.2	2088.303	4993.146	485.4737	140146.9
Bk10-45 - 33	1986.12	28168.76	187121.2	548368	942.0312	115470.6	2812.052	4375.435	508.1208	109389.1
Bk10-45 - 34	1931.669	31785.46	194686	526428.6	997.453	113547.6	2777.447	5825.573	527.5275	120524.3
Bk10-45 - 35	1849.915	28240.82	182129.2	563921.7	444.5272	108988.4	1939.302	4034.029	544.6376	107196.9
Bk10-45 - 36	1909.223	30356.42	193119.8	534170.4	548.0162	116055.7	2038.559	4880.001	522.6882	115593.5
Bk10-45 - 37	1955.479	29370.57	184998.7	542703.4	1359.109	115231.2	4329.234	5630.757	504.8403	113080.1
Bk10-45 - 38	1992.745	27856.1	186837.5	552494.3	491.9045	113515.9	2287.442	4090.894	512.5246	108968.9
Bk10-45 - 39	1835.303	33344.55	189479.8	536174	395.3622	106703.8	1963.485	4988.208	616.9477	123791.7
Bk10-45 - 40	1907.006	28210.25	182954.5	554038.9	529.103	115737.4	2300.511	4047.505	498.9379	109026.5
Bk10-45 - 41	1930.252	29677.15	194745.2	528908.9	585.8801	117577.2	2563.458	9646.567	516.0228	112937
Bk10-45 - 42	1993.359	29291.5	190103.7	540150.6	730.045	116809.9	2729.963	5518.882	491.9506	111381.4
Bk10-45 - 43	1961.615	31247.1	191112.8	532182.8	1748.783	114372.7	5002.366	4687.541	531.9202	116263.1
Bk10-45 - 44	1972.502	31191.45	189747.3	533906.1	800.8273	115366.3	3298.478	6453.674	550.4967	115817.1
Bk10-45 - 45	1973.405	31442.47	185696.8	539955.5	480.4774	108405.5	1797.924	5288.573	602.3571	123521.9
Bk10-45 - 46	2022.703	29795.11	197068	530551.9	573.0222	118106.3	2670.605	5055.389	517.5545	112846.1
Bk10-45 - 47	2042.621	30195.72	199025.6	521125.3	510.2305	122542.2	2186.429	4858.098	520.6067	115911.4
Bk10-45 - 48	1869.707	30013.43	192217.1	537589.7	530.9137	114032	2279.09	4712.148	522.7993	115421.6
Bk10-45 - 49	1816.786	29953.47	188123.4	540632	1198.104	108629.9	4012.229	5787.783	556.9318	118436.4
Bk10-45 - 50	1945.302	28728.09	188413.1	545551.1	698.4718	114235.8	2640.956	4669.598	507.8177	111771.2
Bk10-45 - 51	1871.284	28676.13	188437.3	544717.1	711.5086	112125.2	2601.074	7868.683	524.171	111575.2
Bk10-45 - 52	1800.018	28703.53	184236.6	548831.1	435.9059	112856.6	1938.529	4515.334	539.2103	115488.1
Bk10-45 - 53	1822.838	34631.78	185752.4	538364.9	549.5579	106068.2	2192.696	4076.521	581.4135	125196.4
Bk10-45 - 54	1841.261	32775.45	191338.2	530917.7	458.28	112711.1	2222.984	5248.56	617.2009	121037
Bk10-45 - 55	2069.158	31377.63	194585.6	533795.5	610.5177	121812.1	2063.657	3731.448	505.1194	108264.8
Bk10-45 - 56	1953.53	31984.54	200064.9	524857.4	498.4184	115010.1	1636.075	4267.031	559.137	118151.3
Bk10-45 - 57	1839.211	28510.86	185310.7	550576.7	431.7923	112544.2	1541.87	6073.76	531.273	111791.4
Bk10-45 - 58	2039.484	28458.29	187517.1	557000.6	312.6187	110503.1	1600.198	3551.454	526.7124	107740.9
Bk10-45 - 59	1801.996	28842.59	191144.9	534658.1	667.3209	118320.4	2626.605	4893.583	558.7485	115600
Bk10-45 - 60	1867.942	30563.62	194775.5	532801.7	549.7282	109741.5	2317.166	8678.186	565.282	117348
Bk10-45 - 61	1913.653	29964.99	190308.4	538140.2	599.7186	114442.8	2494.018	5001.689	554.1293	115784.3
Bk10-45 - 62	1978.956	29531.85	187573.2	541934.2	397.0956	112002.6	2011.716	7718.177	540.4981	115579.2
Bk10-45 - 63	1962.974	28776.15	182404.6	553905.8	503.3883	112888.4	2047.726	4564.753	535.2659	111618.3
Bk10-45 - 64	1920.266	29866.17	186247	540339.1	480.9145	113422.4	2058.284	4710.194	558.6004	119236.8
Bk10-45 - 65	1916.589	29628.11	183404.6	541861.7	974.7804	112467	3036.668	8151.745	529.3784	117096.6
Bk10-45 - 66	1959.122	30149.1	197521.2	524360.5	524.7967	118837.8	2200.653	4791.786	567.0058	118334.3
Bk10-45 - 67	1885.434	29295.46	188699.9	545667.7	668.2259	111368	2502.948	5396.966	527.6858	113132.2
Bk10-45 - 68	1887.038	29182.1	190671.2	539638.2	599.743	113813	2233.224	5287.564	549.2143	115447.5
Bk10-45 - 69	1890.111	31159.44	190715	529141.3	1788.156	112475.5	5511.953	4188.014	669.8148	121623.8
Bk10-45 - 70	1795.523	33194.99	195562.2	523893.7	347.2487	110975.5	1627.418	4515.213	617.8569	126562.9
Bk10-45 - 71	1913.846	26887.1	186049.7	555072.9	406.8335	116144.8	1947.793	4544.828	500.3056	105861.8
Bk10-45 - 72	1777.081	29069.02	189836.2	544345.5	519.3157	113183.7	2144.483	8277.037	542.9572	109512.5
Bk10-45 - 73	1838.578	27281.93	187650.9	560886.4	526.3046	111182.9	1852.479	4322.213	482.6873	103170.4
Bk10-45 - 74	1726.78	29177.29	191283.4	530372.2	4049.982	112674.5	1901.509	5499.238	563.8554	115652.7
Bk10-45 - 75	2106.566	31187.94	195336.7	518771.5	613.1169	125085.6	2171.3	6099.725	539.9641	117327.9
Bk10-45 - 76	2107.626	29951.76	197317.4	525676.2	534.9068	122822.3	1943.675	5684.892	511.2898	112507.6
Bk10-45 - 77	1778.176	29723.34	189748.1	542366.8	345.2318	109359.2	1887.395	5454.863	558.1216	118036.6
Bk10-45 - 78	1948.074	30369.5	195971.2	528453.1	1425.76	114881.8	4260.26	5487.972	562.9494	115778.4
Bk10-45 - 79	1860.877	31288.13	184666.6	541395.2	396.0988	109036.3	1845.464	6892.687	504.713	121336.8

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Bk10-45 - 80	1940.604	29671.76	187541	538093.5	401.4842	114900.7	1982.921	5969.507	509.1142	118209.1
Bk10-111 - 1	1189.055	25905.34	109894.7	665413.5	4493.723	109606	8949.586	1135.493	177.2441	72550.85
Bk10-111 - 2	940.1281	14613.2	112016.2	622299.4	80.81359	121127.7	739.9485	2751.313	158.2872	124955.8
Bk10-111 - 3	1805.837	14998.91	137026.6	665686	132.3278	137386.7	1283.135	5040.753	130.7986	35933.05
Bk10-111 - 4	1431.438	18546.04	126959.6	686323.1	185.6765	127950.4	1485.03	2619.513	116.5105	34000.09
Bk10-111 - 5	1239.512	22195.97	128536	675055.1	38.09886	122317.1	388.0062	5949.947	171.938	43699.77
Bk10-111 - 6	2064.084	18339.97	140969.2	691540.9	23.11426	110602.7	1292.995	1081.34	79.00218	33642.63
Bk10-111 - 7	1648.031	19167.12	124428	691038.4	414.896	103401.5	2553.418	3670.229	264.0854	52845.11
Bk10-111 - 8	1866.454	19985.54	145530.8	637903.3	2776.417	140380.8	2082.074	1762.41	127.3152	40709.83
Bk10-111 - 9	3199.776	24153.94	169876	560105.2	129.9702	180138	715.0966	6473.128	282.34	54401.83
Bk10-111 - 10	1539.403	15386.2	119214.7	693206.5	213.1414	135453.7	1880.32	5769.158	86.96885	26710.95
Bk10-111 - 11	1527.496	19473.44	118168.7	683286.5	56.00312	115079.3	1873.892	1313.934	110.9557	58717.86
Bk10-111 - 12	2246.622	18601.03	138321.6	638529.1	450.2151	158830.1	2302.296	1490.305	158.7298	38598.57
Bk10-111 - 13	1645.792	12795.68	87699.23	687234.5	197.2275	89151.39	2807.372	1318.072	124.8245	116558.7
Bk10-111 - 14	1470.481	26839.28	130481.2	651976.2	504.2015	128503	3468.913	7013.024	240.9547	48818.69
Bk10-111 - 15	2079.297	13028.91	123208.1	688881.7	4917.551	129752.9	12169.31	1142.154	76.96612	24173.97
Bk10-111 - 16	1550.589	18883.9	96560.38	743765.4	151.2204	88918.46	2142.177	2531.456	165.9368	44765.97
Bk10-111 - 17	1831.313	21079.15	127628.9	690076.6	160.1088	120571.9	1906.751	1156.271	158.0741	34994.97
Bk10-111 - 18	1773.393	23320.05	126322.9	696032.5	238.4258	101827.1	3166.778	3771.914	118.4114	42826.68
Bk10-111 - 19	1827.102	28293.56	141980.3	634384	118.0547	132414	1981.182	2443.516	191.3663	55754.53
Bk10-111 - 20	1761.929	23081.3	156206.5	567135	100.4465	154222.5	2507.431	47387.43	196.8775	46508.13
Bk10-111 - 21	1763.182	30600.28	163650.8	541692.3	12799.41	147662.3	29960.59	4122.437	306.6305	66692.45
Bk10-111 - 22	1960.959	20813.46	95100.86	606780.9	133.8408	89349.86	1635.666	137209.5	177.9518	45903
Bk10-111 - 23	2558.538	13187.75	137019.3	653634.5	465.8623	156115.5	1589.526	5960.667	65.10671	28943.54
Bk10-111 - 24	1308.187	11545.81	81238.49	807037.1	117.0463	71652.42	533.4279	1041.424	54.13658	25132.28
Bk10-111 - 25	1525.441	24717.21	140311.6	646231.4	225.561	134912.8	1522.771	2990.333	294.0768	46715.49
Bk10-111 - 26	1428.625	17183.52	133037.2	666191.9	146.007	148246.4	802.3737	1794.123	139.2211	30708.8
Bk10-111 - 27	1624.942	25420.2	151869.5	617859.7	48.57238	150052.2	1146.793	3205.929	218.2817	48173.23
Bk10-111 - 28	1534.222	16541.47	131971.6	657788.3	410.9722	148566.3	1288.319	3906.711	94.21357	37422.93
Bk10-111 - 29	1829.785	17624.81	128155.1	685136.9	161.9687	121845.2	2007.499	2333.716	111.1806	40225.52
Bk10-111 - 30	1752.375	24309.61	142303.3	636036.3	480.8694	141629.2	2293.034	2380.196	180.4313	48066.8
Bk10-111 - 31	1600.397	17938.7	121569.9	689909.5	598.2728	132749.8	2611.105	2638.861	97.40997	29758.76
Bk10-111 - 32	2488.649	21408.44	169901.8	615657.5	70.07735	139125.7	5824.26	5654.475	135.6879	38772.01
Bk10-111 - 33	1649.766	19346.43	141310.6	653807.9	185.5616	141507.4	2408.13	3863.332	169.7289	35048.93
Bk10-111 - 34	1719.3	35171.43	132360.8	646736	102.1563	96908.47	2360.204	2185.953	203.0308	81587.88
Bk10-111 - 35	2717.365	17195.22	159273.8	636224.6	1138.73	143535.8	3220.092	1842.511	128.849	34199.56
Bk10-111 - 36	1682.113	20003.93	133819.3	651345.5	150.6587	142406.4	1113.023	8022.493	210.546	40771.86
Bk10-111 - 37	1222.531	18816.26	134526	634195	93.7392	136378.5	735.0286	34231.14	109.4337	39169.67
Bk10-111 - 38	1422.584	16694.63	130310.3	684783.8	138.8915	118842.5	1424.364	2566.739	119.3783	42948.96
Bk10-111 - 39	1621.541	17492.48	135260.4	671890.1	103.1029	132778.1	1640.829	2978.182	160.1849	35588.94
Bk10-111 - 40	1414.651	21507.31	140330.4	647665.5	125.6199	140711.4	1943.877	1835.807	160.0456	43827.03
Bk10-111 - 41	1579.48	20965.99	152925.2	639249.6	321.9496	145076.9	2661.796	1709.255	191.5264	34806.78
Bk10-111 - 42	1658.675	29730.73	138759.6	630295.9	178.4235	137580.8	2604.594	2271.371	243.5089	56109.86
Bk10-111 - 43	1892.755	20023.78	129267.4	661548.5	40.85303	130334.4	2553.906	1865.252	134.589	51853.05
Bk10-111 - 44	1418.048	22080.08	120682	667668.5	204.6338	129837.2	1825.657	2135.538	194.9328	53532.13
Bk10-111 - 45	1965.047	20536.26	127569.8	678638.6	127.254	125539	1200.734	2508.574	127.2569	41333.33
Bk10-111 - 46	1539.171	14115.15	140088.6	658936.7	8.986025	156606.6	919.1406	2638.941	76.93244	24706.37
Bk10-111 - 47	2314.76	28975.86	140063	634260.3	210.9685	135366.8	2840.065	2950.551	184.0778	52118.7
Bk10-111 - 48	1667.073	32827.91	145464.8	611593.1	121.566	133382.6	1604.682	1879.786	427.3578	70499.56
Bk10-111 - 49	1993.98	22180.78	160282.6	625015.5	72.06419	143672.7	1744.375	1804.443	118.9158	42571.63
Bk10-111 - 50	1830.645	20030.31	123096.3	671511.1	55.73664	129622	1263.711	2128.053	170.826	49778.88
Bk10-111 - 51	1658.826	19961.36	142182.9	631897.4	231.3461	144850.9	1603.841	3026.034	252.1434	53829.95
Bk10-111 - 52	1230.101	13832.58	88553.96	779439.5	205.5618	86858.05	1282.492	1461.969	110.1266	26628.02
Bk10-111 - 53	1080.045	20852.07	110050.8	736689.3	37.84939	87953.01	605.6517	2416.421	168.1097	39756.54
Bk10-111 - 54	886.4269	20476.07	109883.3	700510	28.94596	124345.5	761.1012	1578.153	171.664	41049.23
Bk10-111 - 55	1730.352	24080.07	153396.2	534497.8	211.8877	176413.5	1608.788	8888.109	810.0642	97894.11
Bk10-111 - 56	2003.303	38740.76	148953	627687.1	191.2301	121764.2	3691.486	3160.777	202.1243	53037.41
Bk10-111 - 57	1330.703	20402.01	108039.4	675495.1	122.9948	101453.2	1704.189	8241.225	121.2666	82473.62
Bk10-111 - 58	1092.718	10456.38	94946.1	694502.2	112.8257	93119.73	627.5534	3813.043	185.0368	100652.7
Bk10-111 - 59	1338.395	18225.8	112980.1	712920.7	56.43368	117343.1	979.5137	1397.666	153.089	34231.48

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Bk10-111 - 60	1635.63	18553.11	141319	639884	145.5962	154583.4	1461.75	1227.29	99.96378	40731.98
Bk10-111 - 61	1649.049	20292.55	124981.1	679208	92.19274	134500	1128.312	4574.186	129.7891	32963.51
Bk10-111 - 62	1575.234	30795.08	113299.8	682667.4	1354.746	100547.9	5146.536	5577.934	287.5305	58258.47
Bk10-111 - 63	1269.656	13630.78	123361	681476.4	56.96256	141430.2	888.7348	1508.168	90.79502	36015.73
Bk10-111 - 64	1825.653	16510.9	134787.5	684459	56.67357	129145.2	1168.072	2776.254	110.9233	28741.88
Bk10-111 - 65	2069.154	16156.61	132262.7	665977.6	149.6898	138329.4	1155.758	1317.999	163.5263	41897.59
Bk10-111 - 66	2664.423	20736.01	141794.5	676920.6	100.7998	116654.6	1207.011	1921.607	219.5544	37379.09
Bk10-111 - 67	3219.198	11536.87	150695.6	636520	102.8228	172652.9	979.6578	1425.532	92.50312	22506.28
Bk10-111 - 68	1640.848	24935.99	142258.5	621921.4	752.9752	166371.4	3700.869	902.9073	115.9093	37021.62
Bk10-111 - 69	1092.056	11904.99	109274.9	725567.8	54.34196	124826.7	669.2571	3294.363	91.96063	22683.89
Bk10-111 - 70	1320.338	16730.29	114668.4	720004.9	68.38944	112862.4	532.6544	3693.149	240.4585	29517.46
Bk10-111 - 71	350.562	317600.2	3139.828	7707.504	112.4381	2621.246	602272.8	91.92317	4212.767	61713.38
Bk10-111 - 72	538.7199	333423.7	2040.766	3364.227	200.5602	1561.254	618288.3	45.83984	3183.981	37206.04
Bk10-111 - 73	364.0285	292679.8	4119.812	110993.6	100.1821	2608.865	547039.5	140.1583	3463.351	38272.7
Bk10-111 - 74	406.7143	323836.1	2788.238	8532.591	141.6421	1598.896	609283.4	121.7937	4097.204	49025.95
Bk10-111 - 75	454.4846	308486.1	9569.728	34239.62	121.9391	12764.56	579543.8	242.7567	3900.815	50535.02
Bk10-111 - 76	344.2907	315893.3	4869.261	13220.51	91.66479	3660.469	601260.3	335.5454	3964.428	56141.47
Bk10-111 - 77	321.9799	306581.2	2202.372	20157.82	-3.48883	2216.67	601206.7	16.6674	4490.281	62572.35
Bk10-111 - 78	318.4709	316255	1238.232	-1045.59	48.59381	1296.602	618113.5	19.50138	4240.79	58238.91
Bk10-111 - 79	454.4119	322051.6	3747.52	11381.29	145.8614	3977.4	610171.9	87.63986	3681.961	44139.32
Bk10-111 - 80	510.6287	334242.2	1603.532	5699.912	143.6634	1144.96	617271.4	102.4689	3435.016	35676.26
Bk10-111 - 81	436.3984	339406.1	390.8565	468.2985	163.3701	201.4261	625185.3	17.93835	3355.293	30644.21
Bk10-111 - 82	324.2274	334331.3	168.6562	6905.694	94.74472	83.22647	617265.2	37.37543	3349.79	37242.69
Bk10-111 - 83	204.6773	323636.2	243.0596	9939.061	27.65658	163.6291	605548.2	6.652468	4681.798	55335.08
Bk10-111 - 84	304.4309	308791.8	5684.826	31521.08	97.7537	6895.009	589636.1	65.30515	3731.208	53060.73
Bk10-111 - 85	486.8262	319765.1	4058.094	15298.42	144.9	4345.472	605207.3	40.50563	3590.781	46837.78
Bk10-111 - 86	474.2206	326782.3	2052.08	8567.294	134.6544	1290.468	610301.8	70.37908	3513.94	46587.87
Bk10-111 - 87	236.9564	323338.2	3119.617	12303.47	103.8778	2116.285	604536.5	45.6305	3815.875	50118.56
Bk10-111 - 88	361.7332	306705.3	5623.172	54019.79	120.0971	6434.084	578711.7	57.46148	3391.762	44341.68
Bk10-111 - 89	405.3712	334278.4	1431.47	6335.157	206.5618	1186.87	619816.5	30.36972	2813.304	33259.53
Bk10-111 - 90	297.0309	317293.8	2785.003	7413.671	106.0131	2296.793	608985.6	37.47466	3789.955	56723.21
Bk10-111 - 91	361.0957	328836.3	1274.818	3614.012	148.2244	1038.56	615642.7	39.85438	3573.92	45206.7
Bk10-111 - 92	314.5948	323264.3	3609.044	8283.71	124.9656	3741.972	608008.7	31.43281	3464.241	48882.45
Bk10-111 - 93	317.656	313378.9	7951.029	35085.67	128.8085	6302.507	583618.4	58.61681	3662.773	49232.61
Bk10-111 - 94	390.5633	306021.6	7598.134	42625.87	105.6883	8041.08	578553.3	148.7901	3428.377	52828.9
Bk10-111 - 95	331.8814	317470.5	6365.789	29349.38	159.9551	7138.23	589991.5	93.46624	3325.424	45504.09
Bk10-111 - 96	204.4169	318629.8	961.1834	6126.562	101.987	1172.674	612102.7	20.0254	3962.202	56510.31
Bk10-111 - 97	337.2212	314250.5	5774.566	24583.63	130.2049	4587.999	598339.9	247.1513	3603.994	47872.85
Bk10-111 - 98	269.5577	311559.6	4537.109	49289.6	48.73483	3569.253	577772.3	155.2127	4009.966	48540.28
Bk10-111 - 99	270.201	280426	6085.997	118634.1	114.3131	3772.69	539913.2	90.70696	3437.309	47006.22
Bk10-111 - 100	250.2227	324362.2	2049.931	5524.724	105.895	2857.133	612276.5	16.40833	3675.974	48614.95
Bk10-111 - 101	245.5938	289472.8	9359.392	88685.34	39.92945	9010.635	543791.8	68.84249	3890.234	55171.76
Bk10-111 - 102	425.0834	321702.2	4817.418	19466.27	147.5452	3159.482	603400.2	110.5284	3557.541	42975.73
Bk10-111 - 103	519.3875	321936.7	8582.033	23456.19	150.2534	7209.788	591814.9	583.8701	3621.723	41828.74
Bk10-111 - 104	372.3697	313067	8675.031	35247.23	138.9677	10637.84	585678.8	73.09329	3441.09	42403.62
Bk10-111 - 105	187.2989	293520.4	11982.18	52983.94	33.69063	17420.43	558387.2	638.4863	3891.309	60667.56
Bk10-111 - 106	369.4425	315285.6	3050.348	14633.13	168.4402	2314.961	603733.4	506.1647	4902.236	54817.67
Bk10-111 - 107	199.577	339062.2	345.8537	1134.485	52.13361	181.9535	611846.7	38.4388	4644.64	43423.92
Bk10-111 - 108	216.2738	325873.3	2676.93	7537.76	62.5475	2122.228	612181.7	67.46347	4108.94	44931.17
Bk10-111 - 109	427.7135	282700.2	29852.82	95787.08	48.44181	18327.24	500930.3	481.519	3413.967	67655.8
Bk10-111 - 110	195.4932	307312.1	8047.537	18942.88	28.52496	7035.702	584466.1	124.7103	5891.129	67738.8
Bk10-164 - 1	1773.708	29944.04	179417.1	546551.1	631.8828	161026.6	2213.875	6428.389	179.9171	70855.03
Bk10-164 - 2	1897.822	30380.04	186837.7	533529.9	589.1022	163932	2203.858	4913.721	233.7386	74317.6
Bk10-164 - 3	1997.688	29099.38	191727	533118	2850.198	157529.5	6569.027	6917.218	238.3213	68815.46
Bk10-164 - 4	1922.367	25087.34	169639.4	590092.1	685.0335	144517.2	2254.893	5227.609	197.9164	59527.94
Bk10-164 - 5	2149.645	28484.9	186650.8	546160.5	716.048	157608.7	2445.048	6807.929	201.0601	67619.93
Bk10-164 - 6	2254.744	29541.24	193579.3	532365.8	614.4871	164193.9	2198.373	5637.754	215.8343	68207.01
Bk10-164 - 7	2234.999	29106.5	189034.3	534669.3	589.2585	162281.5	2162.782	9099.986	191.8184	69554.17
Bk10-164 - 8	2067.697	29698.75	191713.3	529442.2	1521.369	161078.2	4493.969	7845.049	209.9128	70868.29
Bk10-164 - 9	1974.295	28729.85	185671.4	543576.1	519.6351	162982.1	1903.212	4938.501	205.7286	68578.79

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Bk10-164 - 10	1955.736	29611.01	191474.5	533822.2	753.9406	161294.4	2661.963	6933.08	196.5051	70234.26
Bk10-164 - 11	2698.139	24850.98	187654.1	535093	375.9868	180407.6	1545.616	7062.898	184.2314	59245.8
Bk10-164 - 12	1966.8	26682.02	194602.8	540186.2	814.1345	162016.5	2627.24	5148.67	187.1764	64278.56
Bk10-164 - 13	2035.405	24028.67	185224.5	562089	561.034	163718.1	1639.808	4896.622	131.3029	54820.45
Bk10-164 - 14	1889.405	27349.07	186810.4	544525.7	563.2543	164201.8	2001.152	6578.373	183.952	64830.76
Bk10-164 - 15	1864.39	29533.97	189500.5	535617.8	577.3455	161399.2	2275.839	7214.743	211.9798	70689.49
Bk10-164 - 16	1985.33	27913.86	186991.9	548735.3	408.6907	157404.9	1608.667	7034.061	201.4969	66826.54
Bk10-164 - 17	2232.511	28486.45	183557.9	541988.1	493.4848	161904.3	2289.058	7613.278	235.9866	70194.62
Bk10-164 - 18	2193.085	27432.74	191177.3	549307.5	400.119	159226	1481.792	6528.212	171.6747	61162.81
Bk10-164 - 19	1925.524	30671.05	192244.9	529945	606.359	163590	2026.296	6126.181	186.7232	71691.49
Bk10-164 - 20	3057.411	26214.43	218819	513510.1	493.3735	164977.8	2075.179	7530.884	196.01	62216.52
Bk10-164 - 21	1806.986	32229.21	186020.5	537610.7	522.7231	151312.7	2242.606	9340.805	207.7555	77765.26
Bk10-164 - 22	2347.188	25409.74	178043.1	566311.3	574.539	159437.7	1821.069	7005.176	159.1646	57970.56
Bk10-164 - 23	1823.475	30075.52	195578.3	532587.4	441.2345	161032.7	1793.831	7557.075	189.0207	67962.62
Bk10-164 - 24	1984.932	26367.19	176805.1	568229.5	610.6228	153871.1	2016.035	6031.303	221.3477	63014.68
Bk10-164 - 25	2322.458	31436.28	200133.9	524340.7	450.7642	153674.9	2547.691	6838.909	260.5118	77163.1
Bk10-164 - 26	1809.821	28897.17	183882.2	549334	620.8061	158801.6	2148.179	6393.848	189.0918	66878.9
Bk10-164 - 27	1847.303	27212.91	176858.8	568886	502.9144	150285.8	2755.455	6972.141	182.3995	62813.32
Bk10-164 - 28	1867.377	26893.46	180421.1	558923.8	1287.104	158041.4	4002.978	5372.749	236.0933	62136.93
Bk10-164 - 29	1783.735	34099.23	194345.2	526408.8	770.7897	159889.7	2605.67	5207.781	227.1094	73366.99
Bk10-164 - 30	1924.87	27357.48	182149.9	556451.5	585.2764	156372.1	2028.555	6124.123	177.7237	65347.66
Bk10-164 - 31	1709.06	27866.42	182318	552220.4	554.5016	159456.2	2097.08	6444.889	213.0309	66228.53
Bk10-164 - 32	2079.095	24772.05	198735.2	539070.8	665.0552	164477.8	3033.278	7594.415	184.094	58530.41
Bk10-164 - 33	2093.569	28770.05	191508.5	537547.7	816.9498	164291.4	2567.139	5906.883	181.5129	65384.22
Bk10-164 - 34	2283.702	29411.66	187961.6	534152.1	349.6458	159564.2	1553.624	9227.697	355.1009	74325.45
Bk10-164 - 35	1942.21	31399.85	189912.3	531377	1114.12	155018	3307.718	6932.784	272.8451	77762.93
Bk10-164 - 36	1738.399	28925.4	180662	555193.4	1139.047	151292.5	2956.674	8430.48	188.1797	67205.99
Bk10-164 - 37	2235.77	25492.49	187068.7	545288.6	443.8146	166635.7	2013.982	6824.128	190.1359	62971.54
Bk10-164 - 38	1946.617	28380.95	181390.1	550360.8	603.1262	158849.4	2479.118	8497.408	231.0918	66323.45
Bk10-164 - 39	1919.642	29928.08	192681.3	533075.9	1035.897	155282	3276.36	8748.672	215.2547	72910.81
Bk10-164 - 40	2122.8	25200.75	179457.5	567503.1	549.6718	156567.4	2200.789	6222.707	181.9238	59077.41
Bk10-164 - 41	1995.968	31523.59	196436.2	521916.6	482.6983	161082.6	1885.28	11292.93	214.0879	71963.65
Bk10-164 - 42	2032.677	27644.23	195782.5	530970.9	396.6377	168920	2090.369	7923.02	180.2642	63133.53
Bk10-164 - 43	1789.377	27879.06	190412.3	539431.6	462.7119	163207.7	2033.162	8522.04	209.7484	65067.89
Bk10-164 - 44	1733.387	32887.05	182979.8	548417.8	378.3001	148935.6	2131.797	6837.612	223.6346	74386.89
Bk10-164 - 45	1987.491	28552.11	191926.6	532718.8	800.3621	167428	3143.071	5934.085	223.024	66345.51
Bk10-164 - 46	1803.526	30400.71	196175	526662.5	374.0894	157785.5	1830.895	6630.541	263.9806	77092.69
Bk10-164 - 47	1804.542	28450.95	190091	540659.1	637.8669	159749	3041.445	8323.346	194.1326	65925.32
Bk10-164 - 48	2115.924	26721.19	185762.4	548576.5	1072.04	159150.1	3706.805	9588.429	188.5269	62204.94
Bk10-164 - 49	1844.825	28609.95	191106.2	539880.3	515.4657	157782	2661.894	8440.48	221.0693	67859.05
Bk10-164 - 50	1925.259	28826.29	182309.3	554192.8	387.816	153183.1	2734.355	6288.09	288.732	68777.96
Bk10-164 - 51	2009.588	27313.99	185440.1	537497.2	573.6831	164411.2	2685.462	8586.79	230.2595	68494.26
Bk10-164 - 52	1946.369	27866.87	188698.8	544475	860.1858	161224.8	3118.626	5609.272	165.1174	64973.3
Bk10-164 - 53	2260.562	28789.41	187639.6	549359.6	385.2426	159359.5	1670.199	4751.686	224.8081	64597.17
Bk10-164 - 54	2229.827	24828.67	178946.2	570532.6	620.8651	154729.3	2049.936	6261.995	172.8026	58516.7
Bk10-164 - 55	1816.47	29558.32	189627.2	530341.6	425.6358	165487.4	2507.907	11431.09	224.0316	67490.75
Bk10-164 - 56	3185.465	23841.45	184457	562768.4	401.2564	159268.5	1590.897	6633.627	174.2542	56727.15
Bk10-164 - 57	1978.09	32309.18	183535.1	542036.8	916.4233	151172.8	3330.339	7092.625	274.5827	76354.22
Bk10-164 - 58	1858.181	24509.88	181428.5	556904.9	836.8476	163887.5	3218.505	7879.996	152.6544	58531.26
Bk10-164 - 59	1940.1	28728.58	194618.4	532627.8	447.1519	161206	2581.123	7171.896	242.3041	69459.83
Bk10-164 - 60	1781.967	26499.68	180058.5	569015.8	360.2581	146900.4	2207.522	5940.462	265.1591	66154.95
Bk10-164 - 61	1811.079	27949.85	179840.6	562501.6	818.9986	147781.7	3778.045	7647.584	198.9866	66472.93
Bk10-164 - 62	1949.514	28924.44	186486.2	547834.3	580.2756	158006.6	2555.593	7196.01	169.595	65265.49
Bk10-164 - 63	1718.302	26020.73	186551.1	556206.8	593.0145	154218.1	3103.249	11046.83	167.1875	59446.17
Bk10-164 - 64	1745.209	25604.3	172707.6	577698.3	486.0399	148463.5	2963.377	7935.579	200.6429	61293.07
Bk10-164 - 65	1765.849	28267.75	183719.2	552403	915.0872	158573.4	2838.676	6032.665	234.677	64293.33
Bk10-164 - 66	1822.355	27281.05	182592.5	564119.9	406.8854	149857.9	2578.644	6177.906	218.8015	63573.21
Bk10-164 - 67	2024.621	30501.73	197953.1	524205.2	904.3703	161564.2	4257.882	7814.113	245.7111	69264.74
Bk10-164 - 68	1677.275	28657.95	190069.1	544821	544.8503	157562.8	2790.061	8166.423	219.5433	64382.9
Bk10-164 - 69	1769.06	29241.78	191461.6	538974.9	515.8072	161140.7	3553.189	5579.006	233.195	66610.89







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bk10-126 - 55	7238.018	38325.01	147012.3	578379.6	1047.004	122893.1	17019.36	3543.285	158.7847	82979.18
bk10-126 - 56	7774.961	40794.14	148928.6	576371.5	896.0257	122675.6	14915.83	3210.297	191.0089	83090.25
bk10-126 - 57	8702.629	40443.55	148563.3	571369.9	1255.283	122426.8	15024.26	5165.482	183.6856	85423.26
bk10-126 - 58	9270.491	38395.18	145135.1	579993.2	1807.411	121463.5	18344.94	3428.359	178.9896	80612.67
bk10-126 - 59	9647.717	38256.91	145876.3	577947	917.4573	122729.4	16191.69	4778.52	208.2248	82320.06
bk10-126 - 60	9764.459	38081.7	142266.8	586839.9	1127.232	120185.9	16527.08	3618.592	158.6611	80279.81
bk10-126 - 61	10538.92	39278.38	150760.3	562982.2	1119.725	125593.9	17826.21	4125.208	170.9983	86022.05
bk10-126 - 62	10929.31	39805.09	145717.2	566100.2	1420.812	124100.4	19952.11	4620.552	153.4759	85018.52
bk10-126 - 63	2771.104	39067.61	147461.6	588623.4	859.0512	125585.5	4390.548	3714.096	180.793	86116.59
bk10-126 - 64	1922.169	38506.05	147027.1	593214.9	1233.403	123813.8	4630.095	3891.577	171.6443	84432.52
bk10-126 - 65	15134.28	37907.86	145139.9	571564.6	961.6507	123069.6	16312.56	4234.297	159.8549	84252.24
bk10-126 - 66	15846.57	39004.34	147873.8	564716.2	1412.932	122728.7	16074.43	3405.996	182.7113	86884.45
bk10-126 - 67	13533.78	38037.43	146768	564101.1	1303.935	126961.1	17272.95	4661.931	159.1066	83697.1
bk10-126 - 68	16816.57	39670.17	147130.5	552627.1	1098.885	124990.9	23805.96	5541.514	164.0743	86840.01
bk10-126 - 69	14028.67	37723.91	141995.1	573095	994.9074	119412.3	22957.68	4732.865	163.0507	83600.31
bk10-126 - 70	6064.313	37186.77	145314.6	583121.3	989.8991	125126	13363.42	3820.554	151.3326	83276.91
bk10-126 - 71	2280.076	38609.03	147408.7	584141.2	1578.071	129362.8	6372.99	4270.294	158.2834	84540.51
bk10-126 - 72	11719.06	38834.28	146253.9	562544.7	852.1707	123848.1	24642.66	4240.953	174.0493	85647.62
bk10-126 - 73	2051.324	40077.81	150649.6	578514.2	1871.912	127117.9	5774.582	4031.545	191.8906	88228.88
bk10-126 - 74	1585.705	38419.29	146345.1	592973.1	1601.72	125322.7	4644.615	3641.879	171.5637	83952.06
bk10-126 - 75	5340.931	36230.33	145878.1	591671.6	1166.785	123159	12033.96	4461.34	157.4052	78683.2
bk10-126 - 76	10611.18	38447.37	148308.1	564134.4	967.346	124764	24159.64	4365.331	175.0576	82864.54
bk10-126 - 77	12644.38	38858.44	143540.9	565117	1243.371	123544.3	25780.36	3938.048	167.1897	83738.65
bk10-126 - 78	9339.174	37973.72	141818.8	578828.8	1375.436	120808.5	19600.35	3689.215	183.2172	83727.69
bk10-126 - 79	10771.43	36484.66	142038.2	578868.8	1022.607	121927.2	21217.32	4500.658	171.1516	81703.09
bk10-126 - 80	17450.91	36561.81	145995.2	568403.3	993.5081	124836.7	23722.77	2971.386	152.5939	77697.84
bk10-126 - 81	4324.916	48422	149129	528102	461.1865	140180.1	4976.845	3056.348	166.3431	120006.6
bk10-126 - 82	4742.84	50437.37	144624.4	520488.6	531.085	139447.1	5182.564	2592.186	138.3628	130708.7
bk10-126 - 83	4539.678	52528.46	143096.8	516635.1	565.7326	137436.1	5540.109	3505.059	147.835	134823.4
bk10-126 - 84	5194.213	52036.34	144895	510825.4	885.6146	138796	7265.638	2645.03	132.4474	135973.1
bk10-126 - 85	5057.473	51056.84	144081.1	514817.4	710.1851	140029.6	6252.526	3384.172	133.8048	133443.6
bk10-126 - 86	4945.276	52338.9	148682.2	507080.1	605.6193	141791.3	4612.938	2880.297	136.9956	135767.4
bk10-126 - 87	5200.046	53291.42	144467.6	506600.5	569.1046	141583.7	5205.361	2589.025	142.0957	139222.2
bk10-126 - 88	5117.263	49886.55	145050.5	511118.5	1256.715	141230.3	7493.471	4846.761	147.1515	132587.7
bk10-126 - 89	4954.092	50671.86	143648.5	520338	465.5005	138710.7	5761.13	2490.319	133.6421	131645.9
bk10-126 - 90	5408.491	52278.08	146251.6	510850.2	587.3872	141718.4	6338.626	2728.414	150.2549	132591.1
bk10-126 - 91	6053.5	50455.75	146752.6	514437.4	1093.118	137062.6	8800.404	2861.251	145.0729	131306.9
bk10-126 - 92	5326.715	51703.84	143124.9	517117.1	568.8557	136714	6977.71	2859.297	148.2892	134186.8
bk10-126 - 93	4075.277	48999.79	147205.1	512101.4	449.6823	143283.3	5434.708	2722.832	165.0259	134488.7
bk10-126 - 94	5029.51	51487.98	143652	513380.8	491.6461	140619.4	5380.913	3210.581	130.1766	135551.9
bk10-126 - 95	4835.887	50796.82	144328.6	517956.7	528.838	139295.9	6239.629	2847.559	138.7938	131628.9
bk10-126 - 96	4855.744	51581.46	145828.5	511505.3	533.3996	141257.6	4945.086	3256.377	139.6192	135003.6
bk10-126 - 97	4775.554	51522.79	143007.8	513031.3	1424.261	136979.8	8182.629	3309.736	155.5744	136380.7
bk10-126 - 98	4574.562	49311.33	144172.3	523150.3	710.2956	137094.9	6257.654	3358.352	136.4254	129445.4
bk10-126 - 99	4741.151	51430.17	147964.6	510554.4	733.8605	141832.9	5799.051	3442.148	125.5656	132301.5
bk10-126 - 100	4345.178	47761.7	146391.2	531410.8	607.9372	133747.5	5833.073	5048.161	149.6977	123164