Aluminum-26: A Canonized Cosmochemical Conundrum

John Anton
The Graduate Center, City University of New York

Recommended Citation
https://academicworks.cuny.edu/gc_etds/2476

How does access to this work benefit you? Let us know!
Follow this and additional works at: https://academicworks.cuny.edu/gc_etds
Part of the Cosmochemistry Commons

This Dissertation is brought to you by CUNY Academic Works. It has been accepted for inclusion in All Dissertations, Theses, and Capstone Projects by an authorized administrator of CUNY Academic Works. For more information, please contact deposit@gc.cuny.edu.
ALUMINUM-26: A CANONIZED COSMOCHEMICAL CONUNDRUM

by

John A. Anton

A dissertation submitted to the Graduate Faculty in Earth and Environmental Science in partial fulfillment of the requirements for the degree of Doctor of Philosophy,
The City University of New York

2018
This manuscript has been read and accepted for the Graduate Faculty in Earth and Environmental Sciences in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy

Dr. Harold Connolly

Date: ______________________

Chair of Examining Committee

Dr. Cindi Katz

Date: ______________________

Executive Officer

Dr. Harold Connolly
Dr. Denton Ebel
Dr. Michael Weisberg

Supervisory Committee

THE CITY UNIVERSITY OF NEW YORK
Abstract

Aluminum-26: A Canonized Cosmochemical Conundrum

by

John A. Anton

Advisor: Professor Harold Connolly

This study focuses on the challenges associated with the historical development of the interpretative role of $^{26}$Al as both a thermodynamic contributor to planetesimal formation processes and an acutely precise chronometer of protoplanetary disk events. Conventional thought asserts that $^{26}$Mg concentrations can occur as isotopic excesses in meteorites and represent the daughter product of $^{26}$Al, a radioactive form of aluminum ($t_{1/2} = \sim 0.73$ ka). The greatest $^{26}$Mg concentrations generally occur in calcium aluminum inclusions (CAIs), meteoric constituents considered among the oldest known materials in the Solar System whose formation appear to predate the less refractory protoplanetary building blocks known as “chondrules.” The tendency for CAIs to exhibit higher $^{26}$Mg concentrations than chondrules is considered support for assigning a later formation age (e.g., 1-2 Ma younger) to the latter, a notion bolstered by some literature supporting this perspective based on Pb-age dating (e.g., Amelin et al., 2002; Bouvier and Wadhwa, 2010; Zinner E. and C. Göpel. 2002).

Given that $^{26}$Al is the parent material of meteoric $^{26}$Mg excesses, then certain minimum criteria must be met before $^{26}$Al can be accepted as a fine-tuned chronometer or the proposed chief source of internal heat for planetesimals. First, $^{26}$Mg excesses must be genuine and solely a result of a specific decay pathway associated with $^{26}$Al decay rather than an artifact of extraneous
factors, including analytical method biasing or data misinterpretation. Secondly, $^{26}$Al was uniformly distributed throughout the protoplanetary disk (at least within the orbits that terrestrial bodies reside). Last, the original $^{26}$Al concentration in the protoplanetary disk must be known before this isotope can be considered a chronometer. When $^{26}$Mg excesses are compared to the ratio of stable isotopic concentrations ($^{27}$Al/$^{24}$Mg), the resulting calculated value of the initial $^{26}$Al/$^{27}$Al ratio consistently appears to be approximately $5 \times 10^{-5}$. This special value is considered ‘canonical’ and referred to as such. It is also worth mentioning that if any of the aforementioned criteria are not satisfied, then the case for pointing to $^{26}$Al as the chief internal heat source for planetesimals or as a viable chronometer fails.

The principal goal of this thesis is to test the validity of the results published by MacPherson et al. (1995). Their work is arguably one of the most comprehensive canonical model studies to date. This thesis also evaluated the strength of the canonical model via new perspectives and the results thereof are discussed herein and pose serious considerations regarding the nature and meaning of the ‘canonical’ value as well as the cogency of utilizing $^{26}$Al as a relative dating tool.
Acknowledgements

Dedicated to my family ~ Susan, Jordan, Drew, and Jayne and my parents, Arthur and Lucille Anton. In loving memory of my grandparents, Yacoub and Victoria Anton and Gabriel and Yolanda Massa, who left the Old World for the New World. This work concerns the old worlds.

I am greatly indebted to my advisor Dr. Harold Connolly, Jr. for his guidance, enthusiasm, patience, and encouragement and for turning a disastrous situation into an intriguing opportunity to probe the deep past and contribute towards advancing the field of cosmochemistry. My sincerest gratitude to committee members Dr. Denton Ebel and Dr. Michael Weisberg, who like Dr. Connolly, are among the leading cosmochemists in academia and dedicated their time to review and improve this thesis to make it a more worthwhile endeavor.

An incredibly special thanks to Dr. Cindi Katz who addressed a situation outside my control, permitted me to work under Dr. Connolly’s mentorship, and made it possible to complete my academic journey successfully. Likewise, I am obliged to the department faculty for they are experts in their respective fields, most excellent instructors and because they did not remove me from the program despite my sense of humor. I am also appreciative of Lina McClain who provided administrative assistance along the way and especially for straightening out transcript issues. Thanks to all family members and friends for their tireless support and to my classmates, particularly Dr. Patrick Alexander, Dr. Charuta Kulkarni, and Angelika Winner who shared in this arduous and exceptional journey. These three individuals were a constant boost to my morale, loyal friends and are an asset to their respective academic fields.

Entia non sunt multiplicanda praeter necessitatem
## Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agg.</td>
<td>aggregate</td>
</tr>
<tr>
<td>Ahm</td>
<td>Ahmedabad</td>
</tr>
<tr>
<td>Al</td>
<td>aluminum</td>
</tr>
<tr>
<td>Alt</td>
<td>altered/alteration</td>
</tr>
<tr>
<td>An</td>
<td>anorthite</td>
</tr>
<tr>
<td>Ang</td>
<td>angrite</td>
</tr>
<tr>
<td>ASU</td>
<td>Arizona State University</td>
</tr>
<tr>
<td>Barr.</td>
<td>barred</td>
</tr>
<tr>
<td>Bas.</td>
<td>basalt/basaltic</td>
</tr>
<tr>
<td>B.G.</td>
<td>bulk grains</td>
</tr>
<tr>
<td>BO</td>
<td>barred olivine</td>
</tr>
<tr>
<td>CAI</td>
<td>calcium aluminum inclusion</td>
</tr>
<tr>
<td>CAL</td>
<td>Caltech</td>
</tr>
<tr>
<td>Co</td>
<td>corundum</td>
</tr>
<tr>
<td>Comp.</td>
<td>compound</td>
</tr>
<tr>
<td>Compact</td>
<td>cmpt</td>
</tr>
<tr>
<td>CRPG</td>
<td>CRPG-CNRS Nancy, France</td>
</tr>
<tr>
<td>CTA</td>
<td>compact type A</td>
</tr>
<tr>
<td>Cuml.</td>
<td>cumulate</td>
</tr>
<tr>
<td>Diop</td>
<td>diopside</td>
</tr>
<tr>
<td>Diog</td>
<td>diogenite</td>
</tr>
<tr>
<td>Euc</td>
<td>eucrite</td>
</tr>
<tr>
<td>Fas</td>
<td>fassaite</td>
</tr>
</tbody>
</table>
Feld  
feldspar/feldspathic

Fsptids  
feldspathoids

F.G.  
fine grained

Fo  
fosterite

Frag  
fragment

FTA  
fluffy type A

FUN  
fractionated unidentified nuclear effects

Gab  
gabbro

Geh  
gehlenite

GSJ  
Geologic Survey of Japan

Gros  
grossite

Gross  
grossular

HAL  
hibonite Allende

HED  
howardite eucrite diogenite

Heden  
hedenbergite

Herc  
hercynite

Hib  
hibonite

HU  
Hokkaido University

IM  
ion microprobe

Inclus  
inclusion

LPC  
Lambda Physik Complex

LA-MCICPS  
Laser Ablation Multiple Collection Inductively-Coupled Plasma-source Mass Spectrometry

LLNL  
Lawrence Livermore National Labs

Mar  
margin

viii
Mat
Mel
Meso
Mesost
Mg
Mg*
Microsp.
Mont
MS
Mz
Neph
Num
NUP
O
Ol
Ortho
PANURGE
PLAC
Plag
PO
POI
Pyrx
Sec.
S.G.
SHIB

matrix
melilit
mesosiderite
mesostasis
magnesium
$^{26}$Mg excess
microspherule
monticellite
mass spectrometry
multi-zoned
nepheline
numerous
Nu Plasma
oxygen
olivine
orthoclase
PAN
platy hibonite
plagioclase
porphyritic olivine
plagioclase-olivine inclusions
pyroxene
secondary
single grains
spinel-hibonite
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIMS</td>
<td>Secondary Ion Mass Spectrometry</td>
</tr>
<tr>
<td>Soda</td>
<td>sodalite</td>
</tr>
<tr>
<td>Sp</td>
<td>spinel</td>
</tr>
<tr>
<td>Spher</td>
<td>spheroidal</td>
</tr>
<tr>
<td>T-F</td>
<td>T-F</td>
</tr>
<tr>
<td>Text. Dist.</td>
<td>texturally distinct</td>
</tr>
<tr>
<td>TFN (SKLCAS)</td>
<td>ThermoFinnigan Neptune (State Key Lab. Chinese Acad. of Sci.)</td>
</tr>
<tr>
<td>TIOT</td>
<td>Tokyo Institute of Technology</td>
</tr>
<tr>
<td>Trans.</td>
<td>transverse</td>
</tr>
<tr>
<td>UA</td>
<td>University of Arkansas</td>
</tr>
<tr>
<td>UC</td>
<td>University of Chicago</td>
</tr>
<tr>
<td>UCD</td>
<td>University of California at Davis</td>
</tr>
<tr>
<td>UH</td>
<td>University of Hawaii</td>
</tr>
<tr>
<td>Ultra</td>
<td>ultrarefractory</td>
</tr>
<tr>
<td>UMW</td>
<td>University Madison Wisconsin</td>
</tr>
<tr>
<td>Unc1</td>
<td>unclassified</td>
</tr>
<tr>
<td>Unid</td>
<td>unidentified</td>
</tr>
<tr>
<td>Unk</td>
<td>unknown</td>
</tr>
<tr>
<td>WR</td>
<td>whole rock</td>
</tr>
<tr>
<td>WUSL</td>
<td>Washington University St. Louis</td>
</tr>
</tbody>
</table>
Contents

Abstract .................................................................................................................................................. iv
Acknowledgements ............................................................................................................................ vi
Abbreviations ...................................................................................................................................... vii
List of Tables ......................................................................................................................................... xiii
List of Figures ......................................................................................................................................... xiv

Chapter 1 Introduction .......................................................................................................................... 1

1.1 Background ....................................................................................................................................... 1

1.2 The Infrastructure of the Canonical Model and Considerations ..................................................... 3

1.2.1 Origins and Age Considerations .................................................................................................. 5

1.2.2 Magnesium Standards and Excesses ............................................................................................ 7

1.2.3 Analytical Technique Implications .............................................................................................. 8

1.2.4 Evaluating the Analytical Results Compilation of MacPherson et al. (1995) ......................... 9

1.3 Analytical Methods ......................................................................................................................... 20

Chapter 2 Results .................................................................................................................................. 23

2.1 Analytical Data Plots ....................................................................................................................... 23

2.2 Data Results by Meteorite ............................................................................................................... 23

2.3 Data Results by Meteorite Class .................................................................................................... 106

2.4 Data Results by CAI Type ............................................................................................................. 171

2.5 Data Results by Chondrule Type .................................................................................................. 196

2.6 Data Results by Mineral Type ....................................................................................................... 208

2.7 Data Results by Analytical Method ............................................................................................... 249

2.8 Data Results by Calculated Time Following the Start of CAI Formation .................................. 253
Chapter 3 Discussion .................................................................................................................. 263

3.1 Assessing the Relative Strength of the Canonical Value .................................................. 263

3.2 Using Oxygen Isotopes as a Paradigm for $^{26}$Al Distribution .................................... 269

3.3 Condensation Considerations .......................................................................................... 275

3.4 Analytical Methods Revisited ......................................................................................... 299

3.5 Future Work .................................................................................................................... 305

3.6 Conclusions .................................................................................................................... 306

Appendix A - Master Table ................................................................................................... 310

References .............................................................................................................................. 786
List of Tables

Table 1. Calculated Chondrite Canonical and Age Estimates (youngest to oldest)..................255

Table 2. Calculated Duration of Chondrite Class Formation (My). Chondrite class ages listed chronologically relative to onset of CAI formation. Positive - older; Negative – younger. .......257

Table 3. Calculated Ages - CAI v. Chondrule Type (My). Chondrule and CAI types are listed in red and black font, respectively; microspherules are similar to chondrules (refer to Section 2.5) and therefore listed after them. The gray shading highlights the only pre-CAI age. When object types are repeated, each represents a distinct isochron. Ages are listed relative to onset of CAI formation. Abbreviations have been explained. Positive - older; Negative - younger. The data in this table is graphed as Figure 121............................................259

Table 4. Calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios (all meteorites). ..................................................264

Table 5. Chondrites that display a canonical value (±10%). ..................................................268

Table 6. Oxygen, Al and Mg isotope data for oxidized and reduced meteorites. Sources: Bullock et al. (2012), Fagan et al. (2004), Guan et al (2000b), Holst et al. (2013), Ireland et al. (1992), Kawasaki et al. (2016), Makide et al. (2009), McKeegan et al. (1998), Wasserburg et al. (1977). Yellow shaded - positive values. Blue shaded - data that was selected from a range of analyses of a given sample, but could not be confirmed to correlate with specific oxygen isotope data. .....270

Table 7. Data from Table 6 with corresponding calculated initial ($^{26}\text{Al}/^{27}\text{Al}$) values...........273

Table 8. Data from this study associated with each phase listed in the theoretical order of condensation from the protoplanetary disk (e.g., Ebel, 2006; Grossman, 1972). ......................276
List of Figures

**Figure 1.** Acfer 059. The slope formula is provided along with the calculated average initial $^{26}\text{Al}/^{27}\text{Al}$. In most cases, the error bars represent the average $2\sigma$ standard deviation; however, in this graph, the error was reported as $1\sigma$. ..............................................................25

**Figure 2a.** Acfer 094. Note the high data density and scatter towards the origin. The calculated average $^{26}\text{Al}/^{27}\text{Al}$ value is substantially lower than the canonical value. Bimodal data distributions are interpreted as extending from the origin through the origin through the two sets of ‘paired’ points (Figs. 2b, 2c). CAIs and chondrules constitute the objects belonging to the loose group proximal to the origin. The two sets of points that plot away from the grouping are CAIs. Std. dev. = $2\sigma$. ..............................................................27

**Figures 2b (top) and 2c (bottom).** The individual isochrons of the paired data points that fall above and below the average slope presented as Figure 2a. Calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios are shown. ..............................................................28

**Figure 3a.** Acfer 182. The average slope seen in Figure 3a for all published data included in this study for Acfer 182. The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio departs significantly from the canonical value. Std. dev. = $1\sigma$. ..............................................................29

**Figures 3b (top) and 3c (bottom).** The isochron extending to the single outlier (Fig. 3b) approaches the canonical value whereas the bulk of the data display a random distribution pattern (Fig. 3c) with some clustering near the origin and a calculated $^{26}\text{Al}/^{27}\text{Al}$ ratio that falls well short of the canonical value. ........................................................................................................ 30-31

**Figure 4a.** Adelaide. The slope formula is provided along with the calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio. The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio for isochrons that pass through the upper
and lower points are $4.84 \times 10^{-5}$ ($R^2=0.9144$; Figure 4b) and $-5.21 \times 10^{-6}$ ($R^2=0.97618$; Figure 4c), respectively. Error = Std dev. 2σ.

**Figures 4b (top) and 4c (bottom).** The upper and lower isochrons of the graph presented as Figure 4a with their calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios.

**Figure 5.** Adrar 003. The slope has a negative value and displays a poor fit ($R^2=0.0054$) attesting to considerable data scatter. The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio for isochrons that pass through the upper and lower points are $4.84 \times 10^{-5}$ ($R^2=0.9144$; Figure 4b) and $-5.21 \times 10^{-6}$ ($R^2=0.97618$; Figure 4c), respectively. Error = Std dev. 2σ.

**Figure 6.** Adzhi Bogdo. This plot is similar to the Adrar graph in terms of the negative slope and lack of any discernable data distribution pattern. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio is several orders of magnitude less than the canonical value. Error = Std dev. 2σ.

**Figure 7.** Allan Hills 77003. The data distribution is fairly tight and the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value is within 12.6% of the canonical value. Error = Std dev. 2σ.

**Figure 8.** Allan Hills 77307. Note the data gap above the slope definition and slightly greater departure (i.e., 16.2%) of the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio from the canonical value compared to Allan Hills 77003 (12.6%). Error = Std dev. 2σ.

**Figure 9a.** Allan Hills 82101. The negative slope and calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value do not support the canonical model but may be due to metamorphism. Error = Std dev. 2σ.

**Figure 9b.** This graph omits the two outliers in Figure 9a. Although the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio is reasonably similar to the canonical value, the reliability of this estimate is poor (i.e., slope $R^2=0.204$).

**Figure 9c.** This graph includes the two outliers omitted in Figure 9b and another data point to anchor the isochron towards the origin. The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio does not support the
canonical model and while arguments can be made against using a paucity of outliers to test the validity of the canonical value, this is a common practice in many published works.  

**Figure 10a.** Allende. The slope displays a negative trend and $^{26}\text{Al}^{27}\text{Al}$ value when all data is considered. Despite the negative sign, the ratio value is nearly three orders of magnitude lower than the canonical value. Allende is one of the most analyzed meteorites and thus, this graph contains more data points than all other individual plots. Error = Std dev. $2\sigma$.  

**Figures 10b (top) and 10c (bottom).** The data distribution of the upper isochron in Figure 10a is markedly similar to the graph of all data presented in MacPherson et al. (1995) although the calculated $^{26}\text{Al}^{27}\text{Al}$ ratio is $\sim1.39$ times less than the canonical value. Figure 10c is an alternate version of Figure 10b intended to illustrate the minor difference ($\sim3.2\%$) between the calculated initial $^{26}\text{Al}^{27}\text{Al}$ ratios by removing points to reduce scatter and obtaining a more precise isochron definition as noted in Section 1.3.  

**Figure 10d.** The lower isochron of rescaled Figure 10a with the slope defined and the calculated initial $^{26}\text{Al}^{27}\text{Al}$ ratio. 

**Figure 11a.** Axtell. Axtell and Allan Hills 82101 data share a broadly comparable distribution in that points preferentially plot along the ordinate with only an outlier or two. Three differences though, are isochron dip directions, calculated initial $^{26}\text{Al}^{27}\text{Al}$ ratios, and the highly constrained $^{27}\text{Al}^{24}\text{Mg}$ values for Allan Hills 82101 data. Note the marked $\delta^{26}\text{Mg}$ deficiencies and empty field between approximately $250<^{27}\text{Al}^{24}\text{Mg}<1,325$. Error = Std dev. $2\sigma$.  

**Figures 11b (top) and 11c (bottom).** The isochrons extending through the outlier (upper graph) and the bulk points (lower graph) produce calculated initial $^{26}\text{Al}^{27}\text{Al}$ ratios that are less than the canonical value.
**Figures 11d (top) and 11e (bottom).** Figure 11d is a scaled down version of Figure 11c so that the data clustering could be resolved. Although no discrete pattern emerged, an upper constraint is apparent and isolated in Figure 11e with its associated calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value that is in tune with the canonical value. .........................................................48

**Figure 12.** Chainpur. The Chainpur data is widely distributed despite the heavy concentration of points near the origin. Error = Std dev. $2\sigma$. .........................................................................................................................49

**Figure 13a.** Colony. Colony data was interpreted as displaying a trimodal distribution. Figures (13b-13d) display each of the three isochrons separately in order of greatest to least calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value. Error = Std dev. $2\sigma$........................................................................................................................................50

**Figures 13b (top), 13c (middle), and 13d (bottom).** In top graph (13b), the isochron extends from the origin through the outlier in Figure 13a. Figure 13c presents the bulk of the data in Figure 13a that closely parallel the ordinate. Figure 13d shows the isochron extending through the points in the lower quadrant (e.g., deficient $\delta^{26}\text{Mg}$ field)..................................................................51-52

**Figure 14a.** EET 87746. A trimodal data distribution identified in EET 87746 are discussed below. Three red points were highlighted because they fall between the two isochrons in Figs. 14b and 14c and were excluded in the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values. Error = Std dev. $2\sigma$. ....53

**Figure 14b.** The top isochron demarcates the upper constraint of the data distribution for EET 87746........................................................................................................................................54

**Figures 14c (top) and 14d (bottom).** Both graphs document marked $\delta^{26}\text{Mg}$ deficiencies in chondrite objects. The inclusion of most of the data points in the lower quadrant of Figure 14d served as a means to anchor the isochron towards the origin in Figure 14c. .........................55
Figure 15. EET 92042. The data for EET 92042 is highly constrained. If the slope was forced to the origin, the resulting isochron and calculated initial $^{26}\text{Al} / ^{27}\text{Al}$ ratio would be $y = 0.3139x$ ($R^2=0.6402$) and $4.38 \times 10^{-5}$, respectively. Error = Std dev. $2\sigma$...

Figure 16. EET 96286. Forcing the isochron to the origin would produce a calculated initial $^{26}\text{Al} / ^{27}\text{Al}$ ratio of $4.55 \times 10^{-5}$ based on a slope of $y=0.3264x$ ($R^2=0.2866$). Error = Std dev. $2\sigma$...

Figure 17a. Efremovka. Efremovka data shows a bimodal data distribution with cluster biasing proximal to the origin. The calculated average initial $^{26}\text{Al} / ^{27}\text{Al}$ value is five times less than the canonical value. Error = Std dev. $2\sigma$...

Figure 17b. Distilling the data in Figure 17a produces upper and lower isochrons. This figure focuses on the upper isochron and its calculated initial $^{26}\text{Al} / ^{27}\text{Al}$ value is $\sim83\%$ of the canonical value.

Figure 17c. The lower isochron and the calculated initial $^{26}\text{Al} / ^{27}\text{Al}$ ratio is approximately one order of magnitude less than the value presented in Figure 17b for the upper isochron.

Figure 18a. Felix. The bulk of the data is preferentially aligned along the ordinate. One outlier is apparent. Error = Std dev. $2\sigma$...

Figures 18b (top) and 18c (bottom). Figure 18b shows the isochron through points that parallel the ordinate and Figure 18c depicts the isochron that includes the outlier. Error = Std dev. $2\sigma$...

Figure 18d. The data collected by Russell et al (1998) lacks a strong linear distribution and the calculated initial $^{26}\text{Al} / ^{27}\text{Al}$ ratio departs notably from the canonical value. Error = Std dev. $2\sigma$...

Figure 18e. The slope displays a negative trend for the Felix 4814 data set and a calculated initial $^{26}\text{Al} / ^{27}\text{Al}$ ratio that contrasts with the canonical value. Error = Std dev. $2\sigma$...
Figure 19a. Grosnaja. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio is essentially the canonical value. Note that some points plot below the origin as $\delta^{26}\text{Mg}$ deficiencies. Error = Std dev. 2σ.

Figures 19b (top) and 19c (bottom). A few negative ($\delta^{26}\text{Mg}$ deficient) data points were removed from Figure 19b for reasons explained earlier (e.g., improved slope definition). The lower graph depicts a linear data distribution as well, albeit with greater variability than the data defining the isochron in Figure 19b. The reason is unclear although some workers may attribute this phenomenon to distinct reservoirs as the source for these objects.

Figure 20. Hughes 030. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio for the Hughes CAI is relatively low compared to the canonical value. Error = Std dev. 2σ.

Figure 21. Inman. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio for the Hughes CAI falls short of the canonical value. Error = Std dev. 2σ.

Figure 22. Isna. The data from Isna is remarkably well behaved, yet oddly, the calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio falls almost exactly between the near zero line and the canonical value. Error = Std dev. 2σ.

Figure 23. Kainsaz. There is no distinct data distribution associated with the melilite samples. The single spinel data is denoted in red. Error = Std dev. 2σ.

Figure 24a. Krymka. The data represents chondrules. The four olivine samples in the data set plot near the origin. Error = Std dev. 2σ.

Figures 24b (upper) and 24c (bottom) depict the isochrons through the outlier and lower points, respectively. The upper graph alludes to a supracanonical value. Contrarily, the data scatter and evidence of $\delta^{26}\text{Mg}$ deficiencies in Figure 24c are marked. Error = Std dev. 2σ.

Figure 25a. Lancé. The data range overlaps with that of Inman (Figure 21), but the distribution pattern differs and lacks any appreciable correlation with $^{27}\text{Al}/^{24}\text{Mg}$. Error = Std dev. 2σ.
Figures 25b (upper), 25c (middle) and 25d (bottom). HH-1 is a FUN object and 4811 and 4815 are microspherules. The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values for the two microspherules are similar despite the paucity of data and scatter associated with object 4815 and all results are subcanonical. ................................................................. 73-74

**Figure 26a.** Leoville. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio is relatively low compared to the canonical value. Error = Std dev. 2$\sigma$. ................................................................. 75

**Figures 26b (top) and 26c (bottom).** These graphs show the first and second distribution modes starting with one that follows the ordinate axis (top) and another that extends the furthest from the origin................................................................. 75-76

**Figure 26d.** The data exhibits a distinct pattern that was separated further into the two components shown in Figure 26e and 26f. ................................................................. 77

**Figures 26e (above) and 26f (below).** Two distinct isochrons (and thus calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values) result when the slope in Figure 26d is separated into two components. ..... 77-78

**Figure 27.** Moorabie. The plot for Moorabie shows an isochron with a corresponding ($^{26}\text{Al}/^{27}\text{Al}$)$_0$ ratio that is slightly supracanonical. Error = Std dev. 2$\sigma$. ................................................................. 79

**Figure 28a.** Murchison. Murchison data plots along three isochrons. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio is typical of chondrules and late forming CAIs. Error = Std dev. 1$\sigma$ and 2$\sigma$ depending on source................................................................. 80

**Figure 28b.** The calculated ($^{26}\text{Al}/^{27}\text{Al}$)$_0$ ratio for the uppermost isochron is equivalent to the canonical value. ................................................................. 81

**Figures 28c (upper) and 28d (lower).** The middle isochron (Figure 28c) archives a 40% reduction of $^{26}\text{Al}$ relative to the canonical value, but no obvious $\delta^{26}\text{Mg}$ deficiencies appear in Figures 28a through 28c. ................................................................. 81-82
Figure 29a. Ningqiang. Ningqiang’s data plots either along a distinct isochron or as a looser array of points. The calculated average initial \( ^{26}\text{Al} / ^{27}\text{Al} \) ratio is approximately one order of magnitude less than the canonical value. Error = Std dev. 2\( \sigma \).

Figures 29b (top) and 29c (bottom). The uppermost isochron in Figure 29b approaches the canonical value and shows three points that plot as \( ^{26}\text{Mg} \) excesses. Abundant \( \delta^{26}\text{Mg} \) deficiencies are evident in Figure 29c.

Figure 30. NWA 8616. Data gleaned from NWA 8616 plot as a relatively tight group that yield an isochron with an associated ‘sub-canonical’ value. Error = Std dev. 2\( \sigma \).

Figure 31. NWA 2976. Low \( \delta^{26}\text{Mg} \) values imply that \( ^{27}\text{Al} \) was essentially extinct by the time achondrites formed.

Figure 32. Ornans. Note the monomodal data distribution, clustering and apparent data gap typical of individual chondrite data sets noted earlier. Error = Std dev. 2\( \sigma \).

Figure 33a. Quinyambie. Quinyambie data shows a bimodal distribution pattern with a low calculated average initial \( ^{26}\text{Al} / ^{27}\text{Al} \) ratio. Data scatter is particularly pronounced for points closest to the abscissa. Error = Std dev. 2\( \sigma \).

Figures 33b (top) and 33c (bottom). The uppermost isochron (Figure 33b) displays a data distribution reflective of the canonical model, whereas the lower isochron (Figure 33c) is somewhat reminiscent of its counterpart in Ningqiang although with less extreme \( \delta^{26}\text{Mg} \) deficiencies.

Figure 34. SAH99555. \( \delta^{26}\text{Mg} \) values are extremely low which is tune with the canonical model for late forming objects like angrites. Error = Std dev. 2\( \sigma \).
**Figure 35a.** Semarkona. A multimodal data distribution occurs in Semarkona and each isochron is isolated in the Figures 35b-e. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ value is low and some $\delta^{26}\text{Mg}$ deficiencies occur near the origin. Error = Std dev. $2\sigma$. .................................................................91

**Figure 35b.** The uppermost isochron exhibits an isochron with a corresponding $^{26}\text{Al}/^{27}\text{Al}$ that is supracanonical (~20%). ........................................................................................................92

**Figures 35c (upper), 35d (middle) and 35e (bottom).** The second, third, and fourth data distribution modes are presented sequentially from greatest to least................................. 92-93

**Figure 36.** Sharps. Only one sample (i.e., a plagioclase outlier) exhibits a $^{26}\text{Mg}$ excess. Error = Std dev. $2\sigma$. .................................................................................................................................94

**Figure 37.** Study Butte. The data for Study Butte tends to show a greater density towards the origin but is otherwise scattered and has low average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio. Error = Std dev. $2\sigma$. .................................................................................................................................95

**Figure 38a.** Vigarano. Vigarano data shows a distinct distribution pattern with a corresponding low average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio. Error = Std dev. $2\sigma$. .................................................................................................................................96

**Figures 38b (top) and 38c (bottom).** The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio for the uppermost isochron (Figure 38b) corresponds reasonably with the canonical value. The majority of the data in Figure 38c show $\delta^{26}\text{Mg}$ deficiencies.................................................................97

**Figure 39.** Warrenton. Data gaps like those observed in Isna, Ornans, and Semarkona are also in Warrenton. Error = Std dev. $2\sigma$. .................................................................................................................................98

**Figure 40a.** Yamato 81020. The data for Yamato 81020 shows a bimodal distribution like Felix, Colony, and Axtell where an outlier lies “below” the bulk data, rather above it. Error = Std dev. $2\sigma$.................................................................................................................................99
Figures 40b (top) and 40c (bottom). The data archived in the upper (Figure 40b) and lower isochrons (Figure 40b) are well defined and less than the canonical value. ..............................................100

Figure 41a. All meteorites. This figure represents the combined data presented in Figures 1 through 40 as well as for cases where there the paucity of meteorite-specific data did not allow for creating an individual graph.................................................................101

Figures 41b (top) and 41c (bottom). The data at the scales noted. The intermediate isochron in Figure 41a appears more as scatter in both graphs (Figs. 41b and 41c) and the distinctiveness of the upper isochron begins to degrade with scale increases (Figure 41c). The character of the lowest scale however, strengthens. Further, two new isochrons appear in the positive fields closest to the ordinate axis........................................................................................................102-103

Figure 42. The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio for each dominant isochron is provided. The dashed line is the resultant slope when all data is considered and was mentioned earlier........104

Figure 43. All meteorites. The results of the regression analyses using linear (blue) and exponential (red) methods are provided along with their respective formulae. No value is assigned to the abscissa since the data is a comparison of a single parameter (e.g., identified on the ordinate axis)........................................................................................................105

Figures 44a (top), 44b (middle) and 44c (bottom). C2 Ungrouped. The upper (Fig. 44b) and lower (Fig. 44c) isochrons that straddle the one for all C2 Ungrouped data (Fig. 44a) exhibit low initial $^{26}\text{Al}/^{27}\text{Al}$ ratios. Figure 44a. Error = Std dev. 2σ.................................................................108-109

Figure 45a. C3 Ungrouped. The data for C3 Ungrouped chondrites shows two well-defined distribution patterns shown in Figs. 45b and 45c. Error = Std dev. 2σ....................................................110
Figures 45b (top) and 45c (bottom). The calculated initial $^{26}$Al/$^{27}$Al ratio in Figure 45b describes the canonical value. However, there is considerable data disorganization in Figure 45c and a corresponding low $^{26}$Al/$^{27}$Al value.

Figures 46a (top), 46b (middle) and 46c (bottom). CH3. Of these graphs, only Fig. 46b shows a calculated initial $^{26}$Al/$^{27}$Al ratio that approaches the canonical value. In some regard, this may further substantiate outlier importance since data points from other data sets also plot in this region. Figure 46a. Error = Std dev. 1σ and 2σ depending on source.

Figures 47a (top), 47b (middle) and 47c (bottom). CM. As in the case of CH chondrites, the upper isochron (Fig. 47b) exhibits a calculated initial $^{26}$Al/$^{27}$Al ratio that is nearly canonical, except that here it is slightly supracanonical. Figure 47a. Error = Std dev. 2σ.

Figures 48a (top), 48b (second), 48c (third) and 48d (bottom). CM2. The calculated average initial $^{26}$Al/$^{27}$Al ratio for all data is shown in Figure 48a and the specific values for individual isochrons are listed in ensuing graphs 48b-d. A canonical value is apparent in the uppermost isochron (Fig. 48b) though not elsewhere. Figure 48a. Error = Std dev. 1σ and 2σ depending on source.

Figure 49. CO3. The calculated initial $^{26}$Al/$^{27}$Al ratio for all data does not archive a canonical condition.

Figures 50a-f. CO3.0. As is customary in this thesis, the calculated average initial $^{26}$Al/$^{27}$Al ratio for all data is shown first (Figure 50a) and followed by graphs for individual isochrons (Figs. 50b-f). Figure 50a. Error = Std dev. 2σ.

Figure 51a (top), 51b (middle) and 51c (bottom). CO3.2. The average and upper isochrons (Figs. 51a and 51b) exhibit a calculated initial $^{26}$Al/$^{27}$Al ratio that is approximately half the canonical value. Figure 51a. Error = Std dev. 2σ.
**Figure 52a-c from (top to bottom).** CO3.3. The calculated average initial \( ^{26}\text{Al}/^{27}\text{Al} \) ratio for all data is shown in Figure 52a and the bimodal data distributions as Figs. 52b-c. Figure 52a. Error = Std dev. 2σ.

**Figures 53a-c from (top to bottom).** CO3.4. The calculated average initial \( ^{26}\text{Al}/^{27}\text{Al} \) ratio (Figure 53a) and the specific ratios for each isochron are shown (Figs. 53b and 53c). Figure 53a. Error = Std dev. 2σ.

**Figure 54.** CO3.5. The calculated initial \( ^{26}\text{Al}/^{27}\text{Al} \) ratio (Figure 54) is less than half the canonical value. Error = Std dev. 2σ.

**Figure 55.** CO3.7. The calculated initial \( ^{26}\text{Al}/^{27}\text{Al} \) ratio continues a decreasing trend and is lower than the value often associated with chondrules (i.e., \( 1\times10^{-5} \)). Error = Std dev. 2σ.

**Figure 56.** CO3.8. The data is well-behaved and follows a highly constrained path. Not many data points comprise this graph and the negative one is either \( \delta^{26}\text{Mg} \) deficient or at least unresolvable. Error = Std dev. 2σ.

**Figure 57.** CO Group. The data (black and red points) are values calculated in the preceding sections of this study and represent the independent isochron within each subgroup that most closely matches the canonical value (e.g., see Figs. 50b, 51b, 52b). Red data points are so colored because they do not fall on the trend line that was inserted for reference rather than calculated.

**Figure 58.** The calculated initial \( ^{26}\text{Al}/^{27}\text{Al} \) ratio represents the canonical value. Error = Std dev. 1σ and 2σ depending on source.

**Figure 59a.** CV3. The CV3 data exhibits the lowest calculated average initial \( ^{26}\text{Al}/^{27}\text{Al} \) ratio for any group displaying a positive slope. Error = Std dev. 2σ.
Figures 59b-f. This sequence of graphs isolates each isochron identified in Figure 59a and provides their calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value. The greatest isochron (Fig. 59b) has a corresponding calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio that is closest (~71.6% lower) to the canonical value than all remaining isochrons (Figs. 59c-f). The peculiarity of negative slopes (Figure 59f) was discussed earlier and will be expounded on in Chapter 3 from a new perspective. 

Figures 60a-c (top to bottom). CV Group data v. calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values. Plotting the five calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values yielded an intriguing data distribution (a) that is interpreted as a bimodal data distribution with a shared point (circled). Breaking out each isochron (b and c) and determining the slope equations revealed y-intercepts (red font) that approach the canonical and typical “chondrule” values (Fig. 60b). There are no x-axis values as the abscissa is simply a reference for the three noted samples that have calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values.

Figures 61a-d (top to bottom). EH3. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio for all EH3 data included in this study is slightly higher than for chondrules. Error = Std dev. 2σ. However, the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio of the uppermost isochron is within 10% of the canonical value and therefore in reasonably good agreement despite the $\delta^{26}\text{Mg}$ deficiencies archived by the two negative slopes that describe the remaining data.

Figure 62. H3. The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio for the H3 chondrite data used in this thesis has relatively high Al/Mg ratios, but a low canonical value. Error = Std dev. 1σ and 2σ depending on source.

Figure 63. H3.4. Even though the isochron shows a $\delta^{26}\text{Mg}$ deficiency and a low calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio compared to the canonical value, the trend is positive. Error = Std dev. 2σ.
Figure 64. H3-6. The isochron of H3-6 data has a low calculated initial $^{26}$Al/$^{27}$Al ratio that parses well with the average calculated initial $^{26}$Al/$^{27}$Al ratio of CV3 chondrites (Fig. 59a). Error = Std dev. $2\sigma$.

Figure 65. Note that H3-8 objects have high Al/Mg ratios just as in the case of 3.3 and 3-6 objects. Error = Std dev. $1\sigma$ and $2\sigma$ depending on source.

Figures 66a-g. LL3.00. The calculated average initial $^{26}$Al/$^{27}$Al ratio (Fig. 66a) is only 34% of the canonical value. Figure 66b was included to help the reader identify individual isochrons due to the noise resulting from the error bars. (The lines are approximate.) Each isochron is presented sequentially from top (Fig. 66c) to bottom (Fig. 66g). The uppermost isochron (Fig. 66b) is reasonably similar to, but slightly more than the canonical value while all remaining calculated initial $^{26}$Al/$^{27}$Al ratios are respectably less. Fig. 66a Error = Std dev. $2\sigma$.

Figure 67. LL3.00 cumulative data v. calculated initial $^{26}$Al/$^{27}$Al values. The RGA of the calculated $^{26}$Al/$^{27}$Al values of the five individual isochrons bear a remarkably strong linear correlation that seems to imply a direct relationship between CAI and chondrule forming processes.

Figures 68a-c. LL3.2. The calculated average initial $^{26}$Al/$^{27}$ ratio (Fig. 68a) for LL3.2 objects is low despite the supracanonical value that is associated with the uppermost isochron (Figure 68b). This is because the data associated with the lower isochron exhibit a $\delta^{26}$Mg of approximately $\leq3\%$. Fig. 68a Error = Std dev. $2\sigma$.

Figures 69a-i. LL3.4. Seven independent isochrons (i.e., three positive and four negative trending lines) were identified in Figure 69a based on scale adjustments. Figure 69b is provided as guide for identifying the subject isochrons which are presented sequentially as Figures 69c through 69i to match the order of the lines (top to bottom) in Figure 69a.
Figure 69j. This figure shares an apparent similarity to Fig. 60a (CV3 chondrites) except that in the former, the collective data represented by each point appear to diverge along two pathways from the oldest point identified by an enclosed blue circle and in this graph they seemingly converge. Note that the point near the bottom of the graph pre-dates the points that plot near zero that conventionally denote the onset of CAI formation according to the canonical model. 

Figure 69k and 69l (top and bottom). Unlike the subject CV3 pathways, these are best described as linear rather than exponential. Note that the Y-intercepts are 2x10^-5 and 5x10^-6 for the Figs. 69k and 69l, respectively, and the larger of these (2x10^-5) falls within the formation constraints calculated for CV3 objects suggesting an overlap in the development of these objects.

Figure 69m. A comparison of the calculated initial $^{26}$Al/$^{27}$Al values for each isochron of the noted chondrite groups (green = LL3.4 and blue = CV3 data). Note the divergent and convergent nature of the data relative to red data points for LL3.4 and CV3 bodies, respectively. The red data points are the highest (LL3.4) or lowest (CV3) values for their data set. The lines point in the direction of how time flows (older to younger) according to the canonical model (e.g., zero ~ the onset of CAI formation).

Figures 70a-d. LL3-6. Three individual isochrons identified in Fig. 70a based on scale changes are presented in Figs. 70b and 70c. Fig. 70a Error = Std dev. 2σ.

Figure 71. L3.8. The data distribution is monomodal, relatively constrained and the calculated initial $^{26}$Al/$^{27}$Al value is within 10% of the canonical value and essentially equivalent to that observed for the uppermost isochron of LL3-6 objects (after rounding). Error = Std dev. 2σ.

Figure 72. L/LL3.10. The data yields a monomodal distribution with a slightly negative slope. Error = Std dev. 2σ.
Figure 73. Rumurutites. The points plot tightly and the associated calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value is well below the canonical value despite the relatively large range in the $^{27}\text{Al}/^{24}\text{Mg}$ values. Error = Std dev. 2σ.................................................................163

Figure 74. Ungrouped achondrites. The extraordinary low calculated $^{26}\text{Al}/^{27}\text{Al}$ ratio accompanies the anomalous negative $\delta^{26}\text{Mg}$ values and a potential explanation is presented in Chapter 3. Error = Std dev. 2σ.................................................................164

Figures 75a (top), 75b (middle) and 75c (bottom). Angrites. The upper graph represents the calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio for all Angrite data included in this study and its bimodal data distribution is segregated into the Figures 75b (which assumes a slope through outliers near $\delta^{26}\text{Mg} \sim 20\%$) and along the abscissa (Figure 75c). Figure 75a. Error = Std dev. 2σ. .................................................................165-166

Figures 76a-b (top to bottom). Eucrites. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio for all eucrite chondrites has a negative trend (Fig. 76a) and $\delta^{26}\text{Mg}$ deficiencies are evident. The average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio calculated for the uppermost isochron is more than two orders of magnitude lower than the canonical value and nearly mirrors that of the lower isochron. Figure 76a Error = Std dev. 2σ. .................................................................167

Figures 77a-c. Mesosiderites. All three graphs document $^{26}\text{Mg}$ deficient conditions existed when the constituents of mesosiderites were forming as predicted by the canonical model. Fig. 77a Error = Std dev. 2σ.................................................................168-169

Figure 78. All meteorite classes included in this study. Blue symbols are unrelated data; however, data associated with specific meteorite groups are colored similarly and represent multiple isochrons associated with a given meteorite group. The note indicates the value of two
additional points that extend well beyond the range of the scale. There is no x-axis as the intent is to illustrate the range of calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values. 

**Figures 79a and 79b (top to bottom).** Type A CAIs. The data displays a well-defined bimodal distribution and the uppermost isochron has a calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value that falls within 21% of the canonical value. The lower isochron has a corresponding calculated $^{26}\text{Al}/^{27}\text{Al}$ ratio that is about an order of magnitude less than the canonical value and that typically observed for most chondrules (i.e., $1 \times 10^{-5}$). Fig, 79a Error = Std dev. 2$\sigma$. 

**Figures 80a-e (top to bottom).** Type B CAIs. Four individual isochrons were identified as displayed in Figs. 80b-e. The uppermost isochron has a corresponding calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value that is slightly lower than, but essentially equal to that of type A objects (e.g., in this case 24.4% less than the canonical value). Fig, 80a Error = Std dev. 2$\sigma$. 

**Figures 81a-b (top and bottom).** Type B1 CAIs. The top graph includes all data published in the noted references for B1 objects. Figure B1 isolated the data associated with the uppermost isochron and exhibits nearly the same calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio as for A and B objects (Figs. 79b, 80b). Fig, 81a Error = Std dev. 2$\sigma$. 

**Figure 81c.** This graph is a guide to identify the isochrons in the ensuing five figures. Figure 81d includes only the data in the upper elongated oval field. Figure 81e contains the data in the rectangular field and three independent isochrons identified therein as red lines (i.e. Figs. 81f-h). Figure 81i targets the negative data in the lower elongated oval field. 

**Figures 81d-h (top to bottom).** Figure 81d shows that the linear data distribution that follows the ordinate axis closely (Fig. 81c) is actually a loose array of points that consist of upper and lower groupings. Figure 81e (rectangular field Fig. 81c) depicts the three isochrons shown in Figs. 81f-h.
Figure 81i. This graph depicts the only negative slope in Figure 81a even though it cannot be seen at that scale.

Figure 82a-d (top to bottom). Type B2 CAIs. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio of Figure 82b exceeds the canonical value by ~16% and is in most agreement with it of all the CAI types discussed thus far. Error = Std dev. 2σ.

Figures 83a-f (top to bottom). CTA CAIs. Figure 83b is the only one of this graph series that has a calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio that supports the canonical model. This is also the closest match to the canonical value than what is observed for any of the preceding CAI types (i.e., Types A through B2). The duel grouping data distribution pattern observed in Figure 83f is similar to that of Figure 81d for B1 CAIs. Fig. 83a Error = Std dev. 2σ.

Figures 84a-e (top to bottom). FTA CAIs. The total data set plotted as Figure 84a appears well behaved and the calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio is only ~77% of the canonical value. Figure 84b is remarkable in that its $(^{26}\text{Al}/^{27}\text{Al})_o$ ratio exceeds the canonical value by 3.4x. Equally perplexing is the anomalously high $\delta^{26}\text{Mg}$ (~7‰). These two characteristics of the FTA data mapped herein, implies a much earlier age for the onset of CAI formation, one that will be discussed in Section 2.8. Some workers propose that at least some early CAIs originated from already formed planetesimals and this type of data could support that perspective. Figure 84a Error = Std dev. 2σ.

Figures 85a-d (top to bottom). Fractionation and unidentified nuclear effects cumulative data. None of the isochrons associated with FUN objects show an associated calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio that approaches the canonical value despite the high Al/Mg ratios. Figure 85a Error = Std dev. 1σ and 2σ depending on source.
**Figure 86.** Hibonite Allende - HAL type CAIs. Not surprising, the data shows a lack of correlation between the graphed parameters, but the underlying cause is poorly understood and often attributed to either isotopic differences arising from the production of objects from distinct reservoirs or the import of material from exotic sources. The data also exhibits a respectable range of $\delta^{26}$Mg values and high, but constrained Al/Mg ratios. Error = Std dev. 1σ and 2σ depending on source.

**Figures 87a-c (top to bottom).** Platy hibonite CAIs. The canonical value is preserved in uppermost isochron (Fig. 87b) and the organization of the lower isochron is lost (Fig. 87c) when the scale is increased. Figure 87a Error = Std dev. 2σ. 192-193

**Figure 88.** Spinel-hibonite spherules. The data associated with the low calculated initial $^{26}$Al/$^{27}$Al ratio is described well by the slope and essentially scatter free. Error = Std dev. 2σ. 193

**Figures 89-91 (top to bottom).** CAI Calculated initial $^{26}$Al/$^{27}$Al values. The top graph (Fig. 89) plots all results for the uppermost isochrons for each CAI group that most closely approach the canonical value (e.g., the horizontal reference line in all three graphs). Figure 90 omits the FTA data but otherwise presents the same data at a larger scale for improved resolution, whilst Figure 91 reverts back to the original scale and excludes potentially dubious results, mainly calculated results that rely on highly scattered data patterns or low Al/Mg ratios relative to the bulk data associated with the CAI group to which they belong. Correlation between $^{27}$Al/$^{24}$Mg and $\delta^{26}$Mg); 2) B2-Disorganized and FTA-Disorganized groups produce supracanonical values based on highly scattered data with low reliability (low R2) that may imply $^{26}$Mg enrichment of the analyzed samples via import from surrounding grains (ion migration) or isotopic reservoir signatures; and 3) only PLAC data (and arguably CTA) exhibit a calculated initial $^{26}$Al/$^{27}$Al ratio that meshes well with the canonical value. The reason for the supracanonical value associated
with FTAs is not understood, but if it is set aside for discussion purposes, then the data seems to imply that PLACs are the oldest CAI objects. (However, the data does not allude to whether PLACs were uniformly distributed in the protoplanetary disk.) ........................................194-195

**Figure 92.** Al-rich chondrules. The monomodal data distribution shows a negative trend and a δ²⁶Mg deficiency despite the exceedingly high Al content of these chondrules. Error = Std dev. 2σ..........................................................197

**Figure 93.** Barred olivine chondrules. The monomodal data distribution shows a typical positive trend contrary to what is observed for the Al-rich chondrule data included herein but the greatest Al/Mg ratios are more than an order of magnitude less. Error = Std dev. 2σ. .................................198

**Figure 94.** FeO-poor chondrules - Type I. The data shows a heavy clustering between 20<²⁷Al/²⁴Mg,<45 and a monomodal distribution. Error = Std dev. 2σ. .................................................199

**Figures 95a-d (top to bottom).** FeO-rich chondrules - Type II. The data indicates that the calculated initial ²⁶Al/²⁷Al ratio is approximately 18.5% greater in Type II chondrules than in Type I of the uppermost isochron (Fig. 95b; e.g., the results that most closely match the canonical value). Figure 95a Error = Std dev. 2σ. .................................................................200-202

**Figures 96a-d (top to bottom).** Porphyritic olivine - PO chondrules. The PO chondrule data exhibits what may be a weak trimodal distribution pattern (Fig. 96a) or potentially scatter. For this exercise and in maintaining consistency with the manner in which the canonical value assessment has been carried out in this thesis, a trimodal distribution was assumed and investigated as shown in Figs. 96b-d. Figure 96a Error = Std dev. 2σ. .................................................................203-204

**Figure 97.** Plagioclase-olivine inclusions - POI chondrules. The POI chondrule data displays extreme scatter and a low calculated initial ²⁶Al/²⁷Al ratio as expected. Error = Std dev. 2σ. ...206
Figure 98. Microspherules. Microspherule data clusters at $^{27}\text{Al}/^{24}\text{Mg} \leq 20$ and plots loosely linearly. Error = Std dev. $2\sigma$. .................................................................207

Figures 99a-d (top to bottom). Anorthite. Fig. 99a Error = Std dev. $2\sigma$. .......................208-210

Figures 100a-d (top to bottom). Corundum. The data distribution in Figure 100a mimics that of all meteorite data (see Fig. 41a) because it contributes substantially to it. Figure 100a Error = Std dev. $2\sigma$. ........................................................................................................211-212

Figures 101a-c (top to bottom). Diopside. Figures 101b and 84b (FTAs) are comparable and have nearly identical calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values. Diopside was the principal constituent in numerous FTA samples included in the studies from which this data in this thesis originated. Figure 101a Error = Std dev. $2\sigma$. ........................................................................................................213-214

Figures 102a-c (top to bottom). Fassaite. The fassaite data included in this study show low $\delta^{26}\text{Mg}$ values that preferentially occur in clusters and possibly allude to distinct conditions within the protoplanetary disk. One question this raises is whether such data archives the former existence of “reservoirs” or locally changing conditions. Oxygen isotope studies may provide insights as discussed later. Error = Std dev. $2\sigma$. ........................................................................................................215-216

Figures 103a-d (top to bottom). Feldspar. Feldspar data showed a weak trimodal data distribution. Each isochron identified in Figure 103a is graphed separately - the uppermost, near vertical as Fig. 103b, the intermediate that follows the x-axis as Fig. 103c, and the negative trending slope as Fig. 103d. As in other cases throughout, the lack of points that comprise graphs Figs. 103b and 103d make any conclusions drawn from them suspect. Figure 103a Error = Std dev. $2\sigma$. ........................................................................................................217-218

Figure 104a-c (top to bottom). Fosterite. The collective data (Fig. 104a) assumes a negative-trending, generally linear pattern with exceeding low $^{27}\text{Al}/^{24}\text{Mg}$ ratios, yet reasonably high
corresponding $\delta^{26}\text{Mg}$ values. Despite this observation, too little of the types of isotopic data used in this thesis were available among the referenced studies to make any meaningful conclusion regarding the validity of the canonical value. Figure 104a Error = Std dev. $2\sigma$. 

**Figure 105.** Gehlenite. Based on data published in Russell et al. (1996), gehlenite data is tightly clustered and perhaps consistent with being an endmember to a mineral group. Figure 105 Error = Std dev. $2\sigma$.

**Figure 106a-d (top to bottom).** Glass. The data distribution is unique in that there is scatter, clustering, and lineation alluding to diverse and complex formational histories. The range in $^{27}\text{Al}^{24}\text{Mg}$ ratios is high, but the $\delta^{26}\text{Mg}$ values are fairly restricted. Interestingly, the data distribution of the cluster (Fig. 106b) is strikingly similar to that of gehlenite (Fig. 105). Russell is a co-author of Huss et al. (2001), which accounts for the strong similarities; however, the $^{27}\text{Al}^{24}\text{Mg}$ data is not the same (refer to Appendix A and Figure 106e for a comparison of the glass and gehlenite data). Figure 106a Error = Std dev. $2\sigma$.

**Figure 106e.** The $\delta^{26}\text{Mg}$ values are essentially the same for some gehlenite and glass analyses (shaded) in Russell et al. (1996) and Huss et al. (2001), but there is an incongruent shift among the corresponding $^{27}\text{Al}^{24}\text{Mg}$ ratios. This could be explained in a scenario that involved rapid heating and cooling and thus the preservation of $\delta^{26}\text{Mg}$ values between gehlenite and a glass phase; however, this would also have required $^{27}\text{Al}$-depletion or $^{24}\text{Mg}$-enrichment. Considering that Mg ions are larger than Al ions and therefore less likely to migrate, the subject ratio shifts may imply the loss of $^{27}\text{Al}$ as a result of post-formational migration. The consistency in $\delta^{26}\text{Mg}$ values between glass and gehlenite would therefore result from the rapid decay of $^{26}\text{Al}$ into a less mobile daughter $^{26}\text{Mg}$. An alternate explanation could be that the Al/Mg ratios resulted from...
analytical procedures or instrumentation. This seems less likely given the strong similarities in $\delta^{26}\text{Mg}$ values between the studies..........................223

**Figure 107a-e (top to bottom).** Grossite. Grossite data shows a bimodal distribution. Figures 107d and 107e were created because the points defining the high end of the respective isochrons plot well above the remaining data in Figure 107c that otherwise appear as random at higher scales. Figure 107a Error = Std dev. 1$\sigma$ and 2$\sigma$ depending on source.................................224-226

**Figure 108a-f (top and bottom).** Hercynite. The hercynite data shows clustering (Figs. 108a and 108b) with low corresponding $\delta^{26}\text{Mg}$ values, remarkable $\delta^{26}\text{Mg}$ deficiencies including an ascending node (Figs. 108d through 108f), and one distribution set (Fig. 108c) that exhibits a calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value that is essentially canonical. Figure 108a Error = Std dev. 2$\sigma$. ..................................................................................................................227-229

**Figure 109a-c (top, middle, and bottom).** Hibonite. Hibonite data (Fig. 109a) has an overall distribution pattern that is akin to anorthite, corundum and Figure 1 of MacPherson et al. (1995). Figure 109a Error = Std dev. 1$\sigma$ and 2$\sigma$ depending on source.................................230-231

**Figure 110a-f (top and bottom).** Melilite. The nature of melilite’s isotopic distribution vacillates among various states of organization in these graphs. Two dominant and two lesser isochrons are expressed in Figure 110a. Three of these same isochrons (e.g., red lines inserted in Fig. 110b) do not show $\delta^{26}\text{Mg}$ excesses (Figures 110b-d); however, the fourth graph (Fig. 110e) and a subset of it (Fig. 110f) identified by the orange box in Figure 110a, document $\delta^{26}\text{Mg}$ deficiencies. Lastly, the uppermost isochron in Fig. 110a in Figure 110b appears to be ‘composed’ of three isotopic fields (colored). Although this may result from isotopic reservoirs, it is also conceivable that they reflect structural constraints imposed by crystallographic twinning. One way to test this in future studies is to perform a comparative analysis of $^{26}\text{Mg}$
isotopic signatures among the solid solution phases to determine if similar patterns to Figure 110b emerge. Figure 110a Error = Std dev. 1σ and 2σ depending on source. ...................232-235

Figure 111. Nepheline. Nepheline data is described by a negative trending monomodal slope. Error = Std dev. 2σ.................................................................236

Figure 112a-f (top and bottom). Olivine. The olivine data plots close to the origin and the low values suffer from ‘large’ error ranges. Further, more than half of the data plot represents δ²⁶Mg deficiencies (Figure 112b). Figure 112a Error = Std dev. 2σ.................................................237-239

Figure 113. Orthoclase. Orthoclase data exhibits high ²⁷Al/²⁴Mg ratios and δ²⁶Mg values that are either low or show deficiencies. Error = Std dev. 2σ .................................................................240

Figure 114a-d (top and bottom). Plagioclase. Plagioclase is another chief contributor to the data distribution pattern observed in Figure 1 of MacPherson et al. (1995) and the Figure 41 series of this study. Figure 114a Error = Std dev. 2σ.................................................241-243

Figure 115a-d (top and bottom). Pyroxene. The pyroxene data summarized in Figure 115a shows a grouping distribution pattern also observed in diopside (Fig. 101a) and fassaite (Fig. 102a), both of which belong to the pyroxene group. However, the calculated average initial ²⁶Al/²⁷Al ratios for each pyroxene group member distinctly differ. This may be a significant observation because it could suggest that the disparities are not a result of ‘reservoir’-dependent conditions, but rather a reflection of petrographic constraints imposed on ²⁶Al or ²⁶Mg uptake. Figure 115a Error = Std dev. 2σ .................................................................244-245

Figure 116. Sodalite. Sodalite data shows an approximately 2:1 ratio between ²⁷Al/²⁴Mg and δ²⁶Mg values, a relationship that is not observed among the minerals included in this thesis research. However for other minerals, such as plagioclase and melilite, there is a shared ratio (i.e., ~4:1). Error = Std dev. 2σ.................................................................246
Figure 117a-c (top and bottom). Spinel. The isotopic data distribution for spinel is exceptionally well-behaved (except for the clustering near the origin) for reasons not yet understood. Error = Std dev. 1σ and 2σ depending on source..................................................................................247-248

Figure 118. Laboratory and analytical method comparison (Allende). Isotopic data for Allende is based on the studies included in this study. The scales for $\delta^{26}\text{Mg}$ and $^{27}\text{Al}/^{24}\text{Mg}$ are shown on the left and right ordinate axes, respectively, and sample data ($\delta^{26}\text{Mg}$ and $^{27}\text{Al}/^{24}\text{Mg}$) is correlated per sample number (range in red font) and color coded as noted in the legend (top left). Dominant phase(s), analytical mode, and specific instrument (when identified in references) are listed. .................................................................251

Figure 119. Chondrite formation age plot. Table 1 data plotted. Time zero ($y=0$) denotes the onset of CAI formation per the canonical model. Negative $y$-values represent time following the initiation of CAI formation. The legend is arranged to show the chronology of the first occurrence (e.g., oldest to youngest) of classes (e.g., CV3-oldest to CH3-youngest). Recall that some chondrites exhibited multiple data distributions; thus, the calculated age for each isochron is shown such that multiple data points may occur for any meteorite group. .........................256

Figure 120. Chondrite production duration. This histogram shows formation duration (My) of chondrite classes. When the chondrite data is arranged from longest to shortest duration (as in this figure), there is a respectable correlation between classes. The $y$-intercept (~7.88 Ma) is within 6.6% of the total duration of chondrite production (8.44 Ma) using CV3 data (first and last to form). Typically, the older the class, the longer members belonging to same were produced with three exceptions - CM2, CR3 Ungrouped and EH3 that display extended longevities compared to some classes that formed before them. Possible reasons may be 1) that their members formed more slowly than those belonging to other classes, 2) different processes
formed them, or 3) there were occasional resupplies of $^{26}\text{Al}$ into portion of the protoplanetary disk from outside sources. .................................................................258

**Figure 121.** CAI v. Chondrule formation period. All chondrule data is coded red while all other objects are symbolized in other colors and shapes. Note that all but one chondrule type (i.e., BO) plot in the blue shaded field to denote calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios $\leq 1\times 10^{-5}$ (e.g., typical chondrule values). BO objects formed $\sim 1.43$ My *after* the onset of CAI formation (T$_o$ = 0) if the one exception (i.e., CTA 3) that plots in the light red field (e.g., pre-dates CAI formation) is not considered. Many CAI types plot along chondrules in the blue shaded field. All data plots along the same curve and therefore likely derive from the same formation process ($^{26}\text{Al}$ decay); however, because CAI and chondrule groups formed at different times *and* durations, it is conceivable that the distribution of $^{26}\text{Al}$ possibly became less homogeneous over time. ........260

**Figure 122.** Calculated ages for principal meteorite isochrons. This modification of Figure 42 shows the calculated ages in red font relative to the onset of CAI formation (per the canonical model). The values in blue font represent the time difference between successive isochrons - note that the larger time gap is twice that of the lesser one. All times are reported in Ma. The data scatter between the uppermost and intermediate isochron was discussed earlier.......................261

**Figure 123.** Relationship of calculated ages for meteorite isochrons. When the RGA is applied to the resulting calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios, a clear relationship emerges that bolsters earlier observations for independent chondrite data sets. Similar to Figure 42, but with ages included based on an assumed ($^{26}\text{Al}/^{27}\text{Al})_o$ of $5\times 10^{-5}$. .................................................................262

**Figure 124.** Representation of the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios for all meteorites. A visual representation of the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios for all meteorites including those with data distribution patterns with multiple isochrons. The red line and blue shading represent the
canonical value ± 10%. Note that 10 points fall within the blue field (two points are close and appear as one), but only four of them line within a few percent of the canonical value. There are also six supracanonical points and at least an equivalent number that plot in the negative quadrant (e.g., negative ordinates).

**Figure 125.** Bar graph of calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios for all meteorites. This is another perspective of the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ data presented in Table 4 and Figure 124. A red bar depicts the canonical value ($5 \times 10^{-5}$) and the shaded field at its base includes the nine data points that plot within 10% of it. The blue shaded value ($1 \times 10^{-1}$) is for reference as this is often associated with chondrules. In this histogram, the strength and uniqueness of the canonical value does not appear impressive. The canonical value occurs only once or twice more within the data set compared to other calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values.

**Figures 126a (top) and 126b (bottom).** Pie charts of calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios for all meteorites. These diagrams illustrate the various calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values in Table 4. The canonical value line is indicated by the red arrow (Fig. 126a) or shaded in red (Fig. 126b). This is another perspective of the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values presented in Table 4 and Figure 124. Figure 126a and Figure 126b present similar data except that the latter graph uses a smaller scale to more easily discern between calculated ratios that plot near the canonical value. The graph shows that most data either exceeds or falls below the canonical value.

**Figure 127.** Comparison of oxygen isotope data values. Table 6 data. The $\Delta^{17}\text{O}$ values are shown as plus signs and group together (red shaded fields) when plotted against corresponding $\delta^{17}\text{O}$ values. Blue points represent $\delta^{18}\text{O}$ values plotted against $\delta^{17}\text{O}$ values. Paired points, one from Allende and another from Efremovka, plot in the oxidized quadrant. Various reference lines are included. Itoh and Yurimoto (2003) was the source used to plot the Terrestrial
Fractionation Line (TFL) and Carbonaceous Chondrite Anhydrous Mineral (CCAM) line; Young and Russell (1998) were referenced for the establishing the Primitive Chondrite Mixing (PCM) and the Young and Russell (Y&R) lines.

**Figure 128.** Oxygen isotope data v. calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios. Table 7 data. Note the vertical blue field shows diverse redox conditions at the onset of CAI formation but uniformity thereafter (horizontal blue field).

**Figure 129a (left) and 129b (right).** $^{27}\text{Al}/^{24}\text{Mg}$ v. rim distance (greater values = deeper into crystal) at different scales. Figure 129a documents a curious correlation between $^{27}\text{Al}/^{24}\text{Mg}$ with rim distance that remains to be explained (blue shaded field). When the scale is decreased (Figure 129b), the greatest $^{27}\text{Al}$ enrichment (or $^{24}\text{Mg}$ depletion) appears to occur within ~200 µm of sampled crystal surfaces. The remaining data appears scattered within a fairly well-constrained range of $^{27}\text{Al}/^{24}\text{Mg}$ ratios (e.g., 2-13).

**Figure 129c (left) and 129d (right).** Figure 129c (left) and 129d (right) compare $\delta^{26}\text{Mg}$ with rim distance at different scales. The apparent $\delta^{26}\text{Mg}$ enrichment zone is also present in these figures (~15 µm in from crystal surfaces). The range in $\delta^{26}\text{Mg}$ values is fairly consistent until depths >3,000 µm at which point they decrease - at least in this data set.

**Figure 129e (left) and 129f (right).** Figure 129e (left) and 129f (right) compare $\delta^{26}\text{Mg}$ v. $^{27}\text{Al}/^{24}\text{Mg}$ at different scales. Figure 129e shows a correlation between the graphed parameters and Figure 129f resolves the data into four isochrons. A portion of the isochron in Figure 129e is included in Figure 129f as a red line (the lowest of the four). All isochrons were manually inserted for illustrative purposes rather than calculated.

**Figures 130a-j.** Figure 130a shows the three principal isochrons (and additional data) coded by phase - in this case dominantly corundum and minor hibonite (near origin of lowest isochron).
When the scale is increased consecutively through Figure 130j, various data patterns emerge. The legend lists phases in their general order of condensation from the protoplanetary disk………………………………………………………………………………………………………………. 282-291

Figure 131. New perspective of time progression on meteorite isochrons. The above figure depicts the entire data set in Appendix A for the graphed parameters, including calculated information as noted, and an arrow denoting an alternate proposal for the direction of time advancement. ........................................................................................................................................297
Chapter 1

Introduction

1.1 Background

The decay of $^{26}$Al has been applied as a chronometer to advance our understanding of the timing of early Solar System events because its relatively short half-life (~0.73 Ma; e.g., Amelin and Ireland, 2013; Baker et al. 2005; Zinner and Göpel, 2002) makes it a potential tool for enhanced time resolution. Moreover, according to some researchers (e.g., Urey, 1955; Gail et al., 2013; Matson et al., 2009), $^{26}$Al decay may have afforded sufficient internal planetesimal heat to promote differentiation and account for $\delta^{26}$Mg excesses observed in meteorites. The interpretation that $^{26}$Al was homogenously distributed in the early Solar System is central to these proposals and remains an unsettled point among cosmochemists (e.g., Villeneuve et al. 2009; Schrader et al., 2013, Krot et al., 2012; Liu et al., 2012).

Authors such as Hsu et al. (2000), Zinner and Göpel (2002), and Kita et al. (2005) have popularized the practice of using $^{26}$Al as a chronometer in meteoritic studies involving refractory materials known as calcium-aluminum inclusions (CAI), the earliest known objects from the protoplanetary disk, and chondrules, the younger rock-building constituents of planetesimals. Of particular interest is the apparent consistency of the resultant slope (or “isochron”) when $^{27}$Al/$^{24}$Mg ratios are plotted against $\delta^{26}$Mg values derived from the analyses of CAI and chondrule samples from among independent meteorite classes (e.g., MacPherson et al., 1995). Isochrons represent the calculated initial $^{26}$Al/$^{27}$Al ratio$^1$ (i.e., ~$5 \times 10^{-5}$) in the protoplanetary disk

---

$^1$ The calculated initial $^{26}$Al/$^{27}$Al ratio is also abbreviated as $(^{26}$Al/$^{27}$Al)$_0$. 
when normalized to terrestrial standards. This value is commonly referred to as the “canonical” value.

MacPherson et al. (1995) plotted ~1,500 data points amassed from numerous studies to publish what is arguably one of the most exhaustive studies supporting the relationship between $^{26}\text{Al}$ and excess $^{26}\text{Mg}$ among various meteorite types. The $^{26}\text{Mg}$ excesses in meteorites exceed terrestrial standards (e.g., typically by a minimum of 4-6‰, but as high as 400‰) in samples where $^{24}\text{Mg}$ and $^{25}\text{Mg}$ isotopic signatures are not anomalous; e.g., Clarke et al. (1970); Bradley et al. (1978). As in many studies, the collective data appear redundant to the point that researchers consider the canonical representations of the original $^{26}\text{Al}$ concentration in the early Solar System as valid and evidence supporting the notion of its purported homogenous distribution. However, when $^{27}\text{Al}/^{24}\text{Mg}$ ratios are compared to $\delta^{26}\text{Mg}$ and substantially exceed, or contrarily fall below the canonical value, then the results are routinely attributed to analytical interferences or reprocessing of meteoritic material (e.g., Gray and Compston, 1974).

Numerous studies present equally compelling evidence supporting (e.g., Hsu et al. 2000; Kita et al., 2013; Bouvier and Wadhwa 2010; Jacobsen et al. 2008) or refuting (e.g., Holst et al., 2013; Schiller et al. 2015; Kerekgyarto et al., 2015) the canonical value and therefore the distribution of $^{26}\text{Al}$ in the early Solar System and ultimately the reliability of it as a high-resolution chronometer. To that end, this thesis focuses on the work of MacPherson et al. (1995) because their comprehensive review required validation via a duplicate independent study. As such, one facet of this thesis included creating a “living” database of Al and Mg isotopic data relating to the subject at hand with the intent of testing 1) the premise of $^{26}\text{Al}$ distributional homogeneity in the early Solar System as well as 2) the reliability of the referenced canonical value. Another component of this investigation included reviewing analytical techniques as they
may, for the purpose of comparison and historical perspective, foster a lack of transparency among research laboratories, or introduce error into data sets. It is hoped that this study will encourage dialogue and data sharing within the academic community in an effort to address the aforementioned issues and advance the sub-disciplines included in cosmochemical investigations.

1.2 The Infrastructure of the Canonical Model and Considerations

The exothermic process of converting $^{26}$Al into $^{26}$Mg results from $\beta^+$ decay, mainly the alteration of a proton into a neutron (e.g., McPherson et al., 1995; Matson et al., 2009). The idea that evolved into the foundation for the theory that the decay of $^{26}$Al into $^{26}$Mg was largely responsible for generating internal heat in planetesimals\(^2\) dates back to Urey (1955). Given this possibility, researchers must clearly continue working out the distribution and content of $^{26}$Al that may have existed in the protoplanetary disk. Prevailing thought asserts that either a supernova introduced $^{26}$Al into the Solar System, based on the presence of daughter products of other heavy isotopes (e.g., $^{60}$Fe) that also occur in some meteorites (e.g., Tachibana et al., 2006) or, alternatively, that solar-driven processes bombarded $^{24}$Mg with $^3$He and created $^{26}$Al (e.g.,

\(^2\) Urey (1955) proposed that $^{26}$Al decay was capable of generating adequate heat to induce volcanism on planetesimals and the formation of basaltic achondrites. Although Urey’s work is often referenced in this regard, one of the principal reasons why this isotope was considered as a potential heat source is seldom mentioned. Urey (1955) made it a point to consider $^{26}$Al and seven other extinct short-lived isotopes mentioned in his paper as potential proto-planetary heat sources because of the paucity or variable content of more radioactive isotopes (uranium, thorium, potassium, etc.) in terrestrial and extraterrestrial rock. While the calculated energy output from $^{26}$Al decay is the highest of the eight isotopes that were considered, there are two fundamental issues. The first concern is that it is unlikely that we will be able to prove satisfactorily that an extinct isotope was the internal heat source in planetesimals. This point is the basis of excess $^{26}$Mg-related debates. The papers reviewed as part of this study did not discuss the second quandary. Urey’s heat calculations assumed a $^{26}$Al half-life of a million years (as opposed to the current accepted value of ~0.73 my) and represents a 28% error. Interestingly, Kita and Ushikubo (2012) discussed the various $^{26}$Al half-calculations used in age determinations. Their utilization of $^{26}$Al$_{t\text{/}2}=7.05 \times 10^5$ decreased the estimated time gap between the formation of CAIs and chondrules by 3.5% compared to using $^{26}$Al$_{t\text{/}2}=7.3 \times 10^5$ assuming a homogenous $^{26}$Al distribution and the canonical $^{26}$Al/$^{27}$Al value of $\sim 5 \times 10^{-5}$.\n
3
Remarkably, empirical data published by Fitoussi et al. (2008) indicate that models that favor the latter scenario fall short as practical explanations because the energy required for the elemental conversion is at least twice what is predicted theoretically. Fitoussi et al. (2008) do not appear to preclude the possibility that solar radiation was adequate for converting magnesium into aluminum “locally” (as opposed to a larger scale, the proto-planetary disk).

The term ‘reservoir’ in meteoric literature often refers to a unique localized region of matter that may have once existed in space and time. The concept of ancient reservoirs is based on the observation that CAIs and chondrules exhibit distinct isotopic (or mineralogical) signatures that represent unique formational conditions (e.g., Holst et al., 2013; Cuzzi and Alexander, 2006; Hezel et al., 2008). Reservoirs, whether conceptual or real, often seem to serve as a ‘backdoor’ explanation in many studies when Mg-isotopic data deviates significantly from the canonical expectation. It is clear though, that if CAIs are inevitably responsible for, or in some way linked to, chondrule formation, that a correlatable time-dependent $^{26}$Al depletion (e.g. using $^{26}$Mg as a proxy) should be evident between these two groups of meteoritic objects.

Prevailing thought holds that the first occurrence of chondrules occurred approximately one to three million years following the cessation of CAI production (e.g., Ito and Messenger, 2010; Kita et al., 2005). If such a time gap is real, then certain questions arise, such as 1) were the process(-es) responsible for manufacturing CAIs and chondrules similar, 2) did CAIs and chondrule formation occur in different regions of space, 3) what were the mechanisms that shut down and turned on CAI and chondrule production, respectively, and 4) what process or set of conditions allowed CAIs to survive during the time gap preceding chondrule formation? Contrarily, perhaps the “gap” is an artifact of insufficient data because CAIs and chondrules occur together in some meteorites (e.g., Bizzarro et al., 2005) and the interpretation that $^{26}$Al was
homogenously distributed in the early Solar System is challengeable (e.g., McKeegan et al., 1998; Wasserburg et al., 2012). Ultimately, the “canonical” value must be falsifiable before cosmochemists and related researchers can accept it as valid. Although this thesis uses almost twice the amount of data amassed by MacPherson et al. (1995) to evaluate the consistency of findings among researchers, it also identifies other factors (e.g., petrological, dating references) that substantially influence analytical results and thus, influence the rationale for placing faith in or challenging the canonical value and using $^{26}$Al as a dating tool. Another important aspect of this thesis research is to highlight selected studies because they contribute towards addressing the key questions posed herein and deserve greater attention.

1.2.1 Origins and Age Considerations

As noted, $^{26}$Al is an unreliable chronometer if it was heterogeneously distributed in the proto-planetary disk. MacPherson et al. (1995) acknowledged that meteoritic material exhibit $^{26}$Mg “deficits”, but explain that some disparities result from isotopic exchange in reservoirs, post-planetary Mg migration across mineral boundaries and ‘contamination’ (e.g., interference) from objects such as solid solutions (e.g., olivine) or those that experienced fractionation and unidentified nuclear effects (FUN). Further, the lack of $^{26}$Mg excesses

---

3 MacPherson et al. (1995) asserted that isotopic data favoring an interpretation of a heterogeneous $^{26}$Al distribution in the early solar system represent closed system artifacts of Mg redistribution between mineral grains following planetesimal formation rather than resulting from $^{26}$Al decay.

4 $^{26}$Mg “deficiencies” will be defined herein to mean data that plots at $\Delta^{26}$Mg<0 when $\Delta^{26}$Mg is plotted against $^{27}$Al/$^{24}$Mg values (e.g. Ireland, 1988; MacPherson et al., 1995).

5 MacPherson et al. (1995) provided a candid assessment of issues that could derail the use of $^{26}$Al as a chronometer, set forth reasonable explanations for the data amassed as part of their study, and acknowledged that additional studies were warranted to test the viability of the canonical value.
observed in some meteorite (or comet dust)\(^6\) samples is attributed to the partial exhaustion of \(^{26}\)Al during the estimated one to three million-year gap between CAI and chondrule production. Additionally, researchers like Bizzarro et al. (2005) have documented that CAI and chondrule formation overlapped in Allende thereby forcing us to reconsider the legitimacy (or at least duration) of any formation gap between these two categories of meteoritic material. Irrespective of whether a homogenous or heterogeneous \(^{26}\)Al distribution is assumed, the prospect of utilizing \(^{26}\)Al as a dating tool is disputable if aluminum originated from multiple sources. MacPherson et al. (1995) provide a succinct overview of candidates [e.g., Wolf-Rayet stars, nova, supernova, white dwarfs, Asymptotic Giant Branch (AGB) stars, and solar or cosmic rays] theoretically capable of having produced \(^{26}\)Al in the concentration required to result in the canonical value.

For the sake of brevity, the strengths and weaknesses of proposed \(^{26}\)Al sources are not expounded upon herein. Yet, it is worth explaining that the main differences between them hinges on 1) the ability of sources to have produced the ‘correct’ amount of \(^{26}\)Al to account for the canonical value; 2) a mechanism to transport Al into the Solar System from outside sources; or 3) the requirement that the \(^{26}\)Al source also produced other meteoritic isotopes (e.g., \(^{50}\)Ti). Occasionally, anomalous objects (e.g., FUN) are encountered that provide insights concerning the constraints of early planet building processes, such as post-crystallization alteration histories (e.g., Clayton et al., 1984). In summary, either aluminum is indigenous or exotic and as of yet there is no consensus. The point is that there is a hierarchical approach of assessing the validity of using \(^{26}\)Al as a chronometer - this concept is developed later in this section and critical for the reason cited.

\(^6\) Ishii et al. (2010) indicate that the analyses of ‘normal’ CAI-like particles from Comet P81/Wild 2 lacked \(^{26}\)Mg excesses. Independent plagioclase crystals from CAI-like particles Inti and Coki produced calculated \(^{26}\)Al/\(^{27}\)Al ratios of \(-1.4 \pm 0.38 \times 10^{-5}\) and \(8.6 \pm 8.4 \times 10^{-6}\), respectively, which are well below the canonical value of \(5 \times 10^{-5}\).
1.2.2 *Magnesium Standards and Excesses*

Magnesium excesses ($^{26}$Mg*) represent per mil ($\permil$) deviations from a terrestrial standard. Some researchers establish their own standards using the mean magnesium concentration derived from the analyses of various in-house mineral samples while others have used internationally recognized standards\(^7\) (e.g., $^{25}$Mg/$^{24}$Mg = 0.12663, e.g., Catanzaro et al., 1966; $^{26}$Mg/$^{24}$Mg = 0.13955, e.g., Brigham, 1990). Using in-house standards adds another variable to comparative analyses between data sets from independent studies. The upshot though is that the canonical value must hold true irrespective of the standards used because it expresses the relationship between $^{26}$Al and excess $^{26}$Mg.

Not surprisingly, researchers debate whether magnesium excesses exist and if so, their origin. Numerous studies appear to document Mg excesses in meteorites (e.g., Bernius et al., 1991; Wang et al., 2007; Rudraswami et al., 2008; Spivak-Birndorf et al., 2009), others identify $^{26}$Mg deficiencies (e.g., Baker et al., 2005) and in some cases, $^{26}$Mg concentrations are anomalous (e.g., Sahijpal and Goswami 1998, Ireland and Compston, 1987), possibly due to mixing of fossil and live $^{26}$Al. It is worth mentioning that without $^{26}$Mg excesses there is no obvious ways to attribute planetesimal evolution to $^{26}$Al. A preponderance of results does not necessarily form a basis for rejecting $^{26}$Al as a contributor to planet building as this requires discarding sound data; rather, this observation may point to multiple planetesimal forming processes, exogenous influences, or it may reflect artifacts of analytical methods.

\(^{7}\) “DSM-3” and “Cambridge-1” are typical universal Mg-standards (e.g. Schiller et al., 2010; Bizzarro et al., 2011).
1.2.3 Analytical Technique Implications

According to some historical reviews (e.g., Baker et al., 2012; Simon and Young, 2011) instrument-imposed limitations caused difficulty in reconciling the soundness of the canonical value in early studies. Later researchers sought to quantify the differences between employing various analytical methods particularly when there were considerable technological advances that improved data resolution [e.g., Mass Spectrometry (MS), Ion Microprobe Mass Spectrometry (IM-MS), Secondary Ion Mass Spectrometry (SIMS), Laser Ablation Multiple Collection Inductively-Coupled Plasma-source Mass Spectrometry (LA-MCICPS, Nano-SIMs) analytical techniques.

Comparative analyses have yielded intriguing results because they either 1) confirmed the legitimacy of utilizing the evolving techniques by demonstrating that “new” techniques produced similar, but more highly resolved results than “antiquated” methods (e.g., Connolly et al., 2009) or 2) contrarily, seemingly produced partly or wholly incongruent results (e.g., Simon and Young, 2011). The reasonable agreement in analytical results between older and current techniques casts doubts on the claim that pioneering studies were too rudimentary to resolve the canonical value which might explain the range in values determined in earlier studies.\(^8\) Whereas, when studies have used multiple approaches to analyze the same chemical parameter in a given sample and produced marked differences, then the foundation of such cosmochemical research appears questionable. Perhaps one way to mitigate the issues that arise from analytical disparities is to work collectively and create shared databases (as in this case).

---

\(^8\) Current studies still produce conflicting canonical results and are one reason why this thesis investigates the matter.
1.2.4 Evaluating the Analytical Results Compilation of MacPherson et al. (1995)

Overview

MacPherson et al. (1995) reviewed resources dating back to 1970 to compile approximately 1,500 Mg-analytical results from 61 meteorites and then plotted the data (e.g., the slope of $\delta^{26}\text{Mg}$ v. $^{27}\text{Al}^{24}\text{Mg}$) to evaluate the validity of the canonical value; see Figures 1 and 2 of MacPherson et al. (1995). The graphed results showed a bimodal distribution dominated by two slopes - one approximating the canonical value and the other with essentially no slope. Substantial scatter exists between these two groups. When the same data set was plotted as a histogram depicting the number of “object-specific” samples (e.g., achondrites, olivine and enstatite chondrites, FUN and UN CAIs, normal CAIs) that exhibited similar inferred initial $^{26}\text{Al}^{27}\text{Al}$ ($\times 10^{-5}$) values, normal CAIs was the only category that displayed the noted bimodal distribution. The $^{26}\text{Al}^{27}\text{Al}$ ($\times 10^{-5}$) values for the remaining groups peak around zero and show a restricted range.

Based on these results, MacPherson et al. (1995) concluded that $^{26}\text{Al}$ exhibited a generally homogenous distribution in the protoplanetary disk at a $^{26}\text{Al}^{27}\text{Al}$ abundance described by the canonical value and that $^{26}\text{Al}$ was only extant during the formation of normal CAIs. It bears repeating that this assessment assumes that the $^{26}\text{Mg}$ excesses described in the references used for study resulted from the decay of Solar System-derived $^{26}\text{Al}$. MacPherson et al. (1995)

---

9 The bulk of the meteorites that comprised the studies are classified as CV3, CM2, CO3, and to a lesser extent CR or CR-like chondrites. Achondrite analyses constituted only a relatively minor component of the MacPherson et al. (1995) study because of the paucity of published data at that time and isotopic signatures of interstellar dust were compared against CAIs, chondrites and achondrites.

10 The argument posed by MacPherson et al. (1995) favoring a closed system origin for $^{26}\text{Al}$ is mainly rooted in the analytical results of Type B CAIs that reflect crystallization sequences and zoning patterns that agree with empirical melt and recrystallization studies. They also cite that trace element partitioning between phases loosely
provide explanations to counter the aforementioned issues\textsuperscript{11} that arise from models proposing a heterogeneous \(^{26}\)Al distribution (see Section 2.1). They also consider placing greater emphasis on the timing between CAI and planetesimal formation than on the distribution of \(^{26}\)Al when evaluating its potential role as a chief heat source within planetesimals. Conceptually, if \(^{26}\)Al was extinct by the time differentiation occurred in achondrite bodies, then planetesimal mass or the decay of radioactive elements (e.g., U, Th, K) would have been required to serve as the agent for internal heat that promoted melting. Although a time gap could explain the lack of observed \(^{26}\)Mg-excesses in achondrites, it falls short of accounting for the variability of \(^{26}\)Mg concentration patterns documented in chondrites documented in Chapter 2. Further, recent work (e.g., Elkins-Tanton and Weiss, 2009; Weiss and Elkins-Tanton, 2013) has suggested that chondritic and achondritic material may have originated from shared parent bodies, which is an idea not favored by MacPherson et al. (1995).

MacPherson et al. (1995) also plotted the referenced object-specific data set as calculated initial \(^{26}\)Al/\(^{27}\)Al (x10\(^{-5}\)) v. \(^{27}\)Al/\(^{24}\)Mg (e.g., abscissa v. ordinate, respectively). A substantial percentage\textsuperscript{12} of published data exhibiting \(^{26}\)Al/\(^{27}\)Al values >8x10\(^{-5}\) and corresponding \(^{27}\)Al/\(^{24}\)Mg ratios <50 were considered unreliable\textsuperscript{13} due to the potential of Mg migration between grain boundaries. Acceptable data from achondrites, equilibrated ordinary and enstatite chondrites and FUN and UN CAIs that did not show the abnormally high \(^{26}\)Al/\(^{27}\)Al and low \(^{27}\)Al/\(^{24}\)Mg ratios

\textsuperscript{11} Challenges are occasionally invoked against assigning \(^{26}\)Al as the principal internal heat source for planetesimals or relying on it as a fine-tuned chronometer. MacPherson et al. (1995) also concluded that the thermal dynamic processes responsible for chondrule formation remained unresolved at the time of their publication.

\textsuperscript{12} At least 30% is based on a visual evaluation of the data since an accurate quantitative approximation is not possible due to the manner in which the data was presented.

\textsuperscript{13} The graph displays a vertical line to demarcate where \(^{27}\)Al/\(^{24}\)Mg ratios ≤ 100 are considered questionable.
shared relatively tightly constrained calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values of approximately zero when plotted against $^{27}\text{Al}/^{24}\text{Mg}$. The bulk of normal CAI data exhibited $^{27}\text{Al}/^{24}\text{Mg}$ ratios between 175 and 475 and fell below a line demarcating a calculated initial $^{26}\text{Al}/^{27}\text{Al}$ of $\leq 5 \times 10^{-5}$ that include values at or less than zero (e.g., the same line that most data from the remaining categories fall along). If future data continues to bridge the apparent gap between $^{26}\text{Al}/^{27}\text{Al}$ ratios of zero and $5 \times 10^{-5}$, the premise of a canonical value may weaken because it will imply that what is currently considered ‘anomalous’ data actually archives original $^{26}\text{Al}/^{27}\text{Al}$ ratios rather than potential diagenetic factors.

As noted, even if the concept of variable ($^{26}\text{Al}/^{27}\text{Al}$)$_0$ reservoirs is invoked to explain a lack of Mg-excesses for data that is not classified as normal CAIs, it fails to explain the wide range of $^{26}\text{Al}/^{27}\text{Al}$ ratios observed thus far where secondary processing and Mg diffusion is inferred not to have occurred based on petrographic analyses. When the data is evaluated from a broader perspective, MacPherson et al. (1995) demonstrated that the $^{26}\text{Al}/^{27}\text{Al}$ ratios appear to be constrained between $-6 \times 10^{-5}$ and $-1 \times 10^{-5}$ and that $^{26}\text{Al}$ was live$^{14}$ and widespread during the period when normal CAIs, achondrites, enstatite and equilibrated ordinary chondrites, and FUN and UN objects formed. If the data distribution that MacPherson et al. (1995) determined from numerous studies is reasonably representative of early Solar System conditions, then the fact that normal CAI data values overlap with those derived from the other object categories may suggest that a single dominant process was responsible for the production of most $^{26}\text{Al}$.

To that end, it may be worth abandoning the concept of reservoirs as an explanation for data variation from unaltered material because the term ‘reservoir’ has a connotation of being an established long-term feature capable of either material throughput or retention. Moreover,

$^{14}$ The term “live” denotes active $^{26}\text{Al}$ production and decay (as opposed to “fossil,” meaning a pre-existing and not resulting from processes operating in the protoplanetary disk during planetesimal accretion).
mechanism(s) are required to explain reservoir development and stability, reservoir-specific chemical composition, size, location, longevity, and demise. Cuzzi and Alexander (2006) provided a model that precludes isotopic fractionation and concluded that ‘reservoirs’ had minimum radii of between 150 and 6,000 km and a precursor number density of \( \geq 10^{-3} \) based on parametric conditions associated with three conventional mechanisms (i.e., nebula lightning, solar flares, nebular shock waves) used to explain chondrule heating. Their model predicted that shock waves offered a parsimonious explanation for chondrule formation because 1) solar flares would have required substantially greater precursor chondrule concentrations than what can be accounted for in meteorites and 2) the effects of nebula lightning would have been too localized to be considered a viable mechanism. Although the work of Cuzzi and Alexander (2006) contributes towards our understanding of how a theoretical reservoir could have developed and its minimum size, the concept of reservoirs raises questions such as how they were maintained, how they evolved, and how long they persisted since these would have implications concerning \( ^{26}\text{Al} \) in the protoplanetary disk.

**Achondrites**

MacPherson et al. (1995) plotted published data (\( \delta^{26}\text{Mg} \) v. \( ^{27}\text{Al}/^{24}\text{Mg} \)) from numerous achondrites (i.e., eucrites, mesosiderites, and angrites from LEW86010 and North Haig meteorites) and an achondritic clast in Semarkona (i.e., Figure 3 in the referenced paper). The \( \delta^{26}\text{Mg} \) data appeared to be fairly constrained (between -5\( \% \) and 5\( \% \)) over a \( ^{27}\text{Al}/^{24}\text{Mg} \) range of 0 to approximately 1,300, thereby indicating a lack of (or only modest) \( ^{26}\text{Mg} \)-excesses. Their graph included an isochron of \( 7.5 \times 10^{-6} \) drawn through the data points associated with the Semarkona clast based on data published in Hutcheon and Hutchison (1989) and considered evidence of
26Mg excesses. Given the tight clustering of the Semarkona data points fairly close to the origin (e.g., 0≤26Mg ≤5‰) and the fact that the analyses were conducted on a single clast, an interpretation favoring the interpretation of 26Mg excesses may be challengeable. However, ample support for the validity of the canonical value is provided via the entire data set published by MacPherson et al. (1995).

CV3 Chondrites

Inferred initial 26Al/27Al (x10⁻⁵) ratios calculated from the analytical results of both primary and secondary phases in CAI material collected from CV3 chondrites were plotted as histograms by MacPherson et al. (1995; their Figures 4-6). Plot patterns are generally similar among both groupings (i.e., meteorites and inclusions) in that a bimodal distribution is apparent with inferred initial 26Al/27Al (x10⁻⁵) peaks at zero and 5x10⁻⁵. Some noted exceptions are that 1) Plagioclase-Olivine Inclusions (POIs) only show a unimodal distribution centered at or near zero, 2) Type A CAIs exhibit a unimodal distribution with a peak between 4 and 5 (x10⁻⁵) and 3) Type C and Fosteritic Type B inclusions (FoBs) only exhibit nonzero inferred initial 26Al/27Al (x10⁻⁵) ratios. MacPherson et al. (1995) state that POIs, rather than FoBs, have nonzero inferred initial 26Al/27Al (x10⁻⁵) ratios, but this appears to disagree with their Figure 5 and may be an error.¹⁵ Regardless, the results of MacPherson et al. (1995) essentially mimic those of the entire data set discussed earlier in this section of this thesis.

¹⁵ According to Figure 5 of MacPherson et al. (1995), it appears that Type C and FoB CAIs show initial non-zero 26Al/27Al values.
The $\delta^{26}\text{Mg}$ v. $^{27}\text{Al}/^{24}\text{Mg}$ data for FUN, UN and F inclusions in CV3 chondrites plotted by MacPherson et al., (1995; their Figure 11) display unique distributions based on data analyzed from Allende HAL and C1, EK1-4-1, and Vigarano 3137. According to MacPherson et al. (1995), only HAL displays a $^{26}\text{Mg}$ excess while the other three objects show either modest or no resolvable $^{26}\text{Mg}$ excesses. Data from HAL, a potential hibonite evaporation residue, fall between $0\% \leq \delta^{26}\text{Mg} \leq 22\%$ with what appears to only be one exception (i.e., a data point exhibiting $\delta^{26}\text{Mg} \sim -5\%$), and plot along an isochron calculated to be $^{26}\text{Al}/^{27}\text{Al} = 5.4\times10^{-8}$. Data from Allende C1 lies between the origin and $^{27}\text{Al}/^{24}\text{Mg} < 200$ and $-1\% < \delta^{26}\text{Mg} < 3\%$; Allende EK 1-4-1 data plotted on the ordinate between zero and $\delta^{26}\text{Mg} < -5\%$; likewise, all three Vigarano 3137 data points had negative $\delta^{26}\text{Mg}$ values (i.e., approximately between $-11\%$ and $-17\%$).

MacPherson et al. (1995) further develop the topic of FUN inclusions by discussing the three other examples of evaporation residues known at the time of publishing; specifically, hibonite grains from Dhajala (DH-H1) and Murchison (7-404 and 7-971). The $\delta^{26}\text{Mg}$ v. $^{27}\text{Al}/^{24}\text{Mg}$ data from Allende HAL and these three grains were plotted on a log-log graph. Allende HAL data is distributed between the isochrons defined by $^{26}\text{Al}/^{27}\text{Al} = 1\times10^{-5}$ and $1\times10^{-8}$ with most data in proximity to the $1\times10^{-7}$ isochron rather than $5.4\times10^{-8}$ as noted above. Data regarding the timing of melting in Dhajala and Murchison 7-971 plot reasonably congruently with the isochron represented by $^{26}\text{Al}/^{27}\text{Al} = 1\times10^{-5}$. By way of clarification, only two points comprise the Murchison 7-971 data and they have high $^{27}\text{Al}/^{24}\text{Mg}$ values ($\sim 55,000-70,000$). Data from Murchison 7-404 are tightly constrained with regard to $^{27}\text{Al}/^{24}\text{Mg}$ (i.e., $\sim 900-2000$), but range between the isochrons defined by $1\times10^{-5} > ^{26}\text{Al}/^{27}\text{Al} > 1\times10^{-7}$ excluding the considerable
errors ranges. MacPherson et al. (1995) conclude that these four data sets provide evidence that 

\(^{26}\text{Al}\) was live during the formation of the subject FUN objects.

**CM2 Chondrites**

Plots in MacPherson et al. (1995) depicting \(\delta^{26}\text{Mg} \) v. \(\text{^{27}Al/^{24}Mg}\) data for CM2 chondrite inclusions show a *trimodal* distribution that appears to have initial \(\text{^{26}Al/^{27}Al}\) ratios described by essentially zero, a near-canonical value and a third one that was not calculated. Data points were coded to \(\delta^{50}\text{Ti}\) ranges representing deficits (<10‰), excesses (>10‰) or were not defined because hibonite grains commonly contain such anomalies and generally correlate with Mg concentrations (MacPherson et al., 1995). MacPherson et al. (1995) indicate that samples that exhibited \(\delta^{50}\text{Ti}\) values >10‰ correlated with initial \(\text{^{26}Al/^{27}Al}\) ratios that were essentially zero, but they also indicate that \(\delta^{50}\text{Ti}\) values within 10‰ of normal isotopic composition fell along a zero slope isochron or one that approached (i.e., 4.8 x 10⁻⁵) the canonical value. The graph that MacPherson et al. (1995) provide as Figure 7a alludes to trimodal data distributions when \(\text{^{27}Al/^{24}Mg}\) ratios exceed 4 x 10⁵ and \(\delta^{26}\text{Mg}\) is <1.5x10³.

**CR and CR-like Inclusions**

The MacPherson et al. (1995, their Figure 9) plot of \(\delta^{26}\text{Mg} \) v. \(\text{^{27}Al/^{24}Mg}\) for inclusions in CR and CR-like chondrites consists of a relatively dense array of points that predominantly cluster in a field between \(\text{^{27}Al/^{24}Mg}\) values ≤60 and \(\delta^{26}\text{Mg} \leq 18\‰\). Point dispersion radiates outwardly from this region and only a paucity of data occurs outside the field defined by \(\text{^{27}Al/^{24}Mg} \leq 200\) and \(\delta^{26}\text{Mg} \leq 40\‰\). According to MacPherson et al. (1985), only three samples show clear \(\delta^{26}\text{Mg}\) excesses. The bulk of the data falls below a line depicting a slope with the
calculated canonical value for $^{26}\text{Al}/^{27}\text{Al}$ and $\delta^{26}\text{Mg}$ values $\leq -10\%$. Essentially all $\delta^{26}\text{Mg}$ values are at or near zero when $^{27}\text{Al}/^{24}\text{Mg}$ ratios fall within the range of 250 to ~2,500.

CO3 Chondrites

The CO3 inclusion data distribution for $\delta^{26}\text{Mg}$ v. $^{27}\text{Al}/^{24}\text{Mg}$ in MacPherson et al. (1995, their Figure 8) is similar to the pattern observed for CR and CR-like inclusions. The data range though, differs. For instance, data relating to CO3 inclusions 1) show a tighter clustering near the origin (i.e., $^{27}\text{Al}/^{24}\text{Mg} \leq 25$ and $\delta^{26}\text{Mg} \leq 10\%$), 2) plot more frequently above the canonical isochron, and 3) exhibit $\delta^{26}\text{Mg}$ values with a greater relative spread (i.e., approximately - 9\% to 22\%) when $^{27}\text{Al}/^{24}\text{Mg}$ ratios $\leq 25$ than CR and CR-like inclusion data. Further, fewer points place on or near the abscissa (i.e., $\delta^{26}\text{Mg} = 0$), the highest values for data points are also more constrained for $^{27}\text{Al}/^{24}\text{Mg}$ (estimated at $\leq 2600$)$^{16}$, and the range of error for $\delta^{26}\text{Mg}$ data is greater in CO3 inclusions compared to data derived from CR and CR-like inclusions.

Ordinary and Enstatite Chondrites

The slope of the $^{26}\text{Al}/^{27}\text{Al}$ isochron ($\delta^{26}\text{Mg}$ v. $^{27}\text{Al}/^{24}\text{Mg}$) is $2.9 \times 10^{-7}$ for one enstatite and seven ordinary chondrite samples plotted by MacPherson et al. (1995; their Figure 13). The data ranges between zero and slightly greater than 10,000 for $^{27}\text{Al}/^{24}\text{Mg}$ and approximately -18\% $\leq \delta^{26}\text{Mg} \leq 18\%$. Although MacPherson et al. (1995) provided this isochron value, the data distribution does not appear to correlate well with it nor are $R^2$ values (e.g., coefficients of determination) included with any graphs in their paper. However, their assessments that only two data sets (Ste. Marguerite and Forest Vale - ordinary H4 chondrites) support that $^{26}\text{Al}$ was live during the formation of the associated meteorites is reasonable because the points, which

---

$^{16}$ However, the maximum value for $\delta^{26}\text{Mg}$ is approximately $\leq 425\%$ for CO3 and CR/CR-like chondrite inclusions.
collectively spread between $\sim 1,300 \leq ^{27}\text{Al} / ^{24}\text{Mg} \leq 10,300$, all appear to plot above the abscissa (e.g., $\delta^{26}\text{Mg} \leq 15\%$). The data collected from Quenggouk (H4) exhibited a similar range in $^{27}\text{Al} / ^{24}\text{Mg}$ ratios as Forest Vale data ($\sim 3,700$ v. $4,250$, respectively) and plot above and below $\delta^{26}\text{Mg} = 0$; although, this data may indicate that Quenggouk bears evidence of live $^{26}\text{Al}$, there are only two data points and thus a more conservative interpretation is to consider any potential $\delta^{26}\text{Mg}$ excess as unresolvable in their Figure 13. Even so, none of the ordinary chondrite data documents that a canonical value is preserved in these rocks. MacPherson et al. (1995) indicated that analyses conducted on ordinary chondrites in other studies also showed no $^{26}\text{Mg}$ excesses and that two samples from Manych (LL3.1) were reported to have calculated $^{26}\text{Al} / ^{27}\text{Al}$ ratios of only 1.5 and 1.6 ($x10^{-6}$). However, it should be noted that the material analyzed in their review consisted principally of chondrules (MacPherson et al., 1995) and could account for the noted results.

Pre-solar Grains

Silicon carbide, graphite, and corundum grains in meteorites were introduced into the protoplanetary disk from the outside sources discussed earlier. The histogram provided as Figure 14 in MacPherson et al. (1995) clearly show a skewing of inferred initial $^{26}\text{Al} / ^{27}\text{Al}$ ratios towards higher values than what had been observed in CAIs, chondrules and achondrites (collectively “Solar System objects”). Corundum data consists of 11 analyses and are ‘constrained’ to initial calculated $^{26}\text{Al} / ^{27}\text{Al}$ ratios ranging between $10^{-4}$ and $10^{-3}$ with ‘gaps’ at $2.5$-$5$ ($x10^{-4}$) and $1$-$2.5$ ($x10^{-3}$) and a peak between $7.5 \times 10^{-4}$ and $10^{-3}$. Graphite data (36 data points) is spread between $7.5x10^{-4}$ and $0.25$ with no $^{26}\text{Al} / ^{27}\text{Al}$ ratios falling in the $1$-$5$ ($x10^{-3}$) range and a peak at $0.1$-$0.25$. 
The data associated with the analyses of SiC samples included an estimated 250 analyses based on the histogram and were divided into two groups – ‘mainstream’ and ‘X’ grains based on their likely origin as either AGB stars or supernova, respectively. The mainstream (\(2.5 \times 10^{-5} - 10^{-2}\)) and X (\(2.5 \times 10^{-4} - 1\)) \(^{26}\)Al/\(^{27}\)Al ratios overlapped with peaks at 1-2.5 (\(x10^{-4}\)) for mainstream grains and at both 5-7.5 (\(x10^{-4}\)) and 0.1-0.25 ("X grains"; e.g., interstellar grains perhaps produced by supernova; MacPherson et al., 1995). As an aside, one data gap exists for X grains where no \(^{26}\)Al/\(^{27}\)Al ratios lie between 0.5 and 0.75. Data for Solar System objects (>600 samples) plot as \(<10^{-7} \leq ^{26}\)Al/\(^{27}\)Al \(\leq 10^{-4}\) with no gaps and peaks at \(\leq 10^{-7}\) and 5-7.5 (\(x10^{-5}\)). Although samples at the lower end of the range were not specifically identified, it is assumed that they must represent FUN objects. Values at the higher range appear to include “low” (e.g., approximately 15-100) \(^{27}\)Al/\(^{24}\)Mg ratios. The histograms for corundum, graphite, SiC and Solar System objects demonstrate the general uniqueness of each data set. There is little overlap in the number of Solar System and SiC (mainstream) objects yielding similar \(^{26}\)Al/\(^{27}\)Al values based on the published data included in MacPherson et al. (1995). The amount of mainstream SiC grains compared though was \(<30\%\) of the number of Solar System objects analyzed and may be skewing the results.

**Aluminum and Age Data Plots**

Older meteorites must contain greater \(^{26}\)Mg concentrations than younger ones because \(^{26}\)Al concentrations were higher in the. MacPherson et al. (1995) explored the correlation between \(^{26}\)Al and meteoric age and summarized the results as Figure 15 in their paper. The age and calculated initial \(^{26}\)Al/\(^{27}\)Al of six meteorites (including an achondrite Acapulco) are included.

---

\(^{17}\) The exact number of analyses could not be reliably determined from the histogram due to scale factors, but source from six references according to MacPherson et al. (1995).
on the graph. Data from a few normal CAIs are also depicted as a single point. Approximately 6.2 Ma separates the oldest and youngest meteorite ages included on the figure, but five of the meteorites essentially display similar calculated initial $^{26}$Al/$^{27}$Al ratios despite showing respectable differences in age. Contrarily, the sixth meteorite, Chervony Kut (eucrite), is relatively close in age to both Juvinas (eucrite) and Ste. Marguerite (H4) despite having an $^{26}$Al/$^{27}$Al value that is an estimated seven times greater than what is observed in the latter meteorite.\textsuperscript{18} Normal CAIs plot as the oldest objects (i.e., 4.566 Ga) and exhibit the highest calculated initial $^{26}$Al/$^{27}$Al value (i.e., $\sim 6 \times 10^{-5}$). The noted ratio essentially agrees with the canonical value even though it was based on limited CAI data.

\textbf{Summary}

The data that MacPherson et al. (1995) plot shows what appears to be an upper constraint for carbonaceous chondrites that is described by the canonical value when $\delta^{26}$Mg$<125$ and $^{27}$Al/$^{24}$Mg$<375$. When data that falls outside that range is plotted, the calculated initial $^{26}$Al/$^{27}$Al ratio is less than the canonical value, thus calling into question why certain data align to different isochrons and what the slopes represent. MacPherson et al. (1995) also report calculated initial ratios of $^{26}$Al/$^{27}$Al$>5 \times 10^{-5}$ (e.g., “supercanonical” values) when $^{27}$Al/$^{24}$Mg$<50$ and consider them unreliable as they may be an artifact of Mg migration. Evidence for live and dead $^{26}$Al has been documented in normal CAIs. Based on the work of MacPherson et al. (1995), the same can be said of some achondrites, ordinary chondrite objects, and FUN and UN CAIs; however, in cases where $^{26}$Mg excesses occur, the initial calculated initial $^{26}$Al/$^{27}$Al values are typically well below the canonical value. The one enstatite chondrite analyzed did not yield $^{26}$Mg excesses. It is also worth noting that the canonical value of normal Solar System objects is also distinct from SiC

\textsuperscript{18} Juvinas and Ste. Marguerite exhibit similar calculated initial $^{26}$Al/$^{27}$Al ratios [i.e., $\sim 3-7 \times 10^{-6}$].
bodies and further testament to exogenous contributions to the protoplanetary disk; MacPherson et al. (1995). This study expanded on the work of MacPherson et al. (1995) and offers alternate ways to explain the data ($\delta^{26}\text{Mg} \text{ v.} \frac{^{27}\text{Al}}{^{24}\text{Mg}}$).

1.3 Analytical Methods

Peer-reviewed literary resources provided the aluminum and magnesium isotopic data that comprise the meteoritic database discussed herein. The database, which incorporated the same resources used in MacPherson et al. (1995) and more, includes approximately 2,700 isotopic analyses in total derived from various studies. The referenced isotopic data contained in each study were tabulated using Microsoft® Office Excel 2010 (Excel) and subsequently combined into a collection of “meteorite-specific” files as well as into a master table (Appendix A) that contained the collective data from all studies. This facilitated organizing the data by parameter for comparative analyses. For instance, Excel has a function that allowed for the organization of data by meteorite, inclusion type, mineral, analytical mode, mineral type, or isotopic ratio.

Using Excel to graph data by parameter identified chemical patterns among meteorites and provided a means of assessing the validity of the canonical value. This was specifically accomplished by calculating the initial $^{26}\text{Al}/^{27}\text{Al}$ ratio within each data set, including cases where bimodal, trimodal, or other multiple distribution patterns were observed. When the initial $^{26}\text{Al}/^{27}\text{Al}$ ratios were calculated using all data, the resulting value represented a mean. However, calculating the ratio for multiple individual isochrons was accomplished by selectively removing data to improve the resolution of the line so that its slope could be calculated. Although this
process was partly subjective, repeating the process with more or fewer points did not significantly (<5%) alter the slope equation or the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios. An example is provided as Figures 2b and 2c.

The original inferred $^{26}\text{Al}/^{27}\text{Al}$ ratios were determined by employing three steps: 1) using linear regression to determine the slope$^{19}$ though the plotted data points ($^{27}\text{Al}/^{24}\text{Mg}$ v. $\delta^{26}\text{Mg}$), 2) multiplying the value of the slope by 0.1395$^{20}$ to normalize it to stable isotope $^{24}\text{Mg}$ and 3) then dividing by 1,000. These results are presented and discussed in Chapters 2 and 3, respectively. Select graphs that include error bars (i.e., standard deviation, typically 2$\sigma$) were included for discussion purposes and based on empirical data provided in Appendix A. In order to maintain data manageability, when error bars are included, the points within a given graph were assigned the mean of all published error values for $^{27}\text{Al}/^{24}\text{Mg}$ and $\delta^{26}\text{Mg}$ in the data set. This approach simplified matters for discussion purposes and did not alter the outcome of this study.

Last, the master table in Appendix A is a subset of data from an extensive ‘unabridged’ database that was compiled as part of this thesis and includes additional information. The intent is to make the database a living electronic resource available to cosmochemists for use and contribution in the future. To that end, readers are encouraged to review the following resources as they discuss research that was included in the unabridged table and supplement the content discussed herein: Armstrong et al. (1983), Baker et al. (2005), Bradley et al. (1978), Clayton et al. (1984), El Goresy et al. (2002), Fagan et al. (2007), Fahey (1987a, b), Füri et al. (2015), Goswami and Srinivasan (1994), Hinton et al. (1984), Holst et al. (2013), Hoppe et al. (1994),

$^{19}$ The resulting slope, which describes the relationship between these parameters is considered the canonical value, but only if it is 5x10$^{-5}$ or “reasonably” close. Based on the reviewed literature, there does not appear to be a strict constraint on what empirical values are considered in agreement with this value. Typically, values that fall within 20% of 5x10$^{-5}$ tend to be cited as support for the validity of the canonical value.

$^{20}$ Recall from Section 1.2.2 that the terrestrial standard is $^{26}\text{Mg}/^{24}\text{Mg} = 0.13955$. This standard varies slightly among studies.
Chapter 2

Results

2.1 Analytical Data Plots

Plots comparing published values of $\delta^{26}\text{Mg}$ versus $^{27}\text{Al}^{24}\text{Mg}$ were created using the data included in the master table referenced earlier and provided in Appendix A. Comparative analyses were conducted after plotting the data according to 1) meteorite, 2) meteorite class, 3) CAI type, 4) chondrule type, 5) CAI type, 6) mineral, and 7) analytical method. Original protoplanetary disk $^{26}\text{Al}^{27}\text{Al}$ ratios were also calculated using the method indicated earlier and are included on graphs and absolute ages were determined relative to CAI formation assuming $^{26}\text{Al}$ as a chronometer. The following sections present the results of the research for each of the five data groupings. Chapter 3 discusses the data and proposes a new cosmochemical perspective with regard to $^{26}\text{Al}$ research.

2.2 Data Results by Meteorite

Published data from 42 meteorites were investigated and graphed as part of this study. The entire data set for each meteorite was plotted and provided in this section. The data source(s) are identified in the master table (Appendix A). When a given data set exhibited multiple slopes, a plot was prepared for each isochron, thereby making it possible to estimate $^{26}\text{Al}^{27}\text{Al}$ ratios.

---

21 The master table provided in Appendix A includes data used in this study. Any given thesis figure may include both $\delta^{26}\text{Mg}$ data and $\delta^{26}\text{Mg}^*$ data depending on how resources reported data.

22 Published data for additional meteorites was tabulated (Appendix A).
One of the graphs (Figure 41) discussed in this section includes all of the $^{26}$Al isotope data used in this study and may be the first published test of the results presented in MacPherson et al. (1995). Meteorites are discussed alphabetically.

**Acfer Meteorites**

Published data for three Acfer meteorites (059, 094 and 182) were tabulated and plotted as part of this thesis research and are discussed separately. Acfer 059, 094 and 182 are unrelated meteorites and classified as CR2, C2-ungrouped, and CH3, respectively. The CR group refers to carbonaceous chondrites that share similarities to Renazzo, one of the least metamorphosed, but aqueously altered meteorites; specifically, large porphyritic chondrules that often exhibit Wark-Lovering (W-L) rims (e.g., Krot et al., 2004), substantial matrix (~40%) containing hydrated matrix minerals, a paucity of CAIs and up to ~8% metal (e.g., Weisberg et al., 2006; Meteoritical Bulletin 71 and 72). Type 2 is a qualifier that indicates that the chondrite is matrix-rich, fine-grained, contains Ni-sulfides and abundant hydrated minerals, and bears evidence of low to moderate aqueous alteration. C2-Ungrouped chondrites are unique in that they cannot be assigned to a specific group. CH meteorites exhibit characteristics reminiscent of Allan Hills 85085 such as exceptionally small-diameter CAIs and chondrules, a high metal content (approximately 20% by volume) but generally lacking fine-grained matrix or volatile elements. The Type 3 descriptor alludes to, mineralogical assemblages that exhibit a wide range of chemical variability, limited evidence of aqueous alternation, and polysynthetic twinning in low calcium monoclinic pyroxene (e.g., Meteoritical Bulletin 76; Weisberg et al., 2006).

---

23 For clarification, meteorites that share a similar name are distinct and often unrelated to each other.
Acfer 059

The data for Acfer 059 plots in a monomodal manner that supports the integrity of the canonical value (Figure 1); however, the five graphed data points were derived from only two CAI samples in one study (Weber et al, 1995). The phases represented are hibonite, melilite, grossite, and spinel. Phase plots are provided and discussed later in this chapter. As a general note relating to all graphs presented herein, refer to the master table in Appendix A for details, particularly when the data is extensive and based on numerous studies. The unabridged form of the master table contains details that highlight important observations or provides data clarification.

**Figure 1.** Acfer 059. The slope formula is provided along with the calculated average initial $^{26}\text{Al} / ^{27}\text{Al}$. In most cases, the error bars represent the average 2σ standard deviation; however, in this graph, the error was reported as 1σ.
All data points fall on or quite near the isochron because no $\delta^{26}\text{Mg}$ deficiencies exist; further, the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio (4.945x10^{-5}) is markedly similar to the canonical value. It is also worth noting the relatively low values ($120<^{27}\text{Al}/^{24}\text{Mg}; 45<\delta^{26}\text{Mg}$) for later discussions. For now, it suffices to state that there is a tendency for data disorder when the parametric (i.e., $^{27}\text{Al}/^{24}\text{Mg}$ and $\delta^{26}\text{Mg}$) values approach the origin except under certain circumstances such as in this case where an established relationship exists between the subject parameters for reasons that will be explained later in this chapter and developed in Chapter 3.

**Acfer 094**

The Acfer 094 data published by Krot et al. (2006) and Sokol et al. (2007) are presented as Figures 2a-c and it includes analytical results of CAIs and chondrules. Recall that the data in this study will *always* be introduced first as a collective set (e.g., Fig. 2a) and then as graphs that depict individual modal distributions (e.g., Fig. 2b, 2c) so that distinct isochrons can be defined and their associated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios calculated. The calculated average $^{26}\text{Al}/^{27}\text{Al}$ value ($8.942x10^{-6}$) is more than an order of magnitude less than the canonical value when all data is considered. **Acfer 094** also archives apparent $\delta^{26}\text{Mg}$ deficiencies as the origin is approached.
Figure 2a. Acfer 094. Note the high data density and scatter towards the origin. The calculated average $^{26}\text{Al}/^{27}\text{Al}$ value is substantially lower than the canonical value. Bimodal data distributions are interpreted as extending from the origin through the two sets of ‘paired’ points (Figs. 2b, 2c). CAIs and chondrules constitute the objects belonging to the loose group proximal to the origin. The two sets of points that plot away from the grouping are CAIs. Std. dev. = 2σ.

The next figures depict the slopes through the isolated paired data points seen above and below the slope shown in Figure 2a. The resulting isochrons and calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios are incongruent with the canonical value.
Figures 2b (top) and 2c (bottom). The individual isochrons of the paired data points that fall above and below the average slope presented as Figure 2a. Calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios are shown.
**Acfer 182**

The following data for Acfer 182 was published by Weber et al. (1995) and is based on only the analyses of CAIs. The data exhibits the greatest range of the three Acfer meteorites included in this study (Figure 3a). One “outlier”\(^{24}\) is evident in the graph, but included as part of the collective data set because it was considered reliable by the referenced authors and resulting from \(^{26}\)Al decay. The canonical value is more than an order of magnitude greater than the

---

\(^{24}\) The data was collected from one of many grossite grains.
average calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio for this data set. Although a single point hardly qualifies as a data distribution trend, the isochron defined by a line passing from the origin to the outlier is provided in Figure 3a along with the calculated $^{26}\text{Al}/^{27}\text{Al}$ ratio (i.e., $4.35 \times 10^{-5}$). The calculated ratio falls within 0.9% and 13% of the one published (i.e., $4.35 \times 10^{-5}$) by Weber et al. (1995) and the conventional canonical value, respectively. Not surprising, the calculated $^{26}\text{Al}/^{27}\text{Al}$ ratio is more than two orders of magnitude below the canonical value for all remaining data (Figure 3c) and some $\delta^{26}\text{Mg}$ deficiencies are evident.
Figures 3b (top) and 3c (bottom). The isochron extending to the single outlier (Fig. 3b) approaches the canonical value whereas the bulk of the data display a random distribution pattern (Fig. 3c) with some clustering near the origin and a calculated \( ^{26}\text{Al}/^{27}\text{Al} \) ratio that falls well short of the canonical value.

An explanation for the degradation in the strength of a discernable data pattern will be posed in Chapter 3.

Adelaide

Adelaide (C2-Unrgrouped) data is presented in the following graphs (Figures 4a-c). The data was published in two studies, (i.e., Krot et al., 2006; Sheng et al., 1991), and includes relict CAI-bearing chondrules and POIs. POIs are chondrule-like, vary compositionally, lack melilite and siderophile-rich assemblages, but typically include enstatite, pyroxene, and spinel, among other ferromagnesium minerals (Sheng et al, 1991).
Figure 4a. Adelaide. The slope formula is provided along with the calculated average initial $^{26}\text{Al} / ^{27}\text{Al}$ ratio. The calculated initial $^{26}\text{Al} / ^{27}\text{Al}$ ratio for isochrons that pass through the upper and lower points are $4.84 \times 10^{-5}$ ($R^2 = 0.9144$; Figure 4b) and $-5.21 \times 10^{-6}$ ($R^2 = 0.97618$; Figure 4c), respectively. Error = Std dev. 2σ.

Although the calculated average calculated initial $^{26}\text{Al} / ^{27}\text{Al}$ ratio is 1.73 times lower than the canonical value of $5 \times 10^{-5}$, the calculated initial $^{26}\text{Al} / ^{27}\text{Al}$ ratio defined by isochron that passes through the data points that extend $>5$ ($\delta^{26}\text{Mg}$) above the abscissa approach it to within 3.2% (Fig. 4b).
Figures 4b (top) and 4c (bottom). The upper and lower isochrons of the graph presented as Figure 4a with their calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios.
When the calculated initial \(^{26}\text{Al}^{27}\text{Al}\) ratio is arbitrarily used as standard of comparison for all points within this data set, only two of them exhibit what might be interpreted as \(^{26}\text{Mg}\) excesses (e.g., top quadrant of Fig. 4b). Equally important, \(\delta^{26}\text{Mg}\) deficiencies are evident (0\(\% \!<\!\delta^{26}\text{Mg}\)) and account for slightly more than half the data (i.e., 53.3\%); Figs. 4a, 4c. The negative slope for data that plots in the lower quadrant of Figure 4a (i.e., see Figure 4c) represents a \(\delta^{26}\text{Mg}\) deficiency. The well behaved nature of such isochrons is intriguing and discussed in Chapter 3. As noted earlier (e.g., Acfer 059 discussion), it is also worth noting the low values \((100<^{27}\text{Al}^{24}\text{Mg}; \ 25<\delta^{26}\text{Mg})\) for later discussions. Given these observations, the calculated initial \(^{26}\text{Al}^{27}\text{Al}\) ratio of one of the two distribution modes (i.e., \(4.84\times10^{-5}\)) agrees with the canonical value. However, the bulk of the data in Figure 4a cannot reasonably be attributed to excess \(\delta^{26}\text{Mg}\).

Adrar 003

Adrar 003 is an ordinary chondrite belonging to the L/LL3.1 group because it is brecciated and contains mixed fragments that may have originated from a parent body (e.g., Bischoff et al., 2006). Generally speaking, there is only a relatively minor difference between the characteristics that separate L and LL bodies. For instance, iron and other metals account for only a minor volume, specifically \(~4\%\) and \(~2\%\), respectively, of the overall meteorite composition (Weisberg et al., 2006). Chondrules are often slightly larger in LL chondrites (\(~0.9\) mm average diameter) than in L group (\(~0.7\) mm average diameter) members; Weisberg et al., 2006. The oxygen isotope compositions in LL group chondrites plot further above the terrestrial fractionation line than do ordinary chondrites. The Type 3 designation was discussed under the
Acfer meteorites section; however, the additional qualifier or “subtype” (i.e., 1) indicates that the chondrite experienced less metamorphism than in objects assigned higher numbers (i.e., 2-9); Meteoritical Bulletin 71. The origin of the data plotted in Figure 5 is based on the work of Sokol et al. (2007). Multiple modes of data distribution are lacking, therefore only one graph was generated. All data are associated with plagioclase-rich chondrules.

![Figure 5. Adrar 003. The slope has a negative value and displays a poor fit (R²=0.0054) attesting to considerable data scatter. The calculated initial $^{26}\text{Al}^{27}\text{Al}$ ratio for isochrons that pass through the upper and lower points are 4.84x10^{-5} (R²=0.9144; Figure 4b) and -5.21x10^{-6} (R²=0.97618; Figure 4c), respectively. Error = Std dev. 2σ.]

---

25 The unabridged master table includes data from Rudaswami et al. (2007) which was reported as $^{26}\text{Mg}^{24}\text{Mg}$.
Adzhi Bogdo

Adzhi Bogdo is an ordinary chondrite belonging to the LL3-6 group (Meteoritical Bulletin 74) and a regolith and polymict breccia because it contains surficial parent body material as well as chemically-diverse foreign fragments (Bischoff et al., 2006; Sokol et al., 2007). Orthoclase and pyroxene were the only phases analyzed in the data set published by Sokol et al. (2007) and depicted graphically in Figure 6. Sokol et al. (2007) identify the analyzed specimens as granitoidal clasts. This is another case where δ²⁶Mg deficiencies were identified and the interpretation that a negative slope may point to metamorphic effects is in tune with Sokol et al. (2007) who pose the possibility that the analyzed clasts were thermally altered.

Figure 6. Adzhi Bogdo. This plot is similar to the Adrar graph in terms of the negative slope and lack of any discernable data distribution pattern. The calculated average initial ²⁶Al/²⁷Al ratio is several orders of magnitude less than the canonical value. Error = Std dev. 2σ.
Allan Hill Meteorites 77003, 77307 and 82101

Allan Hill meteorites 77003, 77307 and 82101 are included in this study and classified as CO3.6, CO3.0, and CO3.4, respectively (https://www.lpi.usra.edu/meteor/metbull.php). They were recovered from the same general region reflected in their name, but lack any generic relationship. The CO group members share similarities to the carbonaceous chondrite Ornans, such as approximately 30% matrix and relatively minute CAIs (<0.2 mm) and chondrules that compose ~50% of any given meteorite (Russell et al., 1998; Weisberg et al., 2006; https://www.lpi.usra.edu/meteor/metbull.php). Type 3 and its subtypes were previously given; however, to recapitulate, they refer to minimally altered specimens with high numeric assignments indicating greater degrees of metamorphism. The data for all three chondrites comes from CAIs analyzed by Russell et al. (1998).

Allan Hills 77003

The data for Allan Hills 77003 plots rather linearly (Figure 7) with a corresponding calculated initial $^{26}$Al/$^{27}$Al that approaches the canonical value of 5x10^{-5}. Contrarily, several points allude to $\delta^{26}$Mg deficiencies (e.g., $\delta^{26}$Mg ≤0‰). Russell et al. (1998) analyzed hibonite and hercynite grains belonging to Allan Hills 77003. The one slightly negative $\delta^{26}$Mg value is associated with hercynite, a phase that often occurs as a secondary mineral (e.g., Itoh et al., 2004). Although the hercynite that exhibited this negative value was not described as altered, some of the associated hibonite and hibonite-hercynite material in the same sample showed either rare earth elements enrichments or depletions (Russell et al., 1998).
Figure 7. Allan Hills 77003. The data distribution is fairly tight and the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value is within 12.6% of the canonical value. Error = Std dev. 2σ.

**Allan Hills 77307**

Allan Hills 77307 data plotted in Figure 8 are derived principally from melilite and to a lesser extent, spinel grains; one hibonite grain was also analyzed. The data distribution is generally similar to what is observed in Allan Hills 77003 and within the same range. However, the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value is slightly less (4.189$\times$10$^{-5}$) for Allan Hills 77307 than for Allan Hills 77003. One striking difference between these two meteorites is the absence of data in the range of approximately 33$^{27}\text{Al}/^{24}\text{Mg}$$<33$ for Allan Hills 77307 and the reason is unclear.
Figure 8. Allan Hills 77307. Note the data gap above the slope definition and slightly greater departure (i.e., 16.2%) of the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio from the canonical value compared to Allan Hills 77003 (12.6%). Error = Std dev. 2σ.

Allan Hills 82101

The data plot for Allan Hills 82101 shows a negative slope (Figure 9a) and a calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value than is nearly an order of magnitude less than the canonical value. Although it is tempting to point to metamorphism as the cause of the random data distribution and the noted isochron, other factors must also be responsible since this chondrite is classified as less altered than Alan Hills 77003, the data of which plots linearly. This observation will be addressed later. The mapped data for Allan Hills 821010 were primarily collected from melilite,
hibonite, some spinel and a few other minor phases. Although a bimodal data distribution is questionable, isochrons were determined and the associated $^{26}\text{Al}/^{27}\text{Al}$ values calculated assuming such a case for comparative analysis.

**Figure 9a.** Allan Hills 82101. The negative slope and calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value do not support the canonical model but may be due to metamorphism. Error = Std dev. 2σ.

The plots that assume a bimodal data distribution exists in Figure 9a are depicted independently as Figures 9b and 9c.
Figure 9b. This graph omits the two outliers in Figure 9a. Although the calculated initial $^{26}{\text{Al}}/^{27}{\text{Al}}$ ratio is reasonably similar to the canonical value, the reliability of this estimate is poor (i.e., slope $R^2=0.204$).

Figure 9c. This graph includes the two outliers omitted in Figure 9b and another data point to anchor the isochron towards the origin. The calculated initial $^{26}{\text{Al}}/^{27}{\text{Al}}$ ratio does not support the canonical model and while arguments can be made against using a paucity of outliers to test the validity of the canonical value, this is a common practice in many published works.
Allende

Allende (CV3) data is provided in Figures 10a-d. CV3 meteorites belong to the Vigarano\textsuperscript{26} (CV) chemical group of chondrites that experienced low-grade metamorphism and display large chondrules and CAIs bearing Wark-Lovering rims, as well as unequilibrated mineral assemblages that formed under variable redox conditions. The first graph includes all data. Subsequent graphs represent the same data in Figure 10a, but at different scales for discussion purposes or focus on individual data distribution isochrons when bi- or trimodal patterns occur.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{fig10a.png}
\caption{Allende. The slope displays a negative trend and $^{26}\text{Al}/^{27}\text{Al}$ value when all data is considered. Despite the negative sign, the ratio value is nearly three orders of magnitude lower than the canonical value. Allende is one of the most analyzed meteorites and thus, this graph contains more data points than all other individual plots. Error = Std dev. 2\sigma.}
\end{figure}

\textsuperscript{26} Vigarano data is discussed later.
When Allende data is plotted, the isochron that results is a low, negative slope. Thus, this slope produces a negative calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio that significantly departs from the canonical value. However, when the scale is adjusted to the same one used in Figure 1 of MacPherson, et al. (1995), the graphs are generally similar in appearance (Figure 10b); even so, the calculated $^{26}\text{Al}/^{27}\text{Al}$ ratio is $3.61 \times 10^{-5}$ and less than the canonical ratio that the work of MacPherson, et al. (1995) published based on all data rather than solely from Allende. A more robust data comparison between the results of MacPherson, et al. (1995) and this study is provided later in this chapter.
**Figures 10b (top) and 10c (bottom).** The data distribution of the upper isochron in Figure 10a is markedly similar to the graph of all data presented in MacPherson et al. (1995) although the calculated $^{26}\text{Al}/^{27}\text{Al}$ ratio is $\sim$1.39 times less than the canonical value. Figure 10c is an alternate version of Figure 10b intended to illustrate the minor difference ($\sim$3.2%) between the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios by removing points to reduce scatter and obtaining a more precise isochron definition as noted in Section 1.3.

In Figure 10a, there is a wide separation between the bimodal distribution patterns, no apparent outliers, nor evidence of diagenetic influences or potential protoplanetary ‘reservoirs.’ However, at finer scales (e.g., Figure 10b), data scatter is apparent and explored later in sections discussing minerals and oxygen isotopes. Figure 10d depicts the lower isochron of Figure 10a (e.g., the one that closely parallels the abscissa) and the associated calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio (i.e., $5.58\times10^{-8}$). Allende’s bimodal data distribution is strongly polarized and its upper isochron has a calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio approaching the canonical value, but less so compared to Adelaide.
**Figure 10d.** The lower isochron of rescaled Figure 10a with the slope defined and the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio.

**Axtell**

Axtell (CV3) falls into the same petrological group as Allende and a graphical presentation of the data is provided in Figures 11a-d. The Axtell meteorite data set was produced by Srinivasan et al. (2000) and includes CAIs and chondrules. The main phases analyzed in order of most to least abundant were melilite, plagioclase, spinel and relatively minor olivine, pyroxene, and hibonite.
Figure 11a. Axtell. Axtell and Allan Hills 82101 data share a broadly comparable distribution in that points preferentially plot along the ordinate with only an outlier or two. Three differences though, are isochron dip directions, calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios, and the highly constrained $^{27}\text{Al}/^{24}\text{Mg}$ values for Allan Hills 82101 data. Note the marked $\delta^{26}\text{Mg}$ deficiencies and empty field between approximately $250 < ^{27}\text{Al}/^{24}\text{Mg} < 1,325$. Error = Std dev. $2\sigma$.

The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ value is ten times less than the canonical value. Figures 11b and 11c break down Figure 11a into its two basic constituents assuming two modal distributions exist (e.g., the main group of data points and the outlier) for discussion purposes. Figures 11d and 11e are a distillation of Figure 11c into its components.
Figures 11b (top) and 11c (bottom). The isochrons extending through the outlier (upper graph) and the bulk points (lower graph) produce calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios that are less than the canonical value.
Figures 11d (top) and 11e (bottom). Figure 11d is a scaled down version of Figure 11c so that the data clustering could be resolved. Although no discrete pattern emerged, an upper constraint is apparent and isolated in Figure 11e with its associated calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value that is in tune with the canonical value.
Chainpur

The Chainpur (LL3.4) data in Figure 12 published by Huss et al. (2001), Young and Galy (2004) and Russell et al. (1996) consist of only chondrules and the three primary phases analyzed were plagioclase, olivine, and glass. Pyroxene, spinel, gehlenite, one nepheline grain, and matrix were also included in the analyses. The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value departs from the canonical value and no clear data linearity is present.

![Chainpur](image)

**Figure 12.** Chainpur. The Chainpur data is widely distributed despite the heavy concentration of points near the origin. Error = Std dev. 2σ.

Colony

Colony is classified as a CO.3.0 object and the work reproduced here graphically and tabulated in Appendix A was published by Russell et al. (1998) based in the analyses of melilite-rich CAIs. Spinel, hibonite, grossite, hercynite, and fassaite constituted remaining analyzed phases.
Figure 13a. Colony. Colony data was interpreted as displaying a trimodal distribution. Figures (13b-13d) display each of the three isochrons separately in order of greatest to least calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value. Error = Std dev. 2σ.

Colony and Axtell show a remarkable similarity in data distribution, calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ value, and fit ($R^2$). This is intriguing because these chondrites belong to different groups (CO.3.0 and CV3), but equally so because it is tempting to believe that the outlier in each graph may actually relate and strengthen the case that a modal distribution through these points (and others like them) does indeed exist when additional data is graphed collectively. This concept is explored at the end of this chapter although a prelude to the discussion is presented in Figures 13b-d which shows the breakdown of Figure 13a into its components to identify discrete data distributions.
Figures 13b (top), 13c (middle), and 13d (bottom). In top graph (13b), the isochron extends from the origin through the outlier in Figure 13a. Figure 13c presents the bulk of the data in Figure 13a that closely parallel the ordinate. Figure 13d shows the isochron extending through the points in the lower quadrant (e.g., deficient $\delta^{26}$Mg field).

When the calculated initial $^{26}$Al/$^{27}$Al values for the outliers in Axtell (Figure 11b) and Colony (Figure 13b) are compared, a great disparity is obvious. Thus, even though it is intuitive, the similarity in the calculated initial $^{26}$Al/$^{27}$Al values for the entire data set of both chondrites relate to the nature of the meteorites rather than outliers, even though the outliers visually lie proximal to the respective isochrons in Figure 11a and 13a.

**Elephant Moraine Meteorites EET 87746, EET 92042, and EET 96286**

Isotopic data from several unrelated Elephant Moraine (EET) chondrites are provided as Figures 14a-e. Specifically, the research relates to analyses performed on CAIs or microspherules belonging to EET 87746, EET 92042, and EET 96286. Guan et al. (2000a)
published the analytical results of EET 87746 while Makide et al. (2009) provided the data for EET 92042 and EET 96286.

**EET 87746**

The dominant phase analyzed in EET 87746 (EH3) was hibonite and it comprised twice the number of spinel samples. Pyroxene accounted for a minor percentage (10%) of the total amount samples analyzed. The E classification refers to enstatite chondrites. Enstatite chondrites are uncommon and atypical in that they contain greatly reduced phases; Guan et al. (2000a). The H (i.e., high iron) and 3 (essentially unaltered) designations were defined earlier.

**Figure 14a.** EET 87746. A trimodal data distribution identified in EET 87746 are discussed below. Three red points were highlighted because they fall between the two isochrons in Figs. 14b and 14c and were excluded in the calculated initial $^{26}$Al/$^{27}$Al values. Error = Std dev. 2σ.
The calculated initial $^{26}$Al/$^{27}$Al ratio agrees with the canonical value despite the unusual character of EH objects. Some researchers may interpret this as support for a homogenous $^{26}$Al distribution in the protoplanetary disk. The highlighted (red) data points in Figure 14a may represent material that formed in different reservoirs as Wark-Lovering rims were observed in some samples; however, the oxygen isotope data for those samples was not published.
Figures 14c (top) and 14d (bottom). Both graphs document marked $\delta^{26}\text{Mg}$ deficiencies in chondrite objects. The inclusion of most of the data points in the lower quadrant of Figure 14d served as a means to anchor the isochron towards the origin in Figure 14c.
**EET 92042**

The only known phase analyzed in EET 92042 (CR2) was melilite (Figure 15). All data plots tightly and would fall slightly above the isochron in Figure 14b. With few exceptions, the practice of forcing a slope to the origin was generally limited herein to avoid compromising data interpretation.

![Graph of EET 92042](image)

**Figure 15.** EET 92042. The data for EET 92042 is highly constrained. If the slope was forced to the origin, the resulting isochron and calculated initial \(^{26}\text{Al}/^{27}\text{Al}\) ratio would be \(y = 0.3139x\) (\(R^2=0.6402\)) and \(4.38\times10^{-5}\), respectively. Error = Std dev. 2\(\sigma\).

**EET 96286**

Like EET 92042, melilite was the only known analyzed phase in the published EET 96286 (CR2) data set used in this study. The data plots similarly to that of EET 92042. The lack

---

27 Exceptions to this practice are for discussion purposes.
of data variability in EET 92042 and EET 96286 compared to EET 87746 is considerable, but may be an artifact of sample selection or relatively few analyses.

Figure 16. EET 96286. Forcing the isochron to the origin would produce a calculated initial $^{26}\text{Al}^{27}\text{Al}$ ratio of $4.55 \times 10^{-5}$ based on a slope of $y = 0.3264x$ ($R^2 = 0.2866$). Error = Std dev. 2σ.

Efremovka

Efremovka is a CV3 meteorite (see also Allende, Axtell) and one of the least altered carbonaceous chondrites (e.g., Mishra and Chaussidon, 2014). Melilite and spinel dominated the phases analyzed in the data set published by El Goresy et al. (2002), Young et al. (2005), Goswami et al. (1994), Goswami and Srinivasan (1994), Mishra and Chaussidon (2014), Fahey et al. (1987a), and Amelin et al., (2002). CAIs and two chondrules account for the all the data plotted in Figures 17a through 17c.
Figure 17a. Efremovka. Efremovka data shows a bimodal data distribution with cluster biasing proximal to the origin. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ value is five times less than the canonical value. Error = Std dev. 2σ.

Figure 17b. Distilling the data in Figure 17a produces upper and lower isochrons. This figure focuses on the upper isochron and its calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value is ~83% of the canonical value.
Figure 17c. The lower isochron and the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio is approximately one order of magnitude less than the value presented in Figure 17b for the upper isochron.

The data defining the upper isochron in Figures 17a and 17b, though not compelling, potentially supports the canonical model.

Felix

Felix is classified as CO3.3. Russell et al (1998) published the data represented graphically in Figures 18a-e. Figure 18a depicts all data and depicts a bimodal data distribution (Figures 18b and 18c) based on the analyses of two CAIs (4813 and 4814). The data for these two objects were graphed independently for comparative analyses (Figures 18d and 18e).
Figure 18a. Felix. The bulk of the data is preferentially aligned along the ordinate. One outlier is apparent. Error = Std dev. 2σ.
Figures 18b (top) and 18c (bottom). Figure 18b shows the isochron through points that parallel the ordinate and Figure 18c depicts the isochron that includes the outlier. Error = Std dev. 2σ.

The majority of samples analyzed from Felix 4813 were melilite. Other phases included spinel and only one or two samples each of diopside, hibonite and hercynite. See Figure 18d. Likewise, the main phase analyzed in Felix 4814 was melilite; spinel and hibonite were also probed but only accounted for a small percentage of the total samples. Refer to Figure 18e.
Figure 18d. The data collected by Russell et al (1998) lacks a strong linear distribution and the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio departs notably from the canonical value. Error = Std dev. 2σ.

Figure 18e. The slope displays a negative trend for the Felix 4814 data set and a calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio that contrasts with the canonical value. Error = Std dev. 2σ.
Grosnaja

Grosnaja is another CV3 chondrite (see Efremovka, Allende, Axtell). Young et al. (2005) published the data used in Figure 19a-c which was collected from a single fluffy Type A (FTA) CAI designated 63624-1. Diopside and melilite were the dominant phases analyzed and comparatively few spinel grains.

![Graph](image)

**Figure 19a.** Grosnaja. The calculated average initial $^{26}$Al/$^{27}$Al ratio is essentially the canonical value. Note that some points plot below the origin as $\delta^{26}$Mg deficiencies. Error = Std dev. 2σ.

Only data from Acfer 059 and, to a lesser degree, the Allan Hill chondrites yield comparable calculated initial $^{26}$Al/$^{27}$Al ratios as the one associated with all of the Grosnaja data included herein. However, distilling the data into two modal distributions (Figures 19b and 19c) produces profoundly dissimilar calculated initial $^{26}$Al/$^{27}$Al ratios ($8.26 \times 10^{-5}$ and $1.56 \times 10^{-4}$) that are supracanonical.
Figures 19b (top) and 19c (bottom). A few negative ($\delta^{26}$Mg deficient) data points were removed from Figure 19b for reasons explained earlier (e.g., improved slope definition). The lower graph depicts a linear data distribution as well, albeit with greater variability than the data defining the isochron in Figure 19b. The reason is unclear although some workers may attribute this phenomenon to distinct reservoirs as the source for these objects.
Hughes 030

Bischoff and Srinivasan (2003) provided the following data for Hughes 030 (Figure 20) based on the analyses of five hibonite and two olivine grains in a CAI within this Rumuruti (R) -type chondrite. Rumuruti meteorites are distinct from the three main chondrite groups (i.e., ordinary, carbonaceous, enstatite). They contain 1) few CAIs but harbor large and abundant chondrules (up to 50% by volume in fragments and unbrecciated material), 2) sulfides, and 3) brecciated clasts from different parent bodies that sit within an olivine-dominated matrix (e.g., approaching 80% in cases); Bischoff and Srinivasan (2003).

![Graph of Hughes 030](image)

Figure 20. Hughes 030. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio for the Hughes CAI is relatively low compared to the canonical value. Error = Std dev. 2σ.

The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value disagrees with the canonical value. The three data points positioned above the isochron may allude to $^{26}\text{Mg}$ excesses, but this would represent a
subjective interpretation since the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value is less than the canonical value. The authors use their calculated $^{26}\text{Al}/^{27}\text{Al}$ value of $1.4 \times 10^{-6}$ (which agrees with the ratio provided in Figure 20) to propose an estimated time gap of ~ 4 my between the onset of the formation of CAIs and chondrules in Hughes. However, the lack of olivine zoning proximal to the analyzed CAI documents that extensive chemical alteration occurred thereby accounting for the low calculated $^{26}\text{Al}/^{27}\text{Al}$ value.

**Inman**

Huss et al. (2001) and Russell et al. (1996) published their analyses of 19 samples from a single chondrule of Inman (L/LL3.4) of which four were barred olivine grains and the rest plagioclase (see Figure 21). Approximately half of the samples fall above or below the isochron

![Figure 21. Inman. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio for the Hughes CAI falls short of the canonical value. Error = Std dev. 2σ.](image)

66
and collectively show a monomodal distribution. The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value is slightly less than for Hughes. Data gaps such as the open field separating the two points at the right from all others is a common occurrence in the graphs presented herein and may be a function of number of samples analyzed. The way to test this is via additional analyses. If such gaps are preserved following the results of future investigations, then it would suggest that they archive a diagnostic fingerprint of environmental conditions that existed in the protoplanetary disk.

*Isna*

Isna is a CO3.7 or CO3.8 chondrite (Russell et al., 1998; https://www.lpi.usra.edu/meteor/metbull.php) and therefore more thermally altered than meteorites like Felix 4813 and 4814 (e.g., both CO3.3), Colony (CO3.0), and all three Allan Hills chondrites (CO3.0, CO3.4, and CO3.6,) discussed earlier. CAIs containing hibonite, anorthite and spinel were analyzed by Russell et al. (1998) whose work is presented below graphically.

![Isna](image)

**Figure 22.** Isna. The data from Isna is remarkably well behaved, yet oddly, the calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio falls almost exactly between the near zero line and the canonical value. Error = Std dev. $2\sigma$. 

67
Russell et al. (1998) provided the following data for Kainsaz (CO3.2) that consists of CAIs. Melilite was the main phase investigated (91.7% of the samples). One spinel grain was also analyzed (see Figure 23). Hutcheon (1995), and Teng et al. (2010) published their analytical results of two plagioclase/pyroxene objects (chondrules) and one assumed whole rock (see Appendix A); however, their papers do not include $^{27}$Al$/^{24}$Mg data and are excluded from Figure 23.

**Figure 23.** Kainsaz. There is no distinct data distribution associated with the melilite samples. The single spinel data is denoted in red. Error = Std dev. 2σ.
An interesting observation is that the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value for Kainsaz is nearly identical to that of Isna despite the distinct differences concerning the nature of the data sets (e.g., $^{27}\text{Al}/^{24}\text{Mg}$ data range, $\delta^{26}\text{Mg}$ abundances/deficiencies, and degree of distribution organization). The similarities between the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values of both chondrites can be argued as real or coincidental, but it is clear that neither represent the typical results for CAIs, chondrules or exotic objects (e.g., enstatite chondrules, FUN, UN, etc.). A new interpretation of $^{26}\text{Mg}$ isotopic data is presented in Chapter 3 and may offer some insights on what such data is actually archiving.

**Krymka**

Hinton and Bischoff (1984) and Huss et al. (2001) analyzed only chondrules in Krymka (LL3.2). The dominant phases analyzed were plagioclase$^{28}$ and olivine (Figure 24a). A plagioclase outlier plots well away from the remaining samples and a separate initial $^{26}\text{Al}/^{27}\text{Al}$ value was calculated for an isochron that extends from it to the origin (Figure 24b). As a reminder, the rationale for assigning a slope through an outlier(s) is that the point is actually part of the larger collective data set comprising this thesis and thus, it loses its identity as an anomaly when plotted as such. Last, Figure 24c depicts the isochron through the clustered points where $\delta^{26}\text{Mg}<5\%$.

---

$^{28}$ Technically, one sample was called feldspar.
Figure 24a. Krymka. The data represents chondrules. The four olivine samples in the data set plot near the origin. Error = Std dev. 2σ.
Figures 24b (upper) and 24c (bottom) depict the isochrons through the outlier and lower points, respectively. The upper graph alludes to a supracanonical value. Contrarily, the data scatter and evidence of $\delta^{26}\text{Mg}$ deficiencies in Figure 24c are marked. Error = Std dev. 2σ.

\[ y = 0.014x - 0.2607 \]
\[ R^2 = 0.0434 \]
\[ 26\text{Al}/27\text{Al} = 1.953 \times 10^{-6} \]

\[
\text{Lancé HH-1, 4811, 4815}
\]

The data for Lancé (CO3, CO3.5) included in this thesis was published by Ireland et al. (1991), Fahey et al. (1994), and Russell et al. (1998). Ultrarefractory CAIs (e.g., condensation temperatures typically >1,700 K; Taylor, 2001) and microspherules were analyzed and hibonite, melilite and hercynite the principal phases investigated.
The data range overlaps with that of Inman (Figure 21), but the distribution pattern differs and lacks any appreciable correlation with $^{27}\text{Al}/^{24}\text{Mg}$. Error = Std dev. 2σ.

The disorganized distribution points to a complicated formation history for Lancé that may have involved cyclic heating and cooling and isochron resetting. Three principal objects (i.e., Lancé HH-1, 4811, 4815) account for the data set depicted graphically in Figure 25a. The data in Figures 25b, 25c and 25d display the data by CAI object.
Lancé HH-1

\[ y = 0.0648x + 1.115 \]
\[ R^2 = 0.3675 \]
\[ \delta^{26}\text{Al}/\delta^{27}\text{Al} = 9.04 \times 10^{-6} \]

Lancé 4811

\[ y = 0.2056x - 0.5342 \]
\[ R^2 = 0.4337 \]
\[ \delta^{26}\text{Al}/\delta^{27}\text{Al} = 2.868 \times 10^{-5} \]
Figures 25b (upper), 25c (middle) and 25d (bottom). HH-1 is a FUN object and 4811 and 4815 are microspherules. The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values for the two microspherules are similar despite the paucity of data and scatter associated with object 4815 and all results are subcanonical.

Leoville

Leoville is another CV3 chondrite. Kita et al. (2012, 2013), Young et al. (2005) and Caillet et al. (1993) provide a plethora of data gleaned from analyses of numerous phases (e.g., anorthite, diopside, fassaite, pyroxene, spinel, etc.) in CAIs or in the case of Sheng et al. (1991) from chondrule-like POIs. See Figures 26a-f, which present the entire data set. Three obvious, and possibly four, data distribution modes exist. In Figure 26a, two distribution modes parallel the abscissa and ordinate axis and a third extends well away from the origin. The points that follow the abscissa (Figure 26d) can be split into two distinct isochrons (Figures 26e and 26f) such that four data distribution modes exist.
Figure 26a. Leoville. The calculated average initial $^{26}$Al/$^{27}$Al ratio is relatively low compared to the canonical value. Error = Std dev. 2σ.
Figures 26b (top) and 26c (bottom). These graphs show the first and second distribution modes starting with one that follows the ordinate axis (top) and another that extends the furthest from the origin.

The data that forms the uppermost isochron is tightly constrained and the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value attests to an evident $^{26}\text{Mg}$ exceedance. Data comprising the next isochron is also well behaved and its associated calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio is within $\sim 17.8\%$ of the canonical value. The data that parallels the abscissa is shown in Figure 26d and it indicates low $^{26}\text{Mg}$ relative to the canonical value.
Figure 26d. The data exhibits a distinct pattern that was separated further into the two components shown in Figure 26e and 26f.
An argument can be made against distilling Figure 26d into graphs Figures 26e (upper) and 26f (lower) because there is no persuasive evidence to support the proposal. However, the central and high endpoints in each graph are separated by approximately 2‰ to 5‰, respectively. The data presentation is not intended to argue either position (favoring or opposing the distillation of the slope in Figure 26d), but rather only to offer this possible interpretation. The data in both graphs were derived from various anorthite grains in inclusion 3537-1 and a single nepheline analysis in inclusion 3537-2 (e.g., third point from the left in Figure 26f). When the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values are used to assess the difference in the absolute ages of the material in each graph relative to the age of CAIs (assuming the canonical value of $5\times10^{-5}$), they yield a separation of ~0.77 my which is strikingly close to the half-life of $^{26}\text{Al}$ (~0.73 My).
Dating calculations are discussed later, but it is either coincidence that the formational age of the components of each graph are separated by the half-life of $^{26}\text{Al}$ or it lends credence to the notion of two discrete data distribution modes.

**Moorabie**

The data for Moorabie (L3.8) included in this study were published by Huss et al. (2001) and Russell et al. (1996) and based on the analyses of two CAIs and three phases - chiefly melilite, spinel and one hibonite analysis (Figure 27).

**Figure 27.** Moorabie. The plot for Moorabie shows an isochron with a corresponding ($^{26}\text{Al}/^{27}\text{Al}$)$_0$ ratio that is slightly supracanonical. Error = Std dev. 2σ.
Murchison

Murchison is a CM2 chondrite and special in that it contains numerous amino acids. Figures 28a-d represent CAI, chondrule, and microspherule data published by Virag et al. (1991), Simon et al. (2002), Ireland et al. (1988, 1991, 1992), Fahey (1987), Schiller et al. (2010), and Bar-Matthews et al. (1982). Corundum and hibonite were the focus of most studies included herein while samples of glass, olivine, and whole rock received less attention.

Figure 28a. Murchison. Murchison data plots along three isochrons. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio is typical of chondrules and late forming CAIs. Error = Std dev. 1σ and 2σ depending on source.

The trimodal data distributions are shown as individual graphs (Figures 28b, 28c, and 28d). Note that there are relatively few points that plot between the uppermost and middle isochrons and a “clean” field in the region bound by the middle and lower isochrons.
Figure 28b. The calculated \((^{26}\text{Al}/^{27}\text{Al})_0\) ratio for the uppermost isochron is equivalent to the canonical value.
Figures 28c (upper) and 28d (lower). The middle isochron (Figure 28c) archives a 40% reduction of $^{26}\text{Al}$ relative to the canonical value, but no obvious $\delta^{26}\text{Mg}$ deficiencies appear in Figures 28a through 28c.

Ningqiang

Ningqiang is an ungrouped C3 chondrite, but similar in chemistry to CV and CK meteorites except that it is hibonite-bearing and for that reason has been classified as such in some literature (e.g., Hsu et al., 2011; Rochette et al., 2008). Hsu et al. (2011) provided the data in Figures 29a-c, which is based on CAI analyses. Most samples consisted mainly of hibonite although melilitite, olivine, pyroxene, and spinel were also investigated. The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value of the uppermost isochron (Figure 29b) is nearly canonical. This, however, is not the case for the slope that passes through the grouped data points that parallel the abscissa (Figure 29c).
Figure 29a. Ningqiang. Ningqiang’s data plots either along a distinct isochron or as a looser array of points. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio is approximately one order of magnitude less than the canonical value. Error = Std dev. 2σ.
Figures 29b (top) and 29c (bottom). The uppermost isochron in Figure 29b approaches the canonical value and shows three points that plot as $^{26}$Mg excesses. Abundant $\delta^{26}$Mg deficiencies are evident in Figure 29c.

Although Ningqiang’s data set is dominated by hibonite, several phases compose the uppermost isochron in Figure 29b. In examples like this, the data can be construed as evidence of a homogenous $^{26}$Al distribution, an interpretation that will be assessed in the final chapter.

Northwest African Meteorite (NWA) 8616 and NWA 2976

Two unrelated NWA chondrites are included in this study - NWA 8616 (CV3) and NWA 2976 (ungrouped achondrite). Achondrites derive from differentiated bodies whereas chondrites do not. Angrites are often calcium-rich (e.g., anorthite, Ca-pyroxene, Ca-olivine) basaltic achondrites that lack shock features and exhibit a unique isotopic signature when $\Delta^{17}$O is plotted against $\delta^{18}$O (Baker et al., 2005; Keil, 2012).
NWA 8616

Füri et al. (2015) published their analytical results of fassaite, melilite, spinel and anorthite from a single CAI (see Figure 30).

![NWA 8616](image)

**Figure 30.** NWA 8616. Data gleaned from NWA 8616 plot as a relatively tight group that yield an isochron with an associated ‘sub-canonical’ value. Error = Std dev. 2σ.

NWA 2976

Schiller et al. (2010) analyzed whole rock, pyroxene, and feldspar samples from NWA 2976 (Figure 31). Only one sample exhibited a positive δ²⁶Mg value. Since achondrites originate from planetesimals (e.g., aggregated chondrites), lower δ²⁶Mg values are expected per the canonical model under the assumption that²⁶Mg is a decay product of²⁶Al.
Figure 31. NWA 2976. Low $\delta^{26}$Mg values imply that $^{27}$Al was essentially extinct by the time achondrites formed.

Ornans

Ornans (CO3.4) is one of eight meteorites that are type specimens after which a carbonaceous chondrite group was created (i.e., “O”). CV and CO chondrites share similar chemistries; however the latter tend to exhibit fewer CAIs, smaller and more prolific chondrules, as well as the presence of free metal grains that formed under relatively highly reducing and anhydrous conditions. The research discussed in this thesis was published by Russell et al. (1998) and based on the analyses of melilite and spinel from two CAIs (Figure 32).
Figure 32. Ornans. Note the monomodal data distribution, clustering and apparent data gap typical of individual chondrite data sets noted earlier. Error = Std dev. 2σ.

The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio is substantially less than the canonical value, but would still suggest that Ornans was already aggregating prior to the onset of chondrule formation if the canonical model holds true. This is a dubious evaluation of course because the data was derived explicitly from CAIs and serves as an example as to why care must be exercised when evaluating the validity of the canonical model.
Quinyambie

Quinyambie is an ordinary chondrite (LL3.6). The data published by Huss et al. (2001) and presented graphically as Figures 33a-c are based on the analyses of pyroxene and plagioclase from a chondrule and spinel and melilite from a CAI.

Figure 33a. Quinyambie. Quinyambie data shows a bimodal distribution pattern with a low calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio. Data scatter is particularly pronounced for points closest to the abscissa. Error = Std dev. 2σ.
The following graphs (Figures 33b and 33c) portray the two data isochrons present in Figure 33a.

**Quinyambie**

- Figure 33b (top) displays a data distribution reflective of the canonical model.
- Figure 33c (bottom) is reminiscent of its counterpart in Ningqiang although with less extreme $\delta^{26}\text{Mg}$ deficiencies.

Figures **33b (top) and 33c (bottom)**. The uppermost isochron (Figure 33b) displays a data distribution reflective of the canonical model, whereas the lower isochron (Figure 33c) is somewhat reminiscent of its counterpart in Ningqiang although with less extreme $\delta^{26}\text{Mg}$ deficiencies.
SAH99555 is an angrite. Baker et al. (2005), Spivik-Birndorf et al. (2009), Schiller et al. (2010) are the sources for the data presented in Figure 34 which represent feldspar/plagioclase, olivine, pyroxene, and angrite (whole rock) samples.

**Figure 34.** SAH99555. $\delta^{26}\text{Mg}$ values are extremely low which is tune with the canonical model for late forming objects like angrites. Error = Std dev. $2\sigma$.

Baker et al. (2005) indicated that $^{26}\text{Mg}$ excesses in achondrites place the timing of their formation as intermediate between CAIs and chondrules under the assumption that the canonical value is valid. The collective data plotted in Figure 34 does not argue in favor of $^{26}\text{Mg}$ excesses.
Semarkona

Anorthite/plagioclase, spinel, sodalite, melilite, olivine and glass samples belonging to chondrules and CAIs composing Semarkona (LL3.00) were analyzed by Kita et al. (2000), Huss et al. (2001), Hutcheon et al. (1989), Villeneuve et al. (2012), and Russell et al. (1996) and their published results are combined in Figures 35a-e. The first figure below includes all Semarkona data collected in the referenced studies.

**Figure 35a.** Semarkona. A multimodal data distribution occurs in Semarkona and each isochron is isolated in the Figures 35b-e. The calculated average initial $^{26}$Al/$^{27}$Al value is low and some $\delta^{26}$Mg deficiencies occur near the origin. Error = Std dev. 2$\sigma$.

The following figures represent the individual isochrons in Figure 35a starting from the greatest (uppermost) isochron to the least (lowest).
Figure 35b. The uppermost isochron exhibits an isochron with a corresponding $^{26}\text{Al}/^{27}\text{Al}$ that is supracanonical (~20%).
Figures 35c (upper), 35d (middle) and 35e (bottom). The second, third, and fourth data distribution modes are presented sequentially from greatest to least.
The data in each graph shows relatively minor scatter despite the mix of object type (i.e., CAI v. chondrules).

Sharps

Sharps (H3.4) is a high iron chondrite. Krot et al (2006) and Hinton and Bischoff (1984) analyzed hibonite, nepheline, olivine and plagioclase in CAI-bearing chondrules and one chondrule. The combined data set is presented as Figure 36. Even though the majority of the data derives from CAIs, the naturally low $^{26}$Mg concentrations in later forming objects may have been depleted further via diffusion into chondrules.

![Sharps Graph](image)

**Figure 36.** Sharps. Only one sample (i.e., a plagioclase outlier) exhibits a $^{26}$Mg excess. Error = Std dev. 2σ.
Study Butte

Sokol et al. (2007) published the Study Butte (H3-6) data presented in Figure 37 that represent plagioclase in chondrules. The data distribution pattern is scattered and shows both $\delta^{26}$Mg excesses and depletions; however, the $\delta^{26}$Mg values are not especially low with respect to many chondrites.

![Study Butte](image)

**Figure 37.** Study Butte. The data for Study Butte tends to show a greater density towards the origin but is otherwise scattered and has low average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio. Error = Std dev. 2σ.

Vigarano

The Vigarano (CV3) data included in this thesis exhibits an intriguing bimodal distribution in that there are quite orderly and, contrarily, scattered components as in Ningqiang (C3-ungrouped) and to a lesser extent Quinyambie (LL3.6). According to Mishra and Chaussidon (2014), Vigarano, like Efremovka, is one of the most unaltered carbonaceous
chondrites. The data included in Figures 38a-c was based on work published by MacPherson et al. (1993), Sheng et al. (1991), and Kawasaki et al. (2016). Anorthite/plagioclase, diopside, fassaite, fosterite/olivine, melilite, pyroxene, spinel were analyzed in CAIs and some chondrules. Whole rock samples were also analyzed.

**Figure 38a.** Vigarano. Vigarano data shows a distinct distribution pattern with a corresponding low average initial $^{26}$Al/$^{27}$Al ratio. Error = Std dev. 2σ.

The two data distribution modes are segregated into separate graphs in Figures 38b and 38c.
Figures 38b (top) and 38c (bottom). The calculated initial $^{26}\text{Al}^{27}\text{Al}$ ratio for the uppermost isochron (Figure 38b) corresponds reasonably with the canonical value. The majority of the data in Figure 38c show $\delta^{26}\text{Mg}$ deficiencies.
The data distribution for Warrenton (CO3.7) shows a wide gap between the bulk of the data that groups towards the origin and the remainder that exhibit relatively higher $^{27}\text{Al}/^{24}\text{Mg}$ ratios (Figure 39). The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio is well below the canonical and typical chondrule values. Although a large data gap is not especially unusual, the specific cause(s) remain unknown even if it simply because relatively few isotopic studies that have been performed on specific chondrites.

**Figure 39.** Warrenton. Data gaps like those observed in Isna, Ornans, and Semarkona are also in Warrenton. Error = Std dev. 2σ.
Kurahashi et al. (2008) and Kunhiro et al. (2004) provide the data graphed as Figures 40a-c for Yamato 81020, a CO.3.0 chondrite. The phases analyzed belonged to only chondrules and were predominantly anorthite/plagioclase and to a lesser extent, olivine and pyroxene. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ value is subcanonical value despite the numerous $^{26}\text{Mg}$-excesses. Figures 40b and 40c include the isochrons of each data distribution mode. In the next
Figures 40b (top) and 40c (bottom). The data archived in the upper (Figure 40b) and lower isochrons (Figure 40b) are well defined and less than the canonical value.

subsection, all of the Al-Mg systematic data included in this thesis was combined as in Figure 1 of MacPherson et al. (1995) and discussed.
All Data

A trimodal data distribution was expressed when all data in the master table (Appendix A) was plotted (Figure 41a). This plot is similar to the one presented as an inset to Figure 1 of MacPherson et al. (1995). The only difference is that Figure 41a contains more data. Preservation of the distribution pattern attests to data cogency between both graphs, particularly considering the addition of more than double the amount of analytical points, and thus confirms the reliability of the data presentation in the referenced paper. The average calculated \((^{26}\text{Al}/^{27}\text{Al})_0\) x 10\(^{-5}\) is indicated and intriguing in that it essentially corresponds to the low values associated with late forming chondrules. The remarkably clean field between the lowest and middle isochrons and the data that falls between the middle and uppermost isochrons is also of interest and discussed in Chapter 3.

Figure 41a. All meteorites. This figure represents the combined data presented in Figures 1 through 40 as well as for cases where there the paucity of meteorite-specific data did not allow for creating an individual graph.
Figures 41b and 41c explore the data on larger scales to increase the resolution at $^{27}\text{Al}/^{24}\text{Mg} \leq 1,300$, the scale used in Figure 1 of MacPherson et al. (1995) and at a finer scale (i.e., $^{27}\text{Al}/^{24}\text{Mg} \leq 200$) for further enhancement.
Figures 41b (top) and 41c (bottom). The data at the scales noted. The intermediate isochron in Figure 41a appears more as scatter in both graphs (Figs. 41b and 41c) and the distinctiveness of the upper isochron begins to degrade with scale increases (Figure 41c). The character of the lowest scale however, strengthens. Further, two new isochrons appear in the positive fields closest to the ordinate axis.

A salient observation is that data scatter assumes an organized state on smaller scales. Simply put, the data on various scales can be treated as fractals. This concept is further exemplified by the emergence of isochrons when scales are increased. This point was mentioned earlier, albeit less directly, when outliers were discussed. To recapitulate, outliers within a given data set may represent part of a larger and more robust collective analytical pool. In such cases, an outlier’s significance strengthens because it is not as easily dismissed or contrarily, assigned some fanciful and exotic explanation.
The calculated average and individual initial $^{26}\text{Al}/^{27}\text{Al}$ values for each major isochron are listed on Figure 42 under the assumptions of the canonical model. Discussions relating to the lesser dominant isochrons are left for the next chapter. The results of the calculations indicate that the slope of the uppermost line (i.e., isochron “3”) corresponds to the canonical value and that it decreases with successive lines two and one. The calculated $^{26}\text{Al}$ ages associated with these slopes are treated at the end of this chapter; however, one question this study set forth to investigate is the relationship between these isochrons. Specifically, were the processes that produced CAIs and chondrules somehow related irrespective of whether they operated coevally?

**All Meteorites**

![Graph showing initial $^{26}\text{Al}/^{27}\text{Al}$ ratios for each major isochron.](image)

**Figure 42.** The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio for each dominant isochron is provided. The dashed line is the resultant slope when all data is considered and was mentioned earlier.

This was tested by employing a relational graphic approach (RGA) that involved plotting the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values for each major isochron against each other (Figure 43). The
premise was that if the processes were related and a regression analysis performed, that the calculated values should plot along a line where the coefficient of determination would exceed 95% \( (i.e., R^2 \geq 0.95) \). Although there are multiple approaches to creating a best-fitting line to describe the data distribution, the most conservative method for this case was considered to be “linearly” when possible.29 Figure 43 documents that the three subject data points are described well by a linear regression, such that \( R^2 \) exceeds 0.95. A separate regression was conducted using an exponential approach, since the data is believed to have resulted from \(^{26}\text{Al}\) decay and the fit is

\[ R^2 = 0.9659 \text{ Linear} \]

\[ R^2 = 0.9987 \text{ Exponential} \]

**Figure 43.** All meteorites. The results of the regression analyses using linear (blue) and exponential (red) methods are provided along with their respective formulae. No value is assigned to the abscissa since the data is a comparison of a single parameter (e.g., identified on the ordinate axis).

29 In some cases, it was clear that the data distribution was best described by an exponential expression.
a near perfect match. This seems to imply that one process created CAIs and chondrules since the data points on any given isochron include the analytical results of both categories of objects. The difference (3.28%) between the R-squared values of each approach is minor. It is prudent to be cautious in assuming that the better fit of the exponential regression is proof that meteoritic $^{26}$Mg is a decay product of extinct $^{26}$Al. Second, this test offers a potentially novel way to assess the data, but its reliability is limited due the paucity of data points even though they collectively describe the entire data set of Appendix A. The same approach was occasionally applied in the following sections of this study that present the pertinent data of the master table from additional perspectives that proved helpful in evaluating the validity and meaning of what is considered the canonical value.

2.3 Data Results by Meteorite Class

The first chapter included a discussion concerning the distinction between chondrites and achondrites and the earlier portions of this chapter expounded on meteorite classification. For the sake of brevity and because it is assumed that the reader is familiar with fundamental knowledge that is readily available via any number of resources, a lengthy expository of each meteorite class was avoided. However, the following overview is germane and not repetitive of material previously presented herein except as appropriate.

Chondrites fall into broad classes - ordinary, carbonaceous, and far less commonly, enstatite, Kakangarites and Rumurutites. Ordinary chondrites account for the bulk (>85%) of all recovered meteorites and are typically thermally altered, $^{16}$O-enriched, but lack appreciable refractory lithophile constituents (e.g., Ca and Al) and thus low abundances of CAIs; Weisberg
et al. (2006). Their groups (H, L and LL) were discussed earlier in this chapter. Carbonaceous chondrites contain at least some carbon even at low (<0.2%) weight percentages (e.g., Weisberg et al., 2006), a high Ca and Al content and comprise <5% of meteorite falls. They are also categorized under one of eight groups (CI, CO, CM, CV, etc.) according to shared chemical and petrological characteristics except when they display features that leave them ungrouped.

Enstatite chondrites are often olivine-poor, enstatite-rich, highly reduced so that iron occurs as a metal or sulfide, and exhibit an oxygen isotopic signature similar to the Earth and Moon (e.g., Weisberg et al., 2006 and references therein). Rumurutites are often metamorphosed and brecciated, contain highly oxidized metal phases (mainly iron and nickel oxides and silicates) as well as abundant matrix that account for nearly half the weight percent of these chondrites; Weisberg et al., 2006. Their metamorphosed nature needs to be considered in context of published $^{26}$Mg data and any conclusions drawn in relation to calculated $(^{26}$Al/$^{27}$Al)$_o \times 10^{-5}$ values and evaluating the validity of the canonical value.

Kakangarites are few in number, matrix-rich, reduced minerals, up to 10% (by weight) free metal phases and share qualities with carbonaceous, H, and enstatite chondrites; Weisberg et al. (2006). Weisberg et al. (2006) also indicate that the enstatite chemistry of Kakangarites and chondrules is comparable. The remainder of Section 2.3 presents the tabulated isotopic data in Appendix A alphabetically by meteorite group beginning with ungrouped Achondrites and ending with Rumurutids. Only meteorite groups that had sufficient data to produce a graph are presented. Chondrite groups are presented first whilst achondrites are discussed thereafter under a separate section.
Chondrite Groups

C2 Ungrouped

The combined work of Krot et al. (2006), Sheng et al. (1991) and Sokol et al. (2007) is depicted graphically as Figures 44a-c. The isotopic results are not especially distinct compared to most other chondrite data and map out correspondingly since the chemistry of individual C2 ungrouped chondrites can be viewed as a ‘combination’ of characteristics shared among other groups.
Figures 44a (top), 44b (middle) and 44c (bottom). C2 Ungrouped. The upper (Fig. 44b) and lower (Fig. 44c) isochrons that straddle the one for all C2 Ungrouped data (Fig. 44a) exhibit low initial $^{26}\text{Al}/^{27}\text{Al}$ ratios. Figure 44a. Error = Std dev. 2σ.
C3 Ungrouped

The work of Hsu et al. (2011) and Wang et al. (2007) serve as the basis of the data in Figures 45a-c for C3 Ungrouped chondrites. The calculated average $^{26}$Al/$^{27}$Al ratio is one order of magnitude less than the canonical value (Figure 45a). The two data distribution modes in Figure 45a are graphed separately as Figures 45b and 45c.

**Figure 45a.** C3 Ungrouped. The data for C3 Ungrouped chondrites shows two well-defined distribution patterns shown in Figs. 45b and 45c. Error = Std dev. 2σ.
Figures 45b (top) and 45c (bottom). The calculated initial $^{26}$Al/$^{27}$Al ratio in Figure 45b describes the canonical value. However, there is considerable data disorganization in Figure 45c and a corresponding low $^{26}$Al/$^{27}$Al value.
Krot et al. (2006), Schiller et al. (2010) and Weber et al. (1995) published the data in Figures 46a-c. Not surprisingly, there is an outlier to the main data set. Isochrons were assigned to each modal distribution and their associated $^{26}$Al/$^{27}$Al ratio was calculated.
Figures 46a (top), 46b (middle) and 46c (bottom). CH3. Of these graphs, only Fig. 46b shows a calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio that approaches the canonical value. In some regard, this may further substantiate outlier importance since data points from other data sets also plot in this region. Figure 46a. Error = Std dev. 1σ and 2σ depending on source.

Although the results of the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios are typical of many meteorites or meteorite groups, the $^{27}\text{Al}/^{24}\text{Mg}$ ratios are generally higher, but does appear to have affected the level of data (slope) organization (i.e., Fig. 46c).

CM

Fahey et al. (1987b) published the data presented in Figures 47a-c. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio results in a negative $\delta^{26}\text{Mg}$ trend, but when the two data trends comprising this graph are separated into Figures 47b and 47c, the upper isochron exhibits a slightly supracanonical value. The second isochron is responsible for the negative $\delta^{26}\text{Mg}$ trend.
and enigmatic. The canonical model sets forth positive y-intercepts imply that ample time passed since the onset of CAI formation to account for $^{26}\text{Mg}$ excesses in the maturing protoplanetary Solar System; thus, when a decreasing $\delta^{26}\text{Mg}$ trend is associated with a y-intercept where $\delta^{26}\text{Mg}>0$, an alternate paradigm, such as the one divulged in Chapter 3, is required to explain this apparent disparity.
Figures 47a (top), 47b (middle) and 47c (bottom). CM. As in the case of CH chondrites, the upper isochron (Fig. 47b) exhibits a calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio that is nearly canonical, except that here it is slightly supracanonical. Figure 47a. Error = Std dev. 2σ.

CM2

The CM2 data depicted in Figures 48a-d were published by Fahey et al. (1987b), Bar-Matthews et al. (1982), Ireland et al. (1988, 1991, 1992), Liu et al. (2009), Nittler et al. (1994), Schiller et al. (2010), Simon et al. (2002), and Virag et al. (1991).
CM2

\[ y = 0.3491x - 242.43 \]

\[ R^2 = 0.9907 \]

\[ 26\text{Al}/27\text{Al} = 4.87 \times 10^{-5} \]

CM2

\[ y = 0.143x + 1261.5 \]

\[ R^2 = 0.9237 \]

\[ 26\text{Al}/27\text{Al} = 1.99 \times 10^{-5} \]
Figures 48a (top), 48b (second), 48c (third) and 48d (bottom). CM2. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio for all data is shown in Figure 48a and the specific values for individual isochrons are listed in ensuing graphs 48b-d. A canonical value is apparent in the uppermost isochron (Fig. 48b) though not elsewhere. Figure 48a. Error = Std dev. $1\sigma$ and $2\sigma$ depending on source.

Figures 41a and 48a are close matches because this chondrite group is a major component of the collective data set and contains exceeding high $^{26}\text{Mg}$ excesses and $^{27}\text{Al}/^{24}\text{Mg}$ ratios responsible for the appearance of the three prominent isochrons. These isochron values are related as demonstrated earlier when the RGA was applied to show they plot along the same well-described line.

$CO3$

Fahey et al. (1994) and Schiller et al. (2010) are the source of the data in Figure 49, which shows a rather loose monomodal distribution and no distinct outliers. The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio is sub-canonical with a respectable amount of points exhibiting $^{27}\text{Al}/^{24}\text{Mg}$
values <50 making it challenging to evaluate their reliability. Regardless, the canonical ratio does not describe the data distribution in the published CO3 data included in Figure 49. The next

\[ y = 0.0674x + 0.9007 \]
\[ R^2 = 0.4117 \]
\[ 26\text{Al}/27\text{Al} = 9.4 \times 10^{-6} \]

**Figure 49.** CO3. The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio for all data does not archive a canonical condition.

category, CO3.0 is only distinguished from CO3 on the basis that the references for the data presented in this section may have used a more generic grouping assignment for the chondrites studied. Therefore, the data was separated to avoid assumptions that the data should be categorized as CO3.0 or under any other grouping. This appears to be a reasonable assumption since the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value is unique with respect to those calculated for the average and individual isochrons for the CO3.0 data that follows.

**CO3.0**

The work of Kurahashi et al. (2008), Krot et al. (2009) and Russell et al. (1998) is summarized below for CO3.0 chondrites beginning with a presentation of all data included in
this study (Figure 50a) and then for individual isochrons (Figs. 50b-f) that were identified at various scales. Calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios are as noted.

(a)

(b)
(c) 

\[ y = 0.0249x + 1.0153 \]
\[ R^2 = 0.6247 \]
\[ \frac{26\text{Al}}{27\text{Al}} = 3.47 \times 10^{-6} \]

(d) 

\[ y = 0.0058x - 0.6635 \]
\[ R^2 = 0.5976 \]
\[ \frac{26\text{Al}}{27\text{Al}} = 8.09 \times 10^{-7} \]
Figures 50a-f. CO3.0. As is customary in this thesis, the calculated average initial $^{26}$Al/$^{27}$Al ratio for all data is shown first (Figure 50a) and followed by graphs for individual isochrons (Figs. 50b-f). Figure 50a. Error = Std dev. 2σ.
The numerous isochrons interpreted from the graphed CO3.0 data suggest that members of this group may have experienced multiple alteration events through extended periods of time. This is intriguing considering that CO3.0 objects appear to be one of the least metamorphosed chondrite groups based on their comparatively small chondrule size (Rubin, 1989). Two potential negative slopes were identified (Figs. 50e and 50f) and, like the CM data, do not fit concisely within the framework of the canonical model.

CO3.2

Russell et al. (1998) is the source for the CO3.2 data in Figures 51a-c which shows a weakly organized array of points and a negative outlier that was also assigned an isochron for comparative analysis against other calculated $^{26}$Al/$^{27}$Al ratios. The randomness in the data distribution pattern (Fig. 51c) may result from extremely low $^{27}$Al/$^{24}$Mg ratios and $\delta^{26}$Mg values.
Figure 51a (top), 51b (middle) and 51c (bottom). CO3.2. The average and upper isochrons (Figs. 51a and 51b) exhibit a calculated initial $^{26}\text{Al} / ^{27}\text{Al}$ ratio that is approximately half the canonical value. Figure 51a. Error = Std dev. 2$\sigma$. 

$y = 0.1465x - 0.0069$
$R^2 = 0.3527$
$^{26}\text{Al} / ^{27}\text{Al} = 2.04 \times 10^{-5}$

$y = -0.0459x - 0.6758$
$R^2 = 0.0312$
$^{26}\text{Al} / ^{27}\text{Al} = -6.4 \times 10^{-6}$
CO3.3

Russell et al. (1998) is also the source for the CO3.3 data represented graphically in Figures 52a-c. These same researchers published the data used for CO3.4, CO3.5, CO3.7, and CO3.8 graphs presented later in this chapter. Ireland et al. (1991) also contributed data to the CO3.5 data included herein.
Figure 5a-c from (top to bottom). CO3.3. The calculated average initial $^{26}$Al/$^{27}$Al ratio for all data is shown in Figure 5a and the bimodal data distributions as Figs. 5b-c. Figure 5a. Error = Std dev. $2\sigma$. 
The data distribution is more structured for CO3.3 chondrites than for those grouped under CO3.2 for data included in this study and possibly a result of greater values for $\delta^{26}\text{Mg}$ values and $^{27}\text{Al}/^{24}\text{Mg}$ ratios.

*CO3.4*

The CO3.4 data is mapped out in Figures 53a-c. A bimodal data distribution was considered and it is evident that clustering occurs for values $^{27}\text{Al}/^{24}\text{Mg}<20$, a trait shared with the CO3.0, CO3.2 and CO3.3 chondrite data included in this study. The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio of the upper isochron falls within ~23% of the canonical value.
Figures 53a-c from (top to bottom). CO3.4. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio (Figure 53a) and the specific ratios for each isochron are shown (Figs. 53b and 53c). Figure 53a. Error = Std dev. 2σ.
**CO3.5**

By and large, the distribution pattern for CO3.5 chondrite data appears monomodal in Figure 5 and reminiscent of the preceding CO3 groups (e.g., mainly, a predominance of points where $^{27}\text{Al}/^{24}\text{Mg}<20$).

![Graph](image)

**Figure 54.** CO3.5. The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio (Figure 54) is less than half the canonical value. Error = Std dev. 2σ.

**CO3.7**

The data for CO3.7 is plotted as Figure 55, monomodal and exhibits even a lower calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio than the preceding CO3 group members.
Figure 55. CO3.7. The calculated initial $^{26}$Al/$^{27}$Al ratio continues a decreasing trend and is lower than the value often associated with chondrules (i.e., 1x10$^{-5}$). Error = Std dev. 2σ.

CO3.8

The data used in this study was sparse for CO3.8 chondrites, but enough to graph (Figure 56). The data plots as in a monomodal manner and at a lower calculated initial $^{26}$Al/$^{27}$Al ratio than for CO3.7 chondrites.
Figure 56. CO3.8. The data is well-behaved and follows a highly constrained path. Not many data points comprise this graph and the negative one is either $\delta^{26}\text{Mg}$ deficient or at least unresolvable. Error = Std dev. 2$\sigma$.

When the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios are plotted against each CO3 subgroup, a clear relationship emerges (Fig. 57).
**Figure 57.** CO Group. The data (black and red points) are values calculated in the preceding sections of this study and represent the independent isochron within each subgroup that most closely matches the canonical value (e.g., see Figs. 50b, 51b, 52b). Red data points are so colored because they do not fall on the trend line that was inserted for reference rather than calculated.

Four data points fall along the same isochron suggesting that they are related chemically and by time. Two points plot near each other (CO3.3 and CO3.4) in the ‘pristine’ field. As discussed earlier in this chapter, the meteorite classification scheme is based in part on evaluating the type and degree of chemical alteration and it uses a scale of 3-1 to 3-6 to denote extremes in weathering due to aqueous or thermal conditions, respectively. Chondrites that are pristine or nearly so (meaning, they are unaltered) are designated with a three. However, within chondrites, there are finer divisions that span a range of zero to eight (i.e., CO3.0 to CO3.8);
Figure 57. It is important to keep in mind that all chondrites within the CO3 group are essentially unaltered. The subgroup designation provides information as to whether any given chondrite within this group falls closer to one neighboring classification or the other. Those that place in the three or four subgroup are thus the least altered of the most pristine group and why the two points in Figure 57 are labelled as such.

The placement of the two red points that plot away from the slope in Figure 57 may imply that the samples they represent experienced aqueous alteration resulting in magnesium losses. Consider that material from Colony (i.e., 3.0), one of two 3.0 type chondrite data sets included in Figure 57, exhibits pronounced aqueous alteration; Russell et al. (1998). ALHA 77307 also contributed to the 3.0 data set in the referenced figure, but is not described as particularly altered. Felix 4813 and 4814 were the data source analyzed by Russell et al. (1998) represented by the 3.2 group data point on the subject figure. Hercynite replaced hibonite in one of the analyzed grains and much of the remaining 3.2 group material analyzed consisted of melilite, a solid solution; Russell et al. (1998). Thus alteration or perhaps magnesium migration may account for the offset of the two red points from the portrayed slope.

CR2

Schiller et al. (2010a and b) and Weber et al. (1995) are the sources of the CR2 data presented as Figure 58. The monomodal data distribution is also one of the cleanest in that all points place on or extremely close to the isochron.
Figure 58. The calculated initial $^{26}$Al/$^{27}$Al ratio represents the canonical value. Error = Std dev. 1σ and 2σ depending on source.

CV3

The data plot for CV3 chondrites (Figures 59a-i) are based on Amelin et al. (2002), Brigham et al. (1986), Caillet et al. (1993), Goswami et al. (1994), Hinton and Bischoff (1984), Huneke et al. (1983), Hutcheon et al. (1978), Ito and Messenger (2010), Kawasaki et al. (2016), Kennedy and Hutcheon (1992), Kita et al. (2012), Lee et al. (1977b, 1979), Luu et al. (2015), MacPherson and Davis (1993), Maruyama and Yurimoto (2003), Mishra and Chaussidon (2014), Podosek et al. (1991), Schiller et al. (2010a), Sheng et al. (1991), Srinivasan et al. (2000), Wasserberg et al. (2012), and Young et al. (2005).
Figure 59a. CV3. The CV3 data exhibits the lowest calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio for any group displaying a positive slope. Error = Std dev. 2σ.
(c)

\[ y = 0.0713x - 8.1147 \]
\[ R^2 = 0.8816 \]
\[ 26\text{Al}/27\text{Al} = 9.95 \times 10^{-6} \]

(d)

\[ y = 0.0187x + 1.8739 \]
\[ R^2 = 0.8921 \]
\[ 26\text{Al}/27\text{Al} = 2.61 \times 10^{-6} \]
Figures 59b-f. This sequence of graphs isolates each isochron identified in Figure 59a and provides their calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value. The greatest isochron (Fig. 59b) has a corresponding calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio that is closest (~71.6% lower) to the canonical value than all remaining isochrons (Figs. 59c-f). The peculiarity of negative slopes (Figure 59f) was discussed earlier and will be expounded on in Chapter 3 from a new perspective.
The RGA was applied to the calculated initial $^{26}$Al/$^{27}$Al values (Figs. 59b-f) to assess whether a relationship exists between the five independent isochrons identified by scale manipulation. The results are shown in Figures. 60a-c.
Figures 60a-c (top to bottom). CV Group data v. calculated initial $^{26}\text{Al}^{27}\text{Al}$ values. Plotting the five calculated initial $^{26}\text{Al}^{27}\text{Al}$ values yielded an intriguing data distribution (a) that is interpreted as a bimodal data distribution with a shared point (circled). Breaking out each isochron (b and c) and determining the slope equations revealed $y$-intercepts (red font) that approach the canonical and typical “chondrule” values (Fig. 60b). There are no $x$-axis values as the abscissa is simply a reference for the three noted samples that have calculated initial $^{26}\text{Al}^{27}\text{Al}$ values.

The graphs imply a relationship among CV3 members and perhaps two chondrite development pathways. The information in this graph receives a more robust discussion in the next chapter as this concludes the presentation of C-type chondrites. The remainder of this section focuses on enstatite, eucrite, and ordinary chondrites, as well as mesosiderites and Rumurutites in that order.
The work of Guan et al. (2000a) and Schiller et al. (2010a, b) for high enstatite (EH) chondrites is summarized below as Figures 61a-d. Enstatite chondrites are highly reduced, contain up to 4% elemental Si in reduced iron and serve as a model for Earth’s formation because of their similar chemistry (e.g., Javoy et al., 2010). The collective data from the references plotted as Figure 61a show a trimodal data distribution that are exhibited individually in ensuing Figures 61b-d that include two negative trending slopes (Figs. 61c and d).
EH3

$y = 0.3227x - 1.6682$
$R^2 = 0.9731$
$26Al/27Al = 4.5 \times 10^{-5}$

EH3

$y = -0.0055x + 0.0131$
$R^2 = 0.5641$
$26Al/27Al = -7.67 \times 10^{-7}$
Figures 61a-d (top to bottom). EH3. The calculated average initial $^{26}$Al/$^{27}$Al ratio for all EH3 data included in this study is slightly higher than for chondrules. Error = Std dev. 2σ. However, the calculated initial $^{26}$Al/$^{27}$Al ratio of the uppermost isochron is within 10% of the canonical value and therefore in reasonably good agreement despite the $\delta^{26}$Mg deficiencies archived by the two negative slopes that describe the remaining data.

The relative congruency between the calculated initial $^{26}$Al/$^{27}$Al value associated with the uppermost graph and those related to carbonaceous chondrite groups are considered evidence supporting a homogenous $^{26}$Al distribution in the protoplanetary disk. However, if EH objects formed within a discrete region of the protoplanetary disk as is routinely claimed, then it is difficult to reconcile why the remaining EH data in Figure 61a shows marked $\delta^{26}$Mg deficiencies.

$H3$

Data depicted in Figure 62 is for the first of 10 ordinary chondrite groups that are included in this thesis and is based on work published by Hinton and Bischoff (1984) and Ireland
et al. (1992). The isochron is tightly constrained except at $^{27}\text{Al}^{24}\text{Mg}<3,000$. Several data display $\delta^{26}\text{Mg}=0\%$, so if excesses are present, then they are either minor or unresolved.

**Figure 62.** H3. The calculated initial $^{26}\text{Al}^{27}\text{Al}$ ratio for the H3 chondrite data used in this thesis has relatively high Al/Mg ratios, but a low canonical value. Error = Std dev. 1σ and 2σ depending on source.

**H3.4**

The research of Krot et al. (2006) forms the basis of Figure 63. The data distribution is monomodal and clean; however, unlike the H3 data, the slope appears in the negative quadrant and has an associated calculated initial $^{26}\text{Al}^{27}\text{Al}$ ratio that is approximately half of what is displayed in Figure 63. Under the canonical model, H3.4 objects would therefore have formed later than H3 objects since both data sets represent fairly pristine data.
Figure 63. H3.4. Even though the isochron shows a $\delta^{26}\text{Mg}$ deficiency and a low calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio compared to the canonical value, the trend is positive. Error = Std dev. 2σ.

This modest data set is perplexing because it may archive evolving $\delta^{26}\text{Mg}$ enrichment in a region of the protoplanetary disk where there was an original depletion (e.g., the slope represents a sub-canonical condition). Two other data sets, CO3.3 and CO3.4 (i.e., Figures. 52c, 53c), show a generally similar distribution trend. It should be cautioned though, that in all three cases, the range of $\delta^{26}\text{Mg}$ is quite minor (~0.25 to 3‰) and thus, possibly too negligible to be meaningful. Even so, the observation is worth mentioning since it could document the import of exotic $^{26}\text{Al}$ (or $^{26}\text{Mg}$) into the protoplanetary disk or an increase in solar energy output that spurred an episodic increase of same. Either scenario has the potential to have upset the $^{26}\text{Al}$ distribution or concentration, thereby adversely affecting the strength of the canonical model, albeit not necessarily critically. It would however, cast some doubt on the soundness of some age estimates that date to those time periods or later. Using other dating methods (such as Pb-Pb), towards validating age estimates using $^{26}\text{Al}$-$^{26}\text{Mg}$ systematics may help alleviate some
uncertainty; however, this approach may not be altogether satisfactory because the range in error using Pb-Pb dating methods (or some equivalent) may offset their use thereof.

**H3-6**

The data included herein for H3-6 chondrites was published by Sokol et al. (2007) and is graphically represented as Figure 64.

![Image of H3-6 diagram](image)

**Figure 64.** H3-6. The isochron of H3-6 data has a low calculated initial $^{26}\text{Al} / ^{27}\text{Al}$ ratio that compares well with the average calculated initial $^{26}\text{Al} / ^{27}\text{Al}$ ratio of CV3 chondrites (Fig, 59a). Error = Std dev. 2σ.

Note that the high Al/Mg ratios in Figure 64 do not have corresponding elevated $\delta ^{26}\text{Mg}$ values and thus lend additional support for the interpretation of the near extinction of $^{26}\text{Al}$ and in turn, planetesimal formation in a relatively short time. Age-related discussions are reserved for the final chapter.
Ireland et al. (1992) are the source for the data in Figure 65 which plots as a tight monomodal isochron that describes a corresponding sub-canonical value.

**Figure 65.** Note that H3-8 objects have high Al/Mg ratios just as in the case of 3.3 and 3-6 objects. Error = Std dev. 1σ and 2σ depending on source.

This group produces large $\delta^{26}$Mg values that correlate to high Al/Mg and yet still result in a comparatively low calculated initial $^{26}$Al/$^{27}$Al ratio. Now, attention is turned to low iron and low metal ordinary chondrites.

**LL3.00**

Huss et al. (2001), Hutcheon and Hutchison (1989) and Russell et al. (1996) published the data summarized in Figures 66a-g.
(c) $y = 0.413x + 0.432$
$R^2 = 0.9241$
$^{26}\text{Al}/^{27}\text{Al} = 5.76 \times 10^{-5}$

(d) $y = 0.2807x + 0.7898$
$R^2 = 0.8991$
$^{26}\text{Al}/^{27}\text{Al} = 3.92 \times 10^{-5}$
Figures 66a-g. LL3.00. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio (Fig. 66a) is only 34% of the canonical value. Figure 66b was included to help the reader identify individual isochrons due to the noise resulting from the error bars. (The lines are approximate.) Each isochron is presented sequentially from top (Fig. 66c) to bottom (Fig. 66g). The uppermost isochron (Fig. 66b) is reasonably similar to, but slightly more than the canonical value while all remaining calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios are respectably less. Fig. 66a Error = Std dev. 2σ.

Figure 67. LL3.00 cumulative data v. calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values. The RGA of the calculated $^{26}\text{Al}/^{27}\text{Al}$ values of the five individual isochrons bear a remarkably strong linear correlation that seems to imply a direct relationship between CAI and chondrule forming processes.
**LL3.2**

Data for LL3.2 chondrites published by Hinton and Bischoff (1984) and Huss et al. (2001) is depicted graphically in Figures 68a-c and interpreted as a bimodal distribution with a supracanonical (Figure 68b) and sub-canonical signature (Figure 68c).
Figures 68a-c. LL3.2. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio (Fig. 68a) for LL3.2 objects is low despite the supracanonical value that is associated with the uppermost isochron (Figure 68b). This is because the data associated with the lower isochron exhibit a $\delta^{26}\text{Mg}$ of approximately $\leq 3\%$. Fig. 68a Error = Std dev. 2σ.

**LL3.4**

Huss et al. (2001) and Russell et al. (1996) are the resources for the following data set of LL3.4 objects.
(b) $y = -0.0036x + 0.6781$

$R^2 = 0.0268$

$26\text{Al}/27\text{Al} = -5.02 \times 10^{-7}$

27Al/24Mg

(c) $y = 0.0638x - 0.1643$

$R^2 = 0.531$

$26\text{Al}/27\text{Al} = 8.9 \times 10^{-6}$

27Al/24Mg
LL3.4

\[ y = 0.0105x - 0.3607 \]
\[ R^2 = 0.9285 \]
\[ 26\text{Al}/27\text{Al} = 1.46 \times 10^{-6} \]

(d)

LL3.4

\[ y = 0.0249x + 0.1858 \]
\[ R^2 = 0.5864 \]
\[ 26\text{Al}/27\text{Al} = 3.47 \times 10^{-6} \]

(c)
Figures 69a-i. LL3.4. Seven independent isochrons (i.e., three positive and four negative trending lines) were identified in Figure 69a based on scale adjustments. Figure 69b is provided as guide for identifying the subject isochrons which are presented sequentially as Figures 69c through 69i to match the order of the lines (top to bottom) in Figure 69a.
The calculated initial $^{26}\text{Al}^{27}\text{Al}$ ratios listed on Figs. 69a-i are noticeably less than $5 \times 10^{-5}$ and would imply that LL3.3 bodies were late forming objects relative to the onset of CAI formation based on the canonical model. These same ratio values were plotted against each other (Figure 69j) to determine whether a clear relationship exists between the process(-es) responsible for forming the objects they represent.

\textbf{Figure 69j.} This figure shares an apparent similarity to Fig. 60a (CV3 chondrites) except that in the former, the collective data represented by each point appear to diverge along two pathways from the oldest point identified by an enclosed blue circle and in this graph they seemingly converge. Note that the point near the bottom of the graph pre-dates the points that plot near zero that conventionally denote the onset of CAI formation according to the canonical model.
Figures 69k-l depict the isolated pathways shown in Figure 69j and their slope equations.

**Figure 69k and 69l (top and bottom).** Unlike the subject CV3 pathways, these are best described as linear rather than exponential. Note that the Y-intercepts are $2 \times 10^{-5}$ and $5 \times 10^{-6}$ for the Figs. 69k and 69l, respectively, and the larger of these ($2 \times 10^{-5}$) falls within the formation constraints calculated for CV3 objects suggesting an overlap in the development of these objects.
The two data sets for Figs. 69i and 60a were combined as Figure 69m. Although the reason why data follows two pathways for each chondrite group may never be fully known, it may imply that objects formed coevally but followed separate formation pathways. Equally fascinating is the suggestion that time flows forward and backwards from a time when $^{26}\text{Al}/^{27}\text{Al} \approx 1 \times 10^{-5}$ according to the data depicted in Figs. 60a and 69i.

**Figure 69m.** A comparison of the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values for each isochron of the noted chondrite groups (green = LL3.4 and blue = CV3 data). Note the divergent and convergent nature of the data relative to red data points for LL3.4 and CV3 bodies, respectively. The red data points are the highest (LL3.4) or lowest (CV3) values for their data set. The lines point in the direction of how time flows (older to younger) according to the canonical model (e.g., zero ~ the onset of CAI formation).

**LL3-6**

The LL3-6 data summarized in Figures 70a-d were published by Huss et al. (2001) and Sokol et al. (2007). Only the data defining the uppermost isochron is well behaved and its calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value is congruent with the canonical value.
LL3-6

\[ y = -0.0012x + 2.0064 \]

\[ R^2 = 0.0432 \]

26Al/27Al = -1.67\times10^{-7}

LL3-6

\[ y = 0.4002x - 0.5813 \]

\[ R^2 = 0.9837 \]

26Al/27Al = 5.58\times10^{-5}
Figures 70a-d. LL3-6. Three individual isochrons identified in Fig. 70a based on scale changes are presented in Figs. 70b and 70c. Fig. 70a Error = Std dev. 2σ.
**L3.8**

Huss et al. (2001) are the source of the L3.8 data summarized below in Figure 71. Note that the designation is “L” (low iron) rather than LL (low iron and metal).

![Graph](L3.8.png)

**Figure 71.** L3.8. The data distribution is monomodal, relatively constrained and the calculated initial $^{26}\text{Al} / ^{27}\text{Al}$ value is within 10% of the canonical value and essentially equivalent to that observed for the uppermost isochron of LL3-6 objects (after rounding). Error = Std dev. 2σ.

**L/LL3.10**

Sokol et al. (2007) are the sole source for the following L/LL3.10 chondrite data depicted in Figure 72. This is the final representative of ordinary chondrites included in this study.
Figure 7.1 L/LL3.10. The data yields a monomodal distribution with a slightly negative slope. Error = Std dev. 2σ.

The bulk of the referenced data published by Sokol et al. (2007) clusters between $30 < {^{27}\text{Al}}/{^{26}\text{Mg}} < 60$ and within $5\%$ of $\delta^{26}\text{Mg} = 0\%$. The range of $^{27}\text{Al}/^{26}\text{Mg}$ values for L/LL3.10 objects is relatively similar to what is observed for L3.8 objects (Fig. 71) although the data is skewed toward the higher end of the noted range.

Rumuruti

The work of Bischoff and Srinvasan (2003) is summarized as Figure 73. Rumurutites are exceeding rare as noted earlier and this may account for the paucity of associated analytical data compared to other meteorite groups. Data from the referenced study plots displays a constrained monomodal distribution. The associated calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value for the Rumurutite data
set is low and suggests that either they were later forming objects or that $^{26}$Al was not homogenously widespread throughout the protoplanetary disk.

![Graph showing $\delta^{26}$Mg vs. $^{27}$Al/$^{24}$Mg](image)

**Figure 73.** Rumurutites. The points plot tightly and the associated calculated initial $^{26}$Al/$^{27}$Al value is well below the canonical value despite the relatively large range in the $^{27}$Al/$^{24}$Mg values. Error = Std dev. 2σ.

**Achondrite Groups**

**Achondrites (Ungrouped)**

The data graphed as Figure 74 is based on the work of Baker et al. (2005), Bernius et al. (1991), and Schiller et al. (2010) and it shows a modal data distribution of a $\delta^{26}$Mg deficiency. The resulting data distribution broadly makes sense within the framework of conventional theory that sets forth that achondrites are recent objects compared to the onset of chondrule formation, but departs from it because of the magnitude of the $^{26}$Mg deficiency.
Figure 74. Ungrouped achondrites. The extraordinary low calculated $^{26}\text{Al}/^{27}\text{Al}$ ratio accompanies the anomalous negative $\delta^{26}\text{Mg}$ values and a potential explanation is presented in Chapter 3. Error = Std dev. $2\sigma$.

Angrites

Data published by is Baker et al. (2005), Schiller et al. (2010), and Spivak-Birndorf et al. (2009) are presented graphically as Figures 75a-c. A potential bimodal data distribution emerges with isochrons that reflect $^{26}\text{Al}/^{27}\text{Al}$ ratios that are both higher and lower than the canonical value. The lower values are expected because angrites also represent basaltic material that originated from differentiated bodies located proximal to the protosun.
Angrites

\[ y = -0.0114x + 1.2232 \]
\[ R^2 = 0.0058 \]
\[ 26\text{Al}/27\text{Al} = -1.59 \times 10^{-5} \]

Angrites

\[ y = 11.471x - 0.5475 \]
\[ R^2 = 0.9971 \]
\[ 26\text{Al}/27\text{Al} = 1.6 \times 10^{-3} \]
Figures 75a (top), 75b (middle) and 75c (bottom). Angrites. The upper graph represents the calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio for all Angrite data included in this study and its bimodal data distribution is segregated into the Figures 75b (which assumes a slope through outliers near $\delta^{26}\text{Mg} \sim 20\%_\circ$) and along the abscissa (Figure 75c). Figure 75a. Error = Std dev. 2σ.

The calculated $^{26}\text{Al}/^{27}\text{Al}$ ratio in Figure 75b, which is appreciably higher than the canonical value, may be argued as dubious because it is based on only a few data points. It is clear, however, that two points form ‘the’ outlier in Figure 75a thereby lending credence to data reliability. This may be a case where magnesium migrated across mineral boundaries and enriched the sampled areas represented by the paired outliers. Schiller et al. (2010) who provided these data points posit that the elevated near $\delta^{26}\text{Mg}$ may have resulted from late magmatic processes and thermal resetting. Regardless, the data appears valid but relying on the isochron for dating the timing of interpreted basaltic eruptions would require additional dating techniques such as those employed by Schiller et al. (2010).
Eucrites

Bernius et al. (1991), Schiller et al. (2010b), and Bizzarro et al. (2005) are the sources for the following data. Clearly, $^{26}$Al was extinct by the time that at least some eucrites were forming. Eucrites are basaltic and believed to represent surface material from the asteroid 4 Vesta.

Figure 76a-b (top to bottom). Eucrites. The calculated average initial $^{26}$Al/$^{27}$Al ratio for all eucrite chondrites has a negative trend (Fig. 76a) and $\delta^{26}$Mg deficiencies are evident. The average initial $^{26}$Al/$^{27}$Al ratio calculated for the uppermost isochron is more than two orders of magnitude lower than the canonical value and nearly mirrors that of the lower isochron. Figure 76a Error = Std dev. 2$\sigma$. 

![Graph](image1.png)

![Graph](image2.png)
Mesosiderites

The following mesosiderite data published by Bernius et al. (1991), Bizzarro et al. (2005) and Schiller et al. (2010b) depict a downward trending slope when graphed (Figure 77a). The bimodal data distribution is separated into individual isochrons (Figures 77b and 77c).
**Figures 77a-c.** Mesosiderites. All three graphs document $^{26}\text{Mg}$ deficient conditions existed when the constituents of mesosiderites were forming as predicted by the canonical model. Fig. 77a Error = Std dev. $2\sigma$.

A summary of the results for *all* meteorite classes presented herein is provided as Figure 78. As can be seen, achondrite and chondrite bodies appear to have formed within overlapping time frames. More importantly, the older age assignments of some achondrite groups relative to chondrite groups is of interest since differentiated bodies are believed to have maturated over greater lengths of time and post-date chondrites. However, the interpretation of the data exhibited as Figure 78 agrees with the conclusion of Sokol et al. (2007) who documented that metamorphosed and igneous inclusions from achondritic bodies occasionally occur in primitive chondrites and must therefore pre-date them.
Figure 78. All meteorite classes included in this study. Blue symbols are unrelated data; however, data associated with specific meteorite groups are colored similarly and represent multiple isochrons associated with a given meteorite group. The note indicates the value of two additional points that extend well beyond the range of the scale. There is no x-axis as the intent is to illustrate the range of calculated initial $^{26}$Al/$^{27}$Al values.

The next section presents the tabulated data in Appendix A by CAI type. The intent is to compare the data distribution patterns and calculated initial $^{26}$Al/$^{27}$Al ratios against those of
chondrules (Section 2.5) to further test the validity of the canonical model which predicts a greater depletion of $^{27}\text{Al}$ over time due to decay relative to calculated $(^{26}\text{Al}/^{27}\text{Al})_0 = 5 \times 10^{-5}$.

2.4 Data Results by CAI Type

The tabulated data in Appendix A allowed an assessment of seven CAI types. The data is presented alphabetically.

Type A

The data plotted in Figures 79a and 79b is based on the work of Fahey et al. (1987b), Goswami et al. (1994), Podosek et al. (1991), Srinivasan et al. (2000) and Young et al. (2005).
Figures 79a and 79b (top to bottom). Type A CAIs. The data displays a well-defined bimodal distribution and the uppermost isochron has a calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value that falls within 21% of the canonical value. The lower isochron has a corresponding calculated $^{26}\text{Al}/^{27}\text{Al}$ ratio that is about an order of magnitude less than the canonical value and that typically observed for most chondrules (i.e., $1\times10^{-5}$). Fig. 79a Error = Std dev. 2$\sigma$.

When viewed through the lens of the canonical model, the data indicates that Type A CAIs were not among the earliest refractory objects to form (at least based on the data included in this thesis).

**Type B**

Figures 80a-e (top to bottom). Type B CAIs. Four individual isochrons were identified as displayed in Figs. 80b-e. The uppermost isochron has a corresponding calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value that is slightly lower than, but essentially equal to that of type A objects (e.g., in this case 24.4% less than the canonical value). Fig. 80a Error = Std dev. 2σ.

**Type B1**

Caillet et al. (1993), Goswami et al. (1994), Hutcheon (1982), Kita et al. (2012), Podosek et al. (1991), and Young et al. (2005) serve as the basis for the Type B1 CAI data presented in this section sequentially as Figures 81a-h.
Figures 81a-b (top and bottom). Type B1 CAIs. The top graph includes all data published in the noted references for B1 objects. Figure B1 isolated the data associated with the uppermost isochron and exhibits nearly the same calculated initial $^{26}$Al/$^{27}$Al ratio as for A and B objects (Figs. 79b, 80b). Fig. 81a Error = Std dev. 2σ.
The lower isochron that closely parallels the x-axis was investigated by changing the ordinate scale and, as a result, four additional isochrons were tentatively identified.

**Figure 81c.** This graph is a guide to identify the isochrons in the ensuing five figures. Figure 81d includes only the data in the upper elongated oval field. Figure 81e contains the data in the rectangular field and three independent isochrons identified therein as red lines (i.e. Figs. 81f-h). Figure 81i targets the negative data in the lower elongated oval field.
Figures 81d-h (top to bottom). Figure 81d shows that the linear data distribution that follows the ordinate axis closely (Fig. 81c) is actually a loose array of points that consist of upper and lower groupings. Figure 81e (rectangular field Fig. 81c) depicts the three isochrons shown in Figs. 81f-h.
**Figure 81i.** This graph depicts the only negative slope in Figure 81a even though it cannot be seen at that scale.

*Type B2*

Type B2 CAI data published by Goswami et al. (1994), Podosek et al. (1991), and Srinivasan et al. (2000) were included in this study as Figures 82a-d and in Appendix A (as with all data used in this thesis).
Figure 82a-d (top to bottom). Type B2 CAIs. The calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio of Figure 82b exceeds the canonical value by ~16% and is in most agreement with it of all the CAI types discussed thus far. Error = Std dev. 2σ.

Compact Type A - CTA

CTA CAI data presented in this section as Figures 83a-f were published by Fahey et al. (1987b), Podosek et al. (1991), Russell et al. (1998), Srinivasan et al. (2000), and Young et al. (2005).
CTA

\[ y = -0.0169x + 7.6085 \]
\[ R^2 = 0.0102 \]
\[ 26Al/27Al = -2.36\times 10^{-6} \]

27Al/24Mg

(a)

CTA

\[ y = 0.3261x + 0.1357 \]
\[ R^2 = 0.8336 \]
\[ 26Al/27Al = 4.55\times 10^{-5} \]

27Al/24Mg

(b)
(c) \[ y = 0.0675x + 0.9687 \]
\[ R^2 = 0.918 \]
\[ \frac{26\text{Al}}{27\text{Al}} = 9.41 \times 10^{-6} \]

(d) \[ y = -0.0002x \]
\[ R^2 = -0.053 \]
\[ \frac{26\text{Al}}{27\text{Al}} = -2.79 \times 10^{-8} \]
Figures 83a-f (top to bottom). CTA CAIs. Figure 83b is the only one of this graph series that has a calculated initial $^{26}$Al/$^{27}$Al ratio that supports the canonical model. This is also the closest match to the canonical value than what is observed for any of the preceding CAI types (i.e., Types A through B2). The duel grouping data distribution pattern observed in Figure 83f is similar to that of Figure 81d for B1 CAIs. Fig. 83a Error = Std dev. 2σ.
Fluffy Type A - FTA

FTA data presented in this section as Figures 84a-e were published by Huss et al. (2001), Russell et al. (1996), and Young et al. (2005).
Figures 84a-e (top to bottom). FTA CAIs. The total data set plotted as Figure 84a appears well behaved and the calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratio is only ~77% of the canonical value. Figure 84b is remarkable in that its ($^{26}\text{Al}/^{27}\text{Al}$)$_o$ ratio exceeds the canonical value by 3.4x. Equally perplexing is the anomalously high $\delta^{26}\text{Mg}$ (~7‰). These two characteristics of the FTA data mapped herein, implies a much earlier age for the onset of CAI formation, one that will be discussed in Section 2.8. Some workers propose that at least some early CAIs originated from already formed planetesimals and this type of data could support that perspective. Figure 84a Error = Std dev. 2σ.

Fractionation and Unidentified Nuclear effects - FUN Types

FUN data from Fahey et al. (1987a, 1994), Hinton and Bischoff (1984), Huneke et al. (1983), Ireland et al. (1992), Lee et al. (1977b, 1979), Wasserburg et al. (2012) are summarized in this section as Figures 85a-d.
FUN Objects

$y = 0.0016x + 14.385$
$R^2 = 0.0186$
$\frac{26Al}{27Al} = 2.23 \times 10^{-7}$

27Al/24Mg

FUN Objects

$y = 0.066x + 11.314$
$R^2 = 0.9969$
$\frac{26Al}{27Al} = 9.21 \times 10^{-6}$

27Al/24Mg
Figures 85a-d (top to bottom). Fractionation and unidentified nuclear effects cumulative data. None of the isochrons associated with FUN objects show an associated calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio that approaches the canonical value despite the high Al/Mg ratios. Figure 85a Error = Std dev. 1σ and 2σ depending on source.
**Hibonite Allende - HAL Type**

Ireland et al. (1992) is the source of the HAL Type CAI data summarized in Figure 86.

**Figure 86.** Hibonite Allende - HAL type CAIs. Not surprising, the data shows a lack of correlation between the graphed parameters, but the underlying cause is poorly understood and often attributed to either isotopic differences arising from the production of objects from distinct reservoirs or the import of material from exotic sources. The data also exhibits a respectable range of $\delta^{26}$Mg values and high, but constrained Al/Mg ratios. Error = Std dev. 1σ and 2σ depending on source.

**Platy Hibonites - PLACs**

PLAC data presented in this section as Figures 87a-c were published by Hsu et al. (2011) and Ireland (1988). A distinct bimodal data distribution is apparent at the scale presented.
PLACs

\[ y = 0.0009x + 5.2646 \]
\[ R^2 = 2E-05 \]
\[ 26\text{Al}/27\text{Al} = 1.26 \times 10^{-7} \]

PLACs

\[ y = 0.3483x - 0.3806 \]
\[ R^2 = 0.9466 \]
\[ 26\text{Al}/27\text{Al} = 4.86 \times 10^{-5} \]
**Figures 87a-c (top to bottom).** Platy hibonite CAIs. The canonical value is preserved in uppermost isochron (Fig. 87b) and the organization of the lower isochron is lost (Fig. 87c) when the scale is increased. Figure 87a Error = Std dev. 2σ.

**Spinel Hibonite Spherules - SHIBs**

Ireland (1988) published the SHIB data summarized in Figure 88.

**Figure 88.** Spinel-hibonite spherules. The data associated with the low calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio is described well by the slope and essentially scatter free. Error = Std dev. 2σ.
When the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios were plotted as in Figures 89-91, the outcome was partly unexpected for several reasons: 1) FTA data are linked to a supracanonical ratio that is unlikely to be entirely explained by diagenetic effects because of the strong slope linearity (e.g., reasonably well).

![CAIs](image)

**CAIs**

![Supercanonical](image)

**CAIs**

194
Figures 89–91 (top to bottom). CAI Calculated initial $^{26}$Al/$^{27}$Al values. The top graph (Fig. 89) plots all results for the uppermost isochrons for each CAI group that most closely approach the canonical value (e.g., the horizontal reference line in all three graphs). Figure 90 omits the FTA data but otherwise presents the same data at a larger scale for improved resolution, whilst Figure 91 reverts back to the original scale and excludes potentially dubious results, mainly calculated results that rely on highly scattered data patterns or low Al/Mg ratios relative to the bulk data associated with the CAI group to which they belong. Correlation between $^{27}$Al/$^{24}$Mg and $^{26}$Mg; 2) B2-Disorganized and FTA-Disorganized groups produce supracanonical values based on highly scattered data with low reliability (low R²) that may imply $^{26}$Mg enrichment of the analyzed samples via import from surrounding grains (ion migration) or isotopic reservoir signatures; and 3) only PLAC data (and arguably CTA) exhibit a calculated initial $^{26}$Al/$^{27}$Al ratio that meshes well with the canonical value. The reason for the supracanonical value associated with FTAs is not understood, but if it is set aside for discussion purposes, then the data seems to imply that PLACs are the oldest CAI objects. (However, the data does not allude to whether PLACs were uniformly distributed in the protoplanetary disk.)

This interpretation is testable - CM chondrites are reported to be among the oldest bodies in the Solar System (Ireland et al., 1991), so it stands to reason that they are PLAC-rich. The data plot for CM objects were calculated to have slightly elevated canonical values ($5.77 \times 10^{-5}$; Fig. 47b), but Type B CAIs are the data source (see Appendix A). However, the data was basically gleamed from a single study (Fahey et al. 1987b) and not all analyzed grains were
categorized and may have included PLACs. However, CM2 objects are enriched with HAL type CAIs classified as PLACs in other papers (Appendix A) and produced a slightly lower calculated canonical value (4.87x10^{5}; Fig. 48b), which means these bodies are among the chondrite groups containing the oldest constituents based on the data included herein. Thus, the interpretation that PLACs are or among the oldest CAI types is reasonable.

There is reason to suspect however, that PLACs were not homogeneously distributed throughout the protoplanetary disk. A review of Figure 87a indicates that PLACs exhibit a bimodal data distribution (Figure 87a). Moreover, PLAC objects are considered by some (e.g., Kööp et al., 2016) to show pronounced nucleosynthetic anomalies, a characteristic often associated with distinct reservoirs. One of the essential tests concerning the cogency of the canonical model is to compare the calculated initial $^{26}$Al/$^{27}$Al ratios of CAIs against those associated for chondrules, latter forming objects that should show depressed values in response to $^{26}$Al decay and uptake by earlier forming bodies. As such, Section 2.5 presents the published data in Appendix A according to chondrule type to determine what relationships exist between these objects and among chondrule groups.

2.5 Data Results by Chondrule Type

The research included in this thesis regarding chondrule type is provided alphabetically, except for microspherules which are presented at the end of this section and technically not chondrules but a constituent of some and often included when they are discussed.
Al-Rich Chondrules

Hinton and Bischoff (1984), Kurahashi et al. (2008), Luu et al. (2015), and Sokol et al. (2007) serve as the basis for the Al-rich chondrule data summarized in Figure 92.

Figure 92. Al-rich chondrules. The monomodal data distribution shows a negative trend and a δ^{26}Mg deficiency despite the exceedingly high Al content of these chondrules. Error = Std dev. 2σ.

The low calculated initial $^{26}$Al/$^{27}$Al ratio is anticipated for chondrules; clearly, the Al was not the likely source of the measured $^{26}$Mg. However, observation reveals an underlying enigma. The relationship between the various Al isotopes and their abundance are well known; thus, if a system is closed, the initial proportion of Al isotopes relative to each other should be preserved.$^{30}$ A high aluminum content without a corresponding high δ$^{26}$Mg in these chondrules is reconciled if $^{26}$Al was not uniformly distributed in the protoplanetary disk or the removal of $^{24}$Mg by some unknown mechanism that anomalously inflated the relative proportion of $^{27}$Al in these objects.

$^{30}$ This includes radiogenic Al. The original content can be back calculated as routinely performed in canonical studies.
Empirical work has demonstrated that barred olivine (BO) texture development resulted when a chondrule with a composition between that observed in typical ferro-magnesium and Al-rich chondrules experienced rapid and complete silicate melting, partial evaporation and cooling within several hours at most (Osada and Tsuchiyama, 2001). BO chondrule data summarized in this section as Figure 93 are attributed to Huss et al. (2001), Luu et al. (2015), and Russell et al. (1996). The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio approaches the lower value (i.e., $1\times10^{-5}$) published by MacPherson et al. (1995) commonly associated with chondrules.

**Figure 93.** Barred olivine chondrules. The monomodal data distribution shows a typical positive trend contrary to what is observed for the Al-rich chondrule data included herein but the greatest Al/Mg ratios are more than an order of magnitude less. Error = Std dev. 2σ.
FeO-poor Chondrules - Type I

Type I chondrites are FeO-poor, but olivine-rich and subdivided further based on pyroxene-olivine ratios (e.g., Jones, 1992). Kurahashi et al. (2008) is the sole reference for data represented in Figure 94, which was reported simply as Type I objects. However, data is provided in the unabridged master table for chondrules belonging to subdivisions (e.g., IA, IIA, IAB, etc.), although for parameters not used in this study for evaluating the canonical model. The calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio in Figure 94 is approximately an order of magnitude less than the canonical value. When this observation is considered along with the chondrule data presented thus far, the tenet proposed by the canonical model of $^{26}\text{Al}$ exhaustion, and thus lower $^{26}\text{Mg}$ production, over time is supported.

Figure 94. FeO-poor chondrules - Type I. The data shows a heavy clustering between 20$<^{27}\text{Al}/^{24}\text{Mg},<45$ and a monomodal distribution. Error = Std dev. 2σ.
The reason for the clustering is unknown but may result from how the data was collected since it represents a single study. Future studies may help resolve the strength of the clustering; regardless, it documents that the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio does not challenge the infrastructure of the canonical model.

*FeO-rich Chondrules - Type II*

Type II chondrules compliment Type I chondrules in that they are rich in FeO and olivine (e.g., Jones, 1992). The resources for Type II data summarized as Figures 95a-d include Kita et al. (2000), Kurahashi et al., (2008), and Mostefaoui et al. (2002).
Type II

\[ y = 0.0458x + 0.1341 \]

\[ R^2 = 0.9378 \]

\[ \frac{^{26}\text{Al}}{^{27}\text{Al}} = 6.4 \times 10^{-6} \]

Type II

\[ y = 0.0288x - 0.029 \]

\[ R^2 = 0.6654 \]

\[ \frac{^{26}\text{Al}}{^{27}\text{Al}} = 4.02 \times 10^{-6} \]
FeO-rich chondrules - Type II. The data indicates that the calculated initial $^{26}$Al/$^{27}$Al ratio is approximately 18.5% greater in Type II chondrules than in Type I of the uppermost isochron (Fig. 95b; e.g., the results that most closely match the canonical value, Figure 95a. Error = Std dev. 2σ.

The higher calculated initial $^{26}$Al/$^{27}$Al ratio of Type II chondrules relative to Type I chondrules presents an enigma; however, an explanation is discussed in Chapter 3 that proposes an alternate means of interpreting isochrons.

Porphyritic Olivine - PO

Modeling and empirical research have successfully reconstructed the cooling rates (e.g., ~1° to 240°C/hour; Miyamoto et al., 2009) observed in the texture of porphyritic olivine (PO). The wide range in calculated cooling rates is a function of chondrule core chemistry; specifically, the Fe-content of fayalite used in modeling (Miyamoto et al., 2009). The PO chondrules are examples of the PO model. The PO chondrules present an enigma; however, an explanation is discussed in Chapter 3 that proposes an alternate means of interpreting isochrons. 

Figures 95a-d (top to bottom): FeO-rich chondrules - Type II. The data indicates that the calculated initial $^{26}$Al/$^{27}$Al ratio is approximately 18.5% greater in Type II chondrules than in Type I of the uppermost isochron (Fig. 95b; e.g., the results that most closely match the canonical value, Figure 95a. Error = Std dev. 2σ. 

$^{26}$Mg %

$y = 0.0053x - 0.04$

$R^2 = 1$

$26Al/27Al = 7.38\pm0.7$
chondrule data presented in this section as Figures 96a-d were published by Luu et al. (2015), Sokol et al. (2007), and Young et al. (2002).
Porphyritic olivine - PO chondrules. The PO chondrule data exhibits what may be a weak trimodal distribution pattern (Fig. 96a) or potentially scatter. For this exercise and in maintaining consistency with the manner in which the canonical value assessment has been carried out in this thesis, a trimodal distribution was assumed and investigated as shown in Figs. 96b-d. Figure 96a Error = Std dev. 2σ.

Figures 96a-d (top to bottom).
Despite the high $^{27}\text{Al}/^{24}\text{Mg}$ ratios, the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios in Figures 96a-d are exceeding low compared to the canonical value. The respectable range of $\delta^{26}\text{Mg}$ values for $6,000 < ^{27}\text{Al}/^{24}\text{Mg} < 6,500$ should not be considered as evidence of $^{26}\text{Al}$ heterogeneity because of the cooling rates controls exerted by chondrule-specific core chemistry; slower or faster cooling rates may conceivably have promoted or mitigated the amassing of radiogenic $^{26}\text{Mg}$ into olivine. Regardless of speculation, the pertinent point is that the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios associated with the PO data included herein do not pose an especially robust challenge to the tenets of the canonical model, but nor do they seem to support them.

*Plagioclase-Olivine Inclusions - POI*

Plagioclase-olivine inclusions (POI) are chondrule-like structures that resulted from the melting of extant bodies and exhibit diverse chemical compositions that place them as intermediates between Type C CAIs and typical ferromagnesium chondrules (Sheng et al., 1991). Figure 97 is a summary of POI data published by Maruyama and Yurimoto (2003) and Sokol et al. (2007). The randomness of the the data is understood within the framework of conventional thought that proposes that pre-existing bodies were the parent source material for POI chondrules, thereby accounting for the substantial chemical variability.
**Figure 97.** Plagioclase-olivine inclusions - POI chondrules. The POI chondrule data displays extreme scatter and a low calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratio as expected. Error = Std dev. 2σ.

*Microspherules*

Microspherules represent siliceous melt droplets that contain metallic cores and primarily occur in chondrules and matrix (e.g., Yabuki and El Goresy, 1986). Russell et al. (1998) and Ireland et al. (1991) are the resources for data summarized in Figure 98.
Figure 98. Microspherules. Microspherule data clusters at $^{27}\text{Al}/^{24}\text{Mg} \leq 20$ and plots loosely linearly. Error = Std dev. 2σ.

The initial $^{26}\text{Al}/^{27}\text{Al}$ ratio for microspherules exceeds those calculated for the chondrule groups included in this section and indicates they are older. This interpretation agrees with the documented occurrence of microspherule-containing chondrules (e.g., the inclusion of microspherules in chondrules means they were pre-existent objects). The presentation of microspherule data completes the discussion of $^{26}\text{Al}$ data according to chondrule group.

The final manner by which the canonical model was evaluated was by investigating whether there was $^{26}\text{Al}$ biasing among minerals and Section 2.6 presents the results of the data evaluation accordingly. Mineral data receives special attention in the final chapter, particularly in the development of an alternate perspective for using $^{26}\text{Al}$ data in reconstructing the birthing process of planetesimals. However, an abbreviated section (Section 2.7) rounds out this chapter in an attempt to identify whether specific analytical methods have biased isotopic results.
2.6 Data Results by Mineral Type

Mineral data is provided alphabetically for convenient referencing. Comments are reserved at the end of this section and later in Chapters 2 and 3 when the data is incorporated into a single graph inclusive of all mineral data.

Anorthite

The following resources were used to construct Figure 99a-d: Caillet et al. (1993), Hutcheon et al. (1978), Ito and Messenger (2010), Kurahashi et al. (2008), MacPherson et al. (2012), MacPherson and Davis (1993), Podosek et al. (1991), and Young et al. (2005).
Anorthite

\[ y = 0.3021x - 2.4919 \]

\[ R^2 = 0.938 \]

\[ \frac{26\text{Al}}{27\text{Al}} = 4.21 \times 10^{-5} \]

Anorthite

\[ y = 0.073x - 3.1002 \]

\[ R^2 = 0.985 \]

\[ \frac{26\text{Al}}{27\text{Al}} = 1.02 \times 10^{-5} \]
**Figures 99a-d (top to bottom).** Anorthite. Fig. 99a Error = Std dev. 2σ.

Although anorthite is often an indicator of mineral alteration, the well behaved data distributions documented in Figures 99b-d indicate that is not always the case; further, Figure 99b displays a near-canonical value. More so, the $^{26}$Mg in anorthite contributes strongly to the overall data distribution pattern observed in Figure 1 of MacPherson et al. (1995) and Figure 41 series of this study and may be among the primary lines of evidence that support the canonical model.

**Corundum**

Bernius et al. (1991), Simon et al. (2002), and Virag et al. (1991) are the resources for the graphs presented as Figures 100a-d.
Figures 100a-d (top to bottom). Corundum. The data distribution in Figure 100a mimics that of all meteorite data (see Fig. 41a) because it contributes substantially to it. Figure 100a Error = Std dev. 2σ.
Diopside

Data shown in Figures 101a-c derive from Kawasaki et al. (2016), Russell et al. (1998), and Young et al. (2005).
Figures 101a-c (top to bottom). Diopside. Figures 101b and 84b (FTAs) are comparable and have nearly identical calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values. Diopside was the principal constituent in numerous FTA samples included in the studies from which this data in this thesis originated. Figure 101a Error = Std dev. 2\sigma.

**Fassaite**

Fassaite data summarized in Figures 102a-c are from work published by Baker et al. (2005), Brigham et al. (1986), Caillet et al. (1993), Füri et al. (2015), Ito and Messenger (2010), Kawasaki et al. (2016), MacPherson and Davis (1993), Russell et al. (1998), Schiller et al. (2010b).
Figures 102a-c (top to bottom). Fassaite. The fassaite data included in this study show low $\delta^{26}$Mg values that preferentially occur in clusters and possibly allude to distinct conditions within the protoplanetary disk. One question this raises is whether such data archives the former existence of “reservoirs” or locally changing conditions. Oxygen isotope studies may provide insights as discussed later. Error = Std dev. $2\sigma$.

Feldspar

Anorthite, plagioclase and feldspar data are reported in Appendix A based on how each sample was described in the papers used in this study. However, to avoid confusion, the mineral groups are still presented alphabetically in this thesis to maintain consistency despite being related.\textsuperscript{31} Brigham et al. (1986), Baker et al. (2005), Schiller et al. (2010) were used to construct Figures 103a-d.

\textsuperscript{31} To that end, the data reported as ‘feldspar’ or ‘plagioclase’ will likely include anorthite even though it was not specifically identified as such in some studies.
**Feldspar**

![Graph 1]

\[ y = -0.0799x + 5.5294 \]

\[ R^2 = 0.2206 \]

\[ 26\text{Al}/27\text{Al} = -1.11\times10^{-5} \]

---

**Feldspar**

![Graph 2]

\[ y = 22.791x - 21.04 \]

\[ R^2 = 0.9883 \]

\[ 26\text{Al}/27\text{Al} = 3.18\times10^{-3} \]
Figures 103a-d (top to bottom). Feldspar. Feldspar data showed a weak trimodal data distribution. Each isochron identified in Figure 103a is graphed separately - the uppermost, near vertical as Fig. 103b, the intermediate that follows the x-axis as Fig. 103c, and the negative trending slope as Fig. 103d. As in other cases throughout, the lack of points that comprise graphs Figs. 103b and 103d make any conclusions drawn from them suspect. Figure 103a Error = Std dev. 2σ.
**Fosterite**

Young et al. (2005) was used to construct Figures 104a-c. Olivine data is presented later for the same reason why anorthite, pyroxene, and feldspar data are also provided separately.
Figure 104a-c (top to bottom). Fosterite. The collective data (Fig. 104a) assumes a negative-trending, generally linear pattern with exceeding low $^{27}\text{Al}/^{24}\text{Mg}$ ratios, yet reasonably high corresponding $\delta^{26}\text{Mg}$ values. Despite this observation, too little of the types of isotopic data used in this thesis were available among the referenced studies to make any meaningful conclusion regarding the validity of the canonical value. Figure 104a Error = Std dev. 2σ.

Gehlenite

Gehlenite is an aluminum-rich end-member of melilite. Russell et al. (1996) is the basis of the data provided in Figure 105.

Figure 105. Gehlenite. Based on data published in Russell et al. (1996), gehlenite data is tightly clustered and perhaps consistent with being an endmember to a mineral group. Figure 105 Error = Std dev. 2σ.
The graphs provided as Figures 10a-d summarize the work of Caillet et al. (1993), Ireland et al. (1991), and Huss et al. (2001). Figure 106e includes the work of Russell et al. (1996) shown in Figure 105.
**Figure 106a-d (top to bottom).** Glass. The data distribution is unique in that there is scatter, clustering, and lineation alluding to diverse and complex formational histories. The range in $^{27}\text{Al}^{24}\text{Mg}$ ratios is high, but the $\delta^{26}\text{Mg}$ values are fairly restricted. Interestingly, the data distribution of the cluster (Fig. 106b) is strikingly similar to that of gehlenite (Fig. 105). Russell is a co-author of Huss et al. (2001), which accounts for the strong similarities; however, the $^{27}\text{Al}^{24}\text{Mg}$ data is not the same (refer to Appendix A and Figure 106e for a comparison of the glass and gehlenite data). Figure 106a Error = Std dev. 2$\sigma$. 

\[
y = 0.0133x - 1.5997 \\
R^2 = 0.9732 \\
26\text{Al}/27\text{Al} = 1.86 \times 10^{-6}
\]

\[
y = 0.0011x - 1.9625 \\
R^2 = 0.0246 \\
26\text{Al}/27\text{Al} = 1.53 \times 10^{-7}
\]
**Figure 106c.** The $\delta^{26}$Mg values are essentially the same for some gehlenite and glass analyses (shaded) in Russell et al. (1996) and Huss et al. (2001), but there is an incongruent shift among the corresponding $^{27}$Al/$^{24}$Mg ratios. This could be explained in a scenario that involved rapid heating and cooling and thus the preservation of $\delta^{26}$Mg values between gehlenite and a glass phase; however, this would also have required $^{27}$Al-depletion or $^{24}$Mg-enrichment. Considering that Mg ions are larger than Al ions and therefore less likely to migrate, the subject ratio shifts may imply the loss of $^{27}$Al as a result of post-formational migration. The consistency in $\delta^{26}$Mg values between glass and gehlenite would therefore result from the rapid decay of $^{26}$Al into a less mobile daughter $^{26}$Mg. An alternate explanation could be that the Al/Mg ratios resulted from analytical procedures or instrumentation. This seems less likely given the strong similarities in $\delta^{26}$Mg values between the studies.

**Grossite**

Data from Krot et al. (2006), Russell et al. (1998), and Weber et al. (1995) are summarized in Figures 107a-e.
Grossite

\[ y = 0.0216x + 9.0796 \]
\[ R^2 = 0.0281 \]
\[ 26\text{Al}/27\text{Al} = 3.01 \times 10^{-6} \]

\( \delta^{26}\text{Mg} \% \)
\( 27\text{Al}/24\text{Mg} \)

(a)

Grossite

\[ y = 0.3168x - 9.473 \]
\[ R^2 = 0.9958 \]
\[ 26\text{Al}/27\text{Al} = 4.42 \times 10^{-5} \]

\( \delta^{26}\text{Mg} \% \)
\( 27\text{Al}/24\text{Mg} \)

(b)

224
Grossite

\[ y = 0.0002x + 0.5123 \]
\[ R^2 = 0.0133 \]
\[ \Delta^{26}Mg/\Delta^{24}Mg = 2.79 \times 10^{-8} \]

(c)

Grossite

\[ y = 0.013x - 1.8224 \]
\[ R^2 = 0.9984 \]
\[ \Delta^{26}Mg/\Delta^{27}Al = 1.81 \times 10^{-6} \]

(d)

225
Figure 107a-e (top to bottom). Grossite. Grossite data shows a bimodal distribution. Figures 107d and 107e were created because the points defining the high end of the respective isochrons plot well above the remaining data in Figure 107c that otherwise appear as random at higher scales. Figure 107a Error = Std dev. 1σ and 2σ depending on source.

**Hercynite**

Brigham et al. (1986), Fahey et al. (1994), and Russell et al. (1998) hercynite isotopic data are summarized in Figures 108a-f.
(c) 

\[ y = 0.3975x - 1.3845 \]
\[ R^2 = 0.9136 \]
\[ 25\text{Al}/27\text{Al} = 5.55 \times 10^{-5} \]

(d) 

\[ y = -8.0693x + 87.945 \]
\[ R^2 = 0.9553 \]
\[ 25\text{Al}/27\text{Al} = -1.13 \times 10^{-3} \]
Hercynite. The hercynite data shows clustering (Figs. 108a and 108b) with low corresponding δ²⁶Mg values, remarkable δ²⁶Mg deficiencies including an ascending node (Figs. 108d through 108f), and one distribution set (Fig. 108c) that exhibits a calculated initial ²⁶Al/²⁷Al value that is essentially canonical. Figure 108a Error = Std dev. 2σ.
Hibonite

The following resources were used to construct Figure 109a-c: Bar-Matthews et al. (1982), Bischoff and Srinivasan (2003), Brigham et al. (1986), Fahey et al. (1987a, 1994), Guan et al. (2000b), Hinton and Bischoff (1984), Hsu et al. (2011), Huss et al. (2001), Ireland (1988), Ireland et al. (1991, 1992), Krot et al. (2006), Lee et al. (1979), Podosek et al. (1991), Russell et al. (1998), Simon et al. (2002), Srinivasan et al. (2000), and Weber et al. (1995). Hibonite, like corundum, is considered an ultra-refractory mineral.
Figure 109a-c (top, middle, and bottom). Hibonite. Hibonite data (Fig. 109a) has an overall distribution pattern that is akin to anorthite, corundum and Figure 1 of MacPherson et al. (1995). Figure 109a Error = Std dev. 1σ and 2σ depending on source.
The fact that hibonite was one of the earliest minerals to condense from the protoplanetary cloud but does not exhibit a canonical value associated with any isochron is remarkable. Either this mineral formed in unique ‘reservoirs’ (which seems unlikely) or there are chemical kinetics that controlled (in this case inhibited) \(^{26}\)Al uptake. The implication would profoundly weaken the canonical model.

**Melilite**

Melilite

\[ y = 0.2905x + 6.2978 \]
\[ R^2 = 0.0206 \]
\[ \frac{\text{26Al}}{\text{27Al}} = 4.05 \times 10^{-5} \]

Melilite

\[ y = 0.2827x + 0.8626 \]
\[ R^2 = 0.6733 \]
\[ \frac{\text{26Al}}{\text{27Al}} = 3.94 \times 10^{-5} \]
**Figure 110a-f (top and bottom).** Melilite. The nature of melilite’s isotopic distribution vacillates among various states of organization in these graphs. Two dominant and two lesser isochrons are expressed in Figure 110a. Three of these same isochrons (e.g., red lines inserted in Fig. 110b) do not show $\delta^{26}$Mg excesses (Figures 110b-d); however, the fourth graph (Fig. 110e) and a subset of it (Fig. 110f) identified by the orange box in Figure 110a, document $\delta^{26}$Mg deficiencies. Lastly, the uppermost isochron in Fig. 110a in Figure 110b appears to be ‘composed’ of three isotopic *fields* (colored). Although this may result from isotopic reservoirs, it is also conceivable that they reflect structural constraints imposed by crystallographic twinning. One way to test this in future studies is to perform a comparative analysis of $^{26}$Mg isotopic signatures among the solid solution phases to determine if similar patterns to Figure 110b emerge. Figure 110a Error = Std dev. 1σ and 2σ depending on source.

**Nepheline**

Nepheline data (Figure 111) was constructed based on the work of Caillet et al. (1993), Huss et al. (2001), Krot et al. (2006), and Maruyama and Yurimoto (2003). The negative slope and $\delta^{26}$Mg deficiencies may result from chemical alteration since nepheline is a common secondary mineral.
Figure 111. Nepheline. Nepheline data is described by a negative trending monomodal slope. Error = Std dev. 2σ.

Olivine

Isotopic data summarized in Figures 112a-f is based on work published by Baker et al. (2005), Bischoff and Srinivasan (2003), Hsu et al. (2011), Huss et al. (2011), Hutcheon and Hutchison (1989), Ireland et al. (1991), Krot et al. (2006), Kurahashi et al. (2008), Russell et al. (1996), Schiller et al. (2010b), Spivik-Birndorf et al. (2009), Srinivasan et al. (2000), and Young et al. (2005).
Figure 112a-f (top and bottom). Olivine. The olivine data plots close to the origin and the low values suffer from ‘large’ error ranges. Further, more than half of the data plot represents $\delta^{26}$Mg deficiencies (Figure 112b). Figure 112a Error = Std dev. $2\sigma$. 

Figure 112c.

\[ y = -4.5489x + 0.042 \]
\[ R^2 = 0.9767 \]
\[ \frac{26\text{Al}}{27\text{Al}} = -6.35 \times 10^{-4} \]

Figure 112d.

\[ y = -5.4252x + 0.0505 \]
\[ R^2 = 0.978 \]
\[ \frac{26\text{Al}}{27\text{Al}} = -7.57 \times 10^{-4} \]
The extreme range in calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios makes olivine especially interesting and may be a response to slight variations (e.g., solid solution and/or diagenetic factors) of the extremely low $^{27}\text{Al}/^{24}\text{Mg}$ values.

**Orthoclase**

Sokol et al. (2007) was the sole resource utilized to construct Figure 113. The range in $\delta^{26}\text{Mg}$ values is similar to that observed in nepheline and “feldspar” despite the corresponding $^{27}\text{Al}/^{24}\text{Mg}$ ratios suggesting that low $^{26}\text{Mg}$ concentrations were residual or background when these minerals were forming.

**Figure 113.** Orthoclase. Orthoclase data exhibits high $^{27}\text{Al}/^{24}\text{Mg}$ ratios and $\delta^{26}\text{Mg}$ values that are either low or show deficiencies. Error = Std dev. 2σ.
**Plagioclase**

The following resources were used to construct Figure 11a-d: Amelin et al. (2002), Bizzarro et al. (2005), Hinton and Bischoff (1984), Huneke et al. (1983), Huss et al. (2011), Hutcheon and Hutchison (1989), Kennedy and Hutcheon (1992), Krot et al. (2006), Maruyama and Yurimoto (2003), Russell et al. (1996), Sheng et al. (1991), Sokol et al. (2007), Spivik-Birndorf et al. (2009), and Srinivasan et al. (2000).
Plagioclase

\[ y = 0.2515x + 10.094 \]

\[ R^2 = 0.9825 \]

\[ 26\text{Al}/27\text{Al} = 3.51 \times 10^{-5} \]

Plagioclase

\[ y = 0.0044x + 0.9395 \]

\[ R^2 = 0.9552 \]

\[ 26\text{Al}/27\text{Al} = 6.14 \times 10^{-7} \]
Figure 114a-d (top and bottom). Plagioclase. Plagioclase is another chief contributor to the data distribution pattern observed in Figure 1 of MacPherson et al. (1995) and the Figure 41 series of this study. Figure 114a Error = Std dev. 2σ.

Not surprising, the anorthite and plagioclase data distribution patterns are comparable, so it is likely that the latter data set includes anorthite. There is enough disparity between them though, that other plagioclase members probably account for the differences.

Pyroxene

The isotopic work published by Amelin et al. (2002), Baker et al. (2005), Bizzarro et al. (2005), Guan et al. (2000a), Huneke et al. (1983), Hsu et al. (2011), Huss et al. (2001), Hutcheon et al. (1978), Hutcheon and Hutchison (1989), Kita et al. (2012), Kurahashi et al. (2008), Podosek et al. (1991), Schiller et al. (2010b), Sokol et al. (2007), Spivik-Birndorf et al. (2009), and Srinivasan et al. (2000) is summarized in Figures 115a-d.
Figure 115a-d (top and bottom). Pyroxene. The pyroxene data summarized in Figure 115a shows a grouping distribution pattern also observed in diopside (Fig. 101a) and fassaite (Fig. 102a), both of which belong to the pyroxene group. However, the calculated average initial $^{26}\text{Al}/^{27}\text{Al}$ ratios for each pyroxene group member distinctly differ. This may be a significant observation because it could suggest that the disparities are not a result of ‘reservoir’-dependent conditions, but rather a reflection of petrographic constraints imposed on $^{26}\text{Al}$ or $^{26}\text{Mg}$ uptake. Figure 115a Error = Std dev. 2σ.
Sodalite isotopic data summarized in Figure 116 is based on Huss et al. (2001) and shows a well-constrained and well behaved distribution pattern. This is peculiar given the low aluminum content and $\delta^{26}$Mg values, and equally so because sodalite often occurs as a secondary mineral following the aqueous alteration of anorthite (Kimura and Ikeda, 1995). Future work is required to determine why some secondary minerals maintained a strong correlation between $\delta^{26}$Mg and $^{27}$Al/$^{24}$Mg values, whereas others (e.g., nepheline) apparently did not.

**Figure 116.** Sodalite. Sodalite data shows an approximately 2:1 ratio between $^{27}$Al/$^{24}$Mg and $\delta^{26}$Mg values, a relationship that is not observed among the minerals included in this thesis research. However for other minerals, such as plagioclase and melilite, there is a shared ratio (i.e., ~4:1). Error = Std dev. $2\sigma$. 

\[ y = 0.5254x - 0.618 \]
\[ R^2 = 0.6275 \]
\[ 26\text{Al}/27\text{Al} = 7.33 \times 10^{-5} \]
Spinel isotopic data included in Amelin et al. (2002), Caillet et al. (1993), Fahey et al. (1987), Füri et al. (2015), Goswami et al. (1994), Guan et al. (2000a), Hinton and Bischoff (1984), Huneke et al. (1983), Hsu et al. (2011), Huss et al. (2001), Hutcheon et al. (1978), Kawasaki et al. (2016), Kita et al. (2012), Krot et al. (2006), Lee et al. (1977b), MacPherson and Davis (1993), Podosek et al. (1991), Russell et al. (1996, 1998), Srinivasan et al. (2000), Weber et al. (1995), and Young et al. (2005) was used to construct Figures 117a-c.
Figure 117a-c (top and bottom). Spinel. The isotopic data distribution for spinel is exceptionally well-behaved (except for the clustering near the origin) for reasons not yet understood. Error = Std dev. 1σ and 2σ depending on source.
A discussion of isotopic data by mineral, as it relates to the canonical model, was intentionally limited at this point because its importance is discussed in Chapter 3 and Section 2.8 which focuses on calculating time estimates based on the data/results presented hitherto. However, before those topics are addressed, the next section provides an abbreviated synopsis of data evaluation via method and instrument to investigate whether analytical biasing occurs; thus, this assessment precedes the presentation of age calculation estimates and an alternate approach for interpreting $^{26}$Al-$^{26}$Mg systematic data.

2.7 Data Results by Analytical Method

The $\delta^{26}$Mg and $^{27}$Al/$^{24}$Mg data in Appendix A were also used to evaluate whether analytical biasing occurs which could affect our estimates of the calculated initial $^{26}$Al/$^{27}$Al value and ultimately the basis for supporting or challenging the canonical model. This component of the thesis work is intended to alert researchers of potential data interpretation issues that may arise from using one analytical method over another rather than evaluating the technical aspects of the instruments employed or suggesting improvements thereof. The isotopic data collected using the instruments referenced to in the resources was graphed in the manner used to determine the calculated initial $^{26}$Al/$^{27}$Al value via the canonical model and then compared to determine whether any data patterns emerged that indicated biased results by analytical method (Section 1.2.3) or specific instrument (e.g., same instrument model at different laboratory locations).
The results of the investigation did not yield any obvious disparities among the studies included in this thesis. For example, all methods showed that data plotted as patterns that followed well-behaved tight linear isochrons, as scatter, or indicative of conditions that were $\delta^{26}\text{Mg}$ enriched or $\delta^{26}\text{Mg}$ deficient as well. Thus, it is understandable why opposing camps of thought developed and are sustained concerning original $^{26}\text{Al}$ content and distribution in the protoplanetary disk.

As such, another approach was employed to evaluate whether analytical methods or particular instruments skew data results. In this case, $^{26}\text{Al}/^{27}\text{Al}$ ratios, $\delta^{26}\text{Mg}$ and mineral types were mapped against analytical mode and instrument for Allende to produce Figure 118. Allende was selected as an example to investigate the subject relationship because much of the data contained in Appendix A is associated with this well-studied meteorite.

---

32 The data is available in Appendix A for any researcher who desires to investigate this matter of their accord. The numerous graphs were omitted from this work because they do not show anything conclusive. However, they needed to be prepared in an attempt to investigate the subject query.
Figure 118. Laboratory and analytical method comparison (Allende). Isotopic data for Allende is based on the studies included in this study. The scales for $\delta^{26}$Mg and $^{27}$Al/$^{24}$Mg are shown on the left and right ordinate axes, respectively, and sample data ($\delta^{26}$Mg and $^{27}$Al/$^{24}$Mg) is correlated per sample number (range in red font) and color coded as noted in the legend (top left). Dominant phase(s), analytical mode, and specific instrument (when identified in references) are listed.

When the data is organized in this manner, phase-related interferences are accounted for except in cases when they are unknown. One observation is that while some methods produced ‘negative’ Mg values (compared to terrestrial standards), the CAMECA IMS 3f detected the greatest $\delta^{26}$Mg deficiencies among the referenced published studies irrespective of specific
instrument. The most pronounced of these appear to be associated with hedenbergite and hercynite, which implies that alteration occurred and may explain the negative $\delta^{26}\text{Mg}$ values; however, this explanation is not as acceptable regarding some “plagioclase” samples (e.g., sample 313) because anorthite data is well-behaved (i.e., Figures 99b-d); even so, negative $\delta^{26}\text{Mg}$ values may be associated with secondary feldspar. The greatest $^{26}\text{Mg}$ enrichment and $^{27}\text{Al}^{24}\text{Mg}$ ratios in Allende samples were also detected using CAMECA IMS 3f instrumentation. Hibonite petrology appears to exert control over Al/Mg ratios, but not $\delta^{26}\text{Mg}$ which raises a concern over whether reliable data can be gleaned from this phase for canonical model assessments. Samples analyzed with an AEI IM-20 and an unidentified MS (i.e., sample 369) also exhibited respectively high $^{26}\text{Mg}$ enrichment. Analytical data obtained via all other methods or specific instruments yielded similar $\delta^{26}\text{Mg}$ and $^{27}\text{Al}^{24}\text{Mg}$ ranges.

A short discussion of preferred analytical methods as they relate to canonical studies is forthcoming in Chapter 3. Discussions in Chapter 3 are supplemented with graphs that support a new proposal for assessing Al-Mg isotopic systematics from an alternate perspective. Additionally, Chapter 3 will include a brief discussion of oxygen isotopes as potential reservoir indicators with a focus on select data from resources used in this thesis. While oxygen isotope research was not a part of the original scope of this study, some intriguing observations were made concerning the interpretation of same within the framework of the canonical model. Chapter 2 closes with a presentation of calculated age estimates of meteorite types, CAIs and chondrules based on the graphs provided hitherto and all of which source from the references cited in Appendix A and throughout this text.
2.8 Data Results by Calculated Time Following the Start of CAI Formation

The calculated initial $^{26}\text{Al} / ^{27}\text{Al}$ ratios used to determine estimated formation ages of objects are listed on graphs provided in Chapter 2, but only those deemed reasonably reliable based on two criteria and occasionally three: 1) the selected isochrons must be composed from a minimum of five data points, when the entire data set is accommodating to permit this, 2) the slope must exhibit a fit such that $R^2 \geq 0.70$ and 3) in cases where a *minimum* of trimodal data distributions occur, the resulting calculated initial $^{26}\text{Al} / ^{27}\text{Al}$ ratios show a relationship as determined using the RGA method discussed in Section 2.2. These criteria were selected to ensure the reliability of the data comparisons. For instance, too few points would lessen the significance of the isochron describing their distribution.

The minimum number of points (i.e., five) considered requisite for a reliable isochron determination was based on modest data sets that produced relatively well-behaved data distributions (e.g., Acfer 059, Hughes, Isna). The lowest acceptable coefficient of determination was selected because there was still a clear relationship between $\delta^{26}\text{Mg}$ and $^{27}\text{Al} / ^{24}\text{Mg}$ at $R^2 \geq 0.7$. The third criterion (e.g., applying the RGA method) acted as a means to test slope reliability based on alignment (or not) of plotted calculated initial $^{26}\text{Al} / ^{27}\text{Al}$ values. As a reminder, this thesis was not a statistical analysis of published data but, rather an independent evaluation of same, principally by utilizing the means by which conventional approaches are employed to promote or challenge aspects of the canonical model.
Calculated Ages of Chondrite Types

The manner by which age estimate calculations were performed was within the context of the canonical model and relative to when CAI formation initiated based on the calculated initial $^{26}\text{Al} / ^{27}\text{Al}$ ratio of $5 \times 10^{-5}$. Thus, the isochron(s) describing any given plotted data set was consequentially compared to this canonical datum and natural log thereof multiplied by the half-life of $^{26}\text{Al}$ (0.73 My) divided by the natural log of 2 [i.e., (0.73/(ln2) or 1.053167379] to determine the amount of time that passed since $T_o$, the time (My) denoting the onset of CAI formation. Table 1 summarizes the results of time calculations based on the initial $^{26}\text{Al} / ^{27}\text{Al}$ value shown on chondrite graphs (including those for independent isochrons when multiple modes of data distribution were present for a given meteorite).
<table>
<thead>
<tr>
<th>Type</th>
<th>Calculated Initial 26Al/27Al</th>
<th>Δt (Since CAI Formation) My</th>
</tr>
</thead>
<tbody>
<tr>
<td>CV3</td>
<td>5.58E-08</td>
<td>-7.159E+00</td>
</tr>
<tr>
<td>C3 Ungrouped</td>
<td>2.23E-07</td>
<td>-5.700E+00</td>
</tr>
<tr>
<td>LL3.00</td>
<td>4.19E-07</td>
<td>-5.036E+00</td>
</tr>
<tr>
<td>CV3</td>
<td>4.50E-07</td>
<td>-4.938E+00</td>
</tr>
<tr>
<td>CV3</td>
<td>4.88E-07</td>
<td>-4.876E+00</td>
</tr>
<tr>
<td>CV3</td>
<td>5.02E-07</td>
<td>-4.845E+00</td>
</tr>
<tr>
<td>CO3.0</td>
<td>5.44E-07</td>
<td>-4.761E+00</td>
</tr>
<tr>
<td>LL3.00</td>
<td>5.58E-07</td>
<td>-4.734E+00</td>
</tr>
<tr>
<td>CO3.0</td>
<td>7.25E-07</td>
<td>-4.459E+00</td>
</tr>
<tr>
<td>CO3.0</td>
<td>7.81E-07</td>
<td>-4.380E+00</td>
</tr>
<tr>
<td>CV3</td>
<td>1.53E-06</td>
<td>-3.672E+00</td>
</tr>
<tr>
<td>CO3.0</td>
<td>1.83E-06</td>
<td>-3.484E+00</td>
</tr>
<tr>
<td>CM2</td>
<td>2.57E-06</td>
<td>-3.126E+00</td>
</tr>
<tr>
<td>LL3.6</td>
<td>3.22E-06</td>
<td>-2.888E+00</td>
</tr>
<tr>
<td>CH3</td>
<td>4.17E-06</td>
<td>-2.616E+00</td>
</tr>
<tr>
<td>CV3</td>
<td>4.25E-06</td>
<td>-2.556E+00</td>
</tr>
<tr>
<td>C3 Ungrouped</td>
<td>4.53E-06</td>
<td>-2.529E+00</td>
</tr>
<tr>
<td>CV3</td>
<td>5.45E-06</td>
<td>-2.334E+00</td>
</tr>
<tr>
<td>LL3.6</td>
<td>5.62E-06</td>
<td>-2.302E+00</td>
</tr>
<tr>
<td>CO3.0</td>
<td>5.91E-06</td>
<td>-2.249E+00</td>
</tr>
<tr>
<td>CO3.4</td>
<td>6.26E-06</td>
<td>-2.188E+00</td>
</tr>
<tr>
<td>CV3</td>
<td>7.38E-06</td>
<td>-2.015E+00</td>
</tr>
<tr>
<td>LL3.00</td>
<td>7.51E-06</td>
<td>-1.997E+00</td>
</tr>
<tr>
<td>CO3.0</td>
<td>7.83E-06</td>
<td>-1.953E+00</td>
</tr>
<tr>
<td>CR2 Ungrouped</td>
<td>8.94E-06</td>
<td>-1.813E+00</td>
</tr>
<tr>
<td>CV3</td>
<td>1.07E-05</td>
<td>-1.624E+00</td>
</tr>
<tr>
<td>CM2</td>
<td>1.16E-05</td>
<td>-1.539E+00</td>
</tr>
<tr>
<td>EH3</td>
<td>1.59E-05</td>
<td>-1.207E+00</td>
</tr>
<tr>
<td>CM2</td>
<td>1.97E-05</td>
<td>-9.809E-01</td>
</tr>
<tr>
<td>CR2 Ungrouped</td>
<td>2.89E-05</td>
<td>-5.777E-01</td>
</tr>
<tr>
<td>CO3.3</td>
<td>3.16E-05</td>
<td>-4.833E-01</td>
</tr>
<tr>
<td>CO3.0</td>
<td>3.44E-05</td>
<td>-3.938E-01</td>
</tr>
<tr>
<td>CO3.3</td>
<td>3.60E-05</td>
<td>-3.460E-01</td>
</tr>
<tr>
<td>CV3</td>
<td>3.61E-05</td>
<td>-3.430E-01</td>
</tr>
<tr>
<td>LL3.00</td>
<td>3.68E-05</td>
<td>-3.228E-01</td>
</tr>
<tr>
<td>CV3</td>
<td>4.11E-05</td>
<td>-2.064E-01</td>
</tr>
<tr>
<td>CV3</td>
<td>4.15E-05</td>
<td>-1.937E-01</td>
</tr>
<tr>
<td>CO3.0</td>
<td>4.19E-05</td>
<td>-1.864E-01</td>
</tr>
<tr>
<td>LL3</td>
<td>4.37E-05</td>
<td>-1.423E-01</td>
</tr>
<tr>
<td>EH3</td>
<td>4.57E-05</td>
<td>-9.471E-02</td>
</tr>
<tr>
<td>CV3</td>
<td>4.64E-05</td>
<td>-7.870E-02</td>
</tr>
<tr>
<td>C3 Ungrouped</td>
<td>4.71E-05</td>
<td>-6.293E-02</td>
</tr>
<tr>
<td>CR2 Ungrouped</td>
<td>4.84E-05</td>
<td>-3.425E-02</td>
</tr>
<tr>
<td>CR2</td>
<td>4.95E-05</td>
<td>-1.165E-02</td>
</tr>
<tr>
<td>CM2</td>
<td>4.97E-05</td>
<td>-6.338E-03</td>
</tr>
<tr>
<td>CV3</td>
<td>5.11E-05</td>
<td>2.292E-02</td>
</tr>
<tr>
<td>LL3.6</td>
<td>5.22E-05</td>
<td>4.535E-02</td>
</tr>
<tr>
<td>LL3.00</td>
<td>5.94E-05</td>
<td>1.814E-01</td>
</tr>
<tr>
<td>CV3</td>
<td>1.47E-04</td>
<td>1.136E+00</td>
</tr>
<tr>
<td>CV3</td>
<td>1.69E-04</td>
<td>1.283E+00</td>
</tr>
</tbody>
</table>

Table 1. Calculated Chondrite Canonical and Age Estimates (youngest to oldest).
**Figure 119.** Chondrite formation age plot. Table 1 data plotted. Time zero (y=0) denotes the onset of CAI formation per the canonical model. Negative y-values represent time *following* the initiation of CAI formation. The legend is arranged to show the chronology of the first occurrence (e.g., oldest to youngest) of classes (e.g., CV3-oldest to CH3-youngest). Recall that some chondrites exhibited multiple data distributions; thus, the calculated age for each isochron is shown such that multiple data points may occur for any meteorite group.

The age data show an exceptionally strong relationship described by the equation that describes the best fit line for the isochron that resulted. While this data is discussed in the next
chapter, it bears repeating that any given point may include CAI and chondrule data and alludes to concomitant production of both objects by a shared process. Other notable observations: 1) CV3 objects predate the generally accepted initiation of CAI formation by approximately 1.28 Ma; 2) low iron and low metal objects are among the oldest bodies; 3) high chondrite production rates occurred between 0-0.5 Ma, 1.5-2.6 Ma and 4.2-5 Ma relative to the onset of CAI formation as viewed through the lens of the canonical model; 33 and 3) the y-intercept is 10.43 Ma, meaning by that time, chondrite formation ceased based on the data trend; however, no other data was assessed to be younger than ~7.16 Ma relative to the start of the CAI formation process. Table 2 and Figure 120 present the same data in Table 1 and Figure 119 by duration (My) of chondrite formation.

<table>
<thead>
<tr>
<th>Class</th>
<th>Start</th>
<th>Finish</th>
<th>Duration (My)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CV3</td>
<td>1.28</td>
<td>-7.16</td>
<td>8.44</td>
</tr>
<tr>
<td>LL3.00</td>
<td>0.18</td>
<td>-5.04</td>
<td>5.22</td>
</tr>
<tr>
<td>LL3.6</td>
<td>0.05</td>
<td>-2.89</td>
<td>2.94</td>
</tr>
<tr>
<td>CM2</td>
<td>-0.06</td>
<td>-3.13</td>
<td>3.12</td>
</tr>
<tr>
<td>CR2</td>
<td>-0.01</td>
<td>-2.57</td>
<td>2.56</td>
</tr>
<tr>
<td>CR2 Ungrouped</td>
<td>-0.03</td>
<td>-1.81</td>
<td>1.78</td>
</tr>
<tr>
<td>C3 Ungrouped</td>
<td>-0.06</td>
<td>-5.70</td>
<td>5.64</td>
</tr>
<tr>
<td>EH3</td>
<td>-0.09</td>
<td>-1.21</td>
<td>1.12</td>
</tr>
<tr>
<td>CO3.0</td>
<td>-0.19</td>
<td>-4.76</td>
<td>4.57</td>
</tr>
<tr>
<td>CO3.3</td>
<td>-0.35</td>
<td>-0.48</td>
<td>0.13</td>
</tr>
<tr>
<td>CO3.4</td>
<td>-2.19</td>
<td>?</td>
<td>Unknown</td>
</tr>
<tr>
<td>CH3</td>
<td>-2.62</td>
<td>?</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

Table 2. Calculated Duration of Chondrite Class Formation (My). Chondrite class ages listed chronologically relative to onset of CAI formation. Positive - older; Negative – younger.

33 These results are remarkably congruent with accretion formation predictions. See Figure 3 of Weiss and Elkins-Tanton (2013).
Figure 120. Chondrite production duration. This histogram shows formation duration (My) of chondrite classes. When the chondrite data is arranged from longest to shortest duration (as in this figure), there is a respectable correlation between classes. The y-intercept (~7.88 Ma) is within 6.6% of the total duration of chondrite production (8.44 Ma) using CV3 data (first and last to form). Typically, the older the class, the longer members belonging to same were produced with three exceptions - CM2, CR3 Ungrouped and EH3 that display extended longevities compared to some classes that formed before them. Possible reasons may be 1) that their members formed more slowly than those belonging to other classes, 2) different processes formed them, or 3) there were occasional resupplies of $^{26}\text{Al}$ into portion of the protoplanetary disk from outside sources.

The data supports $^{26}\text{Al}$ decay as a mechanism for planetesimal growth as evidenced by the corresponding calculated estimated ages that show a remarkable correlation between chondrite classes. However, the notion of homogenously distributed $^{26}\text{Al}$ is dubious, not exclusively based on the extended longevity of some classes, but rather for reasons stated earlier.
(e.g., refer to discussion on data gaps, data groupings, “incongruencies” between $\delta^{26}\text{Mg}$ and $^{27}\text{Al}^{24}\text{Mg}$ ratios, and CV3 and LL3.4 bifurcated data pathways).

**Calculated CAI and Chondrule Ages**

In theory, CAIs predate chondrules so the following object-type age determinations were made based on the results of $^{26}\text{Al}^{27}\text{Al}$ ratios represented in earlier graphs (Sections 2.4 and 2.5).

<table>
<thead>
<tr>
<th>Type</th>
<th>Calculated Initial $^{26}\text{Al}^{27}\text{Al}$</th>
<th>Calculated Canonical Initial $^{26}\text{Al}^{27}\text{Al}$</th>
<th>$R/R_0$</th>
<th>$\Delta t$ (Since CAI Formation) My</th>
</tr>
</thead>
<tbody>
<tr>
<td>BO</td>
<td>1.29E-05</td>
<td>0.00005</td>
<td>0.258</td>
<td>-1.427</td>
</tr>
<tr>
<td>TYPE 1</td>
<td>5.47E-06</td>
<td>0.00005</td>
<td>0.1094</td>
<td>-2.330</td>
</tr>
<tr>
<td>TYPE 2</td>
<td>9.10E-07</td>
<td>0.00005</td>
<td>0.0182</td>
<td>-4.219</td>
</tr>
<tr>
<td>PO</td>
<td>6.28E-07</td>
<td>0.00005</td>
<td>0.01256</td>
<td>-4.610</td>
</tr>
<tr>
<td>POI</td>
<td>9.90E-07</td>
<td>0.00005</td>
<td>0.0198</td>
<td>-4.131</td>
</tr>
<tr>
<td>MICROSPHERULE</td>
<td>1.99E-05</td>
<td>0.00005</td>
<td>0.398</td>
<td>-0.970</td>
</tr>
<tr>
<td>A</td>
<td>3.95E-05</td>
<td>0.00005</td>
<td>0.79</td>
<td>-0.248</td>
</tr>
<tr>
<td>A</td>
<td>4.65E-06</td>
<td>0.00005</td>
<td>0.093</td>
<td>-2.501</td>
</tr>
<tr>
<td>B</td>
<td>3.78E-05</td>
<td>0.00005</td>
<td>0.756</td>
<td>-0.295</td>
</tr>
<tr>
<td>B</td>
<td>1.80E-05</td>
<td>0.00005</td>
<td>0.36</td>
<td>-1.076</td>
</tr>
<tr>
<td>B1</td>
<td>3.70E-05</td>
<td>0.00005</td>
<td>0.74</td>
<td>-0.317</td>
</tr>
<tr>
<td>B2</td>
<td>4.74E-07</td>
<td>0.00005</td>
<td>0.00948</td>
<td>-4.906</td>
</tr>
<tr>
<td>CTA</td>
<td>9.41E-06</td>
<td>0.00005</td>
<td>0.1882</td>
<td>-1.759</td>
</tr>
<tr>
<td>CTA</td>
<td>4.55E-05</td>
<td>0.00005</td>
<td>0.91</td>
<td>-0.099</td>
</tr>
<tr>
<td>CTA</td>
<td>7.26E-05</td>
<td>0.00005</td>
<td>1.452</td>
<td>0.393</td>
</tr>
<tr>
<td>FTA</td>
<td>4.71E-05</td>
<td>0.00005</td>
<td>0.942</td>
<td>-0.063</td>
</tr>
<tr>
<td>FUN</td>
<td>9.21E-06</td>
<td>0.00005</td>
<td>0.1842</td>
<td>-1.782</td>
</tr>
<tr>
<td>HAL</td>
<td>1.37E-06</td>
<td>0.00005</td>
<td>0.0274</td>
<td>-3.788</td>
</tr>
<tr>
<td>PLAC</td>
<td>4.86E-05</td>
<td>0.00005</td>
<td>0.972</td>
<td>-0.030</td>
</tr>
<tr>
<td>SHIB</td>
<td>4.15E-05</td>
<td>0.00005</td>
<td>0.83</td>
<td>-0.196</td>
</tr>
</tbody>
</table>

**Table 3.** Calculated Ages - CAI v. Chondrule Type (My). Chondrule and CAI types are listed in red and black font, respectively; microspherules are similar to chondrules (refer to Section 2.5) and therefore listed after them. The gray shading highlights the only pre-CAI age. When object types are repeated, each represents a distinct isochron. Ages are listed relative to onset of CAI formation. Abbreviations have been explained. Positive - older; Negative - younger. The data in this table is graphed as Figure 121.
Figure 121. CAI v. Chondrule formation period. All chondrule data is coded red while all other objects are symbolized in other colors and shapes. Note that all but one chondrule type (i.e., BO) plot in the blue shaded field to denote calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios $\leq 1 \times 10^{-5}$ (e.g., typical chondrule values). BO objects formed $\sim 1.43$ My after the onset of CAI formation ($T_o = 0$) if the one exception (i.e., CTA 3) that plots in the light red field (e.g., pre-dates CAI formation) is not considered. Many CAI types plot along chondrules in the blue shaded field. All data plots along the same curve and therefore likely derive from the same formation process ($^{26}\text{Al}$ decay); however, because CAI and chondrule groups formed at different times and durations, it is conceivable that the distribution of $^{26}\text{Al}$ possibly became less homogeneous over time.

**Calculated Chondrite Ages – All Meteorites**

The final data presented in Chapter 2 (Figures 122 and 123) relates to age estimates of the collective meteorite data set (i.e., Appendix A) and will be reintroduced in Chapter 3 for discussion.
Figure 122. Calculated ages for principal meteorite isochrons. This modification of Figure 42 shows the calculated ages in red font relative to the onset of CAI formation (per the canonical model). The values in blue font represent the time difference between successive isochrons - note that the larger time gap is twice that of the lesser one. All times are reported in Ma. The data scatter between the uppermost and intermediate isochron was discussed earlier.
Figure 123. Relationship of calculated ages for meteorite isochrons. When the RGA is applied to the resulting calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios, a clear relationship emerges that bolsters earlier observations for independent chondrite data sets. Similar to Figure 42, but with ages included based on an assumed $^{26}\text{Al}/^{27}\text{Al})_0$ of 5x10^{-5}.

The data provided and discussed in part in Chapter 2, is evaluated more robustly in Chapter 3 and used to present the new perspective on data interpretation alluded to earlier.
Chapter 3

Discussion

3.1 Assessing the Relative Strength of the Canonical Value

The published analytical data presented in Chapter 2 is extensive and indicates that some meteorite material exhibits calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values that support the canonical model (Table 4). However, they are comparatively few (i.e., 4/94 total or 4.3% data points). When the data includes values within 10% of the canonical value, $(4.5 \text{ to } 5.5) \times 10^{-5}$, then 10 points (10.6%) can be considered canonical, still a relatively poor representation of the canonical value (see Figures 124 through Figure 127).
<table>
<thead>
<tr>
<th>Meteorite</th>
<th>26Al/27Al</th>
<th>Meteorite</th>
<th>26Al/27Al</th>
</tr>
</thead>
<tbody>
<tr>
<td>1   Acfer 059</td>
<td>4.95E-05</td>
<td>49   Hughes 030</td>
<td>1.51E-06</td>
</tr>
<tr>
<td>2   Acfer 094</td>
<td>8.94E-06</td>
<td>50   Inman</td>
<td>1.30E-05</td>
</tr>
<tr>
<td>3   Acfer 094</td>
<td>1.69E-05</td>
<td>51   Isna</td>
<td>2.43E-05</td>
</tr>
<tr>
<td>4   Acfer 094</td>
<td>7.46E-06</td>
<td>52   Kainsaz</td>
<td>2.45E-05</td>
</tr>
<tr>
<td>5   Acfer 182</td>
<td>4.17E-06</td>
<td>53   Krymka</td>
<td>1.84E-06</td>
</tr>
<tr>
<td>6   Acfer 182</td>
<td>4.35E-05</td>
<td>54   Krymka</td>
<td>7.13E-05</td>
</tr>
<tr>
<td>7   Acfer 182</td>
<td>1.26E-07</td>
<td>55   Krymka</td>
<td>1.95E-06</td>
</tr>
<tr>
<td>8   Adelaide</td>
<td>2.89E-05</td>
<td>56   Lance</td>
<td>8.40E-06</td>
</tr>
<tr>
<td>9   Adelaide</td>
<td>4.84E-05</td>
<td>57   Lance HH-1</td>
<td>9.04E-06</td>
</tr>
<tr>
<td>10  Adelaide</td>
<td>-5.21E-06</td>
<td>58   Lance 4811</td>
<td>2.87E-05</td>
</tr>
<tr>
<td>11  Adelaide</td>
<td>-2.29E-06</td>
<td>59   Lance 4815</td>
<td>2.44E-05</td>
</tr>
<tr>
<td>12  Adzhi Bogdo</td>
<td>-6.98E-09</td>
<td>60   Leoville</td>
<td>7.38E-06</td>
</tr>
<tr>
<td>13  Allan Hills 77003</td>
<td>4.37E-05</td>
<td>61   Leoville</td>
<td>1.47E-04</td>
</tr>
<tr>
<td>14  Allan Hills 77307</td>
<td>4.19E-05</td>
<td>62   Leoville</td>
<td>4.11E-05</td>
</tr>
<tr>
<td>15  Allan Hills 82101</td>
<td>-6.26E-06</td>
<td>63   Leoville</td>
<td>1.02E-06</td>
</tr>
<tr>
<td>16  Allan Hills 82101</td>
<td>4.21E-05</td>
<td>64   Leoville</td>
<td>1.46E-06</td>
</tr>
<tr>
<td>17  Allan Hills 82101</td>
<td>1.33E-06</td>
<td>65   Leoville</td>
<td>6.98E-07</td>
</tr>
<tr>
<td>18  Allende</td>
<td>-2.79E-08</td>
<td>66   Moorabie</td>
<td>5.53E-05</td>
</tr>
<tr>
<td>19  Allende</td>
<td>3.61E-05</td>
<td>67   Murchison</td>
<td>1.09E-05</td>
</tr>
<tr>
<td>20  Allende</td>
<td>3.73E-05</td>
<td>68   Murchison</td>
<td>4.97E-05</td>
</tr>
<tr>
<td>21  Allende</td>
<td>5.58E-08</td>
<td>69   Murchison</td>
<td>1.97E-05</td>
</tr>
<tr>
<td>22  Axtell</td>
<td>5.02E-07</td>
<td>70   Murchison</td>
<td>2.57E-06</td>
</tr>
<tr>
<td>23  Axtell</td>
<td>4.60E-07</td>
<td>71   Ningqiang</td>
<td>4.53E-06</td>
</tr>
<tr>
<td>24  Axtell</td>
<td>1.49E-06</td>
<td>72   Ningqiang</td>
<td>4.71E-05</td>
</tr>
<tr>
<td>25  Axtell</td>
<td>1.06E-05</td>
<td>73   Ningqiang</td>
<td>2.23E-07</td>
</tr>
<tr>
<td>26  Axtell</td>
<td>5.11E-05</td>
<td>74   NWA 8616</td>
<td>-1.85E-05</td>
</tr>
<tr>
<td>27  Chainpur</td>
<td>-5.16E-07</td>
<td>75   NWA 2976</td>
<td>6.98E-08</td>
</tr>
<tr>
<td>28  Colony</td>
<td>5.44E-07</td>
<td>76   Omans</td>
<td>3.87E-05</td>
</tr>
<tr>
<td>29  Colony</td>
<td>3.44E-05</td>
<td>77   Quinyambie</td>
<td>5.62E-06</td>
</tr>
<tr>
<td>30  Colony</td>
<td>2.08E-05</td>
<td>78   Quinyambie</td>
<td>5.22E-05</td>
</tr>
<tr>
<td>31  Colony</td>
<td>-6.50E-06</td>
<td>79   Quinyambie</td>
<td>3.22E-06</td>
</tr>
<tr>
<td>32  EET 87746</td>
<td>1.59E-05</td>
<td>80   Saharra 99555</td>
<td>-5.58E-09</td>
</tr>
<tr>
<td>33  EET 87746</td>
<td>4.57E-05</td>
<td>81   Semarkona</td>
<td>4.19E-07</td>
</tr>
<tr>
<td>34  EET 87746</td>
<td>-1.25E-05</td>
<td>82   Semarkona</td>
<td>5.94E-05</td>
</tr>
<tr>
<td>35  EET 87746</td>
<td>4.19E-07</td>
<td>83   Semarkona</td>
<td>3.68E-05</td>
</tr>
<tr>
<td>36  EET 92042</td>
<td>3.36E-05</td>
<td>84   Semarkona</td>
<td>7.51E-06</td>
</tr>
<tr>
<td>37  EET 96286</td>
<td>3.90E-05</td>
<td>85   Semarkona</td>
<td>5.58E-07</td>
</tr>
<tr>
<td>38  Efremovka</td>
<td>1.07E-05</td>
<td>86   Sharps</td>
<td>-8.37E-08</td>
</tr>
<tr>
<td>39  Efremovka</td>
<td>4.16E-05</td>
<td>87   Study Butte</td>
<td>2.79E-08</td>
</tr>
<tr>
<td>40  Efremovka</td>
<td>4.25E-06</td>
<td>88   Vigarano</td>
<td>-8.37E-07</td>
</tr>
<tr>
<td>41  Felix (unspecified)</td>
<td>-7.39E-07</td>
<td>89   Vigarano</td>
<td>4.64E-05</td>
</tr>
<tr>
<td>42  Felix (unspecified)</td>
<td>3.14E-05</td>
<td>90   Vigarano</td>
<td>4.88E-07</td>
</tr>
<tr>
<td>43  Felix (unspecified)</td>
<td>3.49E-07</td>
<td>91   Warrenton</td>
<td>4.42E-06</td>
</tr>
<tr>
<td>44  Felix 4813</td>
<td>3.60E-05</td>
<td>92   Yamato (unspecified)</td>
<td>1.83E-06</td>
</tr>
<tr>
<td>45  Felix 4813</td>
<td>-3.14E-05</td>
<td>93   Yamato 81020</td>
<td>5.91E-06</td>
</tr>
<tr>
<td>46  Grosnaja</td>
<td>4.91E-05</td>
<td>94   Yamato 81020</td>
<td>7.25E-07</td>
</tr>
<tr>
<td>47  Grosnaja</td>
<td>8.26E-05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>48  Grosnaja</td>
<td>1.56E-04</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 4.** Calculated initial $^{26}$Al/$^{27}$Al ratios (all meteorites).
Figure 124. Representation of the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios for all meteorites. A visual representation of the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios for all meteorites including those with data distribution patterns with multiple isochrons. The red line and blue shading represent the canonical value ± 10%. Note that 10 points fall within the blue field (two points are close and appear as one), but only four of them line within a few percent of the canonical value. There are also six supracanonical points and at least an equivalent number that plot in the negative quadrant (e.g., negative ordinates).
Figure 125. Bar graph of calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios for all meteorites. This is another perspective of the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ data presented in Table 4 and Figure 124. A red bar depicts the canonical value ($5 \times 10^{-5}$) and the shaded field at its base includes the nine data points that plot within 10% of it. The blue shaded value ($1 \times 10^{-1}$) is for reference as this is often associated with chondrules. In this histogram, the strength and uniqueness of the canonical value does not appear impressive. The canonical value occurs only once or twice more within the data set compared to other calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values.
Figures 126a (top) and 126b (bottom). Pie charts of calculated initial $^{26}\text{Al}/^{27}\text{Al}$ ratios for all meteorites. These diagrams illustrate the various calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values in Table 4. The canonical value line is indicated by the red arrow (Fig. 126a) or shaded in red (Fig. 126b). This is another perspective of the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values presented in Table 4 and Figure 124. Figure 126a and Figure 126b present similar data except that the latter graph uses a smaller scale to more easily discern between calculated ratios that plot near the canonical value. The graph shows that most data either exceeds or falls below the canonical value.
The 10 chondrites that exhibit a canonical value (±10%) are listed below in Table 5:

<table>
<thead>
<tr>
<th>Chondrite</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EET 87746</td>
<td>4.57E-05</td>
</tr>
<tr>
<td>Vigarano</td>
<td>4.64E-05</td>
</tr>
<tr>
<td>Ningqiang</td>
<td>4.71E-05</td>
</tr>
<tr>
<td>Adelaide</td>
<td>4.84E-05</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>4.91E-05</td>
</tr>
<tr>
<td>Acfer 059</td>
<td>4.95E-05</td>
</tr>
<tr>
<td>Murchison</td>
<td>4.97E-05</td>
</tr>
<tr>
<td>Axtell</td>
<td>5.11E-05</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>5.22E-05</td>
</tr>
<tr>
<td>Moorabie</td>
<td>5.53E-05</td>
</tr>
</tbody>
</table>

**Table 5.** Chondrites that display a canonical value (±10%).

These chondrites represent the following classes from oldest to youngest: 1) CV3 (Axtell, Grosnaja, Vigarano); L3.8 (Moorabie); LL3.6 (Quinyambie); CM2 (Murchison); CR2 (Acfer 059); C2 Ungrouped (Adelaide); C3 Ungrouped (Ningqiang); and EH3 (EET 87746). The salient point is that all three chondrite classes, represented by eight diverse groups (e.g., two ordinary, one enstatite, five carbonaceous), carry the canonical signal. The question is whether this is adequate evidence favoring a homogeneous $^{26}\text{Al}$ distribution interpretation. In all, there are 15 chondrite groups, so 53% of them show evidence of $(^{26}\text{Al}/^{27}\text{Al})_o = 5 \times 10^{-5}$ for the data set included in this study. However, it is clear from Table 1 that not all members of canonical-producing groups yield a canonical value. Therein lies the root of contention - one worker will verify the reliability of the canonical model, while another will contest it and yet both camps are correct to a degree.
3.2 Using Oxygen Isotopes as a Paradigm for $^{26}$Al Distribution

Many studies document supra- or subcanonical ($\delta^{26}$Mg deficient) analytical results that do not result from thermal resetting or Mg migration across mineral boundaries based on the lack of evidence of correlating stoichiometric controls, such as Ti$^{+3}$ (e.g., Baker et al., 2012; Bradley et al., 1978; Krot et al., 2012; Liu et al., 2012; Sahijpal and Goswami, 1998). Conceptual reservoirs often serve as a means to explain such observations. To that end, a short exercise was undertaken to explore whether some data in this thesis study that plot independently of well-behaved data distribution patterns (i.e., ‘isochrons’) group together by oxygen isotopes.
<table>
<thead>
<tr>
<th>Meteorite</th>
<th>Group</th>
<th>CAI Name</th>
<th>Phase</th>
<th>Sample</th>
<th>δ18O (‰)</th>
<th>δ17O (‰)</th>
<th>Δ17O (‰)</th>
<th>27AI/24Mg</th>
<th>δ26Mg (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acfer 097</td>
<td>CR2</td>
<td>097 PL92521 #2</td>
<td>Mellilite</td>
<td>Mel #1</td>
<td>-42.7</td>
<td>-48.2</td>
<td>-26</td>
<td>13.1</td>
<td>4.3</td>
</tr>
<tr>
<td>Acfer 097</td>
<td>CR2</td>
<td>097 PL92521 #1</td>
<td>Mellilite</td>
<td>Mel #1</td>
<td>-44.3</td>
<td>-47</td>
<td>-24</td>
<td>54.1</td>
<td>19</td>
</tr>
<tr>
<td>Acfer 097</td>
<td>CR2</td>
<td>097 PL92521 #2</td>
<td>Unknown</td>
<td>Mel #2</td>
<td>-42</td>
<td>-46.2</td>
<td>-24.3</td>
<td>16.9</td>
<td>5.9</td>
</tr>
<tr>
<td>Acfer 097</td>
<td>CR2</td>
<td>097 PL92521 #1</td>
<td>Unknown</td>
<td>Mel #2</td>
<td>-44.1</td>
<td>-46.9</td>
<td>-24</td>
<td>76.6</td>
<td>26.9</td>
</tr>
<tr>
<td>Allende (OXIDIZED)</td>
<td>CV3</td>
<td>STP-1 FUN</td>
<td>Anorthite</td>
<td></td>
<td>-35.1</td>
<td>-43.5</td>
<td>-25.3</td>
<td>744.5</td>
<td>14.99</td>
</tr>
<tr>
<td>Allende (OXIDIZED)</td>
<td>CV3</td>
<td>ALVIN</td>
<td>Olivine</td>
<td>Mel #2</td>
<td>16.3</td>
<td>7.5</td>
<td>-1</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Allende (OXIDIZED)</td>
<td>CV3</td>
<td>C1 S1</td>
<td>Spinel</td>
<td>C1 S1</td>
<td>-3</td>
<td>-13.2</td>
<td>No data</td>
<td>No data</td>
<td>-1.7</td>
</tr>
<tr>
<td>Allende (OXIDIZED)</td>
<td>CV3</td>
<td>B29 S2</td>
<td>Unknown</td>
<td>B29 S2</td>
<td>-12.6</td>
<td>-16.3</td>
<td>No data</td>
<td>No data</td>
<td>2.7</td>
</tr>
<tr>
<td>Asuka</td>
<td>CR2</td>
<td>81B28-61-4 #1</td>
<td>Mellilite</td>
<td></td>
<td>-44.4</td>
<td>-47.2</td>
<td>-24.1</td>
<td>15.5</td>
<td>4.6</td>
</tr>
<tr>
<td>EET87746</td>
<td>EH3</td>
<td>E4640-1</td>
<td>Spinel</td>
<td>E4640-1 #1</td>
<td>-47.8</td>
<td>-49.1</td>
<td>-50.6</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>EET87746</td>
<td>EH3</td>
<td>E4631-3</td>
<td>Hibonite</td>
<td>E4631-3</td>
<td>-44.3</td>
<td>-51.3</td>
<td>-46.4</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>EET87746</td>
<td>EH3</td>
<td>E4642-2</td>
<td>Hibonite</td>
<td>E4642-2</td>
<td>-39.6</td>
<td>-41.5</td>
<td>-40.8</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Efremovka (REDUCED)</td>
<td>CV3</td>
<td>E60</td>
<td>Mellilite</td>
<td>CGI-10 B06-3</td>
<td>16.1</td>
<td>6.6</td>
<td>-1.8</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Efremovka (REDUCED)</td>
<td>CV3</td>
<td>E60</td>
<td>Plagioclase</td>
<td>An#0</td>
<td>-42.2</td>
<td>-45.8</td>
<td>-23.8</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Efremovka (REDUCED)</td>
<td>CV3</td>
<td>E60</td>
<td>Plagioclase</td>
<td>An#1</td>
<td>-39.3</td>
<td>-44.5</td>
<td>-24</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Efremovka (REDUCED)</td>
<td>CV3</td>
<td>E60</td>
<td>Pyroxene</td>
<td>Px#0</td>
<td>-43.9</td>
<td>-46.6</td>
<td>-23.8</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Efremovka (REDUCED)</td>
<td>CV3</td>
<td>E60</td>
<td>Pyroxene</td>
<td>Px#1</td>
<td>-41.5</td>
<td>-45.1</td>
<td>-23.5</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Efremovka (REDUCED)</td>
<td>CV3</td>
<td>E60</td>
<td>Pyroxene</td>
<td>Px#2</td>
<td>-42.3</td>
<td>-45.6</td>
<td>-23.6</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Efremovka (REDUCED)</td>
<td>CV3</td>
<td>E60</td>
<td>Spinel</td>
<td>Sp#0</td>
<td>-41.6</td>
<td>-45.2</td>
<td>-23.6</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>7-228</td>
<td>Glass</td>
<td>7-228</td>
<td>-29.5</td>
<td>-38.7</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>7-971</td>
<td>Hibonite</td>
<td>1-1</td>
<td>-25.1</td>
<td>-36</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>7-412</td>
<td>Hibonite</td>
<td>7-412</td>
<td>-39.1</td>
<td>-47.2</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>7-981</td>
<td>Hibonite</td>
<td>7-981</td>
<td>-62.1</td>
<td>-48.1</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>7-404</td>
<td>Hibonite</td>
<td>7-404</td>
<td>-2.3</td>
<td>-20.2</td>
<td>No data</td>
<td>1369</td>
<td>31</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>7-170</td>
<td>Hibonite</td>
<td>7-170</td>
<td>-50</td>
<td>-41.1</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>7-789</td>
<td>Hibonite</td>
<td>7-789</td>
<td>-56.9</td>
<td>-50.4</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>7-953</td>
<td>Hibonite</td>
<td>7-953</td>
<td>-60.4</td>
<td>-57.2</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>7-290</td>
<td>Hibonite</td>
<td>7-290</td>
<td>-53</td>
<td>-48.1</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>7-505</td>
<td>Hibonite</td>
<td>7-505</td>
<td>-36.8</td>
<td>-41.2</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>7-734</td>
<td>Hibonite</td>
<td>7-734</td>
<td>-52.8</td>
<td>-45.4</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>7-753</td>
<td>Hibonite</td>
<td>7-753</td>
<td>-53.5</td>
<td>-54.2</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>L3.6</td>
<td>6076-5-1</td>
<td>Mellilite</td>
<td>Spot 1</td>
<td>-16.9</td>
<td>-22.7</td>
<td>-13.9</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>L3.6</td>
<td>6076-5-1</td>
<td>Mellilite</td>
<td>Spot 1b</td>
<td>-15.8</td>
<td>-23</td>
<td>-14.8</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>L3.6</td>
<td>6076-5-1</td>
<td>Mellilite</td>
<td>Spot 2</td>
<td>-18.5</td>
<td>-25.9</td>
<td>-16.3</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>L3.6</td>
<td>6076-5-1</td>
<td>Mellilite</td>
<td>Spot 2b</td>
<td>-20.2</td>
<td>-25.9</td>
<td>-15.4</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3[R]</td>
<td>3137</td>
<td>Olivine</td>
<td>OL#0</td>
<td>-39.7</td>
<td>-44.3</td>
<td>-23.7</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Allende (OXIDIZED)</td>
<td>CV3</td>
<td>ALVIN</td>
<td>Cpx</td>
<td>Px #1</td>
<td>-41.8</td>
<td>-46</td>
<td>-24.2</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>E64</td>
<td>Olivine</td>
<td>Oli#1</td>
<td>-37.2</td>
<td>-41.9</td>
<td>-22.5</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>E64</td>
<td>Spinel</td>
<td>Sp#0</td>
<td>-41.7</td>
<td>-44.3</td>
<td>-22.6</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Allende (OXIDIZED)</td>
<td>CV3</td>
<td>T535-F1</td>
<td>Olivine</td>
<td>Oli#2</td>
<td>-42</td>
<td>-45.4</td>
<td>-23.6</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Vigarano (REDUCED)</td>
<td>CV3[R]</td>
<td>V2-01</td>
<td>Fassaite</td>
<td>Fas</td>
<td>-16.3</td>
<td>-20.8</td>
<td>-12.3</td>
<td>3.77</td>
<td>1.44</td>
</tr>
<tr>
<td>Vigarano (REDUCED)</td>
<td>CV3[R]</td>
<td>3137</td>
<td>Spinel</td>
<td>Sp#0</td>
<td>-40.7</td>
<td>-45.6</td>
<td>-24.4</td>
<td>No data</td>
<td>No data</td>
</tr>
</tbody>
</table>

**Table 6.** Oxygen, Al and Mg isotope data for oxidized and reduced meteorites. Sources: Bullock et al. (2012), Fagan et al. (2004), Guan et al (2000b), Holst et al. (2013), Ireland et al. (1992), Kawasaki et al. (2016), Makide et al. (2009), McKeegan et al. (1998), Wasserburg et al. (1977). Yellow shaded - positive values. Blue shaded - data that was selected from a range of analyses of a given sample, but could not be confirmed to correlate with specific oxygen isotope data.
The data in Table 6 displays a process-controlled distribution between $\delta^{17}$O and $\delta^{18}$O values when plotted (Figure 127). These analytical results are based on $^{16}$O-rich and $^{16}$O-poor CAIs with chemical signatures that reflect the former ambient conditions within the protoplanetary disk.\footnote{Some CAIs exhibit a similar O-isotope chemistry as the sun which, according to theory, implies they formed closer in proximity to it than CAIs and chondrules that are O-poor. In cases where CAIs and chondrules occur together in objects or encapsulate each other, an intermediate mixing zone has been proposed based on episodic expansions and depletions of the oxygen-rich nebular gas (e.g., Itoh and Yurimoto, 2003).} The distribution pattern in Figure 127 closely follows the carbonaceous chondrites anhydrous mineral line (CCAM), Primitive Chondrite Mineral line, and the Young & Russell (Y&R) line. Greenwood et al. (2016) present a solid argument that the Y&R line may be the best reference because the original data that served as a basis for establishing the CCAM line was principally derived from Allende’s constituents and may have excluded certain objects like dark inclusions. Greenwood et al. (2016) also indicate that the results of laser ablation analyses of an Allende CAI conducted by Young and Russell (1998) suggest that a line with a slope of one may best represent early conditions in the protoplanetary disk and that the reason why published data tends to plots below the Y&R reference is potentially due to mass fractionation and isotopic exchange through time.
Figure 127. Comparison of oxygen isotope data values. Table 6 data. The $\Delta^{17}O$ values are shown as plus signs and group together (red shaded fields) when plotted against corresponding $\delta^{17}O$ values. Blue points represent $\delta^{18}O$ values plotted against $\delta^{17}O$ values. Paired points, one from Allende and another from Efremovka, plot in the oxidized quadrant. Various reference lines are included. Itoh and Yurimoto (2003) was the source used to plot the Terrestrial Fractionation Line (TFL) and Carbonaceous Chondrite Anhydrous Mineral (CCAM) line; Young and Russell (1998) were referenced for the establishing the Primitive Chondrite Mixing (PCM) and the Young and Russell (Y&R) lines.

The data in Figure 127 displays obvious organization despite the presence of distinct reduced and oxidized fields (upper and lower red shaded $\Delta^{17}O$ data, respectively). However, when the $\Delta^{17}O$ data in Table 6 is plotted against the corresponding initial $^{26}\text{Al}/^{27}\text{Al}$ values calculated from the $^{27}\text{Al}/^{24}\text{Mg}$ and $\delta^{26}\text{Mg}$ data (Table 7) to determine whether redox conditions varied tempo-spatially in the protoplanetary disk (e.g., Ushikubo et al., 2013), the results suggest
marked short-term heterogeneity during at least the early Solar System, but homogeneity with time, at least based on the data used in this exercise (Figure 128).

<table>
<thead>
<tr>
<th>Source</th>
<th>(26Al/27Al)_0</th>
<th>Δ17O (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acfer 097</td>
<td>5.22E-05</td>
<td>-26</td>
</tr>
<tr>
<td>Acfer 097</td>
<td>4.90E-05</td>
<td>-24</td>
</tr>
<tr>
<td>Acfer 097</td>
<td>4.87E-05</td>
<td>-24.3</td>
</tr>
<tr>
<td>Acfer 097</td>
<td>4.90E-05</td>
<td>-24</td>
</tr>
<tr>
<td>Allende</td>
<td>2.81E-06</td>
<td>-25.3</td>
</tr>
<tr>
<td>Asuka</td>
<td>4.14E-05</td>
<td>-24.1</td>
</tr>
<tr>
<td>Vigarano</td>
<td>5.33E-05</td>
<td>-12.3</td>
</tr>
</tbody>
</table>

Table 7. Data from Table 6 with corresponding calculated initial (26Al/27Al) values.

Figure 128. Oxygen isotope data v. calculated initial 26Al/27Al ratios. Table 7 data. Note the vertical blue field shows diverse redox conditions at the onset of CAI formation but uniformity thereafter (horizontal blue field).
The data included in Table 7 and Figure 128 is limited, but this exercise suffices to demonstrate that redox conditions were variable in the early protoplanetary disk even if for a relatively short period of time. More importantly though, is the relevance to the canonical model and its claim that $^{26}$Al was homogenously distributed in the protoplanetary disk. The counterargument is that if $^{26}$Al is associated with oxygen isotopes that allude to a heterogeneous distribution (e.g., reservoir concept) in the protoplanetary disk, then it stands to reason that it too was not homogeneous in extent. However, without knowing more about reservoirs (e.g., longevity, migration, number, volume, etc.) and the amount of material cycled through them, using such an argument against a model that proposes a homogenous $^{26}$Al distribution requires additional support.

Jura et al. (2013) provide data that implies that $^{26}$Al was indigenous to our protoplanetary disk in concentrations comparable to those observed in extrasolar asteroids. The infrared signature of circumstellar disks surrounding White Dwarfs indicates that tidally-destroyed asteroid belts source their content to stellar photospheres. A diagnosis of the stellar atmospheric spectral patterns infers that the asteroids are differentiated in such systems and widespread. According to Jura et al. (2013), if the total calculated mass of $^{26}$Al in the Milky Way is confined to molecular clouds where massive stars are believed to produce this $^{26}$Al, its average concentration falls between 40% and 60% of the canonical value. This observation lends support to the notion that $^{26}$Al was widely distributed in the nascent Solar System and that the canonical value is not especially elevated or unique.
3.3 Condensation Considerations

The data in Chapter 2 showed that the melting and modification of CAIs continued through the onset of chondrule formation, which according to the data included in this thesis, was a gap of ~1.43 Ma (i.e., Table 3; BO chondrules). Ultimately though, the minerals that constitute CAIs and chondrules harbor the key to testing the validity of the canonical model because they contain $^{26}$Mg that is considered to be $^{26}$Al-derived. While this statement appears *a priori*, the isotopic data in section 2.6 documents the diverse range and behavior of $^{26}$Mg distribution within and between minerals defining the data distribution patterns in chondrites, a fact that appears sorely underappreciated. To that end, the canonical model was evaluated via the lens of the hierarchy of mineral condensation. Theoretically, condensation models (e.g., Ebel, 2006; Grossman, 1972) that assume a pressure of $10^3$ atmospheres serve as the crux of the model because they reconstruct the hierarchy of mineral formation during the evolution of the protoplanetary disk. Table 8 lists the order of mineral ‘precipitation’ predicted by condensation models as well as the range of $\delta^{26}$Mg and greatest $^{27}$Al/$^{24}$Mg values associated with each phase based on the data used in this study and presented in Appendix A.
<table>
<thead>
<tr>
<th>Condensation Order</th>
<th>$\delta^{26}$Mg (‰)</th>
<th>$^{27}$Al/$^{24}$Mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corundum</td>
<td>-16 to 55,400</td>
<td>647,300</td>
</tr>
<tr>
<td>Hibonite</td>
<td>-33.8 to 920</td>
<td>41,600</td>
</tr>
<tr>
<td>Grossite</td>
<td>2.9 to 2,496.6</td>
<td>433</td>
</tr>
<tr>
<td>Melilite (Gehlenite)</td>
<td>-9.2 to 22.33</td>
<td>86.9</td>
</tr>
<tr>
<td>Spinel (Hercynite)</td>
<td>-10 to 47.7</td>
<td>146.14</td>
</tr>
<tr>
<td>Diopside</td>
<td>-7 to 11.2</td>
<td>13.7</td>
</tr>
<tr>
<td>Fosterite (Olivine)</td>
<td>-2.74 to 14.56</td>
<td>9.02</td>
</tr>
<tr>
<td>(Plagioclase)</td>
<td>4.87 to 7.35</td>
<td>0.05</td>
</tr>
<tr>
<td>Anorthite (Secondary Feldspar)</td>
<td>-3.3 to 20.18</td>
<td>258.1</td>
</tr>
<tr>
<td>Nepheline</td>
<td>-3.7 to 5.4</td>
<td>581</td>
</tr>
<tr>
<td>Glass</td>
<td>0.032 to 4.07</td>
<td>132</td>
</tr>
</tbody>
</table>

**Table 8.** Data from this study associated with each phase listed in the theoretical order of condensation from the protoplanetary disk (e.g., Ebel, 2006; Grossman, 1972).

Highlighted minerals are related to each other and one member may not be specifically included in the condensation sequence model; however, they comprise part of the thesis data set and are thus included in the list. Glass and whole rock are also included in the “phase” list for comparative purposes only as they are not condensates and nepheline and hercynite are considered secondary phases in CAIs (e.g., MacPherson et al., 2012; Itoh et al., 2004). It is also noteworthy that in many studies, specific plagioclase minerals were not identified. Secondary feldspar was included even though it represents an altered or recrystallized phase. Table 8 shows how the thesis data aligns (columns 2 and 3) to the conventional model (first column). The results are presented in the far right column and listed in order of greatest to least Al/Mg. Yellow highlighting indicates a mineral that occurs ‘out of place’ compared to the conventional...
model. Plagioclase/anorthite exhibits the most pronounced disparity - this is also observed in the corresponding $\delta^{26}\text{Mg}$ values.

Low temperature chemical kinetics may be responsible for the disparity (e.g., misorder of some phase appearances). According to Van Orman et al. (2014) and Kita and Ushikubo (2012), the Mg diffusion rate in albite occurs at orders of magnitude greater than in anorthite because of zoning effects and slower diffusion rates between CaAl (e.g., anorthite) and NaSi (e.g., albite) over time *relative to Mg*. Thus, Mg diffusion is not driven by its own concentration gradient but rather a reflection of chemical reactions between other ions (e.g., Van Orman et al., 2014). Likewise, spinel exhibits zoning (Paque et al., 2007) and preferential enrichment of V and Fe in response to oxidation and alteration, respectively. The study determined that there was no compelling correlation between the V and Fe distribution and that when they occasionally occurred together it was due to FeO diffusion from external sources during diagenesis such that enrichment occurred along crystal edges (Paque et al., 2007).

Although the crystallographic ionic radius Mg is slightly larger than most of the electronic states exhibited by Fe, they are generally comparable; thus, it is reasonable to assume that Mg-enrichment along crystal boundaries could have also occurred in chondrite minerals during alteration. The larger ionic radius of Mg would likely hinder its migration deeper into minerals than Fe with all other considerations being equal and result in elevated concentrations along mineral boundaries. This could explain, in part, the wide range of Al/Mg values reported in the studies because ‘plagioclase’ is a designation that includes the referenced endmembers and their associated intermediaries.
The table provided in Appendix A includes data from three studies (Fahey et al., 1987b; Goswami et al., 1994; Young et al. 2005) that investigated Al-Mg systematics as a function of distance from mineral rims in objects comprising CV3 chondrites. Rim distances were converted to positive values as some workers reported them as negative values; thus, for example, 100 µm and -100 µm are considered equivalent internal distances from a mineral rim. The data is summarized in Figures 129a-f.

**Figure 129a (left) and 129b (right).** $^{27}$Al/$^{24}$Mg v. rim distance (greater values = deeper into crystal) at different scales. Figure 129a documents a curious correlation between $^{27}$Al/$^{24}$Mg with rim distance that remains to be explained (blue shaded field). When the scale is decreased (Figure 129b), the greatest $^{27}$Al enrichment (or $^{24}$Mg depletion) appears to occur within ~200 µm of sampled crystal surfaces. The remaining data appears scattered within a fairly well-constrained range of $^{27}$Al/$^{24}$Mg ratios (e.g., 2-13).
Figure 129c (left) and 129d (right). Figure 129c (left) and 129d (right) compare δ²⁶Mg with rim distance at different scales. The apparent δ²⁶Mg enrichment zone is also present in these figures (~15 µm in from crystal surfaces). The range in δ²⁶Mg values is fairly consistent until depths >3,000 µm at which point they decrease - at least in this data set.

Figure 129e (left) and 129f (right). Figure 129e (left) and 129f (right) compare δ²⁶Mg v. ²⁷Al/²⁶Mg at different scales. Figure 129e shows a correlation between the graphed parameters and Figure 129f resolves the data into four isochrons. A portion of the isochron in Figure 129e is included in Figure 129f as a red line (the lowest of the four). All isochrons were manually inserted for illustrative purposes rather than calculated.
Figures 129a-d show ionic enrichment at or near crystal surfaces; therefore, analytical programs that principally target sampling along crystal boundaries are susceptible to inflated results. Since this is apparently the case for unaltered chondrites, (e.g., the data graphed in Figures 129a-f), biased results in altered material is naturally expected to be of even greater magnitude. Since alteration and CaAl-NaSi migration factors cannot account for what appears to be enrichment at crystal boundaries in the above example, other factors must be responsible. Identifying and investigating those factors falls outside the scope of this thesis; however, contextually, it clear that sample selection has the potential to confound testing the validity of the canonical model.

This is also exemplified by the observation that the data in the above figures does not show a discernable $\delta^{26}$Mg gradient with distance from crystal boundaries. Some researchers may attribute this as support for a homogeneous $^{26}$Al distribution in the protoplanetary disk despite the various lines of evidence that indicates otherwise as demonstrated and discussed throughout this study. Contrarily, the lack of an increase of $^{26}$Mg with depth may convince other researchers that the canonical model is errant. The reason may be that the objects selected for the analyses plotted in the Figure 129 series were all about the same age and formed rapidly such that an expected gradient is absent. Further, Figure 129f shows evidence of what might be the influence of crystal zoning or “solid solutions” (e.g., several linear fields in the graph with different y-intercepts). Oscillatory zoning in melilite is documented in CAIs (e.g., Kerekgyarto et al., 2015) and may explain why it has yielded widely variable ($^{26}$Al/$^{27}$Al)$_o$ values (e.g., MacPherson et al. (2010) in cases when alternation (thermal reprocessing) does not appear to be the cause (e.g., Kerekgyarto et al., 2015). A review of the minerals analyzed for the data represented in Figure

---

35 Per Kerekgyarto et al., (2015), the thermally-altered melilite that produced a supracanonical value was attributed to ($^{26}$Al/$^{27}$Al)$_o$ because the graphed isotopic data was well-behaved.
129f indicates that 68.9% was derived from melilite, while the bulk of the remaining analyses was attributed to spinel (12.9%) and diopside (12.4%). The point is that there is ample data to document that sample selection, even in pristine material, has the potential to muddle testing the validity of the canonical model.

Because conventional methods of data interpretation can lead to opposing interpretations, the isotopic data included in this thesis was used to investigate whether the tenets of the condensation model were expressed in canonical-type graphs or masked by sampling selection and lack any apparent pattern. This was accomplished by taking the collective isotopic data set graphically depicted as Figures 41 and 42 and adding mineral-specific data. Thus, the dominant phase associated with each data point was coded on the Figure 130 graph series a-j (e.g., same data set at difference scales).
All Mineral Data

(d)
All Mineral Data

δ26Mg (%)

27Al/24Mg

(i)
Figures 130a-j. Figure 130a shows the three principal isochrons (and additional data) coded by phase - in this case dominantly corundum and minor hibonite (near origin of lowest isochron). When the scale is increased consecutively through Figure 130j, various data patterns emerge. The legend lists phases in their general order of condensation from the protoplanetary disk.

The data in the graphs are in good agreement with the condensation model.\textsuperscript{36} In Figure 130a, the data shows corundum as the prevailing phase with hibonite occurring towards the origin at low $\delta^{26}$Mg values along the lowest of the three isochrons. These two phases are considered to be the first minerals that formed during the development of the protoplanetary disk (Grossman, 1972; Ebel, 2006). Additional phases occur at $^{27}$Al/$^{24}$Mg$<42,000$ (approximately) which perplexingly, is only 6.2\% of the entire range of this parameter (Figure 130b) or relatively

\textsuperscript{36} Some CAIs formed via igneous activity. The implications thereof are discussed shortly.
late in the development of the protoplanetary disk. At the scales shown in Figure 130b and 130c, the three main isochrons distill into four ‘polarized’ isochrons that alternate between corundum and hibonite-dominated phases, which is a phenomenon that will be explained shortly. In Figure 130d, plagioclase and anorthite become evident in the lowest isochron and near the origin, respectively.

Increasing the scale (Figure 130e) decreases data organization, but it is clear that grossite occurs before plagioclase and anorthite in that order, preceding downslope toward the origin in the uppermost isochron. Plagioclase occurs before anorthite in the bottom isochron as well and there are concomitant appearances of grossite and perovskite. In Figure 130f, corundum persists along the lowest isochron and to a lesser extent in the uppermost isochron, but feldspar/plagioclase/anorthite/nepheline are the chief phases at this scale and while the constraints are noted along the canonical isochron $5 \times 10^{-5}$ and nearly zero, a good deal of disorganization occurs in between. A plethora of phases resolve in Figures 130g and 130h. Except for occasional circumstances where spinel occurs at elevated points, the bulk of data documents that melilitie, spinel and hercynite generally occur in that order in the uppermost isochron. There is also a separate melilitie field that is evident in Figure 130h that lies tightly along the ordinate axis and ‘above’ the uppermost isochron. It is suspected that this resulted from crystal zoning or localized ambient conditions within the protoplanetary disk. Figure 130i shows distinct subparallel melilitie fields reminiscent of Figure 129f which is also based primarily on melilitie data and may allude to zoning effects. The data shown in Figure 130j appears to be either highly scattered (melilitie) or clustered (spinel, diopside, olivine/fosterite) at the scale shown. The clustering may be an artifact of analyzing localized regions in a given sample(s).
The result of including phase data in the canonical isotope graphs generally reflect the predictions made by the condensation model of mineral appearance order, though not ‘perfectly.’ The phase data basically adheres to the condensation order moving downslope along any given isochron as well as counterclockwise between slopes (e.g., from least to greatest angle). In the latter case (e.g., comparing isochrons), this was interpreted to mean that mineral condensation advancement occurred earlier in the lowest isochron than during the period of intermediate isochron and, likewise, earlier during the intermediate isochron than the highest isochron. A good example is provided in Figure 130d - at the scale shown, the lowest isochron is dominantly composed of hibonite, plagioclase and minor corundum, whilst the intermediate isochron is primarily composed of hibonite and the upper isochron of corundum.

The ‘completeness’ of the condensation series decreases with slope angle; thus, the lowest isochron archives fewer phases than the intermediate or higher isochrons. The ramification is especially fascinating because phase condensation order serves as a qualitative chronometer in this application. Specifically, the subject data can be interpreted that time forward runs opposite to what is posited by the canonical model. In simple terms, Isochron 3, as a whole, is composed of lower percentages of refractory minerals than Isochron 1 (Figure 131). It is well-established that refractory mineral production diminished over time (e.g., Connolly, 2006); thus, time ‘should’ run from Isochron 1 towards Isochron 3 contrary to the canonical model. Interestingly, the recent work of Schiller et al. (2015) assigns a \((^{26}\text{Al}/^{27}\text{Al})_0\) value of \(~1.33\times10^{-5}\) to the constituents of angrite parent bodies to account for their rapid growth and the preservation of chondrules.\(^{37}\) While their canonical estimate is not as low as the calculated

---

\(^{37}\) Schiller et al. (2015) argue that if the the canonical value is valid, too much heat would have been generated by \(^{26}\text{Al}\) decay to have allowed the cooling of growing planetesimals to below their liquidus over several million years and thus a problematic time gap is invoked between CAI and planetesimal formation. They also indicate that undifferentiated chondritic bodies would melt if the time period was extended to compensate for the cooling of
(\textsuperscript{26}Al/\textsuperscript{27}Al)\textsubscript{o} value associated with Isochron 1 (~2.57x10\textsuperscript{-6}) in Figure 131, it fundamentally pushes back time in the direction proposed herein (e.g., time-forward running counterclockwise in the graphs). Another basis for reading time in the proposed alternate manner is that the hibonite and perhaps melilite data presented in Chapter 2 pose a special quandary to the canonical model if at least some percentage of these minerals in CAIs formed as condensates rather than exclusively from igneous processes. The reason is that the calculated initial \textsuperscript{26}Al/\textsuperscript{27}Al values for the earliest (‘oldest’) isochrons expressed in hibonite (8.86x10\textsuperscript{-6}) and melilite (3.94x10\textsuperscript{-5}) correlate with the following formation ages relative to the inception of CAIs: hibonite (1.82 my) and melilite (0.25 my). Equally interesting, not only does reading time forward in this alternate manner (i.e., counterclockwise) explain away the extremely low calculated initial \textsuperscript{26}Al/\textsuperscript{27}Al values associated with hibonite data, but it also accounts for the higher isochron value exhibited by Type II chondrules relative to Type I chondrules.

An earlier footnote (i.e., 39) indicated that some CAIs are igneous in origin; therefore, those minerals did not derive directly from condensates. The isotopic data included in the Figure 130-series is not discriminatory and includes minerals that formed as condensates or as products of igneous activity. As such, the data does not strictly adhere to the hierarchical pattern of a mineral’s first ‘occurrence’ despite the remarkable agreement with the predictions made by the condensation model. The congruence between mineral appearance and condensate order diminishes as isochrons approach the graph’s origin (Graph 130-series). It can reasonably be asserted that the mineral data presented on the isochrons which depart from the condensate sequence along an isochron are materials that either originated from igneous activity or were altered in some regard. Two additional remarkable aspects of the graphs are the decrease of

differentiated bodies. A substantially lower (\textsuperscript{26}Al/\textsuperscript{27}Al)\textsubscript{o} value of 1.33x10\textsuperscript{-5} however, mitigates these issues (Schiller et al., 2015).
refractory minerals along Isochrons 2 and 3 (compared to Isochron 1) and the *recurrence* of higher refractory minerals (e.g., those that formed earlier than others) at later times (e.g., presumably after lower temperature condensates formed). In the first case, the presence of lower temperature minerals in greater abundance in isochron 3 relative to Isochrons 2 or 1, lends further credence to the interpretation that time runs from Isochron 1 towards Isochron 3 *since refractory minerals depleted with time*. As for the second observation, high temperature igneous processes could account for the reappearance of higher temperature minerals among an otherwise contiguous occurrence of minerals in an order predicted by the condensation model.

It was noted and discussed earlier that three dominant data distribution isochrons emerged when the entire data set ($^{27}\text{Al}/^{24}\text{Mg}$ v. $\delta^{26}\text{Mg}$), based on resources used in this study (e.g., Appendix A), was graphed as Figures 41 and 42. (For convenience, the graph is presented below as Figure 131 with a slight modification.) The isochrons have unique characteristics relative to one another. For example, the lowest isochron or “Slope 1” contains the fewest data points extending away from the origin, the greatest $^{27}\text{Al}/^{24}\text{Mg}$ ratios, the lowest corresponding $\delta^{26}\text{Mg}$ values and a ($^{26}\text{Al}/^{27}\text{Al}$)$_o = 2.57\times10^{-5}$. The intermediate isochron (“Slope 2”) exhibits a calculated initial $^{26}\text{Al}/^{27}\text{Al}$ of 1.83$\times10^{-5}$, which exceeded the average of all data (~1.3$\times10^{-5}$) and a data distribution that is denser and more uniform than the lowest isochron (e.g., more data extends further from the origin). There is also a notable gap between the lowest and intermediate data distribution isochrons. The uppermost isochron (“Slope 3”) displays a data distribution that supports the canonical value [($^{26}\text{Al}/^{27}\text{Al}$)$_o = 4.92\times10^{-5}$] and it is comprised of a greater density of data points extending away from the origin as either other isochron. The gap between the intermediate and uppermost isochron is half that of the gap that exists between the lowest and

---

38 For instance, corundum ‘reappears’ in isochron 1 as the origin is approached. Note however, that the order of appearance of other minerals continues to follow in step with the condensation model.
intermediate zone and it is occupied by seemingly random data that can be, as previously discussed, potentially attributable to alteration/weathering, ‘reservoir’ conditions, ion migration, or reasons yet identified. As a related note, Krot et al. (1998) concluded that alteration of CV3 chondrites increased with time; if this was a typical evolutionary pattern in other chondrite groups, it adds further credence to the notion that the upper isochron is the youngest of the three because the associated data randomness is the most pronounced.

The trend in data population change between consecutive isochrons requires an explanation. As there is a plethora and diversity of data, there is no reason to attribute either the relative increase or decrease of data among consecutive isochrons to analytical biasing. Even so, this is an assumption but one that will be accepted for the sake of discussion. Second, it is paramount to be mindful of what the data in the graph represents. It quantifies the deviation of $^{26}\text{Mg}$ from terrestrial standards (e.g., normalized to the ratio of the relative abundance of stable isotopes $^{26}\text{Mg} / ^{24}\text{Mg}$). While this is basic knowledge, the point being stressed is that the data is used as a paradigm for understanding the concentration and distribution of $^{26}\text{Al}$ within the context of the canonical model rather than a direct measurement of this isotope. This is a critical fact because the canonical model has time running from Slope 3 towards Slope 1 in Figure 131 under the reasonable assumption that the initial $^{26}\text{Al}$ in the protoplanetary disk became exhausted as it decayed rapidly into $^{26}\text{Mg}$. Therein lays a potential issue according to how the data bears out and how it is interpreted in this study. Time is a central consideration in how Al-Mg systematic data is interpreted. More specifically, at $T_0$, time zero or the initiation of CAI formation, the canonical model posits that $^{26}\text{Al}$ was at its greatest content in the protoplanetary disk. However, the greatest $^{26}\text{Mg}$ production required time to amass; therefore, the alternate interpretation presented herein is that $^{26}\text{Mg}$ should occur at its lowest concentrations early on
(e.g., $\delta^{26}\text{Mg}$ values should increase with time prior to decreasing). This concept is indirectly supported by the work of Sahijpal and Goswami (1998) who propose that the earliest objects (mainly corundum, hibonite and FUN-objects) were deficient or devoid of $^{26}\text{Al}$ because it was introduced later via a stellar source. Thus, we share the observation that $^{26}\text{Al}$ increased with time although our explanations differ. Likewise, the proposed alternative also agrees with the work of Jura et al. (2013) in that $^{26}\text{Al}$ production may have increased over time (e.g., being contingent of course on the longevity and number of stars capable of producing $^{26}\text{Al}$ within molecular clouds). If this alternate perspective is correct, then time progresses from Slope 1 towards Slope 3 (see Figure 131) and from the distal ends of the slopes towards the origin.

Figure 131. New perspective of time progression on meteorite isochrons. The above figure depicts the entire data set in Appendix A for the graphed parameters, including calculated information as noted, and an arrow denoting an alternate proposal for the direction of time advancement.
Note the calculated age estimates\textsuperscript{39} for the isochrons show that the time interval between Slopes 1 and 2 was \~{}2.07 Ma or \~{}2.83 $^{26}$Al half-lives ($^{26}$Al\textsubscript{1/2} \~{}0.73 Ma), whereas Slopes 2 and 3 are ‘separated’ by \~{}1.03 Ma or half the time of aforementioned time interval (i.e., \~{}1.41 $^{26}$Al half-lives). Thus, the $^{26}$Al/$^{27}$Al concentration should be \~{}1.45x10\textsuperscript{-5} and \~{}2.49x10\textsuperscript{-6} after 1.03 Ma and 2.07 Ma, respectively. These estimates are within 20.8\% of the calculated ($^{26}$Al/$^{27}$Al)\textsubscript{o} value for Slope 2 and 3.1\% of Slope 1. While these observations do not overwhelmingly favor either perspective (canonical or alternate view) of time directionality, it suggests that $^{26}$Al was not homogeneously distributed in the protoplanetary disk based on the differences (20.8\% v. 3.1\%) between the calculated and anticipated initial $^{26}$Al/$^{27}$Al values of each isochron using the half-life of $^{26}$Al. The greater disparity between the calculated and expected $^{26}$Al/$^{27}$Al values occurs between Slopes 2 and 3 may hold a clue to time directionality.

Recall the discussion in Chapter One that the two principal hypotheses concerning the origin of $^{26}$Mg are decay of $^{26}$Al originating from 1) supernova or 2) solar-driven bombardment of $^{24}$Mg with $^{3}$He (e.g., Lee, 1998). If the source of the “additional” $^{26}$Al (20.8\%) was locally derived (e.g., bombardment), it would suggest that the objects were forming in closer proximity to the sun than those associated with Slope 1.\textsuperscript{40} As objects aggregated, their mass increased and would have brought them closer to the sun thereby increasing $^{26}$Al via bombardment and exposure to heat. This may also explain the polarization between corundum and hibonite-dominated isochrons mentioned earlier. As the protoplanetary disk cooled and minerals began to form sequentially, any material moving toward the sun as particulate mass increased (in response to gravitational pull) would be subjected to an increase in solar radiation which could reset the

\textsuperscript{39} Based on ($^{26}$Al/$^{27}$Al)\textsubscript{o}=5x10\textsuperscript{-5}.

\textsuperscript{40} If not, then the additional $^{26}$Al could have been introduced from outside the solar system from sources already discussed and it would undermine the canonical model.
condensation process as evidenced in Figure 130b, where time is interpreted as moving from lower to higher angled slopes. This also accounts for the lack in the completeness of the mineral condensation sequence until later periods (uppermost isochron) when objects had increased in mass, assumed established orbits and eventually cooled.

If the interpretation of these observations is sound, then time runs towards Slope 3 in Figure 131 and agrees with the earlier conjecture that higher $\delta^{26}$Mg values resulted from $^{26}$Al decay over extended time (e.g., time forward from Slopes 1 to 3). This could also explain the coexistence of CAIs and chondrules on shared slopes, but with the latter occurring at lower positions (e.g., lower $\delta^{26}$Mg and $^{27}$Al/$^{24}$Mg values); see Figure 121. Additionally, an earlier diagnosis attributed the occurrence of ‘orphans’ (e.g., data points that fall between isochrons) to three popular explanations - alteration, Mg migration across crystal boundaries and reservoirs within the protoplanetary disk. These mechanisms require time and the effects thereof should therefore increase accordingly (except perhaps those relating to reservoirs depending on their physical parameters and longevity). Their relatively high number of orphans closest to the isochron labelled as “3” in Figure 131 would again hint at time progressing to the left (counterclockwise).

3.4 Analytical Methods Revisited

The following brief discussion touches on technical advancements as they relate to Mg-isotopic research regarding the canonical model, provides an abbreviated synopsis of the effects of analytical methods on data reliability from the perspective of analysts, and includes a few case
studies where a given sample(s) was analyzed using different methods to evaluate data congruency.

Much of the early cosmochemical research was performed using ion microscopes on mineral separates, an approach that was both tedious and could inflate analytical error. By the mid-to late 1970s, direct loading techniques were being developed (e.g., Lee et al., 1977a) that allowed for reduced sample sizes and greater analytical precisions using mass spectrometers. Analytical results were verified via optical methods, x-ray diffraction, electron microprobes, etc.

Advancements in ion microprobe development has allowed for greater analytical resolution and a continued reduction in sample size. Huneke et al. (1983) provide an example of an early evaluation of the technical improvements offered by Cameca instruments - in this case, the PANURGE IMS 3F, over prior methods involving manual separation of mineral clasts by digestion. Optical improvements, greater resolution power, and narrower ionization beams allowed exploratory work within crystals to a field width of 10 µm. In their study, anorthite glass samples doped with known concentrations of Mg (300 and 1,000 ppm) were analyzed to determine congruency between calculated and empirical values. The results of the investigation documented a sensitivity and precision of 10‰ and 3‰, respectively (Huneke et al., 1983). Further, Huneke et al. (1983) note the agreement between the highest and lowest Al/Mg values detected in their study of WA Allende plagioclase and those published by Lee et al. (1977a); however, in terms of disparities, Huneke et al. (1983) indicate that Lee et al. (1977a) reported 1) greater $^{26}$Mg excesses at Al/Mg>300, 2) an isochron with a steeper slope and 3) a more modest calculated $^{26}$Mg/$^{24}$Mg ratio (i.e., 3.6‰ less) for the isochron describing their data set. Data published by Bradley et al. (1978) was also included in Huneke et al. (1983). The $^{26}$Mg/$^{24}$Mg data plots ~0.01 to 0.02 higher for plagioclase compared to the results of Lee et al. (1977a) and
about that much lower for spinel data relative to the work published by Huneke et al. (1983). In the given examples, although the published Al/Mg ratios for any given sample were reasonably comparable among historic studies, different isochrons result based on the preciseness of $^{26}$Mg measurements among analytical techniques, notwithstanding other factors such as interferences posed by matrix, instrumental fractionation, mineral-specific characteristics (e.g., low Al/Mg ratios, $\delta^{26}$Mg deficiencies, Mg migration, kinetic effects, etc.).

McKeegan and Davis (2003) opine that beginning in or around 2000, that the development of the MC-ICPMS and laser ablation for dissolved material and spot analyses, respectively, and technical advancements in multiple collector techniques for large-radius ion microprobes, has bolstered our knowledge of Al-Mg systematics in canonical studies because it has improved measurement precision and lowered error. If the analytical approaches employed in historical and current canonical studies for Allende are representative of those typically used in canonical research, then it is clear from Section 2.7 that SIMS is the analytical method of choice and the Cameca IMS 3f housed at Washington University at St. Louis is particularly utilized (Figure 118).

This may also indicate that much of the research performed involves in situ isotopic work rather than approaches involving solution analyses. An advantage of using in situ isotopic analytical techniques such as SIMS, LA/MC-ICP-MS, and ICP-MC is that large scale spatial information is preserved (e.g., Wu, 2010). This is especially important when resolving issues involving chemical alteration or ion migration that ultimately affect isotopic ratio and initial $^{26}$Al/$^{27}$Al calculations. However, one disadvantage is that these methods are limited to near-surface analyses (several microns; Wu, 2010), basically the regions where ion migration and alteration are often pronounced as discussed earlier. Likewise, there are also the universal
challenges of obtaining reliable isotopic data due to instrumental mass biasing, matrix interferences, and element fractionation (e.g., Wu, 2010).

Tipper et al. (2008) refer to numerous isotopic studies where employment of MC-ICP-MS yield results with two standard deviation precisions that exceed 0.14‰. The issue, as they note it, is that increased precision allows for a greater potential to introduce error into the results due to preparation and analytical artifacts. Their investigation involved spiking samples to determine the accuracy of stable Mg and Ca isotope analyses via MC-ICP-MS against known standards from sea water (i.e., SRM915a, DSM3) and the results were in excellent agreement. While analyzed samples consisted of terrestrial silicates and olivine separates, the range in $\delta^{26}$Mg values included those observed in chondrites. Slight disparities between their results and those published from similar studies were attributed to potential preparation artifacts involving Mg purification. However, their results, which showed some overlap with those published in other studies, implied that $\delta^{26}$Mg occurred within a highly restricted range among silicates. Tipper et al. (2008) indicated that the precision they obtained was substantially better than what was reported in many of the studies included in their research, thus complicating the attempt for a comparative analysis.

Connolly et al. (2009) employed LA-MC-ICPMS and SIMS analytical techniques using UCLA’s ThermoFinnian Neptune and the Cameca IMS 1280 at the University of Hawaii (Manoa), respectively, to investigate $^{26}$Al-$^{26}$Mg systematics of various phases comprising HC-13, a CAI separated from Allende for study. The results ranged from sub to supracanonical but were generally comparable between analytical methods and laboratories. Supracanonical results were principally attributed to Mg migration in anorthite and melilite. This is a noteworthy observation that may have been overlooked in at least some studies to explain apparent supracanonical
results; further, Figure 130h supports the conclusion of Connolly et al. (2009) in that it shows that $^{26}$Al in anorthite and melilitte can occur supracanonically. The propensity for Mg migration in certain minerals over others was discussed earlier and it is evident from Chapter 2 that some phases are better behaved than others with regard to correlation to isochrons in any given sample (e.g., the degree of correlation between $\delta^{26}$Mg and $^{27}$Al/$^{24}$Mg). Sheng et al. (1991) allude to this as well in that they state that Mg isotope ratios determined by ion probe methodology vary in response to mineralogy and phase composition.

In some regards, the findings of Connolly et al. (2009) are similar to those published by MacPherson et al. (2010) and Krot et al. (2009) in that supracanonical values may result from material reprocessing (e.g., melting and recrystallization). In MacPherson et al. (2010), the mean $\delta^{26}$Mg values that were resulted from the analyses of Leoville 3536-1 Type A and B CAIs were approximately 5.88x higher for analyses performed using ICPMS than by utilizing SIMS. Oftentimes, it appears that the selected analytical method is based at least in part on whether the $^{27}$Al/$^{24}$Mg is relatively high or low (e.g., Krot et al., 2009; MacPherson et al., 2010). Although it may appear that instrument selection may be significantly biasing the analytical results, it is more likely a result of other factors such as the analyzed phase. For instance, in the case of MacPherson et al. (2010), the greater $\delta^{26}$Mg values are associated with melilitte rather other phases or mixed phases (e.g., spinel, pyroxene and plagioclase).

In summary, although this section was brief, it demonstrates that historic canonical data are indeed largely reliable and comparable to current data; however, the main difference is that older data is often less precise than analytical results obtained from the more modern approaches. It is worth pointing out that one of the greatest contributions afforded by advancements in analytical technology is that precision has improved by orders of magnitude over the past several
decades and to the point that it is well below naturally-occurring background variations (Young and Galy, 2004). More specifically, modern analytical methods (e.g., MC-ICPMS) have lowered Mg-isotope detection limits in solutions to $\leq 200$ mg/kg and data reproducibility to $\leq 60$ mg/kg compared to limits imposed by earlier instrument mass fractionation effects ($\sim 1\%$); Young and Galy (2004); further, the introduction of LA-ICPMS allowed for direct in situ Mg analyses rather than bulk sample measurements. Young and Galy (2004) also indicated that mass-dependent fractionation corrections are no longer needed for purified Mg solutes because the MC-ICPMS method is capable of resolving mass-dependent fractionation variations.

A salient point that bears repeating though, is that the results derived from employing modern cosmochemical analytical tools does not appear to have upset the infrastructure of the canonical model or the data that challenges it due to the strength in the relationship between $\delta^{26}$Mg and $^{27}$Al/$^{24}$Mg (e.g., these parameters have correlated well historically). Advances in data resolution though, provides the opportunity for furthering advanced studies such as discerning between reservoir sources and ultimately the histories of chondrite formation and evolution. Advancements have increased analytical sensitivity and so some disagreement is expected between older and more recent calculated initial $^{26}$Al/$^{27}$Al values due to improved precision with time. The greatest disparity among data though, appears to be inevitably linked to mineralogy – this observation is repeated in numerous papers and evident in the data plots presented in Chapter 2. The implication is that the canonical model hinges on mineral-specific characteristics, mainly those that ultimately controlled the incorporation and retention of Al and Mg into the lattice.
3.5 Future Work

It would be useful to test for $^{26}\text{Mg}$ excesses in peralkaline rocks, basically those that are aluminum-poor. Typically, canonical research is biased towards Al-rich/Mg-poor objects for obvious reasons; however, targeting minerals such as sodium rich amphiboles and pyroxenes for $^{26}\text{Mg}$ enrichments in equilibrated phases, could bolster the case for the canonical model (following potential modifications if the new data interpretations presented herein are reasonable and valid) assuming the data agrees with incompatible phases found in the same chondrite. The premise is that incompatible phases should exhibit relatively strong disparities in aluminum content; however, if $^{26}\text{Al}$ was indeed homogenously distributed in the protoplanetary disk, then $^{26}\text{Mg}$ excesses should be present even in what are usually aluminum-deficient rocks.

A second area of research that may be worth initiating concerns the potential of relativistic effects on the isotopic data. Hitherto, this appears absent in work relating to the canonical model. There is no shortage of work that provides evidence that exotic material was introduced into the nascent Solar System from any number of candidates capable of producing heavy elements such as titanium. The question posed here is whether relativistic phenomena should be considered in canonical studies and the reason is because $^{26}\text{Al}$ is used as a fine-tuned chronometer. It is well documented that supernova and gamma ray bursts can accelerate particulate matter to relativistic velocities (Chevalier and Fransson, 2016; Anderson and Rudnick, 1995). If high velocity matter (e.g., electrons and protons) was injected into the early protoplanetary system and collided with $^{26}\text{Al}$, or if $^{26}\text{Al}$ was included in the delivery package, it is conceivable that relativistic effects occurred. This in turn would extend the half-live of $^{26}\text{Al}$ by some factor relative to the velocity attained and allow more of it to survive for extended periods.
in the early Solar System. This too may explain some data scatter between the central and upper isochrons in Figure 131 that are only separated by a maximum of 1.03 Ma (assuming a calculated initial $^{26}$Al/$^{27}$Al ratio of $5 \times 10^{-5}$). Any data points that plot between isochrons that cannot be explained by atypical $\delta^{17}$O signatures, alternation (e.g., aqueous and thermal), element or isotopic migration, may qualify as candidates for investigating this possibility. In this example, the greatest manifestation of time dilation, if assumed to be one-half of 1.03 My, is one constraint and near c particle velocities serve as another. Source distances and velocities can be modeled to determine whether, say a point located 50 ka “off” an isochron would actually plot on or closer to it assuming $^{26}$Al was accelerated to 0.25c, 0.5c, 0.75c for up to a maximum of $5 \times 10^5$ years (e.g., or the maximum distance the source was from the birthing Solar System).

Interestingly, this method also has the potential to identify a specific celestial object as the $^{26}$Al source that fits the criteria of distance, mass, and ejecta velocity to explain the offset or shift between a point’s position on the graph and a neighboring isochron.

### 3.6 Conclusions

The work presented herein supports the small scale data presentation in MacPherson et al. (1995), but not all of their interpretations. There is a clear agreement in the data distribution between Figure 1a of their paper and Figure 41b of this thesis despite the additional data included in the latter. However, the associated histograms included as Figure 1a in the referenced paper, unintentionally invoke a question that does not appear to have been posed hitherto - although the data distribution shows an imperfectly defined ‘upper’ constraint taken as evidence of a canonical value, then what is to be said of histograms that depict biased data distributions for
interstellar material such as mainstream and X grain SiC material? Surely we cannot assign a canonical value to interstellar material. This is not a challenge to data validity, but rather a question of whether we, as cosmochemists, are interpreting the data correctly.

Further, when the isotopic data presented by MacPherson et al. (1995) and expanded on herein is examined at larger scales (as performed in Chapter 2), more isochrons emerge from the background, including those with negative slopes, a clear anomaly. Perhaps the data can be dismissed and attributed to analyst or instrumental error. However parsimonious an explanation, it is quite possible that the data is reliable and that an alternate perspective of what the isotopic data distributions represent is required and appropriate. Such a proposal was presented herein, mainly, that time advances in the reverse way (counterclockwise and downslope) than isochrons are conventionally read. This was supported by the congruency between the hierarchy in the order that minerals condensed from the protoplanetary disk and their distribution on and between isochrons. This alternate interpretation also explains the negative slopes - if time ‘forward’ runs counter to conventional thought, then the negative trending isochrons actually depict an increase of $^{26}\text{Mg}$ with time, not an unexplained depletion; further, it was shown that the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values from these negative trending isochrons plot in congruence with positively trending isochrons within the same data set thereby supporting their realness. Moreover, interpreting time forward as running counterclockwise in the canonical graphs also explains why hibonite, an early refractory condensate, exhibits particularly low calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values (e.g., if time is read ‘backwards relative to convention, then there is no conflict with the condensation model).

Applying this approach also explains why the uppermost isochron of Type I chondrules have a lower low calculated initial $^{26}\text{Al}/^{27}\text{Al}$ value than the one associated with Type II
Plotting the calculated initial $^{26}\text{Al}/^{27}\text{Al}$ values for the multiple isochrons detected at various scales within a given sample (or mineral) also yielded intriguing results. Firstly, it was observed that some isochrons consisted of CAIs and chondrules. So although the results of the published data included in this thesis suggest a lag time of about 1.5 million years between the first occurrences of CAIs and chondrules, there is no doubt they were coeval at least later in time. Secondly, and more provocative, in almost all cases, all isochrons for a sample seem to somehow correlate including those with negative slopes which lends further credence to the counterclockwise interpretation of time in the canonical graphs. Sometimes the relationship is linear, but more often either exponential or natural log (e.g., Figures 43, 60a-c, 75 i,j) for reasons that may relate to either elemental decay, orbital adjustments, or some perhaps combination thereof. Whatever the reason, the implication is profound; mainly, that the process(-es) responsible for CAI and chondrule formation appear inevitably linked and they are ordered rather than random. This observation warrants a rigorous study to determine whether there is a universal link between the isochrons in different chondrites. If such a tie exists, the information has the potential of revising current models of CAI and chondrule formation.

Regarding $^{26}\text{Al}$ distribution in the protoplanetary disk - if oxygen isotopes are reliable indicators for discriminating between CAI formation reservoirs, then it is perplexing why arguments continue over whether $^{26}\text{Al}$ was homogenously or heterogeneously distributed in the protoplanetary disk. However, as noted earlier, the strength of using reservoirs to counter the interpretation of a homogenous $^{26}\text{Al}$ distribution in the nascent Solar System relies heavily on their number, size, distribution, and longevity, as well as and the volume of material that passed through them and their residency times. Perhaps it is worth considering that $^{26}\text{Al}$ distribution

---

41 Even the purported gap in time between the onset of CAI and chondrule formation may be challenged on the basis of the discovery of a CAI (B1) from NWA 2364, the oldest known object in the solar system described by Bouvier and Wadhwa (2010). The large CAI encloses chondrules.
may have evolved from essentially homogeneous during early CAI formation to lesser so during later chondrule formation due to variable elemental uptake rates (including aluminum) as planetesimals of various sizes accreted. The concern of course is preserving $^{26}$Al as a fine-tuned chronometer. However, if various CAI and chondrule nurseries existed, does that mean $^{26}$Al cannot be used as a reliable chronometer? It would certainly introduce complications; however, considering that the data comprising isochrons are often well-constrained (e.g., minimal scatter) and that there is agreement between $^{26}$Al and Pb-determined object ages despite $\delta^{17}$O variations, it would appear that $^{26}$Al is a reliable chronometer and the root of the disparity may have been an object’s residency time within a ‘reservoir’. For instance, if an object’s residency time within a reservoir was relatively short, perhaps it was long enough to alter oxygen, but not $^{26}$Al isotopes. Future empirical experimentation and modeling could attempt to investigate whether such a scenario was possible.

In closing, analytical techniques have improved significantly over the past three decades, but the potential for error introduction has kept pace - this is an inherent problem that often accompanies increased data resolution. As discussed earlier, the spectra of data collected for Allende, one of the most studied chondrites, is reasonably harmonious among the laboratories and instruments used to produce it; thus, historic and current data appear reliable and support the existence of an isochron known assigned a canonical value of $5 \times 10^{-5}$. However, only one chondrite group, or possibly two, exhibits this value for the calculated initial $^{26}$Al/$^{27}$Al ratio notwithstanding the alternate interpretation posed herein which reconsiders what the canonical value may represent - an isotopic archiving of the final (stable) orbital state of pre-planetary debris following ample time for $^{26}$Al to decay into $^{26}$Mg.
<table>
<thead>
<tr>
<th>Meteorite</th>
<th>Meteorite Type</th>
<th>CAI Type</th>
<th>CAI Name</th>
<th>Chond Name</th>
<th>Chond Type</th>
<th>Phase</th>
<th>Sample</th>
<th>$^{27}$Al/$^{24}$Mg</th>
<th>Method</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B</td>
<td>E60</td>
<td></td>
<td>Plag</td>
<td>Plag 1</td>
<td>70</td>
<td>8</td>
<td>IM</td>
<td>Amelin et al. 2002</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B</td>
<td>E60</td>
<td></td>
<td>Plag</td>
<td>Plag 2</td>
<td>144</td>
<td>12</td>
<td>IM</td>
<td>Amelin et al. 2002</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B</td>
<td>E60</td>
<td></td>
<td>Pyrx</td>
<td>Pyrx 1</td>
<td>0.5</td>
<td>0.1</td>
<td>IM</td>
<td>Amelin et al. 2002</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B</td>
<td>E60</td>
<td></td>
<td>Pyrx</td>
<td>Pyrx 2</td>
<td>0.9</td>
<td>0.2</td>
<td>IM</td>
<td>Amelin et al. 2002</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B</td>
<td>E60</td>
<td></td>
<td>Pyrx</td>
<td>Pyrx 3</td>
<td>0.6</td>
<td>-0.2</td>
<td>IM</td>
<td>Amelin et al. 2002</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B</td>
<td>E60</td>
<td></td>
<td>Sp</td>
<td>Sp 1</td>
<td>2.4</td>
<td>0.5</td>
<td>IM</td>
<td>Amelin et al. 2002</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B</td>
<td>E60</td>
<td></td>
<td>Sp</td>
<td>Sp 2</td>
<td>2.4</td>
<td>0.5</td>
<td>IM</td>
<td>Amelin et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Mel</td>
<td>MTS101</td>
<td>4.64</td>
<td>4</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>---</td>
<td>----</td>
<td>-----</td>
<td>--------</td>
<td>------</td>
<td>---</td>
<td>--------</td>
<td>----------------------</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>MTS101</td>
<td>171</td>
<td>3</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>MTS101</td>
<td>245</td>
<td>13</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>MTS101</td>
<td>274</td>
<td>4</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>MTS101</td>
<td>280</td>
<td>5</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>IPPL21</td>
<td>288</td>
<td>4</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>IPPL21</td>
<td>445</td>
<td>13</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>IPPL20</td>
<td>402</td>
<td>5</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>IPPL19</td>
<td>320</td>
<td>4</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>IPPL19</td>
<td>340</td>
<td>11</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>---</td>
<td>----</td>
<td>------</td>
<td>--------</td>
<td>-----</td>
<td>----</td>
<td>--------</td>
<td>----------------------</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>IPPL19</td>
<td>382</td>
<td>5</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>IPPL18</td>
<td>322</td>
<td>2</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>IPPL17</td>
<td>780</td>
<td>11</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>IPPL15</td>
<td>353</td>
<td>15</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>IPPL14</td>
<td>357</td>
<td>6</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>IPPL14</td>
<td>404</td>
<td>12</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>IPPL14</td>
<td>285</td>
<td>6</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>IPPL14</td>
<td>379</td>
<td>5</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>WA-BR</td>
<td>61</td>
<td>2</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>------</td>
<td>-------</td>
<td>----</td>
<td>----</td>
<td>--------</td>
<td>----------------------</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>WA-BR</td>
<td>72</td>
<td>4</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>WA-BR</td>
<td>87</td>
<td>4</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>WA-BR</td>
<td>439</td>
<td>25</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>WA-BR</td>
<td>443</td>
<td>9</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>WA-BR</td>
<td>525</td>
<td>8</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>WA-BR</td>
<td>633</td>
<td>26</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>WA-BR</td>
<td>747</td>
<td>9</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>WA-BR</td>
<td>1040</td>
<td>32</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>WA-BR</td>
<td>1070</td>
<td>31</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>----</td>
<td>-----</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td>----</td>
<td>--------</td>
<td>----------------------</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>WA-BR</td>
<td>1110</td>
<td>27</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Plag</td>
<td>WA-BR</td>
<td>1111</td>
<td>32</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Sp</td>
<td>MTS101</td>
<td>2.53</td>
<td>2</td>
<td>IM PAN</td>
<td>Armstrong et al. 1983</td>
<td></td>
</tr>
<tr>
<td>Alfianello</td>
<td>L6</td>
<td></td>
<td></td>
<td>Ang</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Baker et al. 2005</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td></td>
<td>Unk</td>
<td>Frag</td>
<td></td>
<td></td>
<td></td>
<td>Baker et al. 2005</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td></td>
<td>Unk</td>
<td>Frag</td>
<td>0.1</td>
<td></td>
<td></td>
<td>Baker et al. 2005</td>
<td></td>
</tr>
<tr>
<td>Angra dos Reis</td>
<td>Ang</td>
<td></td>
<td></td>
<td>Feld</td>
<td></td>
<td>0.929</td>
<td></td>
<td></td>
<td>Baker et al. 2005</td>
<td></td>
</tr>
<tr>
<td>D'Orbigny</td>
<td>Angite</td>
<td></td>
<td></td>
<td>Feld</td>
<td></td>
<td>1.86</td>
<td></td>
<td></td>
<td>Baker et al. 2005</td>
<td></td>
</tr>
<tr>
<td>Sample</td>
<td>Type</td>
<td>Width</td>
<td>Height</td>
<td>Width</td>
<td>Height</td>
<td>Width</td>
<td>Height</td>
<td>Width</td>
<td>Height</td>
<td>Width</td>
</tr>
<tr>
<td>------------</td>
<td>-------</td>
<td>-------</td>
<td>--------</td>
<td>-------</td>
<td>--------</td>
<td>-------</td>
<td>--------</td>
<td>-------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>Julesburg</td>
<td>L3.6</td>
<td>Unk</td>
<td>-0.014</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Unk</td>
<td>-0.2759</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NWA1296</td>
<td>Angite WR1</td>
<td>Feld WR1</td>
<td>1.75</td>
<td>20.177</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NWA1296</td>
<td>Angite WR2</td>
<td>Feld WR2</td>
<td>1.86</td>
<td>20.1772</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NWA1296</td>
<td>Angite WRs</td>
<td>Feld WRs</td>
<td>1.81</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAH99555</td>
<td>Angite</td>
<td>Feld WR</td>
<td>16.2</td>
<td>0.0979</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAH99555</td>
<td>Angite</td>
<td>Ol WR</td>
<td>0.086</td>
<td>-0.3566</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAH99555</td>
<td>Angite</td>
<td>Pyrx WR</td>
<td>1.31</td>
<td>-0.0728</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAH99555</td>
<td>Angite</td>
<td>Ang WR1a</td>
<td>1.89</td>
<td>0.1819</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample</td>
<td>Type</td>
<td>Location</td>
<td>Crystallinity</td>
<td>Value</td>
<td>Standard Deviation</td>
<td>Technique</td>
<td>Reference</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>------</td>
<td>----------</td>
<td>---------------</td>
<td>-------</td>
<td>--------------------</td>
<td>-----------</td>
<td>---------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAH99555</td>
<td>Angite</td>
<td></td>
<td></td>
<td>1.89</td>
<td>0.0193</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2005</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAH99555</td>
<td>Angite</td>
<td></td>
<td></td>
<td>1.86</td>
<td>-0.0797</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2005</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAH99555</td>
<td>Angite</td>
<td></td>
<td></td>
<td>1.88</td>
<td></td>
<td>MC-ICPMS</td>
<td>Baker et al. 2005</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admire</td>
<td>PAL</td>
<td></td>
<td>Fo</td>
<td>0</td>
<td></td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admire</td>
<td>PAL</td>
<td></td>
<td>Fo</td>
<td>0</td>
<td></td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admire</td>
<td>PAL</td>
<td></td>
<td>Fo</td>
<td>0</td>
<td></td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admire</td>
<td>PAL</td>
<td></td>
<td>Fo</td>
<td>0</td>
<td></td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admire</td>
<td>PAL</td>
<td></td>
<td>Fo</td>
<td>0</td>
<td></td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>----------</td>
<td>----------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admire</td>
<td>PAL</td>
<td>Fo</td>
<td></td>
<td></td>
<td>0</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brehm Pallasite</td>
<td>PAL</td>
<td>Fo</td>
<td>WR</td>
<td></td>
<td>0</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brehm Pallasite</td>
<td>PAL</td>
<td>Fo</td>
<td>WR</td>
<td></td>
<td>0</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brehm Pallasite</td>
<td>PAL</td>
<td>Fo</td>
<td>WR</td>
<td></td>
<td>0</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>El Gouanem</td>
<td>URE</td>
<td>Fo</td>
<td>frag</td>
<td></td>
<td>0.005</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>El Gouanem</td>
<td>URE</td>
<td>Fo</td>
<td>frag</td>
<td></td>
<td>0.005</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Esquel</td>
<td>PAL</td>
<td>Fo</td>
<td></td>
<td></td>
<td>0</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Type</td>
<td>Sample</td>
<td>Code</td>
<td>Method</td>
<td>Reference</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>--------</td>
<td>------</td>
<td>--------</td>
<td>----------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Esquel</td>
<td>PAL</td>
<td>Fo</td>
<td>0</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Esquel</td>
<td>PAL</td>
<td>Fo</td>
<td>0</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Esquel</td>
<td>PAL</td>
<td>Fo</td>
<td>0</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molong</td>
<td>PAL</td>
<td>Fo</td>
<td>Molong 1</td>
<td>0</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molong</td>
<td>PAL</td>
<td>Fo</td>
<td>Molong 1</td>
<td>0</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molong</td>
<td>PAL</td>
<td>Fo</td>
<td>Molong 2</td>
<td>0</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molong</td>
<td>PAL</td>
<td>Fo</td>
<td>Molong 2</td>
<td>0</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molong</td>
<td>PAL</td>
<td>Fo</td>
<td>Molong 3</td>
<td>0</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molong</td>
<td>PAL</td>
<td>Fo</td>
<td>Molong 3</td>
<td>0</td>
<td>MC-ICPMS</td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample</td>
<td>Type</td>
<td>Fragment</td>
<td>Fo</td>
<td>Frag</td>
<td>0.025</td>
<td>MC-ICPMS</td>
<td>References</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-------</td>
<td>----------</td>
<td>----</td>
<td>-------</td>
<td>-------</td>
<td>----------</td>
<td>---------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NWA2234</td>
<td>URE</td>
<td></td>
<td>Fo</td>
<td>Frag</td>
<td>0.025</td>
<td></td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NWA2234</td>
<td>URE</td>
<td></td>
<td>Fo</td>
<td>Frag</td>
<td>0.025</td>
<td></td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NWA766</td>
<td>URE</td>
<td></td>
<td>Fo</td>
<td>Frag</td>
<td>0.07</td>
<td></td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NWA766</td>
<td>URE</td>
<td></td>
<td>Fo</td>
<td>Frag</td>
<td>0.07</td>
<td></td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAH98505</td>
<td>URE</td>
<td></td>
<td>Fo</td>
<td>Frag</td>
<td>0.01</td>
<td></td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAH98505</td>
<td>URE</td>
<td></td>
<td>Fo</td>
<td>Frag</td>
<td>0.01</td>
<td></td>
<td>Baker et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>BB-5</td>
<td>Co</td>
<td></td>
<td></td>
<td></td>
<td>Bar Matthews et al. 1982</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>BB-5</td>
<td>Co</td>
<td></td>
<td>27430</td>
<td>715</td>
<td>IM AEI IM-20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>BB-5</td>
<td>Hib</td>
<td></td>
<td></td>
<td></td>
<td>IM AEI IM-20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Type</td>
<td>Sample</td>
<td>First Column</td>
<td>Second Column</td>
<td>Third Column</td>
<td>Fourth Column</td>
<td>Fifth Column</td>
<td>Sixth Column</td>
<td>Methodology</td>
<td>References</td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
<td>--------</td>
<td>--------------</td>
<td>---------------</td>
<td>--------------</td>
<td>---------------</td>
<td>--------------</td>
<td>--------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>BB-5</td>
<td>Hib</td>
<td>130</td>
<td>15</td>
<td>6.9</td>
<td>2.6</td>
<td>IM AEI IM-20</td>
<td>Bar Matthews et al. 1982</td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>BB-5</td>
<td>Hib</td>
<td>130</td>
<td>15</td>
<td>6.9</td>
<td>2.6</td>
<td>IM AEI IM-20</td>
<td>Bar Matthews et al. 1982</td>
<td></td>
</tr>
<tr>
<td>Acapulco</td>
<td>A-Chon</td>
<td>Co</td>
<td>5400</td>
<td>-2.4</td>
<td>8.7</td>
<td>IM PAN</td>
<td>Bernius et al. 1991</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barea</td>
<td>MES</td>
<td>An 88</td>
<td>503</td>
<td>0.7</td>
<td>2.9</td>
<td>IM PAN</td>
<td>Bernius et al. 1991</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bondoc</td>
<td>MES</td>
<td>An</td>
<td>601</td>
<td>-1.1</td>
<td>5</td>
<td>IM PAN</td>
<td>Bernius et al. 1991</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emery</td>
<td>MES</td>
<td>Co Bas. clast</td>
<td>584</td>
<td>-2.1</td>
<td>11.4</td>
<td>IM PAN</td>
<td>Bernius et al. 1991</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estherville</td>
<td>MES</td>
<td>Co Bas. clast</td>
<td>727</td>
<td>2.1</td>
<td>5.7</td>
<td>IM PAN</td>
<td>Bernius et al. 1991</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hainholz</td>
<td>MES</td>
<td>Co</td>
<td>524</td>
<td>1.3</td>
<td>3.6</td>
<td>IM PAN</td>
<td>Bernius et al. 1991</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ibitira</td>
<td>EUC</td>
<td>Co</td>
<td>862</td>
<td>-2.9</td>
<td>5.7</td>
<td>IM PAN</td>
<td>Bernius et al. 1991</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Type</td>
<td>Component</td>
<td>Mass</td>
<td>Co</td>
<td>Im</td>
<td>Ref.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>------</td>
<td>-----------</td>
<td>------</td>
<td>----</td>
<td>----</td>
<td>--------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jonzac</td>
<td>EUC</td>
<td>Co</td>
<td>528</td>
<td>-1.4</td>
<td>2</td>
<td>IM PAN Bernius et al. 1991</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juvinas</td>
<td>EUC</td>
<td>Co</td>
<td>205</td>
<td>-4.1</td>
<td>4.3</td>
<td>IM PAN Bernius et al. 1991</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moama</td>
<td>EUC</td>
<td>Co</td>
<td>957</td>
<td>-1.6</td>
<td>4.3</td>
<td>IM PAN Bernius et al. 1991</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morristown</td>
<td>MES</td>
<td>Co</td>
<td>595</td>
<td>-2.5</td>
<td>4</td>
<td>IM PAN Bernius et al. 1991</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mt. Padbury</td>
<td>MES</td>
<td>Co</td>
<td>615</td>
<td>-1.3</td>
<td>5.1</td>
<td>IM PAN Bernius et al. 1991</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pasamonte</td>
<td>EUC</td>
<td>Plag</td>
<td>516</td>
<td>0.8</td>
<td>3.6</td>
<td>IM PAN Bernius et al. 1991</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patwar</td>
<td>MES</td>
<td>Plag</td>
<td>818</td>
<td>-2.1</td>
<td>4.3</td>
<td>IM PAN Bernius et al. 1991</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yaca Muerta</td>
<td>MES</td>
<td>Plag</td>
<td>1206</td>
<td>-3.9</td>
<td>7.6</td>
<td>IM PAN Bernius et al. 1991</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hughes 030</td>
<td>Rumuruti Chondrite</td>
<td>Hib</td>
<td>20.3</td>
<td>3.4</td>
<td>1.3</td>
<td>2.7</td>
<td>IM CAM IMS 4f (Ahm) Bernius et al. 1991</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hughes 030: 3.4

Bischoff and Srinivasan 2003
<p>| Hughes030 | Rumuruti Chondrite | | | Hib | 199 | 11 | 8.2 | 9.4 | IM CAM IMS 4f (Ahm) | Bischoff and Srinivasan 2003 |
|---------|------------------|---------|----|-----|-----|----|----|----|----|----------------------|-----------------------------|
| Hughes030 | Rumuruti Chondrite | | | Hib | 1570 | 294 | 23 | 10.8 | IM CAM IMS 4f (Ahm) | Bischoff and Srinivasan 2003 |
| Hughes030 | Rumuruti Chondrite | | | Hib | 2561 | 65 | 23.7 | 6.8 | IM CAM IMS 4f (Ahm) | Bischoff and Srinivasan 2003 |
| Hughes030 | Rumuruti Chondrite | | | Hib | 2537 | 552 | 33.6 | 17.2 | IM CAM IMS 4f (Ahm) | Bischoff and Srinivasan 2003 |
| Hughes030 | Rumuruti Chondrite | | | Ol | 0.2 | 0.5 | 2.3 | IM CAM IMS 4f (Ahm) | Bischoff and Srinivasan 2003 |
| Hughes030 | Rumuruti Chondrite | | | Ol | 0.2 | 0.6 | 1.7 | IM CAM IMS 4f (Ahm) | Bischoff and Srinivasan 2003 |
| 1993.305  | Meso. Parent Body | | WR - Bas. clast | WR | 1.63 | -0.186 | 0.039 | MC-ICPMS | Bizzarro et al. 2008 |
| 1993.31   | Meso. Parent Body | | WR - Bas. clast | WR | 1.71 | -0.038 | 0.053 | MC-ICPMS | Bizzarro et al. 2008 |
| 1993.40   | Meso. Parent Body | | Plag | 338 | -0.042 | 0.23 | MC-ICPMS | Bizzarro et al. 2008 |</p>
<table>
<thead>
<tr>
<th>Sample</th>
<th>Location</th>
<th>Type</th>
<th>Width</th>
<th>Length</th>
<th>Width</th>
<th>Length</th>
<th>Width</th>
<th>Length</th>
<th>Material</th>
<th>Date</th>
<th>Method</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993.40</td>
<td>Meso. Parent Body</td>
<td>Pyrx</td>
<td>0.07</td>
<td>-0.051</td>
<td>0.047</td>
<td>MC-ICPMS</td>
<td>Bizzarro et al. 2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1993.40</td>
<td>Meso. Parent Body</td>
<td>WR - Gab clast</td>
<td>1.21</td>
<td>-0.061</td>
<td>0.04</td>
<td>MC-ICPMS</td>
<td>Bizzarro et al. 2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1993.207.1</td>
<td>Meso. Parent Body</td>
<td>WR - Bas. clast</td>
<td>3.11</td>
<td>-0.116</td>
<td>0.028</td>
<td>MC-ICPMS</td>
<td>Bizzarro et al. 2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bilanga</td>
<td>Euc Parent Body</td>
<td>Diog</td>
<td>0.03</td>
<td>-0.136</td>
<td>0.304</td>
<td>MC-ICPMS</td>
<td>Bizzarro et al. 2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bilanga</td>
<td>Euc Parent Body</td>
<td>Diog</td>
<td>0</td>
<td>-0.12</td>
<td>0.045</td>
<td>MC-ICPMS</td>
<td>Bizzarro et al. 2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Camel Donga</td>
<td>Bas. Euc Parent Body</td>
<td>WR</td>
<td>1.78</td>
<td>-0.131</td>
<td>0.042</td>
<td>MC-ICPMS</td>
<td>Bizzarro et al. 2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dhofar 007</td>
<td>Euc Parent Body</td>
<td>WR - Euc (cuml.)</td>
<td>0.893</td>
<td>-0.178</td>
<td>0.048</td>
<td>MC-ICPMS</td>
<td>Bizzarro et al. 2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HAH262</td>
<td>Euc Parent Body</td>
<td>WR - Bas. Euc</td>
<td>1.86</td>
<td>-0.259</td>
<td>0.053</td>
<td>MC-ICPMS</td>
<td>Bizzarro et al. 2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ibitira</td>
<td>Euc Parent Body</td>
<td>WR - Bas. Euc</td>
<td>1.75</td>
<td>-0.119</td>
<td>0.056</td>
<td>MC-ICPMS</td>
<td>Bizzarro et al. 2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Parent Body</td>
<td>WR - Bas. Euc</td>
<td>WR</td>
<td>WR</td>
<td>MC-ICPMS</td>
<td>Authors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
<td>---------------</td>
<td>-----</td>
<td>-----</td>
<td>----------</td>
<td>---------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juvinas</td>
<td>Euc</td>
<td>WR</td>
<td>1.63</td>
<td>-0.156</td>
<td>0.035</td>
<td>Bizzarro et al. 2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Millibillillie</td>
<td>Euc</td>
<td>WR</td>
<td>2.18</td>
<td>-0.225</td>
<td>0.052</td>
<td>Bizzarro et al. 2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stannern</td>
<td>Euc</td>
<td>WR</td>
<td>1.95</td>
<td>-0.225</td>
<td>0.116</td>
<td>Bizzarro et al. 2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Talampaya</td>
<td>Euc</td>
<td>WR</td>
<td>0.894</td>
<td>-0.38</td>
<td>0.057</td>
<td>Bizzarro et al. 2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tatahouine</td>
<td>Euc</td>
<td>Diog</td>
<td>0.026</td>
<td>-0.114</td>
<td>0.098</td>
<td>Bizzarro et al. 2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>99+</td>
<td>WA Large Grain</td>
<td>20</td>
<td>IM Imma Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG 3-13</td>
<td>Unk</td>
<td>99+</td>
<td>BG 3-13</td>
<td>256</td>
<td>IM Imma Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG 3-13</td>
<td>Unk</td>
<td>99+</td>
<td>BG 3-13</td>
<td>258</td>
<td>IM Imma Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG 3-13</td>
<td>Unk</td>
<td>99+</td>
<td>BG 3-13</td>
<td>266</td>
<td>IM Imma Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG 3-13</td>
<td>Unk</td>
<td>An 99+</td>
<td>BG 3-13</td>
<td>299</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>---------</td>
<td>-----</td>
<td>---------</td>
<td>---------</td>
<td>-----</td>
<td>---------</td>
<td>-------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG 3-13</td>
<td>Unk</td>
<td>An 99+</td>
<td>BG 3-13</td>
<td>270</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Spot A</td>
<td>692</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Spot A</td>
<td>693</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Area 1</td>
<td>564</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Area 2</td>
<td>436</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Area 2</td>
<td>550</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Area 3</td>
<td>917</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Area 3</td>
<td>934</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Area</td>
<td>552</td>
<td>IM</td>
<td>Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>-----</td>
<td>---------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>----------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Area 5</td>
<td>502</td>
<td>IM</td>
<td>Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Area 8</td>
<td>434</td>
<td>IM</td>
<td>Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Area 8</td>
<td>398</td>
<td>IM</td>
<td>Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Area 9</td>
<td>594</td>
<td>IM</td>
<td>Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Area 9</td>
<td>912</td>
<td>IM</td>
<td>Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Area 10</td>
<td>707</td>
<td>IM</td>
<td>Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Grain 4, area 11</td>
<td>324</td>
<td>IM</td>
<td>Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Grain 4, area 11</td>
<td>336</td>
<td>IM</td>
<td>Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Grain 7, area 12</td>
<td>315</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>------</td>
<td>--------</td>
<td>------------------</td>
<td>-----</td>
<td>---------</td>
<td>---------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Grain 8, area 13</td>
<td>368</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Num</td>
<td>750</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Num</td>
<td>750</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Num</td>
<td>750</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Num</td>
<td>750</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An 99+</td>
<td>Num</td>
<td>750</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>C1</td>
<td>Sp</td>
<td>2.36</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>WA</td>
<td>Sp</td>
<td>1.87</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>WA</td>
<td>Sp</td>
<td>1.85</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>------</td>
<td>----------</td>
<td>-------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>WA</td>
<td>Sp</td>
<td>1.83</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>WA</td>
<td>Sp</td>
<td>1.88</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>C1</td>
<td>Sp</td>
<td>2.23</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>C1</td>
<td>Sp</td>
<td>2.24</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN B</td>
<td>C1</td>
<td>Sp (High Al) in An</td>
<td>4.59</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN B</td>
<td>C1</td>
<td>Sp (High Al) in An</td>
<td>3.43</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN B</td>
<td>C1</td>
<td>Sp (High Al) in An</td>
<td>2.97</td>
<td>IM Imma</td>
<td>Bradley et al. 1978</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82D 1</td>
<td>Feld</td>
<td>86</td>
<td>-1</td>
<td>7.1</td>
<td>IM PAN IMS 3f</td>
<td>Brigham et al. 1986</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>-----</td>
<td>-----------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>---------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82D 1</td>
<td>Feld</td>
<td>84</td>
<td>-11.1</td>
<td>8.8</td>
<td>IM PAN IMS 3f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Brigham et al. 1986</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82D 1</td>
<td>Feld</td>
<td>160</td>
<td>-35.3</td>
<td>6</td>
<td>IM PAN IMS 3f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Brigham et al. 1986</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82D 1</td>
<td>Heden</td>
<td>2.3</td>
<td>-32.2</td>
<td>5</td>
<td>IM PAN IMS 3f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Brigham et al. 1986</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82D 1</td>
<td>Heden</td>
<td>2.1</td>
<td>-29.8</td>
<td>1.9</td>
<td>IM PAN IMS 3f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Brigham et al. 1986</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82D 1</td>
<td>Herc</td>
<td>9.5</td>
<td>-18.3</td>
<td>4.2</td>
<td>IM PAN IMS 3f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Brigham et al. 1986</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82D 1</td>
<td>Herc</td>
<td>8.7</td>
<td>-21.8</td>
<td>3.1</td>
<td>IM PAN IMS 3f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Brigham et al. 1986</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82D 1</td>
<td>Herc</td>
<td>7</td>
<td>-31.8</td>
<td>5.2</td>
<td>IM PAN IMS 3f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Brigham et al. 1986</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82D 1</td>
<td>Herc</td>
<td>14</td>
<td>-24.3</td>
<td>9.8</td>
<td>IM PAN IMS 3f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Brigham et al. 1986</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82D 1</td>
<td>Herc</td>
<td>6.1</td>
<td>-31.8</td>
<td>2</td>
<td>IM PAN IMS 3f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Brigham et al. 1986</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Group</td>
<td>Code</td>
<td>Description</td>
<td>Urea</td>
<td>Na</td>
<td>Nb</td>
<td>IM Source</td>
<td>Notes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>------</td>
<td>-------------</td>
<td>------</td>
<td>----</td>
<td>----</td>
<td>-----------</td>
<td>-------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82D</td>
<td>Herc</td>
<td>20</td>
<td>-23.4</td>
<td>3.2</td>
<td>IM PAN IMS 3f</td>
<td>Brigham et al. 1986</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82D</td>
<td>Herc</td>
<td>16</td>
<td>-28.5</td>
<td>2.6</td>
<td>IM PAN IMS 3f</td>
<td>Brigham et al. 1986</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82D</td>
<td>Herc</td>
<td>12.5</td>
<td>-11.5</td>
<td>5.2</td>
<td>IM PAN IMS 3f</td>
<td>Brigham et al. 1986</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82D</td>
<td>Herc</td>
<td>6.9</td>
<td>-25.9</td>
<td>3.3</td>
<td>IM PAN IMS 3f</td>
<td>Brigham et al. 1986</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82D</td>
<td>Herc</td>
<td>14.2</td>
<td>-27.7</td>
<td>3.7</td>
<td>IM PAN IMS 3f</td>
<td>Brigham et al. 1986</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82D</td>
<td>Hib BG82DI</td>
<td>87.5</td>
<td>-33.8</td>
<td>2</td>
<td>IM PAN IMS 3f</td>
<td>Brigham et al. 1986</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>An An-1</td>
<td>791.9</td>
<td>82.5</td>
<td>9.3</td>
<td>12.1</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>An An-3</td>
<td>325.7</td>
<td>15.3</td>
<td>92.3</td>
<td>11.6</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>An An-5</td>
<td>117.3</td>
<td>5.3</td>
<td>32.2</td>
<td>4.2</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>--------</td>
<td>----</td>
<td>------</td>
<td>------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>63</td>
<td>1.4</td>
<td>12.9</td>
<td>3.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>60.8</td>
<td>2</td>
<td>5.1</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>324.6</td>
<td>38.8</td>
<td>7.8</td>
<td>12.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>477.7</td>
<td>32.5</td>
<td>20.9</td>
<td>10.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>172.4</td>
<td>19.6</td>
<td>9.1</td>
<td>8.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>92.6</td>
<td>0.6</td>
<td>1.5</td>
<td>4.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>72.8</td>
<td>15</td>
<td>4</td>
<td>4.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>131.1</td>
<td>5</td>
<td>-0.8</td>
<td>6.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>198.9</td>
<td>9.8</td>
<td>1.5</td>
<td>6.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Type</td>
<td>Code</td>
<td>Sample</td>
<td>Ancestral</td>
<td>61.8</td>
<td>13</td>
<td>7.9</td>
<td>3.7</td>
<td>Technique</td>
<td>Reference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>------</td>
<td>--------</td>
<td>-----------</td>
<td>------</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>-----------</td>
<td>------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>182.1</td>
<td>3.2</td>
<td>56.4</td>
<td>7.7</td>
<td>IM CAM</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>183.3</td>
<td>4.1</td>
<td>3.3</td>
<td>7.9</td>
<td>IM CAM</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>143.8</td>
<td>2.4</td>
<td>24.8</td>
<td>8.9</td>
<td>IM CAM</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>An</td>
<td>128.2</td>
<td>1</td>
<td>32.5</td>
<td>5.4</td>
<td>IM CAM</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>An</td>
<td>120.6</td>
<td>3.1</td>
<td>38.3</td>
<td>6.6</td>
<td>IM CAM</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>An</td>
<td>168.6</td>
<td>1.4</td>
<td>57.2</td>
<td>5.1</td>
<td>IM CAM</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>Fas</td>
<td>1.3</td>
<td>0.1</td>
<td>0.8</td>
<td>1.6</td>
<td>IM CAM</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>Fas</td>
<td>2</td>
<td>0.1</td>
<td>1.4</td>
<td>1.3</td>
<td>IM CAM</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>Fas</td>
<td>1.3</td>
<td>0.1</td>
<td>-0.7</td>
<td>1.9</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>-------------------</td>
<td>------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>Glass</td>
<td>4.6</td>
<td>0.1</td>
<td>3.2</td>
<td>2.2</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>Glass</td>
<td>3.7</td>
<td>0.2</td>
<td>1.4</td>
<td>2.2</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>Mel</td>
<td>2.1</td>
<td>0.1</td>
<td>0.6</td>
<td>2.2</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>Mel</td>
<td>2.5</td>
<td>0.1</td>
<td>1.7</td>
<td>2.9</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>Mel</td>
<td>10.3</td>
<td>0.1</td>
<td>4.2</td>
<td>5.6</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>Neph</td>
<td>37.4</td>
<td>6.2</td>
<td>6.6</td>
<td>2.1</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>Neph</td>
<td>82.7</td>
<td>1.2</td>
<td>2.9</td>
<td>3.6</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>Sp</td>
<td>3.3</td>
<td>0.1</td>
<td>2.8</td>
<td>1.6</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>Sp</td>
<td>2.6</td>
<td>0.1</td>
<td>2</td>
<td>1.7</td>
<td>IM CAM IMS 3f WUSL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>----</td>
<td>--------</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>---</td>
<td>-----</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>Sp</td>
<td>2.8</td>
<td>0.1</td>
<td>0.3</td>
<td>2.3</td>
<td>IM CAM IMS 3f WUSL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>An-2</td>
<td>359.1</td>
<td>15.4</td>
<td>107.2</td>
<td>11.9</td>
<td>IM CAM IMS 3f WUSL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>An-4</td>
<td>91.8</td>
<td>2.4</td>
<td>26.9</td>
<td>2.4</td>
<td>IM CAM IMS 3f WUSL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>An-6</td>
<td>74.8</td>
<td>1.4</td>
<td>17.4</td>
<td>4.3</td>
<td>IM CAM IMS 3f WUSL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>An-8</td>
<td>24.4</td>
<td>1.2</td>
<td>5</td>
<td>3.8</td>
<td>IM CAM IMS 3f WUSL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>An-8</td>
<td>24.4</td>
<td>1.2</td>
<td>5</td>
<td>3.8</td>
<td>IM CAM IMS 3f WUSL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>An-8</td>
<td>24.4</td>
<td>1.2</td>
<td>5</td>
<td>3.8</td>
<td>IM CAM IMS 3f WUSL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>An-10</td>
<td>323.8</td>
<td>25.6</td>
<td>2.5</td>
<td>8.8</td>
<td>IM CAM IMS 3f WUSL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>An-12</td>
<td>843.4</td>
<td>233.6</td>
<td>4.7</td>
<td>19.2</td>
<td>IM CAM IMS 3f WUSL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>An-14</td>
<td>130.3</td>
<td>28</td>
<td>0.9</td>
<td>6.2</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>----</td>
<td>--------</td>
<td>----</td>
<td>-------</td>
<td>-------</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>-------------------</td>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>An-15</td>
<td>26.8</td>
<td>2.1</td>
<td>1</td>
<td>2.6</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>An-17</td>
<td>93.4</td>
<td>7.7</td>
<td>2.2</td>
<td>5.1</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>An-19</td>
<td>253.2</td>
<td>36.3</td>
<td>3.9</td>
<td>10.2</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>An-20</td>
<td>43.9</td>
<td>11.1</td>
<td>12.1</td>
<td>4.6</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>An-22</td>
<td>227.6</td>
<td>28.3</td>
<td>72</td>
<td>21.4</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>An-23</td>
<td>233.9</td>
<td>5.9</td>
<td>2</td>
<td>13.9</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>An</td>
<td>An-25</td>
<td>154</td>
<td>3.5</td>
<td>44.1</td>
<td>8.6</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>An</td>
<td>An-1</td>
<td>184.7</td>
<td>2.4</td>
<td>42.6</td>
<td>5.7</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>----</td>
<td>--------</td>
<td>----</td>
<td>------</td>
<td>--------</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>------------------</td>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>An</td>
<td></td>
<td>167.4</td>
<td>7.7</td>
<td>53</td>
<td>6</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>An</td>
<td>An-3</td>
<td>207.7</td>
<td>1.8</td>
<td>64.2</td>
<td>6.3</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>An</td>
<td></td>
<td>164.9</td>
<td>0.8</td>
<td>60.1</td>
<td>6.5</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>Fas</td>
<td></td>
<td>2.1</td>
<td>0.1</td>
<td>0.6</td>
<td>1.3</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>Glass</td>
<td></td>
<td>4.6</td>
<td>0.1</td>
<td>2</td>
<td>2.6</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>Glass</td>
<td></td>
<td>4.4</td>
<td>0.1</td>
<td>1.2</td>
<td>1.8</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>Mel</td>
<td>Mel-1</td>
<td>9.7</td>
<td>0.1</td>
<td>4.9</td>
<td>1.6</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-1</td>
<td>Mel</td>
<td>Mel-3</td>
<td>2.7</td>
<td>0.1</td>
<td>2</td>
<td>1.6</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Caillet et al. 1993</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Type</td>
<td>Code</td>
<td>Value</td>
<td>Value-1</td>
<td>Value-2</td>
<td>Value-3</td>
<td>Value-4</td>
<td>Ref.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>------</td>
<td>-------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>Mel</td>
<td>Mel-1</td>
<td>2.4</td>
<td>0.1</td>
<td>3.6</td>
<td>3</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>Mel</td>
<td>Mel-3</td>
<td>11</td>
<td>0.2</td>
<td>6.6</td>
<td>8.3</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>Neph</td>
<td></td>
<td>260.9</td>
<td>9</td>
<td>2.1</td>
<td>5.2</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>Neph</td>
<td></td>
<td>70.7</td>
<td>3.6</td>
<td>8.6</td>
<td>4.6</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>Sp</td>
<td></td>
<td>3.1</td>
<td>0.1</td>
<td>2.1</td>
<td>1.6</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3537-2</td>
<td>Sp</td>
<td></td>
<td>2.9</td>
<td>0.1</td>
<td>2.2</td>
<td>1.3</td>
<td>Caillet et al. 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>CG-14</td>
<td>Ol</td>
<td></td>
<td></td>
<td></td>
<td>34</td>
<td>1.3</td>
<td>IM AEI IM-20 Clayton et al. 1984</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>CG-14</td>
<td>Ol</td>
<td></td>
<td></td>
<td></td>
<td>33.7</td>
<td>1.4</td>
<td>IM AEI IM-20 Clayton et al. 1984</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>CG-14</td>
<td>Ol</td>
<td></td>
<td></td>
<td></td>
<td>36.8</td>
<td>1.8</td>
<td>IM AEI IM-20 Clayton et al. 1984</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>TE</td>
<td>OI</td>
<td>26</td>
<td>1.5</td>
<td>IM AEI IM-20</td>
<td>Clayton et al. 1984</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>-----</td>
<td>--------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>TE</td>
<td>OI</td>
<td>24.8</td>
<td>1.6</td>
<td>IM AEI IM-20</td>
<td>Clayton et al. 1984</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>TE</td>
<td>OI</td>
<td>26.4</td>
<td>1.8</td>
<td>IM AEI IM-20</td>
<td>Clayton et al. 1984</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>TE</td>
<td>OI</td>
<td>25.4</td>
<td>1.8</td>
<td>IM AEI IM-20</td>
<td>Clayton et al. 1984</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>Egg-3</td>
<td>Pyrx</td>
<td>Egg-3</td>
<td>15.8</td>
<td>1.9</td>
<td>IM AEI IM-20</td>
<td>Clayton et al. 1984</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>CG-14</td>
<td>Pyrx</td>
<td>CG-14</td>
<td>35.2</td>
<td>1.4</td>
<td>IM AEI IM-20</td>
<td>Clayton et al. 1984</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>CG-14</td>
<td>Pyrx</td>
<td>CG-14</td>
<td>35.8</td>
<td>1.6</td>
<td>IM AEI IM-20</td>
<td>Clayton et al. 1984</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>Egg-3</td>
<td>Pyrx</td>
<td>Egg-3</td>
<td>13.2</td>
<td>1.6</td>
<td>IM AEI IM-20</td>
<td>Clayton et al. 1984</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>Egg-3</td>
<td>Pyrx</td>
<td>Egg-3</td>
<td>14</td>
<td>1.7</td>
<td>IM AEI IM-20</td>
<td>Clayton et al. 1984</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>-----</td>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>-------</td>
<td>---</td>
<td>-----</td>
<td>-----</td>
<td>----------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>Egg-3</td>
<td>Pyrx</td>
<td>Egg-3</td>
<td></td>
<td>9.4</td>
<td>3.9</td>
<td>IM AEI</td>
<td>IM-20</td>
<td>Clayton et al. 1984</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>Egg-3</td>
<td>Pyrx</td>
<td>Egg-3</td>
<td></td>
<td>13.7</td>
<td>2.3</td>
<td>IM AEI</td>
<td>IM-20</td>
<td>Clayton et al. 1984</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>CG-14</td>
<td>Sp</td>
<td></td>
<td></td>
<td>34.6</td>
<td>1.4</td>
<td>IM AEI</td>
<td>IM-20</td>
<td>Clayton et al. 1984</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>CG-14</td>
<td>Sp</td>
<td></td>
<td></td>
<td>33.2</td>
<td>1.4</td>
<td>IM AEI</td>
<td>IM-20</td>
<td>Clayton et al. 1984</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>CG-14</td>
<td>Sp</td>
<td></td>
<td></td>
<td>38</td>
<td>1.8</td>
<td>IM AEI</td>
<td>IM-20</td>
<td>Clayton et al. 1984</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>CG-14</td>
<td>Sp</td>
<td></td>
<td></td>
<td>34</td>
<td>1.8</td>
<td>IM AEI</td>
<td>IM-20</td>
<td>Clayton et al. 1984</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>TE</td>
<td>Sp</td>
<td></td>
<td></td>
<td>23.5</td>
<td>1.7</td>
<td>IM AEI</td>
<td>IM-20</td>
<td>Clayton et al. 1984</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>TE</td>
<td>Sp</td>
<td></td>
<td></td>
<td>25.2</td>
<td>1.8</td>
<td>IM AEI</td>
<td>IM-20</td>
<td>Clayton et al. 1984</td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>An</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IM CAM</td>
<td>IMS 3f WUSL</td>
<td>El Goresy et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>An</td>
<td>IM CAM IMS 3f WUSL</td>
<td>El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>An</td>
<td>IM CAM IMS 3f WUSL</td>
<td>El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>An</td>
<td>IM CAM IMS 3f WUSL</td>
<td>El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Diop</td>
<td>IM CAM IMS 3f WUSL</td>
<td>El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Diop</td>
<td>IM CAM IMS 3f WUSL</td>
<td>El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Mel</td>
<td>IM CAM IMS 3f WUSL</td>
<td>El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Mel</td>
<td>IM CAM IMS 3f WUSL</td>
<td>El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Mel</td>
<td>IM CAM IMS 3f WUSL</td>
<td>El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Mel</td>
<td>IM CAM IMS 3f WUSL</td>
<td>El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>-----</td>
<td>--------</td>
<td>-----</td>
<td>--------------------</td>
<td>---------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Mel</td>
<td>IM CAM IMS 3f WUSL</td>
<td>El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Mel</td>
<td>IM CAM IMS 3f WUSL</td>
<td>El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Mel</td>
<td>IM CAM IMS 3f WUSL</td>
<td>El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Mel</td>
<td>IM CAM IMS 3f WUSL</td>
<td>El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Mel</td>
<td>IM CAM IMS 3f WUSL</td>
<td>El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Mel</td>
<td>IM CAM IMS 3f WUSL</td>
<td>El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Sp</td>
<td>IM CAM IMS 3f WUSL</td>
<td>El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Sp</td>
<td>IM CAM IMS 3f WUSL</td>
<td>El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Group</td>
<td>Type</td>
<td>Age (Ma)</td>
<td>Isotope</td>
<td>Reference</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>------</td>
<td>----------</td>
<td>---------</td>
<td>-----------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Sp</td>
<td>IM CAM IMS 3f WUSL El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Sp</td>
<td>IM CAM IMS 3f WUSL El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Sp</td>
<td>IM CAM IMS 3f WUSL El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Sp</td>
<td>IM CAM IMS 3f WUSL El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Sp</td>
<td>IM CAM IMS 3f WUSL El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>101.1</td>
<td>Sp</td>
<td>IM CAM IMS 3f WUSL El Goresy et al. 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td></td>
<td></td>
<td>IM CAM IMS 6f (ASU) Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td></td>
<td></td>
<td>IM CAM IMS 6f (ASU) Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td></td>
<td></td>
<td>IM CAM IMS 6f (ASU) Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>----</td>
<td>---------------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>An</td>
<td>B2-4m</td>
<td>572</td>
<td>26</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>An</td>
<td>B2-4e</td>
<td>156</td>
<td>7</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>An</td>
<td>B2-4g</td>
<td>231</td>
<td>10</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>---------------</td>
<td>----</td>
<td>-------</td>
<td>-----</td>
<td>----</td>
<td>---------------------</td>
<td>-------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>B2 CAI 4022-1</td>
<td>An</td>
<td>B2-10g</td>
<td>413</td>
<td>20</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>-------------</td>
<td>----------------</td>
<td>--------</td>
<td>-----</td>
<td>----</td>
<td>-------------------</td>
<td>-----------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>B1 CAI 3655A</td>
<td>An (CL-dull)</td>
<td>B1-1-02</td>
<td>190</td>
<td>10</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>B1 CAI 3655A</td>
<td>An (CL-dull)</td>
<td>B1-1-03</td>
<td>214</td>
<td>13</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>B1 CAI 3655A</td>
<td>Diop</td>
<td>B1-2-5</td>
<td>1.5</td>
<td>0.2</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>B1 CAI 3655A</td>
<td>Feld (Sec.)</td>
<td>B1-1-11</td>
<td>19.6</td>
<td>2</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>B1 CAI 3655A</td>
<td>Feld (Sec.)</td>
<td>B1-1-12</td>
<td>53.5</td>
<td>5.4</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>B1 CAI 3655A</td>
<td>Feld (Sec.)</td>
<td>B1-2-6</td>
<td>25.8</td>
<td>2.6</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>B1 CAI 3655A</td>
<td>Feld (Sec.)</td>
<td>B1-2-7</td>
<td>16.8</td>
<td>1.7</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>B2 CAI 4022-1</td>
<td>Feld (Sec.)</td>
<td>B2-6</td>
<td>512</td>
<td>51</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>------</td>
<td>---------------</td>
<td>-------------</td>
<td>------</td>
<td>-----</td>
<td>---</td>
<td>------------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>B2 CAI 4022-1</td>
<td>Feld (Sec.)</td>
<td>B2-12</td>
<td>211</td>
<td>19</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>CTA CAI 3898-2</td>
<td>Feld (Sec.)</td>
<td>CTA1-01</td>
<td>25.6</td>
<td>2.6</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>CTA CAI 3898-2</td>
<td>Feld (Sec.)</td>
<td>CTA1-04</td>
<td>11.9</td>
<td>1.2</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>CTA CAI 3898-2</td>
<td>Feld (Sec.)</td>
<td>CTA1-05</td>
<td>19.5</td>
<td>2</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>CTA CAI 3898-2</td>
<td>Feld (Sec.)</td>
<td>CTA1-06</td>
<td>9.9</td>
<td>1</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>CTA CAI 3898-2</td>
<td>Feld (Sec.)</td>
<td>CTA1-13</td>
<td>23.2</td>
<td>2.3</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>CTA CAI 3898-2</td>
<td>Feld (Sec.)</td>
<td>CTA1-14</td>
<td>46.9</td>
<td>4.7</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>CTA CAI 3898-2</td>
<td>Feld (Sec.)</td>
<td>CTA1-15</td>
<td>15.9</td>
<td>1.6</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>CTA CAI 3898-2</td>
<td>Feld (Sec.)</td>
<td>CTA2-4</td>
<td>88</td>
<td>8.8</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>----------------</td>
<td>-------------</td>
<td>--------</td>
<td>----</td>
<td>-----</td>
<td>------------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>FTA CAI 3529-47-1</td>
<td>Feld (Sec.)</td>
<td>FTA-1a</td>
<td>247</td>
<td>25</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>FTA CAI 3529-47-1</td>
<td>Feld (Sec.)</td>
<td>FTA-1b</td>
<td>31.8</td>
<td>3.2</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>FTA CAI 3529-47-1</td>
<td>Feld (Sec.)</td>
<td>FTA-3</td>
<td>22.9</td>
<td>2.3</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>FTA CAI 3529-47-1</td>
<td>Feld (Sec.)</td>
<td>FTA-5</td>
<td>258</td>
<td>26</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>FTA CAI 3529-47-1</td>
<td>Feld (Sec.)</td>
<td>FTA-8b</td>
<td>22.6</td>
<td>2.3</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>FTA CAI 3529-47-1</td>
<td>Feld (Sec.)</td>
<td>FTA-10</td>
<td>25.4</td>
<td>2.5</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>FTA CAI 3529-47-1</td>
<td>Feld (Sec.)</td>
<td>FTA-14</td>
<td>45.3</td>
<td>4.5</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>FTA CAI 3529-47-1</td>
<td>Feld (Sec.)</td>
<td>FTA-15</td>
<td>63.5</td>
<td>6.3</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>B1 CAI 3529-47-1</td>
<td>Feld (Sec.)</td>
<td>FTA-16</td>
<td>119</td>
<td>12</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>-----------------</td>
<td>-------------</td>
<td>--------</td>
<td>-----</td>
<td>----</td>
<td>-------------------</td>
<td>-------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Gross B1-1-04</td>
<td></td>
<td>74</td>
<td>7</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Gross B1-1-07</td>
<td></td>
<td>27</td>
<td>3</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Gross B1-2-2</td>
<td></td>
<td>21.3</td>
<td>2.1</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Gross B1-2-3</td>
<td></td>
<td>49.1</td>
<td>4.9</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Gross B2-5</td>
<td></td>
<td>29.4</td>
<td>2.9</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Gross B2-8</td>
<td></td>
<td>12.3</td>
<td>1.2</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Gross B2-9</td>
<td></td>
<td>29.6</td>
<td>2.9</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CTA</td>
<td></td>
<td>3898-2</td>
<td>Gross CTA1-11</td>
<td></td>
<td>46.1</td>
<td>4.6</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>3898-2</td>
<td>Gross</td>
<td>CTA1-19A</td>
<td>37.2</td>
<td>3.7</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>--------</td>
<td>-------</td>
<td>----------</td>
<td>------</td>
<td>-----</td>
<td>-------------------</td>
<td>-------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>3898-2</td>
<td>Gross</td>
<td>CTA1-20</td>
<td>12.7</td>
<td>1.3</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>3898-2</td>
<td>Gross</td>
<td>CTA2-5</td>
<td>12</td>
<td>1.2</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>3898-2</td>
<td>Gross</td>
<td>CTA2-7</td>
<td>12.5</td>
<td>1.3</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>3898-2</td>
<td>Gross</td>
<td>CTA2-8</td>
<td>12</td>
<td>1.2</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>3529-47-1</td>
<td>Gross</td>
<td>FTA-6</td>
<td>92.2</td>
<td>9.2</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>3529-47-1</td>
<td>Gross</td>
<td>FTA-12</td>
<td>156</td>
<td>16</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>CTA CAI 3898-2</td>
<td>Hib</td>
<td>CTA1-08</td>
<td>13.6</td>
<td>0.7</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>CTA CAI 3898-2</td>
<td>Hib</td>
<td>CTA1-09</td>
<td>14</td>
<td>0.7</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>B1 CAI 3655A</td>
<td>Mel</td>
<td>B1-1-05</td>
<td>1.6</td>
<td>0.1</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>-----</td>
<td>--------------</td>
<td>------</td>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>---------------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>B1 CAI 3655A</td>
<td>Mel</td>
<td>B1-1-06</td>
<td>1.7</td>
<td>0.1</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>B1 CAI 3655A</td>
<td>Mel</td>
<td>B1-1-09</td>
<td>14.3</td>
<td>0.8</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>CTA CAI 3898-2</td>
<td>Mel</td>
<td>CTA1-07</td>
<td>34.4</td>
<td>1.8</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>CTA CAI 3898-2</td>
<td>Mel</td>
<td>CTA1-18</td>
<td>23.3</td>
<td>1.3</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>CTA CAI 3898-2</td>
<td>Mel</td>
<td>CTA1-21</td>
<td>8</td>
<td>0.4</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>CTA CAI 3898-2</td>
<td>Mel</td>
<td>CTA2-6</td>
<td>41.8</td>
<td>2.3</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>FTA CAI 3529-47-1</td>
<td>Mel</td>
<td>FTA-2a</td>
<td>9.1</td>
<td>0.5</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>FTA CAI 3529-47-1</td>
<td>Mel</td>
<td>FTA-2b</td>
<td>43</td>
<td>2.1</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>FTA CAI 3529-47-1</td>
<td>Mel</td>
<td>FTA-2c</td>
<td>22.7</td>
<td>1.2</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>------------------</td>
<td>-----</td>
<td>--------</td>
<td>------</td>
<td>----</td>
<td>----------------</td>
<td>-----------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>FTA CAI 3529-47-1</td>
<td>Mel</td>
<td>FTA-7</td>
<td>32.3</td>
<td>1.8</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>CTA 3898-2</td>
<td>Sec. Feld. (75%)</td>
<td>CTA1-03</td>
<td>12.9</td>
<td>1.3</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>B1 3655A</td>
<td>Mont</td>
<td>B1-2-8</td>
<td>0.1</td>
<td>0</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>CTA 3898-2</td>
<td>Neph</td>
<td>CTA1-12</td>
<td>63.8</td>
<td>6.4</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>CTA 3898-2</td>
<td>Neph</td>
<td>CTA1-19B</td>
<td>132</td>
<td>13</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>CTA 3898-2</td>
<td>Neph</td>
<td>CTA2-2</td>
<td>269</td>
<td>27</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>FTA 3529-47-1</td>
<td>Neph</td>
<td>FTA-9a</td>
<td>19</td>
<td>1.9</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>FTA 3529-47-1</td>
<td>Neph</td>
<td>FTA-11a</td>
<td>45.1</td>
<td>4.5</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>FTA 3529-47-1</td>
<td>Neph</td>
<td>FTA-11b</td>
<td>125</td>
<td>13</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>--------------</td>
<td>------</td>
<td>---------</td>
<td>-----</td>
<td>---</td>
<td>-----------------</td>
<td>---------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>FTA 3529-47-1</td>
<td>Neph</td>
<td>FTA-13</td>
<td>72.9</td>
<td>7.3</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3655A</td>
<td>Soda</td>
<td>B1-1-08</td>
<td>37</td>
<td>4</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3655A</td>
<td>Soda</td>
<td>B1-2-4</td>
<td>417.7</td>
<td>41.8</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>4022-1</td>
<td>Soda</td>
<td>B2-7</td>
<td>22.5</td>
<td>2.2</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>4022-1</td>
<td>Soda</td>
<td>B2-14</td>
<td>36</td>
<td>3.6</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>FTA 3529-47-1</td>
<td>Soda</td>
<td>FTA-4</td>
<td>2210</td>
<td>220</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3655A</td>
<td>Sp</td>
<td>B1-1-06b</td>
<td>2.2</td>
<td>0.1</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>3898-2</td>
<td>Sp</td>
<td>CTA1-10</td>
<td>2.3</td>
<td>0.1</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>3898-2</td>
<td>Sp</td>
<td>CTA1-16</td>
<td>2.4</td>
<td>0.1</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>--------</td>
<td>----</td>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>----------------------</td>
<td>-----------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>3898-2</td>
<td>Sp</td>
<td>CTA2-1</td>
<td>2.4</td>
<td>0.1</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>3898-2</td>
<td>Sp</td>
<td>CTA2-3</td>
<td>2.3</td>
<td>0.1</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>3898-2</td>
<td>Sp</td>
<td>CTA2-9</td>
<td>2.2</td>
<td>0.1</td>
<td>IM CAM IMS 6f (ASU)</td>
<td>Fagan et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>DA</td>
<td>Hib</td>
<td>DA2-12</td>
<td>102.4</td>
<td>3.8</td>
<td>-1.1</td>
<td>Fahey et al. 1987a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>B1</td>
<td>Hib</td>
<td>HAL</td>
<td>299.1</td>
<td>19.4</td>
<td>0.1</td>
<td>Fahey et al. 1987a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>HAL</td>
<td>Hib</td>
<td>Hib a</td>
<td>32000</td>
<td>14100</td>
<td>12.1</td>
<td>Fahey et al. 1987a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>HAL</td>
<td>Hib</td>
<td>Hib b</td>
<td>41600</td>
<td>2000</td>
<td>15.4</td>
<td>Fahey et al. 1987a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>HAL</td>
<td>Hib</td>
<td>Hib c</td>
<td>31600</td>
<td>1200</td>
<td>12</td>
<td>Fahey et al. 1987a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Sample Type</td>
<td>Decaying Species</td>
<td>Halogen Isotope</td>
<td>$Q_1$</td>
<td>$Q_2$</td>
<td>$Q_3$</td>
<td>$Q_4$</td>
<td>IM CAM IMS 3f \ WUSL</td>
<td>Reference</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>-------------</td>
<td>------------------</td>
<td>----------------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>----------------</td>
<td>-------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende CV3</td>
<td>FUN HAL</td>
<td>Hib d</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fahey et al. 1987a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hib e</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fahey et al. 1987a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hib f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fahey et al. 1987a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hib g</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fahey et al. 1987a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hib h</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fahey et al. 1987a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hib i</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fahey et al. 1987a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hib j</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fahey et al. 1987a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hib k</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fahey et al. 1987a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cold Bokkeveld CM</td>
<td></td>
<td>Hib CB-H2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fahey et al. 1987a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: The table contains data on the decay of radioactive isotopes and the corresponding decay products. The $Q_1$, $Q_2$, $Q_3$, and $Q_4$ columns represent different decay periods or modes.*
<table>
<thead>
<tr>
<th></th>
<th>Sample</th>
<th>Type</th>
<th>Protein</th>
<th>Fragment</th>
<th>Parent Mass</th>
<th>Charge</th>
<th>Intensity</th>
<th>Method</th>
<th>Literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cold Bokkeveld</td>
<td>CM</td>
<td>Hib</td>
<td>CB-H2</td>
<td></td>
<td>11.5</td>
<td>0.9</td>
<td>4.1</td>
<td>3</td>
<td>IM CAM IMS 3f WUSL</td>
</tr>
<tr>
<td>Cold Bokkeveld</td>
<td>CM</td>
<td>Hib</td>
<td>CB-H2</td>
<td></td>
<td>3.4</td>
<td>2</td>
<td>1.7</td>
<td>0.8</td>
<td>IM CAM IMS 3f WUSL</td>
</tr>
<tr>
<td>Cold Bokkeveld</td>
<td>CM</td>
<td>Hib</td>
<td>CB-H2</td>
<td></td>
<td>21</td>
<td>0.2</td>
<td>8.8</td>
<td>1.6</td>
<td>IM CAM IMS 3f WUSL</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM B</td>
<td>Hib</td>
<td>MUR-A1</td>
<td></td>
<td>125.5</td>
<td>10.1</td>
<td>36</td>
<td>2.1</td>
<td>IM CAM IMS 3f WUSL</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM B</td>
<td>Hib</td>
<td>MUR-H7</td>
<td></td>
<td>85.7</td>
<td>6.8</td>
<td>2</td>
<td>3.2</td>
<td>IM CAM IMS 3f WUSL</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM B</td>
<td>Hib</td>
<td>MUR-H9</td>
<td></td>
<td>130.5</td>
<td>10.8</td>
<td>0</td>
<td>3.1</td>
<td>IM CAM IMS 3f WUSL</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM B</td>
<td>Hib</td>
<td>MUR-H8</td>
<td></td>
<td>81.2</td>
<td>6.6</td>
<td>1.3</td>
<td>2</td>
<td>IM CAM IMS 3f WUSL</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM</td>
<td>Hib</td>
<td>MUR-A1 frag spot b</td>
<td></td>
<td>93.7</td>
<td>10.2</td>
<td>23.2</td>
<td>4.9</td>
<td>IM CAM IMS 3f WUSL</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM</td>
<td>Hib</td>
<td>MUR-A1 frag spot c</td>
<td></td>
<td>102.3</td>
<td>8.6</td>
<td>35.2</td>
<td>6.5</td>
<td>IM CAM IMS 3f WUSL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>-------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hib</td>
<td>MUR-H7</td>
<td></td>
<td>88.7</td>
</tr>
<tr>
<td>Murray</td>
<td>CM</td>
<td>B</td>
<td>MY-H3</td>
<td>Hib</td>
<td>MY-H3</td>
<td>96.3</td>
<td>7.7</td>
<td>-0.5</td>
<td>2.1</td>
</tr>
<tr>
<td>Murray</td>
<td>CM</td>
<td>B</td>
<td>MY-H4</td>
<td>Hib</td>
<td>MY-H4</td>
<td>117.2</td>
<td>10.2</td>
<td>-0.9</td>
<td>2.5</td>
</tr>
<tr>
<td>Murray</td>
<td>CM</td>
<td>B</td>
<td>MY-CH1</td>
<td>Hib</td>
<td>MY-CH1</td>
<td>3.5</td>
<td>0.2</td>
<td>0.5</td>
<td>2.2</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td></td>
<td>22.71</td>
<td>0.58</td>
<td>8.2</td>
<td>1.2</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td></td>
<td>18.8</td>
<td>1.77</td>
<td>5.9</td>
<td>2.1</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td></td>
<td>16.74</td>
<td>1.21</td>
<td>6.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td></td>
<td>15.3</td>
<td>0.19</td>
<td>7.5</td>
<td>1</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>13.69</td>
<td>0.17</td>
<td>6.3</td>
<td>0.9</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>-----</td>
<td>--------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>10.93</td>
<td>0.83</td>
<td>5.2</td>
<td>1.9</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>12.64</td>
<td>3.89</td>
<td>5.1</td>
<td>1</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>17.82</td>
<td>0.58</td>
<td>6</td>
<td>1.5</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>11.3</td>
<td>0.72</td>
<td>4.1</td>
<td>1.2</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>10.05</td>
<td>0.28</td>
<td>1.8</td>
<td>1.4</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>12.92</td>
<td>0.69</td>
<td>4.9</td>
<td>1.4</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>11.25</td>
<td>0.58</td>
<td>2.6</td>
<td>1.3</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>---</td>
<td>----</td>
<td>-----</td>
<td>--------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>9.45</td>
<td>0.19</td>
<td>3.7</td>
<td>1.4</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>10.87</td>
<td>0.5</td>
<td>2.1</td>
<td>2.8</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>13.92</td>
<td>0.25</td>
<td>4.2</td>
<td>0.9</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>11.4</td>
<td>0.69</td>
<td>3.4</td>
<td>1.7</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>10.43</td>
<td>0.14</td>
<td>2.8</td>
<td>1.4</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>11.77</td>
<td>0.16</td>
<td>3.7</td>
<td>1.3</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>9.83</td>
<td>0.28</td>
<td>3.2</td>
<td>2</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
<td>----</td>
<td>----</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>---</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>10.93</td>
<td>0.1</td>
<td>2.5</td>
<td>1.7</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>7.87</td>
<td>0.16</td>
<td>2.3</td>
<td>1</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>12.19</td>
<td>0.11</td>
<td>3.7</td>
<td>0.6</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>11.85</td>
<td>0.14</td>
<td>3.8</td>
<td>1.2</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>10.87</td>
<td>0.14</td>
<td>3.3</td>
<td>0.5</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>E2</td>
<td>Sp</td>
<td>2.68</td>
<td>0.06</td>
<td>0.8</td>
<td>1.6</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>E2</td>
<td>Sp</td>
<td>2.71</td>
<td>0.06</td>
<td>-0.9</td>
<td>4</td>
<td>IM SIMS (s.g.) and TIMS (b.g.) Fahey et al. 1987b</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>E2</td>
<td>Sp</td>
<td>2.85</td>
<td>0.04</td>
<td>1.8</td>
<td>0.7</td>
<td>IM SIMS (s.g.) and TIMS (b.g.) Fahey et al. 1987b</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>E2</td>
<td>Sp</td>
<td>2.71</td>
<td>0.04</td>
<td>2</td>
<td>0.6</td>
<td>IM SIMS (s.g.) and TIMS (b.g.) Fahey et al. 1987b</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>E2</td>
<td>Sp</td>
<td>2.65</td>
<td>0.05</td>
<td>1.4</td>
<td>1.4</td>
<td>IM SIMS (s.g.) and TIMS (b.g.) Fahey et al. 1987b</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>E2</td>
<td>Sp</td>
<td>2.64</td>
<td>0.04</td>
<td>1.3</td>
<td>1.1</td>
<td>IM SIMS (s.g.) and TIMS (b.g.) Fahey et al. 1987b</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>E2</td>
<td>Sp</td>
<td>2.72</td>
<td>0.04</td>
<td>1</td>
<td>0.6</td>
<td>IM SIMS (s.g.) and TIMS (b.g.) Fahey et al. 1987b</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>E2</td>
<td>Sp</td>
<td>2.85</td>
<td>0.04</td>
<td>1.1</td>
<td>0.8</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>CTA</td>
<td>E2</td>
<td>Sp</td>
<td>2.65</td>
<td>0.5</td>
<td>1.3</td>
<td>1.2</td>
<td>IM SIMS (s.g.) and TIMS (b.g.)</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Herc</td>
<td>A</td>
<td>9.9</td>
<td>0.1</td>
<td>2.8</td>
<td>4</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Herc</td>
<td>A</td>
<td>10.1</td>
<td>0.1</td>
<td>-2.4</td>
<td>5</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Herc</td>
<td>A</td>
<td>10.3</td>
<td>0.1</td>
<td>10.2</td>
<td>5</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Herc</td>
<td>A</td>
<td>10.4</td>
<td>0.1</td>
<td>3.1</td>
<td>6.8</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Herc</td>
<td>A</td>
<td>10.5</td>
<td>0.1</td>
<td>2.4</td>
<td>6.3</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Herc</td>
<td>A</td>
<td>10.6</td>
<td>0.1</td>
<td>-2.3</td>
<td>8.3</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Herc</td>
<td>B</td>
<td>9.3</td>
<td>0.1</td>
<td>3.2</td>
<td>3.2</td>
</tr>
<tr>
<td>-------</td>
<td>-----</td>
<td>-----------</td>
<td>------</td>
<td>------</td>
<td>---</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Herc</td>
<td>B</td>
<td>9</td>
<td>0.1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Herc</td>
<td>B</td>
<td>9.3</td>
<td>0.1</td>
<td>3.8</td>
<td>4.5</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Herc</td>
<td>B</td>
<td>9.4</td>
<td>0.1</td>
<td>0.2</td>
<td>5</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Herc</td>
<td>B</td>
<td>9.5</td>
<td>0.1</td>
<td>2.2</td>
<td>5.5</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>B</td>
<td>22.1</td>
<td>1.2</td>
<td>0</td>
<td>4.5</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>B</td>
<td>23.5</td>
<td>0.8</td>
<td>0.2</td>
<td>2.7</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>B</td>
<td>21</td>
<td>0.2</td>
<td>-0.8</td>
<td>3.8</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>B</td>
<td>20.3</td>
<td>0.3</td>
<td>2.9</td>
<td>2.4</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>B</td>
<td>16.9</td>
<td>0.8</td>
<td>5.7</td>
<td>7</td>
</tr>
<tr>
<td>-------</td>
<td>-----</td>
<td>-----------</td>
<td>------</td>
<td>-----</td>
<td>---</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>---</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>C</td>
<td>39.1</td>
<td>1.2</td>
<td>0.1</td>
<td>4</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>C</td>
<td>43</td>
<td>0.4</td>
<td>5.3</td>
<td>6.4</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>C</td>
<td>41.4</td>
<td>0.2</td>
<td>8.5</td>
<td>9.8</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>C</td>
<td>44.3</td>
<td>0.4</td>
<td>2.9</td>
<td>4.2</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>C</td>
<td>43.7</td>
<td>0.2</td>
<td>8.7</td>
<td>5.4</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>C</td>
<td>43.6</td>
<td>0.5</td>
<td>-3.7</td>
<td>8.2</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>D</td>
<td>48.4</td>
<td>2</td>
<td>4.7</td>
<td>3.9</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>D</td>
<td>67.6</td>
<td>1.4</td>
<td>10.2</td>
<td>5.7</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>D</td>
<td>76.2</td>
<td>2.5</td>
<td>6.8</td>
<td>5.6</td>
</tr>
<tr>
<td>-------</td>
<td>-----</td>
<td>-----------</td>
<td>------</td>
<td>-----</td>
<td>---</td>
<td>------</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>D</td>
<td>84.9</td>
<td>1.3</td>
<td>6.3</td>
<td>4.5</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>D</td>
<td>81.4</td>
<td>0.8</td>
<td>1.5</td>
<td>5.2</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>D</td>
<td>78.5</td>
<td>1</td>
<td>1.9</td>
<td>5.1</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>E</td>
<td>96.3</td>
<td>2</td>
<td>2.8</td>
<td>4.5</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>E</td>
<td>104.8</td>
<td>0.8</td>
<td>4.9</td>
<td>5.3</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>E</td>
<td>109.5</td>
<td>0.7</td>
<td>9.3</td>
<td>4.3</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>E</td>
<td>112.9</td>
<td>0.5</td>
<td>7.6</td>
<td>4.7</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>E</td>
<td>113.3</td>
<td>0.3</td>
<td>10.6</td>
<td>5.5</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>E</td>
<td>110.7</td>
<td>0.5</td>
<td>5.2</td>
<td>5.9</td>
</tr>
<tr>
<td>-------</td>
<td>-----</td>
<td>-----------</td>
<td>------</td>
<td>-----</td>
<td>---</td>
<td>--------</td>
<td>---</td>
<td>----</td>
<td>---</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>E</td>
<td>111.2</td>
<td>0.4</td>
<td>15.3</td>
<td>5.2</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>E</td>
<td>113</td>
<td>0.5</td>
<td>12.3</td>
<td>6</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>E</td>
<td>110.2</td>
<td>1</td>
<td>8.4</td>
<td>4.8</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>FUN Ultra</td>
<td>HH-1</td>
<td>Hib</td>
<td>E</td>
<td>113.2</td>
<td>0.5</td>
<td>9.2</td>
<td>4.7</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Fas</td>
<td>CAI@5</td>
<td>3.8</td>
<td>0.1</td>
<td>10</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Fas</td>
<td>CAI@6</td>
<td>2.1</td>
<td>0.1</td>
<td>14.8</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Fas</td>
<td>CAI@9</td>
<td>6.2</td>
<td>0.2</td>
<td>10</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Fas</td>
<td>CAI@11</td>
<td>6.1</td>
<td>0.2</td>
<td>10.2</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Fas</td>
<td>CAI@12</td>
<td>5.6</td>
<td>0.2</td>
<td>10.0</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Fas</td>
<td>CAI@14</td>
<td>4.8</td>
<td>0.2</td>
<td>9.9</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Fas</td>
<td>CAI@16</td>
<td>4.7</td>
<td>0.2</td>
<td>10.5</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Fas</td>
<td>CAI@17</td>
<td>6.6</td>
<td>0.2</td>
<td>10.3</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Fas</td>
<td>CAI@35</td>
<td>3.2</td>
<td>0.1</td>
<td>9.2</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Fas</td>
<td>CAI@42</td>
<td>6.1</td>
<td>0.2</td>
<td>10.3</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Fas</td>
<td>CAI@47</td>
<td>6.2</td>
<td>0.2</td>
<td>9.2</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>------</td>
<td>-----</td>
<td>--------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>--------</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Fas</td>
<td>CAI@48</td>
<td>5.9</td>
<td>0.2</td>
<td>9.1</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel</td>
<td>CAI@3</td>
<td>7.2</td>
<td>0.2</td>
<td>10</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel</td>
<td>CAI@4</td>
<td>8.2</td>
<td>0.3</td>
<td>10.4</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel</td>
<td>CAI@13</td>
<td>6</td>
<td>0.2</td>
<td>10.5</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel</td>
<td>CAI@2</td>
<td>5.6</td>
<td>0.2</td>
<td>9.8</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel</td>
<td>CAI@18</td>
<td>5.7</td>
<td>0.2</td>
<td>10.3</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel, some An</td>
<td>CAI@19</td>
<td>2.2</td>
<td>0.1</td>
<td>14.7</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>---</td>
<td>--------------</td>
<td>--------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td></td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel, some An</td>
<td>CAI@20</td>
<td>5.5</td>
<td>0.2</td>
<td>10</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel, some An</td>
<td>CAI@21</td>
<td>9.7</td>
<td>0.3</td>
<td>10.6</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel, some An</td>
<td>CAI@24</td>
<td>10.4</td>
<td>0.3</td>
<td>12.7</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel, some An</td>
<td>CAI@25</td>
<td>4.8</td>
<td>0.2</td>
<td>9.7</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel, some An</td>
<td>CAI@26</td>
<td>4.7</td>
<td>0.2</td>
<td>10</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel, some An</td>
<td>CAI@27</td>
<td>2.3</td>
<td>0.1</td>
<td>14.4</td>
<td>0.4</td>
<td></td>
</tr>
</tbody>
</table>

Füri et al. 2015
<table>
<thead>
<tr>
<th>NWA 8616</th>
<th>CV3</th>
<th>B</th>
<th>Mel, some An</th>
<th>CAI@28</th>
<th>5</th>
<th>0.2</th>
<th>10.1</th>
<th>0.4</th>
<th>IM SIMS? CAM 1280 HR2 (CRPG)</th>
<th>Füri et al. 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel, some An</td>
<td>CAI@29</td>
<td>7.9</td>
<td>0.3</td>
<td>11.6</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
<td>Füri et al. 2015</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel, some An</td>
<td>CAI@30</td>
<td>5.2</td>
<td>0.2</td>
<td>12.5</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
<td>Füri et al. 2015</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel, some An</td>
<td>CAI@33</td>
<td>6.1</td>
<td>0.2</td>
<td>9.5</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
<td>Füri et al. 2015</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel, some An</td>
<td>CAI@34</td>
<td>7.6</td>
<td>0.3</td>
<td>9.4</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
<td>Füri et al. 2015</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel, some An</td>
<td>CAI@36</td>
<td>2.1</td>
<td>0.1</td>
<td>14.1</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
<td>Füri et al. 2015</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel, some An</td>
<td>CAI@38</td>
<td>9.5</td>
<td>0.3</td>
<td>13.2</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
<td>Füri et al. 2015</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel, some An</td>
<td>CAI@39</td>
<td>6.4</td>
<td>0.2</td>
<td>11.2</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
<td>Füri et al. 2015</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>---</td>
<td>-------------</td>
<td>--------</td>
<td>-----</td>
<td>----</td>
<td>------</td>
<td>----</td>
<td>-------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel, some An</td>
<td>CAI@40</td>
<td>9.6</td>
<td>0.3</td>
<td>10.7</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
<td>Füri et al. 2015</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel, some An</td>
<td>CAI@41</td>
<td>5.3</td>
<td>0.2</td>
<td>10.7</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
<td>Füri et al. 2015</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel, some An</td>
<td>CAI@44</td>
<td>6.1</td>
<td>0.2</td>
<td>10.6</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
<td>Füri et al. 2015</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel, some An</td>
<td>CAI@45</td>
<td>10.5</td>
<td>0.4</td>
<td>10.3</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
<td>Füri et al. 2015</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Mel, some An</td>
<td>CAI@46</td>
<td>6.0</td>
<td>0.2</td>
<td>9.5</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
<td>Füri et al. 2015</td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Sp</td>
<td>CAI@7</td>
<td>7.4</td>
<td>0.2</td>
<td>10.4</td>
<td>0.4</td>
<td>IM SIMS? CAM 1280 HR2 (CRPG)</td>
<td>Füri et al. 2015</td>
</tr>
<tr>
<td>Sample Name</td>
<td>Type</td>
<td>Region</td>
<td>Element</td>
<td>CAI Value</td>
<td>IM Value</td>
<td>SIMS Value</td>
<td>Reference</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>------</td>
<td>--------</td>
<td>---------</td>
<td>-----------</td>
<td>----------</td>
<td>------------</td>
<td>-----------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Sp</td>
<td>CAI@10</td>
<td>7.3</td>
<td>0.2</td>
<td>10.4, 0.4</td>
<td>Füri et al. 2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Sp</td>
<td>CAI@15</td>
<td>5.9</td>
<td>0.2</td>
<td>10.3, 0.4</td>
<td>Füri et al. 2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Sp</td>
<td>CAI@23</td>
<td>1.9</td>
<td>0.1</td>
<td>10.4, 0.4</td>
<td>Füri et al. 2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NWA 8616</td>
<td>CV3</td>
<td>B</td>
<td>Sp</td>
<td>CAI@49</td>
<td>2.1</td>
<td>0.1</td>
<td>8.7, 0.4</td>
<td>Füri et al. 2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B2</td>
<td>E36</td>
<td>Fas</td>
<td>1</td>
<td>1.72</td>
<td>0.02</td>
<td>Goswami and Srinivasan 1994</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>Mz Hib-rich</td>
<td>E50</td>
<td>Hib</td>
<td>1</td>
<td>17.94</td>
<td>0.03</td>
<td>Goswami and Srinivasan 1994</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>Mz Hib-rich</td>
<td>E50</td>
<td>Hib</td>
<td>2</td>
<td>15.16</td>
<td>0.07</td>
<td>Goswami and Srinivasan 1994</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E59</td>
<td>Mel</td>
<td>1</td>
<td>21.9</td>
<td>0.2</td>
<td>Goswami and Srinivasan 1994</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B2</td>
<td>E36</td>
<td>Mel</td>
<td>1</td>
<td>12.38</td>
<td>0.2</td>
<td>IM CAM IMS 4f</td>
<td>Goswami and Srinivasan 1994</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>---</td>
<td>--------</td>
<td>----</td>
<td>----------------</td>
<td>-----------------------------</td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>Mz Hib-rich</td>
<td>E50</td>
<td>Mel</td>
<td>1</td>
<td>21.37</td>
<td>0.11</td>
<td>IM CAM IMS 4f</td>
<td>Goswami and Srinivasan 1994</td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>Mz Hib-rich</td>
<td>E50</td>
<td>Mel</td>
<td>2</td>
<td>23.69</td>
<td>0.06</td>
<td>IM CAM IMS 4f</td>
<td>Goswami and Srinivasan 1994</td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>Mz Hib-rich</td>
<td>E50</td>
<td>Mel</td>
<td>3</td>
<td>19.69</td>
<td>0.11</td>
<td>IM CAM IMS 4f</td>
<td>Goswami and Srinivasan 1994</td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>Mz Hib-rich</td>
<td>E50</td>
<td>Mel</td>
<td>4</td>
<td>32.56</td>
<td>3.36</td>
<td>IM CAM IMS 4f</td>
<td>Goswami and Srinivasan 1994</td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>Mz Hib-rich</td>
<td>E50</td>
<td>Mel</td>
<td>5</td>
<td>23.86</td>
<td>0.09</td>
<td>IM CAM IMS 4f</td>
<td>Goswami and Srinivasan 1994</td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>Mz Hib-rich</td>
<td>E50</td>
<td>Mel</td>
<td>6</td>
<td>18.86</td>
<td>0.15</td>
<td>IM CAM IMS 4f</td>
<td>Goswami and Srinivasan 1994</td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>Mz Hib-rich</td>
<td>E50</td>
<td>Mel</td>
<td>7</td>
<td>24.25</td>
<td>0.28</td>
<td>IM CAM IMS 4f</td>
<td>Goswami and Srinivasan 1994</td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>Mz Hib-rich</td>
<td>E50</td>
<td>Mel</td>
<td>8</td>
<td>19.62</td>
<td>0.37</td>
<td>IM CAM IMS 4f</td>
<td>Goswami and Srinivasan 1994</td>
<td></td>
</tr>
<tr>
<td>Sample</td>
<td>Location</td>
<td>Mz</td>
<td>Position</td>
<td>Type</td>
<td>Mz</td>
<td>Position</td>
<td>Type</td>
<td>Mz</td>
<td>Position</td>
<td>Type</td>
</tr>
<tr>
<td>--------</td>
<td>----------</td>
<td>----</td>
<td>----------</td>
<td>------</td>
<td>----</td>
<td>----------</td>
<td>------</td>
<td>----</td>
<td>----------</td>
<td>------</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E59</td>
<td>Mel</td>
<td>2</td>
<td>16.7</td>
<td>0.2</td>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E59</td>
<td>Mel</td>
<td>4</td>
<td>12.1</td>
<td>0.2</td>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E59</td>
<td>Mel</td>
<td>6</td>
<td>23.7</td>
<td>0.2</td>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B2</td>
<td>E36</td>
<td>Mel</td>
<td>2</td>
<td>8.52</td>
<td>0.1</td>
<td>Efremovka</td>
<td>CV3</td>
<td>B2</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B2</td>
<td>E36</td>
<td>Mel</td>
<td>2</td>
<td>50.6</td>
<td>0.22</td>
<td>Efremovka</td>
<td>CV3</td>
<td>B2</td>
</tr>
</tbody>
</table>

Goswami and Srinivasan 1994
<table>
<thead>
<tr>
<th>Location</th>
<th>Species</th>
<th>Biome</th>
<th>E36</th>
<th>Mel</th>
<th>IM CAM IMS 4f</th>
<th>Goswami and Srinivasan 1994</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B2</td>
<td>E36</td>
<td>Mel</td>
<td>4</td>
<td>13.08</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B2</td>
<td>E36</td>
<td>Mel</td>
<td>5</td>
<td>11.28</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B2</td>
<td>E36</td>
<td>Mel</td>
<td>6</td>
<td>4.96</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B2</td>
<td>E36</td>
<td>Mel</td>
<td>7</td>
<td>6.04</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B2</td>
<td>E36</td>
<td>Mel</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B2</td>
<td>E36</td>
<td>Mel</td>
<td>9</td>
<td>21.52</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B2</td>
<td>E36</td>
<td>Mel</td>
<td>10</td>
<td>17.33</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>Mz Hibrich</td>
<td>E50</td>
<td>Sp</td>
<td>1</td>
<td>2.59</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>Mz Hibrich</td>
<td>E50</td>
<td>Sp</td>
<td>2</td>
<td>2.6</td>
</tr>
<tr>
<td>Location</td>
<td>Species</td>
<td>Type</td>
<td>Age</td>
<td>Sp</td>
<td>2.62</td>
<td>0.01</td>
</tr>
<tr>
<td>-----------</td>
<td>---------</td>
<td>------</td>
<td>-----</td>
<td>----</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>Mz Hibrich</td>
<td>E50</td>
<td>Sp</td>
<td>3</td>
<td>2.62</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>Mz Hibrich</td>
<td>E50</td>
<td>Sp</td>
<td>4</td>
<td>2.7</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>C</td>
<td>GR2</td>
<td>An</td>
<td>1</td>
<td>360.1</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>C</td>
<td>GR2</td>
<td>An</td>
<td>2</td>
<td>354.8</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>C</td>
<td>GR2</td>
<td>An</td>
<td>3</td>
<td>317.1</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>C</td>
<td>GR2</td>
<td>An</td>
<td>4</td>
<td>321.5</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>C</td>
<td>GR2</td>
<td>An</td>
<td>5</td>
<td>647.4</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>C</td>
<td>GR2</td>
<td>Fas</td>
<td>6</td>
<td>318.7</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>C</td>
<td>GR2</td>
<td>Fas</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

References:
- Goswami and Srinivasan 1994
<table>
<thead>
<tr>
<th>Grosnaja</th>
<th>CV3</th>
<th>C</th>
<th>GR2</th>
<th>Fas</th>
<th>2</th>
<th>0.8</th>
<th>0.001</th>
<th>IM CAM IMS 4f</th>
<th>Goswami and Srinivasan 1994</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>C</td>
<td>GR2</td>
<td>Fas</td>
<td>3</td>
<td>0.7</td>
<td>0.001</td>
<td>IM CAM IMS 4f</td>
<td>Goswami and Srinivasan 1994</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>C</td>
<td>GR2</td>
<td>Fas</td>
<td>4</td>
<td>2.1</td>
<td>0.004</td>
<td>IM CAM IMS 4f</td>
<td>Goswami and Srinivasan 1994</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>C</td>
<td>GR2</td>
<td>Fas</td>
<td>5</td>
<td>7.2</td>
<td>0.004</td>
<td>IM CAM IMS 4f</td>
<td>Goswami and Srinivasan 1994</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>C</td>
<td>GR2</td>
<td>Fas</td>
<td>6</td>
<td>2</td>
<td>0.002</td>
<td>IM CAM IMS 4f</td>
<td>Goswami and Srinivasan 1994</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>A</td>
<td>GR4</td>
<td>Mel</td>
<td>1</td>
<td>7.4</td>
<td>0.04</td>
<td>IM CAM IMS 4f</td>
<td>Goswami and Srinivasan 1994</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>B</td>
<td>GR7</td>
<td>Mel</td>
<td>1</td>
<td>1.44</td>
<td>0.01</td>
<td>IM CAM IMS 4f</td>
<td>Goswami and Srinivasan 1994</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>A</td>
<td>GR4</td>
<td>Mel</td>
<td>2</td>
<td>6.1</td>
<td>0.05</td>
<td>IM CAM IMS 4f</td>
<td>Goswami and Srinivasan 1994</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>A</td>
<td>GR4</td>
<td>Mel</td>
<td>3</td>
<td>11.1</td>
<td>0.15</td>
<td>IM CAM IMS 4f</td>
<td>Goswami and Srinivasan 1994</td>
</tr>
<tr>
<td>Location</td>
<td>Code</td>
<td>Line</td>
<td>State</td>
<td>Number</td>
<td>Distance (km)</td>
<td>Error</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>------</td>
<td>-------</td>
<td>--------</td>
<td>--------------</td>
<td>-------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>A</td>
<td>GR4</td>
<td>Mel</td>
<td>4</td>
<td>8.8</td>
<td>0.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>A</td>
<td>GR4</td>
<td>Mel</td>
<td>5</td>
<td>12.2</td>
<td>0.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>A</td>
<td>GR4</td>
<td>Mel</td>
<td>6</td>
<td>12.1</td>
<td>0.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>A</td>
<td>GR4</td>
<td>Mel</td>
<td>7</td>
<td>5</td>
<td>0.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>A</td>
<td>GR4</td>
<td>Mel</td>
<td>8</td>
<td>27.5</td>
<td>0.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>A</td>
<td>GR4</td>
<td>Mel</td>
<td>9</td>
<td>10.9</td>
<td>0.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>A</td>
<td>GR4</td>
<td>Mel</td>
<td>10</td>
<td>14.6</td>
<td>0.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>B</td>
<td>GR7</td>
<td>Mel</td>
<td>2</td>
<td>1.92</td>
<td>0.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>B</td>
<td>GR7</td>
<td>Mel</td>
<td>3</td>
<td>3.55</td>
<td>0.03</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Goswami and Srinivasan 1994
<table>
<thead>
<tr>
<th>Location</th>
<th>Stage</th>
<th>Type</th>
<th>Color</th>
<th>N</th>
<th>M</th>
<th>IM</th>
<th>Method</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>B</td>
<td>GR7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>B</td>
<td>GR7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>B</td>
<td>GR7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>B</td>
<td>GR7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>B</td>
<td>GR7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>A</td>
<td>GR4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>An</td>
<td>An 2</td>
<td>710.9</td>
<td>38.4</td>
<td>25</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>---</td>
<td>----</td>
<td>----</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td>----</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>An</td>
<td>An 3</td>
<td>226.4</td>
<td>12.7</td>
<td>9.8</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>An</td>
<td>An 4</td>
<td>369.9</td>
<td>37.9</td>
<td>8.4</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>An</td>
<td>An 5</td>
<td>292.5</td>
<td>46.1</td>
<td>11.6</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>An</td>
<td>An 1</td>
<td>60.8</td>
<td>1.1</td>
<td>10</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>An</td>
<td>An 2</td>
<td>40.3</td>
<td>1.1</td>
<td>10.6</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>An</td>
<td>An 3</td>
<td>158.1</td>
<td>14.5</td>
<td>44.3</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>An</td>
<td>An 1</td>
<td>162.3</td>
<td>10.2</td>
<td>48.8</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>An</td>
<td>An 2</td>
<td>136.4</td>
<td>8.6</td>
<td>42.7</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>An</td>
<td>An 3</td>
<td>104.4</td>
<td>8.6</td>
<td>26.1</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>---</td>
<td>----</td>
<td>----</td>
<td>------</td>
<td>-------</td>
<td>----</td>
<td>------</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Fas</td>
<td>Fas 1</td>
<td>2</td>
<td>3</td>
<td>2.5</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Fas</td>
<td>Fas 2</td>
<td>1.9</td>
<td>3.1</td>
<td>1.8</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Fas</td>
<td>Fas 3</td>
<td>1.5</td>
<td>0.7</td>
<td>2.5</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Fas</td>
<td>Fas 1</td>
<td>2.4</td>
<td>0.2</td>
<td>4</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Fas</td>
<td>Fas 2</td>
<td>2.5</td>
<td>1.6</td>
<td>2.8</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Fas</td>
<td>Fas 3</td>
<td>3.4</td>
<td>3</td>
<td>3.6</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Fas</td>
<td>Fas 4</td>
<td>2.6</td>
<td>-1.2</td>
<td>3.5</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Fas</td>
<td>Fassiate1</td>
<td>1.4</td>
<td>0.7</td>
<td>3.6</td>
</tr>
<tr>
<td>Location</td>
<td>Type</td>
<td>Category</td>
<td>Value</td>
<td>Fas</td>
<td>Fassiate 2</td>
<td>Values</td>
<td>IM CAM IMS 4f</td>
<td>Reference</td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>----------</td>
<td>-------</td>
<td>-----</td>
<td>------------</td>
<td>--------</td>
<td>----------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A E2</td>
<td></td>
<td>382</td>
<td>2</td>
<td>-0.1</td>
<td>4.1</td>
<td>Goswami et al. 1994</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A E2</td>
<td></td>
<td></td>
<td>Fas</td>
<td></td>
<td></td>
<td>Goswami et al. 1994</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A E2</td>
<td></td>
<td></td>
<td>Mel</td>
<td>22.6</td>
<td>0.7</td>
<td>Goswami et al. 1994</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A E2</td>
<td></td>
<td></td>
<td>Mel</td>
<td>25.7</td>
<td>0.7</td>
<td>Goswami et al. 1994</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A E2</td>
<td></td>
<td></td>
<td>Mel</td>
<td>15.7</td>
<td>0.3</td>
<td>Goswami et al. 1994</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A E2</td>
<td></td>
<td></td>
<td>Mel</td>
<td>10.4</td>
<td>0.1</td>
<td>Goswami et al. 1994</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A E2</td>
<td></td>
<td></td>
<td>Mel</td>
<td>8.7</td>
<td>0.9</td>
<td>Goswami et al. 1994</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A E2</td>
<td></td>
<td></td>
<td>Mel</td>
<td>9.36</td>
<td>3.5</td>
<td>Goswami et al. 1994</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A E2</td>
<td></td>
<td></td>
<td>Mel</td>
<td>8.5</td>
<td>3.5</td>
<td>Goswami et al. 1994</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>Mel Transv.</td>
<td>7.5</td>
<td>0.1</td>
<td>3.4</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>---</td>
<td>----</td>
<td>-----</td>
<td>------------</td>
<td>-----</td>
<td>----</td>
<td>-----</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>Mel Transv.</td>
<td>9.7</td>
<td>0.3</td>
<td>2.5</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>Mel Transv.</td>
<td>7.9</td>
<td>1.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>Mel Transv.</td>
<td>17.2</td>
<td>0.2</td>
<td>6.1</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>Mel Transv.</td>
<td>10.6</td>
<td>0.7</td>
<td>3.7</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Mel</td>
<td>Mel Transv.</td>
<td>21</td>
<td>0.2</td>
<td>6.5</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Mel</td>
<td>Mel Transv.</td>
<td>13.9</td>
<td>0.7</td>
<td>6.7</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Mel</td>
<td>Mel Transv.</td>
<td>14.2</td>
<td>0.1</td>
<td>3</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Mel</td>
<td>Mel Transv.</td>
<td>12</td>
<td>0.2</td>
<td>0.7</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Mel</td>
<td>Mel Transv.</td>
<td>18.9</td>
<td>0.2</td>
<td>5.5</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>-------------</td>
<td>------</td>
<td>-----</td>
<td>------</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Mel</td>
<td>Mel Transv.</td>
<td>16.2</td>
<td>0.2</td>
<td>5.9</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Mel</td>
<td>Mel Transv.</td>
<td>18.3</td>
<td>0.1</td>
<td>6.1</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Mel</td>
<td>Mel Transv.</td>
<td>12.9</td>
<td>0.1</td>
<td>4.9</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Mel</td>
<td>Mel Transv.</td>
<td>11.4</td>
<td>0.1</td>
<td>3.2</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Mel</td>
<td>Mel Transv.</td>
<td>6.8</td>
<td>0.1</td>
<td>5.5</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Mel</td>
<td>Mel Transv.</td>
<td>5.8</td>
<td>1.9</td>
<td>1.7</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Mel</td>
<td>Mel Transv.</td>
<td>3.8</td>
<td>3.4</td>
<td>3</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B2</td>
<td>E60</td>
<td>Mel</td>
<td></td>
<td>1.5</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>22.6</td>
<td>0.7</td>
<td>8.1</td>
<td>2.2</td>
</tr>
<tr>
<td>------------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>25.7</td>
<td>0.3</td>
<td>7.4</td>
<td>4.7</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>8.5</td>
<td>0.9</td>
<td>3.5</td>
<td>2.1</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>7.9</td>
<td>1.5</td>
<td>1.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Mel</td>
<td>13.9</td>
<td>0.7</td>
<td>6.7</td>
<td>1.6</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Mel</td>
<td>18.9</td>
<td>0.2</td>
<td>5.5</td>
<td>2.6</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Mel</td>
<td>5.8</td>
<td>1.9</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Mel</td>
<td>10.5</td>
<td>0.1</td>
<td>3.4</td>
<td>2.2</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E41</td>
<td>Mel</td>
<td>3</td>
<td>3.2</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E65</td>
<td>Mel</td>
<td>5.8</td>
<td>3.2</td>
<td>2.7</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>----------------</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E65</td>
<td>Mel</td>
<td>6.1</td>
<td>2.5</td>
<td>2.9</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B2</td>
<td>E60</td>
<td>Mel</td>
<td>0.4</td>
<td>-0.1</td>
<td>2.2</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B2</td>
<td>E60</td>
<td>Mel</td>
<td>1.1</td>
<td>2.8</td>
<td>2.1</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>9.4</td>
<td>0.3</td>
<td>5.1</td>
<td>2</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>14.1</td>
<td>5.4</td>
<td>3.6</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>8.8</td>
<td>0.2</td>
<td>3.1</td>
<td>2.7</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>11.9</td>
<td>0.1</td>
<td>7.2</td>
<td>3.6</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>4.7</td>
<td>1.5</td>
<td>2.8</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>Mel 6</td>
<td>6</td>
<td>1.3</td>
<td>3.2</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>---</td>
<td>----</td>
<td>-----</td>
<td>-------</td>
<td>---</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>Mel 7</td>
<td>10.2</td>
<td>0.1</td>
<td>6.1</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>Mel 8</td>
<td>12.7</td>
<td></td>
<td>4.9</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>Mel 1</td>
<td>0.7</td>
<td></td>
<td>3.6</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>Mel 2</td>
<td>0.7</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>Mel 3</td>
<td>1.2</td>
<td></td>
<td>2.2</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>Mel 1</td>
<td>6.6</td>
<td></td>
<td>2.7</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>Mel 2</td>
<td>2.9</td>
<td>0.3</td>
<td>2.8</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>Mel 3</td>
<td>3.7</td>
<td></td>
<td>1.8</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>Mel 4</td>
<td>4.8</td>
<td>1.7</td>
<td>2.9</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>---</td>
<td>----</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Mel</td>
<td>Mel 5</td>
<td>13.7</td>
<td>0.1</td>
<td>4.4</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Sp</td>
<td>2.6</td>
<td>-1.3</td>
<td>2.2</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Sp</td>
<td>2.6</td>
<td>0.9</td>
<td>1.7</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Sp</td>
<td>2.5</td>
<td>2.4</td>
<td>2.6</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Sp</td>
<td>2.6</td>
<td>-1.3</td>
<td>2.2</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Sp</td>
<td>2.5</td>
<td>0.4</td>
<td>1.7</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Sp</td>
<td>2.7</td>
<td>0.6</td>
<td>2</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Sp</td>
<td>2.5</td>
<td>1.2</td>
<td>2.5</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Sp</td>
<td>2.6</td>
<td>2.4</td>
<td>2.1</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>----------------</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Sp</td>
<td>2.5</td>
<td>3</td>
<td>3.4</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E65</td>
<td>Sp</td>
<td>2.4</td>
<td>2.5</td>
<td>2</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Sp</td>
<td>Sp</td>
<td>2.6</td>
<td>2.4</td>
<td>2.1</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Sp</td>
<td>Sp</td>
<td>2.7</td>
<td>1.1</td>
<td>3.2</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Sp</td>
<td>Sp</td>
<td>2.7</td>
<td>1.2</td>
<td>2</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Sp</td>
<td>Sp</td>
<td>2.6</td>
<td>-0.5</td>
<td>2.7</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Sp</td>
<td>Sp</td>
<td>2.6</td>
<td>0</td>
<td>2.8</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Sp</td>
<td>Sp</td>
<td>2.6</td>
<td>2.3</td>
<td>2.6</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Sp</td>
<td>Sp Transv.</td>
<td>2.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Sp</td>
<td>Sp Transv.</td>
<td>2.4</td>
<td>1</td>
<td>2.3</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Sp</td>
<td>Sp Transv.</td>
<td>2.5</td>
<td>2.9</td>
<td>3</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Sp</td>
<td>Sp Transv.</td>
<td>2.5</td>
<td>1</td>
<td>2.7</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Sp</td>
<td>Sp Transv.</td>
<td>2.5</td>
<td>2.2</td>
<td>2.8</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Sp</td>
<td>Sp Transv.</td>
<td>2.5</td>
<td>2.7</td>
<td>3.2</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Sp</td>
<td>Sp Transv.</td>
<td>2.4</td>
<td>0.1</td>
<td>2.6</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Sp</td>
<td>Sp Transv.</td>
<td>2.7</td>
<td>1.1</td>
<td>2.7</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Sp</td>
<td>Sp Transv.</td>
<td>2.5</td>
<td>3.5</td>
<td>2.6</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Sp</td>
<td>2.5</td>
<td>0.4</td>
<td>1.7</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>---</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>----------------</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E40</td>
<td>Sp</td>
<td>2.5</td>
<td>1</td>
<td>2.7</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Sp</td>
<td>2.5</td>
<td>2.3</td>
<td>3.2</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E65</td>
<td>Sp</td>
<td>2.5</td>
<td>2.4</td>
<td>1.8</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B2</td>
<td>E60</td>
<td>Sp</td>
<td>2.5</td>
<td>2.2</td>
<td>1.5</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Sp</td>
<td>2.5</td>
<td>-0.1</td>
<td>1.4</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Sp</td>
<td>2.5</td>
<td>-0.1</td>
<td>1.9</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Sp</td>
<td>2.6</td>
<td>0.4</td>
<td>2.1</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Sp</td>
<td>2.7</td>
<td>-2.9</td>
<td>2.3</td>
<td>IM CAM IMS 4f</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Sp</td>
<td>Sp 2</td>
<td>2.4</td>
<td>0.3</td>
<td>-1.1</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>---</td>
<td>----</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Sp</td>
<td>Sp 3</td>
<td>2.6</td>
<td></td>
<td>-1.6</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Sp</td>
<td>Sp 4</td>
<td>2.5</td>
<td></td>
<td>-0.1</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Sp</td>
<td>Sp 5</td>
<td>2.6</td>
<td>0.3</td>
<td>2.5</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Sp</td>
<td>Sp 6</td>
<td>2.5</td>
<td></td>
<td>-0.9</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>E2</td>
<td>Sp</td>
<td>Sp 7</td>
<td>2.5</td>
<td></td>
<td>2.3</td>
</tr>
<tr>
<td>ALHA 77295 PTS#28</td>
<td>EH3</td>
<td>A9528-2</td>
<td>Hib</td>
<td>A9528-2</td>
<td>135</td>
<td>14</td>
<td>-13</td>
<td>10.1</td>
</tr>
<tr>
<td>ALHA 77295 PTS#28</td>
<td>EH3</td>
<td>A9528-2</td>
<td>Sp</td>
<td>A9528-2</td>
<td>2.7</td>
<td>0.3</td>
<td>1</td>
<td>3.7</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4640-1</td>
<td>Hib</td>
<td>E4640-1</td>
<td>109</td>
<td>11</td>
<td>22.8</td>
<td>9.8</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4640-1</td>
<td>Hib</td>
<td>E4640-1</td>
<td>21.2</td>
<td>2.1</td>
<td>1.7</td>
<td>7.2</td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
<td>---------</td>
<td>------</td>
<td>---------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4640-1</td>
<td>Hib</td>
<td>E4640-1</td>
<td>51.7</td>
<td>5.2</td>
<td>11</td>
<td>5.6</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4631-3</td>
<td>Hib</td>
<td>E4631-3</td>
<td>93.9</td>
<td>9.4</td>
<td>4.8</td>
<td>4.1</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4631-3</td>
<td>Hib</td>
<td>E4631-3</td>
<td>83.9</td>
<td>8.4</td>
<td>-0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4642-2</td>
<td>Hib</td>
<td>E4642-2</td>
<td>89.9</td>
<td>3.7</td>
<td>30.1</td>
<td>5.6</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4642-4</td>
<td>Hib</td>
<td>E4642-4</td>
<td>76.1</td>
<td>2.9</td>
<td>-0.2</td>
<td>4.9</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4642-8</td>
<td>Hib</td>
<td>E4642-8</td>
<td>31.3</td>
<td>1.1</td>
<td>10.1</td>
<td>3.8</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4642-12</td>
<td>Hib</td>
<td>E4642-12</td>
<td>114</td>
<td>12</td>
<td>15.7</td>
<td>24.7</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4642-12</td>
<td>Hib</td>
<td>E4642-12</td>
<td>81.2</td>
<td>2.6</td>
<td>25</td>
<td>5.2</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>----------</td>
<td>-----</td>
<td>----------</td>
<td>------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4642-15</td>
<td>Hib</td>
<td>E4642-15</td>
<td>65.6</td>
<td>3.9</td>
<td>19.4</td>
<td>8.9</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4642-15</td>
<td>Hib</td>
<td>E4642-15</td>
<td>75</td>
<td>3.1</td>
<td>20.9</td>
<td>6.3</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4631-3</td>
<td>Pyxr</td>
<td>E4631-3</td>
<td>2.8</td>
<td>0.3</td>
<td>0.5</td>
<td>1.9</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4631-3</td>
<td>Pyxr</td>
<td>E4631-3</td>
<td>13.7</td>
<td>1.4</td>
<td>1.7</td>
<td>3.2</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4640-1</td>
<td>Sp</td>
<td>E4640-1</td>
<td>2.4</td>
<td>0.2</td>
<td>-0.8</td>
<td>5.3</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4640-1</td>
<td>Sp</td>
<td>E4640-1</td>
<td>2.5</td>
<td>0.3</td>
<td>-2.5</td>
<td>4.2</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4640-1</td>
<td>Sp</td>
<td>E4640-1</td>
<td>2.7</td>
<td>0.3</td>
<td>-1.5</td>
<td>2.6</td>
</tr>
<tr>
<td>Sample</td>
<td>Location</td>
<td>Heating</td>
<td>Sample</td>
<td>Emission</td>
<td>Cr/Fe</td>
<td>Cr/Fe</td>
<td>Cr/Fe</td>
<td>Cr/Fe</td>
</tr>
<tr>
<td>--------</td>
<td>----------</td>
<td>---------</td>
<td>--------</td>
<td>----------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4642-2</td>
<td>Sp</td>
<td>E4642-2</td>
<td>4.5</td>
<td>0.3</td>
<td>-0.3</td>
<td>2</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4642-4</td>
<td>Sp</td>
<td>E4642-4</td>
<td>4.7</td>
<td>0.3</td>
<td>-1.4</td>
<td>3.2</td>
</tr>
<tr>
<td>EET 87746</td>
<td>EH3</td>
<td>E4642-8</td>
<td>Sp</td>
<td>E4642-8</td>
<td>3.2</td>
<td>0.3</td>
<td>-0.7</td>
<td>2.6</td>
</tr>
<tr>
<td>SAH97072</td>
<td>EH3</td>
<td>S721-5</td>
<td>Hib</td>
<td>S721-5</td>
<td>78.6</td>
<td>2.4</td>
<td>24.7</td>
<td>5.4</td>
</tr>
<tr>
<td>SAH97072</td>
<td>EH3</td>
<td>S722-9</td>
<td>Hib</td>
<td>S722-9</td>
<td>28.2</td>
<td>1.4</td>
<td>7.9</td>
<td>3</td>
</tr>
<tr>
<td>SAH97072</td>
<td>EH3</td>
<td>S722-13</td>
<td>Hib</td>
<td>S722-13</td>
<td>51.8</td>
<td>3.7</td>
<td>-0.5</td>
<td>6.2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>HAL</td>
<td>Hib</td>
<td>HAL</td>
<td>3176</td>
<td>2.3</td>
<td>3.8</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>HAL</td>
<td>Hib</td>
<td>9227</td>
<td>-5.4</td>
<td>8</td>
<td>IM AEI IM-20</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>HAL</td>
<td>Hib</td>
<td>10704</td>
<td>4</td>
<td>9</td>
<td>IM AEI IM-20</td>
</tr>
<tr>
<td></td>
<td>H3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALPHA</td>
<td>H3</td>
<td>Al-rich</td>
<td>Plag</td>
<td>Run 1</td>
<td>1860</td>
<td>-1.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>77299</td>
<td>H3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALPHA</td>
<td>H3</td>
<td>Al-rich</td>
<td>Plag</td>
<td>Run 2</td>
<td>2895</td>
<td>0.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>77299</td>
<td>H3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>27</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALPHA</td>
<td>H3</td>
<td>Al-rich</td>
<td>Plag</td>
<td>Run 3</td>
<td>1211</td>
<td>-7.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>77299</td>
<td>H3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3</td>
<td>Hib</td>
<td>2176</td>
<td>99</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3</td>
<td>Hib</td>
<td>1805</td>
<td>313</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3</td>
<td>Hib</td>
<td>4829</td>
<td>66</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3</td>
<td>Hib</td>
<td>1742</td>
<td>368</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3</td>
<td>Hib</td>
<td>5599</td>
<td>920</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3</td>
<td>Hib</td>
<td>15655</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hinton and Bischoff 1984

IM AEI IM-20
<table>
<thead>
<tr>
<th>Location</th>
<th>Unit</th>
<th>Phenocrysts</th>
<th>TiO₂</th>
<th>K₂O</th>
<th>Na₂O</th>
<th>Fe₂O₃</th>
<th>FeO</th>
<th>MnO</th>
<th>Cr</th>
<th>Ni</th>
<th>Al₂O₃</th>
<th>CaO</th>
<th>MgO</th>
<th>Co</th>
<th>NiO</th>
<th>H₂O</th>
<th>Total</th>
<th>F</th>
<th>Fe/Fe+Mg</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dhajala</td>
<td>H3</td>
<td>Hib</td>
<td>6300</td>
<td>441</td>
<td>33</td>
<td>IM AEI IM-20</td>
<td>Hinton and Bischoff 1984</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3</td>
<td>Hib</td>
<td>10639</td>
<td>630</td>
<td>28</td>
<td>IM AEI IM-20</td>
<td>Hinton and Bischoff 1984</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3</td>
<td>Sp</td>
<td>0</td>
<td>-0.7</td>
<td>1.5</td>
<td>IM AEI IM-20</td>
<td>Hinton and Bischoff 1984</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3</td>
<td>Sp</td>
<td>0</td>
<td>2</td>
<td>1.6</td>
<td>IM AEI IM-20</td>
<td>Hinton and Bischoff 1984</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Krymka</td>
<td>LL3.2</td>
<td>Porp Plag</td>
<td>44</td>
<td>-4.1</td>
<td>8</td>
<td>IM AEI IM-20</td>
<td>Hinton and Bischoff 1984</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Krymka</td>
<td>LL3.2</td>
<td>Porp Plag</td>
<td>61</td>
<td>1.7</td>
<td>7</td>
<td>IM AEI IM-20</td>
<td>Hinton and Bischoff 1984</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Krymka</td>
<td>LL3.2</td>
<td>Porp Plag</td>
<td>56</td>
<td>-0.3</td>
<td>7</td>
<td>IM AEI IM-20</td>
<td>Hinton and Bischoff 1984</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Krymka</td>
<td>LL3.2</td>
<td>Porp Plag</td>
<td>69</td>
<td>1.5</td>
<td>6</td>
<td>IM AEI IM-20</td>
<td>Hinton and Bischoff 1984</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharps</td>
<td>H3</td>
<td>Plag</td>
<td>234</td>
<td>-5.4</td>
<td>13</td>
<td>IM AEI IM-20</td>
<td>Hinton and Bischoff 1984</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sharps</td>
<td>H3</td>
<td></td>
<td>Plag</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CAI-Chond. object</td>
<td>136</td>
<td>0.2</td>
<td>12</td>
<td>IM AEI IM-20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sharps</td>
<td>H3</td>
<td></td>
<td>Plag</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CAI-Chond. object</td>
<td>119</td>
<td>14.7</td>
<td>16</td>
<td>IM AEI IM-20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Murchison</td>
<td>CM2 (C2)</td>
<td>GR-1</td>
<td>Co</td>
<td>H1</td>
<td></td>
<td>3</td>
<td>35</td>
<td>IM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Murchison</td>
<td>CM2 (C2)</td>
<td>GR-1</td>
<td>Co</td>
<td>H2</td>
<td>3.6</td>
<td>6.6</td>
<td>IM</td>
<td>Hinton et al. 1984</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Murchison</td>
<td>CM2 (C2)</td>
<td>GR-1</td>
<td>Co</td>
<td>H3</td>
<td>3</td>
<td>15</td>
<td>IM</td>
<td>Hinton et al. 1984</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Murchison</td>
<td>CM2</td>
<td>B?</td>
<td>GR-1</td>
<td>Hib</td>
<td>C1</td>
<td>-2.6</td>
<td>5.2</td>
<td>IM</td>
<td>Hinton et al. 1984</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Murchison</td>
<td>CM2</td>
<td>FUN?</td>
<td>GR-1</td>
<td>Hib</td>
<td>C2</td>
<td>-3.8</td>
<td>8</td>
<td>IM</td>
<td>Hinton et al. 1984</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Murchison</td>
<td>CM2</td>
<td>FUN?</td>
<td>GR-1</td>
<td>Hib</td>
<td>R1</td>
<td>-2.3</td>
<td>3.2</td>
<td>IM</td>
<td>Hinton et al. 1984</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Murchison</td>
<td>CM2</td>
<td>FUN?</td>
<td>GR-1</td>
<td>Hib</td>
<td>R2</td>
<td>-3.1</td>
<td>8.3</td>
<td>IM</td>
<td>Hinton et al. 1984</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
<td>----</td>
<td>-----</td>
<td>----</td>
<td>-------</td>
<td>-------</td>
<td>----</td>
<td>----------------------------</td>
<td>-------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td></td>
<td>Fas</td>
<td>STP-1</td>
<td>2.4</td>
<td>0.5</td>
<td>MC-ICPMS T-F X-Series II</td>
<td>Holst et al. 2013 Supp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td></td>
<td>Fas</td>
<td>STP-1</td>
<td>2.8</td>
<td>0.6</td>
<td>MC-ICPMS T-F X-Series II</td>
<td>Holst et al. 2013 Supp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-----</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>--------------------------</td>
<td>------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td></td>
<td></td>
<td></td>
<td>Fas</td>
<td>STP-1</td>
<td>1.8</td>
<td>0.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td></td>
<td></td>
<td></td>
<td>Fas</td>
<td>STP-1</td>
<td>3</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td></td>
<td></td>
<td></td>
<td>Fas</td>
<td>STP-1</td>
<td>3.1</td>
<td>0.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MC-ICPMS T-F X-Series II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MC-ICPMS T-F X-Series II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MC-ICPMS T-F X-Series II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MC-ICPMS T-F X-Series II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MC-ICPMS T-F X-Series II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MC-ICPMS T-F X-Series II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MC-ICPMS T-F X-Series II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MC-ICPMS T-F X-Series II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>STP-1</td>
<td>Mel</td>
<td>10.6</td>
<td>0.6</td>
<td>Holst et al. 2013 Supp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>-------</td>
<td>------</td>
<td>------</td>
<td>----</td>
<td>------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>STP-1</td>
<td>Mel</td>
<td>6.2</td>
<td>0.6</td>
<td>Holst et al. 2013 Supp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>STP-1</td>
<td>Mel</td>
<td>14.7</td>
<td>1.5</td>
<td>Holst et al. 2013 Supp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>STP-1</td>
<td>Mel</td>
<td>23.4</td>
<td>1.1</td>
<td>Holst et al. 2013 Supp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>STP-1</td>
<td>Mel</td>
<td>23.6</td>
<td>1.1</td>
<td>Holst et al. 2013 Supp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>STP-1</td>
<td>Sp</td>
<td>2.5</td>
<td>0.4</td>
<td>Holst et al. 2013 Supp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>STP-1</td>
<td>Sp</td>
<td>2.5</td>
<td>0.4</td>
<td>Holst et al. 2013 Supp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>STP-1</td>
<td>Sp</td>
<td>2.5</td>
<td>0.4</td>
<td>Holst et al. 2013 Supp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>STP-1</td>
<td>Sp</td>
<td>2.5</td>
<td>0.4</td>
<td>Holst et al. 2013 Supp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample</td>
<td>Type</td>
<td>Instrument</td>
<td>Sp</td>
<td>2.5</td>
<td>0.3</td>
<td>Method/Instrument/Location</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>------</td>
<td>------------</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>-----------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN STP-1</td>
<td>Sp</td>
<td>2.5</td>
<td>0.3</td>
<td>MC-ICPMS T-F X-Series II Holst et al. 2013 Supp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN STP-1</td>
<td>WR-Bulk WR-Bulk</td>
<td>3.18</td>
<td>0.06</td>
<td>MC-ICPMS T-F X-Series II Holst et al. 2013 Supp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SiC X1</td>
<td>0.2</td>
<td>0.01</td>
<td></td>
<td>IM CAM IMS 3f WUSL Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SiC X2</td>
<td>0.23</td>
<td>0.03</td>
<td></td>
<td>IM CAM IMS 3f WUSL Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SiC X3</td>
<td>0.1</td>
<td>0.01</td>
<td></td>
<td>IM CAM IMS 3f WUSL Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SiC X4</td>
<td>0.61</td>
<td>0.04</td>
<td></td>
<td>IM CAM IMS 3f WUSL Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SiC X5</td>
<td>0.23</td>
<td>0.01</td>
<td></td>
<td>IM CAM IMS 3f WUSL Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SiC Y1</td>
<td>0.0027</td>
<td></td>
<td></td>
<td>IM CAM IMS 3f WUSL Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SiC Y2</td>
<td>0.0002</td>
<td></td>
<td></td>
<td>IM CAM IMS 3f WUSL Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SiC</td>
<td>Y4</td>
<td>0.0009</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>-----</td>
<td>----</td>
<td>--------</td>
<td>-------------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SiC</td>
<td>KJH-071</td>
<td>0.00027</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SiC</td>
<td>KJH-081</td>
<td>0.0006</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SiC</td>
<td>KJH-125</td>
<td>0.00037</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SiC</td>
<td>KJH-671</td>
<td>0.00019</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SiC</td>
<td>KJH-222</td>
<td>0.0021</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SiC</td>
<td>KJH-CL11</td>
<td>0.0007</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SiC</td>
<td>KJH-272</td>
<td>0.0013</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SiC</td>
<td>LS + LU 40</td>
<td>0.0039</td>
<td>IM CAM IMS 3f WUSL</td>
<td>Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>----------------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td></td>
<td>SiC</td>
<td>LS + LU 32</td>
<td>0.0011</td>
<td></td>
<td>Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td></td>
<td>SiC</td>
<td>SiC Mainstream Group</td>
<td>0.00752</td>
<td></td>
<td>Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td></td>
<td>SiC</td>
<td>SiC A Group</td>
<td>0.005</td>
<td></td>
<td>Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td></td>
<td>SiC</td>
<td>SiC B Group</td>
<td>0.0026</td>
<td></td>
<td>Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td></td>
<td>SiC</td>
<td>SiC X Group</td>
<td>0.35</td>
<td></td>
<td>Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td></td>
<td>SiC</td>
<td>SiC Y Group</td>
<td>0.0016</td>
<td></td>
<td>Hoppe et al. 1994</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>5241</td>
<td></td>
<td>An</td>
<td>160</td>
<td></td>
<td></td>
<td>Hsu et al. 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>USMN 5241</td>
<td></td>
<td>An</td>
<td>199</td>
<td></td>
<td></td>
<td>Hsu et al. 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>USMN 5241</td>
<td></td>
<td>An</td>
<td>206</td>
<td></td>
<td></td>
<td>Hsu et al. 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>USMN 5241</td>
<td>An</td>
<td>207</td>
<td>IM CAM IMS 3f</td>
<td>Hsu et al. 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>---</td>
<td>-----------</td>
<td>----</td>
<td>-----</td>
<td>---------------</td>
<td>----------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>USMN 5241</td>
<td>An</td>
<td>285</td>
<td>IM CAM IMS 3f</td>
<td>Hsu et al. 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>USMN 5241</td>
<td>An</td>
<td>288</td>
<td>IM CAM IMS 3f</td>
<td>Hsu et al. 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>USMN 5241</td>
<td>An</td>
<td>299</td>
<td>IM CAM IMS 3f</td>
<td>Hsu et al. 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>USMN 5241</td>
<td>An</td>
<td>351</td>
<td>IM CAM IMS 3f</td>
<td>Hsu et al. 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>USMN 5241</td>
<td>An</td>
<td>373</td>
<td>IM CAM IMS 3f</td>
<td>Hsu et al. 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Fas</td>
<td>377</td>
<td>IM CAM IMS 3f</td>
<td>Hsu et al. 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Fas</td>
<td>377</td>
<td>IM CAM IMS 3f</td>
<td>Hsu et al. 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Fas</td>
<td>377</td>
<td>IM CAM IMS 3f</td>
<td>Hsu et al. 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Mel</td>
<td>IM CAM IMS 3f</td>
<td>Hsu et al. 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>------</td>
<td>---------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Mel</td>
<td>IM CAM IMS 3f</td>
<td>Hsu et al. 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3-Ungrouped</td>
<td>PLAC ?</td>
<td>PMO-0025 CAI 6</td>
<td>Hib</td>
<td>PMO-0025 CAI 6</td>
<td>97</td>
<td>1.6</td>
<td>3.4</td>
<td>5.2</td>
<td>IM CAM IMS Geo 7f (CAL)</td>
<td>Hsu et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3-Ungrouped</td>
<td>PLAC ?</td>
<td>PMO-0025 CAI 6</td>
<td>Hib</td>
<td>PMO-0025 CAI 6</td>
<td>194.3</td>
<td>0.4</td>
<td>-4.1</td>
<td>5.5</td>
<td>IM CAM IMS Geo 7f (CAL)</td>
<td>Hsu et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3-Ungrouped</td>
<td>PLAC ?</td>
<td>PMO-0025 CAI 6</td>
<td>Hib</td>
<td>PMO-0025 CAI 6</td>
<td>124.4</td>
<td>0.2</td>
<td>3.4</td>
<td>3</td>
<td>IM CAM IMS Geo 7f (CAL)</td>
<td>Hsu et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3-Ungrouped</td>
<td>PLAC ?</td>
<td>PMO-0025 CAI 10</td>
<td>Hib</td>
<td>PMO-0025 CAI 10</td>
<td>65</td>
<td>0.1</td>
<td>5</td>
<td>4.3</td>
<td>IM CAM IMS Geo 7f (CAL)</td>
<td>Hsu et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3-Ungrouped</td>
<td>PLAC ?</td>
<td>PMO-0025 CAI 10</td>
<td>Hib</td>
<td>PMO-0025 CAI 10</td>
<td>70.6</td>
<td>0.2</td>
<td>-1.6</td>
<td>8.7</td>
<td>IM CAM IMS Geo 7f (CAL)</td>
<td>Hsu et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3-Ungrouped</td>
<td>PLAC ?</td>
<td>PMO-0025 CAI 12</td>
<td>Hib</td>
<td>PMO-0025 CAI 12</td>
<td>59.3</td>
<td>0.1</td>
<td>24.3</td>
<td>2.9</td>
<td>IM CAM IMS Geo 7f (CAL)</td>
<td>Hsu et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3-Ungrouped</td>
<td>PLAC ?</td>
<td>PMO-0025 CAI 12</td>
<td>Hib</td>
<td>PMO-0025 CAI 12</td>
<td>56.3</td>
<td>0.1</td>
<td>22.5</td>
<td>4.9</td>
<td>IM CAM IMS Geo 7f (CAL)</td>
<td>Hsu et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>PLAC</td>
<td>PMO-0025 CAI 27</td>
<td>Hib</td>
<td>PMO-0025 CAI 27</td>
<td>94.8</td>
<td>0.3</td>
<td>6</td>
<td>5.2</td>
<td>IM CAM IMS Geo 7f (CAL)</td>
<td>Hsu et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>PLAC</td>
<td>PMO-0083 CAI 27</td>
<td>Hib</td>
<td>PMO-0083 CAI 27</td>
<td>52.2</td>
<td>1.8</td>
<td>1.3</td>
<td>5.8</td>
<td>IM CAM IMS Geo 7f (CAL)</td>
<td>Hsu et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>PLAC</td>
<td>PMO-1014 CAI 6</td>
<td>Hib</td>
<td>PMO-1014 CAI 6</td>
<td>32.8</td>
<td>0.9</td>
<td>-3.1</td>
<td>5.1</td>
<td>IM CAM IMS Geo 7f (CAL)</td>
<td>Hsu et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>PLAC</td>
<td>PMO-1014 CAI 6</td>
<td>Hib</td>
<td>PMO-1014 CAI 6</td>
<td>82</td>
<td>0.2</td>
<td>0.3</td>
<td>10.3</td>
<td>IM CAM IMS Geo 7f (CAL)</td>
<td>Hsu et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>PLAC</td>
<td>PMO-1014 CAI 6</td>
<td>Hib</td>
<td>PMO-1014 CAI 6</td>
<td>7.8</td>
<td>0.1</td>
<td>-2.7</td>
<td>4.1</td>
<td>IM CAM IMS Geo 7f (CAL)</td>
<td>Hsu et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>PLAC</td>
<td>PMO-1014 CAI 6</td>
<td>Hib</td>
<td>PMO-1014 CAI 6</td>
<td>14.2</td>
<td>0.1</td>
<td>1.9</td>
<td>2.1</td>
<td>IM CAM IMS Geo 7f (CAL)</td>
<td>Hsu et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>PLAC</td>
<td>PMO-1014 CAI 6</td>
<td>Hib</td>
<td>PMO-1014 CAI 6</td>
<td>77</td>
<td>0.1</td>
<td>1.2</td>
<td>3.4</td>
<td>IM CAM IMS Geo 7f (CAL)</td>
<td>Hsu et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>PLAC</td>
<td>PMO-1021 CAI 21</td>
<td>Hib</td>
<td>PMO-1021 CAI 21</td>
<td>147.4</td>
<td>0.3</td>
<td>-1.6</td>
<td>5.7</td>
<td>IM CAM IMS Geo 7f (CAL)</td>
<td>Hsu et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Sample Type</td>
<td>PLAC Code</td>
<td>Reference</td>
<td>Geo Code</td>
<td>RA</td>
<td>RA Count</td>
<td>RA Deviation</td>
<td>RA Intervals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
<td>-----------</td>
<td>-----------</td>
<td>----------</td>
<td>----</td>
<td>----------</td>
<td>--------------</td>
<td>--------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>?</td>
<td>PMO-1021 CAI 21</td>
<td>Hib</td>
<td>PMO-1021 CAI 21</td>
<td>135.7</td>
<td>1.2</td>
<td>1.1</td>
<td>8.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>?</td>
<td>PMO-1021 CAI 21</td>
<td>Hib</td>
<td>PMO-1021 CAI 21</td>
<td>119.5</td>
<td>1.2</td>
<td>2.4</td>
<td>7.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>?</td>
<td>PMO-1021 CAI 32</td>
<td>Hib</td>
<td>PMO-1021 CAI 32</td>
<td>104.2</td>
<td>0.5</td>
<td>37.9</td>
<td>9.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>?</td>
<td>PMO-1021 CAI 32</td>
<td>Hib</td>
<td>PMO-1021 CAI 32</td>
<td>96.4</td>
<td>0.4</td>
<td>28.4</td>
<td>6.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>?</td>
<td>PMO-1021 CAI 32</td>
<td>Hib</td>
<td>PMO-1021 CAI 32</td>
<td>95.3</td>
<td>0.8</td>
<td>30.8</td>
<td>7.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>?</td>
<td>PMO-0025 CAI 10</td>
<td>Mel</td>
<td>PMO-0025 CAI 10</td>
<td>14.6</td>
<td>0.1</td>
<td>0.2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>?</td>
<td>PMO-0025 CAI 10</td>
<td>Mel</td>
<td>PMO-0025 CAI 10</td>
<td>28.3</td>
<td>0.1</td>
<td>-1</td>
<td>1.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>?</td>
<td>PMO-0026 CAI 12</td>
<td>Mel</td>
<td>PMO-0026 CAI 12</td>
<td>11.1</td>
<td>0.1</td>
<td>4.2</td>
<td>2.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hsu et al. 2011
<table>
<thead>
<tr>
<th>Location</th>
<th>Type</th>
<th>PLAC</th>
<th>PMO-XX CAI YY</th>
<th>Mode</th>
<th>PMO-XX CAI YY</th>
<th>IM</th>
<th>CAM</th>
<th>Geo 7f (CAL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>PLAC ?</td>
<td>PMO-0025 CAI 12</td>
<td>Mel</td>
<td>PMO-0025 CAI 12</td>
<td>25.1</td>
<td>0.1</td>
<td>5.7</td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>PLAC ?</td>
<td>PMO-1014 CAI 6</td>
<td>Ol</td>
<td>PMO-1014 CAI 6</td>
<td>0.01</td>
<td>0</td>
<td>0.2</td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>PLAC ?</td>
<td>PMO-0083 CAI 27</td>
<td>Pyrx High Al</td>
<td>PMO-0083 CAI 27</td>
<td>4.6</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>PLAC ?</td>
<td>PMO-1021 CAI 21</td>
<td>Pyrx High Al</td>
<td>PMO-1021 CAI 21</td>
<td>2.6</td>
<td>0.1</td>
<td>-0.7</td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>PLAC ?</td>
<td>PMO-0021 CAI 32</td>
<td>Sp</td>
<td>PMO-0021 CAI 32</td>
<td>7.4</td>
<td>0.1</td>
<td>2.4</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>WA</td>
<td>Plag</td>
<td>IPPL 12 (single crystal)</td>
<td>294</td>
<td>10</td>
<td>101</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>C1</td>
<td>Plag</td>
<td>402</td>
<td>18</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>WA</td>
<td>Plag</td>
<td>BL3 (single crystal)</td>
<td>860</td>
<td>51</td>
<td>206</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>WA</td>
<td>Plag</td>
<td>BL3 (single crystal)</td>
<td>990</td>
<td>56</td>
<td>218</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>WA</td>
<td>Plag</td>
<td>BL3 (single crystal)</td>
<td>1048</td>
<td>53</td>
<td>263</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>------</td>
<td>----------------------</td>
<td>------</td>
<td>----</td>
<td>-----</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>WA</td>
<td>Plag</td>
<td>BL4 (single crystal)</td>
<td>721</td>
<td>70</td>
<td>193</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>WA</td>
<td>Plag</td>
<td>BL5 (single crystal)</td>
<td>486</td>
<td>13</td>
<td>139</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>WA</td>
<td>Plag</td>
<td>IPPL 9 (single crystal)</td>
<td>791</td>
<td>14</td>
<td>225</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>WA</td>
<td>Plag</td>
<td>IPPL 9 (single crystal)</td>
<td>512</td>
<td>34</td>
<td>146</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>WA</td>
<td>Plag</td>
<td>IPPL 10 (single crystal)</td>
<td>223</td>
<td>2</td>
<td>82</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Plag</td>
<td>Allende 3529Z</td>
<td>190</td>
<td>8</td>
<td>55</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>C1</td>
<td>Pyrx</td>
<td>1.4</td>
<td>0.01</td>
<td>-7</td>
<td>3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>C1</td>
<td>Sp</td>
<td>2.2</td>
<td>0.03</td>
<td>-10</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>C1</td>
<td>Sp in Mel</td>
<td>2.3</td>
<td>0.1</td>
<td>-8</td>
</tr>
<tr>
<td>---</td>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>----</td>
<td>-----------</td>
<td>-----</td>
<td>-----</td>
<td>----</td>
</tr>
<tr>
<td></td>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Sp in Plag</td>
<td>1.9</td>
<td>0.01</td>
<td>-5</td>
</tr>
<tr>
<td></td>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td></td>
<td>Sp in Plag</td>
<td>2.4</td>
<td>0.1</td>
<td>-1</td>
</tr>
<tr>
<td></td>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td></td>
<td>Sp in Plag</td>
<td>2.3</td>
<td>0.01</td>
<td>-8</td>
</tr>
<tr>
<td></td>
<td>Chainpur</td>
<td>LL3.4</td>
<td></td>
<td></td>
<td>Glass Gl #1</td>
<td>266</td>
<td>13</td>
<td>-3.7</td>
</tr>
<tr>
<td></td>
<td>Chainpur</td>
<td>LL3.4</td>
<td></td>
<td></td>
<td>Glass Gl #2</td>
<td>143.2</td>
<td>7.2</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Chainpur</td>
<td>LL3.4</td>
<td></td>
<td></td>
<td>Glass Gl #3</td>
<td>110.4</td>
<td>5.5</td>
<td>-0.3</td>
</tr>
<tr>
<td></td>
<td>Chainpur</td>
<td>LL3.4</td>
<td></td>
<td></td>
<td>Glass Gl #4</td>
<td>53</td>
<td>0.9</td>
<td>-1.9</td>
</tr>
<tr>
<td></td>
<td>Chainpur</td>
<td>LL3.4</td>
<td></td>
<td></td>
<td>Glass Gl #1</td>
<td>64</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>Glass</td>
<td>Gl #2</td>
<td>253</td>
<td>14</td>
<td>1.3</td>
<td>4.6</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-----</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>-----------------</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>Glass</td>
<td>Gl #3</td>
<td>312</td>
<td>16</td>
<td>2.2</td>
<td>2.9</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>Glass</td>
<td>Gl #4</td>
<td>410</td>
<td>21</td>
<td>2</td>
<td>5</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>Glass</td>
<td>Gl #5</td>
<td>493</td>
<td>26</td>
<td>5.4</td>
<td>4.3</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>Glass</td>
<td>Gl #6</td>
<td>581</td>
<td>30</td>
<td>-0.2</td>
<td>5.9</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>Glass</td>
<td>Gl #7</td>
<td>433</td>
<td>22</td>
<td>-3</td>
<td>4.2</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>Glass</td>
<td>Gl #8</td>
<td>278</td>
<td>14</td>
<td>-0.6</td>
<td>2.9</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>Glass</td>
<td>Gl #1</td>
<td>53.7</td>
<td>2.7</td>
<td>1.6</td>
<td>2.9</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>Glass</td>
<td>Gl #2</td>
<td>51</td>
<td>2.6</td>
<td>3.7</td>
<td>2.4</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1251-3-1</td>
<td>Glass</td>
<td>Gl #3</td>
<td>49.9</td>
<td>2.5</td>
<td>1.6</td>
<td>2.8</td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>----------</td>
<td>-------</td>
<td>-------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Glass</td>
<td>Gl #4</td>
<td>44.1</td>
<td>2.2</td>
<td>2.3</td>
<td>2.3</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Glass</td>
<td>Gl #5</td>
<td>50.6</td>
<td>2.5</td>
<td>3.6</td>
<td>2.2</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Glass</td>
<td>Gl #6</td>
<td>50.6</td>
<td>2.6</td>
<td>4</td>
<td>2.1</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Glass</td>
<td>Gl #7</td>
<td>50.2</td>
<td>2.5</td>
<td>2.2</td>
<td>2.1</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Glass</td>
<td>Gl #8</td>
<td>51.7</td>
<td>2.6</td>
<td>3.7</td>
<td>2.2</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Glass</td>
<td>Gl #9</td>
<td>58.6</td>
<td>3</td>
<td>-0.1</td>
<td>3.6</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Glass</td>
<td>Gl #10</td>
<td>54.3</td>
<td>2.7</td>
<td>2.2</td>
<td>3.1</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Glass</td>
<td>Gl #11</td>
<td>61.3</td>
<td>3.1</td>
<td>3.3</td>
<td>2.9</td>
</tr>
<tr>
<td>Location</td>
<td>Material</td>
<td>Sample Type</td>
<td>Sample Code</td>
<td>HI</td>
<td>PI</td>
<td>PIc</td>
<td>Author Year</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
<td>-------------</td>
<td>-------------</td>
<td>----</td>
<td>----</td>
<td>-----</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>Glass</td>
<td>Gl #12</td>
<td>1251-3-1</td>
<td>55.6</td>
<td>2.8</td>
<td>2.8</td>
<td>Huss et al. 2001</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>Glass</td>
<td>Gl #13</td>
<td>1251-3-1</td>
<td>50.8</td>
<td>2.5</td>
<td>1</td>
<td>Huss et al. 2001</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>Neph</td>
<td>Nep #1</td>
<td>1251-3-1</td>
<td>533</td>
<td>29</td>
<td>-5.3</td>
<td>Huss et al. 2001</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>Ol</td>
<td>Ol #1</td>
<td>5674-3b-2</td>
<td>0.15</td>
<td>1</td>
<td>-0.6</td>
<td>Huss et al. 2001</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>Ol</td>
<td>Ol #1</td>
<td>1251-16-4</td>
<td>0.00042</td>
<td>1</td>
<td>0.7</td>
<td>Huss et al. 2001</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>Ol</td>
<td>Ol #1</td>
<td>1251-14-2</td>
<td>0.009</td>
<td>6</td>
<td>0</td>
<td>Huss et al. 2001</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>Ol</td>
<td>Ol #1</td>
<td>1251-3-2</td>
<td>0.00148</td>
<td>8</td>
<td>-0.5</td>
<td>Huss et al. 2001</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>Ol</td>
<td>Ol #1</td>
<td>5674-2-1</td>
<td>0.209</td>
<td>17</td>
<td>0.8</td>
<td>Huss et al. 2001</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>Ol</td>
<td>Ol #2</td>
<td>1251-16-3</td>
<td>0.00051</td>
<td>1</td>
<td>1.3</td>
<td>Huss et al. 2001</td>
<td></td>
</tr>
<tr>
<td>Site</td>
<td>Rock Type</td>
<td>Age (Mc)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-----------</td>
<td>----------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-16-3</td>
<td>Oi Oi #3</td>
<td>0.00057</td>
<td>1</td>
<td>-0.2</td>
<td>2.4</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-16-3</td>
<td>Oi Oi #4</td>
<td>0.00027</td>
<td>1</td>
<td>-0.1</td>
<td>2.4</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Oi Oi #2</td>
<td>0.00162</td>
<td>8</td>
<td>-0.1</td>
<td>1.4</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Oi Oi #3</td>
<td>0.00165</td>
<td>9</td>
<td>-0.5</td>
<td>1.4</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-14-1</td>
<td>Oi Oi #2</td>
<td>0.00073</td>
<td>4</td>
<td>0.8</td>
<td>1.9</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-14-1</td>
<td>Oi Oi #3</td>
<td>0.0034</td>
<td>2</td>
<td>0.7</td>
<td>1.9</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>5674-2-1</td>
<td>Oi Oi #2</td>
<td>0.0099</td>
<td>12</td>
<td>0.5</td>
<td>1.5</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>5674-2-1</td>
<td>Oi Oliv #3</td>
<td>0.148</td>
<td>20</td>
<td>-0.6</td>
<td>1.2</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-14-1</td>
<td>Plag Plag #1</td>
<td>123.3</td>
<td>7.3</td>
<td>5</td>
<td>12</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-14-1</td>
<td>Plag</td>
<td>Plag #2</td>
<td>174.4</td>
<td>9.5</td>
<td>-8</td>
<td>7</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>-----------</td>
<td>------</td>
<td>--------</td>
<td>-------</td>
<td>-----</td>
<td>----</td>
<td>---</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-14-1</td>
<td>Plag</td>
<td>Plag #3</td>
<td>82.6</td>
<td>4.7</td>
<td>1.2</td>
<td>5.9</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-14-1</td>
<td>Plag</td>
<td>Plag #4</td>
<td>37.5</td>
<td>1.9</td>
<td>0.7</td>
<td>5.2</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-14-1</td>
<td>Plag</td>
<td>Plag #5</td>
<td>42.6</td>
<td>2.1</td>
<td>1.2</td>
<td>3</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-14-1</td>
<td>Plag</td>
<td>Plag #6</td>
<td>61.2</td>
<td>3.1</td>
<td>1.1</td>
<td>7.7</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-14-1</td>
<td>Plag</td>
<td>Plag #7</td>
<td>31.5</td>
<td>1.7</td>
<td>0.8</td>
<td>3.4</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-14-2</td>
<td>Plag</td>
<td>Plag #1</td>
<td>69</td>
<td>4</td>
<td>6.1</td>
<td>8.8</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-14-2</td>
<td>Plag</td>
<td>Plag #2</td>
<td>130.5</td>
<td>6.7</td>
<td>-2.3</td>
<td>5.6</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-14-2</td>
<td>Plag</td>
<td>Plag #3</td>
<td>166.6</td>
<td>8.7</td>
<td>-4.2</td>
<td>6.1</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-14-2</td>
<td>Plag</td>
<td>Plag #4</td>
<td>210</td>
<td>14</td>
<td>-16</td>
<td>17</td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>-----------</td>
<td>------</td>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>-----</td>
<td>----</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-14-2</td>
<td>Plag</td>
<td>Plag #5</td>
<td>293</td>
<td>17</td>
<td>-1</td>
<td>21</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-14-2</td>
<td>Plag</td>
<td>Plag #6</td>
<td>408</td>
<td>22</td>
<td>-4</td>
<td>20</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>5674-2-1</td>
<td>Plag</td>
<td>Plag #1</td>
<td>298</td>
<td>15</td>
<td>2.5</td>
<td>8.9</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>5674-2-1</td>
<td>Plag</td>
<td>Plag #2</td>
<td>219</td>
<td>11</td>
<td>-0.1</td>
<td>7.6</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>5674-2-1</td>
<td>Plag</td>
<td>Plag #3</td>
<td>90.5</td>
<td>4.8</td>
<td>-1.1</td>
<td>8.6</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>5674-2-1</td>
<td>Plag</td>
<td>Plag #4</td>
<td>87.6</td>
<td>4.4</td>
<td>1</td>
<td>3.1</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>5674-2-1</td>
<td>Plag</td>
<td>Plag #5</td>
<td>86</td>
<td>4.3</td>
<td>2.1</td>
<td>3.2</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>5674-2-1</td>
<td>Plag</td>
<td>Plag #6</td>
<td>63.6</td>
<td>3.3</td>
<td>1.9</td>
<td>4.1</td>
</tr>
<tr>
<td>81+</td>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-6-2</td>
<td>Plag</td>
<td>Plag #1</td>
<td>47.6</td>
<td>2.5</td>
<td>-1.6</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-6-2</td>
<td>Plag</td>
<td>Plag #2</td>
<td>109</td>
<td>5.5</td>
<td>2.8</td>
<td>4.1</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-6-2</td>
<td>Plag</td>
<td>Plag #3</td>
<td>79.3</td>
<td>4.1</td>
<td>-1.5</td>
<td>3.7</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-6-2</td>
<td>Plag</td>
<td>Plag #4</td>
<td>139.9</td>
<td>7</td>
<td>2.2</td>
<td>3.1</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-16-2</td>
<td>Pyrx</td>
<td>Pyr #1</td>
<td>0.072</td>
<td>4</td>
<td>0.7</td>
<td>1.4</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-14-3</td>
<td>Pyrx</td>
<td>Pyr #1</td>
<td>2.8</td>
<td>0.1</td>
<td>1.1</td>
<td>3.3</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-16-3</td>
<td>Pyrx</td>
<td>Pyr #1</td>
<td>0.218</td>
<td>2</td>
<td>-0.5</td>
<td>1.7</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-16-3</td>
<td>Pyrx</td>
<td>Pyr #2</td>
<td>0.374</td>
<td>1</td>
<td>-1.4</td>
<td>1.8</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-14-2</td>
<td>Pyrx</td>
<td>Pyr #2</td>
<td>2.4</td>
<td>0.1</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-14-2</td>
<td>Pyrx</td>
<td>Pyr #3</td>
<td>1.1</td>
<td>0.1</td>
<td>-1.1</td>
<td>1.9</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>-----------</td>
<td>------</td>
<td>--------</td>
<td>-----</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>5674-2-1</td>
<td>Pyrx</td>
<td>Pyr #1</td>
<td>1</td>
<td>6</td>
<td>1.6</td>
<td>1.7</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>5674-2-1</td>
<td>Pyrx</td>
<td>Pyr #2</td>
<td>0.54</td>
<td>6</td>
<td>-1</td>
<td>1.4</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Sp</td>
<td>Sp #1</td>
<td>2.5</td>
<td>0.1</td>
<td>-1.5</td>
<td>2.1</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Sp</td>
<td>Sp #2</td>
<td>2.5</td>
<td>0.1</td>
<td>-0.3</td>
<td>1.9</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Sp</td>
<td>Sp #3</td>
<td>2.6</td>
<td>0.1</td>
<td>-1.9</td>
<td>1.7</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Sp</td>
<td>Sp #4</td>
<td>2.5</td>
<td>0.1</td>
<td>-1.1</td>
<td>1.3</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Sp</td>
<td>Sp #5</td>
<td>2.5</td>
<td>0.1</td>
<td>-0.1</td>
<td>1.7</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Sp</td>
<td>Sp #6</td>
<td>2.5</td>
<td>0.1</td>
<td>-1.3</td>
<td>2.1</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Sp</td>
<td>Sp #7</td>
<td>2.5</td>
<td>0.1</td>
<td>-0.2</td>
<td>1.8</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>----------</td>
<td>----</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
</tr>
<tr>
<td>Inman</td>
<td>L/LL3.4</td>
<td>5652-1-1</td>
<td>BO</td>
<td>Ol</td>
<td>0.0123</td>
<td>6</td>
<td>1</td>
<td>1.6</td>
</tr>
<tr>
<td>Inman</td>
<td>L/LL3.4</td>
<td>5652-1-1</td>
<td>BO</td>
<td>Ol</td>
<td>0.004</td>
<td>2</td>
<td>1.2</td>
<td>1.6</td>
</tr>
<tr>
<td>Inman</td>
<td>L/LL3.4</td>
<td>5652-1-1</td>
<td>BO</td>
<td>Ol</td>
<td>0.0065</td>
<td>4</td>
<td>-0.2</td>
<td>1.8</td>
</tr>
<tr>
<td>Inman</td>
<td>L/LL3.4</td>
<td>5652-1-1</td>
<td>BO</td>
<td>Plag</td>
<td>35.5</td>
<td>1.8</td>
<td>5</td>
<td>3.9</td>
</tr>
<tr>
<td>Inman</td>
<td>L/LL3.4</td>
<td>5652-1-1</td>
<td>BO</td>
<td>Plag</td>
<td>27.4</td>
<td>1.4</td>
<td>1.1</td>
<td>3.8</td>
</tr>
<tr>
<td>Inman</td>
<td>L/LL3.4</td>
<td>5652-1-1</td>
<td>BO</td>
<td>Plag</td>
<td>31.5</td>
<td>1.7</td>
<td>2.9</td>
<td>2.8</td>
</tr>
<tr>
<td>Inman</td>
<td>L/LL3.4</td>
<td>5652-1-1</td>
<td>BO</td>
<td>Plag</td>
<td>12.4</td>
<td>0.6</td>
<td>1.2</td>
<td>1.7</td>
</tr>
<tr>
<td>Inman</td>
<td>L/LL3.4</td>
<td>5652-1-1</td>
<td>BO</td>
<td>Plag</td>
<td>77.2</td>
<td>3.9</td>
<td>8.7</td>
<td>5.9</td>
</tr>
<tr>
<td>Inman</td>
<td>L/LL3.4</td>
<td>BO</td>
<td>Plag</td>
<td>Plag #6</td>
<td>20.4</td>
<td>1</td>
<td>0.8</td>
<td>3.3</td>
</tr>
<tr>
<td>-------</td>
<td>----------</td>
<td>----</td>
<td>------</td>
<td>--------</td>
<td>------</td>
<td>---</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Krymka</td>
<td>LL3.2</td>
<td>1729-9-1</td>
<td>Ol</td>
<td>Oliv #1</td>
<td>0.0067</td>
<td>3</td>
<td>1.5</td>
<td>2.2</td>
</tr>
<tr>
<td>Krymka</td>
<td>LL3.2</td>
<td>1729-9-1</td>
<td>Ol</td>
<td>Oliv #2</td>
<td>0.0223</td>
<td>20</td>
<td>-0.9</td>
<td>2.1</td>
</tr>
<tr>
<td>Krymka</td>
<td>LL3.2</td>
<td>1729-9-1</td>
<td>Ol</td>
<td>Oliv #3</td>
<td>0.0024</td>
<td>1</td>
<td>-0.3</td>
<td>2</td>
</tr>
<tr>
<td>Krymka</td>
<td>LL3.2</td>
<td>1729-9-1</td>
<td>Ol</td>
<td>Oliv #4</td>
<td>0.0024</td>
<td>1</td>
<td>-0.6</td>
<td>2.4</td>
</tr>
<tr>
<td>Krymka</td>
<td>LL3.2</td>
<td>1729-9-1</td>
<td>Plag</td>
<td>Plag #1</td>
<td>41.9</td>
<td>2.1</td>
<td>2.2</td>
<td>3</td>
</tr>
<tr>
<td>Krymka</td>
<td>LL3.2</td>
<td>1729-9-1</td>
<td>Plag</td>
<td>Plag #2</td>
<td>70.7</td>
<td>3.5</td>
<td>3.1</td>
<td>4.7</td>
</tr>
<tr>
<td>Krymka</td>
<td>LL3.2</td>
<td>1729-9-1</td>
<td>Plag</td>
<td>Plag #3</td>
<td>92</td>
<td>4.7</td>
<td>0</td>
<td>7.1</td>
</tr>
<tr>
<td>Krymka</td>
<td>LL3.2</td>
<td>1729-9-1</td>
<td>Plag</td>
<td>Plag #4</td>
<td>67.3</td>
<td>3.4</td>
<td>-2</td>
<td>6.8</td>
</tr>
<tr>
<td>Sample</td>
<td>Type</td>
<td>Code</td>
<td>Age</td>
<td>Element</td>
<td>Value</td>
<td>Error</td>
<td>Another</td>
<td>Method</td>
</tr>
<tr>
<td>------------</td>
<td>-------</td>
<td>----------</td>
<td>------</td>
<td>---------</td>
<td>-------</td>
<td>-------</td>
<td>---------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Krymka</td>
<td>LL3.2</td>
<td>1729-9-1</td>
<td>Plag</td>
<td>Plag #5</td>
<td>72.2</td>
<td>3.6</td>
<td>2.8</td>
<td>4.2</td>
</tr>
<tr>
<td>Krymka</td>
<td>LL3.2</td>
<td>1729-9-1</td>
<td>Plag</td>
<td>Plag #6</td>
<td>65.2</td>
<td>3.3</td>
<td>33</td>
<td>3.9</td>
</tr>
<tr>
<td>Moorabie</td>
<td>L3.8</td>
<td>FTA</td>
<td>Hib</td>
<td>Hib #1</td>
<td>36.7</td>
<td>1.8</td>
<td>13.9</td>
<td>1.9</td>
</tr>
<tr>
<td>Moorabie</td>
<td>L3.8</td>
<td>FTA</td>
<td>Hib</td>
<td>Hib #2</td>
<td>27.8</td>
<td>1.4</td>
<td>8.1</td>
<td>1.5</td>
</tr>
<tr>
<td>Moorabie</td>
<td>L3.8</td>
<td>FTA</td>
<td>Sp</td>
<td>Sp #1</td>
<td>3.5</td>
<td>0.2</td>
<td>0.4</td>
<td>1.2</td>
</tr>
<tr>
<td>Moorabie</td>
<td>L3.8</td>
<td>FTA</td>
<td>Sp</td>
<td>Sp #2</td>
<td>3.3</td>
<td>0.2</td>
<td>-0.1</td>
<td>2</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-1</td>
<td>Mel</td>
<td>Mel #1</td>
<td>3.6</td>
<td>0.2</td>
<td>1.1</td>
<td>1.5</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-1</td>
<td>Mel</td>
<td>Mel #2</td>
<td>21.2</td>
<td>1.1</td>
<td>7</td>
<td>3.9</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-1</td>
<td>Mel</td>
<td>Mel #3</td>
<td>9.8</td>
<td>0.6</td>
<td>2.8</td>
<td>2.6</td>
</tr>
<tr>
<td>Location</td>
<td>LL3.6</td>
<td>Substrate</td>
<td>Analyte</td>
<td>Sample</td>
<td>Contraction</td>
<td>Contraction</td>
<td>Contraction</td>
<td>Huss et al.</td>
</tr>
<tr>
<td>------------</td>
<td>--------</td>
<td>-----------</td>
<td>---------</td>
<td>--------</td>
<td>-------------</td>
<td>-------------</td>
<td>-------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-1</td>
<td>Mel</td>
<td>Mel #4</td>
<td>25</td>
<td>1.3</td>
<td>5.3</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-1</td>
<td>Mel</td>
<td>Mel #10</td>
<td>51.9</td>
<td>2.6</td>
<td>20.7</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-2</td>
<td>Plag</td>
<td>Plag #1</td>
<td>47.7</td>
<td>2.5</td>
<td>4.5</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-2</td>
<td>Plag</td>
<td>Plag #2</td>
<td>46</td>
<td>2.3</td>
<td>-0.5</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-2</td>
<td>Plag</td>
<td>Plag #3</td>
<td>43.5</td>
<td>2.3</td>
<td>1.5</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-2</td>
<td>Plag</td>
<td>Plag #4</td>
<td>37.9</td>
<td>2.1</td>
<td>0.4</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-2</td>
<td>Plag</td>
<td>Plag #5</td>
<td>60.7</td>
<td>3.1</td>
<td>3.8</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-2</td>
<td>Plag</td>
<td>Plag #6</td>
<td>28.1</td>
<td>1.4</td>
<td>1.2</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-2</td>
<td>Plag</td>
<td>Plag #7</td>
<td>83.8</td>
<td>4.2</td>
<td>1.3</td>
<td>Huss et al. 2001</td>
</tr>
<tr>
<td>Location</td>
<td>LL</td>
<td>Sample</td>
<td>Plag/Pyr/Sp</td>
<td>Plag#</td>
<td>Plag#1</td>
<td>Plag#2</td>
<td>Plag#3</td>
<td>Sp#1</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>---------</td>
<td>--------------</td>
<td>-------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-2</td>
<td>Plag/Plag#8</td>
<td>64.3</td>
<td>3.2</td>
<td>0</td>
<td>4.1</td>
<td>IM PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-2</td>
<td>Plag/Plag#9</td>
<td>69.7</td>
<td>3.5</td>
<td>0.1</td>
<td>4.6</td>
<td>IM PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-2</td>
<td>Pyrx/Pyr #1</td>
<td>0.0048</td>
<td>2</td>
<td>0.71</td>
<td>1.5</td>
<td>IM PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-2</td>
<td>Pyrx/Pyr #2</td>
<td>0.013</td>
<td>7</td>
<td>0.1</td>
<td>1.4</td>
<td>IM PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-2</td>
<td>Pyrx/Pyr #3</td>
<td>0.0039</td>
<td>4</td>
<td>-1.1</td>
<td>1.5</td>
<td>IM PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-1</td>
<td>Sp/Sp #1</td>
<td>1.7</td>
<td>0.1</td>
<td>-0.4</td>
<td>2.7</td>
<td>IM PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-1</td>
<td>Sp/Sp #2</td>
<td>3.2</td>
<td>0.2</td>
<td>-0.4</td>
<td>2.8</td>
<td>IM PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>Quinyambie</td>
<td>LL3.6</td>
<td>6076-5-1</td>
<td>Sp/Sp #3</td>
<td>2.1</td>
<td>0.1</td>
<td>0.9</td>
<td>2.3</td>
<td>IM PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>4128-3-1</td>
<td>Mel/Mel #1</td>
<td>12.5</td>
<td>0.6</td>
<td>1</td>
<td>4.4</td>
<td>IM PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>4128-3-1</td>
<td>Mel</td>
<td>Mel #2</td>
<td>16</td>
<td>0.8</td>
<td>7.8</td>
<td>6</td>
</tr>
<tr>
<td>------------</td>
<td>--------</td>
<td>----------</td>
<td>-----</td>
<td>--------</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>---</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>4128-3-1</td>
<td>Mel</td>
<td>Mel #3</td>
<td>14.8</td>
<td>0.7</td>
<td>7.2</td>
<td>2.9</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>4128-3-2</td>
<td>Ol</td>
<td>Oliv #1</td>
<td>0.0369</td>
<td>49</td>
<td>0.9</td>
<td>2.4</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>4128-3-2</td>
<td>Ol</td>
<td>Oliv #2</td>
<td>0.102</td>
<td>72</td>
<td>-1.2</td>
<td>1.5</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>4128-3-2</td>
<td>Ol</td>
<td>Oliv #3</td>
<td>0.0033</td>
<td>2</td>
<td>-0.2</td>
<td>1.6</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>4128-3-2</td>
<td>Plag</td>
<td>Plag #1</td>
<td>29</td>
<td>1.5</td>
<td>2</td>
<td>2.7</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>4128-3-2</td>
<td>Plag</td>
<td>Plag #2</td>
<td>26.4</td>
<td>1.3</td>
<td>0</td>
<td>5.1</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>4128-3-2</td>
<td>Plag</td>
<td>Plag #3</td>
<td>15.5</td>
<td>0.9</td>
<td>-1.6</td>
<td>5.4</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>4128-3-2</td>
<td>Plag</td>
<td>Plag #4</td>
<td>29.5</td>
<td>1.5</td>
<td>3.6</td>
<td>6.8</td>
</tr>
<tr>
<td>Sample</td>
<td>LL</td>
<td>Material</td>
<td>Code</td>
<td>Mass</td>
<td>F1</td>
<td>F2</td>
<td>F3</td>
<td>IM PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>--------</td>
<td>-----</td>
<td>----------</td>
<td>------</td>
<td>------</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>------------------------</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Plag</td>
<td>4128-3-2</td>
<td>Plag</td>
<td>Plag #5</td>
<td>27.2</td>
<td>1.4</td>
<td>1.9</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Plag</td>
<td>4128-3-2</td>
<td>Plag</td>
<td>Plag #6</td>
<td>29.2</td>
<td>1.5</td>
<td>-2</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Plag</td>
<td>4128-3-2</td>
<td>Plag</td>
<td>Plag #7</td>
<td>12.9</td>
<td>0.7</td>
<td>0.1</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Plag</td>
<td>4128-3-2</td>
<td>Plag</td>
<td>Plag #8</td>
<td>20.1</td>
<td>1</td>
<td>0.9</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Plag</td>
<td>4128-3-2</td>
<td>Plag</td>
<td>Plag #9</td>
<td>27.9</td>
<td>1.4</td>
<td>3.7</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Plag</td>
<td>4128-3-2</td>
<td>Plag</td>
<td>Plag #10</td>
<td>17.9</td>
<td>1.5</td>
<td>-1.1</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Plag</td>
<td>4128-3-2</td>
<td>Plag</td>
<td>Plag #11</td>
<td>22.1</td>
<td>1.1</td>
<td>-1.4</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Pyrex</td>
<td>4128-3-1</td>
<td>Pyrex</td>
<td>Pyrex #1</td>
<td>0.803</td>
<td>41</td>
<td>-1.2</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Pyrex</td>
<td>4128-3-1</td>
<td>Pyrex</td>
<td>Pyrex #2</td>
<td>0.525</td>
<td>29</td>
<td>1.5</td>
</tr>
<tr>
<td>Locality</td>
<td>LL</td>
<td>Date</td>
<td>Material</td>
<td>Sample</td>
<td>IM &amp; PAN Mod.</td>
<td>Huss et al. 2001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>----</td>
<td>-------</td>
<td>-----------</td>
<td>--------</td>
<td>--------------</td>
<td>------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>4128-3-1</td>
<td>Soda</td>
<td>Sod #1</td>
<td>16.9</td>
<td>0.8</td>
<td>9</td>
<td>3.8</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>4128-3-1</td>
<td>Soda</td>
<td>Sod #2</td>
<td>13.6</td>
<td>0.7</td>
<td>6.9</td>
<td>2</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>4128-3-1</td>
<td>Soda</td>
<td>Sod #3</td>
<td>14.3</td>
<td>0.7</td>
<td>7.5</td>
<td>2.2</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>4128-3-1</td>
<td>Soda</td>
<td>Sod #4</td>
<td>10.4</td>
<td>0.8</td>
<td>4.8</td>
<td>3.8</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>4128-3-1</td>
<td>Soda</td>
<td>Sod #5</td>
<td>15.4</td>
<td>0.8</td>
<td>5.8</td>
<td>3</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>4128-3-2</td>
<td>Sp</td>
<td>Sp #1</td>
<td>2.5</td>
<td>0.1</td>
<td>1.1</td>
<td>1.3</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>4128-3-2</td>
<td>Sp</td>
<td>Sp #2</td>
<td>2.4</td>
<td>0.1</td>
<td>-0.8</td>
<td>1.5</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>4128-3-2</td>
<td>Sp</td>
<td>Sp #3</td>
<td>2.5</td>
<td>0.2</td>
<td>-1.3</td>
<td>1.8</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>1805-2-1</td>
<td>Mel</td>
<td>Mel #1</td>
<td>18.9</td>
<td>1</td>
<td>8.9</td>
<td>2.4</td>
</tr>
<tr>
<td>Location</td>
<td>Type</td>
<td>Code</td>
<td>Layer</td>
<td>Melon</td>
<td>Mel #2</td>
<td>Age (Ga)</td>
<td>Width</td>
<td>Length</td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>--------</td>
<td>----------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>1805-2-1</td>
<td>Mel</td>
<td>Mel #2</td>
<td>14.2</td>
<td>0.7</td>
<td>7</td>
<td>1.5</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>1805-2-1</td>
<td>Mel</td>
<td>Mel #3</td>
<td>17.5</td>
<td>0.9</td>
<td>6.8</td>
<td>4.2</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>1805-2-1</td>
<td>Mel</td>
<td>Mel #4</td>
<td>32.5</td>
<td>1.8</td>
<td>9.7</td>
<td>8.1</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>1805-2-1</td>
<td>Mel</td>
<td>Mel #5</td>
<td>21.2</td>
<td>1.1</td>
<td>10.7</td>
<td>4.5</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>1805-2-1</td>
<td>Mel</td>
<td>Mel #6</td>
<td>12.5</td>
<td>0.6</td>
<td>4.3</td>
<td>3.3</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>1805-2-1</td>
<td>Sp</td>
<td>Sp #1</td>
<td>3.7</td>
<td>0.2</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>1805-2-1</td>
<td>Sp</td>
<td>Sp #2</td>
<td>2.5</td>
<td>0.2</td>
<td>2.4</td>
<td>2.5</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>1805-2-1</td>
<td>Sp</td>
<td>Sp #3</td>
<td>2.9</td>
<td>0.2</td>
<td>0.1</td>
<td>2.5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>B1 TS-23</td>
<td>An</td>
<td>B1 TS-23 An E-1</td>
<td>229</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>---------------</td>
<td>----</td>
<td>--------------</td>
<td>----</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>TS-23</td>
<td>An</td>
<td>B1 TS-23 An E-2</td>
<td>376</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>TS-24</td>
<td>An</td>
<td>B1 TS-23 An 7</td>
<td>318</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>TS-25</td>
<td>An</td>
<td>B1 TS-23 An 8-1</td>
<td>255</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>TS-27</td>
<td>An</td>
<td>B1 TS-23 An 20</td>
<td>244</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>TS-33</td>
<td>An</td>
<td>B1 TS-33 An 1</td>
<td>374</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>TS-33</td>
<td>An</td>
<td>B1 TS-33 An 4-1</td>
<td>366</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>TS-33</td>
<td>An</td>
<td>B1 TS-33 An 4-2</td>
<td>282</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td>-----------------</td>
<td>-----</td>
<td>--------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>TS-34</td>
<td>An</td>
<td>B1 TS-34 An 3</td>
<td>425</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529 G</td>
<td>An</td>
<td>B1 3529 G An 1</td>
<td>231</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529 G</td>
<td>An</td>
<td>B1 3529 G An 2</td>
<td>250</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>------</td>
<td>----</td>
<td>------------</td>
<td>-----</td>
<td>------------</td>
<td>--------------</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>-----</td>
<td>-------</td>
<td>-------</td>
<td>----------------</td>
<td>-----</td>
<td>--------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>3510</td>
<td>An</td>
<td>3510 An-1</td>
<td>98</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>------</td>
<td>----</td>
<td>-----------</td>
<td>----</td>
<td>--------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>3510</td>
<td>An</td>
<td>3510 An-2-1</td>
<td>128</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>3510</td>
<td>An</td>
<td>3510 An-2-1</td>
<td>103</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>3510</td>
<td>An</td>
<td>3510 An-2-1</td>
<td>86</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>3510</td>
<td>An</td>
<td>3510 An-5</td>
<td>114</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>3529-45 Hb 1</td>
<td>Hib</td>
<td>3529-45 Hb 1</td>
<td>28</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>3529-45 Hb 2</td>
<td>Hib</td>
<td>3529-45 Hb 2</td>
<td>30</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>3529-45 Hb 4</td>
<td>Hib</td>
<td>3529-45 Hb 4</td>
<td>30</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>3529-45 Hb 5</td>
<td>Hib</td>
<td>3529-45 Hb 5</td>
<td>27</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Ml</td>
<td>Mel</td>
<td>3529-45 MI</td>
<td>16</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>-----</td>
<td>------------</td>
<td>----</td>
<td>-------------</td>
<td>---------------</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>Mel</td>
<td>3529-45 MI 3</td>
<td>22</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>Mel</td>
<td>3529-45 MI 5</td>
<td>90</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>Mel</td>
<td>3529-45 MI 7</td>
<td>29</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>Mel</td>
<td>3529-45 MI 11</td>
<td>25</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>Mel</td>
<td>3529-45 MI 12</td>
<td>50</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>Mel</td>
<td>3529-45 MI 13</td>
<td>71</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>Mel</td>
<td>3529-45 MI 16</td>
<td>36</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>Mel</td>
<td>3529-45 MI 17</td>
<td>106</td>
<td>IM AEI IM-20</td>
<td>Hutcheon 1982</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>-------</td>
<td>---</td>
<td>------</td>
<td>-------</td>
<td>-------</td>
<td>---</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

435
<table>
<thead>
<tr>
<th>Mineral</th>
<th>Repository Code</th>
<th>Method</th>
<th>Opx/Pyrox</th>
<th>Pyrox</th>
<th>Component</th>
<th>Opx/Pyrox</th>
<th>IM?</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CC-1</td>
<td>Pyrox</td>
<td>Pyrox</td>
<td>0.15</td>
<td>0</td>
<td>0.3</td>
<td>1 IM PAN IMS 3f Hutcheon and Hutchison 1989</td>
</tr>
<tr>
<td>Manyeh</td>
<td>LL3.4</td>
<td>PC2</td>
<td>PO</td>
<td>Opx, Ol</td>
<td>PC2</td>
<td></td>
<td></td>
<td>IM? Hutcheon and Jones 1995</td>
</tr>
<tr>
<td>Manyeh</td>
<td>LL3.4</td>
<td>PC1</td>
<td>BO</td>
<td>Unk</td>
<td>PC1</td>
<td></td>
<td></td>
<td>IM? Hutcheon and Jones 1995</td>
</tr>
<tr>
<td>Kainsaz</td>
<td>CO3.2</td>
<td>KB1</td>
<td>POP</td>
<td>Unk</td>
<td>KB1</td>
<td></td>
<td>10.1</td>
<td>IM? Hutcheon and Jones 1995</td>
</tr>
<tr>
<td>Kainsaz</td>
<td>CO3.2</td>
<td>KB2</td>
<td>POP</td>
<td>Unk</td>
<td>KB2</td>
<td></td>
<td></td>
<td>IM? Hutcheon and Jones 1995</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3 B</td>
<td>Al 3S4 (TS-34)</td>
<td>An</td>
<td>An B</td>
<td>263</td>
<td>10</td>
<td>87</td>
<td>5 IM AEI IM-20 Hutcheon et al. 1978</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3 B</td>
<td>Al 3S4 (TS-34)</td>
<td>An</td>
<td>An E1</td>
<td>305</td>
<td>35</td>
<td>92</td>
<td>6 IM AEI IM-20 Hutcheon et al. 1978</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3 B</td>
<td>Al 3S4 (TS-34)</td>
<td>An</td>
<td>An E2</td>
<td>354</td>
<td>30</td>
<td>129</td>
<td>6 IM AEI IM-20 Hutcheon et al. 1978</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3 B</td>
<td>Al 3S4 (TS-34)</td>
<td>An</td>
<td>An E3</td>
<td>415</td>
<td>40</td>
<td>139</td>
<td>8 IM AEI IM-20 Hutcheon et al. 1978</td>
</tr>
<tr>
<td>Name</td>
<td>Type</td>
<td>B</td>
<td>Component</td>
<td>An</td>
<td>An23E</td>
<td>229</td>
<td>100</td>
<td>5</td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>----</td>
<td>-----------</td>
<td>------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>----</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>Al 3S4 (TS-34)</td>
<td>An</td>
<td>An23E</td>
<td>229</td>
<td>100</td>
<td>5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>Al 3S4</td>
<td>Pyrx</td>
<td>Pyrx A</td>
<td>2</td>
<td>0.1</td>
<td>1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>Al 3S4</td>
<td>Pyrx</td>
<td>Pyrx B</td>
<td>2</td>
<td>0.8</td>
<td>2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>Al 1 5</td>
<td>Pyrx</td>
<td>Pyrx</td>
<td>2</td>
<td>0.9</td>
<td>1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>Al 1 5</td>
<td>Sp</td>
<td>Sp</td>
<td>2.5</td>
<td>-0.8</td>
<td>2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>Al 3S4</td>
<td>Sp</td>
<td>Sp</td>
<td>2.5</td>
<td>-1</td>
<td>2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Sp</td>
<td></td>
<td>1.98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barwell</td>
<td>L6</td>
<td></td>
<td>74-42</td>
<td>PO?</td>
<td>An</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bovedy</td>
<td>L3</td>
<td></td>
<td>Unk</td>
<td>An 85</td>
<td>GB-1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site</td>
<td>Level</td>
<td>Code</td>
<td>Feature</td>
<td>An</td>
<td>AOA</td>
<td>Frag</td>
<td>Reference</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>-------</td>
<td>------</td>
<td>---------</td>
<td>----</td>
<td>-----</td>
<td>------</td>
<td>--------------------</td>
<td></td>
</tr>
<tr>
<td>Bovedy</td>
<td>L3</td>
<td></td>
<td>Unk</td>
<td>An 77</td>
<td>1971, 1</td>
<td></td>
<td>IM PAN Hutcheon et al. 1994</td>
<td></td>
</tr>
<tr>
<td>Clovis</td>
<td>H3</td>
<td>AOA</td>
<td>An 96-84</td>
<td></td>
<td></td>
<td></td>
<td>IM PAN Hutcheon et al. 1994</td>
<td></td>
</tr>
<tr>
<td>Ikhrarene</td>
<td>L4</td>
<td></td>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
<td>IM PAN Hutcheon et al. 1994</td>
<td></td>
</tr>
<tr>
<td>Los Martinez</td>
<td>L6</td>
<td></td>
<td>An 55-18</td>
<td></td>
<td></td>
<td></td>
<td>IM PAN Hutcheon et al. 1994</td>
<td></td>
</tr>
<tr>
<td>Manych</td>
<td>L3</td>
<td></td>
<td>BO-POP?</td>
<td>An 80%</td>
<td></td>
<td></td>
<td>IM PAN Hutcheon et al. 1994</td>
<td></td>
</tr>
<tr>
<td>Parnalle</td>
<td>LL3</td>
<td></td>
<td>An 75-70</td>
<td></td>
<td></td>
<td></td>
<td>IM PAN Hutcheon et al. 1994</td>
<td></td>
</tr>
<tr>
<td>Ragland</td>
<td>LL3</td>
<td></td>
<td>PO?</td>
<td>An 80-77%</td>
<td>Frag</td>
<td></td>
<td>IM PAN Hutcheon et al. 1994</td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td></td>
<td>An 100</td>
<td></td>
<td></td>
<td></td>
<td>IM PAN Hutcheon et al. 1994</td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
<td>IM PAN Hutcheon et al. 1994</td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>BAG</td>
<td>Hib</td>
<td>10-43</td>
<td>Hib</td>
<td>10-43</td>
<td>12.99</td>
<td>5.4</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>-------</td>
<td>------</td>
<td>-------</td>
<td>-------</td>
<td>-----</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLAC</td>
<td>7-29</td>
<td>Hib</td>
<td>7-29</td>
<td>148.65</td>
<td>4.42</td>
<td>-1.38</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLAC</td>
<td>7-48</td>
<td>Hib</td>
<td>7-48</td>
<td>107.72</td>
<td>1.4</td>
<td>2.56</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLAC</td>
<td>7-51</td>
<td>Hib</td>
<td>7-51</td>
<td>126.61</td>
<td>9.38</td>
<td>4</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLAC</td>
<td>7-412</td>
<td>Hib</td>
<td>7-412</td>
<td>40.1</td>
<td>3.4</td>
<td>16.05</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLAC</td>
<td>7-644</td>
<td>Hib</td>
<td>7-644</td>
<td>19.97</td>
<td>1.3</td>
<td>11.07</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLAC</td>
<td>7-658</td>
<td>Hib</td>
<td>7-658</td>
<td>65.73</td>
<td>3.76</td>
<td>4.58</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLAC</td>
<td>7-980</td>
<td>Hib</td>
<td>7-980</td>
<td>151.5</td>
<td>4.6</td>
<td>1.87</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLAC</td>
<td>7-981</td>
<td>Hib</td>
<td>7-981</td>
<td>138.9</td>
<td>0.54</td>
<td>0.81</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLAC</td>
<td>Hib</td>
<td>10-20</td>
<td>Hib</td>
<td>10-20</td>
<td>42.85</td>
<td>2.1</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>------</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-------</td>
<td>-------</td>
<td>-----</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLAC</td>
<td>Hib</td>
<td>10-54</td>
<td>Hib</td>
<td>10-54</td>
<td>92.04</td>
<td>1.06</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLAC</td>
<td>Hib</td>
<td>10-55</td>
<td>Hib</td>
<td>10-55</td>
<td>125.34</td>
<td>2.72</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLAC</td>
<td>Hib</td>
<td>10-70</td>
<td>Hib</td>
<td>10-70</td>
<td>154.17</td>
<td>4.3</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>Hib</td>
<td>7-19</td>
<td>Hib</td>
<td>7-19</td>
<td>15.17</td>
<td>0.28</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>Hib</td>
<td>7-143</td>
<td>Hib</td>
<td>7-143</td>
<td>5.27</td>
<td>0.26</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>Hib</td>
<td>7-170</td>
<td>Hib</td>
<td>7-170</td>
<td>3.64</td>
<td>0.76</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>Hib</td>
<td>7-664</td>
<td>Hib</td>
<td>7-664</td>
<td>5.53</td>
<td>0.16</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>Hib</td>
<td>7-789</td>
<td>Hib</td>
<td>7-789</td>
<td>37.32</td>
<td>0.66</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>7-789A</td>
<td>Hib</td>
<td>7-789A</td>
<td>44.14</td>
<td>0.98</td>
<td>14.04</td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
<td>---------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>-------</td>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td>Ireland 1988</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>7-953</td>
<td>Hib</td>
<td>7-953</td>
<td>13.88</td>
<td>0.76</td>
<td>5.2</td>
</tr>
<tr>
<td>Ireland 1988</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Uncl. PLAC-like</td>
<td>7-753</td>
<td>Hib</td>
<td>7-753</td>
<td>30.89</td>
<td>2.04</td>
<td>-4.74</td>
</tr>
<tr>
<td>Ireland 1988</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>BAG</td>
<td>13-23</td>
<td>Hib</td>
<td>13-23</td>
<td>0.4</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>Ireland 1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLAC</td>
<td>8-66</td>
<td>Hib</td>
<td>8-66</td>
<td>3</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>Ireland 1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLAC</td>
<td>13-13</td>
<td>Hib</td>
<td>13-13</td>
<td>-1.3</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>Ireland 1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLAC</td>
<td>13-25</td>
<td>Hib</td>
<td>13-25</td>
<td>1.8</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Ireland 1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLAC</td>
<td>13-51</td>
<td>Hib</td>
<td>13-51</td>
<td>2.7</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>Ireland 1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLAC</td>
<td>14-12</td>
<td>Hib</td>
<td>14-12</td>
<td>3.3</td>
<td>2.3</td>
<td></td>
</tr>
<tr>
<td>Ireland 1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>7-76</td>
<td>Hib</td>
<td>7-76</td>
<td>8.5</td>
<td>1.8</td>
<td>IM CAM IMS 3f WUSL?</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>-------------------</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>7-170</td>
<td>Hib</td>
<td>7-170</td>
<td>1.6</td>
<td>1.4</td>
<td>IM CAM IMS 3f WUSL?</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>7-290</td>
<td>Hib</td>
<td>7-290</td>
<td>7.2</td>
<td>1.3</td>
<td>IM CAM IMS 3f WUSL?</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>7-373</td>
<td>Hib</td>
<td>7-373</td>
<td>2</td>
<td>2</td>
<td>IM CAM IMS 3f WUSL?</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>7-505</td>
<td>Hib</td>
<td>7-505</td>
<td>3.7</td>
<td>1.9</td>
<td>IM CAMIMS 3f WUSL?</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>7-551</td>
<td>Hib</td>
<td>7-551</td>
<td>0.2</td>
<td>1.3</td>
<td>IM CAM IMS 3f WUSL?</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>7-734</td>
<td>Hib</td>
<td>7-734</td>
<td>5.8</td>
<td>1</td>
<td>IM CAM IMS 3f WUSL?</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>7-821</td>
<td>Hib</td>
<td>7-821</td>
<td>30.8</td>
<td>2.8</td>
<td>IM CAM IMS 3f WUSL?</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>7-A84</td>
<td>Hib</td>
<td>7-A84</td>
<td>5.1</td>
<td>1.4</td>
<td>IM CAM IMS 3f WUSL?</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>7-A95</td>
<td>Hib</td>
<td>7-A95</td>
<td>6.4</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>------</td>
<td>-------</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td></td>
</tr>
<tr>
<td>Ireland 1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>8-47</td>
<td>Hib</td>
<td>8-47</td>
<td>7.2</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>Ireland 1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>8-49</td>
<td>Hib</td>
<td>8-49</td>
<td>9</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>Ireland 1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>8-65</td>
<td>Hib</td>
<td>8-65</td>
<td>4.6</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>Ireland 1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>13-02</td>
<td>Hib</td>
<td>13-02</td>
<td>3.2</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>Ireland 1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>13-03</td>
<td>Hib</td>
<td>13-03</td>
<td>1.5</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>Ireland 1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>13-04</td>
<td>Hib</td>
<td>13-04</td>
<td>3.4</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>Ireland 1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>13-24</td>
<td>Hib</td>
<td>13-24</td>
<td>3.2</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>Ireland 1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>I3-33</td>
<td>Hib</td>
<td>I3-33</td>
<td>3.8</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>Ireland 1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIB</td>
<td>Hib</td>
<td>IMS</td>
<td>SHRIMP</td>
<td>Ireland and Compston 1987</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>13-37</td>
<td>13-37</td>
<td>3.9</td>
<td>1.5</td>
<td>Ireland 1990</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CM2</td>
<td>SHIB</td>
<td>13-60</td>
<td>13-60</td>
<td>1.5</td>
<td>1.4</td>
<td>Ireland 1990</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CM2</td>
<td>SHIB</td>
<td>13-61</td>
<td>13-61</td>
<td>9.2</td>
<td>1.3</td>
<td>Ireland 1990</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CM2</td>
<td>SHIB</td>
<td>14-14</td>
<td>14-14</td>
<td>2.5</td>
<td>2.1</td>
<td>Ireland 1990</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CM2</td>
<td>PLAC</td>
<td>7-971</td>
<td>7-971</td>
<td>8600</td>
<td>30</td>
<td>Ireland and Compston 1987</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>14500</td>
<td>70</td>
<td>Ireland and Compston 1987</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>18880</td>
<td>110</td>
<td>Ireland and Compston 1987</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>24700</td>
<td>160</td>
<td>Ireland and Compston 1987</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>29000</td>
<td>210</td>
<td>Ireland and Compston 1987</td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>32600</td>
<td>250</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>-----------------------------</td>
<td>-------</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-----------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>34900</td>
<td>270</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>36900</td>
<td>300</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>38100</td>
<td>310</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>39900</td>
<td>300</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>46900</td>
<td>430</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>47400</td>
<td>430</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>48800</td>
<td>450</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>49400</td>
<td>460</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>49300</td>
<td>460</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>-------------------------------</td>
<td>-------</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-----------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>51100</td>
<td>480</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>52800</td>
<td>510</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>53000</td>
<td>512</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>53100</td>
<td>510</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>52900</td>
<td>510</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>53300</td>
<td>520</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>53300</td>
<td>520</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>54700</td>
<td>540</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>54500</td>
<td>530</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>-----------------------------</td>
<td>-------</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>---------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>54600</td>
<td>530</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>55000</td>
<td>540</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>56900</td>
<td>570</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>55500</td>
<td>550</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>55600</td>
<td>550</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>57500</td>
<td>580</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>57900</td>
<td>580</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>58000</td>
<td>580</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>58100</td>
<td>590</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>-----------------------------</td>
<td>-------</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-----------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>57100</td>
<td>570</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>57600</td>
<td>580</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>57800</td>
<td>580</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>59500</td>
<td>610</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>58400</td>
<td>590</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>57000</td>
<td>570</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>59200</td>
<td>600</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>27000</td>
<td>190</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>32100</td>
<td>240</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>-----------------------------</td>
<td>-------</td>
<td>-----</td>
<td>--------</td>
<td>-----</td>
<td>----------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>35500</td>
<td>280</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>38000</td>
<td>310</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>38800</td>
<td>320</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>38600</td>
<td>320</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>38900</td>
<td>320</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>40100</td>
<td>340</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>41500</td>
<td>350</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>41400</td>
<td>350</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>42300</td>
<td>360</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>-----------</td>
<td>-------</td>
<td>------------------------------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-----</td>
<td>-----------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>42000</td>
<td>360</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>44800</td>
<td>400</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>44500</td>
<td>390</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>45300</td>
<td>400</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>43800</td>
<td>380</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>45600</td>
<td>410</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>45400</td>
<td>410</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>44300</td>
<td>390</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>46600</td>
<td>420</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>------------------------------</td>
<td>-------</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td>-----------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>45000</td>
<td>400</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>45500</td>
<td>410</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>47100</td>
<td>430</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>45900</td>
<td>410</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>46400</td>
<td>420</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>46700</td>
<td>430</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>47100</td>
<td>430</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other papers)</td>
<td>7-971</td>
<td>Hib</td>
<td>47000</td>
<td>430</td>
<td>IM SHRIMP</td>
<td>Ireland and Compston 1987</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>------</td>
<td>------------------------</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>----------------------</td>
<td>----------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other</td>
<td>7-971</td>
<td></td>
<td></td>
<td>IM SHRIMP</td>
<td>Ireland and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>papers)</td>
<td></td>
<td>Hib</td>
<td></td>
<td></td>
<td>Compston 1987</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type (PLAC other</td>
<td>7-971</td>
<td></td>
<td></td>
<td>IM SHRIMP</td>
<td>Ireland and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>papers)</td>
<td></td>
<td>Hib</td>
<td></td>
<td></td>
<td>Compston 1987</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>LA341-3-1/31</td>
<td></td>
<td>Micros</td>
<td></td>
<td>IM CAM IMS 3f WUSL</td>
<td>Ireland et al. 1991</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Glass</td>
<td></td>
<td>p.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LA3413-1/31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>LA341-3-1/31</td>
<td></td>
<td>Micros</td>
<td></td>
<td>IM CAM IMS 3f WUSL</td>
<td>Ireland et al. 1991</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hib</td>
<td></td>
<td>p.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LA3413-1/31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>LA341-3-1/31</td>
<td></td>
<td>Micros</td>
<td></td>
<td>IM CAM IMS 3f WUSL</td>
<td>Ireland et al. 1991</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ol</td>
<td></td>
<td>p.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LA3413-1/31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Microsp.</td>
<td>7-228</td>
<td></td>
<td></td>
<td>IM CAM IMS 3f WUSL</td>
<td>Ireland et al. 1991</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Glass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7-228</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Microsp.</td>
<td>7-753</td>
<td></td>
<td></td>
<td>IM CAM IMS 3f WUSL</td>
<td>Ireland et al. 1991</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Glass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7-753</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Microsp.</td>
<td>7-228</td>
<td></td>
<td></td>
<td>IM CAM IMS 3f WUSL</td>
<td>Ireland et al. 1991</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hib</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7-228</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Microsp.</td>
<td>7-753</td>
<td></td>
<td></td>
<td>IM CAM IMS 3f WUSL</td>
<td>Ireland et al. 1991</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hib</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7-753</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Microsp.</td>
<td>7-198</td>
<td>Ol</td>
<td>7-198</td>
<td>0.01</td>
<td>-0.7</td>
<td>1.2</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Microsp.</td>
<td>7-716</td>
<td>Ol</td>
<td>7-716</td>
<td>0.01</td>
<td>0</td>
<td>1.3</td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3.8</td>
<td>FUN H-like</td>
<td>DH-H1</td>
<td>Hib</td>
<td></td>
<td></td>
<td></td>
<td>IM CAM IMS 3f WUSL?</td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3.8</td>
<td>Hib</td>
<td></td>
<td></td>
<td></td>
<td>3969</td>
<td>89</td>
<td>309</td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3.8</td>
<td>Hib</td>
<td></td>
<td></td>
<td></td>
<td>2213</td>
<td>79</td>
<td>183</td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3.8</td>
<td>Hib</td>
<td></td>
<td></td>
<td></td>
<td>2295</td>
<td>32</td>
<td>175</td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3.8</td>
<td>Hib</td>
<td></td>
<td></td>
<td></td>
<td>2562</td>
<td>60</td>
<td>212</td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3.8</td>
<td>Hib</td>
<td></td>
<td></td>
<td></td>
<td>2635</td>
<td>86</td>
<td>168</td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3.8</td>
<td>Hib</td>
<td></td>
<td></td>
<td></td>
<td>3560</td>
<td>96</td>
<td>237</td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3.8</td>
<td>Hib</td>
<td></td>
<td></td>
<td></td>
<td>5350</td>
<td>145</td>
<td>403</td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3.8</td>
<td>Hib</td>
<td>6716</td>
<td>201</td>
<td>512</td>
<td>27</td>
<td>IM CAM IMS 3f WUSL?</td>
<td>Ireland et al. 1992</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>----</td>
<td>-------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3.8</td>
<td>Hib</td>
<td>7640</td>
<td>183</td>
<td>465</td>
<td>14</td>
<td>IM CAM IMS 3f WUSL?</td>
<td>Ireland et al. 1992</td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3.8</td>
<td>Hib</td>
<td>10438</td>
<td>322</td>
<td>735</td>
<td>69</td>
<td>IM CAM IMS 3f WUSL?</td>
<td>Ireland et al. 1992</td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3.8</td>
<td>Hib</td>
<td>10695</td>
<td>247</td>
<td>666</td>
<td>45</td>
<td>IM CAM IMS 3f WUSL?</td>
<td>Ireland et al. 1992</td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3.8</td>
<td>Hib</td>
<td>9838</td>
<td>142</td>
<td>599</td>
<td>34</td>
<td>IM CAM IMS 3f WUSL?</td>
<td>Ireland et al. 1992</td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3.8</td>
<td>Hib</td>
<td>11249</td>
<td>181</td>
<td>733</td>
<td>41</td>
<td>IM CAM IMS 3f WUSL?</td>
<td>Ireland et al. 1992</td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3.8</td>
<td>Hib</td>
<td>11677</td>
<td>212</td>
<td>736</td>
<td>24</td>
<td>IM CAM IMS 3f WUSL?</td>
<td>Ireland et al. 1992</td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3.8</td>
<td>Hib</td>
<td>11981</td>
<td>268</td>
<td>732</td>
<td>31</td>
<td>IM CAM IMS 3f WUSL?</td>
<td>Ireland et al. 1992</td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3.8</td>
<td>Hib</td>
<td>11825</td>
<td>372</td>
<td>766</td>
<td>35</td>
<td>IM CAM IMS 3f WUSL?</td>
<td>Ireland et al. 1992</td>
</tr>
<tr>
<td>Location</td>
<td>Code</td>
<td>Type</td>
<td>Age</td>
<td>Count</td>
<td>Size</td>
<td>Width</td>
<td>Height</td>
<td>Notes</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>-------------</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td>-------</td>
<td>--------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3.8</td>
<td>Hib</td>
<td>13166</td>
<td>154</td>
<td>819</td>
<td>25</td>
<td></td>
<td>Ireland et al. 1992</td>
</tr>
<tr>
<td>Dhajala</td>
<td>H3</td>
<td>FUN PLAC</td>
<td>DH-H1</td>
<td>Hib</td>
<td>13615</td>
<td>175</td>
<td>900</td>
<td>28 IM CAM IMS 3f WUSL?</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type</td>
<td>7-404</td>
<td>Hib</td>
<td>1086</td>
<td>14</td>
<td>15</td>
<td>8 IM CAM IMS 3f WUSL?</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type</td>
<td>7-404</td>
<td>Hib</td>
<td>1369</td>
<td>11</td>
<td>31</td>
<td>11 IM CAM IMS 3f WUSL?</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type</td>
<td>7-404</td>
<td>Hib</td>
<td>1473</td>
<td>7</td>
<td>17</td>
<td>7 IM CAM IMS 3f WUSL?</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type</td>
<td>7-404</td>
<td>Hib</td>
<td>1442</td>
<td>26</td>
<td>8</td>
<td>10 IM CAM IMS 3f WUSL?</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type</td>
<td>7-404</td>
<td>Hib</td>
<td>1174</td>
<td>32</td>
<td>13</td>
<td>13 IM CAM IMS 3f WUSL?</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type</td>
<td>7-404</td>
<td>Hib</td>
<td>1104</td>
<td>13</td>
<td>21</td>
<td>11 IM CAM IMS 3f WUSL?</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type</td>
<td>7-404</td>
<td>Hib</td>
<td>953</td>
<td>4</td>
<td>13</td>
<td>10 IM CAM IMS 3f WUSL?</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type</td>
<td>7-404</td>
<td>Hib</td>
<td>953</td>
<td>4</td>
<td>13</td>
<td>10 IM CAM IMS 3f WUSL?</td>
</tr>
<tr>
<td></td>
<td>Murchison</td>
<td>CM2</td>
<td>HAL-type</td>
<td>Hib</td>
<td></td>
<td></td>
<td></td>
<td>IM CAM IMS 3f WUSL?</td>
</tr>
<tr>
<td>---</td>
<td>-----------</td>
<td>-----</td>
<td>----------</td>
<td>-----</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>-------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7-404</td>
<td></td>
<td>1093</td>
<td>18</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ireland et al. 1992</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ireland et al. 1992</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ireland et al. 1992</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Allende</th>
<th>CV3</th>
<th>B</th>
<th>EK1-6-3</th>
<th>An</th>
<th>EK_An#1</th>
<th>1241</th>
<th>133</th>
<th>81.8</th>
<th>23.6</th>
<th>IM SIMS JSC NanoSI MS 50L</th>
<th>Ito and Messenger 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1649</td>
<td>90</td>
<td>132</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>754</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>759</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>815</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>562</td>
<td>9</td>
</tr>
</tbody>
</table>

Allende CV3 B EK1-6-3 An EK_An#5 815 49 119 13 IM SIMS JSC NanoSI MS 50L Ito and Messenger 2010
Allende CV3 B EK1-6-3 An EK_An#6 562 9 94.4 4.3 IM SIMS JSC NanoSI MS 50L Ito and Messenger 2010
<table>
<thead>
<tr>
<th>Allende</th>
<th>CV3</th>
<th>B</th>
<th>EK1-6-3</th>
<th>An</th>
<th>EK_An#7</th>
<th>565</th>
<th>4</th>
<th>86.2</th>
<th>3.9</th>
<th>IM SIMS JSC NanoSI MS 50L</th>
<th>Ito and Messenger 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>EK_An#8</td>
<td>658</td>
<td>8</td>
<td>77.4</td>
<td>5.8</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>EK_An#9</td>
<td>791</td>
<td>61</td>
<td>25.1</td>
<td>14.6</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>EK_An#1 0</td>
<td>826</td>
<td>45</td>
<td>8.6</td>
<td>16.2</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>EK_An#1 1</td>
<td>855</td>
<td>47</td>
<td>30</td>
<td>22.8</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>EK_An#1 2</td>
<td>730</td>
<td>11</td>
<td>38.2</td>
<td>4.2</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>EK_An#1 3</td>
<td>657</td>
<td>8</td>
<td>37.4</td>
<td>4</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>EK_An#1 4</td>
<td>538</td>
<td>8</td>
<td>30.4</td>
<td>4.2</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>EK_An#1 5</td>
<td>663</td>
<td>8</td>
<td>33.8</td>
<td>5.3</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>EK_An#1</td>
<td>649</td>
<td>23</td>
<td>9.4</td>
<td>6.1</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>---</td>
<td>---------</td>
<td>----</td>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>--------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>EK_An#1</td>
<td>574</td>
<td>13</td>
<td>8.5</td>
<td>4.1</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>EK_An#1</td>
<td>586</td>
<td>10</td>
<td>19.1</td>
<td>4.9</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>EK_An#1</td>
<td>647</td>
<td>20</td>
<td>19.1</td>
<td>4.8</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>An_line#</td>
<td>1705</td>
<td>80</td>
<td>32.3</td>
<td>6.4</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>An_line#</td>
<td>803</td>
<td>8</td>
<td>105</td>
<td>5</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>An_line#</td>
<td>861</td>
<td>40</td>
<td>97.7</td>
<td>7.5</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>An_line#</td>
<td>1066</td>
<td>48</td>
<td>82.6</td>
<td>6.2</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>An_line#</td>
<td>1999</td>
<td>110</td>
<td>38.2</td>
<td>8.3</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>An_line#</td>
<td>1067</td>
<td>112</td>
<td>91.1</td>
<td>8.9</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>---</td>
<td>---------</td>
<td>----</td>
<td>----------</td>
<td>------</td>
<td>-----</td>
<td>------</td>
<td>----</td>
<td>--------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>An_line#</td>
<td>707</td>
<td>21</td>
<td>96.4</td>
<td>5.1</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>An_line#</td>
<td>629</td>
<td>12</td>
<td>104</td>
<td>8</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>An_line#</td>
<td>638</td>
<td>10</td>
<td>112</td>
<td>11</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>An_line#</td>
<td>659</td>
<td>9</td>
<td>88</td>
<td>12.2</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>An_line#</td>
<td>823</td>
<td>54</td>
<td>66.3</td>
<td>12</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>An_line#</td>
<td>749</td>
<td>31</td>
<td>54.2</td>
<td>6.8</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>An_line#</td>
<td>618</td>
<td>8</td>
<td>84.5</td>
<td>5.5</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>An_line#</td>
<td>648</td>
<td>14</td>
<td>89.3</td>
<td>6.2</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>An_line# 3_4</td>
<td>653</td>
<td>12</td>
<td>87.8</td>
<td>7.4</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>---</td>
<td>---------</td>
<td>----</td>
<td>-----------</td>
<td>-----</td>
<td>----</td>
<td>------</td>
<td>-----</td>
<td>-------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>An_line# 3_5</td>
<td>708</td>
<td>17</td>
<td>99.3</td>
<td>10.5</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>An_line# 3_6</td>
<td>1410</td>
<td>18</td>
<td>96.7</td>
<td>10.8</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>An</td>
<td>An_line# 3_7</td>
<td>1289</td>
<td>69</td>
<td>79.8</td>
<td>11.8</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>Fas</td>
<td>EK_Fas# 1</td>
<td>4.88</td>
<td>0.2</td>
<td>0.6</td>
<td>3.27</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>Fas</td>
<td>EK_Fas# 2</td>
<td>3.56</td>
<td>0.01</td>
<td>0.18</td>
<td>0.81</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>Fas</td>
<td>EK_Fas# 3</td>
<td>3.45</td>
<td>0.01</td>
<td>0.36</td>
<td>1.04</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>Fas</td>
<td>EK_Fas# 4</td>
<td>3.64</td>
<td>0.01</td>
<td>1.81</td>
<td>1.06</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>Fas</td>
<td>EK_Fas# 5</td>
<td>3.78</td>
<td>0.01</td>
<td>4.01</td>
<td>1.99</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>Fas</td>
<td>EK_Fas#</td>
<td>4.07</td>
<td>0.01</td>
<td>1.74</td>
<td>3.18</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>---</td>
<td>----------</td>
<td>-----</td>
<td>---------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>--------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>Fas</td>
<td>EK_Fas#</td>
<td>3.27</td>
<td>0.01</td>
<td>-0.71</td>
<td>1.04</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>Fas</td>
<td>EK_Fas#</td>
<td>3.38</td>
<td>0.01</td>
<td>3.63</td>
<td>1.16</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>Mel</td>
<td>EK_Mel#</td>
<td>9.9</td>
<td>0.26</td>
<td>2.9</td>
<td>1.28</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>Mel</td>
<td>EK_Mel#</td>
<td>13.78</td>
<td>0.3</td>
<td>4.41</td>
<td>1.63</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>Mel</td>
<td>EK_Mel#</td>
<td>14.12</td>
<td>0.07</td>
<td>3.61</td>
<td>1.31</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>Mel</td>
<td>EK_Mel#</td>
<td>14.4</td>
<td>0.01</td>
<td>7.68</td>
<td>3.98</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>Mel</td>
<td>EK_Mel#</td>
<td>15.39</td>
<td>0.02</td>
<td>8.79</td>
<td>3.25</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>Mel</td>
<td>EK_Mel# 7</td>
<td>12.11</td>
<td>0.01</td>
<td>4.61</td>
<td>3.09</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>---------</td>
<td>-----</td>
<td>-----------</td>
<td>-------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>-----------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>EK1-6-3</td>
<td>Mel</td>
<td>EK_Mel# 6</td>
<td>14.67</td>
<td>0.01</td>
<td>6.36</td>
<td>1.49</td>
<td>IM SIMS JSC NanoSI MS 50L</td>
<td>Ito and Messenger 2010</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A43</td>
<td>Mel</td>
<td>A43</td>
<td>2.93</td>
<td>0.06</td>
<td></td>
<td></td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A44A</td>
<td>Mel</td>
<td>A44A</td>
<td>5.65</td>
<td>0.11</td>
<td></td>
<td></td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A44A</td>
<td>Mel</td>
<td>A44A</td>
<td>6.43</td>
<td>0.13</td>
<td></td>
<td></td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>AJEF</td>
<td>Mel</td>
<td>AJEF</td>
<td>3.5</td>
<td>0.07</td>
<td></td>
<td></td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>AJEF</td>
<td>Mel</td>
<td>AJEF</td>
<td>4.55</td>
<td>0.09</td>
<td></td>
<td></td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td></td>
<td>Mel</td>
<td>&gt;&gt; Pyrx</td>
<td>A44A</td>
<td>4.17</td>
<td>0.08</td>
<td></td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A43</td>
<td>Bulk fraction</td>
<td>A43</td>
<td>2.59</td>
<td>0.05</td>
<td></td>
<td></td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A43</td>
<td>Fine fraction</td>
<td>A43</td>
<td>2.55</td>
<td>0.05</td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>---</td>
<td>-----</td>
<td>---------------</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>-----------------------------</td>
<td>----------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A43</td>
<td>Mel-Pyrx</td>
<td>A43</td>
<td>2.64</td>
<td>0.05</td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A44A</td>
<td>Mel-Pyrx</td>
<td>A44A</td>
<td>3.55</td>
<td>0.07</td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A44A</td>
<td>Mel-Pyrx</td>
<td>AJEF</td>
<td>2.67</td>
<td>0.05</td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A44A</td>
<td>Mel-Sp</td>
<td>A44A</td>
<td>3.03</td>
<td>0.06</td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A44A</td>
<td>Plag</td>
<td>A44A</td>
<td>6.7</td>
<td>0.13</td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A44A</td>
<td>Plag</td>
<td>AJEF</td>
<td>4.28</td>
<td>0.09</td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A43</td>
<td>Plag</td>
<td></td>
<td>3.21</td>
<td>0.06</td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A43</td>
<td>Pyrx</td>
<td></td>
<td>2.19</td>
<td>0.04</td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A44A</td>
<td>Pyrx</td>
<td>2.91</td>
<td>0.06</td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>-------------------------</td>
<td>------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>AJEF</td>
<td>Pyrx</td>
<td>2.23</td>
<td>0.04</td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AOA</td>
<td>AM-63 RI</td>
<td>Pyrx-OI</td>
<td>AM-63 RI</td>
<td>0.114</td>
<td>0.002</td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A44A</td>
<td>Unk</td>
<td>Fine Fraction</td>
<td>3.32</td>
<td>0.07</td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>AM10-21 CAI-1</td>
<td>Unk</td>
<td>AM10-21 CAI-1</td>
<td>8.64</td>
<td>0.17</td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>AM10-21 CAI-2</td>
<td>Unk</td>
<td>AM10-21 CAI-2</td>
<td>4.13</td>
<td>0.08</td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>A33</td>
<td>WR</td>
<td>A33</td>
<td>4.07</td>
<td>0.08</td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>A60</td>
<td>WR</td>
<td>A61</td>
<td>2.98</td>
<td>0.06</td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A39</td>
<td>WR</td>
<td>A39</td>
<td>2.22</td>
<td>0.04</td>
<td>MC-ICPMS (UC Davis NUP)</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample</td>
<td>Code</td>
<td>Method</td>
<td>Instrument</td>
<td>Data Type</td>
<td>Analysis</td>
<td>Precision</td>
<td>Literature</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
<td>--------</td>
<td>------------</td>
<td>-----------</td>
<td>----------</td>
<td>-----------</td>
<td>------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A43</td>
<td>WR</td>
<td>A43</td>
<td>2.54</td>
<td>0.05</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A44A</td>
<td>WR</td>
<td>A44A</td>
<td>2.24</td>
<td>0.04</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>AJEF</td>
<td>WR</td>
<td>AJEF</td>
<td>3.07</td>
<td>0.06</td>
<td>Jacobsen et al. 2008a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Diop</td>
<td>Di</td>
<td>0.02</td>
<td>0</td>
<td>-0.02</td>
<td>0.13</td>
<td>Kawasaki et al. 2016</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Diop</td>
<td>Di</td>
<td>0.42</td>
<td>0.03</td>
<td>0.08</td>
<td>0.1</td>
<td>Kawasaki et al. 2016</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Diop</td>
<td>Di</td>
<td>0.49</td>
<td>0.02</td>
<td>0.04</td>
<td>0.11</td>
<td>Kawasaki et al. 2016</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Diop</td>
<td>Di</td>
<td>0.04</td>
<td>0</td>
<td>-0.02</td>
<td>0.12</td>
<td>Kawasaki et al. 2016</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Diop</td>
<td>Di</td>
<td>0.04</td>
<td>0</td>
<td>0</td>
<td>0.09</td>
<td>Kawasaki et al. 2016</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Fas</td>
<td>Fas</td>
<td>3.45</td>
<td>0.02</td>
<td>1.39</td>
<td>0.14</td>
<td>Kawasaki et al. 2016</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Fas</td>
<td>Fas</td>
<td>2.49</td>
<td>0.04</td>
<td>1.01</td>
<td>0.13</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>----------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Fas</td>
<td>Fas</td>
<td>3.77</td>
<td>0.05</td>
<td>1.44</td>
<td>0.13</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Fas</td>
<td>Fas</td>
<td>3.66</td>
<td>0.03</td>
<td>1.48</td>
<td>0.15</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>Sp</td>
<td>2.48</td>
<td>0</td>
<td>0.98</td>
<td>0.14</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>Sp</td>
<td>2.47</td>
<td>0</td>
<td>0.97</td>
<td>0.14</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>Sp</td>
<td>2.47</td>
<td>0</td>
<td>0.95</td>
<td>0.14</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>Sp</td>
<td>2.48</td>
<td>0</td>
<td>1.03</td>
<td>0.13</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>Sp</td>
<td>2.5</td>
<td>0</td>
<td>1.05</td>
<td>0.16</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>Sp</td>
<td>2.47</td>
<td>0</td>
<td>0.97</td>
<td>0.13</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>Sp</td>
<td>2.48</td>
<td>0</td>
<td>1.03</td>
<td>0.14</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>------</td>
<td>-------</td>
<td>----</td>
<td>----</td>
<td>------</td>
<td>----</td>
<td>------</td>
<td>------</td>
<td>----------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>Sp</td>
<td>2.47</td>
<td>0</td>
<td>0.92</td>
<td>0.11</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>Sp</td>
<td>2.48</td>
<td>0</td>
<td>1.01</td>
<td>0.11</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>Sp</td>
<td>2.49</td>
<td>0</td>
<td>0.98</td>
<td>0.13</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>Sp</td>
<td>2.49</td>
<td>0</td>
<td>0.99</td>
<td>0.11</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>Sp</td>
<td>2.49</td>
<td>0</td>
<td>0.91</td>
<td>0.13</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>Sp</td>
<td>2.49</td>
<td>0</td>
<td>0.76</td>
<td>0.13</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>Sp</td>
<td>2.51</td>
<td>0</td>
<td>0.7</td>
<td>0.11</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>Sp</td>
<td>2.51</td>
<td>0</td>
<td>0.79</td>
<td>0.11</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>Sp</td>
<td>Sp</td>
<td>2.53</td>
<td>0</td>
<td>0.81</td>
<td>0.11</td>
<td>Kawasaki et al. 2016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>-----</td>
<td>---</td>
<td>------</td>
<td>-----</td>
<td>---------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>Sp</td>
<td>Sp</td>
<td>2.49</td>
<td>0</td>
<td>0.75</td>
<td>0.13</td>
<td>Kawasaki et al. 2016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>Sp</td>
<td>Sp</td>
<td>2.49</td>
<td>0</td>
<td>0.77</td>
<td>0.14</td>
<td>Kawasaki et al. 2016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>Sp</td>
<td>Sp</td>
<td>2.51</td>
<td>0</td>
<td>0.75</td>
<td>0.12</td>
<td>Kawasaki et al. 2016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>Sp</td>
<td>Sp</td>
<td>2.51</td>
<td>0</td>
<td>0.81</td>
<td>0.12</td>
<td>Kawasaki et al. 2016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>Sp</td>
<td>Sp</td>
<td>2.51</td>
<td>0</td>
<td>0.8</td>
<td>0.11</td>
<td>Kawasaki et al. 2016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>Sp</td>
<td>87</td>
<td>18.91</td>
<td>0.07</td>
<td>6.1</td>
<td>1.2</td>
<td>Kawasaki et al. 2016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>Sp</td>
<td>89</td>
<td>47.36</td>
<td>0.18</td>
<td>16.4</td>
<td>1.1</td>
<td>Kawasaki et al. 2016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>Sp</td>
<td>90</td>
<td>44</td>
<td>0.49</td>
<td>15.2</td>
<td>1.7</td>
<td>Kawasaki et al. 2016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>91</td>
<td>28.56</td>
<td>0.07</td>
<td>9.4</td>
<td>1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>---</td>
<td>------------------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>95</td>
<td>24.87</td>
<td>0.27</td>
<td>8.7</td>
<td>1.7</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>96</td>
<td>32.28</td>
<td>0.37</td>
<td>10.9</td>
<td>1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>97</td>
<td>13.67</td>
<td>0.15</td>
<td>5</td>
<td>1.2</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>99</td>
<td>8.16</td>
<td>0.08</td>
<td>2.5</td>
<td>1.5</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>100</td>
<td>30.66</td>
<td>0.35</td>
<td>10</td>
<td>1.1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>116</td>
<td>6.89</td>
<td>0.01</td>
<td>3.2</td>
<td>1.2</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>117</td>
<td>50.04</td>
<td>0.27</td>
<td>17.4</td>
<td>1.1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>118</td>
<td>11.24</td>
<td>0.04</td>
<td>5</td>
<td>1.1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>67</td>
<td>33.34</td>
<td>0.08</td>
<td>11.5</td>
<td>1.3</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>-----</td>
<td>-------</td>
<td>----</td>
<td>----</td>
<td>-------</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>-------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>86</td>
<td>16.32</td>
<td>0.06</td>
<td>6.2</td>
<td>1.1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>277</td>
<td>10.29</td>
<td>0.03</td>
<td>3.1</td>
<td>1.1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>278</td>
<td>26.97</td>
<td>0.11</td>
<td>8.7</td>
<td>0.9</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>285</td>
<td>22.42</td>
<td>0.31</td>
<td>7.7</td>
<td>1.4</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>286</td>
<td>28.73</td>
<td>0.27</td>
<td>10</td>
<td>0.9</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>289</td>
<td>13.31</td>
<td>0.12</td>
<td>4.7</td>
<td>0.9</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>290</td>
<td>10.19</td>
<td>0.1</td>
<td>3.6</td>
<td>1.4</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>101</td>
<td>27.86</td>
<td>0.31</td>
<td>10.5</td>
<td>1.4</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>102</td>
<td>22.95</td>
<td>0.24</td>
<td>8.8</td>
<td>1.2</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>-----</td>
<td>-------</td>
<td>----</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>--------------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>103</td>
<td>39.81</td>
<td>0.44</td>
<td>13.8</td>
<td>1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>104</td>
<td>19.06</td>
<td>0.21</td>
<td>5.9</td>
<td>1.1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>119</td>
<td>34.02</td>
<td>0.17</td>
<td>12.2</td>
<td>1.2</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>120</td>
<td>40.19</td>
<td>0.33</td>
<td>13.7</td>
<td>1.1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>121</td>
<td>24.37</td>
<td>0.09</td>
<td>8.1</td>
<td>1.3</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>122</td>
<td>15.01</td>
<td>0.1</td>
<td>5.4</td>
<td>1.1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>123</td>
<td>33.17</td>
<td>0.13</td>
<td>11.1</td>
<td>1.3</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>125</td>
<td>52.96</td>
<td>0.38</td>
<td>18</td>
<td>1.3</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>126</td>
<td>40.19</td>
<td>0.25</td>
<td>13.6</td>
<td>1.2</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>-----</td>
<td>-------</td>
<td>----</td>
<td>-----</td>
<td>-------</td>
<td>------</td>
<td>------</td>
<td>----</td>
<td>----------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>181</td>
<td>21.92</td>
<td>0.05</td>
<td>8.6</td>
<td>1.2</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>182</td>
<td>35.34</td>
<td>0.15</td>
<td>12.8</td>
<td>1.2</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>183</td>
<td>44.89</td>
<td>0.13</td>
<td>15.5</td>
<td>1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>184</td>
<td>43.79</td>
<td>0.13</td>
<td>15.3</td>
<td>1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>186</td>
<td>30.2</td>
<td>0.09</td>
<td>10.6</td>
<td>1.4</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>187</td>
<td>27.45</td>
<td>0.05</td>
<td>8.7</td>
<td>1.2</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>191</td>
<td>14.39</td>
<td>0.04</td>
<td>5.3</td>
<td>1.1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>192</td>
<td>14.58</td>
<td>0.08</td>
<td>4.7</td>
<td>1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>227</td>
<td>35.68</td>
<td>0.23</td>
<td>12.9</td>
<td>1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>-----</td>
<td>-------</td>
<td>----</td>
<td>-----</td>
<td>-------</td>
<td>------</td>
<td>------</td>
<td>---</td>
<td>-------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>229</td>
<td>20.6</td>
<td>0.11</td>
<td>8.3</td>
<td>1.2</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>230</td>
<td>15.68</td>
<td>0.08</td>
<td>5.2</td>
<td>0.9</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>232</td>
<td>10.48</td>
<td>0.05</td>
<td>3.7</td>
<td>1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>269</td>
<td>11.05</td>
<td>0.03</td>
<td>3.9</td>
<td>1.1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>270</td>
<td>16.96</td>
<td>0.08</td>
<td>5.4</td>
<td>0.9</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>271</td>
<td>132.44</td>
<td>4.26</td>
<td>45.8</td>
<td>2.5</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>272</td>
<td>17.23</td>
<td>0.1</td>
<td>4.9</td>
<td>0.9</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>273</td>
<td>13.97</td>
<td>0.05</td>
<td>4.2</td>
<td>1.1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>274</td>
<td>21.37</td>
<td>0.1</td>
<td>7.3</td>
<td>0.8</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>-----</td>
<td>-------</td>
<td>----</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>----------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>275</td>
<td>84.68</td>
<td>0.97</td>
<td>28.3</td>
<td>2.3</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>276</td>
<td>21.1</td>
<td>0.09</td>
<td>6.1</td>
<td>0.9</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>233</td>
<td>11.83</td>
<td>0.05</td>
<td>4.9</td>
<td>1.3</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>234</td>
<td>17.32</td>
<td>0.07</td>
<td>6.1</td>
<td>1.3</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>235</td>
<td>23.93</td>
<td>0.09</td>
<td>8.3</td>
<td>1</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>236</td>
<td>36.44</td>
<td>0.51</td>
<td>12.4</td>
<td>1.6</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>237</td>
<td>46.98</td>
<td>3.17</td>
<td>17</td>
<td>1.9</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>238</td>
<td>24.89</td>
<td>0.14</td>
<td>9.2</td>
<td>1.2</td>
<td>IM SIMS CAM IMS 1280HR (HU)</td>
<td>Kawasaki et al. 2016</td>
</tr>
<tr>
<td>Location</td>
<td>Code</td>
<td>Type</td>
<td>Subtype</td>
<td>Condition</td>
<td>Value 1</td>
<td>Value 2</td>
<td>Value 3</td>
<td>Value 4</td>
<td>Value 5</td>
<td>Value 6</td>
<td>Value 7</td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>------</td>
<td>----------</td>
<td>-----------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>264</td>
<td>18.01</td>
<td>0.06</td>
<td>5.5</td>
<td>1.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>265</td>
<td>27.43</td>
<td>0.09</td>
<td>8.9</td>
<td>0.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>266</td>
<td>44.25</td>
<td>0.16</td>
<td>15.1</td>
<td>1.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td>Sp</td>
<td>267</td>
<td>146.14</td>
<td>1.2</td>
<td>47.7</td>
<td>1.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>V2-01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>SA-1</td>
<td>POI</td>
<td>Fas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>SA-1</td>
<td>POI</td>
<td>Ol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>SA-1</td>
<td>POI</td>
<td>Plag</td>
<td>Plag</td>
<td>79</td>
<td>3</td>
<td>1</td>
<td>4.4</td>
<td>IM PAN mod. IMS 3f</td>
<td>Kennedy and Hutcheon 1992</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>----</td>
<td>---</td>
<td>---</td>
<td>-----</td>
<td>-------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>SA-1</td>
<td>POI</td>
<td>Plag</td>
<td>Plag</td>
<td>189</td>
<td>10</td>
<td>1</td>
<td>7.1</td>
<td>IM PAN mod. IMS 3f</td>
<td>Kennedy and Hutcheon 1992</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>SA-1</td>
<td>POI</td>
<td>Plag</td>
<td>Plag</td>
<td>70</td>
<td>4</td>
<td>0.8</td>
<td>2.8</td>
<td>IM PAN mod. IMS 3f</td>
<td>Kennedy and Hutcheon 1992</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>SA-1</td>
<td>POI</td>
<td>Plag</td>
<td>Plag</td>
<td>89</td>
<td>4</td>
<td>-2.8</td>
<td>2.6</td>
<td>IM PAN mod. IMS 3f</td>
<td>Kennedy and Hutcheon 1992</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>SA-1</td>
<td>POI</td>
<td>Plag-Ol</td>
<td>Border Cpx</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Kennedy and Hutcheon 1992</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>SA-1</td>
<td>POI</td>
<td>Plag-Ol</td>
<td>Border Cpx</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Kennedy and Hutcheon 1992</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>SA-1</td>
<td>POI</td>
<td>Plag-Ol</td>
<td>Border Cpx</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Kennedy and Hutcheon 1992</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>SA-1</td>
<td>POI</td>
<td>Plag-Ol</td>
<td>Interior Cpx</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Kennedy and Hutcheon 1992</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>SA-1</td>
<td>POI</td>
<td>Plag-Ol</td>
<td>Interior Cpx</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Kennedy and Hutcheon 1992</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>SA-1</td>
<td>POI</td>
<td>Plag- Ol</td>
<td>Interior Cpx</td>
<td>IM PAN mod. IMS 3f</td>
<td>Kennedy and Hutcheon 1992</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>----------</td>
<td>--------------</td>
<td>-------------------</td>
<td>--------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>SA-1</td>
<td>POI</td>
<td>Plag-Ol</td>
<td>Interior Cpx</td>
<td>IM PAN mod. IMS 3f</td>
<td>Kennedy and Hutcheon 1992</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>SA-1</td>
<td>POI</td>
<td>Sp</td>
<td>Sp</td>
<td>IM PAN mod. IMS 3f</td>
<td>Kennedy and Hutcheon 1992</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>SA-1</td>
<td>POI</td>
<td>Sp</td>
<td>Sp</td>
<td>IM PAN mod. IMS 3f</td>
<td>Kennedy and Hutcheon 1992</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CH3</td>
<td>I POP Fe-O rich</td>
<td>An100</td>
<td>1</td>
<td>67</td>
<td>IM SIMS CAM IMS 1270 (GSJ)</td>
<td>Kita et al. 2000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CH23</td>
<td>An100</td>
<td>1</td>
<td>39</td>
<td>IM SIMS CAM IMS 1270 (GSJ)</td>
<td>Kita et al. 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CH3</td>
<td>An100</td>
<td>2</td>
<td>81</td>
<td>IM SIMS CAM IMS 1270 (GSJ)</td>
<td>Kita et al. 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CH3</td>
<td>An100</td>
<td>3</td>
<td>61</td>
<td>IM SIMS CAM IMS 1270 (GSJ)</td>
<td>Kita et al. 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CH3</td>
<td>An100</td>
<td>4</td>
<td>59</td>
<td>IM SIMS CAM IMS 1270 (GSJ)</td>
<td>Kita et al. 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CH60</td>
<td>An 30</td>
<td>1</td>
<td>152</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>---------</td>
<td>------</td>
<td>-------</td>
<td>----</td>
<td>-----</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CH60</td>
<td>An 30</td>
<td>2</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CH4</td>
<td>Glass</td>
<td>1</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CH36</td>
<td>Glass</td>
<td>1</td>
<td>44</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CH4</td>
<td>Glass</td>
<td>2</td>
<td>41</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CH4</td>
<td>Glass</td>
<td>3-1</td>
<td>208</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CH4</td>
<td>Glass</td>
<td>3-2</td>
<td>181</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CH4</td>
<td>Glass</td>
<td>3-3</td>
<td>139</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CH4</td>
<td>Glass</td>
<td>3-4</td>
<td>123</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**IM SIMS CAM IMS 1270 (GSJ)**

Kita et al. 2000
<table>
<thead>
<tr>
<th>Semarkona</th>
<th>LL3.00</th>
<th>CH36</th>
<th>Glass</th>
<th>2</th>
<th>115</th>
<th>IM SIMS CAM IMS 1270 (GSJ)</th>
<th>Kita et al. 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CH36</td>
<td>Glass</td>
<td>3</td>
<td>45</td>
<td>IM SIMS CAM IMS 1270 (GSJ)</td>
<td>Kita et al. 2000</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CH36</td>
<td>Glass</td>
<td>4</td>
<td>48</td>
<td>IM SIMS CAM IMS 1270 (GSJ)</td>
<td>Kita et al. 2000</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CH36</td>
<td>Glass</td>
<td>5</td>
<td>96</td>
<td>IM SIMS CAM IMS 1270 (GSJ)</td>
<td>Kita et al. 2000</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CH36</td>
<td>Glass</td>
<td>6</td>
<td>282</td>
<td>IM SIMS CAM IMS 1270 (GSJ)</td>
<td>Kita et al. 2000</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CC-1</td>
<td>Ol</td>
<td>4</td>
<td>0</td>
<td>IM SIMS CAM IMS 1270 (GSJ)</td>
<td>Kita et al. 2000</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CC-1</td>
<td>Ol</td>
<td>7</td>
<td>0</td>
<td>IM SIMS CAM IMS 1270 (GSJ)</td>
<td>Kita et al. 2000</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CC-1</td>
<td>Ol</td>
<td>5</td>
<td>0</td>
<td>IM SIMS CAM IMS 1270 (GSJ)</td>
<td>Kita et al. 2000</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CC-1</td>
<td>Ol</td>
<td>2</td>
<td>0</td>
<td>IM SIMS CAM IMS 1270 (GSJ)</td>
<td>Kita et al. 2000</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>CH-60</td>
<td>Pyrx</td>
<td>3</td>
<td>0</td>
<td>IM SIMS CAM IMS 1270 (GSJ)</td>
<td>Kita et al. 2000</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>-------</td>
<td>------</td>
<td>-----</td>
<td>---------</td>
<td>---------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>An</td>
<td>#51</td>
<td>2.6</td>
<td>0.03</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>An</td>
<td>Leoville3 535_An#2</td>
<td>216.4402935</td>
<td>4.576873792</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>An</td>
<td>Leoville3 535_An#3</td>
<td>233.4412246</td>
<td>1.482883866</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>An</td>
<td>Leoville3 535_An#4</td>
<td>234.6009775</td>
<td>1.860626417</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>An</td>
<td>Leoville3 535_An#5</td>
<td>215.1834266</td>
<td>0.661062403</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>An</td>
<td>Leoville3 535_An#6</td>
<td>248.3003015</td>
<td>0.766648402</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>An</td>
<td>Leoville3 535_An#7</td>
<td>173.756411</td>
<td>2.281893046</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>An</td>
<td>Leoville3 535_An#8</td>
<td>235.2613001</td>
<td>1.41831983</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>An</td>
<td>Leoville3 535 An#9</td>
<td>198.69777551</td>
<td>1.534845209</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>--------</td>
<td>--------</td>
<td>--------------------</td>
<td>--------------</td>
<td>------------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>An</td>
<td>#49</td>
<td>2.59</td>
<td>0.03</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Fas</td>
<td>#47</td>
<td>2.56</td>
<td>0.03</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Fas</td>
<td>#53</td>
<td>2.59</td>
<td>0.03</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Fas</td>
<td>#52</td>
<td>2.55</td>
<td>0.03</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>USNM 3535-1</td>
<td>Mel</td>
<td>Ak67G</td>
<td>1.332751</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Mel</td>
<td>Syn CAI #1, S2, Mel near Si#7</td>
<td>6.525585</td>
<td>0.0091163</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Mel</td>
<td>Leo 3535, scan-mel-1</td>
<td>1.116656</td>
<td>0.004217924</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Mel</td>
<td>Leo 3535, scan4-mel-1</td>
<td>1.105172</td>
<td>0.0042</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>--------</td>
<td>-----------</td>
<td>-----------------------</td>
<td>----------</td>
<td>-------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Mel</td>
<td>Scan3, mel-1, near Dec06#17-22, Ak50</td>
<td>1.917716</td>
<td>0.005500728</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Mel</td>
<td>Scan3, mel-1, near Dec06#16, Ak45</td>
<td>3.636624</td>
<td>0.006519506</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Mel</td>
<td>Scan3, mel-1, near Dec06#21-18, Ak35</td>
<td>5.505555</td>
<td>0.00681873</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Mel</td>
<td>Scan3, mel-1, Al-rich island, Ak20</td>
<td>6.64475</td>
<td>0.005876176</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Mel</td>
<td>Scan3, mel-1, Ak25, toward rim from @25</td>
<td>5.416355</td>
<td>0.00553624</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Mel</td>
<td>Scan3, mel-1, Ak25, toward rim from @25</td>
<td>6.511207</td>
<td>0.006215412</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Mel</td>
<td>Scan3, mel-1, Ak20, toward rim from @20</td>
<td>8.301039</td>
<td>0.009688968</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Mel mantle</td>
<td>#48</td>
<td>2.62</td>
<td>0.03</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#3</td>
<td>233</td>
<td>4</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>----</td>
<td>-----</td>
<td>---</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#4</td>
<td>234</td>
<td>4</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#5</td>
<td>214.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#6</td>
<td>247.4</td>
<td>1.9</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#7</td>
<td>234</td>
<td>3</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#8</td>
<td>198</td>
<td>3</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#9</td>
<td>366</td>
<td>18</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Pyrx</td>
<td>Area-1-5, Px-1</td>
<td>1.92411</td>
<td>0.00311234</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Pyrx</td>
<td>Area-1-5, Px-2</td>
<td>1.713863</td>
<td>0.003801192</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Pyrx</td>
<td>Area-2-1, Px-1</td>
<td>0.9065387</td>
<td>0.003732266</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>--------</td>
<td>------</td>
<td>---------------</td>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Pyrx</td>
<td>Area-2-2, Px-2</td>
<td>0.9086802</td>
<td>0.002936362</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Pyrx</td>
<td>Area-2-2, Px-3</td>
<td>1.553725</td>
<td>0.00280804</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Pyrx</td>
<td>Area4, Px-1</td>
<td>1.765489</td>
<td>0.003798236</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Pyrx</td>
<td>Area 4-1, Px-2</td>
<td>1.103771</td>
<td>0.002984408</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Pyrx</td>
<td>Area 4-2, Px-3</td>
<td>1.82683</td>
<td>0.00420082</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Sp</td>
<td>#50</td>
<td>2.59</td>
<td>0.03</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Sp</td>
<td>Area-1-5, Sp-1</td>
<td>1.98341</td>
<td>0.009512842</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Sp</td>
<td>Area-1-1, Sp-1</td>
<td>2.024964</td>
<td>0.01171899</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Sp</td>
<td>Area-2-3, Sp-1</td>
<td>2.00165</td>
<td>0.010583858</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>----</td>
<td>--------</td>
<td>----</td>
<td>---------------</td>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Sp</td>
<td>Area-2-2, Sp-1</td>
<td>1.9725</td>
<td>0.007808712</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Sp</td>
<td>Area-4-3, Sp-1</td>
<td>2.005814</td>
<td>0.011298366</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Sp</td>
<td>Area-4-4, Sp-1</td>
<td>2.026917</td>
<td>0.01083889</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Sp</td>
<td>Area 7-2, Sp-1</td>
<td>2.011643</td>
<td>0.011610496</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Sp</td>
<td>Area 2-3, Sp-3</td>
<td>2.202888</td>
<td>0.012136768</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Sp agg.</td>
<td>#54</td>
<td>2.62</td>
<td>0.03</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Sp agg.</td>
<td>#55</td>
<td>2.6</td>
<td>0.03</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Sp in An</td>
<td>Area-1-6, Sp-1 (in An)</td>
<td>2.003792</td>
<td>0.010862224</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Sp in An</td>
<td>Area-2-3, Sp-2 (in An)</td>
<td>1.009838</td>
<td>0.010408108</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>----</td>
<td>--------</td>
<td>----------</td>
<td>------------------------</td>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Ak67G</td>
<td>1.332711</td>
<td>0.004848448</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Ak67G</td>
<td>1.3324</td>
<td>0.005143718</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Ak67G</td>
<td>1.33312</td>
<td>0.005405458</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Ak50-12-xtl#12</td>
<td>3.106052</td>
<td>0.006471934</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Ak50-12-xtl#13</td>
<td>2.648486</td>
<td>0.00638168</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Ak50-12-xtl#14</td>
<td>3.257547</td>
<td>0.006758676</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Ak50-12-xtl#15</td>
<td>6.296321</td>
<td>0.010678948</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Ak50-12-G#16</td>
<td>1.09867</td>
<td>0.004547636</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Ak50-12-G#17</td>
<td>1.099553</td>
<td>0.004903372</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-------------</td>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Ak50-12-G#18</td>
<td>1.102724</td>
<td>0.005337228</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Ak100</td>
<td>0.000449055</td>
<td>0.003610798</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Ak100</td>
<td>0.000451139</td>
<td>0.003140496</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Ak100</td>
<td>0.000441139</td>
<td>0.00363686</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Ak67G</td>
<td>1.33162</td>
<td>0.005927142</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Ak67G</td>
<td>1.331196</td>
<td>0.005347926</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Ak67G</td>
<td>1.331456</td>
<td>0.004200354</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Ak67G</td>
<td>1.331556</td>
<td>0.005540636</td>
</tr>
<tr>
<td>Location</td>
<td>Type</td>
<td>Number</td>
<td>Mass</td>
<td>Charge</td>
<td>Isotope</td>
<td>Abundance</td>
<td>13C/12C</td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>--------</td>
<td>------</td>
<td>--------</td>
<td>---------</td>
<td>-----------</td>
<td>----------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535</td>
<td>Unk</td>
<td>AK50, Ak67 G</td>
<td>1.334763</td>
<td>0.00487181</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535</td>
<td>Unk</td>
<td>AK50, Ak67 G</td>
<td>1.333605</td>
<td>0.004979602</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535</td>
<td>Unk</td>
<td>AK50, Ak67 G</td>
<td>1.333784</td>
<td>0.005036676</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535</td>
<td>Unk</td>
<td>AK50, Ak67 G</td>
<td>1.334122</td>
<td>0.004862958</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535</td>
<td>Unk</td>
<td>AK50, Ak67 G</td>
<td>1.353832</td>
<td>0.00517056</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535</td>
<td>Unk</td>
<td>AK50, Ak67 G</td>
<td>1.353463</td>
<td>0.00605176</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535</td>
<td>Unk</td>
<td>AK50, Ak67 G</td>
<td>1.352893</td>
<td>0.00582332</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535</td>
<td>Unk</td>
<td>AK50, Ak67 G</td>
<td>1.353323</td>
<td>0.0057137</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535</td>
<td>Unk</td>
<td>AK50-12, xtl 0731-#7</td>
<td>5.495918</td>
<td>0.007770554</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td></td>
<td></td>
<td>AK50-12, xtl 0731-#8</td>
<td>4.333872</td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>------</td>
<td>--------</td>
<td>-----</td>
<td>-----</td>
<td>----------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td></td>
<td></td>
<td>AK50-12, xtl 0731-#9</td>
<td>4.30469</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td></td>
<td></td>
<td>AK50-12, xtl 0731-#10</td>
<td>6.99751</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td></td>
<td></td>
<td>AK50-12, Ak100</td>
<td>0.000474503</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td></td>
<td></td>
<td>AK50-12, Ak100</td>
<td>0.000470283</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td></td>
<td></td>
<td>AK50-12, FC not polished</td>
<td>0.000504733</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td></td>
<td></td>
<td>AK50-12, FC not polished</td>
<td>0.000373758</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td></td>
<td></td>
<td>AK50, AK67G</td>
<td>1.352032</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td></td>
<td></td>
<td>AK50, AK67G</td>
<td>1.350905</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Area</td>
<td>IM, SIMS CAM IMS 1280 (UMW)</td>
<td>Kita et al. 2012</td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>------</td>
<td>--------</td>
<td>-----</td>
<td>------</td>
<td>-----------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Area 3-1</td>
<td>IM, SIMS CAM IMS 1280 (UMW)</td>
<td>Kita et al. 2012</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Area 3-2</td>
<td>IM, SIMS CAM IMS 1280 (UMW)</td>
<td>Kita et al. 2012</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Area 3-3</td>
<td>IM, SIMS CAM IMS 1280 (UMW)</td>
<td>Kita et al. 2012</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Area 2-1</td>
<td>IM, SIMS CAM IMS 1280 (UMW)</td>
<td>Kita et al. 2012</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Area 2-1-2</td>
<td>IM, SIMS CAM IMS 1280 (UMW)</td>
<td>Kita et al. 2012</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Area 2-3</td>
<td>IM, SIMS CAM IMS 1280 (UMW)</td>
<td>Kita et al. 2012</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Area 4-1</td>
<td>IM, SIMS CAM IMS 1280 (UMW)</td>
<td>Kita et al. 2012</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Area 4-1-2</td>
<td>7.595747</td>
<td>0.010544712</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-----------</td>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>Area 4-3</td>
<td>1.917345</td>
<td>0.006903366</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#59 (TiO2 = 8.0%)</td>
<td>2.23</td>
<td>0.11</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#60 (TiO2 = 5.5%)</td>
<td>1.99</td>
<td>0.1</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#61 (TiO2 = 5.5%)</td>
<td>1.05</td>
<td>0.05</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#62 (TiO2 = 5.5%)</td>
<td>1.05</td>
<td>0.05</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#63 (TiO2 = 5.5%)</td>
<td>1.8</td>
<td>0.09</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#64 (TiO2 = 5.5%)</td>
<td>2.05</td>
<td>0.1</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#65 (TiO2 = 5.5%)</td>
<td>1.28</td>
<td>0.06</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#66 (TiO2 = 5.5%)</td>
<td>2.12</td>
<td>0.11</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>--------</td>
<td>-----</td>
<td>------------------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#7</td>
<td>173</td>
<td>4</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#19</td>
<td>1.23</td>
<td>0.01</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#20</td>
<td>1.21</td>
<td>0.01</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#21</td>
<td>2.1</td>
<td>0.02</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#22</td>
<td>3.99</td>
<td>0.04</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#23</td>
<td>6.04</td>
<td>0.06</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#24</td>
<td>7.29</td>
<td>0.07</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#25</td>
<td>5.94</td>
<td>0.06</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#26</td>
<td>7.15</td>
<td>0.07</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#27</td>
<td>9.11</td>
<td>0.09</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#41</td>
<td>1.97</td>
<td>0.02</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#42</td>
<td>3.76</td>
<td>0.03</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#43</td>
<td>1.57</td>
<td>0.01</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#44</td>
<td>1.14</td>
<td>0.01</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#45</td>
<td>1.03</td>
<td>0.01</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#46</td>
<td>1.15</td>
<td>0.01</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#47</td>
<td>6.56</td>
<td>0.05</td>
</tr>
<tr>
<td>Sample</td>
<td>Type</td>
<td>Location</td>
<td>Identification</td>
<td>Methodology</td>
<td>Age (Ma)</td>
<td>Accuracy</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
<td>----------</td>
<td>----------------</td>
<td>-------------</td>
<td>----------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#48</td>
<td>8.22</td>
<td>0.07</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#49</td>
<td>2.07</td>
<td>0.02</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td>#2</td>
<td>216</td>
<td>10</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>AJEF</td>
<td>Unk</td>
<td>AJEF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A43</td>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A44A</td>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>FTA</td>
<td>3536-1</td>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>B1</td>
<td>3535-1</td>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NWA 2364</td>
<td>CV3</td>
<td>B</td>
<td>?</td>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>ID</td>
<td>Type</td>
<td>Name</td>
<td>Position</td>
<td>Unk</td>
<td>Analysis</td>
<td>Author and Year</td>
</tr>
<tr>
<td>----------</td>
<td>----</td>
<td>------</td>
<td>------</td>
<td>----------</td>
<td>-----</td>
<td>----------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>C</td>
<td>F4</td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Kita et al. 2013</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>F6</td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Kita et al. 2013</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>F8</td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Kita et al. 2013</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>rel A</td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Kita et al. 2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>F1</td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Kita et al. 2013</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>F9</td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Kita et al. 2013</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>AOA</td>
<td>F5</td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Kita et al. 2013</td>
<td></td>
</tr>
<tr>
<td>Acfer 094</td>
<td>C2-ungrouped</td>
<td>17</td>
<td>Hib</td>
<td>CAI 17 Hib 1</td>
<td>13</td>
<td>1.3</td>
<td>-2.6</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>C2-ungrouped</td>
<td>17</td>
<td>Hib</td>
<td>CAI 17 Hib 2</td>
<td>57</td>
<td>5.7</td>
<td>-1.8</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>C2-ungrouped</td>
<td>17</td>
<td>Hib</td>
<td>CAI 17 Hib 3</td>
<td>93.4</td>
<td>9.3</td>
<td>-5.2</td>
</tr>
<tr>
<td>----------</td>
<td>---------------</td>
<td>----</td>
<td>-----</td>
<td>------------</td>
<td>------</td>
<td>-----</td>
<td>------</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>C2-ungrouped</td>
<td>17</td>
<td>Hib + Plag</td>
<td>CAI 17 Hib+Plag 1</td>
<td>122.2</td>
<td>12.2</td>
<td>-2.9</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>C2-ungrouped</td>
<td>17</td>
<td>Hib + Plag</td>
<td>CAI 17 Hib+Plag 2</td>
<td>119.8</td>
<td>12</td>
<td>-4.2</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>C2-ungrouped</td>
<td>17</td>
<td>Ol</td>
<td>Chond. 17Ol 1</td>
<td>0.01</td>
<td>0</td>
<td>0.4</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>C2-ungrouped</td>
<td>17</td>
<td>Ol</td>
<td>Chond. 17Ol 2</td>
<td>0.01</td>
<td>0</td>
<td>-0.5</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>C2-ungrouped</td>
<td>17</td>
<td>Ol</td>
<td>Chond. 17Ol 3</td>
<td>0.01</td>
<td>0</td>
<td>-0.4</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>C2-ungrouped</td>
<td>17</td>
<td>Ol</td>
<td>Chond. 17Ol 4</td>
<td>0.01</td>
<td>0</td>
<td>0.8</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>C2-ungrouped</td>
<td>17</td>
<td>Plag</td>
<td>Chond. 17 Plag</td>
<td>111.1</td>
<td>11.1</td>
<td>1.2</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>C2-ungrouped</td>
<td>2</td>
<td>Plag</td>
<td>CAI 2 Plag 1</td>
<td>65.5</td>
<td>6.5</td>
<td>-1.5</td>
</tr>
<tr>
<td>Location</td>
<td>Sample Type</td>
<td>ID</td>
<td>Count</td>
<td>Component</td>
<td>CAI / Plag Type</td>
<td>Mass Loss (%)</td>
<td>Age (Ma)</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
<td>----</td>
<td>-------</td>
<td>-----------</td>
<td>----------------</td>
<td>----------------</td>
<td>----------</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>C2-ungrouped</td>
<td>2</td>
<td>Plag</td>
<td>CAI 2 Plag 2</td>
<td>140.2</td>
<td>14</td>
<td>3.2</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>C2-ungrouped</td>
<td>2</td>
<td>Plag</td>
<td>CAI 2 Plag 3</td>
<td>38.2</td>
<td>3.8</td>
<td>0</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>C2-ungrouped</td>
<td>2</td>
<td>Plag</td>
<td>Chond. 2 Plag</td>
<td>35.4</td>
<td>3.5</td>
<td>-0.2</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>C2-ungrouped</td>
<td>17</td>
<td>Sp</td>
<td>CAI 17 Sp</td>
<td>4.4</td>
<td>0.4</td>
<td>1.1</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>C2-ungrouped</td>
<td>1</td>
<td>Sp</td>
<td>CAI 2 Sp</td>
<td>2.6</td>
<td>0.3</td>
<td>-0.6</td>
</tr>
<tr>
<td>Adelaide</td>
<td>C2-ungrouped</td>
<td>9d</td>
<td>Hib</td>
<td>CAI 9d Hib 1</td>
<td>95.3</td>
<td>4.8</td>
<td>24</td>
</tr>
<tr>
<td>Adelaide</td>
<td>C2-ungrouped</td>
<td>9d</td>
<td>Hib</td>
<td>CAI 9d Hib 2</td>
<td>57.2</td>
<td>2.9</td>
<td>13.7</td>
</tr>
<tr>
<td>Adelaide</td>
<td>C2-ungrouped</td>
<td>9d</td>
<td>Hib</td>
<td>CAI 9d Hib 3</td>
<td>81.2</td>
<td>4.1</td>
<td>18.5</td>
</tr>
<tr>
<td>Adelaide</td>
<td>C2-ungrouped</td>
<td>9d</td>
<td>Hib-Mel</td>
<td>CAI 9d Hib-Mel 1</td>
<td>46.9</td>
<td>2.5</td>
<td>8.4</td>
</tr>
<tr>
<td>Location</td>
<td>Group</td>
<td>ID</td>
<td>Phase</td>
<td>Species</td>
<td>Reference</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>----</td>
<td>-------</td>
<td>---------</td>
<td>-----------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>Adelaide</td>
<td>C2-ungrouped</td>
<td>9d</td>
<td>Hib-Mel</td>
<td>CAI 9d Hib-Mel 2</td>
<td>17.3</td>
<td>1</td>
<td>-0.4</td>
</tr>
<tr>
<td>Adelaide</td>
<td>C2-ungrouped</td>
<td>9d</td>
<td>OI</td>
<td>Chond. 9d OI 1</td>
<td>0.015</td>
<td>0.008</td>
<td>0.1</td>
</tr>
<tr>
<td>Adelaide</td>
<td>C2-ungrouped</td>
<td>9d</td>
<td>OI</td>
<td>Chond. 9d OI 2</td>
<td>0.014</td>
<td>0.002</td>
<td>-0.5</td>
</tr>
<tr>
<td>Adelaide</td>
<td>C2-ungrouped</td>
<td>9d</td>
<td>Plag</td>
<td>Chond. 9d Plag 1</td>
<td>66.4</td>
<td>3.4</td>
<td>-3.7</td>
</tr>
<tr>
<td>Adelaide</td>
<td>C2-ungrouped</td>
<td>9d</td>
<td>Plag</td>
<td>Chond. 9d Plag 2</td>
<td>42.2</td>
<td>2.4</td>
<td>-1.3</td>
</tr>
<tr>
<td>Adelaide</td>
<td>C2-ungrouped</td>
<td>9d</td>
<td>Sp</td>
<td>Adelaide CAI 9d Sp 1</td>
<td>2.7</td>
<td>0.1</td>
<td>-0.7</td>
</tr>
<tr>
<td>Adelaide</td>
<td>C2-ungrouped</td>
<td>9d</td>
<td>Sp</td>
<td>Adelaide CAI 9d Sp 2</td>
<td>3.4</td>
<td>0.2</td>
<td>-0.6</td>
</tr>
<tr>
<td>PAT</td>
<td>CH3</td>
<td>16</td>
<td>Gros</td>
<td>PAT 91546 CAI 16 Gr</td>
<td>1900</td>
<td>110</td>
<td>23</td>
</tr>
<tr>
<td>PAT</td>
<td>CH3</td>
<td>16</td>
<td>OI</td>
<td>PAT 91546 Chond. 16 OI</td>
<td>0.01</td>
<td>0</td>
<td>0.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>------</td>
<td>---</td>
<td>------</td>
</tr>
<tr>
<td>Sharps</td>
<td>H3.4</td>
<td>9</td>
<td></td>
<td>Hib</td>
<td>CAI</td>
<td>9</td>
<td>Hib</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharps</td>
<td>H3.4</td>
<td>9</td>
<td></td>
<td>Hib</td>
<td>CAI</td>
<td>9</td>
<td>Hib</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharps</td>
<td>CH3</td>
<td>9</td>
<td></td>
<td>Hib</td>
<td>CAI</td>
<td>9</td>
<td>Hib</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharps</td>
<td>H3.4</td>
<td>9</td>
<td></td>
<td>Neph</td>
<td>CAI</td>
<td>9</td>
<td>Nph</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharps</td>
<td>H3.4</td>
<td>9</td>
<td></td>
<td>Ol</td>
<td>Chond.</td>
<td>9</td>
<td>Ol</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td></td>
<td></td>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yamato</td>
<td>CO3.0</td>
<td></td>
<td></td>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td></td>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td></td>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample</td>
<td>Type</td>
<td>Code</td>
<td>Analytical Methods</td>
<td>Ref.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>------</td>
<td>------</td>
<td>------------------------------</td>
<td>--------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yamato 81020 (5 Chond.)</td>
<td>CO3.0</td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Krot et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende (9 CAIs)</td>
<td>CV3</td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Krot et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Krot et al. 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A43</td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Krot et al. 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Krot et al. 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A44A</td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Krot et al. 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Krot et al. 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>AJEF</td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Krot et al. 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Various meteorites</td>
<td></td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Krot et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Various meteorites</td>
<td></td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Krot et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Various meteorites</td>
<td></td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Krot et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Various meteorites</td>
<td>CR2</td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Krot et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Various meteorites</td>
<td>CR2</td>
<td>Unk</td>
<td>IM SIMS and MC-ICPMS</td>
<td>Krot et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Various meteorites</td>
<td>CO3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IM SIMS and MC-ICPMS</td>
<td>Krot et al. 2009</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>----------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Various meteorites</td>
<td>CO3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IM SIMS and MC-ICPMS</td>
<td>Krot et al. 2009</td>
</tr>
<tr>
<td>Various meteorites</td>
<td>CR2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IM SIMS and MC-ICPMS</td>
<td>Krot et al. 2009</td>
</tr>
<tr>
<td>Various meteorites</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IM SIMS and MC-ICPMS</td>
<td>Krot et al. 2009</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>E3t</td>
<td>II</td>
<td>OI</td>
<td>E3t-ol</td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Kunhiro et al. 2004</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>E3t</td>
<td>II</td>
<td>OI</td>
<td>E3t-ol</td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Kunhiro et al. 2004</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>G4i</td>
<td>II</td>
<td>OI</td>
<td>G4i-ol</td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Kunhiro et al. 2004</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>G4i</td>
<td>II</td>
<td>OI</td>
<td>G4i-ol</td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Kunhiro et al. 2004</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>F7o</td>
<td>II</td>
<td>OI</td>
<td>F7o-ol</td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Kunhiro et al. 2004</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>F7o</td>
<td>II</td>
<td>Ol</td>
<td>F7o-ol</td>
<td>0</td>
</tr>
<tr>
<td>----------------</td>
<td>-------</td>
<td>----------------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>----------</td>
<td>-----</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>G7g</td>
<td>II</td>
<td>Ol</td>
<td>G7g-ol</td>
<td>0</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>G7g</td>
<td>II</td>
<td>Ol</td>
<td>G7g-ol</td>
<td>0</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>E3t</td>
<td>II</td>
<td>Plag</td>
<td>E3t-pl-a</td>
<td>110</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>E3t</td>
<td>II</td>
<td>Plag</td>
<td>E3t-pl-a</td>
<td>86</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>E3t</td>
<td>II</td>
<td>Plag</td>
<td>E3t-pl-b</td>
<td>187</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>E3t</td>
<td>II</td>
<td>Plag</td>
<td>E3t-pl-b</td>
<td>175</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>E3t</td>
<td>II</td>
<td>Plag</td>
<td>E3t-pl-b</td>
<td>186</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>E3t</td>
<td>II</td>
<td>Plag</td>
<td>E3t-pl-b</td>
<td>200</td>
</tr>
<tr>
<td>Sample</td>
<td>Rt</td>
<td>Crd</td>
<td>Pm</td>
<td>E3t-pl-c</td>
<td>Pt</td>
<td>Vsc</td>
<td>Fm</td>
</tr>
<tr>
<td>--------</td>
<td>-----</td>
<td>-----</td>
<td>----</td>
<td>---------</td>
<td>----</td>
<td>-----</td>
<td>----</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td></td>
<td>E3t</td>
<td>II</td>
<td>Plag</td>
<td>E3t-pl-c</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td></td>
<td>E3t</td>
<td>II</td>
<td>Plag</td>
<td>E3t-pl-c</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td></td>
<td>G4i</td>
<td>II</td>
<td>Plag</td>
<td>G4i-pl-d</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td></td>
<td>G4i</td>
<td>II</td>
<td>Plag</td>
<td>G4i-pl-d</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td></td>
<td>G4i</td>
<td>II</td>
<td>Plag</td>
<td>G4i-pl-d</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td></td>
<td>G4i</td>
<td>II</td>
<td>Plag</td>
<td>G4i-pl-d</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td></td>
<td>G4i</td>
<td>II</td>
<td>Plag</td>
<td>G4i-pl-d</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td></td>
<td>G4i</td>
<td>II</td>
<td>Plag</td>
<td>G4i-pl-d</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td></td>
<td>G4i</td>
<td>II</td>
<td>Plag</td>
<td>G4i-pl-d</td>
</tr>
<tr>
<td>Sample</td>
<td>Clp</td>
<td>Type</td>
<td>Phase</td>
<td>Value</td>
<td>SEM</td>
<td>Method</td>
<td>Run No.</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>------</td>
<td>-------</td>
<td>-------</td>
<td>-----</td>
<td>-----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Yamato 81020 C03.0</td>
<td>F7o</td>
<td>II</td>
<td>Plag</td>
<td>103</td>
<td>3</td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Kunhiro et al. 2004</td>
</tr>
<tr>
<td>Yamato 81020 C03.0</td>
<td>F7o</td>
<td>II</td>
<td>Plag</td>
<td>115</td>
<td>11</td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Kunhiro et al. 2004</td>
</tr>
<tr>
<td>Yamato 81020 C03.0</td>
<td>F7o</td>
<td>II</td>
<td>Plag</td>
<td>149</td>
<td>6</td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Kunhiro et al. 2004</td>
</tr>
<tr>
<td>Yamato 81020 C03.0</td>
<td>G7g</td>
<td>II</td>
<td>Plag</td>
<td>135</td>
<td>15</td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Kunhiro et al. 2004</td>
</tr>
<tr>
<td>Yamato 81020 C03.0</td>
<td>G7g</td>
<td>II</td>
<td>Plag</td>
<td>170</td>
<td>30</td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Kunhiro et al. 2004</td>
</tr>
<tr>
<td>Yamato 81020 C03.0</td>
<td>G7g</td>
<td>II</td>
<td>Plag</td>
<td>198</td>
<td>10</td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Kunhiro et al. 2004</td>
</tr>
<tr>
<td>Yamato 81020 C03.0</td>
<td>G7g</td>
<td>II</td>
<td>Plag</td>
<td>178</td>
<td>35</td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Kunhiro et al. 2004</td>
</tr>
<tr>
<td>Yamato 81020 C03.0</td>
<td>C6w</td>
<td>II</td>
<td>Plag</td>
<td>120</td>
<td>15</td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Kunhiro et al. 2004</td>
</tr>
<tr>
<td>Yamato 81020 C03.0</td>
<td>C6w</td>
<td>II</td>
<td>Plag</td>
<td>130</td>
<td>16</td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Kunhiro et al. 2004</td>
</tr>
<tr>
<td>Sample</td>
<td>Position</td>
<td>Component</td>
<td>Relationship</td>
<td>Type</td>
<td>Z</td>
<td>A</td>
<td>X</td>
</tr>
<tr>
<td>--------</td>
<td>----------</td>
<td>-----------</td>
<td>--------------</td>
<td>------</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>C6w II Plag C6w-pl-g</td>
<td>116</td>
<td>12</td>
<td>IM SIMS CAM IMS 1270 (UCLA) Kunhiro et al. 2004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>C6w II Plag C6w-pl-g</td>
<td>114</td>
<td>5</td>
<td>IM SIMS CAM IMS 1270 (UCLA) Kunhiro et al. 2004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>C6w II Plag C6w-pl-h</td>
<td>91</td>
<td>26</td>
<td>IM SIMS CAM IMS 1270 (UCLA) Kunhiro et al. 2004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>C6w II Plag C6w-pl-h</td>
<td>44</td>
<td>7</td>
<td>IM SIMS CAM IMS 1270 (UCLA) Kunhiro et al. 2004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>C6w II Plag C6w-pl-h</td>
<td>36</td>
<td>2</td>
<td>IM SIMS CAM IMS 1270 (UCLA) Kunhiro et al. 2004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y2-44 An 32 Y2-44c</td>
<td>77</td>
<td>7.2</td>
<td>1.66</td>
<td>3.45</td>
<td>IM SIMS CAM IMS 1270 (GSJ) Kurahashi et al. 2008</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y2-44 An 37 Y2-44a</td>
<td>161.4</td>
<td>8.3</td>
<td>3.46</td>
<td>4.71</td>
<td>IM SIMS CAM IMS 1270 (GSJ) Kurahashi et al. 2008</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y2-44 An 37 Y2-44a'</td>
<td>267.3</td>
<td>7.3</td>
<td>5.77</td>
<td>2.84</td>
<td>IM SIMS CAM IMS 1270 (GSJ) Kurahashi et al. 2008</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y2-44 An 37 Y2-44b</td>
<td>670.5</td>
<td>27.9</td>
<td>3.5</td>
<td>6.3</td>
<td>IM SIMS CAM IMS 1270 (GSJ) Kurahashi et al. 2008</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y2-14</td>
<td>II</td>
<td>An 44</td>
<td>Y2-14c</td>
<td>37.2</td>
<td>0.9</td>
</tr>
<tr>
<td>-------------</td>
<td>-------</td>
<td>-------</td>
<td>----</td>
<td>-------</td>
<td>--------</td>
<td>------</td>
<td>-----</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y2-14</td>
<td>II</td>
<td>An 46</td>
<td>Y2-14a</td>
<td>54.6</td>
<td>1.3</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y56</td>
<td>II</td>
<td>An 46</td>
<td>Y56b</td>
<td>126</td>
<td>3.1</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y46</td>
<td>II</td>
<td>An 50</td>
<td>Y46a</td>
<td>75.9</td>
<td>3.8</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y46</td>
<td>II</td>
<td>An 50</td>
<td>Y46a'</td>
<td>125.5</td>
<td>4.1</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y58</td>
<td>II</td>
<td>An 52</td>
<td>Y58-c</td>
<td>74.1</td>
<td>1.8</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y58</td>
<td>II</td>
<td>An 53</td>
<td>Y58-f2a</td>
<td>85</td>
<td>4.1</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y58</td>
<td>II</td>
<td>An 53</td>
<td>Y58-f2b</td>
<td>104.6</td>
<td>2.5</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y46</td>
<td>II</td>
<td>An 54</td>
<td>Y46b</td>
<td>90.3</td>
<td>3.4</td>
</tr>
<tr>
<td>Sample</td>
<td>C03.0</td>
<td></td>
<td>Y56</td>
<td>II</td>
<td>An 55</td>
<td>Y56c</td>
<td>66.9</td>
</tr>
<tr>
<td>------------</td>
<td>-------</td>
<td></td>
<td>Y56</td>
<td>II</td>
<td>An 57</td>
<td>Y56c-2</td>
<td>183.1</td>
</tr>
<tr>
<td>Sample</td>
<td>C03.0</td>
<td></td>
<td>Y175</td>
<td>Al-rich</td>
<td>An 76</td>
<td>Y175e</td>
<td>32.7</td>
</tr>
<tr>
<td>Sample</td>
<td>C03.0</td>
<td></td>
<td>Y2-09</td>
<td>II</td>
<td>An 78</td>
<td>Y2-09a</td>
<td>106.9</td>
</tr>
<tr>
<td>Sample</td>
<td>C03.0</td>
<td></td>
<td>Y2-09</td>
<td>II</td>
<td>An 78</td>
<td>Y2-09a'</td>
<td>201.9</td>
</tr>
<tr>
<td>Sample</td>
<td>C03.0</td>
<td></td>
<td>Y2-09</td>
<td>II</td>
<td>An 78</td>
<td>Y2-09b'</td>
<td>142.9</td>
</tr>
<tr>
<td>Sample</td>
<td>C03.0</td>
<td></td>
<td>Y24</td>
<td>I</td>
<td>An 82</td>
<td>Y24-2</td>
<td>36.1</td>
</tr>
<tr>
<td>Sample</td>
<td>C03.0</td>
<td></td>
<td>Y71</td>
<td>I</td>
<td>An 83</td>
<td>Y71-c3</td>
<td>31.8</td>
</tr>
<tr>
<td>Sample</td>
<td>C03.0</td>
<td></td>
<td>Y17</td>
<td>I</td>
<td>An 84</td>
<td>Y17-9</td>
<td>26</td>
</tr>
<tr>
<td>Sample</td>
<td>Phase</td>
<td>Grain</td>
<td>Y17</td>
<td>I</td>
<td>An 84</td>
<td>Y17-9’</td>
<td>43.5</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>-------</td>
<td>-----</td>
<td>---</td>
<td>-------</td>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>An 84</td>
<td>Y17</td>
<td>I</td>
<td>An 84</td>
<td>Y17-9’</td>
<td>43.5</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>An 85</td>
<td>Y18</td>
<td>I</td>
<td>An 84</td>
<td>Y18-13</td>
<td>31.8</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>An 85</td>
<td>Y29</td>
<td>I</td>
<td>An 85</td>
<td>Y29-5d</td>
<td>34.7</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>An 86</td>
<td>Y08</td>
<td>I</td>
<td>An 86</td>
<td>Y08-1</td>
<td>27.5</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>An 86</td>
<td>Y08</td>
<td>I</td>
<td>An 86</td>
<td>Y08-1c</td>
<td>36.2</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>An 86</td>
<td>Y18</td>
<td>I</td>
<td>An 86</td>
<td>Y18-1</td>
<td>27.6</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>An 86</td>
<td>Y115</td>
<td>Al-rich</td>
<td>An 86</td>
<td>Y115b</td>
<td>40.7</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>An 86</td>
<td>Y175</td>
<td>Al-rich</td>
<td>An 86</td>
<td>Y175c</td>
<td>34.6</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>An 87</td>
<td>Y03</td>
<td>I</td>
<td>An 87</td>
<td>Y03-xb</td>
<td>33.3</td>
</tr>
<tr>
<td>Sample</td>
<td>Code</td>
<td>Y Number</td>
<td>Type</td>
<td>An</td>
<td>Y-type</td>
<td>Value 1</td>
<td>Value 2</td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
<td>----------</td>
<td>------</td>
<td>----</td>
<td>--------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y29 I</td>
<td>An 87</td>
<td>Y29-16</td>
<td>30.3</td>
<td>0.7</td>
<td>1.73</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y175</td>
<td>Al-rich</td>
<td>An 87</td>
<td>Y175a</td>
<td>39.7</td>
<td>1</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y20 I</td>
<td>An 88</td>
<td>Y20-1</td>
<td>37.9</td>
<td>0.9</td>
<td>2.04</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y71 I</td>
<td>An 88</td>
<td>Y71-d2</td>
<td>32.1</td>
<td>0.8</td>
<td>1.03</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y29 I</td>
<td>An 89</td>
<td>Y29c</td>
<td>33.3</td>
<td>0.8</td>
<td>1.7</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y76 I</td>
<td>An 90</td>
<td>Y76-3</td>
<td>30.3</td>
<td>0.7</td>
<td>1.28</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y76 I</td>
<td>An 90</td>
<td>Y76b2</td>
<td>35.6</td>
<td>0.9</td>
<td>2.1</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y17 I</td>
<td>An 90</td>
<td>Y17-1</td>
<td>38.4</td>
<td>0.9</td>
<td>2.55</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y29 I</td>
<td>An 91</td>
<td>Y29-27</td>
<td>40.6</td>
<td>1</td>
<td>1.56</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>Y02</td>
<td>I</td>
<td>An 91</td>
<td>Y02-2</td>
<td>34.6</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>Y02</td>
<td>I</td>
<td>An 91</td>
<td>Y02-36</td>
<td>36.2</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>Y24</td>
<td>I</td>
<td>An 92</td>
<td>Y24-3</td>
<td>38.3</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>Y10</td>
<td>I</td>
<td>An 93</td>
<td>Y10-3</td>
<td>39.3</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>Y03</td>
<td>I</td>
<td>An 93</td>
<td>Y03-12</td>
<td>31.3</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>Y76</td>
<td>I</td>
<td>An 93</td>
<td>Y76a</td>
<td>38.5</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>Y18</td>
<td>I</td>
<td>An 93</td>
<td>Y18-1</td>
<td>25.4</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>Y02</td>
<td>I</td>
<td>An 93</td>
<td>Y02-5</td>
<td>39.3</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>Y10</td>
<td>I</td>
<td>An 94</td>
<td>Y10-9</td>
<td>25.7</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>Y10</td>
<td>I</td>
<td>An 94</td>
<td>Y10-14</td>
<td>29.1</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>Y24</td>
<td>I</td>
<td>An 94</td>
<td>Y24-1</td>
<td>39.3</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>Y12</td>
<td>I</td>
<td>An 94</td>
<td>Y12-3</td>
<td>40.7</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>Y20</td>
<td>I</td>
<td>An 95</td>
<td>Y20-20</td>
<td>37.1</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>Y09</td>
<td>I</td>
<td>An 95</td>
<td>Y09-7</td>
<td>59.7</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>Y71</td>
<td>I</td>
<td>An 95</td>
<td>Y71-b</td>
<td>34.6</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>Y02</td>
<td>I</td>
<td>An 95</td>
<td>Y02-1</td>
<td>35</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>Y20</td>
<td>I</td>
<td>An 96</td>
<td>Y20-3</td>
<td>36.7</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td></td>
<td>Y09</td>
<td>I</td>
<td>An 96</td>
<td>Y09-26</td>
<td>50.6</td>
</tr>
<tr>
<td>Location</td>
<td>Sample ID</td>
<td>Designation</td>
<td>Mass (amu)</td>
<td>Abundance (ppm)</td>
<td>IMF</td>
<td>IIM</td>
<td>CIF</td>
</tr>
<tr>
<td>----------</td>
<td>-----------</td>
<td>-------------</td>
<td>------------</td>
<td>-----------------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y12</td>
<td>I</td>
<td>An 96</td>
<td>YJ12-J</td>
<td>43.2</td>
<td>1.1</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y29</td>
<td>I</td>
<td>An 98</td>
<td>Y29b</td>
<td>28.6</td>
<td>0.7</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y01</td>
<td>I</td>
<td>An 99</td>
<td>Y01-31</td>
<td>104.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y01</td>
<td>I</td>
<td>An 99</td>
<td>Y01-31'</td>
<td>172.9</td>
<td>42</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y23</td>
<td>Al-rich</td>
<td>An 99</td>
<td>Y23-4a</td>
<td>97.7</td>
<td>2.4</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y23</td>
<td>Al-rich</td>
<td>An 99</td>
<td>Y23-4a'</td>
<td>86.4</td>
<td>4</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y23</td>
<td>Al-rich</td>
<td>An 99</td>
<td>Y23-4b</td>
<td>140.8</td>
<td>3.4</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y23</td>
<td>Al-rich</td>
<td>An 99</td>
<td>Y23-4b'</td>
<td>163.5</td>
<td>4</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y09</td>
<td>I</td>
<td>Ol</td>
<td>Y09-ol</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Location</td>
<td>Sample</td>
<td>Layer</td>
<td>Comp.</td>
<td>Width</td>
<td>Thickness</td>
<td>Analytical Method</td>
<td>Reference</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>------------</td>
<td>-------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y29</td>
<td>I</td>
<td>Ol</td>
<td>Y29-ol</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y18</td>
<td>I</td>
<td>Ol</td>
<td>Y18-ol</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y01</td>
<td>I</td>
<td>Ol</td>
<td>Y01-ol</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y56</td>
<td>II</td>
<td>Ol</td>
<td>Y56-ol</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y58</td>
<td>II</td>
<td>Ol</td>
<td>Y58-ol</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y10</td>
<td>I</td>
<td>Pyrx</td>
<td>Y10-px</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y03</td>
<td>I</td>
<td>Pyrx</td>
<td>Y03-px</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y20</td>
<td>I</td>
<td>Pyrx</td>
<td>Y20-px</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y24</td>
<td>I</td>
<td>Pyrx</td>
<td>Y24-px</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sample</td>
<td>Location</td>
<td>Group</td>
<td>Code</td>
<td>Element</td>
<td>Type</td>
<td>Position</td>
<td>Width</td>
</tr>
<tr>
<td>------------</td>
<td>----------</td>
<td>-------</td>
<td>------</td>
<td>---------</td>
<td>-------</td>
<td>----------</td>
<td>-------</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y08</td>
<td>I</td>
<td>Pyrx</td>
<td>Y08-px</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y76</td>
<td>I</td>
<td>Pyrx</td>
<td>Y76-px</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y17</td>
<td>I</td>
<td>Pyrx</td>
<td>Y17-px</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y12</td>
<td>I</td>
<td>Pyrx</td>
<td>Y12-px</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y71</td>
<td>I</td>
<td>Pyrx</td>
<td>Y71-px</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y02</td>
<td>I</td>
<td>Pyrx</td>
<td>Y02-px</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y2</td>
<td>Al-rich</td>
<td>Pyrx</td>
<td>Ca</td>
<td>Y2-cpx</td>
<td>0.2</td>
</tr>
<tr>
<td>Yamato 81020</td>
<td>C03.0</td>
<td>Y2</td>
<td>II</td>
<td>Pyrx</td>
<td>Ca</td>
<td>Y2-cpx</td>
<td>0</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B12</td>
<td></td>
<td>Ol chond</td>
<td>B12</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B12</td>
<td>Ol chond</td>
<td>B12</td>
<td>-0.19</td>
<td>0.28</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B12</td>
<td>Ol chond</td>
<td>B12</td>
<td>-0.46</td>
<td>0.25</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B12</td>
<td>Ol chond</td>
<td>B12</td>
<td>-0.11</td>
<td>0.23</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A5</td>
<td>Pyrx Chond</td>
<td></td>
<td>-0.06</td>
<td>0.19</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A6</td>
<td>Unk</td>
<td>A6</td>
<td>0.89</td>
<td>0.48</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Al-15-1</td>
<td>Unk</td>
<td>Al-15-1</td>
<td>1.02</td>
<td>0.52</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Al-15-5</td>
<td>Unk</td>
<td>Al-15-5</td>
<td>0.15</td>
<td>0.4</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Al-17</td>
<td>Unk</td>
<td>Al-17</td>
<td>0.44</td>
<td>0.71</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Al-1A</td>
<td>Unk</td>
<td>Al-1A</td>
<td>-0.07</td>
<td>0.22</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AI-2A</td>
<td>Unk</td>
<td>AI-2A</td>
<td>0.49</td>
<td>0.36</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>-------</td>
<td>-----</td>
<td>-------</td>
<td>------</td>
<td>------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AI-3A</td>
<td>Unk</td>
<td>AI-3A</td>
<td>1.42</td>
<td>0.16</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>NMNH 3666</td>
<td>Unk</td>
<td>NMNH 3666</td>
<td>0.66</td>
<td>0.26</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A1-15-5</td>
<td>Unk</td>
<td>A1-15-5</td>
<td>0.07</td>
<td>0.44</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A1-17</td>
<td>Unk</td>
<td>A1-17</td>
<td>0.29</td>
<td>0.52</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A1-3A</td>
<td>Unk</td>
<td>A1-3A</td>
<td>1.33</td>
<td>0.17</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A2</td>
<td>WR</td>
<td>A2</td>
<td>0.02</td>
<td>0.74</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C1</td>
<td>WR</td>
<td>C1</td>
<td>-1.51</td>
<td>0.21</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>-------</td>
<td>-----</td>
<td>---------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>D7</td>
<td>WR</td>
<td>D7</td>
<td>2.01</td>
<td>0.28</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>D8</td>
<td>WR</td>
<td>D8</td>
<td>0.4</td>
<td>0.76</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>1.81</td>
<td>0.31</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>-1.73</td>
<td>0.3</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>-1.57</td>
<td>0.33</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>-2</td>
<td>0.24</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>-0.04</td>
<td>0.22</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>-0.05</td>
<td>0.2</td>
<td>MS (Lunatic III MS)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WR</td>
<td>WR</td>
<td>3</td>
<td>0.33</td>
<td>MS (Lunatic III MS)</td>
<td>Lee and Papanastasiou 1974</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>---</td>
<td>------</td>
<td>---------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WR</td>
<td>WR</td>
<td>2.5</td>
<td>0.3</td>
<td>MS (Lunatic III MS)</td>
<td>Lee and Papanastasiou 1974</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WR</td>
<td>WR</td>
<td>2.8</td>
<td>0.4</td>
<td>MS (Lunatic III MS)</td>
<td>Lee and Papanastasiou 1974</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WR</td>
<td>WR</td>
<td>0.33</td>
<td>0.22</td>
<td>MS (Lunatic III MS)</td>
<td>Lee and Papanastasiou 1974</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WR</td>
<td>WR</td>
<td>2.7</td>
<td>0.31</td>
<td>MS (Lunatic III MS)</td>
<td>Lee and Papanastasiou 1974</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WR</td>
<td>WR</td>
<td>1.11</td>
<td>0.29</td>
<td>MS (Lunatic III MS)</td>
<td>Lee and Papanastasiou 1974</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WR</td>
<td>WR</td>
<td>1.35</td>
<td>0.4</td>
<td>MS (Lunatic III MS)</td>
<td>Lee and Papanastasiou 1974</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WR</td>
<td>WR</td>
<td>-0.49</td>
<td>0.32</td>
<td>MS (Lunatic III MS)</td>
<td>Lee and Papanastasiou 1974</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WR</td>
<td>WR</td>
<td>0.64</td>
<td>0.33</td>
<td>MS (Lunatic III MS)</td>
<td>Lee and Papanastasiou 1974</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WR</td>
<td>WR</td>
<td>2.59</td>
<td>0.17</td>
<td>MS (Lunatic III MS)</td>
<td>Lee and Papanastasiou 1974</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>-------</td>
<td>-------</td>
<td>---------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WR</td>
<td>WR</td>
<td>2.61</td>
<td>0.24</td>
<td>MS (Lunatic III MS)</td>
<td>Lee and Papanastasiou 1974</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>An</td>
<td>WA An G1 D</td>
<td>245</td>
<td>83</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An</td>
<td>An D1</td>
<td>97</td>
<td>9</td>
<td>MS</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An</td>
<td>An D2</td>
<td>85</td>
<td>8</td>
<td>MS</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An</td>
<td>WA An G1 S</td>
<td>86</td>
<td>0.5</td>
<td>MS</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>Mel</td>
<td>WA</td>
<td>1</td>
<td>1.6</td>
<td>MS</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN B</td>
<td>C1</td>
<td>Sp</td>
<td>C1 Sp D</td>
<td>2.5</td>
<td>-3.4</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Sp</td>
<td>WA Sp D</td>
<td>2.5</td>
<td>-1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN B</td>
<td>C1</td>
<td>Sp</td>
<td>C1 Sp S</td>
<td>-1.6</td>
<td>0.2</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-------</td>
<td>----</td>
<td>----</td>
<td>---------</td>
<td>------</td>
<td>-----</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>WA</td>
<td>Sp</td>
<td>WA Sp S</td>
<td>0.3</td>
<td>0.2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>Sp</td>
<td>Sp</td>
<td></td>
<td>0.3</td>
<td>1.6</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An</td>
<td>G</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An</td>
<td>G1</td>
<td>245</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An</td>
<td>G2</td>
<td>235</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An</td>
<td>B1</td>
<td>128</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An</td>
<td>B2</td>
<td>235</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>An</td>
<td>B3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Lee et al. 1977b
Lee et al. 1977b
Lee et al. 1977b
Lee et al. 1977a
Lee et al. 1977a
Lee et al. 1977a
Lee et al. 1977a
Lee et al. 1977a
Lee et al. 1977a
<table>
<thead>
<tr>
<th>Allende</th>
<th>CV3</th>
<th>WA</th>
<th>An</th>
<th>A</th>
<th>MS</th>
<th>Lee et al. 1977a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>Fas</td>
<td>2</td>
<td>MS</td>
<td>Lee et al. 1977a</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>Mel</td>
<td>WA</td>
<td>9.1</td>
<td>MS</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>Sp</td>
<td>B</td>
<td>2.5</td>
<td>MS</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>Sp</td>
<td>A</td>
<td>MS</td>
<td>Lee et al. 1977a</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>HAL Unid grains</td>
<td>Hib</td>
<td>Hib 1</td>
<td>-2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>HAL Unid grains</td>
<td>Hib</td>
<td>Hib 2</td>
<td>6</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>HAL Unid grains</td>
<td>Hib</td>
<td>Hib 3</td>
<td>220</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>HAL Unid grains</td>
<td>Hib</td>
<td>Hib 4</td>
<td>1300</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>-----</td>
<td>-------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>HAL</td>
<td>Unid</td>
<td>Hib</td>
<td>Hib</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B1</td>
<td>Unk</td>
<td>grains</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>HAL</td>
<td>Unk</td>
<td>Fine Exterior 1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B1</td>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>HAL</td>
<td>Unk</td>
<td>Fine Exterior 2</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B1</td>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>HAL</td>
<td>Unk</td>
<td>Black Rim 1</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B1</td>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>HAL</td>
<td>Unk</td>
<td>Black Rim 2</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B1</td>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>BAG</td>
<td>MUR-81</td>
<td>Hib</td>
<td>Mur-B1 spot 1</td>
<td>427.3</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>BAG</td>
<td>MUR-81</td>
<td>Hib</td>
<td>Mur-B1 spot 2</td>
<td>120.1</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLACs</td>
<td>MUR-P1</td>
<td>Hib</td>
<td>Mur-P1 spot1</td>
<td>88.6</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLACs</td>
<td>MUR-P1</td>
<td>Hib</td>
<td>Mur-P1 spot2</td>
<td>80.8</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLACs</td>
<td>MUR-P2</td>
<td>Hib</td>
<td>Mur-P2 spot 1</td>
<td>59.7</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>-------</td>
<td>--------</td>
<td>-----</td>
<td>---------------</td>
<td>------</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLACs</td>
<td>MUR-P2</td>
<td>Hib</td>
<td>Mur-P2 spot 2</td>
<td>62</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLACs</td>
<td>MUR-P3</td>
<td>Hib</td>
<td>Mur-P3 spot 1</td>
<td>55.6</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLACs</td>
<td>MUR-P3</td>
<td>Hib</td>
<td>Mur-P3 spot 2</td>
<td>14.6</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLACs</td>
<td>MUR-P4</td>
<td>Hib</td>
<td>Mur-P4</td>
<td>141.1</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLACs</td>
<td>MUR-P5</td>
<td>Hib</td>
<td>Mur-P5</td>
<td>145.7</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLACs</td>
<td>MUR-P6</td>
<td>Hib</td>
<td>Mur-P6 spot 1</td>
<td>78.4</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLACs</td>
<td>MUR-P6</td>
<td>Hib</td>
<td>Mur-P6 spot 2</td>
<td>78.7</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLACs</td>
<td>MUR-P7</td>
<td>Hib</td>
<td>Mur-P7 spot 1</td>
<td>108.2</td>
</tr>
<tr>
<td>Sample</td>
<td>Type</td>
<td>Location</td>
<td>Type</td>
<td>Method</td>
<td>Value</td>
<td>Error</td>
</tr>
<tr>
<td>--------------</td>
<td>-------</td>
<td>----------</td>
<td>----------</td>
<td>--------------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Murchison CM2 PLACs MUR-P7</td>
<td>Hib</td>
<td>Mur-P7 spot 2</td>
<td>102</td>
<td>1.3</td>
<td>IM SIMS CAM IMS 1270 (UCLA) Liu et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Murchison CM2 PLACs MUR-P8</td>
<td>Hib</td>
<td>Mur-P8</td>
<td>148.8</td>
<td>1</td>
<td>IM SIMS CAM IMS 1270 (UCLA) Liu et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Murchison CM2 PLACs MUR-P9</td>
<td>Hib</td>
<td>Mur-P9 Spot 1</td>
<td>74.9</td>
<td>1.2</td>
<td>IM SIMS CAM IMS 1270 (UCLA) Liu et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Murchison CM2 PLACs MUR-P9</td>
<td>Hib</td>
<td>Mur-P9 Spot 2</td>
<td>102.7</td>
<td>2.1</td>
<td>IM SIMS CAM IMS 1270 (UCLA) Liu et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Murchison CM2 PLACs MUR-P10</td>
<td>Hib</td>
<td>Mur-P10 Spot 1</td>
<td>10.2</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1270 (UCLA) Liu et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Murchison CM2 PLACs MUR-P10</td>
<td>Hib</td>
<td>Mur-P10 Spot 2</td>
<td>226</td>
<td>3.2</td>
<td>IM SIMS CAM IMS 1270 (UCLA) Liu et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Murchison CM2 PLACs MUR-P1</td>
<td>Hib</td>
<td>Mur-P1 spot1</td>
<td>113.8</td>
<td>1.7</td>
<td>IM SIMS CAM IMS 1270 (UCLA) Liu et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Murchison CM2 PLACs MUR-P1</td>
<td>Hib</td>
<td>Mur-P1 spot2</td>
<td></td>
<td></td>
<td>IM SIMS CAM IMS 1270 (UCLA) Liu et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Murchison CM2 PLACs MUR-P2</td>
<td>Hib</td>
<td>Mur-P2 spot 1</td>
<td>76.7</td>
<td>1.7</td>
<td>IM SIMS CAM IMS 1270 (UCLA) Liu et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLACs</td>
<td>MUR-P2</td>
<td>Hib</td>
<td>Mur-P2 spot 2</td>
<td>88.6</td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
<td>-------</td>
<td>--------</td>
<td>-----</td>
<td>---------------</td>
<td>------</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLACs</td>
<td>MUR-P3</td>
<td>Hib</td>
<td>Mur-P3 spot 1</td>
<td>18.4</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLACs</td>
<td>MUR-P3</td>
<td>Hib</td>
<td>Mur-P3 spot 2</td>
<td>16.7</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLACs</td>
<td>MUR-P4</td>
<td>Hib</td>
<td>Mur-P4</td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLACs</td>
<td>MUR-P5</td>
<td>Hib</td>
<td>Mur-P5</td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLACs</td>
<td>MUR-P6</td>
<td>Hib</td>
<td>Mur-P6 spot 1</td>
<td>81.7</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S1</td>
<td>Hib</td>
<td>Mur-S1 spot1</td>
<td>30.9</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S1</td>
<td>Hib</td>
<td>Mur-S1 spot2</td>
<td>22.4</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S2</td>
<td>Hib</td>
<td>Mur-S2</td>
<td>23.4</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S3</td>
<td>Hib</td>
<td>Mur-S3</td>
<td>18.3</td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
<td>-------</td>
<td>--------</td>
<td>------</td>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S4</td>
<td>Hib</td>
<td>Mur-S4</td>
<td>4.6</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S5</td>
<td>Hib</td>
<td>Mur-S5</td>
<td>9.7</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S6</td>
<td>Hib</td>
<td>Mur-S6</td>
<td>3.1</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S7</td>
<td>Hib</td>
<td>Mur-S7</td>
<td>6.1</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S8</td>
<td>Hib</td>
<td>Mur-S8</td>
<td>3</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S9</td>
<td>Hib</td>
<td>Mur-S9</td>
<td>4.4</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S10</td>
<td>Hib</td>
<td>Mur-S10</td>
<td>9.9</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S11</td>
<td>Hib</td>
<td>Mur-S11</td>
<td>18.2</td>
</tr>
</tbody>
</table>

Liu et al. 2009
<table>
<thead>
<tr>
<th>Murchison</th>
<th>CM2</th>
<th>SHIBs</th>
<th>MUR-S12</th>
<th>Hib</th>
<th>Mur-S12</th>
<th>19.9</th>
<th>0.5</th>
<th>IM SIMS CAM IMS 1270 (UCLA)</th>
<th>Liu et al. 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S13</td>
<td>Hib</td>
<td>Mur-S13</td>
<td>26</td>
<td>0.4</td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Liu et al. 2009</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S14</td>
<td>Hib</td>
<td>Mur-S14</td>
<td>20</td>
<td>0.4</td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Liu et al. 2009</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S15</td>
<td>Hib</td>
<td>Mur-S15</td>
<td>8</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Liu et al. 2009</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S1</td>
<td>Hib</td>
<td>Mur-S1</td>
<td>5.4</td>
<td>2.7</td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Liu et al. 2009</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S2</td>
<td>Hib</td>
<td>Mur-S2</td>
<td>27.6</td>
<td>0.1</td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Liu et al. 2009</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S4</td>
<td>Hib</td>
<td>Mur-S4</td>
<td></td>
<td></td>
<td>IM SIMS CAM IMS 1270 (UCLA)</td>
<td>Liu et al. 2009</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S5</td>
<td>Hib</td>
<td>Mur-S5</td>
<td>3.9</td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>-------</td>
<td>--------</td>
<td>-----</td>
<td>--------</td>
<td>------</td>
<td>-----</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S6</td>
<td>Hib</td>
<td>Mur-S6</td>
<td>4.7</td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S7</td>
<td>Hib</td>
<td>Mur-S7</td>
<td>4.1</td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S8</td>
<td>Hib</td>
<td>Mur-S8</td>
<td>3.4</td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S9</td>
<td>Hib</td>
<td>Mur-S9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S10</td>
<td>Hib</td>
<td>Mur-S10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S11</td>
<td>Hib</td>
<td>Mur-S11</td>
<td>18.5</td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S12</td>
<td>Hib</td>
<td>Mur-S12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S13</td>
<td>Hib</td>
<td>Mur-S13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>Type</td>
<td>Subtype</td>
<td>Sample Code</td>
<td>Instrument</td>
<td>Method</td>
<td>Location</td>
<td>Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
<td>---------</td>
<td>-------------</td>
<td>------------</td>
<td>--------</td>
<td>----------</td>
<td>------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S14</td>
<td>Hib</td>
<td>Mur-S14</td>
<td>IM SIMS 1270 (UCLA)</td>
<td>Liu et al. 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>SHIBs</td>
<td>MUR-S15</td>
<td>Hib</td>
<td>Mur-S15</td>
<td>IM SIMS 1270 (UCLA)</td>
<td>Liu et al. 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>Ch#1</td>
<td>PP</td>
<td>Unk</td>
<td>IM SIMS (CRPG), HR-MC-ICPMS, IPG Paris</td>
<td>Luu et al. 2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>Ch#2</td>
<td>IO</td>
<td>Unk</td>
<td>IM SIMS (CRPG), HR-MC-ICPMS, IPG Paris</td>
<td>Luu et al. 2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>Ch#5</td>
<td>PO</td>
<td>Unk</td>
<td>IM SIMS (CRPG), HR-MC-ICPMS, IPG Paris</td>
<td>Luu et al. 2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>Ch#6</td>
<td>PO</td>
<td>Unk</td>
<td>IM SIMS (CRPG), HR-MC-ICPMS, IPG Paris</td>
<td>Luu et al. 2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>Ch#10</td>
<td>PO</td>
<td>Unk</td>
<td>IM SIMS (CRPG), HR-MC-ICPMS, IPG Paris</td>
<td>Luu et al. 2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>Ch#12</td>
<td>PO</td>
<td>Unk</td>
<td>IM SIMS (CRPG), HR-MC-ICPMS, IPG Paris</td>
<td>Luu et al. 2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>Ch#15</td>
<td>PO</td>
<td>Unk</td>
<td>IM SIMS (CRPG), HR-MC-ICPMS, IPG Paris</td>
<td>Luu et al. 2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Ch#18</td>
<td>BO</td>
<td>Unk</td>
<td>Ch#18</td>
<td>0.121</td>
<td>0.001</td>
<td>-0.006</td>
<td>0.046</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>-------</td>
<td>------</td>
<td>-----</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Ch#20</td>
<td>Unk</td>
<td>Ch#20</td>
<td>0.051</td>
<td>0.002</td>
<td>-0.002</td>
<td>0.047</td>
<td>IM SIMS (CRPG), HR-MC-ICPMS, IPG Paris</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Ch#21</td>
<td>BO</td>
<td>Unk</td>
<td>Ch#21</td>
<td>0.076</td>
<td>0.005</td>
<td>-0.005</td>
<td>0.044</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Ch#A</td>
<td>PO</td>
<td>Unk</td>
<td>Ch#A</td>
<td>0.086</td>
<td>0.06</td>
<td>0.002</td>
<td>0.027</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Ch#B1</td>
<td>Al-rich</td>
<td>Unk</td>
<td>Ch#B1</td>
<td>1.375</td>
<td>0.072</td>
<td>0.127</td>
<td>0.014</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Ch#B2</td>
<td>Unk</td>
<td>Ch#B2</td>
<td>1.71</td>
<td>0.068</td>
<td>0.152</td>
<td>0.034</td>
<td>IM SIMS (CRPG), HR-MC-ICPMS, IPG Paris</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Ch#B3</td>
<td>Unk</td>
<td>Ch#B3</td>
<td>2.359</td>
<td>0.057</td>
<td>0.184</td>
<td>0.02</td>
<td>IM SIMS (CRPG), HR-MC-ICPMS, IPG Paris</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Ch#B</td>
<td>Unk</td>
<td>Ch#B</td>
<td>1.815</td>
<td>0.066</td>
<td>0.154</td>
<td>0.023</td>
<td>IM SIMS (CRPG), HR-MC-ICPMS, IPG Paris</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Ch#C</td>
<td>Al-rich</td>
<td>Unk</td>
<td>Ch#C</td>
<td>0.663</td>
<td>0.06</td>
<td>0.038</td>
<td>0.028</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Ch#D</td>
<td>Al-rich</td>
<td>Unk</td>
<td>Ch#D</td>
<td>0.527</td>
<td>0.06</td>
<td>0.024</td>
<td>0.031</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>------</td>
<td>---------</td>
<td>-----</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 1</td>
<td>971</td>
<td>85</td>
<td>-6</td>
<td>9</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 2</td>
<td>250</td>
<td>13</td>
<td>1.9</td>
<td>5</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 2</td>
<td>261</td>
<td>14</td>
<td>-5.6</td>
<td>6</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 2</td>
<td>414</td>
<td>29</td>
<td>-0.8</td>
<td>5.5</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 3</td>
<td>129</td>
<td>11</td>
<td>-1.5</td>
<td>3.4</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 3</td>
<td>176</td>
<td>29</td>
<td>-9</td>
<td>5.6</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 4</td>
<td>370</td>
<td>21</td>
<td>-3.8</td>
<td>4.6</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 4</td>
<td>105</td>
<td>15</td>
<td>-3.6</td>
<td>5.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 5</td>
<td>307</td>
<td>67</td>
<td>-3.5</td>
<td>8.4</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 5</td>
<td>674</td>
<td>197</td>
<td>-4.8</td>
<td>6.7</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 5</td>
<td>685</td>
<td>217</td>
<td>1.2</td>
<td>9.8</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 5</td>
<td>695</td>
<td>49</td>
<td>-3.7</td>
<td>8.6</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 6</td>
<td>134</td>
<td>15</td>
<td>-1.5</td>
<td>2.6</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 6</td>
<td>240</td>
<td>20</td>
<td>0</td>
<td>4.6</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 6</td>
<td>223</td>
<td>17</td>
<td>-3.4</td>
<td>6.1</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 7</td>
<td>645</td>
<td>81</td>
<td>12.7</td>
<td>11.6</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 7</td>
<td>712</td>
<td>59</td>
<td>21.2</td>
<td>7.2</td>
</tr>
</tbody>
</table>

MacPherson and Davis 1993
<table>
<thead>
<tr>
<th>Vigarano</th>
<th>CV3(R)</th>
<th>B</th>
<th>1623-8</th>
<th>An</th>
<th>An 7</th>
<th>739</th>
<th>12</th>
<th>12.8</th>
<th>6.6</th>
<th>IM AEI IM-20 (UC)</th>
<th>MacPherson and Davis 1993</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 8</td>
<td>870</td>
<td>84</td>
<td>-0.7</td>
<td>10.6</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 8</td>
<td>344</td>
<td>43</td>
<td>-1.8</td>
<td>5.3</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 8</td>
<td>579</td>
<td>58</td>
<td>-3.7</td>
<td>4.2</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 9</td>
<td>408</td>
<td>29</td>
<td>-8.4</td>
<td>4.5</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 9</td>
<td>325</td>
<td>97</td>
<td>-2.5</td>
<td>7.2</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 9</td>
<td>546</td>
<td>122</td>
<td>1.6</td>
<td>8.1</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 10</td>
<td>556</td>
<td>57</td>
<td>-11.2</td>
<td>6.1</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>An</td>
<td>An 10</td>
<td>348</td>
<td>20</td>
<td>-0.2</td>
<td>3.7</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Fas</td>
<td>Fas</td>
<td>2.2</td>
<td>0.1</td>
<td>0.2</td>
<td>1.1</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Fas</td>
<td>Fas</td>
<td>1.6</td>
<td>0.1</td>
<td>0.9</td>
<td>1.4</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td></td>
<td>2.7</td>
<td>0.1</td>
<td>-0.8</td>
<td>1.9</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td></td>
<td>5.8</td>
<td>0.3</td>
<td>1.4</td>
<td>1.6</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td></td>
<td>6.3</td>
<td>0.4</td>
<td>2</td>
<td>1.4</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td></td>
<td>4.2</td>
<td>0.2</td>
<td>-0.3</td>
<td>2.2</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td></td>
<td>11.2</td>
<td>0.7</td>
<td>3.4</td>
<td>1.2</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td></td>
<td>11.5</td>
<td>0.6</td>
<td>3.4</td>
<td>2.5</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td></td>
<td>10.2</td>
<td>0.5</td>
<td>3.9</td>
<td>2.6</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
</tr>
<tr>
<td>Location</td>
<td>Zone Code</td>
<td>Dated</td>
<td>Type of Record</td>
<td>Age (a)</td>
<td>50%</td>
<td>90%</td>
<td>Soil Depth (m)</td>
<td>Reference</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-----------</td>
<td>-------</td>
<td>----------------</td>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>---------------</td>
<td>-----------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>8.1</td>
<td>0.4</td>
<td>1.6</td>
<td>1.8</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>8.2</td>
<td>0.1</td>
<td>5.1</td>
<td>4.2</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>10.1</td>
<td>0.1</td>
<td>4.5</td>
<td>2.9</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>7</td>
<td>0.1</td>
<td>0.9</td>
<td>4.1</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>2.8</td>
<td>0</td>
<td>1.8</td>
<td>0.4</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>2.3</td>
<td>0</td>
<td>3.6</td>
<td>1.6</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>7.2</td>
<td>0.1</td>
<td>3.9</td>
<td>2.3</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>7.1</td>
<td>0.1</td>
<td>2.7</td>
<td>1.3</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>6.5</td>
<td>0.1</td>
<td>3.2</td>
<td>1</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Site</td>
<td>Code</td>
<td>IM Value</td>
<td>IM AEI</td>
<td>IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>------</td>
<td>----------</td>
<td>--------</td>
<td>------------</td>
<td>---------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td>5.1</td>
<td>0</td>
<td>4.5</td>
<td>1.8</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td>5.9</td>
<td>0</td>
<td>5.3</td>
<td>1.2</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td>4.2</td>
<td>0</td>
<td>5.5</td>
<td>1</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td>3.2</td>
<td>0</td>
<td>-0.8</td>
<td>1.6</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td>1.9</td>
<td>0</td>
<td>4.1</td>
<td>1.7</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td>1.6</td>
<td>0</td>
<td>2.3</td>
<td>1.3</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td>1.9</td>
<td>0</td>
<td>2.1</td>
<td>1</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td>7.9</td>
<td>0.9</td>
<td>0.6</td>
<td>1.4</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td>11.1</td>
<td>0</td>
<td>5.4</td>
<td>1.6</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td>6.1</td>
<td>0</td>
<td>3.4</td>
<td>1.3</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td>6</td>
<td>0.1</td>
<td>4</td>
<td>1.5</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td>8.7</td>
<td>0.2</td>
<td>0.9</td>
<td>2.4</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td>5.8</td>
<td>0</td>
<td>9.6</td>
<td>1.6</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td>7.6</td>
<td>0.1</td>
<td>5</td>
<td>1.4</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>1623-8</td>
<td>Mel</td>
<td>6</td>
<td>0</td>
<td>2</td>
<td>1.7</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>Sp</td>
<td></td>
<td></td>
<td>3.4</td>
<td>1.1</td>
<td>2.6</td>
<td>1.5</td>
<td>IM AEI IM-20 (UC)</td>
<td>MacPherson and Davis 1993</td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Mel</td>
<td>12</td>
<td>38.03</td>
<td>0.22</td>
<td>IM SMS CAM IMS 1280</td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Mel</td>
<td>13</td>
<td>23.45</td>
<td>0.13</td>
<td>IM SMS CAM IMS 1280</td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Mel</td>
<td>14</td>
<td>40.65</td>
<td>0.3</td>
<td>1280</td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>---</td>
<td>--------</td>
<td>-----</td>
<td>----</td>
<td>--------</td>
<td>----</td>
<td>------</td>
<td>-----------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Mel</td>
<td>15</td>
<td>23.97</td>
<td>0.07</td>
<td></td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Mel</td>
<td>16</td>
<td>41.08</td>
<td>0.39</td>
<td></td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Mel</td>
<td>17</td>
<td>36.58</td>
<td>0.25</td>
<td></td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Mel</td>
<td>18</td>
<td>18.92</td>
<td>0.04</td>
<td></td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Sp30; Pyx6; Plag8</td>
<td>1</td>
<td>1.25</td>
<td>0.05</td>
<td></td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Sp12; Pyx4; Mel2; Plag28</td>
<td>9</td>
<td>2.28</td>
<td>0.06</td>
<td></td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Sp13; Pyx2; Mel4; Plag26</td>
<td>11</td>
<td>3.95</td>
<td>0.07</td>
<td></td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Sp19; Pyx5; Mel4; Plag24</td>
<td>10</td>
<td>1.35</td>
<td>0.06</td>
<td></td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Sp22; Pyx2; Mel0; Plag57</td>
<td>5</td>
<td>3.77</td>
<td>0.04</td>
<td>IM SIMS CAM IMS 1280</td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>----</td>
<td>--------</td>
<td>--------------------------</td>
<td>---</td>
<td>------</td>
<td>------</td>
<td>---------------------</td>
<td>------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Sp25; Pyx3; Mel6; Plag38</td>
<td>7</td>
<td>2.41</td>
<td>0.04</td>
<td>IM SIMS CAM IMS 1280</td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Sp25; Pyx9; Mel6; Plag5</td>
<td>3</td>
<td>3.6</td>
<td>0.1</td>
<td>IM SIMS CAM IMS 1280</td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Sp26; Pyx6; Mel5; Plag10</td>
<td>4</td>
<td>5.06</td>
<td>0.06</td>
<td>IM SIMS CAM IMS 1280</td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Sp38; Pyx1; Mel2; Plag23</td>
<td>8</td>
<td>3.63</td>
<td>0.06</td>
<td>IM SIMS CAM IMS 1280</td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Sp39; Pyx2; Plag34</td>
<td>6</td>
<td>2.64</td>
<td>0.04</td>
<td>IM SIMS CAM IMS 1280</td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Sp7; Pyx3; Mel7; Plag11</td>
<td>2</td>
<td>7.57</td>
<td>0.23</td>
<td>IM SIMS CAM IMS 1280</td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Pyx</td>
<td>21</td>
<td>0.321</td>
<td>0.003</td>
<td>IM SIMS CAM IMS 1280</td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Sp</td>
<td>19</td>
<td>2.64</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280</td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Type (R)</td>
<td>B</td>
<td>Age</td>
<td>Sample</td>
<td>Urey Ratio</td>
<td>Age Error</td>
<td>Reference</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
<td>---</td>
<td>-----</td>
<td>--------</td>
<td>------------</td>
<td>-----------</td>
<td>----------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3(R)</td>
<td>B</td>
<td>3536-1</td>
<td>Sp</td>
<td>20</td>
<td>2.62</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280</td>
<td>MacPherson et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>An</td>
<td>20090417-02&amp;03</td>
<td>585</td>
<td>16</td>
<td>IM SIMS CAM IMS 1280</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>An</td>
<td>20090417-04&amp;05</td>
<td>399</td>
<td>17</td>
<td>IM SIMS CAM IMS 1280</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>An</td>
<td>20090417-06</td>
<td>374</td>
<td>11</td>
<td>IM SIMS CAM IMS 1280</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>An</td>
<td>20090417-08</td>
<td>267</td>
<td>3</td>
<td>IM SIMS CAM IMS 1280</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>An</td>
<td>20090417-09</td>
<td>1667</td>
<td>26</td>
<td>IM SIMS CAM IMS 1280</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3139 F2</td>
<td>An</td>
<td>20090417-10</td>
<td>1341</td>
<td>23</td>
<td>IM SIMS CAM IMS 1280</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3141 F2</td>
<td>An</td>
<td>20090417-12</td>
<td>346</td>
<td>8</td>
<td>IM SIMS CAM IMS 1280</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>20090905-21/Fas</td>
<td>1.95</td>
<td>0.1</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>----</td>
<td>---------</td>
<td>-----------------</td>
<td>------</td>
<td>-----</td>
<td>--------------------------</td>
<td>------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>20090905-22/Fas</td>
<td>2.15</td>
<td>0.11</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>20090905-23/Fas</td>
<td>1.55</td>
<td>0.08</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>20090905-24/Fas</td>
<td>1.37</td>
<td>0.07</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>20090905-25/Fas</td>
<td>2.74</td>
<td>0.14</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>20090905-26/Fas</td>
<td>1.78</td>
<td>0.09</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>20090905-27/Fas</td>
<td>2.37</td>
<td>0.12</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>20090905-28/Fas</td>
<td>2.14</td>
<td>0.11</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>20090907-16/Fas</td>
<td>1.78</td>
<td>0.09</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Fas</td>
<td>20090907-19</td>
<td>2.78</td>
<td>0.14</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>---</td>
<td>---------</td>
<td>-----</td>
<td>-------------</td>
<td>------</td>
<td>------</td>
<td>-----------------------------</td>
<td>-------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Fas</td>
<td>20090907-20</td>
<td>1.91</td>
<td>0.1</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Fas</td>
<td>20090905-48</td>
<td>1.42</td>
<td>0.07</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Fas</td>
<td>20090905-49</td>
<td>0.97</td>
<td>0.05</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Fas</td>
<td>20090905-51</td>
<td>1.58</td>
<td>0.08</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Fas</td>
<td>20090905-54</td>
<td>1.83</td>
<td>0.1</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Fas</td>
<td>20090907-21</td>
<td>2.02</td>
<td>0.11</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Fas</td>
<td>20090907-22</td>
<td>1.79</td>
<td>0.09</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Fas</td>
<td>20090907-23</td>
<td>2.37</td>
<td>0.12</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F6</td>
<td>Fas</td>
<td>20090905-33</td>
<td>4.49</td>
<td>0.23</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>-----</td>
<td>---------</td>
<td>-----</td>
<td>-------------</td>
<td>------</td>
<td>-----</td>
<td>-------------------</td>
<td>---------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F6</td>
<td>Fas</td>
<td>20090905-34</td>
<td>3.88</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F6</td>
<td>Fas</td>
<td>20090905-35</td>
<td>4.65</td>
<td>0.24</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F9</td>
<td>Fas</td>
<td>20090905-36</td>
<td>3.62</td>
<td>0.19</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F9</td>
<td>Fas</td>
<td>20090905-37</td>
<td>3.34</td>
<td>0.17</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F9</td>
<td>Fas</td>
<td>20090905-38</td>
<td>4.09</td>
<td>0.21</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F8</td>
<td>Fas</td>
<td>20090907-30</td>
<td>5.1</td>
<td>0.27</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F8</td>
<td>Fas</td>
<td>20090907-31</td>
<td>4.52</td>
<td>0.24</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F8</td>
<td>Fas</td>
<td>20090907-32</td>
<td>4.41</td>
<td>0.23</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>AOA</td>
<td>3138 F5</td>
<td>Fo</td>
<td>20090909-44</td>
<td>0.011</td>
<td>0.001</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>-----</td>
<td>--------</td>
<td>----</td>
<td>-------------</td>
<td>------</td>
<td>-------</td>
<td>----------------------------</td>
<td>-----------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>AOA</td>
<td>3138 F5</td>
<td>Fo</td>
<td>20090909-45</td>
<td>0.011</td>
<td>0.001</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>AOA</td>
<td>3138 F5</td>
<td>Fo</td>
<td>20090909-46</td>
<td>0.026</td>
<td>0.003</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>AOA</td>
<td>3138 F5</td>
<td>Fo</td>
<td>20090909-48</td>
<td>0.033</td>
<td>0.003</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>AOA</td>
<td>3138 F5</td>
<td>Fo</td>
<td>20090909-49</td>
<td>0.0044</td>
<td>0.0004</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F8</td>
<td>Hib</td>
<td>20090416-08</td>
<td>15.2</td>
<td>1.5</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-39</td>
<td>11.61</td>
<td>0.09</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F6</td>
<td>Mel</td>
<td>20090902-40</td>
<td>6.13</td>
<td>0.05</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>Mel</td>
<td>20090902-8</td>
<td>7.81</td>
<td>0.06</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138</td>
<td>Mel</td>
<td>20090902-9</td>
<td>9.89</td>
<td>0.08</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>----</td>
<td>------</td>
<td>-----</td>
<td>------------</td>
<td>------</td>
<td>------</td>
<td>----------------</td>
<td>-------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138</td>
<td>Mel</td>
<td>20090902-10</td>
<td>7.23</td>
<td>0.06</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138</td>
<td>Mel</td>
<td>20090902-11</td>
<td>8.75</td>
<td>0.07</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138</td>
<td>Mel</td>
<td>20090902-22</td>
<td>1.62</td>
<td>0.01</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138</td>
<td>Mel</td>
<td>20090902-23</td>
<td>5.45</td>
<td>0.04</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138</td>
<td>Mel</td>
<td>20090902-24</td>
<td>9.27</td>
<td>0.07</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138</td>
<td>Mel</td>
<td>20090902-25</td>
<td>1.75</td>
<td>0.01</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138</td>
<td>Mel</td>
<td>20090902-26</td>
<td>1.19</td>
<td>0.01</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138</td>
<td>Mel</td>
<td>20090902-27</td>
<td>9.05</td>
<td>0.07</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138</td>
<td>F1</td>
<td>Mel</td>
<td>20090902</td>
<td>8.38</td>
<td>0.07</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>------</td>
<td>------</td>
<td>-------</td>
<td>-------</td>
<td>----------</td>
<td>------</td>
<td>------</td>
<td>-----------------------------</td>
<td>------------------------</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138</td>
<td>F1</td>
<td>Mel</td>
<td>20090902</td>
<td>8.8</td>
<td>0.07</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138</td>
<td>F1</td>
<td>Mel</td>
<td>20090902</td>
<td>1.07</td>
<td>0.01</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138</td>
<td>F1</td>
<td>Mel</td>
<td>20090902</td>
<td>3.09</td>
<td>0.02</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138</td>
<td>F1</td>
<td>Mel</td>
<td>20090902</td>
<td>5.66</td>
<td>0.04</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138</td>
<td>F1</td>
<td>Mel</td>
<td>20090902</td>
<td>6.95</td>
<td>0.05</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138</td>
<td>F1</td>
<td>Mel</td>
<td>20090902</td>
<td>2.12</td>
<td>0.02</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138</td>
<td>F1</td>
<td>Mel</td>
<td>20090902</td>
<td>7.39</td>
<td>0.06</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138</td>
<td>F4</td>
<td>Mel</td>
<td>20090903</td>
<td>12.69</td>
<td>0.1</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-43</td>
<td>16.08</td>
<td>0.13</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>---</td>
<td>--------</td>
<td>-----</td>
<td>------------</td>
<td>-------</td>
<td>-----</td>
<td>----------------------------</td>
<td>----------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-44</td>
<td>14.63</td>
<td>0.11</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-45</td>
<td>12.22</td>
<td>0.1</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-47</td>
<td>13.42</td>
<td>0.11</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-53</td>
<td>12.78</td>
<td>0.1</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-54</td>
<td>10.36</td>
<td>0.08</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-55</td>
<td>17.78</td>
<td>0.14</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-22</td>
<td>2.97</td>
<td>0.02</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-23</td>
<td>3.49</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-24</td>
<td>3.62</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>----</td>
<td>---------</td>
<td>-----</td>
<td>-------------</td>
<td>------</td>
<td>------</td>
<td>--------------------------</td>
<td>------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-25</td>
<td>2.03</td>
<td>0.02</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-26</td>
<td>3.64</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-27</td>
<td>1.18</td>
<td>0.01</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-28</td>
<td>0.8</td>
<td>0.01</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-31</td>
<td>1.77</td>
<td>0.01</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-36</td>
<td>0.89</td>
<td>0.01</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-38</td>
<td>0.808</td>
<td>0.006</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-40</td>
<td>2.12</td>
<td>0.02</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-42</td>
<td>2.56</td>
<td>0.02</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>---</td>
<td>---------</td>
<td>-----</td>
<td>-------------</td>
<td>-----</td>
<td>------</td>
<td>--------------------------------</td>
<td>------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-46</td>
<td>2.36</td>
<td>0.02</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090903-52</td>
<td>2.54</td>
<td>0.02</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090902-41</td>
<td>5.62</td>
<td>0.04</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090902-42</td>
<td>7.52</td>
<td>0.06</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Mel</td>
<td>20090902-43</td>
<td>7.17</td>
<td>0.06</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F6</td>
<td>Mel</td>
<td>20090902-44</td>
<td>8.27</td>
<td>0.06</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F6</td>
<td>Mel</td>
<td>20090902-45</td>
<td>8.86</td>
<td>0.07</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F6</td>
<td>Mel</td>
<td>20090902-46</td>
<td>5.4</td>
<td>0.04</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F6</td>
<td>Mel</td>
<td>20090902-47</td>
<td>5.5</td>
<td>0.04</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>-----</td>
<td>---------</td>
<td>-----</td>
<td>-------------</td>
<td>-----</td>
<td>-----</td>
<td>-----------------------------</td>
<td>------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F6</td>
<td>Mel</td>
<td>20090902-48</td>
<td>9.75</td>
<td>0.08</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F6</td>
<td>Mel</td>
<td>20090902-49</td>
<td>8.81</td>
<td>0.07</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F9</td>
<td>Mel</td>
<td>20090903-10</td>
<td>8.43</td>
<td>0.07</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F9</td>
<td>Mel</td>
<td>20090903-11</td>
<td>7.27</td>
<td>0.06</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F9</td>
<td>Mel</td>
<td>20090903-12</td>
<td>11.74</td>
<td>0.09</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F9</td>
<td>Mel</td>
<td>20090903-13</td>
<td>9.77</td>
<td>0.08</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F9</td>
<td>Mel</td>
<td>20090903-14</td>
<td>6.96</td>
<td>0.05</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F9</td>
<td>Mel</td>
<td>20090903-15</td>
<td>7.18</td>
<td>0.06</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F9</td>
<td>Mel</td>
<td>20090903-7</td>
<td>9.09</td>
<td>0.07</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>------</td>
<td>---------</td>
<td>---------</td>
<td>------------</td>
<td>------</td>
<td>------</td>
<td>-----------------------------</td>
<td>-------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F9</td>
<td>Mel</td>
<td>20090903-8</td>
<td>7.67</td>
<td>0.06</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F9</td>
<td>Mel</td>
<td>20090903-9</td>
<td>7.94</td>
<td>0.06</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>AOA</td>
<td>3138 F5</td>
<td>Mel</td>
<td>20090415-03&amp;04</td>
<td>22.18</td>
<td>0.39</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>AOA</td>
<td>3138 F5</td>
<td>Mel</td>
<td>20090415-05</td>
<td>24.21</td>
<td>0.42</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>AOA</td>
<td>3138 F5</td>
<td>Mel</td>
<td>20090415-06</td>
<td>32.15</td>
<td>0.86</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>AOA</td>
<td>3138 F5</td>
<td>Mel</td>
<td>20090415-07</td>
<td>27.11</td>
<td>0.47</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>AOA</td>
<td>3138 F5</td>
<td>Mel</td>
<td>20090415-08</td>
<td>15.77</td>
<td>0.28</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>Mel</td>
<td>20090416-02</td>
<td>15.9</td>
<td>0.3</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>Mel</td>
<td>20090416-03</td>
<td>16.3</td>
<td>0.3</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>----</td>
<td>---------</td>
<td>-----</td>
<td>-------------</td>
<td>------</td>
<td>-----</td>
<td>----------------------------</td>
<td>------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>Mel</td>
<td>20090416-05</td>
<td>18.2</td>
<td>0.3</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>Mel</td>
<td>20090416-06</td>
<td>21.2</td>
<td>0.4</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>Mel</td>
<td>20090416-07</td>
<td>86.6</td>
<td>1.6</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>Mel</td>
<td>20090416-09</td>
<td>85.6</td>
<td>1.5</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>Mel</td>
<td>20090416-10</td>
<td>95.5</td>
<td>1.6</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>Mel</td>
<td>20090416-11</td>
<td>91.1</td>
<td>1.7</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>Mel</td>
<td>20090416-12</td>
<td>44.2</td>
<td>0.8</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B2</td>
<td>3138 F1</td>
<td>Mel</td>
<td>20090416-13</td>
<td>76.6</td>
<td>1.5</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F2</td>
<td>Sp</td>
<td>20090908-09</td>
<td>2.58</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>-----</td>
<td>---------</td>
<td>------</td>
<td>-------------</td>
<td>------</td>
<td>------</td>
<td>---------------------------</td>
<td>------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F2</td>
<td>Sp</td>
<td>20090908-10</td>
<td>2.58</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F2</td>
<td>Sp</td>
<td>20090908-11</td>
<td>2.67</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F1</td>
<td>Sp</td>
<td>20090908-12</td>
<td>2.62</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3140 F2</td>
<td>Sp</td>
<td>20090908-13</td>
<td>2.49</td>
<td>0.02</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F1</td>
<td>Sp</td>
<td>20090908-14</td>
<td>2.56</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F1</td>
<td>Sp</td>
<td>20090908-15</td>
<td>2.66</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F1</td>
<td>Sp</td>
<td>20090908-16</td>
<td>2.64</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3137 F1</td>
<td>Sp</td>
<td>20090908-17</td>
<td>2.57</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Code</td>
<td>B</td>
<td>Sample</td>
<td>Date</td>
<td>OxID</td>
<td>Method</td>
<td>Instrument</td>
<td>Reference</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>---</td>
<td>--------</td>
<td>------</td>
<td>------</td>
<td>--------</td>
<td>------------</td>
<td>-----------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano CV3(R)</td>
<td>B</td>
<td>3138 F1</td>
<td>Sp</td>
<td>20090908-18</td>
<td>2.94</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano CV3(R)</td>
<td>B</td>
<td>3138 F2</td>
<td>Sp</td>
<td>20090908-39</td>
<td>3.06</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano CV3(R)</td>
<td>B</td>
<td>3138 F2</td>
<td>Sp</td>
<td>20090908-40</td>
<td>3.03</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano CV3(R)</td>
<td>B</td>
<td>3138 F2</td>
<td>Sp</td>
<td>20090908-41</td>
<td>3.23</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano CV3(R)</td>
<td>B</td>
<td>3138 F2</td>
<td>Sp</td>
<td>20090908-42</td>
<td>2.69</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Sp</td>
<td>20090909-15</td>
<td>2.6</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Sp</td>
<td>20090909-17</td>
<td>2.58</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Sp</td>
<td>20090909-22</td>
<td>2.58</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Sp</td>
<td>20090909-23</td>
<td>2.57</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>B</td>
<td>3138 F4</td>
<td>Sp</td>
<td>20090909-24</td>
<td>2.58</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>-----</td>
<td>---------</td>
<td>------</td>
<td>-------------</td>
<td>------</td>
<td>------</td>
<td>------------------------------</td>
<td>-----------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>AOA</td>
<td>3138 F5</td>
<td>Sp</td>
<td>20090908-25</td>
<td>2.65</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>AOA</td>
<td>3138 F5</td>
<td>Sp</td>
<td>20090908-26</td>
<td>2.61</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>AOA</td>
<td>3138 F5</td>
<td>Sp</td>
<td>20090908-27</td>
<td>2.74</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>AOA</td>
<td>3138 F5</td>
<td>Sp</td>
<td>20090908-28</td>
<td>2.87</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>AOA</td>
<td>3138 F5</td>
<td>Sp</td>
<td>20090908-29</td>
<td>2.6</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F6</td>
<td>Sp</td>
<td>20090908-23</td>
<td>2.64</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F6</td>
<td>Sp</td>
<td>20090908-24</td>
<td>2.62</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F9</td>
<td>Sp</td>
<td>20090908-35</td>
<td>2.77</td>
<td>0.03</td>
<td>IM SIMS CAM IMS 1280 (UMW)</td>
<td>MacPherson et al. 2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample ID</td>
<td>Material</td>
<td>Method</td>
<td>Sp</td>
<td>Date</td>
<td>Value</td>
<td>Error</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>----------</td>
<td>--------</td>
<td>----</td>
<td>----------</td>
<td>-------</td>
<td>-------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F9</td>
<td>20090908-36</td>
<td>2.59</td>
<td>0.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F9</td>
<td>20090908-37</td>
<td>2.58</td>
<td>0.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>CTA</td>
<td>3138 F9</td>
<td>20090908-38</td>
<td>2.6</td>
<td>0.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>3138 F8</td>
<td>20090910-10</td>
<td>2.66</td>
<td>0.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>3138 F8</td>
<td>20090910-08</td>
<td>2.74</td>
<td>0.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>3138 F8</td>
<td>20090910-09</td>
<td>2.72</td>
<td>0.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>3138 F8</td>
<td>20090910-11</td>
<td>2.66</td>
<td>0.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acfer 097</td>
<td>CR2</td>
<td></td>
<td>097 PL925 21 #2</td>
<td>Mel Mel #1</td>
<td>13.1</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acfer 097</td>
<td>CR2</td>
<td></td>
<td>097 PL925 21 #2</td>
<td>Mel Mel #2</td>
<td>16.9</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acfer 097</td>
<td>CR2</td>
<td>097 PL925 21 #2</td>
<td>Mel</td>
<td>Mel #3</td>
<td>15.8</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>-----------------</td>
<td>--------</td>
<td>--------</td>
<td>------</td>
<td>----</td>
<td>----------------------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acfer 097</td>
<td>CR2</td>
<td>097 PL925 21 #2</td>
<td>Mel</td>
<td>Mel #4</td>
<td>16.1</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acfer 097</td>
<td>CR2</td>
<td>097 PL925 21 #2</td>
<td>Mel</td>
<td>Mel #5</td>
<td>17.3</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acfer 097</td>
<td>CR2</td>
<td>097 PL925 21 #1</td>
<td>Mel</td>
<td>Mel #1</td>
<td>54.1</td>
<td>1.5</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acfer 097</td>
<td>CR2</td>
<td>097 PL925 21 #1</td>
<td>Mel</td>
<td>Mel #2</td>
<td>76.6</td>
<td>2.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acfer 097</td>
<td>CR2</td>
<td>097 PL925 21 #1</td>
<td>Mel</td>
<td>Mel #3</td>
<td>47.3</td>
<td>0.8</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acfer 097</td>
<td>CR2</td>
<td>097 PL925 21 #1</td>
<td>Mel</td>
<td>Mel #4</td>
<td>105</td>
<td>1.7</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acfer 097</td>
<td>CR2</td>
<td>097 PL925 21 #1</td>
<td>Mel</td>
<td>Mel #5</td>
<td>41</td>
<td>0.6</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acfer 097</td>
<td>CR2</td>
<td>097 PL925 21 #1</td>
<td>Sp</td>
<td>Sp #6t</td>
<td>2.63</td>
<td>0.02</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acfer 097</td>
<td>CR2</td>
<td>209 PL911 65 #1</td>
<td>209 PL911 65 #1</td>
<td>CAI-Chond.</td>
<td>An</td>
<td>An  #1</td>
<td>91.4</td>
<td>9.9</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>----------------</td>
<td>----------------</td>
<td>------------</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>Acfer 209</td>
<td>CR2</td>
<td>209 PL911 65 #3</td>
<td>209 PL911 65 #3</td>
<td>CAI-Chond.</td>
<td>An</td>
<td>An  #1</td>
<td>95.5</td>
<td>10.1</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Acfer 209</td>
<td>CR2</td>
<td>209 PL911 65 #3</td>
<td>209 PL911 65 #3</td>
<td>CAI-Chond.</td>
<td>An</td>
<td>An  #3</td>
<td>171.8</td>
<td>18.4</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Acfer 209</td>
<td>CR2</td>
<td>209 PL911 65 #1</td>
<td>209 PL911 65 #1</td>
<td>CAI-Chond.</td>
<td>An</td>
<td>An  #2</td>
<td>103.6</td>
<td>11</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Acfer 209</td>
<td>CR2</td>
<td>209 PL911 65 #3</td>
<td>209 PL911 65 #3</td>
<td>CAI-Chond.</td>
<td>An</td>
<td>An  #3</td>
<td>86.3</td>
<td>9.1</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Acfer 209</td>
<td>CR2</td>
<td>209 PL911 65 #3</td>
<td>209 PL911 65 #3</td>
<td>CAI-Chond.</td>
<td>An</td>
<td>An  #4</td>
<td>64.3</td>
<td>6.8</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Acfer 209</td>
<td>CR2</td>
<td>209 PL911 65 #3</td>
<td>209 PL911 65 #3</td>
<td>CAI-Chond.</td>
<td>Sp</td>
<td>Sp #5t</td>
<td>2.5</td>
<td>0.01</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Acfer 209</td>
<td>CR2</td>
<td>209 PL911 65 #3</td>
<td>209 PL911 65 #3</td>
<td>CAI-Chond.</td>
<td>Sp</td>
<td>Sp #6t</td>
<td>2.4</td>
<td>0.01</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>----------------</td>
<td>----------------</td>
<td>-----------</td>
<td>----</td>
<td>--------</td>
<td>----</td>
<td>-----</td>
<td>--------------------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>Acfer 209</td>
<td>CR2</td>
<td>209 PL911 65 #3</td>
<td>209 PL911 65 #3</td>
<td>CAI-Chond.</td>
<td>Sp</td>
<td>Sp #7t</td>
<td>2.45</td>
<td>0.01</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Acfer 209</td>
<td>CR2</td>
<td>209 PL911 65 #3</td>
<td>209 PL911 65 #3</td>
<td>CAI-Chond.</td>
<td>Sp</td>
<td>Sp #8t</td>
<td>2.56</td>
<td>0.01</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Acfer 209</td>
<td>CR2</td>
<td>209 PL911 65 #3</td>
<td>209 PL911 65 #3</td>
<td>CAI-Chond.</td>
<td>Sp</td>
<td>SP #9t</td>
<td>2.53</td>
<td>0.01</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Asuka</td>
<td>CR2</td>
<td>881828-61 #4</td>
<td></td>
<td>An</td>
<td>An #1</td>
<td>312.8</td>
<td>33.2</td>
<td></td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Asuka</td>
<td>CR2</td>
<td>881828-61 #4</td>
<td></td>
<td>An</td>
<td>An #2</td>
<td>24.3</td>
<td>2.9</td>
<td></td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Asuka</td>
<td>CR2</td>
<td>881828-61 #4</td>
<td></td>
<td>An</td>
<td>An #3</td>
<td>133.1</td>
<td>14.4</td>
<td></td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Asuka</td>
<td>CR2</td>
<td>881828-61 #4</td>
<td></td>
<td>Mel</td>
<td>Mel #4</td>
<td>7.4</td>
<td>0.1</td>
<td></td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Asuka</td>
<td>CR2</td>
<td>881828-61 #4</td>
<td></td>
<td>Mel</td>
<td>Mel #5</td>
<td>15.5</td>
<td>0.2</td>
<td></td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>-----</td>
<td>---------------</td>
<td>-----</td>
<td>---------------</td>
<td>-----</td>
<td>----------</td>
<td>------------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asuka</td>
<td>CR2</td>
<td>881828-61-4</td>
<td>Mel</td>
<td>881828-61-4</td>
<td></td>
<td></td>
<td>IM SIMS CAM IMS</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>#1</td>
<td></td>
<td>#1</td>
<td></td>
<td></td>
<td>1280 (UH)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EET 92042</td>
<td>CR2</td>
<td>92042-22 #4</td>
<td>Mel</td>
<td>Mel #1</td>
<td></td>
<td>15.1</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EET 92042</td>
<td>CR2</td>
<td>92042-22 #4</td>
<td>Mel</td>
<td>Mel #2</td>
<td></td>
<td>18.8</td>
<td>0.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EET 92042</td>
<td>CR2</td>
<td>92042-22 #4</td>
<td>Mel</td>
<td>Mel #3</td>
<td></td>
<td>15.2</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EET 92042</td>
<td>CR2</td>
<td>92042-22 #4</td>
<td>Mel</td>
<td>Mel #4</td>
<td></td>
<td>14.2</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EET 92042</td>
<td>CR2</td>
<td>92042-22 #4</td>
<td>Mel</td>
<td>Mel #5</td>
<td></td>
<td>16.7</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EET 92042</td>
<td>CR2</td>
<td>92042-22 #4</td>
<td>Mel</td>
<td>Mel #6</td>
<td></td>
<td>19.4</td>
<td>0.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EET 92042</td>
<td>CR2</td>
<td>92042-22 #4</td>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
<td>IM SIMS CAM IMS</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1280 (UH)</td>
<td></td>
<td></td>
<td>1280 (UH)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EET 92042</td>
<td>CR2</td>
<td>96286-6 #7</td>
<td>Mel</td>
<td>Mel #1</td>
<td></td>
<td>10.2</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EET 96286</td>
<td>CR2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IM SIMS CAM IMS</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1280 (UH)</td>
<td></td>
<td></td>
<td>1280 (UH)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Layer</td>
<td>Unit</td>
<td>Sample Code</td>
<td>Layer Type</td>
<td>Mel</td>
<td>Mel #2</td>
<td>%</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>-------------</td>
<td>------------</td>
<td>-----</td>
<td>--------</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EET 96286</td>
<td>CR2</td>
<td>96286-6 #7</td>
<td>Mel</td>
<td>Mel</td>
<td>10.2</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EET 96286</td>
<td>CR2</td>
<td>96286-6 #7</td>
<td>Mel</td>
<td>Mel</td>
<td>9.4</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EET 96286</td>
<td>CR2</td>
<td>96286-6 #7</td>
<td>Mel</td>
<td>Mel</td>
<td>10.4</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EET 96286</td>
<td>CR2</td>
<td>96286-6 #7</td>
<td>Mel</td>
<td>Mel</td>
<td>9.2</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EET 96286</td>
<td>CR2</td>
<td>96286-6 #7</td>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>El Djouf 001</td>
<td>CR2</td>
<td>2 MK #5</td>
<td>Gros</td>
<td>Grs</td>
<td>65.3</td>
<td>3.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>El Djouf 001</td>
<td>CR2</td>
<td>2 MK #5</td>
<td>Gros</td>
<td>Grs</td>
<td>766.8</td>
<td>37.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>El Djouf 001</td>
<td>CR2</td>
<td>2 MK #5</td>
<td>Gros</td>
<td>Grs</td>
<td>558.9</td>
<td>27.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Makide et al. 2009**
<table>
<thead>
<tr>
<th>El Djouf 001</th>
<th>CR2</th>
<th>2 MK #5</th>
<th>Gros</th>
<th>Grs #6</th>
<th>91.9</th>
<th>4.4</th>
<th>IM SIMS CAM IMS 1280 (UH)</th>
<th>Makide et al. 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>El Djouf 001</td>
<td>CR2</td>
<td>2 MK #5</td>
<td>Hib</td>
<td>Hib #1</td>
<td>139.3</td>
<td>6.6</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>El Djouf 001</td>
<td>CR2</td>
<td>2 MK #5</td>
<td>Hib</td>
<td>Hib #2</td>
<td>150.3</td>
<td>7.1</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>El Djouf 001</td>
<td>CR2</td>
<td>001 PL911 72 #1</td>
<td>Mel</td>
<td></td>
<td>18</td>
<td>0.3</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>El Djouf 001</td>
<td>CR2</td>
<td>001 PL911 72 #1</td>
<td>Mel</td>
<td></td>
<td>11.7</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>El Djouf 001</td>
<td>CR2</td>
<td>001 PL911 72 #1</td>
<td>Mel</td>
<td></td>
<td>16.7</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>El Djouf 001</td>
<td>CR2</td>
<td>001 PL911 72 #1</td>
<td>Mel</td>
<td></td>
<td>18.8</td>
<td>0.3</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>El Djouf 001</td>
<td>CR2</td>
<td>001 PL911 72 #1</td>
<td>Mel</td>
<td></td>
<td>14.8</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>El Djouf 001</td>
<td>CR2</td>
<td>001 PL911 72 #1</td>
<td>Mel</td>
<td></td>
<td>16.9</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>El Djouf 001</td>
<td>CR2</td>
<td>001 PL911 72 #1</td>
<td>Mel</td>
<td>18.7</td>
<td>0.3</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>--------</td>
<td>-----------------</td>
<td>-------</td>
<td>-------</td>
<td>-----</td>
<td>-----------------------------</td>
<td>---------------------</td>
<td></td>
</tr>
<tr>
<td>El Djouf 001</td>
<td>CR2</td>
<td>001 PL911 72 #1</td>
<td>Mel</td>
<td>19.7</td>
<td>0.3</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>El Djouf 001</td>
<td>CR2</td>
<td>001 PL911 72 #1</td>
<td>Mel</td>
<td>19.1</td>
<td>0.3</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>El Djouf 001</td>
<td>CR2</td>
<td>001 MK #5</td>
<td>Unk</td>
<td>1</td>
<td></td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>(b) #3</td>
<td>Mel</td>
<td>CAI Frag</td>
<td></td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Gao-Guenie</td>
<td>H5</td>
<td>(b) #3</td>
<td>Mel</td>
<td>CAI Frag</td>
<td></td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>(b) #1</td>
<td>Frag</td>
<td></td>
<td></td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>CAI-Chond. object</td>
<td>(b) #4</td>
<td>An</td>
<td>An #1</td>
<td>125.2</td>
<td>13.3</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>CAI-Chond. object</td>
<td>(b) #4</td>
<td>An</td>
<td>An #2</td>
<td>83.2</td>
<td>8.8</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
</tr>
</tbody>
</table>

5oG
<table>
<thead>
<tr>
<th>Gao-Guenie B</th>
<th>CR2</th>
<th>CAI-Chond object</th>
<th>(b) #4</th>
<th>An</th>
<th>An #3</th>
<th>76</th>
<th>8.1</th>
<th>IM SIMS CAM IMS 1280 (UH)</th>
<th>Makide et al. 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>CAI-Chond object</td>
<td>(b) #4</td>
<td>An</td>
<td>An #4</td>
<td>72.9</td>
<td>7.7</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>CAI-Chond object</td>
<td>(b) #4</td>
<td>An</td>
<td>An #5</td>
<td>115.7</td>
<td>12.3</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>AOA</td>
<td>(b) #6</td>
<td>Mel</td>
<td>Mel #1</td>
<td>14.4</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td></td>
<td>(b) #3</td>
<td>Mel</td>
<td>Mel #1 CAI Frag</td>
<td>12</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td></td>
<td>(b) #2</td>
<td>Mel</td>
<td>Mel #1</td>
<td>14</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td></td>
<td>(b) #2</td>
<td>Mel</td>
<td>Mel #2</td>
<td>14.1</td>
<td>0.3</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td></td>
<td>(b) #2</td>
<td>Mel</td>
<td>Mel #3</td>
<td>8.7</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td></td>
<td>(b) #2</td>
<td>Mel</td>
<td>Mel #4</td>
<td>23.6</td>
<td>0.4</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>(b) #2</td>
<td>Mel</td>
<td>Mel #5</td>
<td>7.8</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-----</td>
<td>--------</td>
<td>-----</td>
<td>--------</td>
<td>-----</td>
<td>-----</td>
<td>------------------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>(b) #2</td>
<td>Mel</td>
<td>Mel #6</td>
<td>17.4</td>
<td>0.3</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>AOA</td>
<td>(b) #6</td>
<td>Mel</td>
<td>Mel #2</td>
<td>18</td>
<td>0.3</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>AOA</td>
<td>(b) #6</td>
<td>Mel</td>
<td>Mel #3</td>
<td>13.9</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>AOA</td>
<td>(b) #6</td>
<td>Mel</td>
<td>Mel #4</td>
<td>13.8</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>AOA</td>
<td>(b) #6</td>
<td>Mel</td>
<td>Mel #5</td>
<td>10.2</td>
<td>0.1</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>AOA</td>
<td>(b) #6</td>
<td>Mel</td>
<td>Mel #6</td>
<td>15.3</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>(b) #3</td>
<td>Mel</td>
<td>Mel #2</td>
<td>5.4</td>
<td>0.1</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>(b) #3</td>
<td>Mel</td>
<td>Mel #3</td>
<td>11.6</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>(b) #1</td>
<td>Mel CAI Frag</td>
<td>Mel #1</td>
<td>23.4</td>
<td>0.3</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>-------</td>
<td>--------</td>
<td>--------------</td>
<td>--------</td>
<td>------</td>
<td>----</td>
<td>---------------------------</td>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>(b) #1</td>
<td>Mel CAI Frag</td>
<td>Mel #2</td>
<td>24.7</td>
<td>0.4</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>(b) #1</td>
<td>Mel CAI Frag</td>
<td>Mel #3</td>
<td>20.3</td>
<td>0.3</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>(b) #1</td>
<td>Mel CAI Frag</td>
<td>Mel #4</td>
<td>20.2</td>
<td>0.4</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>(b) #1</td>
<td>Mel CAI Frag</td>
<td>Mel #5</td>
<td>21.5</td>
<td>0.4</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>AOA</td>
<td>(b) #6</td>
<td>Ol?</td>
<td></td>
<td></td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>CAI-Chond object</td>
<td>(b) #4</td>
<td>Pyrx Low Ca</td>
<td>Lpx #6t</td>
<td>0.19</td>
<td>0.01</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>(b) #2</td>
<td>Sp</td>
<td>Sp #7t</td>
<td>2.55</td>
<td>0.01</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Gao-Guenie B</td>
<td>CR2</td>
<td>AOA</td>
<td>(b) #6</td>
<td>Sp</td>
<td>Sp #7t</td>
<td>2.53</td>
<td>0.01</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
</tr>
<tr>
<td>Sample</td>
<td>Mass Unit</td>
<td>Mass</td>
<td>Charge State</td>
<td>Fragment</td>
<td>Fragment Type</td>
<td>IM SIMS Cam IMS 1280 (UH)</td>
<td>Reference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-----------</td>
<td>------</td>
<td>--------------</td>
<td>----------</td>
<td>---------------</td>
<td>------------------------------</td>
<td>-----------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gao- Guenie B CR2</td>
<td>(b) #3</td>
<td>Sp</td>
<td>Sp #4t CAI Frag</td>
<td>2.45</td>
<td>0.01</td>
<td>IM SIMS Cam IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gao- Guenie B CR2</td>
<td>(b) #3</td>
<td>Sp</td>
<td>Sp #5t CAI Frag</td>
<td>2.51</td>
<td>0.01</td>
<td>IM SIMS Cam IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gao- Guenie B CR2</td>
<td>CAI-Chond object (b) #4</td>
<td>Sp</td>
<td>Sp #7t</td>
<td>2.47</td>
<td>0.01</td>
<td>IM SIMS Cam IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gao- Guenie B CR2</td>
<td>CAI-Chond object (b) #4</td>
<td>Sp</td>
<td>Sp #8t</td>
<td>2.49</td>
<td>0.01</td>
<td>IM SIMS Cam IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gao- Guenie B CR2</td>
<td>CAI-Chond object (b) #4</td>
<td>Sp</td>
<td>Sp #9t</td>
<td>2.59</td>
<td>0.01</td>
<td>IM SIMS Cam IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gao- Guenie B CR2</td>
<td>(b) #1</td>
<td>Sp CAI Frag</td>
<td>Sp #6'</td>
<td>2.57</td>
<td>0.01</td>
<td>IM SIMS Cam IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRA 95229 CR2</td>
<td>95229-18 #22</td>
<td>An</td>
<td>An #1</td>
<td>952.5</td>
<td>103.1</td>
<td>IM SIMS Cam IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRA 95229 CR2</td>
<td>95229-18 #22</td>
<td>An</td>
<td>An #2 CAI Frag</td>
<td>932.4</td>
<td>98.8</td>
<td>IM SIMS Cam IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRA 95229 CR2</td>
<td>95229-18 #22</td>
<td>An</td>
<td>An #3 CAI Frag</td>
<td>576</td>
<td>61</td>
<td>IM SIMS Cam IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-18 #22</td>
<td>An</td>
<td>An #4 CAI Frag</td>
<td>588.3</td>
<td>62.7</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>-------------</td>
<td>----</td>
<td>----------------</td>
<td>-------</td>
<td>------</td>
<td>---------------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #7</td>
<td>Gros</td>
<td>CAI Frag</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #8</td>
<td>Gros</td>
<td>CAI Frag</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-31 #3</td>
<td>Gros</td>
<td>CAI with W-L rim</td>
<td>608.5</td>
<td>29</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #7</td>
<td>Gros</td>
<td>CAI Frag</td>
<td>3983.6</td>
<td>188.1</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #7</td>
<td>Gros</td>
<td>CAI Frag</td>
<td>1895.6</td>
<td>90.4</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #7</td>
<td>Gros</td>
<td>CAI Frag</td>
<td>2362.4</td>
<td>119.3</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #7</td>
<td>Gros</td>
<td>CAI Frag</td>
<td>2813</td>
<td>134.9</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #8</td>
<td>Gros</td>
<td>CAI Frag</td>
<td>529.3</td>
<td>26.8</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #8</td>
<td>Gros</td>
<td>Grs #9 CAI Frag</td>
<td>451.2</td>
<td>24</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>-------------</td>
<td>------</td>
<td>----------------</td>
<td>-------</td>
<td>----</td>
<td>----------------------------</td>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-31 #3</td>
<td>Gros</td>
<td>Grs #2 CAI with W-L rim</td>
<td>581.8</td>
<td>27.7</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-31 #3</td>
<td>Gros</td>
<td>Grs #3 CAI with W-L rim</td>
<td>362.5</td>
<td>17.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-31 #3</td>
<td>Gros</td>
<td>Grs #4 CAI with W-L rim</td>
<td>432</td>
<td>23.6</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-31 #3</td>
<td>Gros</td>
<td>Grs #5 CAI with W-L rim</td>
<td>1069.7</td>
<td>53.3</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #7</td>
<td>Mel</td>
<td>Mel #1 CAI Frag</td>
<td>41.4</td>
<td>0.6</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #7</td>
<td>Mel</td>
<td>CAI Frag</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #9</td>
<td>Mel</td>
<td>Mel #1</td>
<td>33.8</td>
<td>0.6</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #8</td>
<td>Mel</td>
<td>CAI Frag</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-18 #2</td>
<td>Mel</td>
<td>Mel #1 CAI Frag</td>
<td>15.8</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>-----</td>
<td>-------------</td>
<td>-----</td>
<td>-----------------</td>
<td>------</td>
<td>-----</td>
<td>---------------------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #7</td>
<td>Mel</td>
<td>Mel #2 CAI Frag</td>
<td>30.5</td>
<td>0.4</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #7</td>
<td>Mel</td>
<td>Mel #3 CAI Frag</td>
<td>22.9</td>
<td>0.3</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #7</td>
<td>Mel</td>
<td>Mel #4 CAI Frag</td>
<td>24.8</td>
<td>0.4</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #7</td>
<td>Mel</td>
<td>Mel #5 CAI Frag</td>
<td>97.1</td>
<td>1.6</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #8</td>
<td>Mel</td>
<td>Mel #2 CAI Frag</td>
<td>10</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #8</td>
<td>Mel</td>
<td>Mel #3 CAI Frag</td>
<td>34.2</td>
<td>0.7</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #8</td>
<td>Mel</td>
<td>Mel #4 CAI Frag</td>
<td>8.7</td>
<td>0.1</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #8</td>
<td>Mel</td>
<td>Mel #5 CAI Frag</td>
<td>18.2</td>
<td>0.4</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #8</td>
<td>Mel</td>
<td>Mel #6 CAI Frag</td>
<td>14.1</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-----</td>
<td>-------------</td>
<td>-----</td>
<td>----------------</td>
<td>-------</td>
<td>-----</td>
<td>--------------------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-17 #8</td>
<td>Mel</td>
<td>Grs #7 CAI Frag</td>
<td>1163</td>
<td>82.9</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-18 #2</td>
<td>Mel</td>
<td>Mel #2 CAI Frag</td>
<td>15.9</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-18 #2</td>
<td>Mel</td>
<td>Mel #3 CAI Frag</td>
<td>27.7</td>
<td>0.4</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-18 #2</td>
<td>Mel</td>
<td>Mel #4 CAI Frag</td>
<td>23.8</td>
<td>0.5</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-18 #2</td>
<td>Soda</td>
<td>Sod #6 CAI Frag</td>
<td>96.8</td>
<td>10.7</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-18 #2</td>
<td>Sp</td>
<td>Sp #5 CAI Frag</td>
<td>2.57</td>
<td>0.01</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>GRA 95229</td>
<td>CR2</td>
<td>95229-18 #22</td>
<td>Sp</td>
<td>Sp #5t CAI Frag</td>
<td>2.51</td>
<td>0.02</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Type</td>
<td>Sample ID</td>
<td>Age (Ma)</td>
<td>Width (mm)</td>
<td>Method</td>
<td>Year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>------</td>
<td>-------------</td>
<td>----------</td>
<td>------------</td>
<td>--------</td>
<td>-----------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temple Bar</td>
<td>CR</td>
<td>MK #4</td>
<td>13.2</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temple Bar</td>
<td>CR</td>
<td>MK #4</td>
<td>13.4</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temple Bar</td>
<td>CR</td>
<td>MK #4</td>
<td>14.3</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temple Bar</td>
<td>CR</td>
<td>MK #4</td>
<td>15.3</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temple Bar</td>
<td>CR</td>
<td>MK #4</td>
<td>15.4</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temple Bar</td>
<td>CR</td>
<td>MK #4</td>
<td>13.3</td>
<td>0.2</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temple Bar</td>
<td>CR2</td>
<td>MK #4</td>
<td>Unk</td>
<td>CAI Frag</td>
<td>IM SIMS CAM IMS 1280 (UH)</td>
<td>Makide et al. 2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>----------</td>
<td>--------</td>
<td>----------</td>
<td>----------</td>
<td>--------</td>
<td>----------</td>
<td>--------</td>
<td>----------</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Hib-rich</td>
<td>SH-7</td>
<td>Hib</td>
<td>SH-7</td>
<td>77.6</td>
<td>0.13</td>
<td>IM</td>
<td>Marhas et al. 2002</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLAC</td>
<td>CH-B7</td>
<td>Hib</td>
<td>CH-B7</td>
<td>103.6</td>
<td>0.1</td>
<td>IM</td>
<td>Marhas et al. 2002</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>PLAC</td>
<td>CH-C1</td>
<td>Hib</td>
<td>CH-C1</td>
<td>71.7</td>
<td>0.6</td>
<td>IM</td>
<td>Marhas et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1CDL.1</td>
<td>PO Comp. Chond.</td>
<td>Meso Plag-rich chond.</td>
<td>Meso01</td>
<td>99.6</td>
<td>5.6</td>
<td>1.8</td>
<td>5.6</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1CDL.1</td>
<td>PO Comp. Chond.</td>
<td>Meso Plag-rich chond</td>
<td>Meso02</td>
<td>121.9</td>
<td>4.8</td>
<td>7.4</td>
<td>4.8</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1CDL.1</td>
<td>PO Comp. Chond.</td>
<td>Meso Plag-rich chond</td>
<td>Meso03</td>
<td>52.2</td>
<td>3.1</td>
<td>3.5</td>
<td>3.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A1</td>
<td>BO Feld Mesost</td>
<td>Mesost feld</td>
<td>Meso01</td>
<td>76.9</td>
<td>7.1</td>
<td>7.3</td>
<td>6.8</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A1</td>
<td>BO FeldsMesost</td>
<td>Mesost feld</td>
<td>Meso02</td>
<td>72.6</td>
<td>3</td>
<td>7</td>
<td>7.3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A1</td>
<td>BO Feldthic Mesost</td>
<td>Mesost feld</td>
<td>Meso03</td>
<td>100.9</td>
<td>3.5</td>
<td>-1.1</td>
<td>7.4</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A1</td>
<td>BO Felds</td>
<td>Mesost feld</td>
<td>Meso04</td>
<td>19.1</td>
<td>1.7</td>
<td>2.4</td>
<td>3.3</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>----------</td>
<td>-------------</td>
<td>--------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A1</td>
<td>BO Felds</td>
<td>Mesost feld</td>
<td>Meso05</td>
<td>215.9</td>
<td>6.8</td>
<td>3.7</td>
<td>10.7</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A1</td>
<td>BO Felds</td>
<td>Mesost feld</td>
<td>Meso06</td>
<td>33.2</td>
<td>0.6</td>
<td>-0.9</td>
<td>4.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A1</td>
<td>BO Felds</td>
<td>Mesost feld</td>
<td>Meso07</td>
<td>38.5</td>
<td>2.1</td>
<td>6.7</td>
<td>4.4</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1CDL.1</td>
<td>PO Comp. Chond.</td>
<td>Neph Plag-rich chond.</td>
<td>Ne01</td>
<td>73.2</td>
<td>3.3</td>
<td>-2</td>
<td>6.4</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1CDL.1</td>
<td>PO Comp. Chond.</td>
<td>Neph Plag-rich chond.</td>
<td>Ne02</td>
<td>92.6</td>
<td>6</td>
<td>-1.7</td>
<td>8.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1CDL.1</td>
<td>PO Comp. Chond.</td>
<td>Neph Plag-rich chond.</td>
<td>Ne03</td>
<td>476.9</td>
<td>29.5</td>
<td>3.3</td>
<td>18.7</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1CDL.1</td>
<td>PO Comp. Chond.</td>
<td>Neph Plag-rich chond.</td>
<td>Ne05</td>
<td>41.7</td>
<td>1</td>
<td>-1.1</td>
<td>4.3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1CDL.1</td>
<td>PO Comp. Chond.</td>
<td>Neph Plag-rich chond.</td>
<td>Ne06</td>
<td>219.1</td>
<td>15.3</td>
<td>-3.5</td>
<td>12</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1CDL.1</td>
<td>PO Comp. Chond.</td>
<td>Neph Plag-rich chond.</td>
<td>Ne07</td>
<td>2.5</td>
<td>-0.9</td>
<td>5.5</td>
<td>IM SIMS CAM IMS 1270 (TIOT.)</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>---------------</td>
<td>----------------</td>
<td>----------------------</td>
<td>------</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1CDL.1</td>
<td>Plag-rich chond.</td>
<td>P101</td>
<td>99.4</td>
<td>5.8</td>
<td>6.3</td>
<td>7.1</td>
<td>IM SIMS CAM IMS 1270 (TIOT.)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1CDL.1</td>
<td>Plag-rich chond.</td>
<td>P102</td>
<td>65.4</td>
<td>3.5</td>
<td>0</td>
<td>6.2</td>
<td>IM SIMS CAM IMS 1270 (TIOT.)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1CDL.1</td>
<td>Plag-rich chond.</td>
<td>P104</td>
<td>163.4</td>
<td>4.4</td>
<td>10.5</td>
<td>9</td>
<td>IM SIMS CAM IMS 1270 (TIOT.)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1CDL.1</td>
<td>Plag-rich chond.</td>
<td>P105</td>
<td>126</td>
<td>5.2</td>
<td>4.4</td>
<td>9.9</td>
<td>IM SIMS CAM IMS 1270 (TIOT.)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1CDL.1</td>
<td>Plag-rich chond.</td>
<td>P106</td>
<td>176.7</td>
<td>14.7</td>
<td>6.9</td>
<td>11.5</td>
<td>IM SIMS CAM IMS 1270 (TIOT.)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1CDL.1</td>
<td>Plag-rich chond.</td>
<td>P110</td>
<td>180.2</td>
<td>5.3</td>
<td>6.3</td>
<td>10.7</td>
<td>IM SIMS CAM IMS 1270 (TIOT.)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1CDL.1</td>
<td>Plag-rich chond.</td>
<td>P111</td>
<td>123</td>
<td>12.7</td>
<td>6.9</td>
<td>8.5</td>
<td>IM SIMS CAM IMS 1270 (TIOT.)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1CDL.1</td>
<td>Plag-rich chond.</td>
<td>P112</td>
<td>175.2</td>
<td>15.8</td>
<td>4.2</td>
<td>11.3</td>
<td>IM SIMS CAM IMS 1270 (TIOT.)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1-CDL.1</td>
<td>Plag-rich chond.</td>
<td>P113</td>
<td>197.3</td>
<td>11</td>
<td>5.3</td>
<td>10.2</td>
<td>IM SIMS CAM IMS 1270 (TIOT.)</td>
</tr>
<tr>
<td>------</td>
<td>-----</td>
<td>----------------</td>
<td>-----------------</td>
<td>-----</td>
<td>-------</td>
<td>----</td>
<td>-----</td>
<td>------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1-CDL.1</td>
<td>Plag-rich chond.</td>
<td>P114</td>
<td>34.5</td>
<td>3.1</td>
<td>2.3</td>
<td>4.6</td>
<td>IM SIMS CAM IMS 1270 (TIOT.)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1-CDL.1</td>
<td>Plag-rich chond.</td>
<td>P115</td>
<td>140.1</td>
<td>9.6</td>
<td>0.2</td>
<td>9.8</td>
<td>IM SIMS CAM IMS 1270 (TIOT.)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1-CDL.1</td>
<td>Plag-rich chond.</td>
<td>P116</td>
<td>89.5</td>
<td>4.6</td>
<td>9</td>
<td>8.2</td>
<td>IM SIMS CAM IMS 1270 (TIOT.)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AL95-2-1-CDL.1</td>
<td>Plag-rich chond.</td>
<td>P117</td>
<td>188.4</td>
<td>17.1</td>
<td>9.4</td>
<td>11.9</td>
<td>IM SIMS CAM IMS 1270 (TIOT.)</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>A</td>
<td>Efk #1</td>
<td>Mel + Sp (?)</td>
<td>Efk #1</td>
<td>6.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>AOA</td>
<td>Efk #4</td>
<td>Ol (?)</td>
<td>Efk #4</td>
<td>0.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>FG (f.g.)</td>
<td>Efk #6</td>
<td>Sp (f.g.)</td>
<td>Efk #6</td>
<td>2.5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Location   | Section | Unit | Sample Type | Sample | SIMS | CAM | IMS | NA 
|------------|---------|------|-------------|--------|------|-----|-----|-------
| Efremovka  | CV3     | FG (f.g.) | Efk #8 | Sp (f.g.) | Efk #8 | 2.3 |       |       
| Efremovka  | CV3     | FG (f.g.) | Efk #9 | Sp (f.g.) | Efk #9 | 2.1 |       |       
| Efremovka  | CV3     | FG (f.g.) | Efk #16 | Sp (f.g.) | Efk #16 | 1.5 |       |       
| Vigarano   | CV3(R)  | AOA   | Vig #5 | Ol (assumed) | Vig #5 | 1.3 |       |       
| Vigarano   | CV3(R)  | AOA   | Vig #5 | Unk | Vig #15 | 3.1 |       |       

Source: Mishra and Chaussidon 2014 (CRPGC NRS Nancy, France)
<table>
<thead>
<tr>
<th>Vigarano</th>
<th>CV3(R)</th>
<th>B</th>
<th>1219</th>
<th>Unk</th>
<th>Vig1219 #1</th>
<th>5.6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>C</td>
<td>Vig #1</td>
<td>Unk</td>
<td>Vig #1</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>C</td>
<td>Vig #3</td>
<td>Unk</td>
<td>Vig #3</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>C</td>
<td>Vig #4</td>
<td>Unk</td>
<td>Vig #4</td>
<td>3.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>C</td>
<td>Vig #8</td>
<td>Unk</td>
<td>Vig #8</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>C</td>
<td>Vig #14</td>
<td>Unk</td>
<td>Vig #14</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Mishra and Chaussidon 2014
<table>
<thead>
<tr>
<th>Location</th>
<th>Area</th>
<th>Code</th>
<th>Type</th>
<th>Sample</th>
<th>Unit</th>
<th>L.C.</th>
<th>L.O.</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C7</td>
<td>IIAB</td>
<td>Glass #3</td>
<td>20.2</td>
<td>0.1</td>
<td>1.9</td>
<td>IM SIMS CAM 1270 (GSJ) Mostefaoui et al. 2002</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C7</td>
<td>IIAB</td>
<td>Glass #2-cor</td>
<td>21.6</td>
<td>0.3</td>
<td>2.9</td>
<td>IM SIMS CAM 1270 (GSJ) Mostefaoui et al. 2002</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C7</td>
<td>IIAB</td>
<td>Glass #8-cor</td>
<td>30.3</td>
<td>2.6</td>
<td>3</td>
<td>IM SIMS CAM 1270 (GSJ) Mostefaoui et al. 2002</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C1 0</td>
<td>IA</td>
<td>Glass #1bis</td>
<td>43.6</td>
<td>3.1</td>
<td>2.7</td>
<td>IM SIMS CAM 1270 (GSJ) Mostefaoui et al. 2002</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C12</td>
<td>IIAB</td>
<td>Glass #3</td>
<td>94.1</td>
<td>0</td>
<td>3.6</td>
<td>IM SIMS CAM 1270 (GSJ) Mostefaoui et al. 2002</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C12</td>
<td>IIAB</td>
<td>Glass #3bis</td>
<td>160</td>
<td>6.3</td>
<td>4.1</td>
<td>IM SIMS CAM 1270 (GSJ) Mostefaoui et al. 2002</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C12</td>
<td>IIAB</td>
<td>Glass #1</td>
<td>81.3</td>
<td>3.2</td>
<td>2.8</td>
<td>IM SIMS CAM 1270 (GSJ) Mostefaoui et al. 2002</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C12</td>
<td>IIAB</td>
<td>Glass #2</td>
<td>46.5</td>
<td>-0.2</td>
<td>2.6</td>
<td>IM SIMS CAM 1270 (GSJ) Mostefaoui et al. 2002</td>
</tr>
<tr>
<td>Location</td>
<td>Specimen</td>
<td>Material</td>
<td>Sample ID</td>
<td>Type</td>
<td>#</td>
<td>Value 1</td>
<td>Value 2</td>
<td>Value 3</td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>-----------</td>
<td>------</td>
<td>----</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C12</td>
<td>IIAB</td>
<td>Glass</td>
<td>#5</td>
<td>56.7</td>
<td>3.4</td>
<td>2.4</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C12</td>
<td>IIAB</td>
<td>Glass</td>
<td>#6</td>
<td>61.5</td>
<td>2.3</td>
<td>3.2</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C13</td>
<td>IIB</td>
<td>Glass</td>
<td>#1</td>
<td>24.3</td>
<td>2.2</td>
<td>2</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C13</td>
<td>IIB</td>
<td>Glass</td>
<td>#2</td>
<td>28.7</td>
<td>-0.5</td>
<td>2.3</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C17</td>
<td>IB</td>
<td>Glass</td>
<td>#1-cor</td>
<td>52.6</td>
<td>0.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C17</td>
<td>IB</td>
<td>Glass</td>
<td>#2-cor</td>
<td>42.5</td>
<td>1.9</td>
<td>2.2</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C18</td>
<td>IIAB</td>
<td>Glass</td>
<td>#c2</td>
<td>171</td>
<td>8.5</td>
<td>4.8</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C18</td>
<td>IIAB</td>
<td>Glass</td>
<td>#c5-cor</td>
<td>29.9</td>
<td>0.5</td>
<td>2.2</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C18</td>
<td>IIAB</td>
<td>Glass</td>
<td>#1(c6)</td>
<td>18.2</td>
<td>0.2</td>
<td>1.8</td>
</tr>
<tr>
<td>Location</td>
<td>Section</td>
<td>Sample</td>
<td>Matrix</td>
<td>V(F)</td>
<td>A(F)</td>
<td>IM SIMS CAM IMS 1270 (GSJ)</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
<td>--------</td>
<td>--------</td>
<td>------</td>
<td>------</td>
<td>---------------------------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C20</td>
<td>IIAB</td>
<td>Glass #1</td>
<td>24.5</td>
<td>0.8</td>
<td>2.1</td>
<td>Mostefaoui et al. 2002</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C20</td>
<td>IIAB</td>
<td>Glass #3-cor</td>
<td>25.4</td>
<td>0</td>
<td>2.2</td>
<td>Mostefaoui et al. 2002</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C20</td>
<td>IIAB</td>
<td>Glass #5</td>
<td>49.1</td>
<td>4.2</td>
<td>2.8</td>
<td>Mostefaoui et al. 2002</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C1 0</td>
<td>IA</td>
<td>OI #5</td>
<td>44.2</td>
<td>3.3</td>
<td>2.2</td>
<td>Mostefaoui et al. 2002</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C1 0</td>
<td>IA</td>
<td>OI MC1</td>
<td>0</td>
<td></td>
<td></td>
<td>Mostefaoui et al. 2002</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C12</td>
<td>IIAB</td>
<td>OI MC2</td>
<td>0</td>
<td></td>
<td></td>
<td>Mostefaoui et al. 2002</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B1-C4</td>
<td>IIAB</td>
<td>Plag #5</td>
<td>37.3</td>
<td>2.1</td>
<td>3</td>
<td>Mostefaoui et al. 2002</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B1-C4</td>
<td>IIAB</td>
<td>Plag #6</td>
<td>37.6</td>
<td>6.5</td>
<td>3.2</td>
<td>Mostefaoui et al. 2002</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B1-C4</td>
<td>IIAB</td>
<td>Plag #8</td>
<td>14.9</td>
<td>1.6</td>
<td>2.4</td>
<td>Mostefaoui et al. 2002</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B1-C18</td>
<td>IIAB</td>
<td>Plag</td>
<td># 14</td>
<td>17.6</td>
<td>2.4</td>
<td>2.1</td>
</tr>
<tr>
<td>-----------</td>
<td>-------</td>
<td>--------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B1-C18</td>
<td>IIAB</td>
<td>Plag</td>
<td># 5</td>
<td>31.5</td>
<td>1.3</td>
<td>2.5</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B1-C56</td>
<td>IIAB</td>
<td>Plag</td>
<td># 1</td>
<td>47.1</td>
<td>4</td>
<td>3.6</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B1-C56</td>
<td>IIAB</td>
<td>Plag</td>
<td># 4</td>
<td>88.6</td>
<td>9.8</td>
<td>5.3</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C1</td>
<td>IIAB</td>
<td>Plag</td>
<td># 3</td>
<td>30.1</td>
<td>5.4</td>
<td>2.2</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C1</td>
<td>IIAB</td>
<td>Plag</td>
<td># 4</td>
<td>36.7</td>
<td>5.4</td>
<td>2.8</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C13</td>
<td>IIB</td>
<td>Plag</td>
<td># 4</td>
<td>16.6</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C18</td>
<td>IIAB</td>
<td>Plag</td>
<td>#c1</td>
<td>51.5</td>
<td>0.9</td>
<td>3.1</td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>B2-C18</td>
<td>IIAB</td>
<td>Plag</td>
<td>#a1</td>
<td>135</td>
<td>9.8</td>
<td>4.5</td>
</tr>
<tr>
<td>Sample</td>
<td>ID</td>
<td>Type</td>
<td>Target</td>
<td>Method</td>
<td>Count</td>
<td>Errors</td>
<td>Reference</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>------</td>
<td>------</td>
<td>--------</td>
<td>--------</td>
<td>-------</td>
<td>--------</td>
<td>------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>IIAB</td>
<td>Plag</td>
<td>#d1</td>
<td>59.4</td>
<td>1.9</td>
<td>3.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mostefaoui et al. 2002</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>IIAB</td>
<td>Plag</td>
<td>#a7</td>
<td>63</td>
<td>3.1</td>
<td>3.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mostefaoui et al. 2002</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>IIAB</td>
<td>Plag</td>
<td>#d2</td>
<td>98.8</td>
<td>1.4</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mostefaoui et al. 2002</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>IIAB</td>
<td>Plag</td>
<td>#a2</td>
<td>110</td>
<td>1.9</td>
<td>4.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mostefaoui et al. 2002</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>IIAB</td>
<td>Plag</td>
<td>#a6</td>
<td>36.2</td>
<td>1.8</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mostefaoui et al. 2002</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bishunpur</td>
<td>L3.15</td>
<td>IIB</td>
<td>Pyrx</td>
<td>MC3</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mostefaoui et al. 2002</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bishunpur</td>
<td>LL3.15</td>
<td>Co</td>
<td>B39</td>
<td></td>
<td>136</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Nittler et al. 1994</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>M83·5</td>
<td></td>
<td>2250</td>
<td>109</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Nittler et al. 1994</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orgueil</td>
<td>CI1</td>
<td>Org-B</td>
<td>Co</td>
<td>Org-B</td>
<td>1840</td>
<td>90</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Nittler et al. 1994</td>
<td></td>
</tr>
<tr>
<td>Tieschitz</td>
<td>H/L3.6</td>
<td>Co</td>
<td>T1</td>
<td>209</td>
<td>32</td>
<td>CAM IMS 3f WUSL</td>
<td>Nittler et al. 1994</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>----</td>
<td>----------------</td>
<td>---------------------</td>
<td></td>
</tr>
<tr>
<td>Tieschitz</td>
<td>H/L3.6</td>
<td>Co</td>
<td>T2</td>
<td>263</td>
<td>65</td>
<td>CAM IMS 3f WUSL</td>
<td>Nittler et al. 1994</td>
<td></td>
</tr>
<tr>
<td>Tieschitz</td>
<td>H/L3.6</td>
<td>Co</td>
<td>T7</td>
<td>139</td>
<td>18</td>
<td>CAM IMS 3f WUSL</td>
<td>Nittler et al. 1994</td>
<td></td>
</tr>
<tr>
<td>Tieschitz</td>
<td>H/L3.6</td>
<td>Co</td>
<td>T9</td>
<td>1086</td>
<td>98</td>
<td>CAM IMS 3f WUSL</td>
<td>Nittler et al. 1994</td>
<td></td>
</tr>
<tr>
<td>Tieschitz</td>
<td>H/L3.6</td>
<td>Co</td>
<td>T10</td>
<td>402</td>
<td>37</td>
<td>CAM IMS 3f WUSL</td>
<td>Nittler et al. 1994</td>
<td></td>
</tr>
<tr>
<td>Tieschitz</td>
<td>H/L3.6</td>
<td>Co</td>
<td>T14</td>
<td>1351</td>
<td>271</td>
<td>CAM IMS 3f WUSL</td>
<td>Nittler et al. 1994</td>
<td></td>
</tr>
<tr>
<td>Tieschitz</td>
<td>H/L3.6</td>
<td>Co</td>
<td>T20</td>
<td>41</td>
<td>2</td>
<td>CAM IMS 3f WUSL</td>
<td>Nittler et al. 1994</td>
<td></td>
</tr>
<tr>
<td>Tieschitz</td>
<td>H/L3.6</td>
<td>Co</td>
<td>T4</td>
<td>17</td>
<td>2.3</td>
<td>CAM IMS 3f WUSL</td>
<td>Nittler et al. 1994</td>
<td></td>
</tr>
<tr>
<td>Tieschitz</td>
<td>H/L3.6</td>
<td>Co</td>
<td>T6</td>
<td>106</td>
<td>16</td>
<td>CAM IMS 3f WUSL</td>
<td>Nittler et al. 1994</td>
<td></td>
</tr>
<tr>
<td>Tieschitz</td>
<td>H/L3.6</td>
<td></td>
<td>Co</td>
<td>T12</td>
<td>135</td>
<td>11</td>
<td>CAM IMS 3f WUSL</td>
<td>Nittler et al. 1994</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>--------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>----------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Tieschitz</td>
<td>H/L3.6</td>
<td></td>
<td>Co</td>
<td>T13</td>
<td>5442</td>
<td>707</td>
<td>CAM IMS 3f WUSL</td>
<td>Nittler et al. 1994</td>
</tr>
<tr>
<td>Tieschitz</td>
<td>H/L3.6</td>
<td></td>
<td>Co</td>
<td>T5</td>
<td>47</td>
<td>6</td>
<td>CAM IMS 3f WUSL</td>
<td>Nittler et al. 1994</td>
</tr>
<tr>
<td>Tieschitz</td>
<td>H/L3.6</td>
<td></td>
<td>Co</td>
<td>T21</td>
<td>549</td>
<td>33</td>
<td>CAM IMS 3f WUSL</td>
<td>Nittler et al. 1994</td>
</tr>
<tr>
<td>Tieschitz</td>
<td>H/L3.6</td>
<td></td>
<td>Co and Sp</td>
<td>T3</td>
<td>8.2</td>
<td>1</td>
<td>CAM IMS 3f WUSL</td>
<td>Nittler et al. 1994</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3658</td>
<td>An</td>
<td>An 1</td>
<td>419.4</td>
<td>11.7</td>
<td>22.6</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-30</td>
<td>An</td>
<td>An 1</td>
<td>546.1</td>
<td>25.3</td>
<td>148.4</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>An</td>
<td>An 1</td>
<td>290.3</td>
<td>13.5</td>
<td>76.7</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-Z</td>
<td>An</td>
<td>An 1</td>
<td>410.5</td>
<td>42</td>
<td>112.8</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1?</td>
<td>3529-21</td>
<td>An</td>
<td>An 1</td>
<td>403.1</td>
<td>27.5</td>
<td>35.8</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>-----</td>
<td>---------</td>
<td>-----</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 1</td>
<td>469.2</td>
<td>25</td>
<td>135.2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 1</td>
<td>461.4</td>
<td>26.2</td>
<td>134.2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 1</td>
<td>457.2</td>
<td>25.1</td>
<td>126.3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 2</td>
<td>363.1</td>
<td>26.2</td>
<td>113.9</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 2</td>
<td>310.7</td>
<td>16.1</td>
<td>93.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 2</td>
<td>308.4</td>
<td>14.6</td>
<td>86.7</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 2</td>
<td>330.6</td>
<td>16.6</td>
<td>88.9</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 2</td>
<td>332.2</td>
<td>15.7</td>
<td>93.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 2</td>
<td>324.4</td>
<td>15.5</td>
<td>96</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>-------</td>
<td>----</td>
<td>------</td>
<td>--------</td>
<td>------</td>
<td>-----</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 2</td>
<td>309.1</td>
<td>15.4</td>
<td>81.2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 3</td>
<td>261</td>
<td>18.5</td>
<td>80.5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 3</td>
<td>132.9</td>
<td>6.1</td>
<td>38.2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 3</td>
<td>232</td>
<td>10.7</td>
<td>76.9</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 3</td>
<td>372.7</td>
<td>15.9</td>
<td>107.3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 3</td>
<td>249.5</td>
<td>28.8</td>
<td>74.2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 3</td>
<td>442.3</td>
<td>16.3</td>
<td>124.3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 3</td>
<td>246</td>
<td>20</td>
<td>83.7</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 3</td>
<td>375.9</td>
<td>11.4</td>
<td>131.3</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>-------</td>
<td>----</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 3</td>
<td>227.8</td>
<td>24.2</td>
<td>72.5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 3</td>
<td>219.3</td>
<td>18</td>
<td>66.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 3</td>
<td>327.5</td>
<td>15.2</td>
<td>96.6</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 3</td>
<td>339</td>
<td>25.6</td>
<td>91.4</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 4</td>
<td>460.9</td>
<td>47.4</td>
<td>96.9</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 4</td>
<td>363.7</td>
<td>27.8</td>
<td>78.6</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 5</td>
<td>193.4</td>
<td>6</td>
<td>13.7</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 6</td>
<td>233</td>
<td>9.4</td>
<td>65.3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 6</td>
<td>254.8</td>
<td>9.6</td>
<td>74.7</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>-----</td>
<td>-------</td>
<td>----</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 7</td>
<td>206.5</td>
<td>15</td>
<td>57.3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>An</td>
<td>An 8</td>
<td>439.5</td>
<td>8</td>
<td>63.2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>An</td>
<td>An 8</td>
<td>302.5</td>
<td>14</td>
<td>92.3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>An</td>
<td>An 8</td>
<td>307.9</td>
<td>14.3</td>
<td>96.7</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>An</td>
<td>An 8</td>
<td>317.4</td>
<td>14.7</td>
<td>87.5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>An</td>
<td>An 8</td>
<td>326.5</td>
<td>15.2</td>
<td>93.5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>An</td>
<td>An 2</td>
<td>230.7</td>
<td>10.7</td>
<td>73.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>An</td>
<td>An 2</td>
<td>238.5</td>
<td>11.1</td>
<td>71.6</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>An</td>
<td>An 2</td>
<td>237.5</td>
<td>11</td>
<td>64.9</td>
</tr>
<tr>
<td>--------</td>
<td>----</td>
<td>----</td>
<td>---------</td>
<td>----</td>
<td>------</td>
<td>-------</td>
<td>----</td>
<td>-----</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>An</td>
<td>An 2</td>
<td>241.6</td>
<td>11.2</td>
<td>73.5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>An</td>
<td>An 2</td>
<td>215.2</td>
<td>10.1</td>
<td>62.4</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>An</td>
<td>An 2</td>
<td>196.8</td>
<td>9.1</td>
<td>69.5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>An</td>
<td>An 3</td>
<td>154.6</td>
<td>7.2</td>
<td>44.4</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>An</td>
<td>An 3</td>
<td>197.6</td>
<td>9.2</td>
<td>51.8</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>An</td>
<td>An 3</td>
<td>196.2</td>
<td>9.1</td>
<td>60.8</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>An</td>
<td>An 3</td>
<td>184.9</td>
<td>8.6</td>
<td>50.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>An</td>
<td>An 3</td>
<td>192.6</td>
<td>8.9</td>
<td>56.5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td></td>
<td>An</td>
<td>An 3</td>
<td>213.9</td>
<td>8.9</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td></td>
<td>An</td>
<td>An 3</td>
<td>215.2</td>
<td>10</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td></td>
<td>An</td>
<td>An 4</td>
<td>268</td>
<td>12.4</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td></td>
<td>An</td>
<td>An 4</td>
<td>282.1</td>
<td>13.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td></td>
<td>An</td>
<td>An 4</td>
<td>288</td>
<td>13.4</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td></td>
<td>An</td>
<td>An 4</td>
<td>297.6</td>
<td>13.8</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td></td>
<td>An</td>
<td>An 4</td>
<td>301.1</td>
<td>14</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td></td>
<td>An</td>
<td>An 4</td>
<td>326.4</td>
<td>15.2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-21</td>
<td></td>
<td>An</td>
<td>An 1</td>
<td>268.6</td>
<td>17.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-21</td>
<td>An</td>
<td>An 1</td>
<td>255.2</td>
<td>20</td>
<td>23.4</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>---</td>
<td>---------</td>
<td>----</td>
<td>------</td>
<td>-------</td>
<td>----</td>
<td>------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-21</td>
<td>An</td>
<td>An 1</td>
<td>353.3</td>
<td>26.6</td>
<td>11.8</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-21</td>
<td>An</td>
<td>An 1</td>
<td>240.2</td>
<td>12.5</td>
<td>18.3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-21</td>
<td>An</td>
<td>An 1</td>
<td>273.1</td>
<td>15</td>
<td>31.6</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-21</td>
<td>An</td>
<td>An 1</td>
<td>253.2</td>
<td>13</td>
<td>17.7</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-21</td>
<td>An</td>
<td>An 1</td>
<td>241.7</td>
<td>13</td>
<td>29.5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-21</td>
<td>An</td>
<td>An 1</td>
<td>219.4</td>
<td>12.3</td>
<td>19.9</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-21</td>
<td>An</td>
<td>An 1</td>
<td>206.7</td>
<td>14.2</td>
<td>14.6</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-21</td>
<td>An</td>
<td>An 2</td>
<td>209</td>
<td>10.3</td>
<td>45.6</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-21</td>
<td>An</td>
<td>An 2</td>
<td>218.4</td>
<td>10.6</td>
<td>45</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>---</td>
<td>---------</td>
<td>----</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td>----</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-21</td>
<td>An</td>
<td>An 2</td>
<td>228.7</td>
<td>11.5</td>
<td>39.6</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-21</td>
<td>An</td>
<td>An 3</td>
<td>171.4</td>
<td>8.7</td>
<td>24.9</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-21</td>
<td>An</td>
<td>An 3</td>
<td>182.7</td>
<td>10</td>
<td>27</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-21</td>
<td>An</td>
<td>An 3</td>
<td>145</td>
<td>13.6</td>
<td>24.6</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-30</td>
<td>An</td>
<td>An 1</td>
<td>557.2</td>
<td>25.9</td>
<td>156.3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-30</td>
<td>An</td>
<td>An 1</td>
<td>531.9</td>
<td>24.7</td>
<td>144.3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-30</td>
<td>An</td>
<td>An 2</td>
<td>215.9</td>
<td>10.2</td>
<td>47.8</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-30</td>
<td>An</td>
<td>An 2</td>
<td>203.6</td>
<td>9.5</td>
<td>41.5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-30</td>
<td>An</td>
<td>An 2</td>
<td>208.9</td>
<td>9.7</td>
<td>34.4</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>---------</td>
<td>-----</td>
<td>-------</td>
<td>--------</td>
<td>-----</td>
<td>------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-30</td>
<td>An</td>
<td>An 3</td>
<td>324.2</td>
<td>15.1</td>
<td>111.4</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-30</td>
<td>An</td>
<td>An 3</td>
<td>335.3</td>
<td>15.6</td>
<td>111.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-30</td>
<td>An</td>
<td>An 3</td>
<td>332.2</td>
<td>15.4</td>
<td>103.6</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-30</td>
<td>An</td>
<td>An 3</td>
<td>332.9</td>
<td>15.5</td>
<td>111.8</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-30</td>
<td>An</td>
<td>An 4</td>
<td>274.9</td>
<td>12.7</td>
<td>88.4</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-30</td>
<td>An</td>
<td>An 4</td>
<td>258</td>
<td>12</td>
<td>88</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-30</td>
<td>An</td>
<td>An 4</td>
<td>260</td>
<td>12.1</td>
<td>76.9</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-30</td>
<td>An</td>
<td>An 4</td>
<td>256.8</td>
<td>12.8</td>
<td>75.8</td>
</tr>
<tr>
<td></td>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3529-30</td>
<td></td>
<td>An</td>
<td>An 4</td>
<td>255.8</td>
</tr>
<tr>
<td>---</td>
<td>---------</td>
<td>-------</td>
<td>---------</td>
<td>---------</td>
<td>---</td>
<td>----</td>
<td>-----</td>
<td>-------</td>
</tr>
<tr>
<td></td>
<td>Allende</td>
<td>CV3</td>
<td>Unk-spher</td>
<td>3658</td>
<td></td>
<td>An</td>
<td>An 1</td>
<td>269.1</td>
</tr>
<tr>
<td></td>
<td>Allende</td>
<td>CV3</td>
<td>Unk-spher</td>
<td>3658</td>
<td></td>
<td>An</td>
<td>An 2</td>
<td>472.6</td>
</tr>
<tr>
<td></td>
<td>Allende</td>
<td>CV3</td>
<td>Unk-spher</td>
<td>3658</td>
<td></td>
<td>An</td>
<td>An 2</td>
<td>590.6</td>
</tr>
<tr>
<td></td>
<td>Allende</td>
<td>CV3</td>
<td>Unk-spher</td>
<td>3658</td>
<td></td>
<td>An</td>
<td>An 2</td>
<td>708.7</td>
</tr>
<tr>
<td></td>
<td>Allende</td>
<td>CV3</td>
<td>Unk-spher</td>
<td>3658</td>
<td></td>
<td>An</td>
<td>An 2</td>
<td>836.5</td>
</tr>
<tr>
<td></td>
<td>Allende</td>
<td>CV3</td>
<td>Unk-spher</td>
<td>3658</td>
<td></td>
<td>An</td>
<td>An 2</td>
<td>896.6</td>
</tr>
<tr>
<td></td>
<td>Allende</td>
<td>CV3</td>
<td>Unk-spher</td>
<td>3658</td>
<td></td>
<td>An</td>
<td>An 2</td>
<td>870.4</td>
</tr>
<tr>
<td></td>
<td>Allende</td>
<td>CV3</td>
<td>Unk-spher</td>
<td>3658</td>
<td></td>
<td>An</td>
<td>An 3</td>
<td>209.8</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Unk - spher</td>
<td>3658</td>
<td>An</td>
<td>An 3</td>
<td>187.5</td>
<td>18.6</td>
<td>37.5</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>-------------</td>
<td>------</td>
<td>----</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Unk - spher</td>
<td>3658</td>
<td>An</td>
<td>An 3</td>
<td>67.9</td>
<td>4.2</td>
<td>17.5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>3898</td>
<td>Hib</td>
<td>3898</td>
<td>8.5</td>
<td>0.6</td>
<td>3.7</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Mel</td>
<td>Mel 1</td>
<td>8.7</td>
<td>1</td>
<td>3.7</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Mel</td>
<td>Mel 2</td>
<td>8.1</td>
<td>0.2</td>
<td>3.2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Mel</td>
<td>Mel 2</td>
<td>3.5</td>
<td>0.1</td>
<td>2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Mel</td>
<td>Mel 2</td>
<td>8.9</td>
<td>0.2</td>
<td>3.3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Mel</td>
<td>Mel 2</td>
<td>2.4</td>
<td>0.1</td>
<td>1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Mel</td>
<td>Mel 2</td>
<td>6.6</td>
<td>0.3</td>
<td>3.3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Mel</td>
<td>Mel 2</td>
<td>8.3</td>
<td>0.1</td>
<td>3.1</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>-------</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Mel</td>
<td>Mel 3</td>
<td>2.1</td>
<td>0.1</td>
<td>1.7</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Mel</td>
<td>Mel 3</td>
<td>7.4</td>
<td>0.1</td>
<td>3.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Mel</td>
<td>Mel 3</td>
<td>5.6</td>
<td>0.1</td>
<td>3.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Mel</td>
<td>Mel 3</td>
<td>5.5</td>
<td>0.1</td>
<td>2.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Mel</td>
<td>Mel 3</td>
<td>5.1</td>
<td>0.1</td>
<td>2.6</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Mel</td>
<td>Mel 4</td>
<td>10.5</td>
<td>3.2</td>
<td>3.8</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Mel</td>
<td>Mel 5</td>
<td>1.8</td>
<td>0.1</td>
<td>1.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Mel</td>
<td>Mel 5</td>
<td>3.7</td>
<td>0.1</td>
<td>1.6</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Mel</td>
<td>Mel 5</td>
<td>5.6</td>
<td>0.1</td>
<td>3.3</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Mel</td>
<td>Mel 5</td>
<td>6</td>
<td>0.3</td>
<td>2.4</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Mel</td>
<td>Mel 5</td>
<td>5.8</td>
<td>0.3</td>
<td>0.8</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529Z</td>
<td>Mel</td>
<td>Mel 5</td>
<td>2</td>
<td>0.1</td>
<td>0.6</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>3898</td>
<td>Mel</td>
<td>Mel 1</td>
<td>13.3</td>
<td>0.4</td>
<td>3.4</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>3898</td>
<td>Mel</td>
<td>Mel 2</td>
<td>19.5</td>
<td>0.2</td>
<td>7</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>3898</td>
<td>Mel</td>
<td>Mel 3</td>
<td>4.5</td>
<td>0.1</td>
<td>0.8</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>3898</td>
<td>Mel</td>
<td>Mel 4</td>
<td>39.8</td>
<td>0.3</td>
<td>9.7</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A</td>
<td>3898</td>
<td>Mel</td>
<td>Mel 5</td>
<td>30.4</td>
<td>0.2</td>
<td>10.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>---</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>Mel</td>
<td>Mel 1</td>
<td>6.2</td>
<td>0.7</td>
<td>3.9</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>Mel</td>
<td>Mel 2</td>
<td>5.1</td>
<td>0.6</td>
<td>3.3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>Mel</td>
<td>Mel 3</td>
<td>3.1</td>
<td>0.4</td>
<td>1.3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>Mel</td>
<td>Mel 4</td>
<td>5.6</td>
<td>0.3</td>
<td>-0.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B1</td>
<td>3529-41</td>
<td>Mel</td>
<td>Mel 5</td>
<td>5.1</td>
<td>0.6</td>
<td>3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3529-21</td>
<td>Mel</td>
<td>Mel 1</td>
<td>2.5</td>
<td>0.3</td>
<td>0.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3529-21</td>
<td>Mel</td>
<td>Mel 2</td>
<td>2.5</td>
<td>0.3</td>
<td>2.8</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3529-21</td>
<td>Mel</td>
<td>Mel 3</td>
<td>2.5</td>
<td>0.3</td>
<td>2</td>
</tr>
</tbody>
</table>

Podosek et al. 1991
<table>
<thead>
<tr>
<th>Allende</th>
<th>CV3</th>
<th>B2</th>
<th>3529-30</th>
<th>Mel</th>
<th>Mel 1</th>
<th>3.3</th>
<th>0.3</th>
<th>2.1</th>
<th>2.1</th>
<th>CAM IMS 3f WUSL</th>
<th>Podosek et al. 1991</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3529-30</td>
<td>Mel</td>
<td>Mel 2</td>
<td>3.3</td>
<td>0.3</td>
<td>1.7</td>
<td>2.5</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3529-30</td>
<td>Mel</td>
<td>Mel 3</td>
<td>3.3</td>
<td>0.3</td>
<td>0.9</td>
<td>2.1</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3658</td>
<td>Mel</td>
<td>Mel 1</td>
<td>4.2</td>
<td>0.1</td>
<td>1.2</td>
<td>1.6</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3658</td>
<td>Mel</td>
<td>Mel 1</td>
<td>4.3</td>
<td>0.1</td>
<td>3.9</td>
<td>1.5</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3658</td>
<td>Mel</td>
<td>Mel 1</td>
<td>4.8</td>
<td>0.1</td>
<td>4.5</td>
<td>1.7</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3658</td>
<td>Mel</td>
<td>Mel 1</td>
<td>5.6</td>
<td>0.1</td>
<td>5.7</td>
<td>2.7</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3658</td>
<td>Mel</td>
<td>Mel 1</td>
<td>6.1</td>
<td>0.1</td>
<td>4.9</td>
<td>4.4</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3658</td>
<td>Mel</td>
<td>Mel 1</td>
<td>6.5</td>
<td>0.1</td>
<td>8.6</td>
<td>6.7</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3658</td>
<td>Mel</td>
<td>Mel 2</td>
<td>8.9</td>
<td>0.1</td>
<td>2.6</td>
<td>1.8</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>------</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>----------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3658</td>
<td>Mel</td>
<td>Mel 2</td>
<td>8.3</td>
<td>0.1</td>
<td>6.7</td>
<td>2.7</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3658</td>
<td>Mel</td>
<td>Mel 3</td>
<td>4.2</td>
<td>0.1</td>
<td>-3.7</td>
<td>1.5</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3658</td>
<td>Mel</td>
<td>Mel 3</td>
<td>3.8</td>
<td>0.1</td>
<td>0.3</td>
<td>2.3</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3658</td>
<td>Mel</td>
<td>Mel 3</td>
<td>3.7</td>
<td>0.1</td>
<td>0</td>
<td>2.9</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3658</td>
<td>Mel</td>
<td>Mel 3</td>
<td>3.7</td>
<td>0.1</td>
<td>0.8</td>
<td>2.2</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3658</td>
<td>Mel</td>
<td>Mel 3</td>
<td>3.7</td>
<td>0.1</td>
<td>-2.5</td>
<td>3.7</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3658</td>
<td>Mel</td>
<td>Mel 3</td>
<td>3.7</td>
<td>0.1</td>
<td>0.2</td>
<td>2.1</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3658</td>
<td>Mel</td>
<td>Mel 3</td>
<td>9.5</td>
<td>0.1</td>
<td>3.8</td>
<td>1.8</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3658</td>
<td>Mel</td>
<td>Mel 3</td>
<td>9.3</td>
<td>0.1</td>
<td>5</td>
<td>2.6</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>--------</td>
<td>-----</td>
<td>----</td>
<td>------</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>---</td>
<td>-----</td>
<td>-----------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B2</td>
<td>3658</td>
<td>Mel</td>
<td>Mel 3</td>
<td>9.3</td>
<td>0.1</td>
<td>3.7</td>
<td>2.8</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>3898</td>
<td>Pyrx</td>
<td>Pyrx</td>
<td>2.9</td>
<td>0.2</td>
<td>1.4</td>
<td>1.2</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529Z</td>
<td>Pyrx</td>
<td>Pyrx 1</td>
<td>1.6</td>
<td>0.1</td>
<td>0.7</td>
<td>2.6</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529Z</td>
<td>Pyrx</td>
<td>Pyrx 1</td>
<td>1.6</td>
<td>0.1</td>
<td>1.8</td>
<td>5.5</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529Z</td>
<td>Pyrx</td>
<td>Pyrx 2</td>
<td>1.6</td>
<td>0.1</td>
<td>0.6</td>
<td>1.3</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529Z</td>
<td>Pyrx</td>
<td>Pyrx 2</td>
<td>1.3</td>
<td>0.1</td>
<td>-0.4</td>
<td>1.2</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529Z</td>
<td>Pyrx</td>
<td>Pyrx 3</td>
<td>2.6</td>
<td>0.1</td>
<td>-1.4</td>
<td>2</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529Z</td>
<td>Pyrx</td>
<td>Pyrx 3</td>
<td>2.3</td>
<td>0.1</td>
<td>0.6</td>
<td>1.9</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529Z</td>
<td>Pyrx</td>
<td>Pyrx 3</td>
<td>2.1</td>
<td>0.1</td>
<td>1.6</td>
<td>1.6</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-------</td>
<td>------</td>
<td>--------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>----------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529Z</td>
<td>Pyrx</td>
<td>Pyrx 4</td>
<td>2.2</td>
<td>0.1</td>
<td>0.5</td>
<td>1.7</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529Z</td>
<td>Pyrx</td>
<td>Pyrx 4</td>
<td>2.2</td>
<td>0.1</td>
<td>-0.1</td>
<td>1.2</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529Z</td>
<td>Pyrx</td>
<td>Pyrx 4</td>
<td>1.9</td>
<td>0.1</td>
<td>0.3</td>
<td>1.4</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529Z</td>
<td>Pyrx</td>
<td>Pyrx 4</td>
<td>2.3</td>
<td>0.1</td>
<td>1.5</td>
<td>1.1</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529Z</td>
<td>Pyrx</td>
<td>Pyrx 4</td>
<td>1.7</td>
<td>0.1</td>
<td>0.5</td>
<td>1.4</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529-41</td>
<td>Pyrx</td>
<td>Pyrx 1</td>
<td>1.3</td>
<td>0.1</td>
<td>-0.1</td>
<td>1.3</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529-41</td>
<td>Pyrx</td>
<td>Pyrx 2</td>
<td>1</td>
<td>0.1</td>
<td>0.8</td>
<td>0.7</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529-41</td>
<td>Pyrx</td>
<td>Pyrx 3</td>
<td>1.4</td>
<td>0.1</td>
<td>1.5</td>
<td>0.6</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529-30</td>
<td>Pyrx</td>
<td>Pyrx 1</td>
<td>2.7</td>
<td>0.2</td>
<td>1.4</td>
<td>2.6</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>---------</td>
<td>------</td>
<td>--------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>----------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529-30</td>
<td>Pyrx</td>
<td>Pyrx 2</td>
<td>2.6</td>
<td>0.2</td>
<td>-0.3</td>
<td>2.2</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529-30</td>
<td>Pyrx</td>
<td>Pyrx 3</td>
<td>2.5</td>
<td>0.2</td>
<td>-0.8</td>
<td>2.9</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3658</td>
<td>Pyrx</td>
<td>Pyrx 1</td>
<td>2.6</td>
<td>0.1</td>
<td>-1.6</td>
<td>1.8</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3658</td>
<td>Pyrx</td>
<td>Pyrx 1</td>
<td>2.6</td>
<td>0.1</td>
<td>-1.4</td>
<td>1.8</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3658</td>
<td>Pyrx</td>
<td>Pyrx 1</td>
<td>2.6</td>
<td>0.1</td>
<td>0.7</td>
<td>2.4</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529-Z</td>
<td>Sp</td>
<td>Sp 1</td>
<td>2.8</td>
<td>0.1</td>
<td>1.1</td>
<td>1.5</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529-Z</td>
<td>Sp</td>
<td>Sp 1</td>
<td>2.7</td>
<td>0.1</td>
<td>1.5</td>
<td>1.6</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3898</td>
<td>Sp</td>
<td>Sp 1</td>
<td>2.6</td>
<td>0.1</td>
<td>0.2</td>
<td>1.7</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Sample</td>
<td>Value</td>
<td>Element</td>
<td>2</td>
<td>0.1</td>
<td>0.6</td>
<td>0.8</td>
<td>Method</td>
<td>Reference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>--------</td>
<td>--------</td>
<td>---------</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>--------------</td>
<td>----------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3898</td>
<td>Sp</td>
<td>2.6</td>
<td>0.1</td>
<td>0.6</td>
<td>0.8</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3929-41</td>
<td>Sp</td>
<td>2.7</td>
<td>0.1</td>
<td>2.1</td>
<td>0.8</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529-30</td>
<td>Sp</td>
<td>2.9</td>
<td>0.1</td>
<td>-0.9</td>
<td>2</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529-30</td>
<td>Sp</td>
<td>2.8</td>
<td>0.1</td>
<td>1.7</td>
<td>2.6</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3529-30</td>
<td>Sp</td>
<td>2.8</td>
<td>0.1</td>
<td>-0.4</td>
<td>2.2</td>
<td>CAM IMS 3f WUSL</td>
<td>Podosek et al. 1991</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrar-003</td>
<td>LALL3.1</td>
<td>Glass</td>
<td>POI</td>
<td>24.8</td>
<td>1.3</td>
<td></td>
<td></td>
<td>CAM IMS 4f</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrar-003</td>
<td>LALL3.1</td>
<td>Glass</td>
<td>POI</td>
<td>31.7</td>
<td>2.7</td>
<td></td>
<td></td>
<td>CAM IMS 4f</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrar-003</td>
<td>LALL3.1</td>
<td>Glass</td>
<td>POI</td>
<td>37.5</td>
<td>2.6</td>
<td></td>
<td></td>
<td>CAM IMS 4f</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrar-003</td>
<td>LALL3.1</td>
<td>IIA</td>
<td>Ol</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td></td>
<td>CAM IMS 4f</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample</td>
<td>Type</td>
<td>fO₂</td>
<td>fO₂</td>
<td>CAM IMS 4f</td>
<td>Method</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>------------</td>
<td>-------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrar-003</td>
<td>LALL3.1</td>
<td>3</td>
<td>IIA</td>
<td>0</td>
<td>0</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrar-003</td>
<td>LALL3.1</td>
<td>2</td>
<td>IIA</td>
<td>Plag</td>
<td>2</td>
<td>26.6</td>
<td>1.6</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrar-003</td>
<td>LALL3.1</td>
<td>2</td>
<td>IIA</td>
<td>Plag</td>
<td>2</td>
<td>30.7</td>
<td>0.5</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrar-003</td>
<td>LALL3.1</td>
<td>2</td>
<td>IIA</td>
<td>Plag</td>
<td>2</td>
<td>39.8</td>
<td>1.6</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrar-003</td>
<td>LALL3.1</td>
<td>2</td>
<td>IIA</td>
<td>Plag</td>
<td>2</td>
<td>48.4</td>
<td>1.4</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrar-003</td>
<td>LALL3.1</td>
<td>2</td>
<td>IIA</td>
<td>Plag</td>
<td>2</td>
<td>65.8</td>
<td>1.8</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrar-003</td>
<td>LALL3.1</td>
<td>2</td>
<td>IIA</td>
<td>Plag</td>
<td>2</td>
<td>87.7</td>
<td>2.7</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allan Hills</td>
<td>L3.2</td>
<td>1</td>
<td>IIAB</td>
<td>Glass</td>
<td>1</td>
<td>29.9</td>
<td>1.5</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ALHA) 77176</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allan Hills</td>
<td>L3.2</td>
<td>1</td>
<td>IIAB</td>
<td>Glass</td>
<td>1</td>
<td>37.4</td>
<td>1.6</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample Type</td>
<td>Locality</td>
<td>ID</td>
<td>Type</td>
<td>Mass</td>
<td>Z</td>
<td>ICP-MS Data</td>
<td>Notes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>----------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>----</td>
<td>-------------</td>
<td>--------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allan Hills (ALHA)</td>
<td>L3.2</td>
<td>1</td>
<td>IIAB</td>
<td>1</td>
<td>52</td>
<td>3.9</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>77176</td>
<td>14B</td>
<td>IIAB</td>
<td>Glass</td>
<td>14B</td>
<td>24.7</td>
<td>1.2</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14B</td>
<td>IIAB</td>
<td>Glass</td>
<td>14B</td>
<td>30.3</td>
<td>1.4</td>
<td></td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14B</td>
<td>IIAB</td>
<td>Glass</td>
<td>14B</td>
<td>37.8</td>
<td>1</td>
<td></td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14B</td>
<td>IIAB</td>
<td>Ol</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14B</td>
<td>IIAB</td>
<td>Ol</td>
<td>14B</td>
<td>0</td>
<td></td>
<td></td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86018</td>
<td>L3.1</td>
<td>6</td>
<td>IIA</td>
<td>Glass</td>
<td>48.8</td>
<td>5.9</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86018</td>
<td>L3.1</td>
<td>6</td>
<td>IIA</td>
<td>Glass</td>
<td>68.4</td>
<td>4.9</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86018</td>
<td>L3.1</td>
<td>6</td>
<td>IIA</td>
<td>Glass</td>
<td>98.2</td>
<td>7.4</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86018</td>
<td>L3.1</td>
<td>6</td>
<td>IIAB Glass</td>
<td>201.7</td>
<td>29.8</td>
<td>CAM IMS 4f</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>------</td>
<td>-----</td>
<td>------------</td>
<td>-------</td>
<td>-------</td>
<td>------------</td>
<td>----------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86018</td>
<td>L3.1</td>
<td>6A</td>
<td>IIAB Glass</td>
<td>82.9</td>
<td>7.2</td>
<td>CAM IMS 4f</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86018</td>
<td>L3.1</td>
<td>6A</td>
<td>IIAB Glass</td>
<td>121.3</td>
<td>12</td>
<td>CAM IMS 4f</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86018</td>
<td>L3.1</td>
<td>24</td>
<td>IIAB Glass</td>
<td>216.5</td>
<td>23.8</td>
<td>CAM IMS 4f</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86018</td>
<td>L3.1</td>
<td>24</td>
<td>IIAB Glass</td>
<td>42.1</td>
<td>4.9</td>
<td>CAM IMS 4f</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86018</td>
<td>L3.1</td>
<td>24</td>
<td>IIAB Glass</td>
<td>54.9</td>
<td>1.2</td>
<td>CAM IMS 4f</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86018</td>
<td>L3.1</td>
<td>24</td>
<td>IIAB Glass</td>
<td>80.7</td>
<td>5.7</td>
<td>CAM IMS 4f</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86018</td>
<td>L3.1</td>
<td>24</td>
<td>IIAB Glass</td>
<td>114.6</td>
<td>18.2</td>
<td>CAM IMS 4f</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86018</td>
<td>L3.1</td>
<td>24</td>
<td>IIA Ol 6</td>
<td>0</td>
<td></td>
<td>CAM IMS 4f</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86018</td>
<td>L3.1</td>
<td>24</td>
<td>IIA</td>
<td>Ol</td>
<td>6A</td>
<td>0</td>
<td>CAM IMS 4f</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86018</td>
<td>L3.1</td>
<td>24</td>
<td>IIAB</td>
<td>Ol</td>
<td>24</td>
<td>0</td>
<td>CAM IMS 4f</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86018</td>
<td>L3.1</td>
<td>24</td>
<td>IIAB</td>
<td>Ol</td>
<td>33</td>
<td>0</td>
<td>CAM IMS 4f</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86018</td>
<td>L3.1</td>
<td>33</td>
<td>IIAB</td>
<td>Plag</td>
<td>53.4</td>
<td>13.1</td>
<td>CAM IMS 4f</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86018</td>
<td>L3.1</td>
<td>33</td>
<td>IIAB</td>
<td>Plag</td>
<td>124.5</td>
<td>22.1</td>
<td>CAM IMS 4f</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86134</td>
<td>L3.0</td>
<td>3</td>
<td>IIAB</td>
<td>Glass</td>
<td>42</td>
<td>3.4</td>
<td>CAM IMS 4f</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86134</td>
<td>L3.0</td>
<td>3</td>
<td>IIAB</td>
<td>Glass</td>
<td>56.8</td>
<td>4.1</td>
<td>CAM IMS 4f</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86134</td>
<td>L3.0</td>
<td>16</td>
<td>IIAB</td>
<td>Glass</td>
<td>36.1</td>
<td>1.3</td>
<td>CAM IMS 4f</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86134</td>
<td>L3.0</td>
<td>16</td>
<td>IIAB</td>
<td>Glass</td>
<td>40.6</td>
<td>1</td>
<td>CAM IMS 4f</td>
<td>Rudraswami and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86134</td>
<td>L3.0</td>
<td>16</td>
<td>IIAB</td>
<td>Glass</td>
<td>45.2</td>
<td>1.1</td>
<td>CAM IMS 4f</td>
<td>Rudrashwa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>------</td>
<td>----</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td>-----</td>
<td>----------</td>
<td>--------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86134</td>
<td>L3.0</td>
<td>16</td>
<td>IIAB</td>
<td>Glass</td>
<td>54.1</td>
<td>1.8</td>
<td>CAM IMS 4f</td>
<td>Rudrashwa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86134</td>
<td>L3.0</td>
<td>36</td>
<td>IIA</td>
<td>Glass</td>
<td>33.2</td>
<td>2.3</td>
<td>CAM IMS 4f</td>
<td>Rudrashwa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86134</td>
<td>L3.0</td>
<td>36</td>
<td>IIA</td>
<td>Glass</td>
<td>42.2</td>
<td>1.8</td>
<td>CAM IMS 4f</td>
<td>Rudrashwa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86134</td>
<td>L3.0</td>
<td>36</td>
<td>IIA</td>
<td>Glass</td>
<td>56.1</td>
<td>5.7</td>
<td>CAM IMS 4f</td>
<td>Rudrashwa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86134</td>
<td>L3.0</td>
<td>36A</td>
<td>IIAB</td>
<td>Glass</td>
<td>40.5</td>
<td>2.5</td>
<td>CAM IMS 4f</td>
<td>Rudrashwa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86134</td>
<td>L3.0</td>
<td>36A</td>
<td>IIAB</td>
<td>Glass</td>
<td>54.3</td>
<td>4.9</td>
<td>CAM IMS 4f</td>
<td>Rudrashwa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86134</td>
<td>L3.0</td>
<td>3</td>
<td>IIAB</td>
<td>Ol</td>
<td>3</td>
<td>0</td>
<td>CAM IMS 4f</td>
<td>Rudrashwa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86134</td>
<td>L3.0</td>
<td>36</td>
<td>IIA</td>
<td>Ol</td>
<td>36</td>
<td>0</td>
<td>CAM IMS 4f</td>
<td>Rudrashwa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>L3.0</td>
<td>36A</td>
<td>IIAB</td>
<td>Ol</td>
<td>36A</td>
<td>0</td>
<td>CAM IMS 4f</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>------</td>
<td>-----</td>
<td>------</td>
<td>----</td>
<td>-----</td>
<td>----</td>
<td>-------------</td>
<td>-------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewis Cliff 86134</td>
<td>L3.0</td>
<td>16</td>
<td>IIB</td>
<td>Pyrx</td>
<td>16</td>
<td>0</td>
<td>CAM IMS 4f</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen Alexandra Range 97008</td>
<td>L3.05</td>
<td>5</td>
<td>IIA</td>
<td>Glass</td>
<td>50.5</td>
<td>4.2</td>
<td>CAM IMS 4f</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen Alexandra Range 97008</td>
<td>L3.05</td>
<td>5</td>
<td>IIA</td>
<td>Glass</td>
<td>74.5</td>
<td>5.6</td>
<td>CAM IMS 4f</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen Alexandra Range 97008</td>
<td>L3.05</td>
<td>5</td>
<td>IIA</td>
<td>Glass</td>
<td>91.9</td>
<td>5.5</td>
<td>CAM IMS 4f</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen Alexandra Range 97008</td>
<td>L3.05</td>
<td>16</td>
<td>IIAB</td>
<td>Glass</td>
<td>27.1</td>
<td>0.8</td>
<td>CAM IMS 4f</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen Alexandra Range 97008</td>
<td>L3.05</td>
<td>16</td>
<td>IIAB</td>
<td>Glass</td>
<td>34.7</td>
<td>6.4</td>
<td>CAM IMS 4f</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen Alexandra Range 97008</td>
<td>L3.05</td>
<td>16</td>
<td>IIAB</td>
<td>Glass</td>
<td>75.4</td>
<td>3.6</td>
<td>CAM IMS 4f</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen Alexandra Range 97008</td>
<td>L3.05</td>
<td>1A</td>
<td>IIA</td>
<td>Ol</td>
<td>0</td>
<td>CAM IMS 4f</td>
<td>Rudraswa mi and Goswami 2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample</td>
<td>Layer</td>
<td>Age</td>
<td>Type</td>
<td>Content</td>
<td>Age1</td>
<td>Age2</td>
<td>Annotations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>-------</td>
<td>-----</td>
<td>------</td>
<td>---------</td>
<td>------</td>
<td>------</td>
<td>------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen Alexandra Range 97008</td>
<td>L3.05</td>
<td>1B</td>
<td>IIA</td>
<td>Ol</td>
<td>0</td>
<td></td>
<td>CAM IMS 4f</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen Alexandra Range 97008</td>
<td>L3.05</td>
<td>5</td>
<td>IIA</td>
<td>Ol</td>
<td>0</td>
<td></td>
<td>CAM IMS 4f</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen Alexandra Range 97008</td>
<td>L3.05</td>
<td>16</td>
<td>IIAB</td>
<td>Ol</td>
<td>0</td>
<td></td>
<td>CAM IMS 4f</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen Alexandra Range 97008</td>
<td>L3.05</td>
<td>1A</td>
<td>IIA</td>
<td>Plag</td>
<td>41.5</td>
<td>3.5</td>
<td>CAM IMS 4f</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen Alexandra Range 97008</td>
<td>L3.05</td>
<td>1A</td>
<td>IIA</td>
<td>Plag</td>
<td>59.9</td>
<td>2.7</td>
<td>CAM IMS 4f</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen Alexandra Range 97008</td>
<td>L3.05</td>
<td>1B</td>
<td>IIA</td>
<td>Plag</td>
<td>36.5</td>
<td>3</td>
<td>CAM IMS 4f</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen Alexandra Range 97008</td>
<td>L3.05</td>
<td>1B</td>
<td>IIA</td>
<td>Plag</td>
<td>43.7</td>
<td>3.1</td>
<td>CAM IMS 4f</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen Alexandra Range 97008</td>
<td>L3.05</td>
<td>1B</td>
<td>IIA</td>
<td>Plag</td>
<td>48.6</td>
<td>0.6</td>
<td>CAM IMS 4f</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Gehl</td>
<td>GI 1</td>
<td>56.7</td>
<td>5.7</td>
<td>1.6</td>
<td>4.1</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Geh</td>
<td>Gl</td>
<td>53.9</td>
<td>5.4</td>
<td>3.7</td>
<td>3.7</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>----------</td>
<td>-----</td>
<td>----</td>
<td>------</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>------</td>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Geh</td>
<td>Gl</td>
<td>52.7</td>
<td>5.3</td>
<td>1.6</td>
<td>4.2</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Geh</td>
<td>Gl</td>
<td>46.5</td>
<td>4.7</td>
<td>2.3</td>
<td>3.8</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Geh</td>
<td>Gl</td>
<td>53.4</td>
<td>5.3</td>
<td>3.6</td>
<td>3.5</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Geh</td>
<td>Gl</td>
<td>53.4</td>
<td>5.4</td>
<td>4.1</td>
<td>3.5</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Geh</td>
<td>Gl</td>
<td>53</td>
<td>5.3</td>
<td>2.2</td>
<td>3.5</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Geh</td>
<td>Gl</td>
<td>54.6</td>
<td>5.5</td>
<td>3.7</td>
<td>3.8</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Geh</td>
<td>Gl</td>
<td>61.7</td>
<td>6.2</td>
<td>-0.1</td>
<td>3.6</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Geh</td>
<td>Gl</td>
<td>57.1</td>
<td>5.7</td>
<td>2.2</td>
<td>3.1</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Geh</td>
<td>Gl 11</td>
<td>64.4</td>
<td>6.5</td>
<td>3.3</td>
<td>2.9</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>---------</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Geh</td>
<td>Gl 12</td>
<td>58.5</td>
<td>5.9</td>
<td>2.8</td>
<td>2.6</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Geh</td>
<td>Gl 13</td>
<td>53.5</td>
<td>5.4</td>
<td>1</td>
<td>2.5</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Ol</td>
<td>Ol1</td>
<td>0.00148</td>
<td>0.00007</td>
<td>-0.5</td>
<td>1.5</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Ol</td>
<td>Ol2</td>
<td>0.00162</td>
<td>0.00002</td>
<td>-0.1</td>
<td>1.4</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Ol</td>
<td>Ol3</td>
<td>0.00165</td>
<td>0.00003</td>
<td>-0.5</td>
<td>1.4</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Sp</td>
<td>Sp 1</td>
<td>2.5</td>
<td>0.08</td>
<td>-1.5</td>
<td>2.1</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Sp</td>
<td>Sp 2</td>
<td>2.49</td>
<td>0.08</td>
<td>-0.3</td>
<td>1.9</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Sp</td>
<td>Sp 3</td>
<td>2.6</td>
<td>0.08</td>
<td>-1.9</td>
<td>1.7</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Sp</td>
<td>Sp 4</td>
<td>2.53</td>
<td>0.08</td>
<td>-1.1</td>
<td>1.3</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Sp</td>
<td>Sp 5</td>
<td>2.49</td>
<td>0.08</td>
<td>-0.1</td>
<td>1.7</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Sp</td>
<td>Sp 6</td>
<td>2.54</td>
<td>0.08</td>
<td>-1.3</td>
<td>2.1</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>1251-3-1</td>
<td>Sp</td>
<td>Sp 7</td>
<td>2.51</td>
<td>0.08</td>
<td>-0.2</td>
<td>1.8</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
<td></td>
</tr>
<tr>
<td>Inman</td>
<td>L/LL3.4</td>
<td>5652-1-1</td>
<td>BO</td>
<td>OI</td>
<td>OI</td>
<td>0.00577</td>
<td>0.00004</td>
<td>0.7</td>
<td>0.9</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
</tr>
<tr>
<td>Inman</td>
<td>L/LL3.4</td>
<td>5652-1-1</td>
<td>BO</td>
<td>Plag</td>
<td>Plag 1</td>
<td>42.4</td>
<td>2</td>
<td>2.2</td>
<td>3.5</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
</tr>
<tr>
<td>Inman</td>
<td>L/LL3.4</td>
<td>5652-1-1</td>
<td>BO</td>
<td>Plag</td>
<td>Plag 2</td>
<td>92.7</td>
<td>4.4</td>
<td>8.3</td>
<td>6.4</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
</tr>
<tr>
<td>Inman</td>
<td>L/LL3.4</td>
<td>5652-1-1</td>
<td>BO</td>
<td>Plag</td>
<td>Plag 3</td>
<td>11</td>
<td>0.6</td>
<td>1.8</td>
<td>1.8</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
</tr>
<tr>
<td>Inman</td>
<td>L/LL3.4</td>
<td>5652-1-1</td>
<td>BO</td>
<td>Plag</td>
<td>Plag 4</td>
<td>29.5</td>
<td>2.2</td>
<td>1.2</td>
<td>3.6</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
</tr>
<tr>
<td>Location</td>
<td>Sample</td>
<td>Type</td>
<td>Number</td>
<td>BO</td>
<td>Origin</td>
<td>Plag</td>
<td>Plag 5</td>
<td>2.3</td>
<td>6.1</td>
<td>5.9</td>
<td>Technique</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>------</td>
<td>--------</td>
<td>----</td>
<td>--------</td>
<td>------</td>
<td>--------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----------</td>
</tr>
<tr>
<td>Inman</td>
<td>L/LL3.4</td>
<td></td>
<td>5652-1-1</td>
<td>BO</td>
<td>Plag</td>
<td>Plag 5</td>
<td>41.3</td>
<td>2.3</td>
<td>6.1</td>
<td>5.9</td>
<td>SIMS</td>
</tr>
<tr>
<td>Inman</td>
<td>L/LL3.4</td>
<td></td>
<td>5652-1-1</td>
<td>BO</td>
<td>Plag</td>
<td>Plag 6</td>
<td>29.3</td>
<td>2.8</td>
<td>2.4</td>
<td>7</td>
<td>SIMS</td>
</tr>
<tr>
<td>Inman</td>
<td>L/LL3.4</td>
<td></td>
<td>5652-1-1</td>
<td>BO</td>
<td>Plag</td>
<td>Plag 7</td>
<td>33.1</td>
<td>3.5</td>
<td>4.7</td>
<td>4.6</td>
<td>SIMS</td>
</tr>
<tr>
<td>Inman</td>
<td>L/LL3.4</td>
<td></td>
<td>5652-1-1</td>
<td>BO</td>
<td>Plag</td>
<td>Plag 8</td>
<td>22.2</td>
<td>2.1</td>
<td>1.8</td>
<td>4.2</td>
<td>SIMS</td>
</tr>
<tr>
<td>Inman</td>
<td>L/LL3.4</td>
<td></td>
<td>5652-1-1</td>
<td>BO</td>
<td>Plag</td>
<td>Plag 9</td>
<td>39</td>
<td>3.7</td>
<td>2.3</td>
<td>5.3</td>
<td>SIMS</td>
</tr>
<tr>
<td>Moorabie</td>
<td>L3.8</td>
<td>FTA</td>
<td>6076-5-1</td>
<td>Mel</td>
<td>Mel 2</td>
<td>23.9</td>
<td>2.3</td>
<td>7.1</td>
<td>4.8</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
</tr>
<tr>
<td>Moorabie</td>
<td>L3.8</td>
<td>FTA</td>
<td>6076-5-1</td>
<td>Mel</td>
<td>Mel 4</td>
<td>15.9</td>
<td>1.7</td>
<td>5.4</td>
<td>3.5</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
</tr>
<tr>
<td>Moorabie</td>
<td>L3.8</td>
<td>FTA</td>
<td>6076-5-1</td>
<td>Mel</td>
<td>Mel 7</td>
<td>31</td>
<td>1.8</td>
<td>6.2</td>
<td>5</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
</tr>
<tr>
<td>Moorabie</td>
<td>L3.8</td>
<td>FTA</td>
<td>6076-5-1</td>
<td>Mel</td>
<td>Mel 8</td>
<td>18.5</td>
<td>1.9</td>
<td>5.4</td>
<td>5.7</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
</tr>
<tr>
<td>Location</td>
<td>Size</td>
<td>Type</td>
<td>Material</td>
<td>Mass</td>
<td>Analysis</td>
<td>Authors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>------</td>
<td>----------</td>
<td>------</td>
<td>----------</td>
<td>---------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moorabie</td>
<td>L3.8</td>
<td>FTA</td>
<td>6076-5-1</td>
<td>Mel</td>
<td>Mel 10</td>
<td>41.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SIMS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Russell et al. 1996</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moorabie</td>
<td>L3.8</td>
<td>FTA</td>
<td>6076-5-1</td>
<td>Mel</td>
<td>Mel 11</td>
<td>58.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SIMS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Russell et al. 1996</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moorabie</td>
<td>L3.8</td>
<td>FTA</td>
<td>6076-5-1</td>
<td>Sp</td>
<td>Sp 1</td>
<td>1.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SIMS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Russell et al. 1996</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moorabie</td>
<td>L3.8</td>
<td>FTA</td>
<td>6076-5-1</td>
<td>Sp</td>
<td>Sp 2</td>
<td>3.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SIMS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Russell et al. 1996</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moorabie</td>
<td>L3.8</td>
<td>FTA</td>
<td>6076-5-1</td>
<td>Sp</td>
<td>Sp 3</td>
<td>2.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SIMS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Russell et al. 1996</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Hib-</td>
<td>1805-2-1</td>
<td>Mel</td>
<td>Mel 1</td>
<td>21.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>rich CAI</td>
<td></td>
<td></td>
<td></td>
<td>1.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SIMS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Russell et al. 1996</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Hib-</td>
<td>1805-2-1</td>
<td>Mel</td>
<td>Mel 2</td>
<td>16.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>rich CAI</td>
<td></td>
<td></td>
<td></td>
<td>1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SIMS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Russell et al. 1996</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Hib-</td>
<td>1805-2-1</td>
<td>Mel</td>
<td>Mel 3</td>
<td>19.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>rich CAI</td>
<td></td>
<td></td>
<td></td>
<td>1.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SIMS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Russell et al. 1996</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Hib-</td>
<td>1805-2-1</td>
<td>Mel</td>
<td>Mel 4</td>
<td>29.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>rich CAI</td>
<td></td>
<td></td>
<td></td>
<td>3.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SIMS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Russell et al. 1996</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>LL</td>
<td>Type</td>
<td>CAI</td>
<td>Mel</td>
<td>Mel 5</td>
<td>18.5</td>
<td>1.9</td>
<td>7.3</td>
<td>2.4</td>
<td>Technique</td>
<td>Reference</td>
</tr>
<tr>
<td>--------------</td>
<td>-----</td>
<td>-------</td>
<td>------</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Hib-rich</td>
<td>CAI 1805-2-1</td>
<td>Sp</td>
<td>Sp 1</td>
<td>3.09</td>
<td>0.29</td>
<td>2.9</td>
<td>2.8</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Hib-rich</td>
<td>CAI 1805-2-1</td>
<td>Sp</td>
<td>Sp 2</td>
<td>3.71</td>
<td>0.35</td>
<td>1.3</td>
<td>3.2</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Hib-rich</td>
<td>CAI 1805-2-1</td>
<td>Sp</td>
<td>Sp 3</td>
<td>3.79</td>
<td>0.36</td>
<td>1.7</td>
<td>2.7</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Hib-rich</td>
<td>CAI 1805-2-1</td>
<td>Sp</td>
<td>Sp 4</td>
<td>2.6</td>
<td>0.25</td>
<td>2.3</td>
<td>2.6</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Hib-rich</td>
<td>CAI 1805-2-1</td>
<td>Sp</td>
<td>Sp 5</td>
<td>2.95</td>
<td>0.28</td>
<td>-0.1</td>
<td>2.9</td>
<td>SIMS</td>
<td>Russell et al. 1996</td>
</tr>
<tr>
<td>Allan Hills 77003</td>
<td>LL3</td>
<td>SP13</td>
<td>Herc</td>
<td>SP13</td>
<td>8.6</td>
<td>0.4</td>
<td>0.4</td>
<td>1.9</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77003</td>
<td>LL3</td>
<td>SP13</td>
<td>Herc</td>
<td>SP13</td>
<td>5.9</td>
<td>0.3</td>
<td>0.1</td>
<td>2.1</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77003</td>
<td>LL3</td>
<td>SP14</td>
<td>Herc</td>
<td>SP14</td>
<td>3.6</td>
<td>0.2</td>
<td>0</td>
<td>2</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77003</td>
<td>LL3</td>
<td>SP14</td>
<td>Herc</td>
<td>SP14</td>
<td>5.7</td>
<td>0.3</td>
<td>-0.8</td>
<td>1.7</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>---------------------</td>
<td>---------------------</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77003</td>
<td>LL3</td>
<td>SP14</td>
<td>Herc</td>
<td>SP14</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77003</td>
<td>LL3</td>
<td>SP13</td>
<td>Hib</td>
<td>SP13</td>
<td>29.4</td>
<td>1.5</td>
<td>8.1</td>
<td>4.8</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77003</td>
<td>LL3</td>
<td>SP14</td>
<td>Hib</td>
<td>SP14</td>
<td>45.5</td>
<td>2.3</td>
<td>14.7</td>
<td>3.2</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77003</td>
<td>LL3</td>
<td>SP13</td>
<td>Hib</td>
<td>SP13</td>
<td>27.2</td>
<td>1.4</td>
<td>10.1</td>
<td>4</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77003</td>
<td>LL3</td>
<td>SP13</td>
<td>Hib</td>
<td>SP13</td>
<td>10.3</td>
<td>0.5</td>
<td>1.1</td>
<td>2.9</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77003</td>
<td>LL3</td>
<td>SP13</td>
<td>Hib</td>
<td>SP13</td>
<td>23.5</td>
<td>1.2</td>
<td>5</td>
<td>3.9</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77003</td>
<td>LL3</td>
<td>SP13</td>
<td>Hib</td>
<td>SP13</td>
<td>22.6</td>
<td>1.1</td>
<td>5.4</td>
<td>2.6</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77003</td>
<td>LL3</td>
<td>SP14</td>
<td>Hib</td>
<td>SP14</td>
<td>48</td>
<td>2.4</td>
<td>8.4</td>
<td>2.6</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77003</td>
<td>LL3</td>
<td>SP14</td>
<td>Hib</td>
<td>SP14</td>
<td>39.9</td>
<td>2</td>
<td>12.9</td>
<td>2.9</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>---</td>
<td>------</td>
<td>---</td>
<td>----------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77003</td>
<td>LL3</td>
<td>SP14</td>
<td>Hib</td>
<td>SP14</td>
<td>22.5</td>
<td>1.1</td>
<td>3</td>
<td>2.5</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77003</td>
<td>LL3</td>
<td>SP14</td>
<td>Hib</td>
<td>SP14</td>
<td>54.2</td>
<td>2.7</td>
<td>15.1</td>
<td>3</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77003</td>
<td>LL3</td>
<td>SP14</td>
<td>Hib</td>
<td>SP14</td>
<td>16.6</td>
<td>0.8</td>
<td>2.8</td>
<td>2.2</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77003</td>
<td>LL3</td>
<td>SP13</td>
<td>Hib-Herc</td>
<td>SP13</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77003</td>
<td>LL3</td>
<td>SP14</td>
<td>Hib-Herc</td>
<td>SP14</td>
<td>54</td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP4</td>
<td>Mel</td>
<td>SP4</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP5</td>
<td>Mel</td>
<td>SP5</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP7</td>
<td>Mel</td>
<td>SP7</td>
<td>63</td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP9</td>
<td>Mel</td>
<td>SP9</td>
<td>18</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>----</td>
<td>---------------------</td>
<td>-------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP16</td>
<td>Mel</td>
<td>SP16</td>
<td>10</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP5</td>
<td>Sp</td>
<td>SP5</td>
<td>0</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP5</td>
<td>Hib</td>
<td>SP5</td>
<td>14.4</td>
<td>0.7</td>
<td>6.8</td>
<td>2.4</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP4</td>
<td>Mel</td>
<td>SP4</td>
<td>11.3</td>
<td>0.6</td>
<td>2.7</td>
<td>2</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP5</td>
<td>Mel</td>
<td>SP5</td>
<td>9.4</td>
<td>0.5</td>
<td>4.6</td>
<td>2.7</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP7</td>
<td>Mel</td>
<td>SP7</td>
<td>63.4</td>
<td>3.2</td>
<td>16.9</td>
<td>6.7</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP9</td>
<td>Mel</td>
<td>SP9</td>
<td>12</td>
<td>0.6</td>
<td>2.3</td>
<td>2</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP16</td>
<td>Mel</td>
<td>SP16</td>
<td>9.6</td>
<td>0.5</td>
<td>1.4</td>
<td>2</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP4</td>
<td>Mel</td>
<td>SP4</td>
<td>15</td>
<td>0.7</td>
<td>4.2</td>
<td>2.4</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>------------------</td>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP4</td>
<td>Mel</td>
<td>SP4</td>
<td>26</td>
<td>1.3</td>
<td>11</td>
<td>3.2</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP4</td>
<td>Mel</td>
<td>SP4</td>
<td>13.9</td>
<td>0.7</td>
<td>5.8</td>
<td>4.8</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP4</td>
<td>Mel</td>
<td>SP4</td>
<td>15.9</td>
<td>0.8</td>
<td>5.7</td>
<td>2.8</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP4</td>
<td>Mel</td>
<td>SP4</td>
<td>25.7</td>
<td>1.3</td>
<td>10.6</td>
<td>4</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP4</td>
<td>Mel</td>
<td>SP4</td>
<td>30.8</td>
<td>1.5</td>
<td>10.5</td>
<td>4.4</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP5</td>
<td>Mel</td>
<td>SP5</td>
<td>9.5</td>
<td>0.5</td>
<td>4.2</td>
<td>2.6</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP5</td>
<td>Mel</td>
<td>SP5</td>
<td>20.4</td>
<td>1</td>
<td>6.5</td>
<td>5.8</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP5</td>
<td>Mel</td>
<td>SP5</td>
<td>21.6</td>
<td>1.1</td>
<td>5.6</td>
<td>5.1</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP5</td>
<td>Mel</td>
<td>SP5</td>
<td>24.4</td>
<td>1.2</td>
<td>7.1</td>
<td>4.3</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>----------------</td>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td>Allen Hills 77307</td>
<td>CO3.0</td>
<td>SP5</td>
<td>Mel</td>
<td>SP5</td>
<td>16.2</td>
<td>0.8</td>
<td>6.6</td>
<td>3.2</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allen Hills 77307</td>
<td>CO3.0</td>
<td>SP5</td>
<td>Mel</td>
<td>SP5</td>
<td>19.3</td>
<td>1</td>
<td>9.1</td>
<td>3.6</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allen Hills 77307</td>
<td>CO3.0</td>
<td>SP7</td>
<td>Mel</td>
<td>SP7</td>
<td>16</td>
<td>0.8</td>
<td>6.7</td>
<td>3</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allen Hills 77307</td>
<td>CO3.0</td>
<td>SP7</td>
<td>Mel</td>
<td>SP7</td>
<td>62.9</td>
<td>3.1</td>
<td>20</td>
<td>6.5</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allen Hills 77307</td>
<td>CO3.0</td>
<td>SP7</td>
<td>Mel</td>
<td>SP7</td>
<td>61.7</td>
<td>3.1</td>
<td>21.1</td>
<td>10.1</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allen Hills 77307</td>
<td>CO3.0</td>
<td>SP7</td>
<td>Mel</td>
<td>SP7</td>
<td>8.4</td>
<td>0.4</td>
<td>7.1</td>
<td>2.7</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allen Hills 77307</td>
<td>CO3.0</td>
<td>SP9</td>
<td>Mel</td>
<td>SP9</td>
<td>7.2</td>
<td>0.4</td>
<td>7.2</td>
<td>2.3</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allen Hills 77307</td>
<td>CO3.0</td>
<td>SP9</td>
<td>Mel</td>
<td>SP9</td>
<td>18.4</td>
<td>0.9</td>
<td>3</td>
<td>2.1</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP16</td>
<td>Mel</td>
<td>SP16</td>
<td>7.8</td>
<td>0.4</td>
<td>2</td>
<td>1.8</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>---------</td>
<td>------</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>---------------------</td>
<td>---------------------</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP16</td>
<td>Mel</td>
<td>SP16</td>
<td>5.9</td>
<td>0.3</td>
<td>2.3</td>
<td>1.9</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP5</td>
<td>Sp</td>
<td>SP5</td>
<td>3.6</td>
<td>0.2</td>
<td>1</td>
<td>1.5</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP7</td>
<td>Sp</td>
<td>SP7</td>
<td>2.7</td>
<td>0.1</td>
<td>0.5</td>
<td>1.7</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP7</td>
<td>Sp</td>
<td>SP7</td>
<td>3</td>
<td>0.1</td>
<td>0.2</td>
<td>1.4</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP9</td>
<td>Sp</td>
<td>SP9</td>
<td>2.8</td>
<td>0.1</td>
<td>2.3</td>
<td>1.2</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 77307</td>
<td>CO3.0</td>
<td>SP16</td>
<td>Sp</td>
<td>SP16</td>
<td>2.1</td>
<td>0.1</td>
<td>0.2</td>
<td>1.5</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP6</td>
<td>Diop</td>
<td>SP6</td>
<td>0.5</td>
<td>0</td>
<td>2.4</td>
<td>1.1</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP15</td>
<td>Fas</td>
<td>SP15</td>
<td>4.1</td>
<td>0.2</td>
<td>-2.5</td>
<td>1.7</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP6</td>
<td>Herc</td>
<td>SP6</td>
<td>5.5</td>
<td>0.3</td>
<td>1</td>
<td>1.6</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-------</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>---</td>
<td>----</td>
<td>---------------------</td>
<td>----------------------</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP15</td>
<td>Hib</td>
<td>SP15</td>
<td>111.2</td>
<td>5.6</td>
<td>1.3</td>
<td>3</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP6</td>
<td>Hib</td>
<td>SP6</td>
<td>22</td>
<td>1.1</td>
<td>3.8</td>
<td>1.9</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP6</td>
<td>Hib</td>
<td>SP6</td>
<td>19.8</td>
<td>1</td>
<td>6.3</td>
<td>2.3</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP6</td>
<td>Hib</td>
<td>SP6</td>
<td>17</td>
<td>0.9</td>
<td>5.9</td>
<td>2.1</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP15</td>
<td>Hib</td>
<td>SP15</td>
<td>122.7</td>
<td>6.1</td>
<td>1</td>
<td>3.2</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP1</td>
<td>Mel</td>
<td>SP1</td>
<td>6.8</td>
<td>0.3</td>
<td>0.2</td>
<td>2.2</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP4</td>
<td>Mel</td>
<td>SP4</td>
<td>6.4</td>
<td>0.3</td>
<td>9.7</td>
<td>2.3</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP1</td>
<td>Mel</td>
<td>SP1</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP1</td>
<td>Mel</td>
<td>SP1</td>
<td>8.9</td>
<td>0.4</td>
<td>3.4</td>
<td>2.8</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-------------------</td>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP1</td>
<td>Mel</td>
<td>SP1</td>
<td>10.9</td>
<td>0.5</td>
<td>10.3</td>
<td>3.2</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP1</td>
<td>Mel</td>
<td>SP1</td>
<td>5.6</td>
<td>0.3</td>
<td>0.7</td>
<td>2.2</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP1</td>
<td>Mel</td>
<td>SP1</td>
<td>20</td>
<td>1</td>
<td>5.2</td>
<td>3.2</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP1</td>
<td>Mel</td>
<td>SP1</td>
<td>4.2</td>
<td>0.2</td>
<td>-0.7</td>
<td>2.7</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP4</td>
<td>Mel</td>
<td>SP4</td>
<td>7.6</td>
<td>0.4</td>
<td>10</td>
<td>2.3</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP4</td>
<td>Mel</td>
<td>SP4</td>
<td>10.8</td>
<td>0.5</td>
<td>3.2</td>
<td>3.1</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP4</td>
<td>Mel</td>
<td>SP4</td>
<td>17.7</td>
<td>0.9</td>
<td>10.2</td>
<td>3.8</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP4</td>
<td>Mel</td>
<td>SP4</td>
<td>9.9</td>
<td>0.5</td>
<td>0.1</td>
<td>3.8</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Sample</td>
<td>Age</td>
<td>Type</td>
<td>Size</td>
<td>Age</td>
<td>Value</td>
<td>ISD</td>
<td>Value</td>
<td>ISD</td>
<td>Value</td>
<td>ISD</td>
</tr>
<tr>
<td>------------</td>
<td>--------</td>
<td>-----</td>
<td>------------</td>
<td>--------</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP4</td>
<td>Mel</td>
<td>SP4</td>
<td>7.9</td>
<td>0.4</td>
<td>6</td>
<td>2.8</td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP4</td>
<td>Mel</td>
<td>SP4</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP15</td>
<td>Micro sph.</td>
<td>SP15</td>
<td>123</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP6</td>
<td>Hib-Herc</td>
<td>SP6</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP4</td>
<td>Sp</td>
<td>SP4</td>
<td>5.7</td>
<td>0.3</td>
<td>-2.1</td>
<td>2.4</td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td>SP4</td>
<td>Sp</td>
<td>SP4</td>
<td>5.9</td>
<td>0.3</td>
<td>1.6</td>
<td>2.6</td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Allan Hills 82101</td>
<td>CO3.4</td>
<td></td>
<td>Sp</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C42</td>
<td>Gros</td>
<td></td>
<td>1500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C31</td>
<td>Hib</td>
<td></td>
<td>133</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C40</td>
<td>Hib-Herc</td>
<td>16</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>-----</td>
<td>----------</td>
<td>----</td>
<td>---------------------</td>
<td>---------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>SP1</td>
<td>Fas</td>
<td>7.3</td>
<td>0.4</td>
<td>-2.1</td>
<td>1.2</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C42</td>
<td>Gros</td>
<td>1500</td>
<td>180</td>
<td>8.8</td>
<td>36.3</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C42</td>
<td>Gros</td>
<td>304</td>
<td>32</td>
<td>-1.4</td>
<td>10.3</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>SP1</td>
<td>Hib</td>
<td>85.1</td>
<td>4.3</td>
<td>-5.4</td>
<td>1.9</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C31</td>
<td>Hib</td>
<td>64.2</td>
<td>4.2</td>
<td>15.4</td>
<td>4.7</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C40</td>
<td>Hib</td>
<td>15.9</td>
<td>0.8</td>
<td>2.9</td>
<td>2.9</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>SP1</td>
<td>Hib</td>
<td>73.7</td>
<td>3.7</td>
<td>-3.3</td>
<td>2.1</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C31</td>
<td>Hib</td>
<td>132.7</td>
<td>6.7</td>
<td>32.4</td>
<td>6.4</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>SP4</td>
<td>Mel</td>
<td>15.8</td>
<td>0.8</td>
<td>0.5</td>
<td>2.7</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>----------------</td>
<td>-------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C21</td>
<td>Mel</td>
<td>18.5</td>
<td>0.9</td>
<td>2.1</td>
<td>4.1</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C62</td>
<td>Mel</td>
<td>5.4</td>
<td>0.3</td>
<td>0.6</td>
<td>1.7</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>SP4</td>
<td>Mel</td>
<td>12.5</td>
<td>0.6</td>
<td>1.1</td>
<td>2.7</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>SP4</td>
<td>Mel</td>
<td>10.1</td>
<td>0.5</td>
<td>2.9</td>
<td>2.3</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>SP4</td>
<td>Mel</td>
<td>6.8</td>
<td>0.3</td>
<td>-1.2</td>
<td>2.2</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C21</td>
<td>Mel</td>
<td>9</td>
<td>0.5</td>
<td>0.4</td>
<td>2.8</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C21</td>
<td>Mel</td>
<td>23.9</td>
<td>1.2</td>
<td>8.8</td>
<td>3.4</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C21</td>
<td>Mel</td>
<td>28.7</td>
<td>1.4</td>
<td>3.2</td>
<td>3.2</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C21</td>
<td>Mel</td>
<td>29</td>
<td>1.4</td>
<td>13</td>
<td>3.3</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C56</td>
<td>Mel</td>
<td>37</td>
<td>1.9</td>
<td>7.5</td>
<td>4.4</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C56</td>
<td>Mel</td>
<td>43.6</td>
<td>2.2</td>
<td>13.9</td>
<td>5.6</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C62</td>
<td>Mel</td>
<td>11.3</td>
<td>0.5</td>
<td>6.4</td>
<td>2.3</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>SP4</td>
<td>Mel</td>
<td>Section 4488</td>
<td>16</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C21</td>
<td>Mel</td>
<td>Section 4488</td>
<td>29</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C56</td>
<td>Mel</td>
<td>Section 4488</td>
<td>44</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C62</td>
<td>Mel</td>
<td>Section 4488</td>
<td>11</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>SP1</td>
<td>Micro sph.</td>
<td>Section 4488</td>
<td>85</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C42</td>
<td>Sp</td>
<td>2.6</td>
<td>0.1</td>
<td>2.5</td>
<td>1.4</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>---------------------</td>
<td>---------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>C56</td>
<td>Sp</td>
<td>2.5</td>
<td>0.1</td>
<td>-0.6</td>
<td>1.4</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>SP4</td>
<td>Sp</td>
<td>1.7</td>
<td>0.1</td>
<td>1.4</td>
<td>2.1</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colony</td>
<td>CO3.0</td>
<td>SP4</td>
<td>Sp</td>
<td>4.7</td>
<td>0.2</td>
<td>-0.2</td>
<td>1.8</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP13</td>
<td>Diop</td>
<td>4813</td>
<td>0.3</td>
<td>0</td>
<td>-1.5</td>
<td>1.8</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP13</td>
<td>Diop</td>
<td>4813</td>
<td>0.2</td>
<td>0</td>
<td>0.9</td>
<td>1.6</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP4</td>
<td>Herc</td>
<td>4813</td>
<td>6.2</td>
<td>0.3</td>
<td>0.7</td>
<td>1.3</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP2</td>
<td>Hib</td>
<td>4814</td>
<td>551</td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP2</td>
<td>Hib</td>
<td>4814</td>
<td>550.7</td>
<td>27.5</td>
<td>-0.1</td>
<td>5</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP4</td>
<td>Hib</td>
<td>4813</td>
<td>35.1</td>
<td>1.8</td>
<td>11.1</td>
<td>2.8</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>-----------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP4</td>
<td>Mel</td>
<td>4814</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP7</td>
<td>Mel</td>
<td>4814</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP9</td>
<td>Mel</td>
<td>4814</td>
<td>41</td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP10</td>
<td>Mel</td>
<td>4814</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP13</td>
<td>Mel</td>
<td>4814</td>
<td>33</td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP4</td>
<td>Mel</td>
<td>4814</td>
<td>8.4</td>
<td>0.4</td>
<td>0.5</td>
<td>2.7</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP4</td>
<td>Mel</td>
<td>4814</td>
<td>19.4</td>
<td>1</td>
<td>1.7</td>
<td>2.3</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Sample</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4813</td>
<td>15.8</td>
<td>0.8</td>
<td>6.2</td>
<td>2.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4813</td>
<td>7.2</td>
<td>0.4</td>
<td>2</td>
<td>1.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4813</td>
<td>7.7</td>
<td>0.4</td>
<td>7.5</td>
<td>1.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP7</td>
<td>Mel</td>
<td>4813</td>
<td>15.6</td>
<td>0.8</td>
<td>5.5</td>
<td>2.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP9</td>
<td>Mel</td>
<td>4813</td>
<td>16</td>
<td>0.8</td>
<td>3.6</td>
<td>2.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP13</td>
<td>Mel</td>
<td>4813</td>
<td>32.8</td>
<td>1.6</td>
<td>11.4</td>
<td>3.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>10.9</td>
<td>0.5</td>
<td>1.1</td>
<td>2.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>14.4</td>
<td>0.7</td>
<td>-1.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>14.4</td>
<td>0.7</td>
<td>-1.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>14.4</td>
<td>0.7</td>
<td>-1.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>14.4</td>
<td>0.7</td>
<td>-1.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>14.4</td>
<td>0.7</td>
<td>-1.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>14.4</td>
<td>0.7</td>
<td>-1.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>14.4</td>
<td>0.7</td>
<td>-1.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>14.4</td>
<td>0.7</td>
<td>-1.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>14.4</td>
<td>0.7</td>
<td>-1.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>14.4</td>
<td>0.7</td>
<td>-1.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>14.4</td>
<td>0.7</td>
<td>-1.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>14.4</td>
<td>0.7</td>
<td>-1.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>14.4</td>
<td>0.7</td>
<td>-1.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>14.4</td>
<td>0.7</td>
<td>-1.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>14.4</td>
<td>0.7</td>
<td>-1.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>14.4</td>
<td>0.7</td>
<td>-1.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>14.4</td>
<td>0.7</td>
<td>-1.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>14.4</td>
<td>0.7</td>
<td>-1.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Mel</td>
<td>4814</td>
<td>14.4</td>
<td>0.7</td>
<td>-1.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP7</td>
<td>Mel</td>
<td>4813</td>
<td>12.5</td>
<td>0.6</td>
<td>2.9</td>
<td>1.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP7</td>
<td>Mel</td>
<td>4813</td>
<td>18.9</td>
<td>0.9</td>
<td>5.6</td>
<td>2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP7</td>
<td>Mel</td>
<td>4813</td>
<td>6.6</td>
<td>0.3</td>
<td>1.5</td>
<td>1.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP7</td>
<td>Mel</td>
<td>4813</td>
<td>6.4</td>
<td>0.3</td>
<td>6.1</td>
<td>1.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP7</td>
<td>Mel</td>
<td>4813</td>
<td>7.9</td>
<td>0.4</td>
<td>3.9</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP7</td>
<td>Mel</td>
<td>4813</td>
<td>13.5</td>
<td>0.7</td>
<td>5.5</td>
<td>2.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP9</td>
<td>Mel</td>
<td>4813</td>
<td>39</td>
<td>2</td>
<td>9.1</td>
<td>3.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP9</td>
<td>Mel</td>
<td>4813</td>
<td>41</td>
<td>2</td>
<td>11.6</td>
<td>3.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP9</td>
<td>Mel</td>
<td>4813</td>
<td>14.6</td>
<td>0.7</td>
<td>3.4</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Russell et al. 1998
<table>
<thead>
<tr>
<th>Felix</th>
<th>CO3.3</th>
<th>CTA?</th>
<th>SP10</th>
<th>Mel</th>
<th>4813</th>
<th>7.8</th>
<th>0.4</th>
<th>12.6</th>
<th>2.4</th>
<th>PAN mod. CAM IMS 3f</th>
<th>Russell et al. 1998</th>
</tr>
</thead>
<tbody>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP10</td>
<td>Mel</td>
<td>4813</td>
<td>13.9</td>
<td>0.7</td>
<td>4.7</td>
<td>2.9</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP10</td>
<td>Mel</td>
<td>4813</td>
<td>8.7</td>
<td>0.4</td>
<td>3.3</td>
<td>2.2</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP10</td>
<td>Mel</td>
<td>4813</td>
<td>15.6</td>
<td>0.8</td>
<td>2.1</td>
<td>2.6</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP10</td>
<td>Mel</td>
<td>4813</td>
<td>17.8</td>
<td>0.9</td>
<td>5.7</td>
<td>2.6</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP10</td>
<td>Mel</td>
<td>4813</td>
<td>12.5</td>
<td>0.6</td>
<td>6.8</td>
<td>2.1</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP13</td>
<td>Mel</td>
<td>4813</td>
<td>32.1</td>
<td>1.6</td>
<td>14.7</td>
<td>3.3</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP13</td>
<td>Mel</td>
<td>4813</td>
<td>17.4</td>
<td>0.9</td>
<td>6.3</td>
<td>2.7</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP13</td>
<td>Mel</td>
<td>4813</td>
<td>19.9</td>
<td>1</td>
<td>7.3</td>
<td>3.2</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP13</td>
<td>Mel</td>
<td>4813</td>
<td>11.8</td>
<td>0.6</td>
<td>4.4</td>
<td>2.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP13</td>
<td>Mel</td>
<td>4813</td>
<td>25.6</td>
<td>1.3</td>
<td>4.2</td>
<td>2.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP4</td>
<td>Sp</td>
<td>4814</td>
<td>4.1</td>
<td>0.2</td>
<td>6.6</td>
<td>1.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP4</td>
<td>Sp</td>
<td>4814</td>
<td>3.2</td>
<td>0.2</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP10</td>
<td>Sp</td>
<td>4813</td>
<td>5.5</td>
<td>0.3</td>
<td>2.6</td>
<td>2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP6</td>
<td>Sp</td>
<td>4813</td>
<td>5.8</td>
<td>0.3</td>
<td>3.3</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP9</td>
<td>Sp</td>
<td>4813</td>
<td>5.1</td>
<td>0.3</td>
<td>1.1</td>
<td>1.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP9</td>
<td>Sp</td>
<td>4813</td>
<td>4.9</td>
<td>0.2</td>
<td>-0.9</td>
<td>1.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felix</td>
<td>CO3.3</td>
<td>CTA?</td>
<td>SP10</td>
<td>Sp</td>
<td>4813</td>
<td>4.3</td>
<td>0.2</td>
<td>6.3</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PAN mod. CAM IMS 3f
Russell et al. 1998
<table>
<thead>
<tr>
<th></th>
<th>CO3.3</th>
<th>CTA?</th>
<th>SP4</th>
<th>Hib-Herc</th>
<th>4814</th>
<th>35</th>
<th>PAN mod. CAM IMS 3f</th>
<th>Russell et al. 1998</th>
</tr>
</thead>
<tbody>
<tr>
<td>Felix</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isna</td>
<td>CO3.8</td>
<td>SP1</td>
<td>An</td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Isna</td>
<td>CO3.8</td>
<td>SP16</td>
<td>Hib</td>
<td></td>
<td></td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Isna</td>
<td>CO3.8</td>
<td>SP1</td>
<td>An</td>
<td></td>
<td>172</td>
<td></td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Isna</td>
<td>CO3.8</td>
<td>SP16</td>
<td>Hib</td>
<td></td>
<td>1554</td>
<td>78</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Isna</td>
<td>CO3.8</td>
<td>SP16</td>
<td>Hib</td>
<td></td>
<td>2502</td>
<td>125</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Isna</td>
<td>CO3.8</td>
<td>SP1</td>
<td>Sp</td>
<td></td>
<td>7</td>
<td>0.3</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Kainsaz</td>
<td>CO3.2</td>
<td>SP1</td>
<td>Mel</td>
<td></td>
<td>16.1</td>
<td>0.8</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Kainsaz</td>
<td>CO3.2</td>
<td>SP22</td>
<td>Mel</td>
<td></td>
<td>21.7</td>
<td>1.1</td>
<td>PAN mod. CAM IMS 3f</td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Kainsaz</td>
<td>CO3.2</td>
<td>SP1</td>
<td>Mel</td>
<td>13.9</td>
<td>0.7</td>
<td>1.2</td>
<td>4.3</td>
<td>PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>---------------------</td>
</tr>
<tr>
<td>Kainsaz</td>
<td>CO3.2</td>
<td>SP1</td>
<td>Mel</td>
<td>12.9</td>
<td>0.6</td>
<td>2.4</td>
<td>3.8</td>
<td>PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>Kainsaz</td>
<td>CO3.2</td>
<td>SP1</td>
<td>Mel</td>
<td>12.2</td>
<td>0.6</td>
<td>-0.1</td>
<td>4.1</td>
<td>PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>Kainsaz</td>
<td>CO3.2</td>
<td>SP1</td>
<td>Mel</td>
<td>15.7</td>
<td>0.8</td>
<td>-0.6</td>
<td>4</td>
<td>PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>Kainsaz</td>
<td>CO3.2</td>
<td>SP1</td>
<td>Mel</td>
<td>8.6</td>
<td>0.4</td>
<td>1.3</td>
<td>2.9</td>
<td>PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>Kainsaz</td>
<td>CO3.2</td>
<td>SP1</td>
<td>Mel</td>
<td>21</td>
<td>1.1</td>
<td>5</td>
<td>3</td>
<td>PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>Kainsaz</td>
<td>CO3.2</td>
<td>SP22</td>
<td>Mel</td>
<td>7.3</td>
<td>0.4</td>
<td>1.8</td>
<td>1.8</td>
<td>PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>Kainsaz</td>
<td>CO3.2</td>
<td>SP22</td>
<td>Mel</td>
<td>11.8</td>
<td>0.6</td>
<td>-3.5</td>
<td>6.6</td>
<td>PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>Kainsaz</td>
<td>CO3.2</td>
<td>SP22</td>
<td>Mel</td>
<td>17</td>
<td>0.9</td>
<td>1.7</td>
<td>4.3</td>
<td>PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>Location</td>
<td>CO3.2</td>
<td>SP22</td>
<td>Sp</td>
<td>1.6</td>
<td>0.1</td>
<td>-0.4</td>
<td>1.8</td>
<td>PAN mod. CAM IMS 3f</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>------</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>-------------------</td>
</tr>
<tr>
<td>Kainsaz</td>
<td>CO3.2</td>
<td>SPI</td>
<td>Mel</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Kainsaz</td>
<td>CO3.2</td>
<td>SP22</td>
<td>Mel</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td>Russell et al. 1998</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4815 SP2</td>
<td>Microsp</td>
<td>Altered</td>
<td>20</td>
<td>1</td>
<td>4.8</td>
<td>4.9</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4815 SP2</td>
<td>Microsp</td>
<td>Altered</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4811 SP10</td>
<td>Microsp</td>
<td>Herc</td>
<td>7.6</td>
<td>0.4</td>
<td>0.7</td>
<td>2.6</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4811 SP10</td>
<td>Microsp</td>
<td>Hib</td>
<td>12.1</td>
<td>0.6</td>
<td>4.5</td>
<td>2.1</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4811 SP10</td>
<td>Microsp</td>
<td>Hib</td>
<td>20.5</td>
<td>1</td>
<td>5.2</td>
<td>2.8</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4811 SP10</td>
<td>Microsp</td>
<td>Hib</td>
<td>10.1</td>
<td>0.5</td>
<td>2.4</td>
<td>2.9</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4811 SP10</td>
<td>Microsp</td>
<td>Hib</td>
<td>13</td>
<td>0.7</td>
<td>-0.3</td>
<td>4.2</td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
<td>-----------</td>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4811 SP10</td>
<td>Microsp</td>
<td>Hib</td>
<td>11.9</td>
<td>0.6</td>
<td>0.6</td>
<td>3.9</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4811 SP10</td>
<td>Microsp</td>
<td>Hib</td>
<td>17.9</td>
<td>0.9</td>
<td>8.8</td>
<td>3.7</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4811 SP15</td>
<td>Microsp</td>
<td>Mel</td>
<td>29.1</td>
<td>1.5</td>
<td>-3.2</td>
<td>10.2</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4811 SP15</td>
<td>Microsp</td>
<td>Mel</td>
<td>41.2</td>
<td>2.1</td>
<td>6.1</td>
<td>5.2</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4811 SP15</td>
<td>Microsp</td>
<td>Mel</td>
<td>53.1</td>
<td>2.7</td>
<td>14.2</td>
<td>6.7</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4811 SP15</td>
<td>Microsp</td>
<td>Mel</td>
<td>2.8</td>
<td>0.1</td>
<td>0.2</td>
<td>2.6</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4811 SP15</td>
<td>Microsp</td>
<td>Mel</td>
<td>9.1</td>
<td>0.5</td>
<td>2.3</td>
<td>14.2</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4811 SP15</td>
<td>Microsp</td>
<td>Mel</td>
<td>6.7</td>
<td>0.3</td>
<td>-0.1</td>
<td>3</td>
</tr>
<tr>
<td>Location</td>
<td>CO3.5</td>
<td>4815 SP2</td>
<td>Microsp</td>
<td>Mel</td>
<td>6.8</td>
<td>0.3</td>
<td>-0.7</td>
<td>5.2</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>----------</td>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4815 SP2</td>
<td>Microsp</td>
<td>Mel</td>
<td>8.9</td>
<td>0.4</td>
<td>5.8</td>
<td>5.1</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4815 SP2</td>
<td>Microsp</td>
<td>Mel</td>
<td>10.9</td>
<td>0.5</td>
<td>14.4</td>
<td>10.8</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4815 SP2</td>
<td>Microsp</td>
<td>Mel</td>
<td>5.6</td>
<td>0.3</td>
<td>4.8</td>
<td>8.7</td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4815 SP10</td>
<td>Microsp</td>
<td>Mel</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3.5</td>
<td>4815 SP15</td>
<td>Microsp</td>
<td>Mel</td>
<td>53</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ormans</td>
<td>CO3.4</td>
<td>17</td>
<td>Mel</td>
<td>SP17</td>
<td>68.3</td>
<td>3.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ormans</td>
<td>CO3.4</td>
<td>18</td>
<td>Mel</td>
<td>SP18</td>
<td>19.1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ormans</td>
<td>CO3.4</td>
<td>17</td>
<td>Mel</td>
<td>SP17</td>
<td>28</td>
<td>1.4</td>
<td>6.5</td>
<td>2.8</td>
</tr>
<tr>
<td>Location</td>
<td>CO</td>
<td>SP</td>
<td>Mel</td>
<td>SP</td>
<td>PAN</td>
<td>CAM</td>
<td>IMS 3f</td>
<td>Reference</td>
</tr>
<tr>
<td>----------</td>
<td>----</td>
<td>----</td>
<td>-----</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>--------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Ornans</td>
<td>CO3.4</td>
<td>SP18</td>
<td>Mel</td>
<td>SP18</td>
<td>14.8</td>
<td>0.7</td>
<td>4.6</td>
<td>2.8</td>
</tr>
<tr>
<td>Ornans</td>
<td>CO3.4</td>
<td>SP17</td>
<td>Mel</td>
<td>SP17</td>
<td>68.3</td>
<td>3.4</td>
<td>20.7</td>
<td>5.3</td>
</tr>
<tr>
<td>Ornans</td>
<td>CO3.4</td>
<td>SP18</td>
<td>Mel</td>
<td>SP18</td>
<td>18.4</td>
<td>0.9</td>
<td>2.9</td>
<td>2.1</td>
</tr>
<tr>
<td>Ornans</td>
<td>CO3.4</td>
<td>SP18</td>
<td>Mel</td>
<td>SP18</td>
<td>19.1</td>
<td>1</td>
<td>7.1</td>
<td>2.7</td>
</tr>
<tr>
<td>Ornans</td>
<td>CO3.4</td>
<td>SP18</td>
<td>Mel</td>
<td>SP18</td>
<td>15.5</td>
<td>0.8</td>
<td>5.9</td>
<td>2.4</td>
</tr>
<tr>
<td>Ornans</td>
<td>CO3.4</td>
<td>SP18</td>
<td>Mel</td>
<td>SP18</td>
<td>18.4</td>
<td>0.9</td>
<td>3.9</td>
<td>2.1</td>
</tr>
<tr>
<td>Ornans</td>
<td>CO3.4</td>
<td>SP17</td>
<td>Sp</td>
<td>SP17</td>
<td>2.8</td>
<td>0.1</td>
<td>1.9</td>
<td>1.7</td>
</tr>
<tr>
<td>Ornans</td>
<td>CO3.4</td>
<td>SP17</td>
<td>Sp</td>
<td>SP17</td>
<td>2.8</td>
<td>0.1</td>
<td>4.1</td>
<td>1.6</td>
</tr>
<tr>
<td>Ornans</td>
<td>CO3.4</td>
<td>SP18</td>
<td>Sp</td>
<td>SP18</td>
<td>4.7</td>
<td>0.2</td>
<td>-1</td>
<td>2</td>
</tr>
<tr>
<td>Location</td>
<td>CO3.4</td>
<td>SP18</td>
<td>Sp</td>
<td>SP18</td>
<td>4.6</td>
<td>0.2</td>
<td>3.8</td>
<td>1.5</td>
</tr>
<tr>
<td>------------</td>
<td>-------</td>
<td>------</td>
<td>----</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Warrenton</td>
<td>CO3.7</td>
<td>CTA</td>
<td>SP1</td>
<td>Diop</td>
<td>2.9</td>
<td>0.1</td>
<td>-0.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Warrenton</td>
<td>CO3.7</td>
<td>CTA</td>
<td>SP1</td>
<td>Herc</td>
<td>5.4</td>
<td>0.3</td>
<td>0.7</td>
<td>2.3</td>
</tr>
<tr>
<td>Warrenton</td>
<td>CO3.7</td>
<td>CTA</td>
<td>SP1</td>
<td>Herc</td>
<td>7.1</td>
<td>0.4</td>
<td>1.9</td>
<td>3.8</td>
</tr>
<tr>
<td>Warrenton</td>
<td>CO3.7</td>
<td>CTA</td>
<td>SP1</td>
<td>Hib</td>
<td>9</td>
<td>0.5</td>
<td>0.4</td>
<td>4.3</td>
</tr>
<tr>
<td>Warrenton</td>
<td>CO3.7</td>
<td>CTA</td>
<td>SP4</td>
<td>Hib</td>
<td>94.4</td>
<td>4.7</td>
<td>9</td>
<td>6.1</td>
</tr>
<tr>
<td>Warrenton</td>
<td>CO3.7</td>
<td>CTA</td>
<td>SP4</td>
<td>Hib</td>
<td>117</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warrenton</td>
<td>CO3.7</td>
<td>CTA</td>
<td>SP1</td>
<td>Hib</td>
<td>11</td>
<td>0.5</td>
<td>1.6</td>
<td>2.7</td>
</tr>
<tr>
<td>Warrenton</td>
<td>CO3.7</td>
<td>CTA</td>
<td>SP1</td>
<td>Hib</td>
<td>10.7</td>
<td>0.5</td>
<td>4.9</td>
<td>2.7</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Location</th>
<th>Sample</th>
<th>Type</th>
<th>Method</th>
<th>PAN mod. CAM IMS 3f</th>
<th>PAN mod. CAM IMS 3f</th>
<th>PAN mod. CAM IMS 3f</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warrenton</td>
<td>CO3.7</td>
<td>CTA</td>
<td>SP1</td>
<td>Hib</td>
<td>11</td>
<td>0.6</td>
</tr>
<tr>
<td>Warrenton</td>
<td>CO3.7</td>
<td>CTA</td>
<td>SP4</td>
<td>Hib</td>
<td>116.6</td>
<td>5.8</td>
</tr>
<tr>
<td>Warrenton</td>
<td>CO3.7</td>
<td>CTA</td>
<td>SP1</td>
<td>Hib-Herc</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WR</td>
<td>WR</td>
<td>0.124</td>
<td>0.03</td>
<td>0.13</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WR</td>
<td>WR</td>
<td>-0.431</td>
<td>0.097</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WR</td>
<td>WR</td>
<td>0.131</td>
<td>-0.350</td>
<td>0.13</td>
</tr>
<tr>
<td>Begaa</td>
<td>LL3</td>
<td>WR</td>
<td>WR</td>
<td>-0.273</td>
<td>0.082</td>
<td></td>
</tr>
<tr>
<td>Begaa</td>
<td>LL3</td>
<td>WR</td>
<td>WR</td>
<td>0.089</td>
<td>-0.17</td>
<td>0.22</td>
</tr>
<tr>
<td>Begaa</td>
<td>LL3</td>
<td>WR</td>
<td>WR</td>
<td>0.089</td>
<td>0.19</td>
<td>0.18</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
</tr>
<tr>
<td>Bovedy</td>
<td>L3</td>
<td></td>
<td></td>
<td></td>
<td>WR</td>
<td>WR</td>
</tr>
<tr>
<td>Bovedy</td>
<td>L3</td>
<td></td>
<td></td>
<td></td>
<td>WR</td>
<td>WR</td>
</tr>
<tr>
<td>Bovedy</td>
<td>L3</td>
<td></td>
<td></td>
<td></td>
<td>WR</td>
<td>WR</td>
</tr>
<tr>
<td>Gujba</td>
<td>CBa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gujba</td>
<td>CBa</td>
<td></td>
<td></td>
<td></td>
<td>WR</td>
<td>WR</td>
</tr>
<tr>
<td>Gujba</td>
<td>CBa</td>
<td></td>
<td></td>
<td></td>
<td>WR</td>
<td>WR</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td></td>
<td>WR</td>
<td>WR</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td></td>
<td>WR</td>
<td>WR</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td></td>
<td>WR</td>
<td>WR</td>
</tr>
<tr>
<td>NWA 1180</td>
<td>CR2</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>0.094</td>
<td>0.077</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>--------</td>
<td>----</td>
<td>----</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>NWA 1180</td>
<td>CR2</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>0.094</td>
<td>-0.26</td>
</tr>
<tr>
<td>NWA 1180</td>
<td>CR2</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>-0.288</td>
<td>0.067</td>
</tr>
<tr>
<td>NWA 1232</td>
<td>CO3</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>0.102</td>
<td>-0.345</td>
</tr>
<tr>
<td>NWA 1232</td>
<td>CO3</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>-0.394</td>
<td>0.057</td>
</tr>
<tr>
<td>NWA 1559</td>
<td>CK3</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>0.131</td>
<td>-0.2</td>
</tr>
<tr>
<td>NWA 1559</td>
<td>CK3</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>0.131</td>
<td>0.09</td>
</tr>
<tr>
<td>NWA 1559</td>
<td>CK3</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>-0.38</td>
<td>0.088</td>
</tr>
<tr>
<td>NWA 1563</td>
<td>CK3</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>-0.204</td>
<td>0.092</td>
</tr>
<tr>
<td>ID</td>
<td>Type</td>
<td>WR</td>
<td>WR</td>
<td>Value 1</td>
<td>Value 2</td>
<td>Value 3</td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>NWA 2364</td>
<td>CV3</td>
<td>WR</td>
<td>WR</td>
<td>0.13</td>
<td>-0.18</td>
<td>0.11</td>
</tr>
<tr>
<td>NWA 2364</td>
<td>CV3</td>
<td>WR</td>
<td>WR</td>
<td>0.13</td>
<td>0.2</td>
<td>0.34</td>
</tr>
<tr>
<td>NWA 2364</td>
<td>CV3</td>
<td>WR</td>
<td>WR</td>
<td>-0.148</td>
<td>0.074</td>
<td>0.0</td>
</tr>
<tr>
<td>NWA 4428</td>
<td>CM2</td>
<td>WR</td>
<td>WR</td>
<td>0.115</td>
<td>0.092</td>
<td>0.09</td>
</tr>
<tr>
<td>NWA 4428</td>
<td>CM2</td>
<td>WR</td>
<td>WR</td>
<td>-0.26</td>
<td>0.045</td>
<td>0.045</td>
</tr>
<tr>
<td>NWA 530</td>
<td>CR2</td>
<td>WR</td>
<td>WR</td>
<td>0.097</td>
<td>0.153</td>
<td>0.026</td>
</tr>
<tr>
<td>NWA 530</td>
<td>CR2</td>
<td>WR</td>
<td>WR</td>
<td>-0.21</td>
<td>0.07</td>
<td>0.07</td>
</tr>
<tr>
<td>NWA 530</td>
<td>CR2</td>
<td>WR</td>
<td>WR</td>
<td>0.097</td>
<td>0.09</td>
<td>0.14</td>
</tr>
<tr>
<td>NWA 763</td>
<td>CO3</td>
<td>WR</td>
<td>WR</td>
<td>0.11</td>
<td>-0.15</td>
<td>0.14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>--------</td>
<td>--------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>----------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>0.11</td>
<td>0.2</td>
</tr>
<tr>
<td>NWA 763</td>
<td>CO3</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NWA 763</td>
<td>CO3</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td></td>
<td>-0.33</td>
</tr>
<tr>
<td>NWA 801</td>
<td>CR2</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td></td>
<td>-0.332</td>
</tr>
<tr>
<td>Orgueil</td>
<td>C11</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>0.113</td>
<td>-0.16</td>
</tr>
<tr>
<td>Orgueil</td>
<td>C11</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td></td>
<td>-0.231</td>
</tr>
<tr>
<td>Portales Valley</td>
<td>H6</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>0.087</td>
<td>-0.22</td>
</tr>
<tr>
<td>Portales Valley</td>
<td>H6</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>0.087</td>
<td>0.12</td>
</tr>
<tr>
<td>Portales Valley</td>
<td>H6</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>0.087</td>
<td>-0.391</td>
</tr>
<tr>
<td>SAH97096</td>
<td>EH3</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>0.081</td>
<td>-0.243</td>
</tr>
</tbody>
</table>

Schiller et al. 2010a
<table>
<thead>
<tr>
<th>Sample</th>
<th>Label</th>
<th>WR</th>
<th>WR</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Method</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAH97096</td>
<td>EH3</td>
<td></td>
<td></td>
<td>0.081</td>
<td></td>
<td>MC-ICPMS</td>
<td>Schiller et al. 2010a</td>
</tr>
<tr>
<td>SAH97096</td>
<td>EH3</td>
<td></td>
<td></td>
<td></td>
<td>-0.235</td>
<td>MC-ICPMS</td>
<td>Schiller et al. 2010a</td>
</tr>
<tr>
<td>SAU 290</td>
<td>CH3</td>
<td></td>
<td></td>
<td>0.094</td>
<td>0.34</td>
<td>MC-ICPMS</td>
<td>Schiller et al. 2010a</td>
</tr>
<tr>
<td>SAU 290</td>
<td>CH3</td>
<td></td>
<td></td>
<td></td>
<td>-0.264</td>
<td>MC-ICPMS</td>
<td>Schiller et al. 2010a</td>
</tr>
<tr>
<td>SAU 290</td>
<td>CH3</td>
<td></td>
<td></td>
<td>0.094</td>
<td>0.08</td>
<td>MC-ICPMS</td>
<td>Schiller et al. 2010a</td>
</tr>
<tr>
<td>Talbachat</td>
<td>LL3</td>
<td></td>
<td></td>
<td>0.086</td>
<td>-0.04</td>
<td>MC-ICPMS</td>
<td>Schiller et al. 2010a</td>
</tr>
<tr>
<td>Talbachat</td>
<td>LL3</td>
<td></td>
<td></td>
<td>0.086</td>
<td>0.12</td>
<td>MC-ICPMS</td>
<td>Schiller et al. 2010a</td>
</tr>
<tr>
<td>Talbachat</td>
<td>LL3</td>
<td></td>
<td></td>
<td></td>
<td>-0.34</td>
<td>MC-ICPMS</td>
<td>Schiller et al. 2010a</td>
</tr>
<tr>
<td>Angra dos Reis</td>
<td>Ang</td>
<td></td>
<td></td>
<td>0.98</td>
<td>-0.431</td>
<td>MC-ICPMS (NUP)</td>
<td>Schiller et al. 2010b</td>
</tr>
<tr>
<td>Location</td>
<td>Type</td>
<td>WR</td>
<td>WR</td>
<td>1</td>
<td>0.36</td>
<td>0.32</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>---------------</td>
<td>--------</td>
<td>----</td>
<td>----</td>
<td>---</td>
<td>------</td>
<td>------</td>
<td>----------------</td>
</tr>
<tr>
<td>Angra dos Reis</td>
<td>Ang</td>
<td></td>
<td></td>
<td>1</td>
<td>0.36</td>
<td>0.32</td>
<td></td>
</tr>
<tr>
<td>Bilanga</td>
<td>HED</td>
<td>WR</td>
<td>WR</td>
<td>0.032</td>
<td>-0.168</td>
<td>0.079</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>Camel Donga</td>
<td>Euc mmict</td>
<td>WR</td>
<td>WR</td>
<td>2.03</td>
<td>-0.14</td>
<td>0.22</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>Dhofar 007</td>
<td>Lunar</td>
<td>WR</td>
<td>WR</td>
<td>0.99</td>
<td>-0.12</td>
<td>0.15</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>D'Orbigny</td>
<td>Ang</td>
<td>Feld</td>
<td>Feld</td>
<td>28.7</td>
<td>0.37</td>
<td>0.41</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>D'Orbigny</td>
<td>Ang</td>
<td>Feld</td>
<td>Feld</td>
<td>110</td>
<td>1.24</td>
<td>0.46</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>D'Orbigny</td>
<td>Ang</td>
<td>Ol</td>
<td>Ol</td>
<td>0.07</td>
<td>-0.34</td>
<td>0.42</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>D'Orbigny</td>
<td>Ang</td>
<td>Pyrx</td>
<td>Pyrx</td>
<td>1.23</td>
<td>0.33</td>
<td>0.13</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>D'Orbigny</td>
<td>Ang</td>
<td>WR</td>
<td>WR</td>
<td>2.45</td>
<td>0.163</td>
<td>0.099</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>Juvinas</td>
<td>Euc mmict</td>
<td>WR</td>
<td>WR</td>
<td>1.71</td>
<td>-0.17</td>
<td>0.13</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
<td>----</td>
<td>----</td>
<td>------</td>
<td>--------</td>
<td>------</td>
<td>----------------</td>
</tr>
<tr>
<td>Lewis Cliff (LEW) 86010</td>
<td>Ang</td>
<td>WR</td>
<td>WR</td>
<td>1.62</td>
<td>-0.16</td>
<td>0.19</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>Millibillillie</td>
<td>Euc mmict</td>
<td>WR</td>
<td>Frag./WR</td>
<td>2</td>
<td>-0.12</td>
<td>0.12</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>NWA 1296</td>
<td>Ang</td>
<td>WR</td>
<td>WR</td>
<td>1.87</td>
<td>-0.33</td>
<td>0.14</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>NWA 2976</td>
<td>Achondrite - Ungrouped</td>
<td>NWA 2976</td>
<td>Feld</td>
<td>Feld</td>
<td>143.7</td>
<td>0.203</td>
<td>0.117</td>
</tr>
<tr>
<td>NWA 2976</td>
<td>Achondrite - Ungrouped</td>
<td>NWA 2976</td>
<td>Feld</td>
<td>Feld</td>
<td>258.1</td>
<td>-0.092</td>
<td>0.107</td>
</tr>
<tr>
<td>NWA 2976</td>
<td>Achondrite - Ungrouped</td>
<td>NWA 2976</td>
<td>Pyrx</td>
<td>Pyrx</td>
<td>0.27</td>
<td>-0.18</td>
<td>0.15</td>
</tr>
<tr>
<td>NWA 2976</td>
<td>Achondrite - Ungrouped</td>
<td>NWA 2976</td>
<td>Pyrx</td>
<td>Pyrx</td>
<td>0.35</td>
<td>-0.102</td>
<td>0.099</td>
</tr>
<tr>
<td>NWA 2976</td>
<td>Achondrite - Ungrouped</td>
<td>NWA 2976</td>
<td>WR</td>
<td>WR</td>
<td>1.9</td>
<td>-0.081</td>
<td>0.089</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>-----</td>
<td>----------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td></td>
<td>NWA 2999</td>
<td>Ang</td>
<td>NWA 2999</td>
<td>WR</td>
<td>WR</td>
<td>0.21</td>
<td>-0.047</td>
</tr>
<tr>
<td>NWA 530</td>
<td>CR2</td>
<td>WR</td>
<td>WR</td>
<td>0.097</td>
<td>-0.22</td>
<td>0.21</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>SAH97096</td>
<td>EH3</td>
<td>WR</td>
<td>WR</td>
<td>0.073</td>
<td>-0.243</td>
<td>0.061</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>SAH99555</td>
<td>Ang</td>
<td>Feld</td>
<td>Feld</td>
<td>17.4</td>
<td>0.03</td>
<td>0.215</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>SAH99555</td>
<td>Ang</td>
<td>Feld</td>
<td>Feld</td>
<td>86.9</td>
<td>0.121</td>
<td>0.103</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>SAH99555</td>
<td>Ang</td>
<td>Ol</td>
<td>Ol</td>
<td>0.063</td>
<td>-0.49</td>
<td>0.15</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>SAH99555</td>
<td>Ang</td>
<td>Pyrx</td>
<td>Pyrx</td>
<td>1.36</td>
<td>0.064</td>
<td>0.092</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>SAH99555</td>
<td>Ang</td>
<td>Pyrx</td>
<td>Pyrx</td>
<td>1.42</td>
<td>0.08</td>
<td>0.11</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>SAH99555</td>
<td>Ang</td>
<td>Pyrx</td>
<td>Pyrx</td>
<td>1.48</td>
<td>-0.06</td>
<td>0.11</td>
<td>MC-ICPMS (NUP)</td>
</tr>
<tr>
<td>Sample</td>
<td>Type</td>
<td>WR</td>
<td>WR</td>
<td>Value</td>
<td>Error</td>
<td>Method</td>
<td>Reference</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------</td>
<td>------</td>
<td>------</td>
<td>--------</td>
<td>--------</td>
<td>--------------</td>
<td>---------------</td>
</tr>
<tr>
<td>SAH99555</td>
<td>Ang</td>
<td>WR</td>
<td>WR</td>
<td>2</td>
<td>-0.153</td>
<td>0.068</td>
<td>Schiller et al. 2010b</td>
</tr>
<tr>
<td>SAH99555</td>
<td>Ang</td>
<td>WR</td>
<td>WR</td>
<td>2.35</td>
<td>-0.01</td>
<td>0.17</td>
<td>Schiller et al. 2010b</td>
</tr>
<tr>
<td>Vaca Muerta 1991.304</td>
<td>Meso.-A1</td>
<td>Polymict Bas. clast</td>
<td>Polymict Bas. clast</td>
<td>1.42</td>
<td>-0.16</td>
<td>0.11</td>
<td>Schiller et al. 2010b</td>
</tr>
<tr>
<td>Vaca Muerta 1991.305</td>
<td>Meso.-A1</td>
<td>Polymict Bas. clast</td>
<td>Polymict Bas. clast</td>
<td>1.69</td>
<td>0.043</td>
<td>0.056</td>
<td>Schiller et al. 2010b</td>
</tr>
<tr>
<td>Vaca Muerta 1991.306</td>
<td>Meso.-A1</td>
<td>Polymict Bas. clast</td>
<td>Polymict Bas. clast</td>
<td>2.03</td>
<td>-0.11</td>
<td>0.27</td>
<td>Schiller et al. 2010b</td>
</tr>
<tr>
<td>Bruderheim</td>
<td>L6</td>
<td>Feld</td>
<td>III</td>
<td></td>
<td></td>
<td>MS</td>
<td>Schramm et al. 1970</td>
</tr>
<tr>
<td>Bruderheim</td>
<td>L6</td>
<td>Feld</td>
<td>IV</td>
<td></td>
<td></td>
<td>MS</td>
<td>Schramm et al. 1970</td>
</tr>
<tr>
<td>Bruderheim</td>
<td>L6</td>
<td>WR</td>
<td>WR</td>
<td></td>
<td></td>
<td>MS</td>
<td>Schramm et al. 1970</td>
</tr>
<tr>
<td>Bruderheim</td>
<td>L6</td>
<td>WR</td>
<td>WR</td>
<td></td>
<td></td>
<td>MS</td>
<td>Schramm et al. 1970</td>
</tr>
<tr>
<td>Sample</td>
<td>Type</td>
<td>C5 Chond.</td>
<td>Feld</td>
<td>C5 Feld Inclus.</td>
<td>MS</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
<td>-----------</td>
<td>------</td>
<td>----------------</td>
<td>----</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>Colomera</td>
<td>Iron, IIE</td>
<td>?</td>
<td>Feld</td>
<td>Feld Separate</td>
<td>MS</td>
<td>Schramm et al. 1970</td>
<td></td>
</tr>
<tr>
<td>Guareña</td>
<td>H6</td>
<td></td>
<td>Feld</td>
<td>Feld Separate</td>
<td>MS</td>
<td>Schramm et al. 1970</td>
<td></td>
</tr>
<tr>
<td>Juvinas</td>
<td>Euc-mmict</td>
<td>Feld</td>
<td>Feld Separate</td>
<td>MS</td>
<td>Schramm et al. 1970</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juvinas</td>
<td>Euc-mmict</td>
<td>Feld</td>
<td>Feld Separate</td>
<td>MS</td>
<td>Schramm et al. 1970</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Khor Temiki</td>
<td>Aubrite/Enstatite achondrite</td>
<td>Feld</td>
<td></td>
<td>MS</td>
<td>Schramm et al. 1970</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lunar Rock 10024</td>
<td>Lunar</td>
<td></td>
<td>Feld Separate</td>
<td>MS</td>
<td>Schramm et al. 1970</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lunar Rock 12013</td>
<td>Lunar</td>
<td></td>
<td>Feld Separate</td>
<td>MS</td>
<td>Schramm et al. 1970</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lunar Rock 12064</td>
<td>Lunar</td>
<td></td>
<td>Feld Separate</td>
<td>MS</td>
<td>Schramm et al. 1970</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moore Co I</td>
<td>Euc-cm</td>
<td></td>
<td>Feld Separate</td>
<td>MS</td>
<td>Schramm et al. 1970</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Type</td>
<td>Sample Code</td>
<td>POI</td>
<td>Mineral</td>
<td>Project Code</td>
<td>Formula</td>
<td>Field</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------</td>
<td>-------------</td>
<td>-----</td>
<td>---------</td>
<td>---------------</td>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>Moore Co II</td>
<td>Euc-cm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pasamonte</td>
<td>Euc-pmict</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saint- Séverin</td>
<td>LL6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adelaide</td>
<td>C2- ungrouped</td>
<td>ADEL-1</td>
<td>POI</td>
<td>OI</td>
<td>ADEL-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adelaide</td>
<td>C2- ungrouped</td>
<td>ADEL-1</td>
<td>POI</td>
<td>Plag</td>
<td>ADEL-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adelaide</td>
<td>C2- ungrouped</td>
<td>BG82CH1H1plag1</td>
<td>POI</td>
<td>Plag</td>
<td>BG82CH1plag1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adelaide</td>
<td>C2- ungrouped</td>
<td>BG82CH1H1plag2</td>
<td>POI</td>
<td>Plag</td>
<td>BG82CH1plag2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adelaide</td>
<td>C2- ungrouped</td>
<td>BG82CH1H1plag3</td>
<td>POI</td>
<td>Plag</td>
<td>BG82CH1plag3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adelaide</td>
<td>C2- ungrouped</td>
<td>ADEL-1 sp1</td>
<td>POI</td>
<td>Sp</td>
<td>ADEL-1 sp1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Unit</td>
<td>Sample</td>
<td>POI</td>
<td>Sp</td>
<td>15Csp2</td>
<td>15Csp2</td>
<td>0.6</td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>--------</td>
<td>-----</td>
<td>----</td>
<td>--------</td>
<td>--------</td>
<td>-----</td>
</tr>
<tr>
<td>Adelaide</td>
<td>C2-ungrouped</td>
<td>ADEL-1 sp2</td>
<td>POI</td>
<td>Sp</td>
<td>ADEL-1 sp2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82C Ljb</td>
<td>POI</td>
<td>Ol</td>
<td>BG82CLJ b ol1</td>
<td></td>
<td>0.6</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82C Ljb</td>
<td>POI</td>
<td>Ol</td>
<td>BG82CLJ b ol2</td>
<td></td>
<td>0.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82C Ljb</td>
<td>POI</td>
<td>Ol</td>
<td>BG82DH 2 ol1</td>
<td></td>
<td>2.4</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82C Ljb</td>
<td>POI</td>
<td>Ol</td>
<td>BG82CLI 1 ol1</td>
<td></td>
<td>0.9</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>5ALLB 6</td>
<td>POI</td>
<td>Ol</td>
<td>5ALLB6 Ol1</td>
<td></td>
<td>0.9</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3510</td>
<td>POI</td>
<td>Ol</td>
<td>3510 Ol1</td>
<td></td>
<td>-2.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3510</td>
<td>POI</td>
<td>Ol</td>
<td>3510 Ol1</td>
<td></td>
<td>2.5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3510</td>
<td>POI</td>
<td>Ol</td>
<td>3510 Ol1</td>
<td></td>
<td>-0.8</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>PPX</td>
<td>POI</td>
<td>Ol</td>
<td>PPX ol1</td>
<td>-1.7</td>
<td>1.5</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>----</td>
<td>--------</td>
<td>------</td>
<td>----</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82CLJa</td>
<td>POI</td>
<td>Ol</td>
<td>BG82CLJa ol1</td>
<td>0.3</td>
<td>1.2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Redeye</td>
<td>POI</td>
<td>Ol</td>
<td>REDEYE ol1</td>
<td>-1.1</td>
<td>0.2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Redeye</td>
<td>POI</td>
<td>Ol</td>
<td>REDEYE ol2</td>
<td>-0.4</td>
<td>0.2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>5ALLB 6</td>
<td>POI</td>
<td>Plag</td>
<td>5ALLB6 plag1</td>
<td>173</td>
<td>5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>5ALLB 6</td>
<td>POI</td>
<td>Plag</td>
<td>5ALLB6 plag2</td>
<td>161</td>
<td>5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>5ALLB 6</td>
<td>POI</td>
<td>Plag</td>
<td>5ALLB6 plag3</td>
<td>222</td>
<td>5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>5ALLB 6</td>
<td>POI</td>
<td>Plag</td>
<td>5ALLB6 plag4</td>
<td>130</td>
<td>5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82DH H2</td>
<td>POI</td>
<td>Plag</td>
<td>BG82DH 2 plag1</td>
<td>62</td>
<td>5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82D H2 plag2</td>
<td>POI</td>
<td>Plag</td>
<td>BG82DH 2 plag2</td>
<td>87</td>
<td>5</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----------------</td>
<td>-----</td>
<td>------</td>
<td>----------------</td>
<td>-----</td>
<td>---</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>BG82C IJa</td>
<td>POI</td>
<td>Plag</td>
<td>BG82CII a plag1</td>
<td>78</td>
<td>5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B14D</td>
<td>POI</td>
<td>Plag</td>
<td>B14D plag1</td>
<td>85</td>
<td>5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B14D</td>
<td>POI</td>
<td>Plag</td>
<td>B14D plag2</td>
<td>159</td>
<td>5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3510</td>
<td>POI</td>
<td>Plag</td>
<td>3510 plag1</td>
<td>59</td>
<td>5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3510</td>
<td>POI</td>
<td>Plag</td>
<td>3510 An 1</td>
<td>98</td>
<td>5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3510</td>
<td>POI</td>
<td>Plag</td>
<td>3510 An 2-1</td>
<td>128</td>
<td>5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3510</td>
<td>POI</td>
<td>Plag</td>
<td>3510 An 2-2</td>
<td>103</td>
<td>5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3510</td>
<td>POI</td>
<td>Plag</td>
<td>3510 An 2-3</td>
<td>86</td>
<td>5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3510</td>
<td>POI</td>
<td>Plag</td>
<td>3510 An 5</td>
<td>114</td>
<td>5</td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
<td>------</td>
<td>-----</td>
<td>------</td>
<td>-----------</td>
<td>-----</td>
<td>---</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Redeye</td>
<td>POI</td>
<td>Plag</td>
<td>REDEYE plag1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Chond.</td>
<td>POI</td>
<td>Pyrx</td>
<td>5ALLB6 px1</td>
<td></td>
<td>3.3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Chond.</td>
<td>POI</td>
<td>Pyrx</td>
<td>5ALLB6 px2</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Chond.</td>
<td>POI</td>
<td>Pyrx</td>
<td>5ALLB6 px3</td>
<td></td>
<td>-0.2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Chond.</td>
<td>POI</td>
<td>Pyrx</td>
<td>5ALLB6 px4</td>
<td></td>
<td>-0.3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Chond.</td>
<td>POI</td>
<td>Pyrx</td>
<td>5ALLB6 px5</td>
<td></td>
<td>-1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Chond.</td>
<td>POI</td>
<td>Pyrx</td>
<td>5ALLB6 px6</td>
<td></td>
<td>2.8</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>5ALLB6 6</td>
<td>POI</td>
<td>Sp</td>
<td>5ALLB6 sp1</td>
<td></td>
<td>3.1</td>
</tr>
<tr>
<td>Sample</td>
<td>Type</td>
<td>Code</td>
<td>POI</td>
<td>Sp</td>
<td>5ALLB6 (sp1)</td>
<td>5ALLB6 (sp2)</td>
<td>5ALLB6 (sp3)</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>----</td>
<td>-------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>5ALLB 6</td>
<td>POI</td>
<td>Sp</td>
<td>5ALLB6 sp2</td>
<td>5ALLB6 sp3</td>
<td>0.1 sp4</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>1009</td>
<td>POI</td>
<td>Sp</td>
<td>LEO1009 sp1</td>
<td>LEO1009 sp2</td>
<td>1.80 sp5</td>
</tr>
<tr>
<td>Unk</td>
<td>POI</td>
<td>78</td>
<td>Plag</td>
<td>5</td>
<td>BG82CLI plag1</td>
<td>BG82CLI plag1</td>
<td>78 5</td>
</tr>
<tr>
<td>Unk</td>
<td>Pyrx Pallasite grouplet</td>
<td>POI</td>
<td>Plag</td>
<td>PPX plag1</td>
<td>183</td>
<td>5</td>
<td>-2.1</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Unk</td>
<td>Pyrx Pallasite grouplet</td>
<td>POI</td>
<td>Plag</td>
<td>PPX plag2</td>
<td>150</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Unk</td>
<td>Diog</td>
<td>POI</td>
<td>Plag</td>
<td>ALA1-2 plag1</td>
<td>178</td>
<td>5</td>
<td>-0.6</td>
</tr>
<tr>
<td>Unk</td>
<td>Diog</td>
<td>POI</td>
<td>Pyrx</td>
<td>BG82DH 2 px1</td>
<td>1.2</td>
<td>1.1</td>
<td>IM PAN IMS 3f</td>
</tr>
<tr>
<td>Unk</td>
<td>Diog</td>
<td>POI</td>
<td>Pyrx</td>
<td>BG82DH 2 px2</td>
<td>0</td>
<td>1.4</td>
<td>IM PAN IMS 3f</td>
</tr>
<tr>
<td>Unk</td>
<td>Diog</td>
<td>POI</td>
<td>Pyrx</td>
<td>ALA1-2 px1</td>
<td>1.5</td>
<td>1.6</td>
<td>IM PAN IMS 3f</td>
</tr>
<tr>
<td>Unk</td>
<td>Diog</td>
<td>POI</td>
<td>Pyrx</td>
<td>ALA1-2 px2</td>
<td>-1.4</td>
<td>1.6</td>
<td>IM PAN IMS 3f</td>
</tr>
<tr>
<td>Unk</td>
<td>Pyrx</td>
<td>POI</td>
<td>Pyrx</td>
<td>BG82CLI 1 px1</td>
<td>3.2</td>
<td>1.5</td>
<td>IM PAN IMS 3f</td>
</tr>
<tr>
<td>Unk</td>
<td>Pyrx</td>
<td>POI</td>
<td>Pyrx</td>
<td>BG82CLI 1 px2</td>
<td>0</td>
<td>1.7</td>
<td>IM PAN IMS 3f</td>
</tr>
<tr>
<td>Unk</td>
<td></td>
<td></td>
<td>POI</td>
<td>Pyrx</td>
<td>BG82CLI</td>
<td>1 px3</td>
<td>-1.1</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-----------------------------</td>
<td>-----------------------------</td>
<td>---------------------------------------------</td>
<td>---------------</td>
<td>---------------</td>
<td>-------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Unk</td>
<td></td>
<td></td>
<td>POI</td>
<td>Sp</td>
<td>BG82DH</td>
<td>2 sp1</td>
<td>0.9</td>
</tr>
<tr>
<td>Unk</td>
<td></td>
<td></td>
<td>POI</td>
<td>Sp</td>
<td>BG82DH</td>
<td>2 sp2</td>
<td>2.4</td>
</tr>
<tr>
<td>Unk</td>
<td>Diog</td>
<td></td>
<td>POI</td>
<td>Sp</td>
<td>ALA1-2 sp1</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td>Unk</td>
<td>Diog</td>
<td></td>
<td>POI</td>
<td>Sp</td>
<td>ALA1-2 sp2</td>
<td>0.1</td>
<td>1.7</td>
</tr>
<tr>
<td>Unk</td>
<td>Diog</td>
<td></td>
<td>POI</td>
<td>Sp</td>
<td>ALA1-2 sp3</td>
<td>2.3</td>
<td>1.8</td>
</tr>
<tr>
<td>Unk</td>
<td>Diog</td>
<td></td>
<td>POI</td>
<td>Sp</td>
<td>ALA1-2 sp4</td>
<td>0.8</td>
<td>1.7</td>
</tr>
<tr>
<td>Unk</td>
<td></td>
<td></td>
<td>POI</td>
<td>Sp</td>
<td>BG82CLI</td>
<td>1 sp1</td>
<td>2.2</td>
</tr>
<tr>
<td>Unk</td>
<td></td>
<td></td>
<td>POI</td>
<td>Sp</td>
<td>BG82CLI</td>
<td>1 sp2</td>
<td>2.4</td>
</tr>
<tr>
<td>Material</td>
<td>Location</td>
<td>Mass Class</td>
<td>Process</td>
<td>POI</td>
<td>Sp</td>
<td>Im</td>
<td>PAN</td>
</tr>
<tr>
<td>-------------</td>
<td>----------</td>
<td>------------</td>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>-----</td>
</tr>
<tr>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
<td>POI</td>
<td>Sp</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
<td>POI</td>
<td>Sp</td>
<td>3</td>
<td>0.2</td>
</tr>
<tr>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
<td>POI</td>
<td>Sp</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
<td>POI</td>
<td>Sp</td>
<td>3</td>
<td>1.6</td>
</tr>
<tr>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
<td>POI</td>
<td>Sp</td>
<td>3</td>
<td>1.7</td>
</tr>
<tr>
<td>Unk</td>
<td></td>
<td></td>
<td></td>
<td>POI</td>
<td>Sp</td>
<td>3</td>
<td>2.3</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3</td>
<td></td>
<td></td>
<td>Plag</td>
<td>V477</td>
<td>plag1</td>
<td>111</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>B? M98-8</td>
<td></td>
<td>Hib</td>
<td>M98-8</td>
<td>113.6</td>
<td>8.1</td>
</tr>
<tr>
<td>Sample</td>
<td>Type</td>
<td>Group</td>
<td>#</td>
<td>Plag</td>
<td>#</td>
<td>Method</td>
<td>Reference</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>-------</td>
<td>---</td>
<td>-------</td>
<td>---</td>
<td>--------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>B?</td>
<td>M98-8</td>
<td>Hib</td>
<td></td>
<td>168.6</td>
<td>-0.4</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>B?</td>
<td>M98-8</td>
<td>Hib</td>
<td></td>
<td>215</td>
<td>27</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>B?</td>
<td>M98-8</td>
<td>Hib</td>
<td></td>
<td>80.9</td>
<td>0.6</td>
</tr>
<tr>
<td>Acfer 094 #1</td>
<td>C2-ungrouped</td>
<td>1</td>
<td>Plag</td>
<td>#1 Plag1</td>
<td></td>
<td>36.8</td>
<td>3.9</td>
</tr>
<tr>
<td>Acfer 094 #1</td>
<td>C2-ungrouped</td>
<td>1</td>
<td>Plag</td>
<td>#1 Plag2</td>
<td></td>
<td>59.9</td>
<td>3.9</td>
</tr>
<tr>
<td>Acfer 094 #1</td>
<td>C2-ungrouped</td>
<td>1</td>
<td>Plag</td>
<td>#1 Plag3</td>
<td></td>
<td>35.9</td>
<td>2.3</td>
</tr>
<tr>
<td>Acfer 094 #1</td>
<td>C2-ungrouped</td>
<td>1</td>
<td>Plag</td>
<td>#1 Plag4</td>
<td></td>
<td>60.2</td>
<td>4</td>
</tr>
<tr>
<td>Sample</td>
<td>Material</td>
<td>Count</td>
<td>Plag</td>
<td># Plag</td>
<td>SIMS</td>
<td>CAM</td>
<td>IMS 3f</td>
</tr>
<tr>
<td>----------</td>
<td>-----------</td>
<td>-------</td>
<td>------</td>
<td>--------</td>
<td>------</td>
<td>-----</td>
<td>--------</td>
</tr>
<tr>
<td>Acfer 094 #1</td>
<td>C2-ungrouped</td>
<td>1</td>
<td>Plag</td>
<td>#1 Plag5</td>
<td>32.6</td>
<td>2.1</td>
<td>3.5</td>
</tr>
<tr>
<td>Acfer 094 #10</td>
<td>C2-ungrouped</td>
<td>10</td>
<td>Plag</td>
<td>#10 Plag1</td>
<td>275</td>
<td>29</td>
<td>27</td>
</tr>
<tr>
<td>Acfer 094 #10</td>
<td>C2-ungrouped</td>
<td>10</td>
<td>Plag</td>
<td>#10 Plag2</td>
<td>722</td>
<td>46</td>
<td>42</td>
</tr>
<tr>
<td>Acfer 094 #10</td>
<td>C2-ungrouped</td>
<td>10</td>
<td>Plag</td>
<td>#10 Plag3</td>
<td>325</td>
<td>23</td>
<td>45</td>
</tr>
<tr>
<td>Acfer 094 #10</td>
<td>C2-ungrouped</td>
<td>10</td>
<td>Plag</td>
<td>#10 Plag4</td>
<td>612</td>
<td>54</td>
<td>25</td>
</tr>
<tr>
<td>Acfer 094 #2</td>
<td>C2-ungrouped</td>
<td>2</td>
<td>Plag</td>
<td>#2 Plag1</td>
<td>45.1</td>
<td>3.9</td>
<td>1.1</td>
</tr>
<tr>
<td>Sample</td>
<td>Group</td>
<td>Count</td>
<td>Type</td>
<td>ID</td>
<td>Plag</td>
<td>SIMS</td>
<td>CAM</td>
</tr>
<tr>
<td>------------</td>
<td>--------</td>
<td>-------</td>
<td>--------</td>
<td>--------</td>
<td>-------</td>
<td>------</td>
<td>-----</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>#2</td>
<td>C2-ungrouped</td>
<td>2</td>
<td>Plag</td>
<td>#2 Plag2</td>
<td>44.8</td>
<td>3.1</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>#2</td>
<td>C2-ungrouped</td>
<td>2</td>
<td>Plag</td>
<td>#2 Plag3</td>
<td>36.9</td>
<td>3.1</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>#2</td>
<td>C2-ungrouped</td>
<td>2</td>
<td>Plag</td>
<td>#2 Plag4</td>
<td>39.1</td>
<td>3.2</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>#3</td>
<td>C2-ungrouped</td>
<td>3</td>
<td>Plag</td>
<td>#3 Plag1</td>
<td>27.9</td>
<td>1.7</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>#3</td>
<td>C2-ungrouped</td>
<td>3</td>
<td>Plag</td>
<td>#3 Plag2</td>
<td>33.5</td>
<td>2.1</td>
</tr>
<tr>
<td>Acfer 094</td>
<td>#3</td>
<td>C2-ungrouped</td>
<td>3</td>
<td>Plag</td>
<td>#3 Plag3</td>
<td>32.1</td>
<td>2</td>
</tr>
<tr>
<td>Sample</td>
<td>C2-ungrouped</td>
<td>Plag</td>
<td>#3 Plag4</td>
<td>28.1</td>
<td>1.8</td>
<td>0.2</td>
<td>4.7</td>
</tr>
<tr>
<td>--------</td>
<td>--------------</td>
<td>------</td>
<td>----------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Acfer 094 #3</td>
<td>C2-ungrouped</td>
<td>Plag</td>
<td>#4 Plag1</td>
<td>47.8</td>
<td>3.8</td>
<td>0.1</td>
<td>4.9</td>
</tr>
<tr>
<td>Acfer 094 #4</td>
<td>C2-ungrouped</td>
<td>Plag</td>
<td>#4 Plag2</td>
<td>74.2</td>
<td>6.5</td>
<td>-3.2</td>
<td>4.5</td>
</tr>
<tr>
<td>Acfer 094 #4</td>
<td>C2-ungrouped</td>
<td>Plag</td>
<td>#4 Plag3</td>
<td>37.8</td>
<td>4.0</td>
<td>0.9</td>
<td>4.1</td>
</tr>
<tr>
<td>Acfer 094 #4</td>
<td>C2-ungrouped</td>
<td>Plag</td>
<td>#4 Plag4</td>
<td>44.2</td>
<td>3.6</td>
<td>-2.9</td>
<td>5.6</td>
</tr>
<tr>
<td>Acfer 094 #5</td>
<td>C2-ungrouped</td>
<td>Plag</td>
<td>#5 Plag1</td>
<td>28.6</td>
<td>2.8</td>
<td>-2.7</td>
<td>3.4</td>
</tr>
<tr>
<td>Sample</td>
<td>Location</td>
<td>C2- Ungrouped</td>
<td>5</td>
<td>Plag</td>
<td>#5 Plag2</td>
<td>#5 Plag3</td>
<td>43.7</td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
<td>---------------</td>
<td>---</td>
<td>------</td>
<td>----------</td>
<td>----------</td>
<td>------</td>
</tr>
<tr>
<td>Acfer 094 #5</td>
<td>C2- Ungrouped</td>
<td>5</td>
<td>Plag</td>
<td>#5 Plag2</td>
<td>24.1</td>
<td>0.5</td>
<td>-3.8</td>
</tr>
<tr>
<td>Adrar 003 #1</td>
<td>L/LL3.10</td>
<td>Adrar 003 #1 Plag1</td>
<td>POI</td>
<td>Plag</td>
<td>Adrar 003 #1 Plag2</td>
<td>43.7</td>
<td>7.9</td>
</tr>
<tr>
<td>Adrar 003 #1</td>
<td>L/LL3.10</td>
<td>Adrar 003 #1 Plag2</td>
<td>POI</td>
<td>Plag</td>
<td>Adrar 003 #1 Plag2</td>
<td>35.9</td>
<td>6.4</td>
</tr>
<tr>
<td>Adrar 003 #1</td>
<td>L/LL3.10</td>
<td>Adrar 003 #1 Plag2</td>
<td>POI</td>
<td>Plag</td>
<td>Adrar 003 #1 Plag2</td>
<td>33.7</td>
<td>5.8</td>
</tr>
<tr>
<td>Adrar 003 #1</td>
<td>L/LL3.10</td>
<td>Adrar 003 #1 Plag2</td>
<td>POI</td>
<td>Plag</td>
<td>Adrar 003 #1 Plag2</td>
<td>52.7</td>
<td>9.4</td>
</tr>
<tr>
<td>Plag</td>
<td>POI</td>
<td>Adrar 003 #1 Plag5</td>
<td>Adrar 003 #1 Plag5</td>
<td>SIMS CAM IMS 3f and NanoSI MS WUSL Sokol et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-----</td>
<td>-------------------</td>
<td>-------------------</td>
<td>--------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38.3</td>
<td>6.8</td>
<td>2.5</td>
<td>3.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrar 003 #2 Plag1</td>
<td>POI</td>
<td>Adrar 003 #2 Plag1</td>
<td>Adrar 003 #2 Plag1</td>
<td>SIMS CAM IMS 3f and NanoSI MS WUSL Sokol et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>82.4</td>
<td>10.6</td>
<td>-1</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrar 003 #2 Plag2</td>
<td>POI</td>
<td>Adrar 003 #2 Plag2</td>
<td>Adrar 003 #2 Plag2</td>
<td>SIMS CAM IMS 3f and NanoSI MS WUSL Sokol et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51.7</td>
<td>8</td>
<td>2</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrar 003 #2 Plag3</td>
<td>POI</td>
<td>Adrar 003 #2 Plag3</td>
<td>Adrar 003 #2 Plag3</td>
<td>SIMS CAM IMS 3f and NanoSI MS WUSL Sokol et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56.7</td>
<td>3.6</td>
<td>1.5</td>
<td>5.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrar 003 #2 Plag4</td>
<td>POI</td>
<td>Adrar 003 #2 Plag4</td>
<td>Adrar 003 #2 Plag4</td>
<td>SIMS CAM IMS 3f and NanoSI MS WUSL Sokol et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55.3</td>
<td>3.7</td>
<td>1.7</td>
<td>4.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adrar 003 #2 Plag5</td>
<td>POI</td>
<td>Adrar 003 #2 Plag5</td>
<td>Adrar 003 #2 Plag5</td>
<td>SIMS CAM IMS 3f and NanoSI MS WUSL Sokol et al. 2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55.4</td>
<td>3.6</td>
<td>0.2</td>
<td>5.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Sample</td>
<td>Marker 1</td>
<td>Marker 2</td>
<td>Marker 3</td>
<td>Marker 4</td>
<td>Marker 5</td>
<td>Marker 6</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Adrar 003 #2</td>
<td>L/LL3.10</td>
<td>POI</td>
<td>Plag</td>
<td>POI</td>
<td>Plag</td>
<td>97.4</td>
<td>6.8</td>
</tr>
<tr>
<td>Adrar 003 #3</td>
<td>L/LL3.10</td>
<td>Plag</td>
<td>POI</td>
<td>Plag</td>
<td>31.7</td>
<td>6.3</td>
<td>8.4</td>
</tr>
<tr>
<td>Adrar 003 #3</td>
<td>L/LL3.10</td>
<td>Plag</td>
<td>POI</td>
<td>Plag</td>
<td>57.8</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Adrar 003 #3</td>
<td>L/LL3.10</td>
<td>Plag</td>
<td>POI</td>
<td>Plag</td>
<td>49</td>
<td>8.5</td>
<td>0.1</td>
</tr>
<tr>
<td>Adrar 003 #4</td>
<td>L/LL3.10</td>
<td>Plag</td>
<td>POI</td>
<td>Plag</td>
<td>47.1</td>
<td>20.6</td>
<td>1</td>
</tr>
<tr>
<td>Adrar 003 #4</td>
<td>L/LL3.10</td>
<td>Plag</td>
<td>POI</td>
<td>Plag</td>
<td>50.6</td>
<td>8.8</td>
<td>0</td>
</tr>
<tr>
<td>Sample</td>
<td>Location</td>
<td>Phase</td>
<td>POI</td>
<td>Plag</td>
<td>Plag</td>
<td>POI</td>
<td>Plag</td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
<td>-------</td>
<td>-----</td>
<td>-------</td>
<td>-------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Adrar 003 #4</td>
<td>L/LL3.10</td>
<td>Plag3</td>
<td>POI</td>
<td>Plag</td>
<td>Plag3</td>
<td>40.2</td>
<td>7.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Plag4</td>
<td>POI</td>
<td>Plag</td>
<td>Plag4</td>
<td>48.9</td>
<td>8.5</td>
</tr>
<tr>
<td>Adzhi Bogdo #4</td>
<td>LL3-6</td>
<td>Ortho clase</td>
<td>Or1</td>
<td>1910</td>
<td>160</td>
<td>-3</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ortho clase</td>
<td>Or2</td>
<td>2330</td>
<td>190</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ortho clase</td>
<td>Or3</td>
<td>1350</td>
<td>110</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ortho clase</td>
<td>Or4</td>
<td>1560</td>
<td>120</td>
<td>3.2</td>
<td>9.6</td>
</tr>
</tbody>
</table>

Sokol et al. 2007
<table>
<thead>
<tr>
<th>Adzhi Bogdo #4</th>
<th>LL3-6</th>
<th>Pyrx</th>
<th>Px1</th>
<th>0.027</th>
<th>0.004</th>
<th>-0.5</th>
<th>2.4</th>
<th>Sokol et al. 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adzhi Bogdo #5</td>
<td>LL3-6</td>
<td>Orthoclase</td>
<td>Or1</td>
<td>1950</td>
<td>140</td>
<td>2</td>
<td>11</td>
<td>Sokol et al. 2007</td>
</tr>
<tr>
<td>Adzhi Bogdo #5</td>
<td>LL3-6</td>
<td>Orthoclase</td>
<td>Or2</td>
<td>1990</td>
<td>150</td>
<td>-1</td>
<td>14</td>
<td>Sokol et al. 2007</td>
</tr>
<tr>
<td>Adzhi Bogdo #5</td>
<td>LL3-6</td>
<td>Orthoclase</td>
<td>Or3</td>
<td>1910</td>
<td>170</td>
<td>-10</td>
<td>14</td>
<td>Sokol et al. 2007</td>
</tr>
<tr>
<td>Adzhi Bogdo #5</td>
<td>LL3-6</td>
<td>Orthoclase</td>
<td>Or4</td>
<td>1860</td>
<td>180</td>
<td>6</td>
<td>13</td>
<td>Sokol et al. 2007</td>
</tr>
<tr>
<td>Adzhi Bogdo #5</td>
<td>LL3-6</td>
<td>Pyrx</td>
<td>Px1</td>
<td>0.03</td>
<td>0.003</td>
<td>-1.1</td>
<td>2.6</td>
<td>Sokol et al. 2007</td>
</tr>
<tr>
<td>Study Area</td>
<td>Sample Code</td>
<td>Pyroxene</td>
<td>Px2</td>
<td>Px3</td>
<td>#1b Plag1 Andesitic frag</td>
<td>#1b Plag2 Andesitic frag</td>
<td>#1b Plag3 Andesitic frag</td>
<td>#1b Plag4 Andesitic frag</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>--------------------------</td>
<td>--------------------------</td>
<td>--------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Adzhi Bogdo #5</td>
<td>LL3-6</td>
<td>0</td>
<td>0</td>
<td>0.4</td>
<td>7.6</td>
<td>Sims CAM IMS 3f and NanoSI MS WUSL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adzhi Bogdo #5</td>
<td>LL3-6</td>
<td>0</td>
<td>0</td>
<td>-0.9</td>
<td>5.4</td>
<td>Sims CAM IMS 3f and NanoSI MS WUSL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Butte</td>
<td>H3-6</td>
<td>2360</td>
<td>170</td>
<td>17.1</td>
<td>29.5</td>
<td>Sims CAM IMS 3f and NanoSI MS WUSL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Butte</td>
<td>H3-6</td>
<td>2230</td>
<td>850</td>
<td>-7</td>
<td>30</td>
<td>Sims CAM IMS 3f and NanoSI MS WUSL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Butte</td>
<td>H3-6</td>
<td>6600</td>
<td>2100</td>
<td>4</td>
<td>75</td>
<td>Sims CAM IMS 3f and NanoSI MS WUSL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Butte</td>
<td>H3-6</td>
<td>2800</td>
<td>1100</td>
<td>10</td>
<td>38</td>
<td>Sims CAM IMS 3f and NanoSI MS WUSL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Butte</td>
<td>H3-6</td>
<td>4a</td>
<td>Al-rich</td>
<td>Plag</td>
<td>#4a Plag1</td>
<td>1390</td>
<td>100</td>
<td>7</td>
</tr>
<tr>
<td>-------------</td>
<td>------</td>
<td>----</td>
<td>---------</td>
<td>------</td>
<td>----------</td>
<td>------</td>
<td>-----</td>
<td>---</td>
</tr>
<tr>
<td>Study Butte</td>
<td>H3-6</td>
<td>4a</td>
<td>Al-rich</td>
<td>Plag</td>
<td>#4a Plag1</td>
<td>690</td>
<td>61</td>
<td>-5</td>
</tr>
<tr>
<td>Study Butte</td>
<td>H3-6</td>
<td>4a</td>
<td>Al-rich</td>
<td>Plag</td>
<td>#4a Plag3</td>
<td>1036</td>
<td>97</td>
<td>16.7</td>
</tr>
<tr>
<td>Study Butte</td>
<td>H3-6</td>
<td>4a</td>
<td>Al-rich</td>
<td>Plag</td>
<td>#4a Plag4</td>
<td>4450</td>
<td>360</td>
<td>-7</td>
</tr>
<tr>
<td>Study Butte</td>
<td>H3-6</td>
<td>4a</td>
<td>Al-rich</td>
<td>Plag</td>
<td>#4a Plag5</td>
<td>2390</td>
<td>410</td>
<td>-4</td>
</tr>
<tr>
<td>Study Butte</td>
<td>H3-6</td>
<td>4e</td>
<td>PO</td>
<td>Plag</td>
<td>#4e Plag1</td>
<td>8900</td>
<td>1170</td>
<td>0</td>
</tr>
<tr>
<td>Study Butte</td>
<td>H3-6</td>
<td>4e</td>
<td>PO</td>
<td>Plag</td>
<td>#4e Plag2</td>
<td>8900</td>
<td>1200</td>
<td>6</td>
</tr>
<tr>
<td>Study Butte</td>
<td>H3-6</td>
<td>4e</td>
<td>PO</td>
<td>Plag</td>
<td>#4e Plag3</td>
<td>6820</td>
<td>540</td>
<td>33.1</td>
</tr>
<tr>
<td>Study Butte</td>
<td>H3-6</td>
<td>4e</td>
<td>PO</td>
<td>Plag</td>
<td>#4e Plag4</td>
<td>6310</td>
<td>440</td>
<td>-.9</td>
</tr>
<tr>
<td>Study Butte</td>
<td>H3-6</td>
<td>4e</td>
<td>PO</td>
<td>Plag</td>
<td>#4e Plag5</td>
<td>6580</td>
<td>430</td>
<td>27.2</td>
</tr>
<tr>
<td>D’Orbigny</td>
<td>Ang</td>
<td>Ol</td>
<td>OL</td>
<td>0.04</td>
<td>-0.128</td>
<td>0.072</td>
<td>MC-ICPMS (GV Field Museum)</td>
<td>Spivik-Birndorf et al. 2009</td>
</tr>
<tr>
<td>D’Orbigny</td>
<td>Ang</td>
<td>Plag</td>
<td>PL-1</td>
<td>77.18</td>
<td>0.048</td>
<td>0.028</td>
<td>MC-ICPMS (GV Field Museum)</td>
<td>Spivik-Birndorf et al. 2009</td>
</tr>
<tr>
<td>D’Orbigny</td>
<td>Ang</td>
<td>Plag</td>
<td>PL-2</td>
<td>107.39</td>
<td>0.388</td>
<td>0.074</td>
<td>MC-ICPMS (GV Field)</td>
<td>Spivik-Birndorf et al. 2009</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D’Orbigny</td>
<td>Ang</td>
<td>Pyrx</td>
<td>PX</td>
<td>1.02</td>
<td>-0.127</td>
<td>0.041</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D’Orbigny</td>
<td>Ang</td>
<td>WR</td>
<td>WR</td>
<td>1.68</td>
<td>-0.113</td>
<td>0.057</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAH99555</td>
<td>Angite</td>
<td>Plag</td>
<td>PL-1</td>
<td>34.9</td>
<td>-0.306</td>
<td>0.022</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAH99555</td>
<td>Angite</td>
<td>Plag</td>
<td>PL-2</td>
<td>32.56</td>
<td>-0.362</td>
<td>0.033</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAH99555</td>
<td>Angite</td>
<td>Plag</td>
<td>PL-3</td>
<td>57.75</td>
<td>-0.321</td>
<td>0.039</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAH99555</td>
<td>Angite</td>
<td>Pyrx</td>
<td>PX</td>
<td>1.29</td>
<td>-0.119</td>
<td>0.058</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sample</th>
<th>Type</th>
<th>Location</th>
<th>AXCA I-2571</th>
<th>WR</th>
<th>WR</th>
<th>1.68</th>
<th>-0.183</th>
<th>0.046</th>
<th>MC-ICPMS (GV Field Museum)</th>
<th>Author et al. 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAH99555</td>
<td>Angite</td>
<td>CV3 CTA</td>
<td>AXCA I-2571</td>
<td>Hib</td>
<td>Hib</td>
<td>25.8</td>
<td>1.3</td>
<td>0.5</td>
<td>0.5</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3 CTA</td>
<td>AXCA I-2771</td>
<td>Hib</td>
<td>Hib 1</td>
<td>20.5</td>
<td>1</td>
<td>-1.7</td>
<td>2.7</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3 CTA</td>
<td>AXCA I-2771</td>
<td>Hib</td>
<td>Hib 2</td>
<td>29.5</td>
<td>1.5</td>
<td>-1.3</td>
<td>2.8</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3 CTA</td>
<td>AXCA I-1571</td>
<td>Mel</td>
<td>Mel 1</td>
<td>29.6</td>
<td>1.6</td>
<td>12</td>
<td>3.9</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3 CTA</td>
<td>AXCA I-2271</td>
<td>Mel</td>
<td>Mel 1</td>
<td>17.4</td>
<td>0.9</td>
<td>-0.4</td>
<td>2.8</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3 CTA</td>
<td>AXCA I-2571</td>
<td>Mel</td>
<td>Mel 1</td>
<td>13</td>
<td>0.6</td>
<td>1.5</td>
<td>2.9</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3 CTA</td>
<td>AXCA I-2771</td>
<td>Mel</td>
<td>Mel 1</td>
<td>20.4</td>
<td>1</td>
<td>3</td>
<td>3.8</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3 B2</td>
<td>AXCA I-2775</td>
<td>Mel</td>
<td>Mel 1</td>
<td>13.8</td>
<td>0.7</td>
<td>4.5</td>
<td>2.3</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA</td>
<td>Mel</td>
<td>Mel 2</td>
<td>12.2</td>
<td>0.6</td>
<td>1</td>
<td>2.5</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA</td>
<td>Mel</td>
<td>Mel 3</td>
<td>30.2</td>
<td>1.5</td>
<td>3.2</td>
<td>4.9</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA</td>
<td>Mel</td>
<td>Mel 4</td>
<td>30.9</td>
<td>1.6</td>
<td>0.9</td>
<td>4.5</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA</td>
<td>Mel</td>
<td>Mel 5</td>
<td>24</td>
<td>1.2</td>
<td>-0.5</td>
<td>3.3</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA</td>
<td>Mel</td>
<td>Mel 6</td>
<td>12</td>
<td>0.6</td>
<td>0</td>
<td>2.5</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA</td>
<td>Mel</td>
<td>Mel 7</td>
<td>8.4</td>
<td>0.4</td>
<td>0.4</td>
<td>2.1</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA</td>
<td>Mel</td>
<td>Mel 8</td>
<td>8</td>
<td>0.4</td>
<td>-1.2</td>
<td>2.1</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA</td>
<td>Mel</td>
<td>Mel 9</td>
<td>7.8</td>
<td>0.4</td>
<td>0.3</td>
<td>2.1</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA</td>
<td>Mel</td>
<td>Mel 10</td>
<td>21.5</td>
<td>1.1</td>
<td>1.2</td>
<td>2.7</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2571</td>
<td>Mel</td>
<td>Mel 2</td>
<td>12</td>
<td>0.6</td>
<td>0.2</td>
<td>2.6</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
<td>-----</td>
<td>-------------</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----------------</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2571</td>
<td>Mel</td>
<td>Mel 3</td>
<td>10.2</td>
<td>0.5</td>
<td>-0.5</td>
<td>-0.5</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2571</td>
<td>Mel</td>
<td>Mel 4</td>
<td>4.7</td>
<td>0.2</td>
<td>-1.1</td>
<td>-1.1</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2571</td>
<td>Mel</td>
<td>Mel 5</td>
<td>8.9</td>
<td>0.4</td>
<td>-0.4</td>
<td>-0.4</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2571</td>
<td>Mel</td>
<td>Mel 6</td>
<td>8</td>
<td>0.4</td>
<td>1.3</td>
<td>1.3</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2571</td>
<td>Mel</td>
<td>Mel 7</td>
<td>5.7</td>
<td>0.2</td>
<td>-0.8</td>
<td>-0.8</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2271</td>
<td>Mel</td>
<td>Mel 2</td>
<td>17.7</td>
<td>0.9</td>
<td>0.4</td>
<td>2.3</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2271</td>
<td>Mel</td>
<td>Mel 3</td>
<td>13.8</td>
<td>0.7</td>
<td>0.2</td>
<td>2.4</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2271</td>
<td>Mel</td>
<td>Mel 4</td>
<td>13.2</td>
<td>0.7</td>
<td>1.1</td>
<td>2.4</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2271</td>
<td>Mel</td>
<td>Mel 5</td>
<td>25.4</td>
<td>1.3</td>
<td>4.1</td>
<td>2.9</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>--------</td>
<td>-----</td>
<td>-----</td>
<td>-------------</td>
<td>-----</td>
<td>-------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>----------------</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2271</td>
<td>Mel</td>
<td>Mel 6</td>
<td>20.2</td>
<td>1</td>
<td>1.4</td>
<td>2.9</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2271</td>
<td>Mel</td>
<td>Mel 7</td>
<td>22.4</td>
<td>1.1</td>
<td>-0.6</td>
<td>3</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2271</td>
<td>Mel</td>
<td>Mel 8</td>
<td>17.4</td>
<td>0.9</td>
<td>0.3</td>
<td>2.1</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2271</td>
<td>Mel</td>
<td>Mel 9</td>
<td>20</td>
<td>1</td>
<td>-0.6</td>
<td>2.8</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2271</td>
<td>Mel</td>
<td>Mel 10</td>
<td>29.5</td>
<td>1.5</td>
<td>-3.2</td>
<td>5.1</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-1571</td>
<td>Mel</td>
<td>Mel 2</td>
<td>21.4</td>
<td>1.1</td>
<td>8.6</td>
<td>3.2</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-1571</td>
<td>Mel</td>
<td>Mel 3</td>
<td>20.2</td>
<td>1.1</td>
<td>9.3</td>
<td>3</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-1571</td>
<td>Mel</td>
<td>Mel 4</td>
<td>10.7</td>
<td>0.5</td>
<td>3.6</td>
<td>2.6</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-1571</td>
<td>Mel</td>
<td>Mel 5</td>
<td>29.7</td>
<td>1.5</td>
<td>10.4</td>
<td>3.7</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>--------</td>
<td>-----</td>
<td>-----</td>
<td>-------------</td>
<td>-----</td>
<td>-------</td>
<td>------</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>------------------</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-1571</td>
<td>Mel</td>
<td>Mel 6</td>
<td>12.1</td>
<td>0.6</td>
<td>6.5</td>
<td>2.4</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-1571</td>
<td>Mel</td>
<td>Mel 7</td>
<td>20.2</td>
<td>1</td>
<td>8.4</td>
<td>3.1</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>B2</td>
<td>AXCA I-2775</td>
<td>Mel</td>
<td>Mel 2</td>
<td>8.7</td>
<td>0.5</td>
<td>3.8</td>
<td>1.8</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>B2</td>
<td>AXCA I-2775</td>
<td>Mel</td>
<td>Mel 3</td>
<td>10.4</td>
<td>0.5</td>
<td>5.2</td>
<td>2.2</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>B2</td>
<td>AXCA I-2775</td>
<td>Mel</td>
<td>Mel 4</td>
<td>9.9</td>
<td>0.5</td>
<td>3.4</td>
<td>2</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td></td>
<td>AXCH -2171</td>
<td>Ol</td>
<td>Ol 1</td>
<td>0.001</td>
<td>0.0001</td>
<td>-0.1</td>
<td>1</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td></td>
<td>AXCH -2272</td>
<td>Ol</td>
<td>Ol 1</td>
<td>0.0005</td>
<td>0.0001</td>
<td>-0.5</td>
<td>1.8</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td></td>
<td>AXCH -1471</td>
<td>Ol</td>
<td>Ol 1</td>
<td>0.0078</td>
<td>0.0006</td>
<td>0.9</td>
<td>2.1</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -1471</td>
<td>OI</td>
<td>OI 2</td>
<td>0.0013</td>
<td>0.0001</td>
<td>1.1</td>
<td>1.6</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>--------</td>
<td>-----</td>
<td>------------</td>
<td>----</td>
<td>------</td>
<td>--------</td>
<td>--------</td>
<td>-----</td>
<td>-----</td>
<td>------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -1471</td>
<td>OI</td>
<td>OI 3</td>
<td>0.0013</td>
<td>0.0004</td>
<td>2</td>
<td>1.4</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -1371</td>
<td>OI</td>
<td>OI 1</td>
<td>0.002</td>
<td>0.0001</td>
<td>-0.6</td>
<td>0.9</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>B2 AXCA I-2775</td>
<td>Plag</td>
<td>Plag</td>
<td>1333</td>
<td>70</td>
<td>4.7</td>
<td>11.3</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2171</td>
<td>Plag</td>
<td>Plag 1</td>
<td>33.5</td>
<td>2.1</td>
<td>-1.8</td>
<td>3.1</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2171</td>
<td>Plag</td>
<td>Plag 2</td>
<td>44.6</td>
<td>2.4</td>
<td>-0.3</td>
<td>3.5</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2171</td>
<td>Plag</td>
<td>Plag 3</td>
<td>83.1</td>
<td>4.2</td>
<td>-1</td>
<td>4.9</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2171</td>
<td>Plag</td>
<td>Plag 4</td>
<td>88.9</td>
<td>4.5</td>
<td>-0.3</td>
<td>4.3</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2171</td>
<td>Plag</td>
<td>Plag 5</td>
<td>85.8</td>
<td>4.7</td>
<td>-2</td>
<td>6</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2171</td>
<td>Plag</td>
<td>Plag 6</td>
<td>56.2</td>
<td>3</td>
<td>-1.1</td>
<td>4.7</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>--------</td>
<td>-----</td>
<td>------------</td>
<td>------</td>
<td>--------</td>
<td>------</td>
<td>---</td>
<td>------</td>
<td>-----</td>
<td>------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2171</td>
<td>Plag</td>
<td>Plag 7</td>
<td>60.9</td>
<td>3.1</td>
<td>-0.4</td>
<td>3.3</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2171</td>
<td>Plag</td>
<td>Plag 8</td>
<td>22.6</td>
<td>1.1</td>
<td>-1.1</td>
<td>2.6</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2171</td>
<td>Plag</td>
<td>Plag 9</td>
<td>29</td>
<td>1.5</td>
<td>0.9</td>
<td>2.4</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2171</td>
<td>Plag</td>
<td>Plag 10</td>
<td>66.8</td>
<td>3.4</td>
<td>-1.3</td>
<td>3.6</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2171</td>
<td>Plag</td>
<td>Plag 11</td>
<td>69.9</td>
<td>3.5</td>
<td>-0.8</td>
<td>4.4</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2171</td>
<td>Plag</td>
<td>Plag 12</td>
<td>75</td>
<td>3.8</td>
<td>2.2</td>
<td>4.3</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2272</td>
<td>Plag</td>
<td>Plag 1</td>
<td>56.2</td>
<td>2.8</td>
<td>-1.8</td>
<td>6.8</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2272</td>
<td>Plag</td>
<td>Plag 2</td>
<td>65.9</td>
<td>3.3</td>
<td>9.4</td>
<td>7</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td></td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2272</td>
<td>Plag</td>
<td>Plag 3</td>
<td>20.5</td>
<td>1</td>
<td>-3.7</td>
<td>3.8</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2272</td>
<td>Plag</td>
<td>Plag 4</td>
<td>28.9</td>
<td>1.5</td>
<td>3.3</td>
<td>4.7</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2272</td>
<td>Plag</td>
<td>Plag 5</td>
<td>39.8</td>
<td>2</td>
<td>3.6</td>
<td>5.5</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2272</td>
<td>Plag</td>
<td>Plag 6</td>
<td>6.2</td>
<td>0.3</td>
<td>0.3</td>
<td>3.1</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2272</td>
<td>Plag</td>
<td>Plag 7</td>
<td>15.1</td>
<td>0.8</td>
<td>0.7</td>
<td>3.5</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -2272</td>
<td>Plag</td>
<td>Plag 8</td>
<td>12.2</td>
<td>0.6</td>
<td>1.3</td>
<td>3.3</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -1471</td>
<td>Plag</td>
<td>Plag 1</td>
<td>109.5</td>
<td>5.7</td>
<td>4.4</td>
<td>3.1</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -1471</td>
<td>Plag</td>
<td>Plag 2</td>
<td>115.2</td>
<td>5.8</td>
<td>5.2</td>
<td>3.4</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -1471</td>
<td>Plag</td>
<td>Plag 3</td>
<td>165.2</td>
<td>8.3</td>
<td>5.7</td>
<td>4.1</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -1471</td>
<td>Plag</td>
<td>Plag 4</td>
<td>131.8</td>
<td>6.7</td>
<td>1.1</td>
<td>3.6</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>--------</td>
<td>-----</td>
<td>------------</td>
<td>------</td>
<td>--------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -1471</td>
<td>Plag</td>
<td>Plag 5</td>
<td>150.4</td>
<td>7.6</td>
<td>3</td>
<td>4.5</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -1471</td>
<td>Plag</td>
<td>Plag 6</td>
<td>144.8</td>
<td>7.3</td>
<td>5.4</td>
<td>3.9</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -1471</td>
<td>Plag</td>
<td>Plag 7</td>
<td>122.3</td>
<td>6.2</td>
<td>5.7</td>
<td>3.5</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -1371</td>
<td>Plag</td>
<td>Plag 8</td>
<td>118.1</td>
<td>5.9</td>
<td>3</td>
<td>3.5</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -1371</td>
<td>Plag</td>
<td>Plag 1</td>
<td>144.2</td>
<td>7.3</td>
<td>0.4</td>
<td>3.4</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -1371</td>
<td>Plag</td>
<td>Plag 2</td>
<td>127.1</td>
<td>6.4</td>
<td>2.1</td>
<td>3.7</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -1371</td>
<td>Plag</td>
<td>Plag 3</td>
<td>228.1</td>
<td>11.5</td>
<td>1.9</td>
<td>6</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH -1371</td>
<td>Plag</td>
<td>Plag 4</td>
<td>184</td>
<td>9.3</td>
<td>3</td>
<td>5.1</td>
<td>IM PAN CAM IMS 3f</td>
<td>Srinivasan et al. 2000</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>B2</td>
<td>AXCA I-2775</td>
<td>AXCH -1471</td>
<td>Pyrx</td>
<td>Pyrx 1</td>
<td>Pyrx 2</td>
<td>200.5</td>
<td>10.1</td>
<td>2.1</td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
<td>----</td>
<td>-------------</td>
<td>------------</td>
<td>--------</td>
<td>---------</td>
<td>---------</td>
<td>-------</td>
<td>------</td>
<td>-----</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>B2</td>
<td>AXCA I-2775</td>
<td>AXCH -1371</td>
<td>Pyrx</td>
<td>Pyrx 1</td>
<td>Pyrx 2</td>
<td>2.3</td>
<td>0.1</td>
<td>0.6</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td></td>
<td>AXCH -1471</td>
<td>AXCH -1471</td>
<td>Pyrx</td>
<td>Pyrx 1</td>
<td>Pyrx 2</td>
<td>0.24</td>
<td>0.01</td>
<td>1</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td></td>
<td>AXCH -1471</td>
<td>AXCH -1371</td>
<td>Pyrx</td>
<td>Pyrx 1</td>
<td>Pyrx 2</td>
<td>0.39</td>
<td>0.02</td>
<td>1.8</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td></td>
<td>AXCH -1371</td>
<td>AXCH -1371</td>
<td>Pyrx</td>
<td>Pyrx 1</td>
<td>Pyrx 2</td>
<td>0.509</td>
<td>0.025</td>
<td>-0.9</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>B2</td>
<td>AXCA I-2775</td>
<td>AXCH -1371</td>
<td>Sp</td>
<td>Sp</td>
<td>Sp 1</td>
<td>2.6</td>
<td>0.1</td>
<td>0.6</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>A</td>
<td>AXCA I-2771</td>
<td>AXCA I-2771</td>
<td>Sp</td>
<td>Sp 1</td>
<td>Sp 2</td>
<td>2.4</td>
<td>0.1</td>
<td>-0.5</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>A</td>
<td>AXCA I-2771</td>
<td>AXCA I-2771</td>
<td>Sp</td>
<td>Sp 2</td>
<td>Sp 3</td>
<td>2.4</td>
<td>0.1</td>
<td>-0.6</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>A</td>
<td>AXCA I-2771</td>
<td>AXCA I-2771</td>
<td>Sp</td>
<td>Sp 3</td>
<td>Sp 3</td>
<td>2.6</td>
<td>0.1</td>
<td>-0.6</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>A</td>
<td>AXCA I-2771</td>
<td>Sp</td>
<td>Sp 4</td>
<td>2.5</td>
<td>0.1</td>
<td>-1.2</td>
<td>2.4</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
<td>-------</td>
<td>-------------</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>-------------------</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2571</td>
<td>Sp</td>
<td>Sp 1</td>
<td>2.4</td>
<td>0.1</td>
<td>0</td>
<td>0</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2571</td>
<td>Sp</td>
<td>Sp 2</td>
<td>2.4</td>
<td>0.1</td>
<td>1.1</td>
<td>1.1</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2571</td>
<td>Sp</td>
<td>Sp 3</td>
<td>2.5</td>
<td>0.1</td>
<td>-1.5</td>
<td>-1.5</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2271</td>
<td>Sp</td>
<td>Sp 1</td>
<td>2.5</td>
<td>0.1</td>
<td>1.5</td>
<td>2</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-2271</td>
<td>Sp</td>
<td>Sp 2</td>
<td>2.5</td>
<td>0.1</td>
<td>-0.2</td>
<td>2.1</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-1571</td>
<td>Sp</td>
<td>Sp 1</td>
<td>2.9</td>
<td>0.1</td>
<td>1.2</td>
<td>3.2</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>CTA</td>
<td>AXCA I-1571</td>
<td>Sp</td>
<td>Sp 2</td>
<td>2.6</td>
<td>0.1</td>
<td>1.8</td>
<td>2.7</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH</td>
<td>AXCH -1471</td>
<td>Sp</td>
<td>Sp 1</td>
<td>2.4</td>
<td>0.1</td>
<td>1.7</td>
<td>2.2</td>
<td>IM PAN CAM IMS 3f</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>--------</td>
<td>-------</td>
<td>-----</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH</td>
<td>Sp</td>
<td>Sp 2</td>
<td>2.6</td>
<td>0.1</td>
<td>1.2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-1471</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH</td>
<td>Sp</td>
<td>Sp 3</td>
<td>2.6</td>
<td>0.1</td>
<td>0.7</td>
<td>1.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-1471</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH</td>
<td>Sp</td>
<td>Sp 4</td>
<td>2.6</td>
<td>0.1</td>
<td>0.5</td>
<td>1.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-1471</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH</td>
<td>Sp</td>
<td>Fe-rich</td>
<td>2.8</td>
<td>0.1</td>
<td>1.1</td>
<td>1.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-1471</td>
<td></td>
<td>Sp 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH</td>
<td>Sp</td>
<td>Fe-rich</td>
<td>2.7</td>
<td>0.1</td>
<td>-1.1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-1471</td>
<td></td>
<td>Sp 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Axtell</td>
<td>CV3</td>
<td>AXCH</td>
<td>Sp</td>
<td>Fe-rich</td>
<td>2.8</td>
<td>0.1</td>
<td>0.5</td>
<td>1.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-1471</td>
<td></td>
<td>Sp 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beaver Creek</td>
<td>H5</td>
<td>OI</td>
<td>BC r14</td>
<td>0.0032</td>
<td>0.0003</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beaver Creek</td>
<td>H5</td>
<td>OI</td>
<td>BCr15</td>
<td>0.0061</td>
<td>0.0004</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beaver Creek</td>
<td>H5</td>
<td>OI</td>
<td>BCr2</td>
<td>0.00035</td>
<td>0.00002</td>
<td>0.00002</td>
<td>0.00002</td>
<td>0.00002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beaver Creek</td>
<td>H5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>----</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ol</td>
<td>BCr7</td>
<td>0.0177</td>
<td>0.001</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ol</td>
<td>BCr7</td>
<td>0.00279</td>
<td>0.00011</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ol</td>
<td>BCr2</td>
<td>0.0109</td>
<td>0.0006</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ol</td>
<td>BCr2</td>
<td>0.112</td>
<td>0.005</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Plag</td>
<td>BCr4</td>
<td>3045</td>
<td>92</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Plag</td>
<td>BCr4</td>
<td>3019</td>
<td>93</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Plag</td>
<td>BCr4</td>
<td>2919</td>
<td>89</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Plag</td>
<td>BCr4</td>
<td>2670</td>
<td>81</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Plag</td>
<td>BCr14</td>
<td>3058</td>
<td>96</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
</tr>
<tr>
<td>Beaver Creek</td>
<td>H5</td>
<td>Plag</td>
<td>BCr14</td>
<td>2656</td>
<td>86</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>----</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td>----</td>
<td>-----------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beaver Creek</td>
<td>H5</td>
<td>Plag</td>
<td>BCr7</td>
<td>2881</td>
<td>89</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beaver Creek</td>
<td>H5</td>
<td>Plag</td>
<td>BCr2</td>
<td>2650</td>
<td>83</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beaver Creek</td>
<td>H5</td>
<td>Plag</td>
<td>BCr15</td>
<td>3073</td>
<td>97</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beaver Creek</td>
<td>H5</td>
<td>Plag</td>
<td>BCr15</td>
<td>3014</td>
<td>93</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beaver Creek</td>
<td>H5</td>
<td>Pyrx</td>
<td>BCr4</td>
<td>0.0039</td>
<td>0.0002</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beaver Creek</td>
<td>H5</td>
<td>Pyrx</td>
<td>BCr4</td>
<td>0.0091</td>
<td>0.0005</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beaver Creek</td>
<td>H5</td>
<td>Pyrx</td>
<td>BCr4</td>
<td>0.00286</td>
<td>0.00012</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beaver Creek</td>
<td>H5</td>
<td>Pyrx</td>
<td>BCr14</td>
<td>0.043</td>
<td>0.004</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>H5</td>
<td>H5</td>
<td>Pyrox</td>
<td>BCr15</td>
<td>0.0062</td>
<td>0.0003</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>----</td>
<td>----</td>
<td>-------</td>
<td>-------</td>
<td>---------</td>
<td>---------</td>
<td>-------------------</td>
<td>-------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beaver Creek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest Vale</td>
<td>H4</td>
<td></td>
<td></td>
<td></td>
<td>0.0086</td>
<td>0.0004</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>FVMT-1</td>
<td>Ol</td>
<td></td>
<td>0.006</td>
<td>0.0004</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>FVMT-16</td>
<td>Ol</td>
<td></td>
<td>0.0002</td>
<td>0.00002</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>FVMT-8</td>
<td>Ol</td>
<td></td>
<td>0.0038</td>
<td>0.0003</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>FVMT-16</td>
<td>Ol</td>
<td></td>
<td>0.004</td>
<td>0.0003</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>FVMT-16</td>
<td>Ol</td>
<td></td>
<td>0.00026</td>
<td>0.00002</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>FVMT-8</td>
<td>Ol</td>
<td></td>
<td>0.00045</td>
<td>0.00003</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>FVMT-1</td>
<td>Ol</td>
<td></td>
<td>0.0045</td>
<td>0.0003</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest Vale</td>
<td>H4</td>
<td>FVED-54</td>
<td>Plag</td>
<td>5363</td>
<td>199</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>----</td>
<td>---------</td>
<td>------</td>
<td>------</td>
<td>----</td>
<td>------------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest Vale</td>
<td>H4</td>
<td>FVMT-15</td>
<td>Plag</td>
<td>8395</td>
<td>359</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest Vale</td>
<td>H4</td>
<td>FVMT-17</td>
<td>Plag</td>
<td>8449</td>
<td>357</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest Vale</td>
<td>H4</td>
<td>FVMT-1</td>
<td>Plag</td>
<td>6452</td>
<td>370</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest Vale</td>
<td>H4</td>
<td>FVMT-1</td>
<td>Plag</td>
<td>7245</td>
<td>304</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest Vale</td>
<td>H4</td>
<td>FVMT-17</td>
<td>Plag</td>
<td>5062</td>
<td>230</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest Vale</td>
<td>H4</td>
<td>FVMT-17</td>
<td>Plag</td>
<td>9656</td>
<td>291</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest Vale</td>
<td>H4</td>
<td>FVMT-17</td>
<td>Plag</td>
<td>7144</td>
<td>235</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest Vale</td>
<td>H4</td>
<td>FVMT-17</td>
<td>Plag</td>
<td>3864</td>
<td>248</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sena</td>
<td>H4</td>
<td>Ol</td>
<td>Sena-1 Grain</td>
<td>0.0036</td>
<td>0.0003</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-----</td>
<td>----</td>
<td>--------------</td>
<td>--------</td>
<td>--------</td>
<td>------------------</td>
<td>-------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sena</td>
<td>H4</td>
<td>Ol</td>
<td>Sena-11 Grain</td>
<td>0.014</td>
<td>0.0014</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sena</td>
<td>H4</td>
<td>Ol</td>
<td>Sena-15 Grain</td>
<td>0.00013</td>
<td>0.00002</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sena</td>
<td>H4</td>
<td>Ol</td>
<td>Sena-3 Grain</td>
<td>0.024</td>
<td>0.002</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sena</td>
<td>H4</td>
<td>Ol</td>
<td>Sena-6 Grain</td>
<td>0.0022</td>
<td>0.0002</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sena</td>
<td>H4</td>
<td>Ol</td>
<td>Sena-6 Grain</td>
<td>0.037</td>
<td>0.003</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sena</td>
<td>H4</td>
<td>Ol</td>
<td>Sena-1 Grain</td>
<td>0.0045</td>
<td>0.0004</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sena</td>
<td>H4</td>
<td>Ol</td>
<td>Sena-15 Grain</td>
<td>0.0052</td>
<td>0.0005</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sena</td>
<td>H4</td>
<td>Ol</td>
<td>Sena-3 Grain</td>
<td>0.0157</td>
<td>0.0014</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sena</td>
<td>H4</td>
<td>Plag</td>
<td>Sena-11 Grain</td>
<td>0.026</td>
<td>0.002</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>----</td>
<td>------</td>
<td>---------------</td>
<td>-------</td>
<td>-------</td>
<td>------------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sena</td>
<td>H4</td>
<td>Plag</td>
<td>Sena-9 Grain</td>
<td>224</td>
<td>48</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sena</td>
<td>H4</td>
<td>Plag</td>
<td>Sena-1 Grain</td>
<td>7616</td>
<td>257</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sena</td>
<td>H4</td>
<td>Plag</td>
<td>Sena-1 Grain</td>
<td>10460</td>
<td>330</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sena</td>
<td>H4</td>
<td>Plag</td>
<td>Sena-1 Grain</td>
<td>9413</td>
<td>311</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sena</td>
<td>H4</td>
<td>Plag</td>
<td>Sena-1 Grain</td>
<td>9129</td>
<td>293</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sena</td>
<td>H4</td>
<td>Plag</td>
<td>Sena-15 Grain</td>
<td>10187</td>
<td>381</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sena</td>
<td>H4</td>
<td>Plag</td>
<td>Sena-9 Grain</td>
<td>8894</td>
<td>297</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sena</td>
<td>H4</td>
<td>Plag</td>
<td>Sena-9 Grain</td>
<td>5331</td>
<td>418</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sena</td>
<td>H4</td>
<td>Plag</td>
<td>Sena-9 Grain</td>
<td>768</td>
<td>136</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
<td>------</td>
<td>--------------</td>
<td>-----</td>
<td>-----</td>
<td>------------------</td>
<td>-------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>OI</td>
<td>A - Plag grain</td>
<td>0.00168</td>
<td>0.00032</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>OI</td>
<td>SM3-1 grain</td>
<td>0.00106</td>
<td>0.00021</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>OI</td>
<td>SM3-5 grain</td>
<td>0.00309</td>
<td>0.00067</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>OI</td>
<td>SM3-7 grain</td>
<td>0.00235</td>
<td>0.00047</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>OI</td>
<td>SM2-1 grain</td>
<td>0.00049</td>
<td>0.00009</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>OI</td>
<td>SM2-1 grain</td>
<td>0.00086</td>
<td>0.00017</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>OI</td>
<td>A - Plag grain</td>
<td>0.00021</td>
<td>0.00004</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>OI</td>
<td>SM3-1 grain</td>
<td>0.00059</td>
<td>0.00011</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OL</td>
<td>SM3-M grain</td>
<td>0.0068</td>
<td>0.0013</td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OL</td>
<td>SM3-M grain</td>
<td>0.0045</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OL</td>
<td>SM3-5 grain</td>
<td>0.00195</td>
<td>0.00038</td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OL</td>
<td>SM3-5 grain</td>
<td>0.0022</td>
<td>0.00042</td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OL</td>
<td>SM3-7 grain</td>
<td>0.00252</td>
<td>0.00048</td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OL</td>
<td>SM3-2 grain</td>
<td>0.00061</td>
<td>0.00027</td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Plag</td>
<td>SM2-1 grain</td>
<td>771</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Plag</td>
<td>SM2-1 grain</td>
<td>839</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Plag</td>
<td>SM2-1 grain</td>
<td>2933</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>Plag</td>
<td>SM2-1 grain</td>
<td>1609</td>
<td>142</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>----</td>
<td>------</td>
<td>-------------</td>
<td>------</td>
<td>-----</td>
<td>------------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>Plag</td>
<td>SM2-1 grain</td>
<td>1926</td>
<td>110</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>Plag</td>
<td>SM2-1 grain</td>
<td>2048</td>
<td>175</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>Plag</td>
<td>A - Plag grain</td>
<td>5728</td>
<td>569</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>Plag</td>
<td>A - Plag grain</td>
<td>6623</td>
<td>562</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>Plag</td>
<td>A - Plag grain</td>
<td>5502</td>
<td>287</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>Plag</td>
<td>A - Plag grain</td>
<td>3397</td>
<td>228</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>Plag</td>
<td>SM3-1 grain</td>
<td>2922</td>
<td>136</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>Plag</td>
<td>SM3-1 grain</td>
<td>2957</td>
<td>109</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td>Plag</td>
<td>SM3-M grain</td>
<td>3657</td>
<td>129</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>----</td>
<td></td>
<td></td>
<td>Plag</td>
<td>SM3-M grain</td>
<td>4378</td>
<td>163</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td>Plag</td>
<td>SM3-M grain</td>
<td>3815</td>
<td>148</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td>Plag</td>
<td>SM3-M grain</td>
<td>3761</td>
<td>161</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td>Plag</td>
<td>SM3-M grain</td>
<td>3696</td>
<td>144</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td>Plag</td>
<td>SM3-5 grain</td>
<td>456</td>
<td>18</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td>Plag</td>
<td>SM3-5 grain</td>
<td>444</td>
<td>25</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td>Plag</td>
<td>SM3-7 grain</td>
<td>314</td>
<td>14</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td>Plag</td>
<td>SM3-7 grain</td>
<td>936</td>
<td>43</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>Plag</td>
<td>SM3-2 grain</td>
<td>1577</td>
<td>83</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>----</td>
<td>------</td>
<td>-------------</td>
<td>------</td>
<td>----</td>
<td>-----------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>Plag</td>
<td>SM3-2 grain</td>
<td>1177</td>
<td>47</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>Plag</td>
<td>SM3-2 grain</td>
<td>675</td>
<td>29</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>Plag</td>
<td>SM3-2 grain</td>
<td>678</td>
<td>33</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>Plag</td>
<td>SM3-6 grain</td>
<td>2759</td>
<td>102</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>Plag</td>
<td>SM3-6 grain</td>
<td>1578</td>
<td>74</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>Plag</td>
<td>SM3-6 grain</td>
<td>833</td>
<td>50</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>Plag</td>
<td>SM3-6 grain</td>
<td>954</td>
<td>59</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>Plag</td>
<td>SM3-6 grain</td>
<td>3079</td>
<td>175</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Type</td>
<td>Code</td>
<td>Material</td>
<td>Grain</td>
<td>Value 1</td>
<td>Value 2</td>
<td>Method</td>
<td>Reference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>------</td>
<td>------</td>
<td>----------</td>
<td>-------</td>
<td>---------</td>
<td>---------</td>
<td>---------------</td>
<td>-------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td>Pyrox</td>
<td>SM3-6 grain</td>
<td>0.0157</td>
<td>0.003</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td>Sp</td>
<td>SM3-6 grain</td>
<td>3.9</td>
<td>0.12</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td>Sp</td>
<td>SM2-1 grain</td>
<td>3.6</td>
<td>0.11</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td>Sp</td>
<td>SM2-1 grain</td>
<td>3.6</td>
<td>0.11</td>
<td>CAM 1280 3f (UH)</td>
<td>Telus et al. 2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adhi Kot</td>
<td>EH4</td>
<td></td>
<td>Unk</td>
<td>Adhi Kot</td>
<td>-0.26</td>
<td>0.09</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alfianello</td>
<td>L6</td>
<td></td>
<td>Unk</td>
<td>Alfianello (B)</td>
<td>0.06</td>
<td></td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allegan</td>
<td>H5</td>
<td></td>
<td>Unk</td>
<td>Allegan (WH)</td>
<td>-0.27</td>
<td>0.09</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>Unk</td>
<td>WR</td>
<td>-0.3</td>
<td>0.05</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Assumed WR</td>
<td>Allende (B)</td>
<td>-0.36</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>------------</td>
<td>------------</td>
<td>-------</td>
<td>----------------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Assumed WR</td>
<td>Allende (TWH)</td>
<td>-0.37</td>
<td>0.06</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Assumed WR</td>
<td>Allende (WH)</td>
<td>-0.25</td>
<td>0.07</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Assumed WR</td>
<td>Allende (Y)</td>
<td>-0.39</td>
<td></td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Assumed WR</td>
<td>Allende (YG)</td>
<td>-0.3</td>
<td>0.07</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Assumed WR</td>
<td>Allende (YTZ)</td>
<td>-0.28</td>
<td>0.1</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baratta</td>
<td>L4</td>
<td>AXCH -1371</td>
<td>Assumed WR</td>
<td>-0.3</td>
<td>0.07</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bath</td>
<td>H4</td>
<td>Assumed WR</td>
<td></td>
<td>-0.34</td>
<td>0.06</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bielokryni tschie</td>
<td>H4</td>
<td>Assumed WR</td>
<td></td>
<td>-0.3</td>
<td>0.09</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Code</td>
<td>Pairing</td>
<td>Assumed WR</td>
<td>Bruderheim WR</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>------</td>
<td>---------</td>
<td>------------</td>
<td>----------------</td>
<td>-----------------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blithfield</td>
<td>EL6</td>
<td></td>
<td></td>
<td></td>
<td>-0.25 0.07</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bruderheim</td>
<td>L6</td>
<td></td>
<td>Assumed WR</td>
<td>Bruderheim WR</td>
<td>-0.41 0.06</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cangas de Onis</td>
<td>H5</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>-0.24 0.07</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cereseto</td>
<td>H5</td>
<td></td>
<td>WR</td>
<td>WR</td>
<td>-0.49 0.04</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dalgety Downs</td>
<td>L4</td>
<td></td>
<td>Assumed WR</td>
<td>Replicate Ti</td>
<td>-0.26 0.05</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dalgety Downs</td>
<td>L4</td>
<td></td>
<td>Assumed WR</td>
<td></td>
<td>-0.29 0.1</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daniel’s Kuil</td>
<td>EL6</td>
<td></td>
<td>Assumed WR</td>
<td></td>
<td>-0.27 0.07</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eagle</td>
<td>EL6</td>
<td></td>
<td>Assumed WR</td>
<td></td>
<td>-0.27 0.09</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Épinal</td>
<td>H5</td>
<td></td>
<td>Assumed WR</td>
<td></td>
<td>-0.34 0.08</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmington</td>
<td>L5</td>
<td>Assumed WR</td>
<td>Replicate</td>
<td>-0.33</td>
<td>0.1</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmington</td>
<td>L5</td>
<td>Assumed WR</td>
<td>Replicate -Ti</td>
<td>-0.26</td>
<td>0.07</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmington</td>
<td>L5</td>
<td>Assumed WR</td>
<td>Replicate</td>
<td>-0.35</td>
<td>0.09</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>WR</td>
<td>WR</td>
<td>-0.27</td>
<td>0.09</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hamlet</td>
<td>LL4</td>
<td>Assumed WR</td>
<td>Replicate</td>
<td>-0.28</td>
<td>0.1</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hamlet</td>
<td>LL4</td>
<td>Assumed WR</td>
<td>Replicate -Ti</td>
<td>-0.2</td>
<td>0.07</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hamlet</td>
<td>LL4</td>
<td>Assumed WR</td>
<td>Replicate</td>
<td>-0.22</td>
<td>0.09</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Happy Canyon</td>
<td>EL6/7</td>
<td>Assumed WR</td>
<td>Replicate</td>
<td>-0.26</td>
<td>0.1</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Happy Canyon</td>
<td>EL6/7</td>
<td>Assumed WR</td>
<td>Replicate -Ti</td>
<td>-0.28</td>
<td>0.07</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Code</td>
<td>Assumptions</td>
<td>Assumed WR</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>--------</td>
<td>-------------</td>
<td>------------</td>
<td>----------------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Happy Canyon</td>
<td>EL6/7</td>
<td>Assumed WR</td>
<td>-0.33</td>
<td>0.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harleton</td>
<td>L6</td>
<td>Assumed WR</td>
<td>-0.29</td>
<td>0.09</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hvittis</td>
<td>EL6</td>
<td>Assumed WR</td>
<td>-0.29</td>
<td>0.07</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ilafegh 009</td>
<td>EL7</td>
<td>Assumed WR</td>
<td>-0.32</td>
<td>0.07</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ilafegh 009</td>
<td>EL7</td>
<td>Assumed WR</td>
<td>-0.33</td>
<td>0.1</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indarch</td>
<td>EH4</td>
<td>Assumed WR</td>
<td>-0.3</td>
<td>0.07</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indarch</td>
<td>EH4</td>
<td>Assumed WR</td>
<td>-0.25</td>
<td>0.09</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ivuna</td>
<td>CI1</td>
<td>Assumed WR</td>
<td>-0.31</td>
<td>0.1</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ivuna</td>
<td>CI1</td>
<td>Assumed WR</td>
<td>-0.26</td>
<td>0.07</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Site</td>
<td>Assumed WR</td>
<td>Replicate - Ti</td>
<td>d (m)</td>
<td>Error (m)</td>
<td>Reference</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>------</td>
<td>------------</td>
<td>----------------</td>
<td>--------</td>
<td>-----------</td>
<td>----------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ivuna</td>
<td>CI1</td>
<td></td>
<td></td>
<td>-0.24</td>
<td>0.07</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jajh deh Kot Lalu</td>
<td>EL6</td>
<td></td>
<td>Replicate - Ti</td>
<td>-0.27</td>
<td>0.07</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jajh deh Kot Lalu</td>
<td>EL6</td>
<td></td>
<td></td>
<td>-0.34</td>
<td>0.07</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Julesburg</td>
<td>L3</td>
<td></td>
<td>Clast</td>
<td>-0.01</td>
<td></td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kainsaz</td>
<td>CO3</td>
<td></td>
<td></td>
<td>-0.28</td>
<td>0.09</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kelly</td>
<td>LL4</td>
<td></td>
<td>Replicate - Ti</td>
<td>-0.31</td>
<td>0.07</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kelly</td>
<td>LL4</td>
<td></td>
<td></td>
<td>-0.3</td>
<td>0.07</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kernouve</td>
<td>H6</td>
<td></td>
<td>Replicate - Ti</td>
<td>-0.32</td>
<td>0.07</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kernouve</td>
<td>H6</td>
<td></td>
<td></td>
<td>-0.29</td>
<td>0.07</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Sample</td>
<td>Assumed WR</td>
<td>Replicate</td>
<td>McICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>--------</td>
<td>------------</td>
<td>-----------</td>
<td>----------------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kesen</td>
<td>H4</td>
<td>Assumed WR</td>
<td>-0.3</td>
<td>0.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Khairpur</td>
<td>EL6</td>
<td>Assumed WR</td>
<td>-0.26</td>
<td>0.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lancé</td>
<td>CO3</td>
<td>Assumed WR</td>
<td>-0.24</td>
<td>0.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mighei</td>
<td>CM2</td>
<td>Assumed WR</td>
<td>-0.25</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Assumed WR</td>
<td>-0.25</td>
<td>0.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Assumed WR</td>
<td>-0.31</td>
<td>0.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>ID</td>
<td>Assumed WR</td>
<td>Sample Type</td>
<td>TWH</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>----------</td>
<td>------------</td>
<td>-------------</td>
<td>-----</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Assumed WR</td>
<td>WH</td>
<td>-0.26</td>
<td>0.07 MCICP MS HR (NUP UA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Assumed WR</td>
<td>YTZ</td>
<td>-0.31</td>
<td>0.06 MCICP MS HR (NUP UA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ochansk</td>
<td>H4</td>
<td>Assumed WR</td>
<td>WH</td>
<td>-0.29</td>
<td>0.07 MCICP MS HR (NUP UA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orgueil (WH)</td>
<td>CI</td>
<td>Assumed WR</td>
<td>WH</td>
<td>-0.32</td>
<td>0.06 MCICP MS HR (NUP UA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orgueil (Y)</td>
<td>CI</td>
<td>Assumed WR</td>
<td>WH</td>
<td>-0.37</td>
<td>0.06 MCICP MS HR (NUP UA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orgueil (YG)</td>
<td>CI</td>
<td>Assumed WR</td>
<td>Replicate -Ti</td>
<td>-0.03</td>
<td>0.06 MCICP MS HR (NUP UA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paragould</td>
<td>LL5</td>
<td>Assumed WR</td>
<td>WH</td>
<td>-0.31</td>
<td>0.07 MCICP MS HR (NUP UA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paragould</td>
<td>LL5</td>
<td>Assumed WR</td>
<td>WH</td>
<td>-0.27</td>
<td>0.09 MCICP MS HR (NUP UA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Cluster</td>
<td>Assumed WR</td>
<td>Replicate -Ti</td>
<td>Ti</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>---------</td>
<td>------------</td>
<td>---------------</td>
<td>----</td>
<td>----------------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pillistfer</td>
<td>EL6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qingzhen</td>
<td>EH3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAH97072</td>
<td>EH3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saint-Sauveur</td>
<td>EH5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saint-Séverin</td>
<td>LL6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saint-Séverin</td>
<td>LL6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soko-Banja</td>
<td>LL4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. Mark’s</td>
<td>EH5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site</td>
<td>Sample</td>
<td>Assumed WR</td>
<td>MCICP MS HR (NUP UA)</td>
<td>Villeneuve et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>--------</td>
<td>------------</td>
<td>----------------------</td>
<td>------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. Mark’s</td>
<td>EH5</td>
<td>-0.3</td>
<td>0.07</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuxtuac</td>
<td>LL5</td>
<td>-0.28</td>
<td>0.07</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>WR?</td>
<td>WR?</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yilmia</td>
<td>EL6</td>
<td>WR?</td>
<td>WR?</td>
<td>Teng et al. 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eagle Station</td>
<td>PAL</td>
<td>Ch4</td>
<td>PO 1 OI</td>
<td>CAM IMS 1270 and CAM IMS 1280 HR2 (CRPGC NRS) Villeneuve et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eagle Station</td>
<td>PAL</td>
<td>Ch6</td>
<td>PO 1 OI</td>
<td>CAM IMS 1270 and CAM IMS 1280 HR2 (CRPGC NRS) Villeneuve et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eagle Station</td>
<td>PAL</td>
<td>Ch 16</td>
<td>PO 1</td>
<td>OI</td>
<td>CAM IMS 1270 and CAM IMS 1280 HR2 (CRPGC NRS)</td>
<td>Villeneuve et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>-----</td>
<td>-------</td>
<td>------</td>
<td>----</td>
<td>---------------------------------------------</td>
<td>------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eagle Station</td>
<td>PAL</td>
<td>Ch 17</td>
<td>PO 1</td>
<td>OI</td>
<td>CAM IMS 1270 and CAM IMS 1280 HR2 (CRPGC NRS)</td>
<td>Villeneuve et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eagle Station</td>
<td>PAL</td>
<td>Ch 18</td>
<td>PO 1</td>
<td>OI</td>
<td>CAM IMS 1270 and CAM IMS 1280 HR2 (CRPGC NRS)</td>
<td>Villeneuve et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eagle Station</td>
<td>PAL</td>
<td>OI</td>
<td>Chond. 18 Group #1</td>
<td>CAM IMS 1270 and CAM IMS 1280 HR2 (CRPGC NRS)</td>
<td>Villeneuve et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eagle Station</td>
<td>PAL</td>
<td>OI</td>
<td>Chond. 18 Group #2</td>
<td>CAM IMS 1270 and CAM IMS 1280 HR2 (CRPGC NRS)</td>
<td>Villeneuve et al. 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eagle Station</td>
<td>PAL</td>
<td>Ch 19</td>
<td>PO 1</td>
<td>OI</td>
<td>Chond. 18 Group #3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>-----</td>
<td>-------</td>
<td>------</td>
<td>----</td>
<td>-------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eagle Station</td>
<td>PAL</td>
<td>Ch 20</td>
<td>PO 1</td>
<td>OI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eagle Station</td>
<td>PAL</td>
<td>Ch 21</td>
<td>PO 1</td>
<td>OI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eagle Station</th>
<th>PAL</th>
<th>Ch 19</th>
<th>PO 1</th>
<th>OI</th>
<th>Chond. 18 Group #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagle Station</td>
<td>PAL</td>
<td>Ch 20</td>
<td>PO 1</td>
<td>OI</td>
<td></td>
</tr>
<tr>
<td>Eagle Station</td>
<td>PAL</td>
<td>Ch 21</td>
<td>PO 1</td>
<td>OI</td>
<td></td>
</tr>
</tbody>
</table>

CAM IMS 1280 HR2 (CRPGC NRS) Villeneuve et al. 2011
<table>
<thead>
<tr>
<th>Location</th>
<th>Sample Type</th>
<th>Technique</th>
<th>Analysis Method</th>
<th>Instrument Details</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagle Station</td>
<td>PAL</td>
<td>OI</td>
<td>ESP (2500 slit)</td>
<td>CAM IMS 1270 and CAM IMS 1280 HR2 (CRPGC NRS)</td>
<td>Villeneuve et al. 2011</td>
</tr>
<tr>
<td>Eagle Station</td>
<td>PAL</td>
<td>OI</td>
<td>ESP (5000 slit)</td>
<td>CAM IMS 1270 and CAM IMS 1280 HR2 (CRPGC NRS)</td>
<td>Villeneuve et al. 2011</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Sem-Ch2</td>
<td>I POP WR-Bulk</td>
<td>CAM IMS 1270 and CAM IMS 1280 HR2 (CRPGC NRS)</td>
<td>Villeneuve et al. 2012</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Sem-Ch121</td>
<td>I POP WR-Bulk</td>
<td>CAM IMS 1270 and CAM IMS 1280 HR2 (CRPGC NRS)</td>
<td>Villeneuve et al. 2012</td>
</tr>
<tr>
<td>Sample</td>
<td>Concentration</td>
<td>Species</td>
<td>Method</td>
<td>Result</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>---------------</td>
<td>---------</td>
<td>--------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Sem-Ch32</td>
<td>I PP</td>
<td>WR-Bulk</td>
<td>CAM IMS 1270 and CAM IMS 1280 HR2 (CRPGC NRS)</td>
</tr>
<tr>
<td>Villeneuve et al. 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Sem-Ch21</td>
<td>II PO</td>
<td>WR-Bulk</td>
<td>CAM IMS 1270 and CAM IMS 1280 HR2 (CRPGC NRS)</td>
</tr>
<tr>
<td>Villeneuve et al. 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Sem-Ch83</td>
<td>II PO</td>
<td>WR-Bulk</td>
<td>CAM IMS 1270 and CAM IMS 1280 HR2 (CRPGC NRS)</td>
</tr>
<tr>
<td>Villeneuve et al. 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Sem-Ch136</td>
<td>II PO</td>
<td>WR-Bulk</td>
<td>CAM IMS 1270 and CAM IMS 1280 HR2 (CRPGC NRS)</td>
</tr>
<tr>
<td>Villeneuve et al. 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Sem-Ch62</td>
<td>II POP</td>
<td>WR-Bulk</td>
<td>CAM IMS 1270 and CAM IMS 1280 HR2 (CRPGC NRS)</td>
</tr>
<tr>
<td>Villeneuve et al. 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Sem-Ch76</td>
<td>II POP</td>
<td>WR - Bulk</td>
<td>WR - Bulk</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Sem-Ch113</td>
<td>II POP</td>
<td>WR - Bulk</td>
<td>WR - Bulk</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Sem-Ch114</td>
<td>II POP</td>
<td>WR - Bulk</td>
<td>WR - Bulk</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td>LL3.00</td>
<td>Sem-Ch137</td>
<td>II POP</td>
<td>WR - Bulk</td>
<td>WR - Bulk</td>
</tr>
<tr>
<td></td>
<td>LL3.00</td>
<td>Sem-Ch64</td>
<td>II PP</td>
<td>WR - Bulk</td>
<td>WR - Bulk</td>
</tr>
<tr>
<td>------------------</td>
<td>--------</td>
<td>----------</td>
<td>-------</td>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td>Semarkona</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semarkona</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>Co</td>
<td>2</td>
<td>80000</td>
<td>12130</td>
<td>29670</td>
</tr>
<tr>
<td>-----------</td>
<td>----</td>
<td>---</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Murchison</td>
<td>Co</td>
<td>2</td>
<td>49240</td>
<td>5240</td>
<td>17350</td>
</tr>
<tr>
<td>Murchison</td>
<td>Co</td>
<td>2</td>
<td>49970</td>
<td>5890</td>
<td>18774</td>
</tr>
<tr>
<td>Murchison</td>
<td>Co</td>
<td>2</td>
<td>130400</td>
<td>17380</td>
<td>46947</td>
</tr>
<tr>
<td>Murchison</td>
<td>Co</td>
<td>2</td>
<td>140140</td>
<td>5220</td>
<td>46890</td>
</tr>
<tr>
<td>Murchison</td>
<td>Co</td>
<td>2</td>
<td>119100</td>
<td>6020</td>
<td>40430</td>
</tr>
<tr>
<td>Murchison</td>
<td>Co</td>
<td>2</td>
<td>112090</td>
<td>12840</td>
<td>44060</td>
</tr>
<tr>
<td>Murchison</td>
<td>Co</td>
<td>2</td>
<td>110580</td>
<td>12720</td>
<td>39650</td>
</tr>
<tr>
<td>Murchison</td>
<td>Co</td>
<td>2</td>
<td>127400</td>
<td>3740</td>
<td>43340</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td>Co</td>
<td>2</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>---</td>
<td>---</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td>Co</td>
<td>3</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td>Co</td>
<td>5</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td>Co</td>
<td>5</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td>Co</td>
<td>5</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td>Co</td>
<td>5</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td>Co</td>
<td>5</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td>Co</td>
<td>6</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td>Co</td>
<td>7</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>7</td>
<td>7385</td>
<td>242</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>------</td>
<td>-----</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>8</td>
<td>102190</td>
<td>39120</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>9</td>
<td>4134</td>
<td>822</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>10</td>
<td>652</td>
<td>8</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>10</td>
<td>685</td>
<td>7</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>10</td>
<td>716</td>
<td>9</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>10</td>
<td>766</td>
<td>10</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>10</td>
<td>846</td>
<td>14</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>11</td>
<td>11960</td>
<td>5270</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>11</td>
<td>38340</td>
<td>10430</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>11</td>
<td>38650</td>
<td>17350</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>12</td>
<td>9111</td>
<td>1268</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>12</td>
<td>14970</td>
<td>980</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>12</td>
<td>17820</td>
<td>1230</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>13</td>
<td>30420</td>
<td>5260</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>13</td>
<td>27100</td>
<td>9690</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>13</td>
<td>40660</td>
<td>7330</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>14</td>
<td>469800</td>
<td>129300</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Co</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>----</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td>14</td>
<td>647000</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td>14</td>
<td>419000</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td>15</td>
<td>9441</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td>15</td>
<td>45750</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td>15</td>
<td>121200</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td>16</td>
<td>39930</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td>16</td>
<td>88080</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td>16</td>
<td>152400</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td></td>
<td>17</td>
<td>45200</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>20</td>
<td>50080</td>
<td>5130</td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
<td>-----</td>
<td>------</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>21</td>
<td>39060</td>
<td>8210</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>21</td>
<td>150800</td>
<td>30400</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>21</td>
<td>125000</td>
<td>38000</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>21</td>
<td>93180</td>
<td>19830</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>22</td>
<td>55160</td>
<td>9520</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>23</td>
<td>79660</td>
<td>16970</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>23</td>
<td>96290</td>
<td>24180</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td>Co</td>
<td>23</td>
<td>196480</td>
<td>62400</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Co</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td>Co</td>
<td>24</td>
<td>49800</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td>Co</td>
<td>24</td>
<td>41610</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td>Co</td>
<td>25</td>
<td>34890</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td>Co</td>
<td>25</td>
<td>53670</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td>Co</td>
<td>25</td>
<td>50660</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td>Co</td>
<td>26</td>
<td>423</td>
</tr>
<tr>
<td>Murchison</td>
<td>CM2</td>
<td></td>
<td>Co</td>
<td>26</td>
<td>477</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>CTA</td>
<td>A5-R112</td>
<td>Cmpt. Mel-Spr-rich Inclus</td>
<td>A5-R112</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>A3-R118</td>
<td>F.g. Mel-Spr-rich</td>
<td>A3-R118</td>
</tr>
<tr>
<td>Sample</td>
<td>Location</td>
<td>Type</td>
<td>A3-R120</td>
<td>A3-R113</td>
<td>F.g. Mel-Sprich</td>
</tr>
<tr>
<td>--------</td>
<td>----------</td>
<td>------</td>
<td>---------</td>
<td>---------</td>
<td>------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>A3-R120</td>
<td>A3-R113</td>
<td>F.g. Mel-Sprich</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FTA</td>
<td>A3-R113</td>
<td>F.g. Mel-Sprich</td>
<td>A3-R113</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AOA</td>
<td>A3-AOA3</td>
<td>Ol + Diop</td>
<td>A3-AOA3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AOA</td>
<td>A2-AOA1</td>
<td>Ol + Felpds</td>
<td>A2-AOA1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AOA</td>
<td>A2-AOA3</td>
<td>Ol + Fsptids</td>
<td>A2-AOA3</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AOA</td>
<td>A3-AOA1</td>
<td>Ol + Fsptids</td>
<td>A3-AOA1</td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3-Ungrouped</td>
<td>ASI An-Sp Inclus</td>
<td>NQJ1-1</td>
<td>An-Sp-rich Inclus</td>
<td>NQJ1-1</td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3-Ungrouped</td>
<td>NQ-1</td>
<td>Unk</td>
<td>NQ-1</td>
<td>0.169</td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3-Ungrouped</td>
<td>NQ-2</td>
<td>Unk</td>
<td>NQ-2</td>
<td>1.2</td>
</tr>
<tr>
<td>Ningqiang</td>
<td>C3- Ungrouped</td>
<td>NQ-3</td>
<td>Unk</td>
<td>NQ-3</td>
<td>7.6</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------</td>
<td>------</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>WA</td>
<td>Unk</td>
<td>Allende WA</td>
<td>4.22</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN B1</td>
<td>Egg-3</td>
<td>Unk</td>
<td>Egg-3&lt;60 μm</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN B1</td>
<td>Egg-3</td>
<td>Unk</td>
<td>Egg-3&lt;100 μm</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN B1</td>
<td>Egg-3</td>
<td>Unk</td>
<td>Egg-3 60–200 μm</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN B1</td>
<td>Egg-3</td>
<td>Unk</td>
<td>Egg-3 Frag</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN B1</td>
<td>Egg-3</td>
<td>Unk</td>
<td>Egg-3&lt;60 μm</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>--------</td>
<td>-------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN B1</td>
<td>Egg-3</td>
<td>Unk</td>
<td>Egg-3&lt;100 μm</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN B1</td>
<td>Egg-3</td>
<td>Unk</td>
<td>Egg-3 60–200 μm</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN B1</td>
<td>Egg-3</td>
<td>Unk</td>
<td>Egg-3&lt;100 μm</td>
</tr>
<tr>
<td>Sample</td>
<td>Type</td>
<td>Code</td>
<td>Material</td>
<td>Grade</td>
<td>Location</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>------</td>
<td>----------</td>
<td>-------</td>
<td>----------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A43-81</td>
<td>Unk</td>
<td>A43-81</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>A43-83</td>
<td>Unk</td>
<td>A43-83</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN EK1-4-1b</td>
<td>Fas EK1-4-1b Fas A</td>
<td>Unk</td>
<td>-3.6</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>EK1-4-1</td>
<td>Sp</td>
<td>EKI-4-1 Sp A</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>---------</td>
<td>----</td>
<td>-------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>EK1-4-1</td>
<td>Sp</td>
<td>EKI-4-1 Sp B</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>C1</td>
<td>Sp</td>
<td>Sp</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>C1</td>
<td>Sp</td>
<td>Sp</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>B29 R</td>
<td>Unk</td>
<td>B29 R</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>B29 S2</td>
<td>Unk</td>
<td>B29 S2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>B29 S2</td>
<td>Unk</td>
<td>B29 S2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>C1</td>
<td>Unk</td>
<td>C1 S1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>C1</td>
<td>Unk</td>
<td>C1 S1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>C1</td>
<td>Unk</td>
<td>C1 S1</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>-----</td>
<td>----</td>
<td>-----</td>
<td>-------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>FUN</td>
<td>C1</td>
<td>Unk</td>
<td>C1 S1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Al3509</td>
<td>Pyrx</td>
<td>Pyrx 1</td>
<td>0.9</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3509</td>
<td>Pyrx</td>
<td>Pyrx 3</td>
<td>0.5</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3509</td>
<td>Soda</td>
<td>Soda 1</td>
<td>337</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3509</td>
<td>Soda</td>
<td>Soda 2</td>
<td>869</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3509</td>
<td>Soda</td>
<td>Soda 3</td>
<td>267</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3509</td>
<td>Soda</td>
<td>Soda 5</td>
<td>1453</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>3509</td>
<td>Soda</td>
<td>Soda 6</td>
<td>455</td>
</tr>
<tr>
<td>Acfer 059/059-El Djouf 001</td>
<td>CR2</td>
<td>008/D</td>
<td>Gros</td>
<td>008/D</td>
<td>116.6</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----</td>
<td>-------</td>
<td>------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>Acfer 059/059-El Djouf 001</td>
<td>CR2</td>
<td>167/10</td>
<td>Gro 167/10</td>
<td>60.9</td>
<td>0.4</td>
</tr>
<tr>
<td>Acfer 059/059-El Djouf 001</td>
<td>CR2</td>
<td>167/10</td>
<td>Mel 167/10</td>
<td>18.8</td>
<td>0.3</td>
</tr>
<tr>
<td>Acfer 059/059-El Djouf 001</td>
<td>CR2</td>
<td>008/D</td>
<td>Sp 008/D</td>
<td>3.9</td>
<td>0.01</td>
</tr>
<tr>
<td>Acfer 059/059-El Djouf 001</td>
<td>CR2</td>
<td>167/10</td>
<td>Sp 167/10</td>
<td>4.5</td>
<td>0.03</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/13</td>
<td>Gros</td>
<td>022/13</td>
<td>137.2</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/14</td>
<td>Gros</td>
<td>022/14</td>
<td>883.9</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/15</td>
<td>Gros</td>
<td>022/15</td>
<td>929.7</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/17</td>
<td>Gros</td>
<td>022/17</td>
<td>864</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/2</td>
<td>Gros</td>
<td>022/2</td>
<td>1398.2</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>--------</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/22</td>
<td>Gros</td>
<td>022/22</td>
<td>721</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/6</td>
<td>Gros</td>
<td>022/6</td>
<td>1341.1</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/9</td>
<td>Gros</td>
<td>022/9</td>
<td>1753.6</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>418/1</td>
<td>Gros</td>
<td>418/1</td>
<td>2496.6</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>418/11</td>
<td>Gros</td>
<td>418/10</td>
<td>68.6</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>418/2</td>
<td>Gros</td>
<td>418/2</td>
<td>41.2</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>418/8</td>
<td>Gros</td>
<td>418/8</td>
<td>250.2</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>418/9</td>
<td>Gros</td>
<td>418/9</td>
<td>70.5</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/19</td>
<td>Gros</td>
<td>022/19</td>
<td>256.8</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>--------</td>
<td>------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/6</td>
<td>Gros</td>
<td>022/6</td>
<td>1539.5</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/1*</td>
<td>Hib</td>
<td>022/1*</td>
<td>70.3</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>418/3</td>
<td>Hib</td>
<td>418/3</td>
<td>103.7</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>418/4*</td>
<td>Hib</td>
<td>418/4*</td>
<td>99.3</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>418/2</td>
<td>Hib</td>
<td>418/2</td>
<td>33.8</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/19</td>
<td>Hib</td>
<td>022/19</td>
<td>66.3</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/9</td>
<td>Mel</td>
<td>022/9</td>
<td>65.9</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/17</td>
<td>Mel</td>
<td>022/17</td>
<td>28.7</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/14</td>
<td>Mel</td>
<td>022/14</td>
<td>67.4</td>
</tr>
<tr>
<td>------------</td>
<td>-----</td>
<td>--------</td>
<td>-----</td>
<td>--------</td>
<td>-----</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/13</td>
<td>Mel</td>
<td>022/13</td>
<td>22.8</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/22</td>
<td>Mel</td>
<td>022/22</td>
<td>86.9</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/19</td>
<td>Mel</td>
<td>022/19</td>
<td>6.3</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>418/10</td>
<td>Mel</td>
<td>418/10</td>
<td>40.8</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>418/P</td>
<td>Perovskite</td>
<td>418/P</td>
<td>1539.6</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>418/P</td>
<td>Sc-rich phase</td>
<td>418/P</td>
<td>296</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/2</td>
<td>Sp</td>
<td>022/2</td>
<td>3</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>418/10</td>
<td>Sp</td>
<td>418/10</td>
<td>2.8</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>022/1*</td>
<td>Sp</td>
<td>022/1*</td>
<td>2.7</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>--------</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
</tr>
<tr>
<td>Acfer 182</td>
<td>CH3</td>
<td>022/1*</td>
<td>Sp</td>
<td>022/1*</td>
<td>2.7</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Mat</td>
<td>Mat</td>
<td>Mat</td>
<td>-0.287</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AG38</td>
<td>Ol Barre d</td>
<td>Chond.</td>
<td>-0.333</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AG671</td>
<td>Ol Barre d</td>
<td>Chond.</td>
<td>-0.06</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A2</td>
<td>Ol Barr.</td>
<td>Chond.</td>
<td>0.354</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AG178</td>
<td>Unk</td>
<td>AG178</td>
<td>11.917</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A3</td>
<td>Unk</td>
<td>A3</td>
<td>-0.248</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A4</td>
<td>Unk</td>
<td>A4</td>
<td>1.648</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A5</td>
<td>Unk</td>
<td>A5</td>
<td>0.487</td>
</tr>
</tbody>
</table>

734
<table>
<thead>
<tr>
<th>Allende</th>
<th>CV3</th>
<th>A6</th>
<th>Unk</th>
<th>A6</th>
<th>0.381</th>
<th>0.115</th>
<th>MC-ICPMS</th>
<th>Young and Galy 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A7</td>
<td>Unk</td>
<td>A7</td>
<td>-0.252</td>
<td>0.034</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A8</td>
<td>Unk</td>
<td>A8</td>
<td>-0.362</td>
<td>0.113</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AH3</td>
<td>Unk</td>
<td>AH3</td>
<td>-0.192</td>
<td>0.043</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AH2</td>
<td>Unk</td>
<td>AH2</td>
<td>1.818</td>
<td>0.02</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AH1</td>
<td>Unk</td>
<td>AH1</td>
<td>0.42</td>
<td>0.04</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AH4</td>
<td>Unk</td>
<td>AH4</td>
<td>0.639</td>
<td>0.031</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A9</td>
<td>Unk</td>
<td>A9, rim</td>
<td>-0.116</td>
<td>0.043</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A9</td>
<td>Unk</td>
<td>A9, core</td>
<td>0.009</td>
<td>0.042</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
</tr>
<tr>
<td>Location</td>
<td>Type</td>
<td>Sample</td>
<td>Status</td>
<td>Age (Ma)</td>
<td>Error (Ma)</td>
<td>Method</td>
<td>Reference</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>--------</td>
<td>--------</td>
<td>----------</td>
<td>-----------</td>
<td>--------</td>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AH3</td>
<td>Unk</td>
<td>AH3, remelted</td>
<td>6.741</td>
<td>0.001</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>-</td>
<td>-</td>
<td>WR</td>
<td>-0.3</td>
<td>0.073</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
</tr>
<tr>
<td>Bjurbole</td>
<td>L/LL4</td>
<td>AG162</td>
<td>Unk</td>
<td>AG162</td>
<td>-0.194</td>
<td>0.159</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
</tr>
<tr>
<td>Bjurbole</td>
<td>L/LL4</td>
<td>AG163</td>
<td>Unk</td>
<td>AG163</td>
<td>-0.275</td>
<td>0.043</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
</tr>
<tr>
<td>Bjurbole</td>
<td>L/LL4</td>
<td>AG164</td>
<td>Unk</td>
<td>AG164</td>
<td>-0.714</td>
<td>0.068</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
</tr>
<tr>
<td>Bjurbole</td>
<td>L/LL4</td>
<td>AG162</td>
<td>Unk</td>
<td>AG162, re-melted</td>
<td>0.861</td>
<td>0.06</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
</tr>
<tr>
<td>Bjurbole</td>
<td>L/LL4</td>
<td>AG163</td>
<td>Unk</td>
<td>AG163, re-melted</td>
<td>5.215</td>
<td>0.04</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
</tr>
<tr>
<td>Bjurbole</td>
<td>L/LL4</td>
<td>AG164</td>
<td>Unk</td>
<td>AG164, re-melted</td>
<td>0.899</td>
<td>0.227</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>Mat</td>
<td>AG76</td>
<td></td>
<td>0.059</td>
<td>0.093</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
</tr>
<tr>
<td>Location</td>
<td>Type</td>
<td>Mat</td>
<td>AG77</td>
<td>Age (Ma)</td>
<td>Technique</td>
<td>Citation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>-----</td>
<td>------</td>
<td>----------</td>
<td>-----------</td>
<td>----------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>C11</td>
<td>Unk</td>
<td>C11</td>
<td>-0.615, 0.079</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
<td></td>
</tr>
<tr>
<td>Chainpur</td>
<td>LL3.4</td>
<td>C12</td>
<td>Unk</td>
<td>C12</td>
<td>-0.045, 0.131</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
<td></td>
</tr>
<tr>
<td>Orgueil</td>
<td>CI</td>
<td>WR</td>
<td>WR</td>
<td></td>
<td>0.003, 0.06</td>
<td>MC-ICPMS</td>
<td>Young and Galy 2004</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A4</td>
<td>Al-rich</td>
<td>A4</td>
<td>1.708</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C9</td>
<td>POP</td>
<td>Alt + Meso</td>
<td>C9</td>
<td>1.7</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C9</td>
<td>POP</td>
<td>Alt + Meso</td>
<td>C9</td>
<td>3.3</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Fo</td>
<td>3.8</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Sample</td>
<td>Type</td>
<td>C8</td>
<td>PO</td>
<td>Formula</td>
<td>LA-ICPMS</td>
<td>LA-ICPMS</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
<td>----</td>
<td>----</td>
<td>---------</td>
<td>-----------</td>
<td>-----------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Fo + Alt + Meso</td>
<td>3.7</td>
<td>LPC 11 ArF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Fo + Alt + Meso</td>
<td>4.5</td>
<td>LPC 11 ArF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Fo + Alt + Meso</td>
<td>3.1</td>
<td>LPC 11 ArF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Fo + Meso</td>
<td>2.6</td>
<td>LPC 11 ArF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Fo + Meso</td>
<td>3.4</td>
<td>LPC 11 ArF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Fo + Meso &gt; Alt</td>
<td>3</td>
<td>LPC 11 ArF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Fo + Meso &gt; Alt</td>
<td>3.4</td>
<td>LPC 11 ArF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>Mat</td>
<td>Mat</td>
<td>AG23</td>
<td>0.128</td>
<td>LPC 11 ArF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>CAI USNM 3576-1</td>
<td>Mel</td>
<td>CAI USNM 3576-1</td>
<td>3.29</td>
<td>LPC 11 ArF</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>CAI USNM 3576-1</td>
<td>Mel</td>
<td>CAI USNM 3576-1</td>
<td>11.7</td>
<td>LPC 11 ArF</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>CAI USNM 3576-1</td>
<td>Mel</td>
<td>CAI USNM 3576-1</td>
<td>4</td>
<td>12</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>---</td>
<td>-----------------</td>
<td>-----</td>
<td>-----------------</td>
<td>---</td>
<td>----</td>
<td>----------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>CAI USNM 3576-1</td>
<td>Mel</td>
<td>CAI USNM 3576-1</td>
<td>4.72</td>
<td>12.2</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>C6 BO Meso</td>
<td></td>
<td></td>
<td>3.1</td>
<td></td>
<td>LA-ICPMS (LPC 11 ArF)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>C6 BO Meso</td>
<td></td>
<td></td>
<td>0.9</td>
<td></td>
<td>LA-ICPMS (LPC 11 ArF)</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>USNM 3576-1</td>
<td>Fas + Sp</td>
<td>2.65</td>
<td>11.2</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>USNM 3576-1</td>
<td>Fas + Sp + Alt</td>
<td>2.67</td>
<td>11.5</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>C9 POP</td>
<td>OI + Pyrx</td>
<td>3</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>C13 BO</td>
<td>OI + Pyrx</td>
<td>3.3</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td></td>
<td>C13 BO</td>
<td>OI + Pyrx</td>
<td>3.3</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A3</td>
<td>POP</td>
<td>Ol-Pyrx Porp</td>
<td>0.078</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-------------</td>
<td>-------</td>
<td>-----------------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A5</td>
<td>POP</td>
<td>Porp Ol-Pyrx</td>
<td>0.334</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Ol Barr. Chond. C6</td>
<td>3.1</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Ol Barr. Chond. C6</td>
<td>2.6</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A7</td>
<td>BO</td>
<td>Ol Barr. Chond. A7</td>
<td>0.087</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C13</td>
<td>BO</td>
<td>Ol Barr. + Meso, Alt Chond. C13</td>
<td>3.2</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C13</td>
<td>BO</td>
<td>Ol Barr. + Meso, Alt Chond. C13</td>
<td>3.1</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C13</td>
<td>BO</td>
<td>Ol Barr. + Meso, Cente r Chond. C13</td>
<td>3.5</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C13</td>
<td>BO</td>
<td>Ol Barr. + Meso, Mar</td>
<td>Chond. C13</td>
<td>3.3</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>-----</td>
<td>----</td>
<td>----------------------</td>
<td>------------</td>
<td>-----</td>
<td>----------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C13</td>
<td>BO</td>
<td>Ol Barr. + Meso, Mar</td>
<td>Chond. C13</td>
<td>3.2</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C13</td>
<td>BO</td>
<td>Ol Barr. + Meso, Mar</td>
<td>Chond. C13</td>
<td>3.7</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C13</td>
<td>BO</td>
<td>Ol Barr. + Meso, Mar</td>
<td>Chond. C13</td>
<td>3.5</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Ol Barr. &lt; Meso</td>
<td>Chond. C6</td>
<td>0.5</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Ol Barr. &lt;&lt; Meso</td>
<td>Chond. C6</td>
<td>3.5</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Ol Barr. &gt; Mesostasis</td>
<td>Chond. C6</td>
<td>2.2</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Ol Barr., mar</td>
<td>Chond. C6</td>
<td>3.2</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>A6</td>
<td>PO</td>
<td>Ol</td>
<td>Porp</td>
<td>A6</td>
<td>0.263</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>------</td>
<td>----</td>
<td>-------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C9</td>
<td>POP</td>
<td>Pyrx</td>
<td>2.7</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C9</td>
<td>POP</td>
<td>Pyrx</td>
<td>2.3</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C9</td>
<td>POP</td>
<td>Pyrx</td>
<td>2.1</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C9</td>
<td>POP</td>
<td>Pyrx</td>
<td>2.6</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C9</td>
<td>POP</td>
<td>Pyrx</td>
<td>2.6</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C9</td>
<td>BO</td>
<td>Pyrx + Alt, Mar</td>
<td>2.8</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C9</td>
<td>POP</td>
<td>Pyrx + Alt, Mar</td>
<td>3.1</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C9</td>
<td>POP</td>
<td>Pyrx + Alt, Mar</td>
<td>2.6</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C9</td>
<td>POP</td>
<td>Pyrx &gt;&gt; Alt, mar</td>
<td></td>
<td>1.7</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>-----</td>
<td>------------------</td>
<td>---</td>
<td>-----</td>
<td>----------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Pyrx &gt;&gt; Meso, mar</td>
<td>1.2</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Pyrx, mar</td>
<td>2.9</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Unk</td>
<td>3.3</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Unk</td>
<td>0.3</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Unk</td>
<td>1.6</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Unk</td>
<td>2.1</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Unk</td>
<td>2.2</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Unk</td>
<td>1.8</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Unk</td>
<td>Chond. C6</td>
<td>3.3</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>-----</td>
<td>----------</td>
<td>-----</td>
<td>----------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Unk</td>
<td>Chond. C6</td>
<td>3.5</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Unk</td>
<td>Chond. C6</td>
<td>0.5</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Unk</td>
<td>Chond. C6</td>
<td>0.9</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Unk</td>
<td>Chond. C6</td>
<td>2.6</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Unk</td>
<td>Chond. C6</td>
<td>3.3</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Unk</td>
<td>Chond. C6</td>
<td>2.4</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Unk</td>
<td>Chond. C6</td>
<td>2.4</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C6</td>
<td>BO</td>
<td>Unk</td>
<td>Chond. C6</td>
<td>3.1</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Unk</td>
<td>Chond. C8</td>
<td>3.3</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Unk</td>
<td>Chond. C8</td>
<td>3.1</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Unk</td>
<td>Chond. C8</td>
<td>3.3</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Unk</td>
<td>Chond. C8</td>
<td>3.3</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Unk</td>
<td>Chond. C8</td>
<td>3.4</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Unk</td>
<td>Chond. C8</td>
<td>3.7</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Unk</td>
<td>Chond. C8</td>
<td>2.7</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Unk</td>
<td>Chond. C8</td>
<td>3.1</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Unk</td>
<td>Chond. C8</td>
<td>3.6</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Unk</td>
<td>Chond. C8</td>
<td>3.4</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Unk</td>
<td>Chond. C8</td>
<td>3.8</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Unk</td>
<td>Chond. C8</td>
<td>3.4</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Unk</td>
<td>Chond. C8</td>
<td>3.7</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C8</td>
<td>PO</td>
<td>Unk</td>
<td>Chond. C8</td>
<td>3.3</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C9</td>
<td>POP</td>
<td>Unk</td>
<td>Chond. C9</td>
<td>3.7</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C9</td>
<td>POP</td>
<td>Unk</td>
<td>Chond. C9</td>
<td>3</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>C9</td>
<td>POP</td>
<td>Unk</td>
<td>Chond. C9</td>
<td>2.9</td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>AG22</td>
<td>WR</td>
<td>WR</td>
<td>0.122</td>
<td></td>
<td>LA-ICPMS (LPC 11 ArF)</td>
<td>Young et al. 2002</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Diop (Al-Ti)</td>
<td>3.77</td>
<td>0.22</td>
<td>8.3</td>
<td>0.17</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>------</td>
<td>--------</td>
<td>--------------</td>
<td>-------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Diop (Al-Ti)</td>
<td>2.36</td>
<td>0</td>
<td>7.91</td>
<td>0.04</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Diop (Al-Ti)</td>
<td>2.48</td>
<td>0.02</td>
<td>7.76</td>
<td>0.24</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Diop (Al-Ti)</td>
<td>2.56</td>
<td>0.04</td>
<td>8.3</td>
<td>0.14</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Diop (Al-Ti)</td>
<td>2.55</td>
<td>0.01</td>
<td>8.46</td>
<td>0.09</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Diop (Al-Ti)</td>
<td>4.68</td>
<td>0.37</td>
<td>3.79</td>
<td>0.41</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B?</td>
<td>M5</td>
<td>Mel</td>
<td>8.2</td>
<td>0.03</td>
<td>9.74</td>
<td>0.15</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>3.3</td>
<td>0.08</td>
<td>8.67</td>
<td>0.16</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>3.77</td>
<td>0.04</td>
<td>7.05</td>
<td>0.22</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>-----</td>
<td>--------</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>5.06</td>
<td>0.07</td>
<td>7.05</td>
<td>0.2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>3.43</td>
<td>0.01</td>
<td>8.69</td>
<td>0.17</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>5.23</td>
<td>0.32</td>
<td>4.34</td>
<td>0.29</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>3.58</td>
<td>0.02</td>
<td>8.96</td>
<td>0.14</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>3.81</td>
<td>0.02</td>
<td>8.42</td>
<td>0.06</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>3.08</td>
<td>0.02</td>
<td>8.2</td>
<td>0.14</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>4.36</td>
<td>0.02</td>
<td>7.08</td>
<td>0.07</td>
</tr>
<tr>
<td>Sample</td>
<td>Crater</td>
<td>Bep</td>
<td>Mass</td>
<td>Mel</td>
<td>Mass2</td>
<td>Mass3</td>
<td>Method</td>
<td>Source</td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>-------</td>
<td>-------</td>
<td>-------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>3.18</td>
<td>0.04</td>
<td>8.29</td>
<td>0.09</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>3.12</td>
<td>0.05</td>
<td>8.17</td>
<td>0.16</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>2.7</td>
<td>0.04</td>
<td>8.1</td>
<td>0.09</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>4.54</td>
<td>0.42</td>
<td>5.23</td>
<td>0.35</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>6.21</td>
<td>0.12</td>
<td>5.15</td>
<td>0.27</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>3.82</td>
<td>0.03</td>
<td>9.31</td>
<td>0.11</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>4.93</td>
<td>0.09</td>
<td>6.75</td>
<td>0.31</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>3.29</td>
<td>0.06</td>
<td>8.61</td>
<td>0.12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>----</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>3</td>
<td>0.06</td>
<td>8.38</td>
<td>0.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>4.06</td>
<td>0.1</td>
<td>8.8</td>
<td>0.15</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>3.57</td>
<td>0.01</td>
<td>9.22</td>
<td>0.15</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>3.17</td>
<td>0.02</td>
<td>8.27</td>
<td>0.13</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>4.36</td>
<td>0.08</td>
<td>7.67</td>
<td>0.17</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>3.44</td>
<td>0.03</td>
<td>9.13</td>
<td>0.14</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>5.22</td>
<td>0.12</td>
<td>5.21</td>
<td>0.27</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>3.36</td>
<td>0.02</td>
<td>9.38</td>
<td>0.17</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>3.28</td>
<td>0.05</td>
<td>7.88</td>
<td>0.24</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>------</td>
<td>--------</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>3</td>
<td>0.13</td>
<td>7.71</td>
<td>0.23</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel</td>
<td>4.72</td>
<td>0.13</td>
<td>4.82</td>
<td>0.12</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>M5</td>
<td></td>
<td>Mel</td>
<td>4.02</td>
<td>0.24</td>
<td>7.67</td>
<td>0.28</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>M5</td>
<td></td>
<td>Mel</td>
<td>5.55</td>
<td>0.31</td>
<td>9.36</td>
<td>0.18</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>M5</td>
<td></td>
<td>Mel</td>
<td>6.54</td>
<td>0.06</td>
<td>6.54</td>
<td>0.07</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>M5</td>
<td></td>
<td>Mel</td>
<td>6.84</td>
<td>0.13</td>
<td>7.29</td>
<td>0.15</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>M5</td>
<td></td>
<td>Mel</td>
<td>6.67</td>
<td>0.17</td>
<td>6.01</td>
<td>0.29</td>
</tr>
<tr>
<td>Sample</td>
<td>Type</td>
<td>Code</td>
<td>Location</td>
<td>Element</td>
<td>Value 1</td>
<td>Value 2</td>
<td>Value 3</td>
<td>Value 4</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>------</td>
<td>----------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>M5</td>
<td>Mel</td>
<td></td>
<td>4.45</td>
<td>0.53</td>
<td>8.33</td>
<td>0.21</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>M5</td>
<td>Mel</td>
<td></td>
<td>3.34</td>
<td>0.06</td>
<td>3.95</td>
<td>0.2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel + W-L</td>
<td>2.08</td>
<td>0.12</td>
<td>1.67</td>
<td>0.27</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel &lt;&lt; W-L</td>
<td>0.57</td>
<td>0.03</td>
<td>-1.53</td>
<td>0.12</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Mel &lt;&lt; W-L</td>
<td>0.24</td>
<td>0.02</td>
<td>-1.81</td>
<td>0.14</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Diop (Al-Ti) + Mel</td>
<td>5.16</td>
<td>0.48</td>
<td>3.85</td>
<td>0.2</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Diop (Al-Ti) + Mel</td>
<td>5.98</td>
<td>0.06</td>
<td>5.5</td>
<td>0.13</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Diop (Al-Ti) + Mel</td>
<td>2.55</td>
<td>0.01</td>
<td>7.88</td>
<td>0.1</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>Diop (Al-Ti) + Mel</td>
<td>Spot 46</td>
<td>4.01</td>
<td>0.15</td>
<td>4.65</td>
</tr>
<tr>
<td>---------</td>
<td>-----</td>
<td>---</td>
<td>---------</td>
<td>-------------------</td>
<td>--------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>B</td>
<td>3576-1</td>
<td>WR</td>
<td>Bulk CAI</td>
<td>2.58</td>
<td>0.05</td>
<td>7.65</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>W-L</td>
<td>5.49</td>
<td>0.26</td>
<td>4.55</td>
<td>0.27</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td>Young et al. 2005 Supp</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>W-L</td>
<td>3</td>
<td>0.05</td>
<td>3.53</td>
<td>0.26</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td>Young et al. 2005 Supp</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>W-L</td>
<td>3.14</td>
<td>0.06</td>
<td>3.31</td>
<td>0.19</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td>Young et al. 2005 Supp</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>W-L</td>
<td>2.96</td>
<td>0.09</td>
<td>2.21</td>
<td>0.2</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td>Young et al. 2005 Supp</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>W-L + mat</td>
<td>2.69</td>
<td>0.06</td>
<td>2.74</td>
<td>0.12</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td>Young et al. 2005 Supp</td>
</tr>
<tr>
<td>Allende</td>
<td>CV3</td>
<td>W-L &gt;&gt; + mat</td>
<td>6.52</td>
<td>0.09</td>
<td>6.33</td>
<td>0.17</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td>Young et al. 2005 Supp</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>An</td>
<td>268.54</td>
<td>17.64</td>
<td>88.29</td>
<td>5.49</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>----</td>
<td>-----</td>
<td>-------</td>
<td>--------</td>
<td>-------</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>An &gt;&gt; Sp</td>
<td>160.61</td>
<td>5.14</td>
<td>54.22</td>
<td>2.03</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>An &gt;&gt; Sp</td>
<td>111.92</td>
<td>6.84</td>
<td>34.53</td>
<td>2.04</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Diop (Al-Ti) &gt;&gt; Mel &gt;&gt; Sp</td>
<td>3.42</td>
<td>0.03</td>
<td>8.77</td>
<td>0.22</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Diop (Al-Ti)</td>
<td>2.74</td>
<td>0.02</td>
<td>8.69</td>
<td>0.11</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Diop (Al-Ti)</td>
<td>2.27</td>
<td>0.02</td>
<td>7.68</td>
<td>0.25</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Diop (Al-Ti) &gt;&gt; Sp</td>
<td>3.18</td>
<td>0.05</td>
<td>7.4</td>
<td>0.15</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Diop (Al-Ti) &gt;&gt; Sp</td>
<td>2.93</td>
<td>0.04</td>
<td>9.2</td>
<td>0.13</td>
</tr>
<tr>
<td>Location</td>
<td>Sample</td>
<td>Type</td>
<td>Age</td>
<td>Width</td>
<td>Depth</td>
<td>Methodology</td>
<td>Reference</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>------</td>
<td>-----</td>
<td>-------</td>
<td>-------</td>
<td>-------------</td>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>2.87</td>
<td>0.04</td>
<td>6.85</td>
<td>0.27</td>
<td>Young et al. 2005 Supp</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>1.51</td>
<td>0.03</td>
<td>8.61</td>
<td>0.15</td>
<td>Young et al. 2005 Supp</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>3.21</td>
<td>0.07</td>
<td>8.32</td>
<td>0.11</td>
<td>Young et al. 2005 Supp</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>3.49</td>
<td>0.06</td>
<td>8.17</td>
<td>0.11</td>
<td>Young et al. 2005 Supp</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>7.69</td>
<td>0.14</td>
<td>12.75</td>
<td>0.17</td>
<td>Young et al. 2005 Supp</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>2.39</td>
<td>0.06</td>
<td>12.3</td>
<td>0.05</td>
<td>Young et al. 2005 Supp</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>5.29</td>
<td>0.15</td>
<td>9.64</td>
<td>0.12</td>
<td>Young et al. 2005 Supp</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>9.51</td>
<td>0.14</td>
<td>6.05</td>
<td>0.19</td>
<td>Young et al. 2005 Supp</td>
</tr>
<tr>
<td>Location</td>
<td>Sample</td>
<td>Element</td>
<td>Amount</td>
<td>Precision</td>
<td>Method</td>
<td>Notes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>---------</td>
<td>--------</td>
<td>-----------</td>
<td>-------------------------------------</td>
<td>---------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Mel</td>
<td>4.12</td>
<td>0.11 12.05 0.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Mel</td>
<td>8.83</td>
<td>0.14 12.84 0.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Mel</td>
<td>9.03</td>
<td>0.32 7.23 0.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Mel</td>
<td>7.41</td>
<td>0.19 12.88 0.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Mel</td>
<td>4.66</td>
<td>0.15 10.98 0.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Mel</td>
<td>6.67</td>
<td>0.16 6.17 0.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Mel</td>
<td>6.28</td>
<td>0.13 11.7 0.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Mel</td>
<td>9.17</td>
<td>0.1 12.37 0.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Sample</td>
<td>Collection</td>
<td>Mel</td>
<td>Sp</td>
<td>Al-Ti</td>
<td>Young et al. 2005 Supp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>------------</td>
<td>-----</td>
<td>----</td>
<td>-------</td>
<td>-----------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1 E44</td>
<td>Mel</td>
<td>Sp</td>
<td>9.48</td>
<td>0.15</td>
<td>7.56</td>
<td>0.18</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1 E44</td>
<td>Mel &gt; Sp</td>
<td>5.17</td>
<td>0.24</td>
<td>12.43</td>
<td>0.22</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1 E44</td>
<td>Mel &gt; Sp</td>
<td>8.51</td>
<td>0.83</td>
<td>4.96</td>
<td>0.35</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1 E44</td>
<td>Mel &gt;&gt; Diop (Al-Ti)</td>
<td>4.52</td>
<td>0.05</td>
<td>10.87</td>
<td>0.07</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1 E44</td>
<td>Mel &gt;&gt;&gt; Diop (Al-Ti)</td>
<td>10.14</td>
<td>0.28</td>
<td>8.65</td>
<td>0.32</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1 E44</td>
<td>Mel &gt;&gt;&gt; Sp</td>
<td>5.25</td>
<td>0.12</td>
<td>12.63</td>
<td>0.12</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1 E44</td>
<td>Mel &gt;&gt;&gt; Sp</td>
<td>7.01</td>
<td>0.04</td>
<td>10.7</td>
<td>0.17</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1 E44</td>
<td>Mel &gt;&gt;&gt; Sp</td>
<td>7.44</td>
<td>0.19</td>
<td>11.64</td>
<td>0.22</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Location</td>
<td>CV</td>
<td>B</td>
<td>E</td>
<td>Analysis</td>
<td>Spot/Line</td>
<td>Element</td>
<td>Value</td>
<td>Error</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>----------</td>
<td>-----------</td>
<td>-----------</td>
<td>---------</td>
<td>--------</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Mel &gt; Sp</td>
<td>Spot 6</td>
<td>9.84</td>
<td>0.06</td>
<td>11.92</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Mel + Hib?</td>
<td>Line 1</td>
<td>11.73</td>
<td>0.43</td>
<td>12.12</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Mel + Sp + W-L</td>
<td>Line 2</td>
<td>7.19</td>
<td>0.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Mel + Sp + W-L</td>
<td>Line 3</td>
<td>5.78</td>
<td>0.38</td>
<td>5.48</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Mel + Sp + W-L</td>
<td>Line 4</td>
<td>7.2</td>
<td>0.44</td>
<td>3.63</td>
</tr>
<tr>
<td>Efremovka</td>
<td>CV3</td>
<td>B1</td>
<td>E44</td>
<td>Mel &gt; Sp &gt;&gt; Diop (Al-Ti)</td>
<td>Spot 4</td>
<td>1.66</td>
<td>0.07</td>
<td>11.24</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>An &gt; Sp</td>
<td></td>
<td>28.01</td>
<td>2.32</td>
<td>18.04</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>An &gt; Sp</td>
<td>5.31</td>
<td>0.6</td>
<td>11.83</td>
<td>0.17</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>---------</td>
<td>---------</td>
<td>------</td>
<td>-----</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al)</td>
<td>0.59</td>
<td>0.03</td>
<td>7.95</td>
<td>0.11</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al)</td>
<td>0.46</td>
<td>0.12</td>
<td>-0.6</td>
<td>0.31</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al)</td>
<td>0.24</td>
<td>0.01</td>
<td>6.57</td>
<td>0.15</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al)</td>
<td>0.13</td>
<td>0.02</td>
<td>6.52</td>
<td>0.05</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al)</td>
<td>0.6</td>
<td>0.04</td>
<td>6.91</td>
<td>0.14</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>0.3</td>
<td>0.01</td>
<td>7.45</td>
<td>0.04</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>0.88</td>
<td>0.01</td>
<td>8.09</td>
<td>0.07</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>1.28</td>
<td>0.03</td>
<td>5.89</td>
<td>0.29</td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>------</td>
<td>---------</td>
<td>--------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>0.3</td>
<td>0.01</td>
<td>8.95</td>
<td>0.08</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>1.3</td>
<td>0.11</td>
<td>6.49</td>
<td>0.27</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>1.09</td>
<td>0.02</td>
<td>7.72</td>
<td>0.06</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>1.79</td>
<td>0.02</td>
<td>9.87</td>
<td>0.09</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>1.45</td>
<td>0.03</td>
<td>9.6</td>
<td>0.08</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>1.4</td>
<td>0.04</td>
<td>9.5</td>
<td>0.22</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>1.04</td>
<td>0.01</td>
<td>10.55</td>
<td>0.07</td>
</tr>
<tr>
<td>Sample</td>
<td>Cluster</td>
<td>Method</td>
<td>Code</td>
<td>Diop (Al-Ti)</td>
<td>1.75</td>
<td>0.05</td>
<td>9.32</td>
<td>0.25</td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
<td>--------</td>
<td>----------</td>
<td>--------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>1.91</td>
<td>0.05</td>
<td>10.08</td>
<td>0.17</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>1.97</td>
<td>0.1</td>
<td>9.95</td>
<td>0.15</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>0.99</td>
<td>0.03</td>
<td>6.92</td>
<td>0.09</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>1.13</td>
<td>0.05</td>
<td>10.13</td>
<td>0.08</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>1.42</td>
<td>0.07</td>
<td>7.39</td>
<td>0.06</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>1.85</td>
<td>0.03</td>
<td>8.31</td>
<td>0.07</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>0.74</td>
<td>0.04</td>
<td>7.11</td>
<td>0.04</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>0.71</td>
<td>0.08</td>
<td>7.15</td>
<td>0.12</td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>------</td>
<td>---------</td>
<td>--------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>0.37</td>
<td>0.01</td>
<td>6.55</td>
<td>0.12</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>0.77</td>
<td>0.03</td>
<td>7.81</td>
<td>0.17</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>1.54</td>
<td>0.09</td>
<td>6.62</td>
<td>0.08</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>1.8</td>
<td>0.02</td>
<td>8.49</td>
<td>0.1</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>0.33</td>
<td>0.02</td>
<td>5.91</td>
<td>0.1</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>1.56</td>
<td>0.03</td>
<td>8.5</td>
<td>0.08</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>0.4</td>
<td>0.06</td>
<td>6.51</td>
<td>0.21</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>1.54</td>
<td>0.02</td>
<td>8.42</td>
<td>0.17</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>0.4</td>
<td>0.02</td>
<td>7.2</td>
<td>0.19</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>0.13</td>
<td>0.01</td>
<td>6.27</td>
<td>0.13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>0.18</td>
<td>0.02</td>
<td>7.59</td>
<td>0.06</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti)</td>
<td>0.91</td>
<td>0.01</td>
<td>6.79</td>
<td>0.12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti) + Fo</td>
<td>0.59</td>
<td>0.02</td>
<td>5.94</td>
<td>0.11</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti) &gt; Mel</td>
<td>1.93</td>
<td>0.06</td>
<td>9.75</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti) &gt; Sp</td>
<td>0.24</td>
<td>0.02</td>
<td>5.71</td>
<td>0.08</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Diop (Al-Ti) &gt; Sp</td>
<td>1.17</td>
<td>0.02</td>
<td>6.86</td>
<td>0.14</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Fo</td>
<td>0.02</td>
<td>0</td>
<td>4.87</td>
<td>0.08</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Fo</td>
<td>0.66</td>
<td>0.23</td>
<td>1.15</td>
<td>0.16</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Fo</td>
<td>0.05</td>
<td>0.01</td>
<td>7.35</td>
<td>0.18</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Fo</td>
<td>0.22</td>
<td>0.03</td>
<td>7.59</td>
<td>0.14</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mat</td>
<td>0.14</td>
<td>0</td>
<td>0.19</td>
<td>0.08</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel &gt;&gt; Sp</td>
<td>0.29</td>
<td>0</td>
<td>8.56</td>
<td>0.13</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel &gt;&gt; Sp</td>
<td>2.02</td>
<td>0.02</td>
<td>9.25</td>
<td>0.16</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel &gt;&gt; Sp</td>
<td>0.94</td>
<td>0.03</td>
<td>8.14</td>
<td>0.15</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>---------</td>
<td>----------</td>
<td>-------</td>
<td>------</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel &gt;&gt; Sp</td>
<td>1.56</td>
<td>0.02</td>
<td>7.95</td>
<td>0.04</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel &gt;&gt; Sp</td>
<td>0.92</td>
<td>0.06</td>
<td>8.8</td>
<td>0.12</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel &gt;&gt; Sp</td>
<td>0.74</td>
<td>0.06</td>
<td>7.99</td>
<td>0.13</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel &gt;&gt; Sp</td>
<td>1.31</td>
<td>0.04</td>
<td>10.02</td>
<td>0.14</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel &gt;&gt; Sp</td>
<td>1.21</td>
<td>0.02</td>
<td>10.45</td>
<td>0.06</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel &gt;&gt; Sp</td>
<td>1.16</td>
<td>0.03</td>
<td>10.11</td>
<td>0.11</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel &gt;&gt; Sp</td>
<td>1.03</td>
<td>0.07</td>
<td>9.63</td>
<td>0.14</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel</td>
<td>&gt;&gt;</td>
<td>Sp</td>
<td>0.91</td>
<td>0.07</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel</td>
<td>&gt;&gt;</td>
<td>Sp</td>
<td>0.22</td>
<td>0.01</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel</td>
<td>&gt;&gt;</td>
<td>Sp</td>
<td>0.94</td>
<td>0.02</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel</td>
<td>&gt;&gt;</td>
<td>Sp</td>
<td>0.31</td>
<td>0.03</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel</td>
<td>&gt;&gt;</td>
<td>Sp</td>
<td>0.78</td>
<td>0.02</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel</td>
<td>&gt;&gt;</td>
<td>Sp</td>
<td>1.52</td>
<td>0.02</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel</td>
<td>&gt;&gt;</td>
<td>Sp</td>
<td>0.91</td>
<td>0.01</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel</td>
<td>&gt;&gt;</td>
<td>Sp</td>
<td>0.34</td>
<td>0.01</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel &gt;&gt; Sp</td>
<td>0.75</td>
<td>0.05</td>
<td>7.74</td>
<td>0.07</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>---------</td>
<td>-----------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>Mel &gt;&gt; Sp</td>
<td>0.46</td>
<td>0.01</td>
<td>7.67</td>
<td>0.12</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td></td>
<td>2.23</td>
<td>0.86</td>
<td>8.44</td>
<td>0.58</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td></td>
<td>4.47</td>
<td>0.34</td>
<td>8.17</td>
<td>0.5</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td></td>
<td>4.56</td>
<td>0.34</td>
<td>5</td>
<td>0.54</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td></td>
<td>3.65</td>
<td>0.65</td>
<td>3.87</td>
<td>0.62</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td></td>
<td>2.33</td>
<td>0.08</td>
<td>4.93</td>
<td>0.5</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td></td>
<td>0.44</td>
<td>0.07</td>
<td>-1.25</td>
<td>0.39</td>
</tr>
<tr>
<td>Location</td>
<td>Code</td>
<td>Technique</td>
<td>Method</td>
<td>Value 1</td>
<td>Value 2</td>
<td>Value 3</td>
<td>Young et al. 2005 Supp</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-------</td>
<td>-----------</td>
<td>--------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>------------------------</td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>1.53</td>
<td>0.11</td>
<td>-0.32</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>2.85</td>
<td>0.31</td>
<td>3.72</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>3.66</td>
<td>0.16</td>
<td>4.99</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>8</td>
<td>1.14</td>
<td>7.15</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>3.12</td>
<td>0.1</td>
<td>8.52</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>2.2</td>
<td>0.14</td>
<td>3.12</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>2.04</td>
<td>0.16</td>
<td>2.82</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td></td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td>4.15</td>
<td>0.21</td>
<td>4.47</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>CV</td>
<td>Technique</td>
<td>After</td>
<td>WR</td>
<td>WR</td>
<td>74</td>
<td>0.05</td>
<td>Methodology</td>
</tr>
<tr>
<td>----------</td>
<td>----</td>
<td>-----------</td>
<td>-------</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td>Grosnaja</td>
<td>CV3</td>
<td>FTA</td>
<td>63624-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>A</td>
<td>MRS3</td>
<td>Altered</td>
<td>7.11</td>
<td>0.23</td>
<td>11.57</td>
<td>0.27</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Diop (Al) W-L</td>
<td>0.76</td>
<td>0.04</td>
<td>0.11</td>
<td>0.06</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Diop (Al) W-L</td>
<td>1.04</td>
<td>0.09</td>
<td>-2.74</td>
<td>0.11</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Diop (Al) W-L</td>
<td>0.94</td>
<td>0.01</td>
<td>-0.48</td>
<td>0.13</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Diop (Al) W-L</td>
<td>0.96</td>
<td>0.02</td>
<td>-2.32</td>
<td>0.19</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>A</td>
<td>MRS3</td>
<td>Diop (Al) W-L</td>
<td>4.62</td>
<td>0.54</td>
<td>0.81</td>
<td>0.26</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>A</td>
<td>MRS3</td>
<td>Diop (Al) W-L</td>
<td>9.02</td>
<td>0.7</td>
<td>2.09</td>
<td>0.38</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>A</td>
<td>MRS3</td>
<td>Diop (Al) W-L</td>
<td>9.02</td>
<td>0.7</td>
<td>2.09</td>
<td>0.38</td>
</tr>
<tr>
<td>Location</td>
<td>CV</td>
<td>CT</td>
<td>Spot</td>
<td>Diop (Al-Ti)</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td>Young et al. 2005 Supp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>----</td>
<td>----</td>
<td>------</td>
<td>--------------</td>
<td>---------------------------</td>
<td>-------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>2.54</td>
<td>0.03</td>
<td>14.08</td>
<td>0.15</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>2.74</td>
<td>0.01</td>
<td>14.56</td>
<td>0.12</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>2.43</td>
<td>0.02</td>
<td>12.24</td>
<td>0.06</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>2.44</td>
<td>0.01</td>
<td>12.97</td>
<td>0.1</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>2.32</td>
<td>0.04</td>
<td>13.27</td>
<td>0.1</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>2.32</td>
<td>0.02</td>
<td>13.93</td>
<td>0.11</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>0.38</td>
<td>0.07</td>
<td>0.76</td>
<td>0.12</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>A</td>
<td>MRS3</td>
<td>13.01</td>
<td>0.53</td>
<td>21.49</td>
<td>0.37</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Location</td>
<td>Sample</td>
<td>Method</td>
<td>Element</td>
<td>Concentration</td>
<td>Error</td>
<td>Concentration</td>
<td>Error</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>--------</td>
<td>---------</td>
<td>---------------</td>
<td>-------</td>
<td>---------------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>5.62</td>
<td>0.03</td>
<td>15.89</td>
<td>0.18</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td>Young et al. 2005 Supp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>4.7</td>
<td>0.03</td>
<td>15.77</td>
<td>0.09</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td>Young et al. 2005 Supp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>6.01</td>
<td>0.08</td>
<td>16.03</td>
<td>0.08</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td>Young et al. 2005 Supp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>5.82</td>
<td>0.03</td>
<td>17.41</td>
<td>0.09</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td>Young et al. 2005 Supp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>6.06</td>
<td>0.03</td>
<td>16.08</td>
<td>0.17</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td>Young et al. 2005 Supp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>8.64</td>
<td>0.15</td>
<td>18.28</td>
<td>0.17</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td>Young et al. 2005 Supp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>8.9</td>
<td>0.2</td>
<td>18.55</td>
<td>0.24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td>Young et al. 2005 Supp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>4.46</td>
<td>0.13</td>
<td>15.1</td>
<td>0.17</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
<td>Young et al. 2005 Supp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>7.17</td>
<td>0.13</td>
<td>17.44</td>
<td>0.12</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>5.16</td>
<td>0.03</td>
<td>15.31</td>
<td>0.07</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>5.26</td>
<td>0.01</td>
<td>15.45</td>
<td>0.11</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>3.3</td>
<td>0.03</td>
<td>14.84</td>
<td>0.08</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>7.4</td>
<td>0.03</td>
<td>17.52</td>
<td>0.09</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>6.94</td>
<td>0.08</td>
<td>17.81</td>
<td>0.18</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>5.41</td>
<td>0.09</td>
<td>15.63</td>
<td>0.18</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>4.95</td>
<td>0.11</td>
<td>15.49</td>
<td>0.14</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>5.4</td>
<td>0.15</td>
<td>14.8</td>
<td>0.3</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>-----</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>4.94</td>
<td>0.07</td>
<td>15.47</td>
<td>0.16</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>7.19</td>
<td>0.14</td>
<td>17.43</td>
<td>0.24</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>4.37</td>
<td>0.07</td>
<td>14.97</td>
<td>0.14</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>7.15</td>
<td>0.02</td>
<td>17.86</td>
<td>0.14</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>3.54</td>
<td>0.06</td>
<td>14.74</td>
<td>0.08</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>6.3</td>
<td>0.1</td>
<td>16.5</td>
<td>0.31</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>4.5</td>
<td>0.04</td>
<td>13.95</td>
<td>0.1</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>5</td>
<td>0.05</td>
<td>15.28</td>
<td>0.12</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>----</td>
<td>-------</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>4.77</td>
<td>0.17</td>
<td>14.78</td>
<td>0.12</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>4.78</td>
<td>0.04</td>
<td>14.7</td>
<td>0.15</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>4.13</td>
<td>0.28</td>
<td>14.17</td>
<td>0.3</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>6.53</td>
<td>0.04</td>
<td>15.5</td>
<td>0.1</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>4.95</td>
<td>0.11</td>
<td>15.34</td>
<td>0.05</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>4.95</td>
<td>0.11</td>
<td>15.34</td>
<td>0.05</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>4.05</td>
<td>0.09</td>
<td>14.9</td>
<td>0.09</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>4.1</td>
<td>0.24</td>
<td>14.99</td>
<td>0.06</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>-------</td>
<td>-----</td>
<td>------</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>4.13</td>
<td>0.06</td>
<td>14.14</td>
<td>0.16</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>5.75</td>
<td>0.15</td>
<td>15.27</td>
<td>0.08</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>3.4</td>
<td>0.15</td>
<td>14.37</td>
<td>0.13</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>5.86</td>
<td>0.16</td>
<td>15.69</td>
<td>0.13</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>4.95</td>
<td>0.11</td>
<td>15.78</td>
<td>0.12</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>4.58</td>
<td>0.08</td>
<td>14.93</td>
<td>0.05</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>2.67</td>
<td>0.04</td>
<td>14</td>
<td>0.09</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>3.76</td>
<td>0.09</td>
<td>14.63</td>
<td>0.15</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>3.35</td>
<td>0.05</td>
<td>13.99</td>
<td>0.11</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>3.25</td>
<td>0.07</td>
<td>14.4</td>
<td>0.1</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>3.37</td>
<td>0.03</td>
<td>15.09</td>
<td>0.23</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>4.98</td>
<td>0.04</td>
<td>18.41</td>
<td>0.09</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>2.6</td>
<td>0.02</td>
<td>14.29</td>
<td>0.1</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>7.39</td>
<td>0.36</td>
<td>21.39</td>
<td>0.19</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>6.54</td>
<td>0.03</td>
<td>16.37</td>
<td>0.09</td>
</tr>
<tr>
<td>Location</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>5.93</td>
<td>0.12</td>
<td>15.93</td>
<td>0.41</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel</td>
<td>3.72</td>
<td>0.06</td>
<td>13.81</td>
<td>0.15</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>A</td>
<td>MRS3</td>
<td>Mel</td>
<td>2.83</td>
<td>0.05</td>
<td>13.62</td>
<td>0.08</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>A</td>
<td>MRS3</td>
<td>Mel</td>
<td>9.14</td>
<td>0.06</td>
<td>18.31</td>
<td>0.29</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>A</td>
<td>MRS3</td>
<td>Mel</td>
<td>15.05</td>
<td>0.14</td>
<td>21.83</td>
<td>0.43</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>A</td>
<td>MRS3</td>
<td>Mel</td>
<td>13.75</td>
<td>0.63</td>
<td>22.33</td>
<td>0.21</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>A</td>
<td>MRS3</td>
<td>Mel</td>
<td>13.35</td>
<td>0.7</td>
<td>20.06</td>
<td>0.48</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel + W-L</td>
<td>8.35</td>
<td>0.08</td>
<td>13.24</td>
<td>0.14</td>
</tr>
<tr>
<td>Location</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Sample Type</td>
<td>Concentration</td>
<td>Precision</td>
<td>Matrix</td>
<td>Technique</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>-------------</td>
<td>---------------</td>
<td>-----------</td>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel + W-L</td>
<td>13.82</td>
<td>0.13</td>
<td>17.92</td>
<td>0.26</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel + W-L</td>
<td>10.63</td>
<td>0.12</td>
<td>15.81</td>
<td>0.2</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel + W-L?</td>
<td>6.42</td>
<td>0.06</td>
<td>16.52</td>
<td>0.1</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel + W-L?</td>
<td>7.67</td>
<td>0.08</td>
<td>19.83</td>
<td>0.12</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel + W-L?</td>
<td>10.66</td>
<td>0.16</td>
<td>19.16</td>
<td>0.12</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Mel + W-L?</td>
<td>7.95</td>
<td>0.21</td>
<td>10.18</td>
<td>0.24</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Diop (Al-Ti) + Mel</td>
<td>4.07</td>
<td>0.08</td>
<td>14.99</td>
<td>0.2</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td>Diop (Al-Ti) + Mel</td>
<td>2.48</td>
<td>0.01</td>
<td>13.67</td>
<td>0.09</td>
</tr>
<tr>
<td>Location</td>
<td>Group</td>
<td>Type</td>
<td>Number</td>
<td>Tectonic</td>
<td>Facility</td>
<td>Spot</td>
<td>Value &amp; Error</td>
<td>Value &amp; Error</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>------</td>
<td>--------</td>
<td>----------</td>
<td>----------</td>
<td>------</td>
<td>--------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td></td>
<td></td>
<td></td>
<td>2.23 &amp; 0.01</td>
<td>14.23 &amp; 0.1</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td></td>
<td></td>
<td></td>
<td>0.91 &amp; 0.04</td>
<td>-1.33 &amp; 0.12</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td></td>
<td></td>
<td></td>
<td>1.31 &amp; 0.07</td>
<td>-3.39 &amp; 0.1</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td></td>
<td></td>
<td></td>
<td>3.15 &amp; 0.06</td>
<td>14.63 &amp; 0.07</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td></td>
<td></td>
<td></td>
<td>1.55 &amp; 0.06</td>
<td>0.05 &amp; 0.16</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td></td>
<td></td>
<td></td>
<td>7.39 &amp; 0.18</td>
<td>16.11 &amp; 0.44</td>
</tr>
<tr>
<td>Leoville</td>
<td>CV3</td>
<td>CTA</td>
<td>144A</td>
<td></td>
<td></td>
<td></td>
<td>1.98 &amp; 0.08</td>
<td>-0.89 &amp; 0.48</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td>4.42 &amp; 0.12</td>
<td>-2.84 &amp; 0.68</td>
</tr>
<tr>
<td>Location</td>
<td>Sample</td>
<td>FTA</td>
<td>Spot</td>
<td>Mel + Sp</td>
<td>Mel &gt; Sp</td>
<td>Spot</td>
<td>Value 1</td>
<td>Value 2</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>-----</td>
<td>------</td>
<td>----------</td>
<td>----------</td>
<td>------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Vigarano CV3(R)</td>
<td>FTA</td>
<td>10</td>
<td>Spot 6</td>
<td>3.19</td>
<td>0.92</td>
<td>-1.59</td>
<td>0.19</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Vigarano CV3(R)</td>
<td>FTA</td>
<td>10</td>
<td>Spot 7</td>
<td>4.65</td>
<td>0.15</td>
<td>0.4</td>
<td>0.14</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Vigarano CV3(R)</td>
<td>FTA</td>
<td>10</td>
<td>Spot 4</td>
<td>2.76</td>
<td>0.7</td>
<td>-0.31</td>
<td>0.58</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Vigarano CV3(R)</td>
<td>FTA</td>
<td>10</td>
<td>Spot 5</td>
<td>2.35</td>
<td>0.11</td>
<td>0.77</td>
<td>0.16</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Vigarano CV3(R)</td>
<td>FTA</td>
<td>9</td>
<td>Spot 4</td>
<td>3.22</td>
<td>0.1</td>
<td>0.25</td>
<td>0.11</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Vigarano CV3(R)</td>
<td>FTA</td>
<td>10</td>
<td>Spot 2</td>
<td>1.41</td>
<td>0.29</td>
<td>-3.26</td>
<td>0.87</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Vigarano CV3(R)</td>
<td>FTA</td>
<td>10</td>
<td>Spot 3</td>
<td>1.95</td>
<td>0.9</td>
<td>-3.68</td>
<td>0.55</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Vigarano CV3(R)</td>
<td>FTA</td>
<td>9</td>
<td>Spot 8</td>
<td>0.4</td>
<td>0.12</td>
<td>-2.16</td>
<td>0.52</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>9</td>
<td>Oi rim</td>
<td>Line 11</td>
<td>0.14</td>
<td>0.53</td>
<td>-2.56</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
<td>-----</td>
<td>---</td>
<td>--------</td>
<td>---------</td>
<td>------</td>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>9</td>
<td>Unk</td>
<td></td>
<td>3.26</td>
<td>0.52</td>
<td>-1.01</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>9</td>
<td>Unk</td>
<td></td>
<td>3.2</td>
<td>0.71</td>
<td>-0.77</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>9</td>
<td>Unk</td>
<td></td>
<td>3.56</td>
<td>0.76</td>
<td>-1.35</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>9</td>
<td>Unk</td>
<td></td>
<td>2.36</td>
<td>0.23</td>
<td>-0.52</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>9</td>
<td>Unk</td>
<td></td>
<td>3.36</td>
<td>0.31</td>
<td>0.83</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>9</td>
<td>Unk</td>
<td></td>
<td>2.85</td>
<td>0.15</td>
<td>-0.43</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>9</td>
<td>Unk</td>
<td></td>
<td>1.83</td>
<td>0.2</td>
<td>-1.01</td>
</tr>
<tr>
<td>Location</td>
<td>Sample</td>
<td>Method</td>
<td>Age</td>
<td>Error</td>
<td>Error Range</td>
<td>Analysis Method</td>
<td>Reference</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>--------</td>
<td>-----</td>
<td>-------</td>
<td>-------------</td>
<td>----------------</td>
<td>--------------------</td>
<td></td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>9</td>
<td></td>
<td></td>
<td>Unk</td>
<td>1.96 0.54 -0.13 0.2</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>10</td>
<td></td>
<td></td>
<td>Unk</td>
<td>2.46 0.15 -2.91 0.15</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>10</td>
<td></td>
<td></td>
<td>Unk</td>
<td>1.25 0.12 -2.58 0.18</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>10</td>
<td></td>
<td></td>
<td>Unk</td>
<td>3.45 0.97 -2.27 0.91</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>10</td>
<td></td>
<td></td>
<td>Unk</td>
<td>4.14 0.12 -2.29 0.38</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>10</td>
<td></td>
<td></td>
<td>Unk</td>
<td>1.7 0.4 -2.97 0.14</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Vigarano</td>
<td>CV3(R)</td>
<td>FTA</td>
<td>10</td>
<td></td>
<td></td>
<td>Unk</td>
<td>3.51 0.1 0.98 0.69</td>
<td>MC-ICPMS and LA-MC-ICPMS</td>
</tr>
<tr>
<td>Beaver Creek</td>
<td>H5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Plag Isolated grain 2769 13</td>
<td>IM</td>
<td>Zinner et al. 2002</td>
</tr>
<tr>
<td>Beaver Creek</td>
<td>H5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Plag Isolated grain 1977 135</td>
<td>IM</td>
<td>Zinner et al. 2002</td>
</tr>
<tr>
<td>Location</td>
<td>Stage</td>
<td>Sample</td>
<td>Type</td>
<td>Isolated grain</td>
<td>2461</td>
<td>246</td>
<td>74</td>
<td>0.29</td>
</tr>
<tr>
<td>------------------</td>
<td>-------</td>
<td>--------</td>
<td>------------</td>
<td>----------------</td>
<td>------</td>
<td>-----</td>
<td>----</td>
<td>------</td>
</tr>
<tr>
<td>Beaver Creek</td>
<td>H5</td>
<td>Plag</td>
<td>Isolated grain</td>
<td>2461</td>
<td>246</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beaver Creek</td>
<td>H5</td>
<td>Plag</td>
<td>Isolated grain</td>
<td>2515</td>
<td>74</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest Vale</td>
<td>H4</td>
<td>Pyrx + Ol</td>
<td>0.29</td>
<td>0.1</td>
<td></td>
<td>IM</td>
<td></td>
<td>Zinner et al. 2002</td>
</tr>
<tr>
<td>Forest Vale</td>
<td>H4</td>
<td>Plag</td>
<td>10199</td>
<td>282</td>
<td></td>
<td>IM</td>
<td></td>
<td>Zinner et al. 2002</td>
</tr>
<tr>
<td>Forest Vale</td>
<td>H4</td>
<td>Plag</td>
<td>8438</td>
<td>844</td>
<td></td>
<td>IM</td>
<td></td>
<td>Zinner et al. 2002</td>
</tr>
<tr>
<td>Forest Vale</td>
<td>H4</td>
<td>Plag</td>
<td>6060</td>
<td>678</td>
<td></td>
<td>IM</td>
<td></td>
<td>Zinner et al. 2002</td>
</tr>
<tr>
<td>Quenggouk</td>
<td>H4</td>
<td>Plag</td>
<td>5771</td>
<td>1674</td>
<td></td>
<td>IM</td>
<td></td>
<td>Zinner et al. 2002</td>
</tr>
<tr>
<td>Quenggouk</td>
<td>H4</td>
<td>Plag</td>
<td>6711</td>
<td>1129</td>
<td></td>
<td>IM</td>
<td></td>
<td>Zinner et al. 2002</td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td>Pyrx + Ol</td>
<td>0.17</td>
<td>0.42</td>
<td></td>
<td>IM</td>
<td></td>
<td>Zinner et al. 2002</td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H₄</td>
<td>Plag</td>
<td>4009</td>
<td>554</td>
<td>IM</td>
<td>Zinner et al. 2002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>----</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>----</td>
<td>-------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H₄</td>
<td>Plag</td>
<td>3618</td>
<td>370</td>
<td>IM</td>
<td>Zinner et al. 2002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H₄</td>
<td>Plag</td>
<td>3992</td>
<td>790</td>
<td>IM</td>
<td>Zinner et al. 2002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H₄</td>
<td>Plag</td>
<td>4576</td>
<td>1178</td>
<td>IM</td>
<td>Zinner et al. 2002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H₄</td>
<td>Plag</td>
<td>5279</td>
<td>448</td>
<td>IM</td>
<td>Zinner et al. 2002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H₄</td>
<td>Plag</td>
<td>1286</td>
<td>58</td>
<td>IM</td>
<td>Zinner et al. 2002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H₄</td>
<td>Plag</td>
<td>3019</td>
<td>375</td>
<td>IM</td>
<td>Zinner et al. 2002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H₄</td>
<td>Plag</td>
<td>3815</td>
<td>1128</td>
<td>IM</td>
<td>Zinner et al. 2002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H₄</td>
<td>Plag</td>
<td>3914</td>
<td>165</td>
<td>IM</td>
<td>Zinner et al. 2002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td>Plag</td>
<td>2455</td>
<td>184</td>
<td>IM</td>
<td>Zinner et al. 2002</td>
</tr>
<tr>
<td>----------------</td>
<td>----</td>
<td>---</td>
<td>---</td>
<td>-----</td>
<td>-----</td>
<td>----</td>
<td>---</td>
<td>----------------</td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td>Plag</td>
<td>3244</td>
<td>293</td>
<td>IM</td>
<td>Zinner et al. 2002</td>
</tr>
<tr>
<td>Ste. Marguerite</td>
<td>H4</td>
<td></td>
<td></td>
<td>Plag</td>
<td>3169</td>
<td>339</td>
<td>IM</td>
<td>Zinner et al. 2002</td>
</tr>
</tbody>
</table>

Note: The column labelled as δ²⁶Mg includes both δ²⁶Mg and δ²⁶Mg* data. Most references reported data as δ²⁶Mg; therefore, in cases where a given resource provided both δ²⁶Mg and δ²⁶Mg* data, δ²⁶Mg was typically select for use in this study. Readers are encouraged to refer to the original publications.
References


