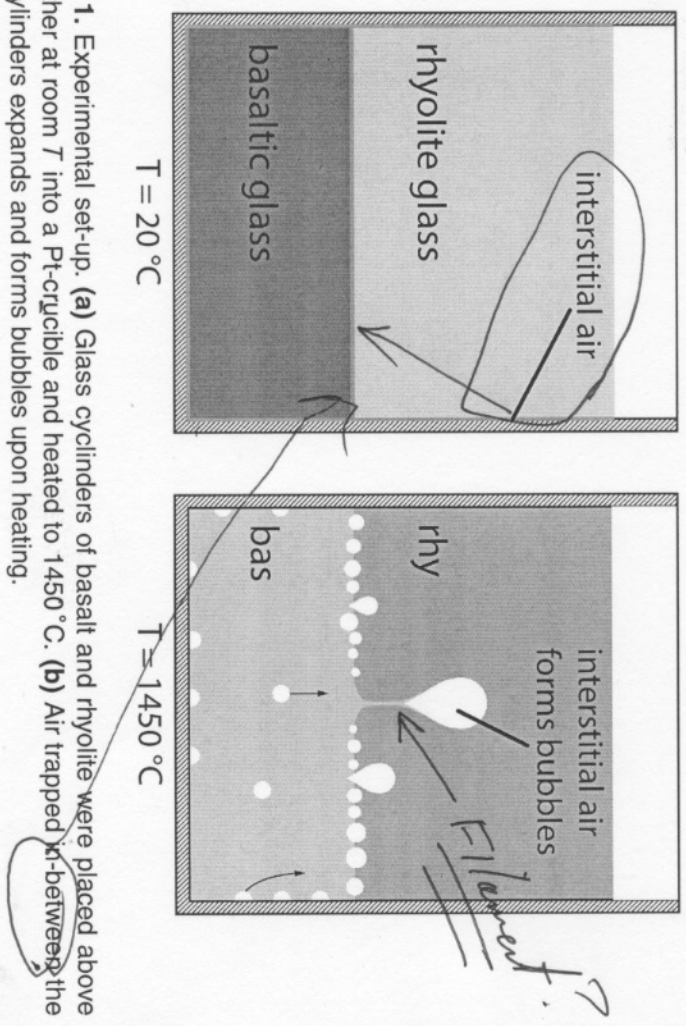


Where is interstitial air - at interface??



**Figure 1.** Experimental set-up. (a) Glass cylinders of basalt and rhyolite were placed above each other at room  $T$  into a Pt-crucible and heated to  $1450\text{ }^{\circ}\text{C}$ . (b) Air trapped between the glass cylinders expands and forms bubbles upon heating.

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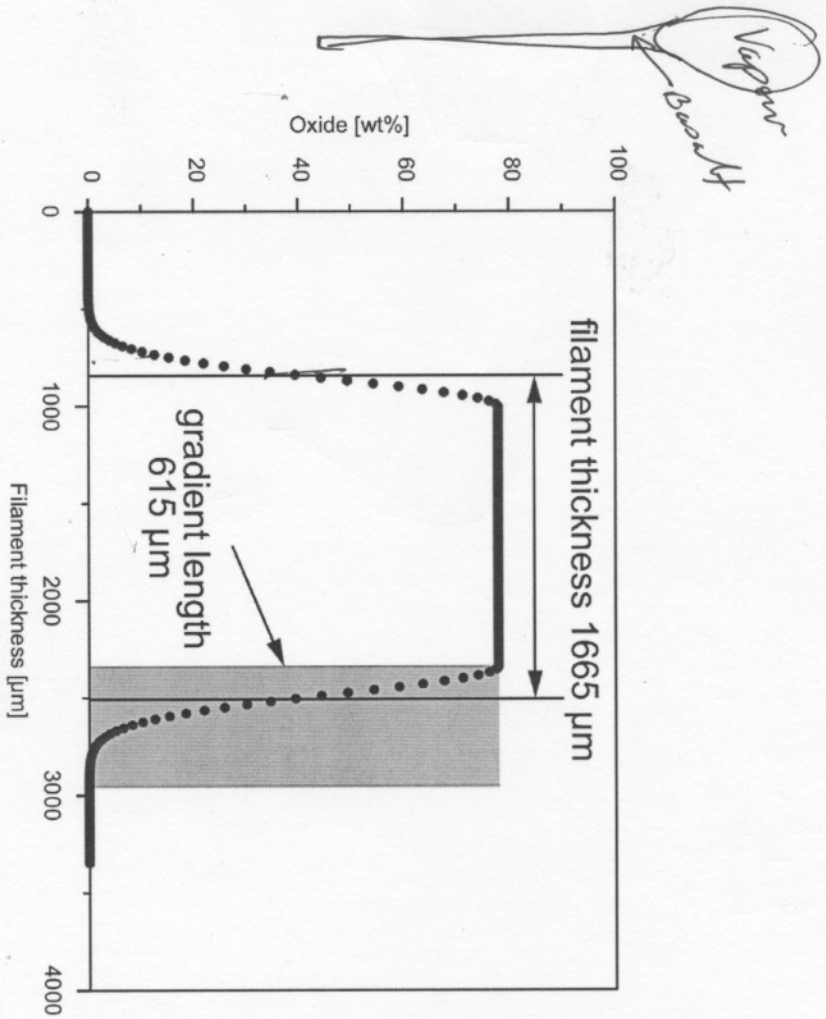
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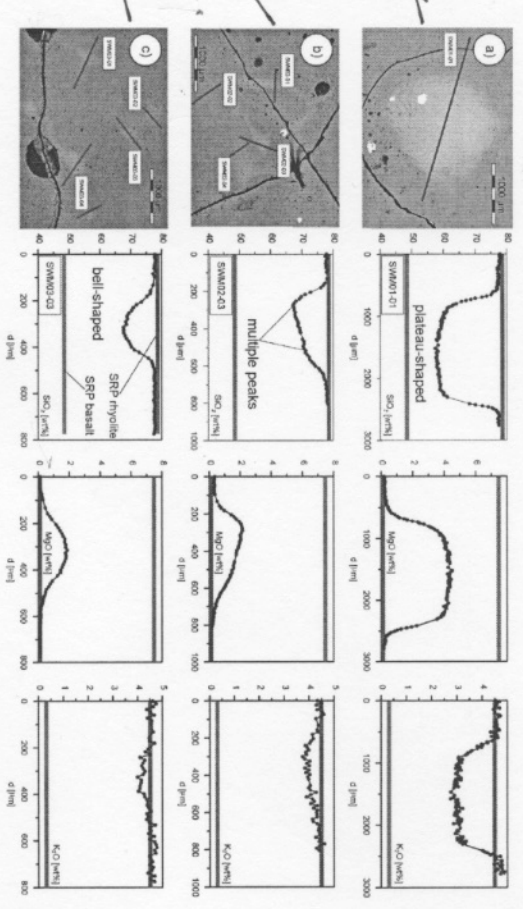
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**Figure 2.** Modelled compositional profile after the thin-source problem (e.g., Zhang, 2010). Filament thickness is determined by selecting the intermediate points of each profile. Gradient length denotes the part of the compositional profile, in which the composition shows variations.

*you could have a  
a notch to show  
horizontal  
sections at  
where these  
sections?*



**Figure 4.** Backscattered electron images of slices of experimental glass and exemplary major element concentration profiles across the hybrid plume structures. Blue and red lines indicate the initial compositions of the end-members basalt and rhyolite. Note that in all EMP transects, the initial composition of the basalt has been obliterated, i.e. the plume tail has been pervasively hybridised.

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One of the most exciting things about this is that the range of compositions from Basalt driven mixing is DIFFERENT

from Basalt driven mixing is DIFFERENT  
 "Expected" lines mixing  
 PDD

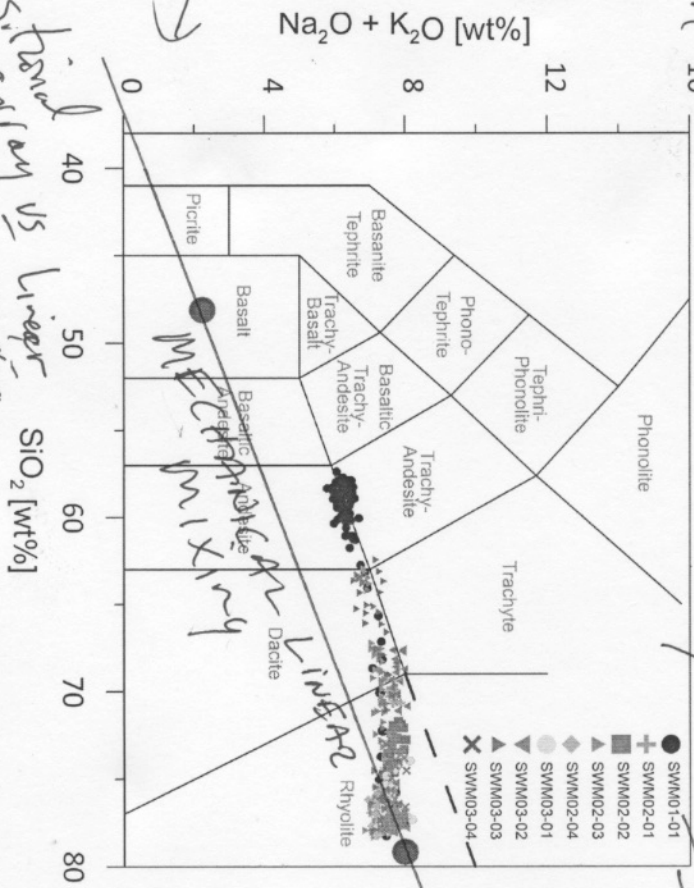


Figure 5. TAS plot of end-member compositions and hybrid compositions produced during the bubble advection experiment. Data normalised to 100% totals. Blue and red circles denote the end-member compositions of Snake River Basalt and Rhyolite.

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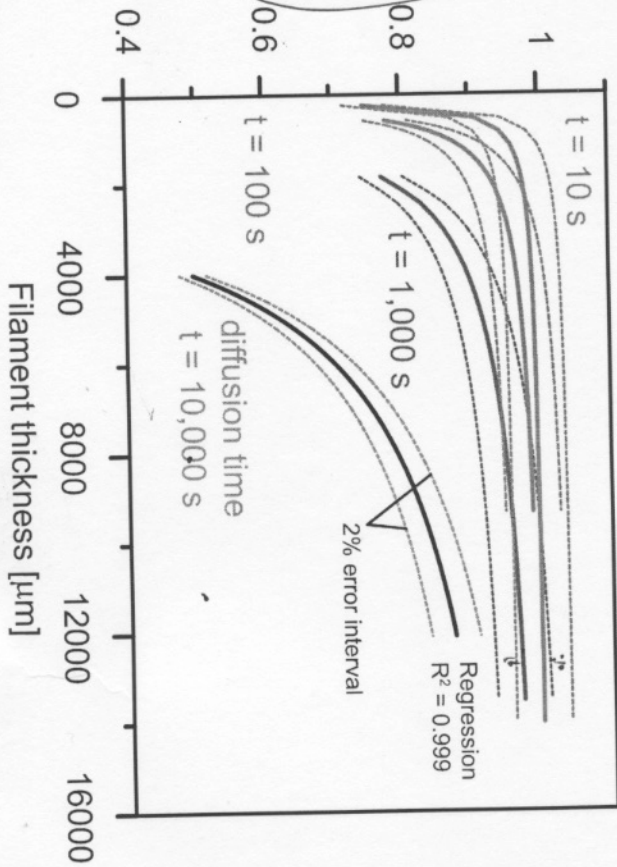
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*Your captions are mixed up!*



**Figure 6.** Modelled viscosity of filament compositions after Giordano et al. (2008), two panels for clarity. The calculation of viscosity contrast for each filament is indicated by the arrow.

*? Not correct?*

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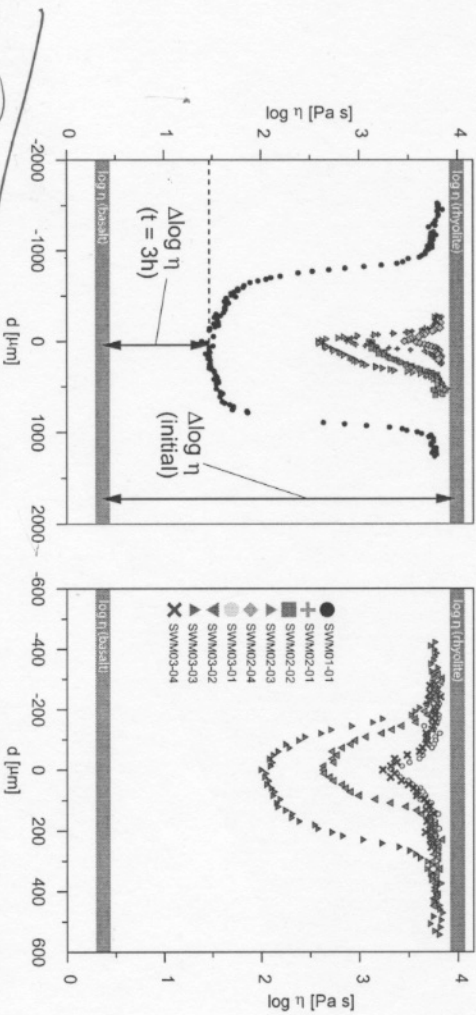
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**Figure 7.** Ideal behaviour of concentration variance depending on filament thickness. Each data point represents the concentration variance of an entire diffusion profile correlated with the filament thickness of that profile. Four curves were calculated for different diffusion times, which are indicated in the graph. Each curve shows a 2% error interval (dotted lines).

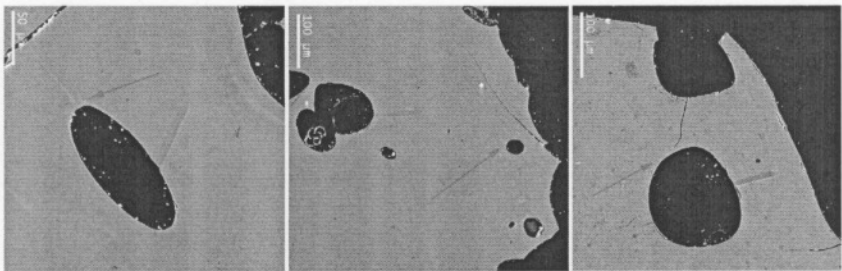
Mixed up components

What doesn't

1513



I Can't  
 see anything -  
 nice try but  
VERY unconvincing



Not  
 convinced

**Figure 9.** Backscattered electron images of basaltic glass from Axial seamount (McIntosh, personal communication, 2015). Red arrows indicate filaments of more mafic composition than surrounding glass, attached to vesicles.

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