1D Chemistry Process Sheet

- 1 cm x 1cm x 40 cm dimensions
- Tube filled with 200 µm diameter coal particles
- Coal particle locations are fixed in space with a volume fraction of 0.4 and initial temperature of 975 K
- Coal is assumed to be 90% carbon and 10% ash (SiO_2)

Two Cases to be modeled:

- **Case #1**: Pure steam enters bottom of tube at 1 cm/s and 800 K. Use volume average chemistry for this model.
- **Case #2**: Steam containing 10% by volume fine coal particles (20 µm) enters the bottom of tube a 1 cm/s and 800 K. Fine coal particles pass through the interstitial spaces in the fixed coal bed. Use discrete particle chemistry for this model.

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