

## DATA REPOSITORY ITEM I:

### Minimum Volume Estimate for the Table Mountain Latite

We made a minimum volume estimate of the Table Mountain Latite (TML), using the areal extent mapped in outcrop (see Figure 1 of this paper). We made the assumption that the paleo-channel deposits were originally continuous, and we assumed a minimum average thickness of at least 50 m in the paleochannels, using the measured values of 46 m at the westernmost preserved TML extent near Knight's Ferry (Gorny et al., 2009), and over 100 m near the eastern extent at Burcham Creek (King et al., 2007).

We also calculated the volume of lavas preserved in grabens of the Sierra Crest (this paper) and range front (Busby et al., 2013b).

Using polygons in ArcGIS, we measured the area each of the polygons shown below:

- 1) inferred original extent of >50 m thick paleochannel deposits (Polygon A, gray);
- 2) preserved extent of >350 m thick graben-ponded deposits (Polygon B, green) and
- 3) preserved extent of >200 m thick graben-ponded deposits (Polygon C, teal).

#### *Volume Estimate*

Volume =  $B \cdot h$  where  $B$ =area of the base and  $h$ =thickness

#### Polygon A (gray)

$h = 50 \text{ m}$

Area =  $1550 \text{ km}^2$

Volume =  $1550 \cdot 0.05$

Volume =  $78 \text{ km}^3$

#### Polygon B

Present-day preserved TML thickness is 400 m in the Stanislaus Peak - Sonora Peak – Leavitt Peak segment of the Sierra crest graben (top eroded; this paper), and in range front half grabens directly to the east (Busby and Hagan, 2013). Subtracting the 50 m inferred regional thickness applied in polygon A, we used a minimum thickness of 350m.

$h = 350 \text{ m}$

Area of Polygon B is  $\sim 285 \text{ km}^2$

Volume =  $100 \text{ km}^3$

#### Polygon C

Present-day preserved TML thickness averages  $\sim 200 \text{ m}$  at in the Disaster Peak segment of the Sierra Crest graben, and in the related transfer zone graben at Mineral Mountain (both mapped in this paper). Subtracting the 50 m inferred regional thickness applied in polygon A, we used a minimum thickness of 150 m.

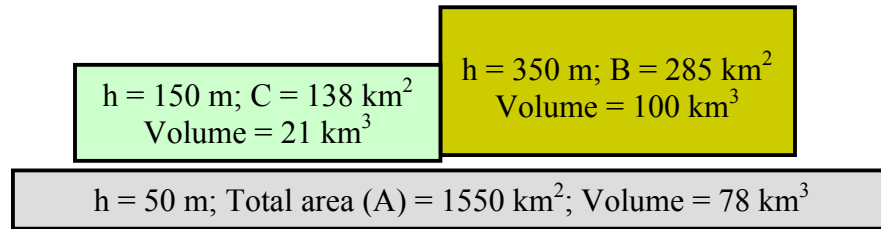
$h = 150 \text{ m}$

Area of Polygon C =  $138 \text{ km}^2$

Volume =  $21 \text{ km}^3$

**Total minimum volume** =  $78 \text{ km}^3 + 100 \text{ km}^3 + 21 \text{ km}^3 = \mathbf{199 \text{ km}^3}$

Total Volume =  
**199 km<sup>3</sup>**



*(Diagram not to scale)*

The actual volume of the TML could be twice as large, because lavas that flowed down a paleochannel far to the south of the paleo-channel that heads at Sonora Pass (Figure 1) were likely fed from an area south of the Little Walker Caldera; we therefore suspect that much of the Bridgeport basin is underlain by TML-filled grabens. Perhaps it could be detected by a geophysical experiment.