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Supporting Information for

**The rise and fall of Laramide topography and the sediment evacuation from Wyoming**

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1. Introduction to the supplementary material.
2. Captions for Figures S1-S18.
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All data are available at: https://doi.org/10.25422/azu.data.22068719

**Additional Supporting Information (Files uploaded separately)**

Figures S1–S18

Tables S1–S23

**Introduction**

This document provides captions for supporting information for this study. Please download associated figures and tables. Each supplementary figure corresponds with a sample in this study and provides detailed AFT and thermal history model results for each sample.

**Figure S1.** Supporting plots for sample B2.

**Figure S2.** Supporting plots for sample B1.

**Figure S3.** Supporting plots for sample B4.

**Figure S4.** Supporting plots for sample HP5.

**Figure S5.** Supporting plots for sample HP4.

Figure S6. Supporting plots for sample HP2.

Figure S7. Supporting plots for sample HP1.

Figure S8. Supporting plots for sample HP3.

Figure S9. Supporting plots for sample LA1.

Figure S10. Supporting plots for sample LA6.

Figure S11. Supporting plots for sample LA7.

Figure S12. Supporting plots for sample C2.

Figure S13. Supporting plots for sample D1.

Figure S14. Supporting plots for sample KB1.

Figure S15. Supporting plots for samples GRSM-01, GRSM-02, GRSM-03, and GRSM-04 in the Square Top vertical profile.

Figure S16. Supporting plots for sample GF1.

Figure S17. Supporting plots for sample GF5.

Figure S18. Supporting plots for sample 2DIB.

Table S1. Summary table of samples including latitude, longitude, sample type, number of grains counted for AFT (n), central age and error, mean track length and error, if sample was modeled, and supplemental figure number.

Table S2. Thermal history model parameter tables.

Table S3. Table containing detailed AFT sample information for sample B2 including individual grain data, Dpar measurements, and track length measurements.

Table S4. Table containing detailed AFT sample information for sample B1 including individual grain data, Dpar measurements, and track length measurements.

Table S5. Table containing detailed AFT sample information for sample B4 including individual grain data, Dpar measurements, and track length measurements.

Table S6. Table containing detailed AFT sample information for sample HP5 including individual grain data, Dpar measurements, and track length measurements.

Table S7. Table containing detailed AFT sample information for sample HP4 including individual grain data, Dpar measurements, and track length measurements.

Table S8. Table containing detailed AFT sample information for sample HP2 including individual grain data, Dpar measurements, and track length measurements.

Table S9. Table containing detailed AFT sample information for sample HP1 including individual grain data, Dpar measurements, and track length measurements.

Table S10. Table containing detailed AFT sample information for sample HP3 including individual grain data, Dpar measurements, and track length measurements.

Table S11. Table containing detailed AFT sample information for sample LA1 including individual grain data, Dpar measurements, and track length measurements.

Table S12. Table containing detailed AFT sample information for sample LA6 including individual grain data, Dpar measurements, and track length measurements.

Table S13. Table containing detailed AFT sample information for sample LA7 including individual grain data, Dpar measurements, and track length measurements.

Table S14. Table containing detailed AFT sample information for sample C2 including individual grain data, Dpar measurements, and track length measurements.

Table S15. Table containing detailed AFT sample information for sample D1 including individual grain data, Dpar measurements, and track length measurements.

Table S16. Table containing detailed AFT sample information for sample KB1 including individual grain data, Dpar measurements, and track length measurements.

Table S17. Table containing detailed AFT sample information for sample GRSM-01 including individual grain data, Dpar measurements, and track length measurements.

Table S18. Table containing detailed AFT sample information for sample GRSM-02 including individual grain data, Dpar measurements, and track length measurements.

Table S19. Table containing detailed AFT sample information for sample GRSM-03 including individual grain data, Dpar measurements, and track length measurements.

Table S20. Table containing detailed AFT sample information for sample GRSM-04 including individual grain data, Dpar measurements, and track length measurements.

Table S21. Table containing detailed AFT sample information for sample GF1 including individual grain data, Dpar measurements, and track length measurements.

Table S22. Table containing detailed AFT sample information for sample GF5 including individual grain data, Dpar measurements, and track length measurements.

Table S23. Table containing detailed AFT sample information for sample 2DIB including individual grain data, Dpar measurements, and track length measurements.