THE CHIGNIK FORMATION, ANIAKCHAK NATIONAL MONUMENT & PRESERVE, ALASKA: A LATE CRETACEOUS (CAMPAIGN-MAASTRICHTIAN) ESTUARY-FILL

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ABSTRACT

The Chignik Fm. is a cyclic succession of sedimentary rocks deposited at a relatively high latitude under cooler climate conditions. This study provides detailed information on the depositional environment, which represents a rare opportunity to study the detailed sedimentology of the Chignik Fm. depositional environments. The study site is located at Aniakchak National Monument & Preserve, AK. The Chignik Fm. is interpreted as a tidal dominated estuary-fill deposit. The depositional environment was capable of supporting a diverse assemblage of dinosaurs.

OBJECTIVES

• This project focuses on a 300-meter measured section of the Chignik Fm. exposed in Aniakchak National Monument & Preserve, AK.
• This section contains one of the most densely concentrated dinosaur track sites in any high-latitude location, thus it provides unique terrestrial paleontological insights into ancient Arctic-Antarctic greenhouse environments.
• The Chignik Fm. is partially coeval with the Late Cretaceous Prince Creek Fm. (North Slope, AK) and the Cantwell Fm. (Denali National Park, AK), which are both well-studied dinosaur track sites in Alaska.
• This section provides an excellent opportunity to study the detailed sedimentology of another Late Cretaceous high-latitude dinosaur track-bearing site.

STUDY REGION

The Chignik Fm. is a cyclic succession of sedimentary rocks deposited at a relatively high-latitude under cooler climate conditions. This study provides detailed information on the depositional environment, which represents a rare opportunity to study the detailed sedimentology of the Chignik Fm. depositional environments. The study site is located at Aniakchak National Monument & Preserve, AK. The Chignik Fm. is interpreted as a tidal dominated estuary-fill deposit. The depositional environment was capable of supporting a diverse assemblage of dinosaurs.

CONCLUSIONS

Depositional Environment

• This detailed facies analysis indicates that the Chignik Fm. at Aniakchak Bay comprises a Late Cretaceous tide-dominated estuary-fill.

ACKNOWLEDGMENTS & REFERENCES

• Authorship & acknowledgments were identified from the Chignik Fm. at Aniakchak Bay and are interpreted to represent the following depositional environments: Shallow marine environments focused on upper marine to nearshore settings. These include shallow shallow, shallow coastal settings, and coastal plains. Backswamps, forelands, and tidal marshes. Fluvial deposits.

• This detailed facies analysis indicates that the Chignik Fm. at Aniakchak Bay comprises a Late Cretaceous tide-dominated estuary-fill.

• Acknowledgments & references are provided in the section on Aniakchak Bay, suggesting that this sequestration environment was capable of supporting diverse assemblages of dinosaurs.