

# Geomorphic Reclamation: A pioneer method on the frontier of the Wild West<sup>1</sup>

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**Abstract:** Geomorphic reclamation is an innovative approach to landscape reconstruction that is praised for creating a diverse topographic environment. Complex landforms provide microtopography and thus microenvironments, which fuel spatial variance in soil properties, resource availability, and vegetation communities. This study examines how landscape heterogeneity, driven by reclamation technique, influences soil quality and recovery of vegetation. We evaluate reclamation success by the comparison of geomorphic designs built adjacent to conventional methods of simple-slope construction. Following >10 years post-reclamation, distinctions in soil physicochemical properties, vegetation structure and established functional groups are observed between reclamation treatments. Presented findings highlight Wyoming's first side-by-side assessment of reclamation practices. This research offers a unique opportunity to observe alternatives to reclamation methods where regrading and revegetation occurred simultaneously.

Additional Key Words: mine reclamation, restoration ecology, soil quality.

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