

MINESOIL DEVELOPMENT IN CENTRAL WEST VIRGINIA

by

W. J. Noll and J. C. Sencindiver¹

Abstract. Immediately after mining and regrading, minesoils usually have little or no horizon development. Over time, horizons begin to form and definite diagnostic properties develop. The purpose of this study was to document the genesis of a 13-year-old minesoil. The study site was a reclaimed surface mine in Upshur County, West Virginia. Transects were established in 1983 across the site immediately after mining and regrading but before revegetation. Soil pits were excavated to 100+ cm at nine points along those transects. Soil profiles were described at each point, and each minesoil horizon was sampled for analyses. In 1983, only C horizons were described because no structure had developed. In 1996, all nine profiles had developed A horizons ranging in thickness from 2 to 9 cm (mean 6.1 cm). Subsurface horizons (AC, Bw, or C/B), ranging in thickness from 7 to 17 cm (mean 11.8 cm), also had formed in each profile. The A horizons were identified by colors that were darker than the subsoil horizons and the presence of weak fine granular or subangular blocky structure. The AC, Bw and C/B horizons had weak fine to very coarse subangular blocky or weak medium to very thick platy structure. Chemical and physical properties of the minesoils supported the morphological properties indicating that definite pedogenic horizons have formed in 13 years.

Additional Key Words: soil genesis, minesoil properties

¹Wendy J. Noll, Graduate Research Assistant, and John C. Sencindiver, Professor, West Virginia University, Division of Plant and Soil Sciences, P.O. Box 6108, Morgantown, WV 26506-6108