

APPENDIX B

The aerial photographs contained in this appendix illustrate the airphoto techniques for identifying soils which are described in Chapters VIII to XIII, and in the airphoto identification chart, of the parent publication entitled "The Origin, Distribution, and Airphoto Identification of United States Soils," Technical Development Report No. 52, and form a part of that publication. As they are referenced to the text of that publication, in which they are fully discussed, any effort to utilize them for airphoto analysis of soils with no more explanation than the captions shown on each plate and without the full text, is certain to fail, and should not be attempted.

Many of the illustrations consist of matched pairs of adjacent airphotos, so placed as to enable the reader to obtain from them an optical reception of the third, or vertical, dimension. This can be done by use of a stereoscopic viewer, many types of which are available commercially from various manufacturers of optical equipment, lenses, and other instruments. Some of the simpler types of these viewers have been available in the past at very nominal cost. With a little practice certain individuals find it possible to view the matched pairs of photos stereoscopically with the naked eye by merely focusing the vision at a great distance.

The airphoto soil identification technique does not depend entirely upon the use of stereoscopic coverage, as color, drainage pattern, certain erosion patterns, vegetation, land use, and even certain land forms, all of which are the keys to airphoto interpretation, are often discernible on the single photos and county index sheets. Therefore, although the reader may not have immediate access to stereo viewers, he can, in some localities, apply many of the principles of airphoto interpretation with good results.

Within limitations of security regulations aerial photographic index sheets and contact prints may be purchased, at nominal cost, from the government agency which has the photographic negatives. Several commercial firms also sell these photographs, and some states maintain files of certain areas. Of the government bureaus, the Agricultural Adjustment Agency has a large majority of all airphotos of the country. The Forest Service, Soil Conservation Service, Geological Survey, Tennessee Valley Authority, Bureau of Reclamation, Coast and Geodetic Survey, War Department, and others, also have photographs of parts of the United States. Whenever possible orders should be addressed to the bureau which has the negatives from which reproductions are desired. Index sheets may be ordered by description of the area or by reference to a map. Contact prints must be identified by designating the alphabetical symbol and the numbers, which are obtained by reference to the county index sheet. Orders may be taken by local offices of some of the Federal agencies possessing the negatives. If the information desired cannot be obtained locally or if it is not known which bureau has the film, orders or inquiries should be addressed to the Office of Plant and Operations, Department of Agriculture, Washington 25, D. C. The Civil Aeronautics Administration has a number of aerial photographic county index sheets and contact prints, and will furnish such information on these as it possesses, in addition to giving information as to the source of airphotos.

For security reasons the airphotos here published are without identification as to their exact location.

List of Plates

Plate

1. Map of United States showing the origin and distribution of soils. (Pocket of the parent publication.)
- Airphoto Illustrations**
2. Triassic traprock ridges protruding above glacial terraces.
 3. Scablands, exposed basaltic bedrock, and loess.
 4. Contrasting soil patterns in adjacent young and old drift.
 5. Badlands in South Dakota.
 6. Erosion in sandy silts and sandy clays.
 7. Erosion in deep loess.
 8. Erosion in a plastic lake-bed soil.
 9. Tilted sedimentary rocks.
 10. Dissected nearly horizontal sandstones and shales.
 11. Nearly horizontal sandstones and clay shales.
 12. Cherty limestone, clay shale, and sandstone.
 13. Topography, drainage, and sinkholes in moderately dissected limestone.
 14. A limestone pattern complicated by sandy shale hills.
 15. Tilted dolomitic limestone.
 16. A region of cherty limestone.
 17. Clay shale exposed along the Missouri River.
 18. Clay shale area in an arid western state.
 19. Land form pattern of materials that are preponderantly shales.
 20. A remarkable contrast in adjacent land forms.
 21. Pattern produced by weathering and land use in schists and associated rocks.
 22. A granite core surrounded by upturned sedimentary rocks.
 23. Relief and pattern of granites in the eastern Piedmont.
 24. Land form typical of granites in many areas.
 25. Exposed basalts of Washington.
 26. A wide alluvial plain and source-bordering loess ridges.
 27. A land form pattern of loess in the Mississippi-Missouri River belts.
 28. Loess ridges.
 29. A loess area in Nebraska.
 30. Loess deposited over originally rough topography.
 31. A stabilized dune of the barchane form.
 32. Deep sand having surface features reworked by the wind.
 33. An unusual double crested dune form.

Plate

34. Kettle-kame type of relief associated with some more granular moraines.
35. A morainic area having a wide variation in soil texture and topography.
36. Related color and drainage of glacial till plains.
37. Soil pattern of the Illinoian drift.
38. A soil pattern of the Kansas and other old drifts.
39. A group of airphotos showing variation of soil patterns in till areas.
40. An esker in a till plain.
41. A group of drumlins in Michigan.
42. A glacial outwash plain.
43. A lacustrine area.
44. Contrast between a peat swamp and surrounding soil.
45. A glacial river terrace.
46. The Lower Atlantic Coastal Plain.
47. Land form of sandy Lower Coastal Plains.
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50. Color variation in the Alabama Black Belt.
51. A soil pattern of the Great Plains Outwash Mantle.
52. A partially denuded High Plains area.
53. Transition between recent alluvial areas adjacent to present streams and the Great Plains Mantle.
54. Unrelated land form exposed by removal of the Great Plains Mantle.
55. Zone of destruction and transportation in a filled valley.
56. A broad area of recent alluvium.
57. Subgrade variation in an alluvial soil.
58. County index sheet showing Wisconsin Glacial Drift.
59. A low soil-covered terrace and a rock terrace in Wisconsin Drift.
60. An elevated granular stream terrace in Wisconsin Drift.
61. County index sheet showing Residual Red-Bed Shales and Sandstones.
62. a. Existing airport and two types of erosion.
b. Red-Bed Upland Residuum, High Terrace, and River Alluvium.
63. a. Folded interbedded sandstones, limestones, and shales.
b. Airport site on interbedded sandstone, limestones, and shales.

The scale of all airphotos except Plate 16 and Plate 23B is approximately 2½ to 3 inches equals one mile. The scale of Plate 23B is approximately 5½ inches equals one mile, and that of Plate 16 about 4 inches to the mile.