

44°15'

R72W R71W

T49N
T48N

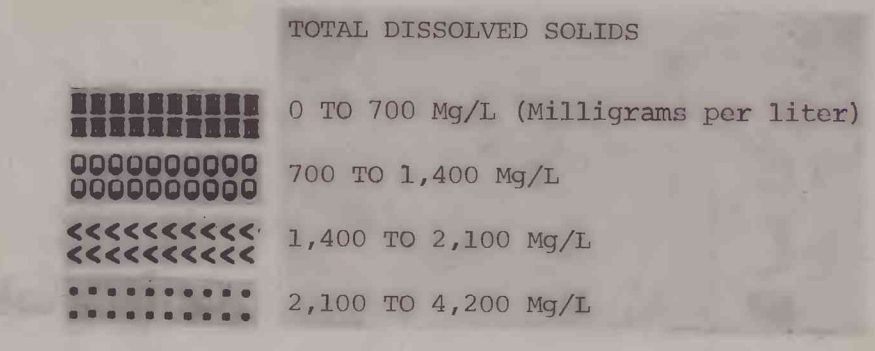
T49N
T48N

105°30'

R72W R71W

44°07'30"
105°22'30"

EXPLANATION



INTRODUCTION

These resource maps prepared by a computer are designed to provide field data for land-use planning. The maps showing resources include ground-water quality, surface-water quantity, soil quality, wildlife habitat, landscape type, and scenic-quality assessment; an existing land-use map is also included. If the resource maps are laid over the topographic base map of The Gap quadrangle on a light table, planners can establish areas best suited for uses such as homes, industry, and equipment storage. The relationship of slope and terrain to the different types of resources can also be studied. These maps are not intended to serve as detailed site studies; therefore site investigations will be needed for specific purposes, for example engineering tests for the suitability of soil for building of roads should follow the reconnaissance mapping.

Recent construction of homes in the northern part of the quadrangle, about 2 miles south of the city of Gillette, (see Existing land-use map) suggests that this may become an important use of the land throughout the quadrangle. Areas suitable for homes have all the following attributes: ground water is available and is suitable for domestic use; the terrain is gently rolling and is ordinary rangeland; areas do not have good quality soil. These maps will help identify sites where all of these elements occur.

Surface mining is another use of land that must be planned for. Some land in the southeast corner of the map in the Tiedale Creek valley (sec. 15, 22, and part of sec. 21, T. 48 N., R. 71 W.) has been leased by the Federal Government (Lease W-3397) for coal mining. The adjoining sec. 16 has been leased by the State of Wyoming. Other areas also are being considered for mining.

These maps can be used with other maps by Moore (1979) to identify sites where surface mining is least likely to interfere with other uses of the land. The total value of all non-mineral resources on the land was discussed and a map that summarizes the computer evaluation are included in Moore's report. The maps in the present report appear in reduced form in Moore (1979) but, because of their small size, it is not possible for them to be examined in the detail needed for the land-use planning suggested above. The resource maps are, therefore, being released at the 1:24,000 scale in the present report.

Individual land parcels can be located and the different types of resource contained in the parcels can be seen at the 1:24,000 scale. This allows close examination of the way in which resources were combined to make the summary map of the other report.

The individual rectangular cells on these maps represent land parcels of about 0.5 hectares (1.14 acres). On the maps the rectangular cells may contain different symbols such as dots or the letter "Q". However, the true size of the cell is an imaginary area that can be visualized as a rectangular box formed by a "H" ("H" typed over "I"). This report does not go into details of how to use these maps for planning purposes. Many possible ways to use resource and earth-related maps for such purposes are discussed briefly in Robinson and Spieker (1978).

Ground-water quality.—The sources of ground water are aquifers, less than about 150 m deep, in the Wasatch and Fort Union Formations; no one water type is dominant, but generally calcium and magnesium sulfate water is obtained (U.S. Department of Interior, 1974). Total dissolved solids were derived from electrical conductance measured in micro-mhos in shallow water wells. In addition to the 26 wells sampled within the quadrangle boundaries, 32 wells measured by King (1974) within 3 km of the quadrangle also contributed to data on shallow ground water in the Gillette area.

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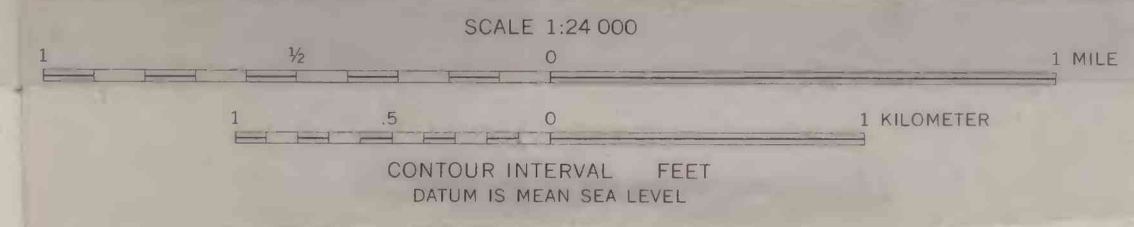
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MAPS SHOWING NATURAL RESOURCES AND EXISTING LAND USE OF THE GAP QUADRANGLE, CAMPBELL COUNTY, WYOMING

By
David W. Moore
1979



MAP A.—Ground-water quality