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A VERY BRIEF HISTORY OF THE WISCONSIN MINERAL DEVELOPMENT ATLAS GENERAL INFORMATION AND PROCEDURES CONCERNING ZINC-LEAD ATLAS

BY

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A VERY BRIEF HISTORY OF THE WISCONSIN MINERAL DEVELOPMENT ATLAS

The Mineral Exploration and Development Atlas of the Upper Mississippi Valley District (as it was originally titled) was conceived, structured and begun in 1945 through the combined efforts of the U. S. Bureau of Mines, the U. S. Geological Survey, and the State Geological Surveys of Illinois, Iowa, and Wisconsin.

The original and Master Copy of the Atlas was housed at the Platteville U. S. Bureau of Mines office and a complete copy of the Master was housed at the U. S. Geological Survey's Platteville office. Subsequently the U. S. Bureau of Mines office was moved to Minneapolis and the U. S. Geological Survey office in Platteville was closed. The U. S. Geological Survey's Atlas copy was transferred to the three state geological surveys. The Wisconsin portion of the Atlas was housed at the Wisconsin Institute of Technology and serviced by a designated Geologist in Charge of the Wisconsin Mineral Development Atlas.

The U. S. Bureau of Mines in Minneapolis continued to compile the Master copy until 1972 when because of lack of funding their efforts ceased. By mutual agreement between the U. S. Bureau of Mines, the U. S. Geological Survey and the Wisconsin Geological Survey the Master Copy of the Atlas was transferred to the Wisconsin Geological Survey Platteville office along with a large accumulation of microfilmed drilling and mining data.

Through two U. S. Bureau of Mines grants and the employment of geology and mining engineering students the entire accumulation of microfilmed data was added to the Master Copy and copies of all new and up-dated Section Reference maps and logs of drill holes were added to the Atlas copy from 1972 to 1976.

In 1979 the Platteville Geologist in Charge of the Atlas retired from academic teaching and was retained by the Wisconsin Geological Survey on a part time basis to continue to service and up-date the Atlas. The Master Copy was retained in Platteville and the Atlas copy was transferred to the Survey's Madison office for use at that location.

COPY

General information and procedures
concerning Zinc-Lead Atlas

The Bureau of Mines, U. S. Geological Survey, Wisconsin Geological and Natural History Survey, and Illinois State Geological Survey had worked in close cooperation in the field for several years, and in 1947 held a joint field conference to determine the form and scope of the present Atlas. Both federal agencies were familiar with the nature of the information needed to facilitate mineral development and the problems that would be encountered in the field to obtain data from the numerous companies and small mine operators. A compendium of the mining and drilling data in the district, with explanatory symbols, appeared to serve the purpose.

The Wisconsin Atlas comprises uniformly scaled and sized maps of the district showing features of exploration, development, and mining in plan, supplemented by detailed logs, analyses, and other data in sufficient detail to permit evaluation of mineral potential at any site where work has been done.

There are several potential sources of information on exploratory drilling or mining development and exploitation. The bulk of the information available came from the records of companies operating in the district, the files of Government agencies that have done similar work in the area, the records and personal observations of informed individuals, the local newspapers, and exploratory and developmental field work by the compilers of the Atlas.

Some information was, of course, obtained with the stipulation that it remain confidential. Such stipulations are carefully respected. Many times records of one company were obtained as confidential data from other

companies. It was then necessary to obtain release from the original company that had specified the information as confidential. Often, when several companies had worked in an area, letters of release were obtained from each in anticipation of encountering confidential information and kept in the release file.

In compiling each volume of Atlas maps the county is taken as the whole, and each section of land so designated by Federal Land Office survey, regardless of size or shape, is taken as a unit. These units are entitled "section references" and correspond exactly with the section of land they serve to identify. The majority will represent a block of land one mile square.

In each county covered by the Wisconsin Atlas, township and range lines are disregarded and each section is numbered in sequence until every section in the county bears a distinguishing number (figure 11). There are 777 section references in Iowa County, 630 in Lafayette County, and 1,203 in Grant County. Where no information of value to the Atlas is to be found in a particular section, that section reference sheet is not drawn pending information, though it continues to retain its original section reference number.

Commonly, several property owners will own land in any one section. On each parcel of land drilling may have been done at various times. The same number of drill holes might occur in each parcel and might be numbered alike. Therefore serial numbers are assigned to avoid confusion resulting from similar numbering of holes when information is being sought on any one particular hole in a section.

Each drill hole, which will appear on a section reference map and on which there is information, is given a serial number after identification. Drill holes, about which only location or location and hole number are known, will remain unserialized. Serial numbers are given to drill holes consecutively in the order identified and are never duplicated on any one section reference map. The first serial number on any map is number one, and the last serial number will be that of the last hole identified, regardless of the time lapse or location on that section reference.

Each identified drill hole, therefore, has two numbers. The first number is the serial number assigned by the compilers of the Atlas, and the second number is the hole number assigned at the time of drilling. The hole number identifies the original drill hole and is a check in serializing. The serial number permits ready cross-reference between drill holes on the Atlas maps and the geologic drill logs filed under the corresponding section reference numbers in the log books (figure 12).

All mine workings and all drilling are shown in plan with solid lines indicating surveyed workings and dotted lines indicating unsurveyed workings or workings that are subject to question.

As simple a legend as was reconcilable with clarity and understanding was adopted for all Atlas maps. Only three symbols were selected to show the relative mineralization encountered in the drill holes. This permits a more rapid interpretation of the maps.

Blackened holes indicate a mineralization of at least 3 percent lead or zinc content, singly or combined, through a minimum distance of two feet.

One-half blackened holes indicate a mineralization of from a trace to 3 percent lead or zinc, singly or combined, through a minimum distance of two feet.

An unblackened hole, represented only by a circle of the same size as the other drill holes, indicates either a hole in which no trace of mineralization is found, or a drill hole for which no information other than location, and possibly hole number, is known. A serial number indicates that factual data is available in the log book.

The log books are adjustable binders that contain the detailed record of the drilling of each identified hole. The drill logs are the individual records of each hole. Whenever possible the description of the formations present and the nature and degree of mineralization appear in the log. Also, on each drill log sheet are the serial number and hole number so that the drill log is correlated with the same serial and hole number appearing on the map. The section reference number must appear on each log sheet, as other section references have similar serial and log numbers. Additional necessary and useful information is collar elevation of the drill hole, property location of drill hole, the date the hole was completed, what company or operator did the drilling, who logged the hole, and the type of drilling.

Plat books of the counties, showing property ownership, are an aid when starting to compile an atlas in a new and unfamiliar district. Often maps of mining properties or drilling locations have reference only to some property owner and can be identified and located by study of the plat books. The plat books of the main counties of the district are needed to locate the drilling in relation to present property owners.

The counties in Wisconsin are Grant, Lafayette, Iowa, and Green; the county in Illinois is Jo Daviess; and the main one in Iowa is Dubuque. Plat books showing the land net and present property owners are available for a small price at each county seat, generally at the court house. Often the drill logs only show a location and number and the other information is incomplete. Thus plat books are needed to identify the present owner and property line.

Highway maps give a good over-all picture of the towns of a mining district and the road system. Numerous small mines and drilled areas are related only to roads and road intersections. Thus, not only are maps of the roads necessary to locate the drilled areas or mine properties, but also the roads must be shown on the Atlas maps if the Atlas maps are ever to be used in the field to locate mining properties or drilling sites.

Many of the roads run along the sections lines, and the road intersections approximate the true section corners. Therefore in drafting the maps for the Wisconsin Atlas, all roads are shown because many mining properties and drilled areas are tied into the roads. All passable roads are represented as being 60 feet wide. It avoids the problem of revising the Atlas every time a road is improved and widened, makes it easier to draft the maps, and side-steps the problem of determining the width of the actual right-of-way of every road to be drawn in the district.

Prepared by A. V. Heyl
Accompanied condensed version of release file on company-by-company basis (pages 1-17)
See Hobbs' letter of 9/28/60 to Dutton