

COLORADO GEOLOGICAL SURVEY

Open-file Report OF-11-03

Cross-sections of the fresh water bearing strata of the Denver Basin between Greeley and Colorado Springs, Colorado

The purpose of this publication is to provide graphic representation of the stratigraphic and structural relationships of the strata that comprise the bedrock aquifers in the Denver Basin. The fifteen cross-sections depict stratigraphic and structural relationships of the Upper Cretaceous through Paleogene sediments that comprise the Denver Basin Bedrock aquifers. The work represents integration of subsurface data from 737 boreholes with surface geologic mapping to provide a regional three-dimensional view of the water-bearing strata. Preparation utilized computer-based technology using data from a broad array of sources including recent borehole geophysical logs. Graphic presentations include compilations on a basin-wide scale that illustrate how rapidly stratigraphic characteristics can change both laterally with distance and vertically with depth. Detailed cross-sections are also included to illustrate characteristics on a more local scale.

Staff geologist Peter Barkmann completed the construction of the cross-sections between 2008 and 2010 with the assistance of Marieke Dechesne, Mary Ellen Wickham, Jill Carlson, Scott Formolo, and Erik Oerter. The project was funded jointly by the Colorado Water Conservation Board (CWCB) and the Colorado Geological Survey (CGS). Matching funds were drawn from the Colorado Department of Natural Resources Severance Tax Operational Funds, which are obtained from the Severance Tax paid on the production of natural gas, oil, coal, and metals in Colorado.

HOW TO USE THIS ZIP FILE

To open the compressed (.zip) file that you downloaded, double-click on the file. Inside the folder labeled **OF-11-03**, there are a number of files and folders. Some files are stored in Adobe Portable Document (.pdf) format. Geographic Information Systems (GIS) data are also included. These data are in ESRI's Shapefile and Geodatabase format.

HOW TO IDENTIFY AND READ FILES

REPORT DOCUMENTS

- **OF-11-03 Plate 01 -WE Compilation.pdf**
- **OF-11-03 Plate 02 -NS Compilation.pdf**
- **OF-11-03 Plate 03 -Basemap.pdf**
- **OF-11-03 Plate 04 -TypeLogs.pdf**
- **OF-11-03 Plate 05 -xsection A.pdf**
- **OF-11-03 Plate 06 -xsection B.pdf**
- **OF-11-03 Plate 07 -xsection C.pdf**
- **OF-11-03 Plate 08 -xsection D.pdf**
- **OF-11-03 Plate 09 -xsection E.pdf**
- **OF-11-03 Plate 10 -xsection F.pdf**
- **OF-11-03 Plate 11 -xsection G.pdf**
- **OF-11-03 Plate 12 -xsection H.pdf**
- **OF-11-03 Plate 13 -xsection I.pdf**
- **OF-11-03 Plate 14 -xsection J.pdf**
- **OF-11-03 Plate 15 -xsection K.pdf**
- **OF-11-03 Plate 16 -xsection L.pdf**
- **OF-11-03 Plate 17 -xsection M.pdf**

- **OF-11-03 Plate 18 -xsection N.pdf**
- **OF-11-03 Plate 19 -xsection O.pdf**

- **Database folder**
Contains Excel file with location and tops data

- **GIS_Data folder**
Contains Geodatabase, Shape, Layer, ArcReader, and font files

To view .pdf files

If you don't already have Adobe Reader installed on your device, visit <https://get.adobe.com/reader/> to download a free version of the software. Then, start Adobe Reader and choose "File," "Open," and locate the .pdf files where you downloaded them.

To view GIS files

GIS files may be viewed using Geographic Information Systems software packages such as ESRI's ArcGIS platform. An ArcGIS 10.3 Geodatabase is included in the GIS_Data\Geodatabase\ folder and can only be viewed with ArcGIS 10.3 or later version. The Layer files associated with the Shapefiles can only be used in ESRI's ArcGIS 10.3 or later version. It may be necessary to reset the Data Source on Layer files to ensure proper viewing. Metadata is associated with both the Geodatabase feature classes and the Shapefiles and is best viewed using the Metadata tab in ESRI's ArcCatalog.

Alternatively, these files may be viewed using ESRI's free ArcReader 10.3 or newer utility. Download the free software at <http://esri.com/software/arcgis/arcreader/download.html>. Start ArcReader and choose "File," "Open," and navigate to the *OF-11-03-250_basemap.pmf* document located in the GIS_Data folder. For more help on using ArcReader, choose "Help," "ArcReader Help," or download appropriate literature from <http://www.esri.com/software/arcgis/arcreader/>.

For further information or assistance visit or call the Colorado Geological Survey at:

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