

READ ME - CHEVRON PALEONTOLOGY FILES

LOCATION AND AGE OF FORAMINIFER SAMPLES COLLECTED BY CHEVRON PETROLEUM GEOLOGISTS IN CALIFORNIA

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2005

U. S. Geological Survey Open File Report 03-167 revised

The following database files described below are derived from Chevron Petroleum Company paleontologic slides with foraminifers, perhaps 30,000 paleontologic reports, more than 600 topographic maps, stratigraphic columns and other data from an estimated 50,000 surface localities in California. The slides and copies of the paleontologic reports and maps have been donated by Chevron to the California Academy of Sciences.

The principal purposes of this revision are to add thousands of files that were not in the original report, to upgrade the ages to be more in accordance with the International Guide to Stratigraphic Nomenclature and more modern correlations, to add information on samples that have porosity, permeability, density, and magnetic susceptibility, to reorganize the databases to be more useful to users, and to indicate those samples that are rich in planktic foraminifers, nannoplankton, and diatoms so that interested specialists can focus on them.

REVISIONS

All of the original files and text have been revised. Databases #1 and #2 were prepared primarily to assist the California Academy of Sciences in curating thousands of slides containing foraminifers. Hundreds of samples that have no slides but do have a Chevron age have been added in the revision. Barren and non-diagnostic samples and samples without paleontologic data have been moved from #1 and #2 and put in database #3. Database #2 is simply #1 sorted to provide a way to locate numbers by quadrangle. The age of all samples has been revised to be more in accordance with the North American Stratigraphic Code and more modern correlations. Many Chevron ages from nannoplankton and some from mollusks, diatoms, pollen, and other fossils have been added. The location and age of samples with an obsolete numbering system and from obsolete quadrangles, formerly in database #5, have been moved into #1 and #2.

Database #3 now provides information for every Chevron locality number in every quadrangle. This database was used extensively to find slides and paleontologic reports that have no locality data. Note that any number might be found in as many as four quadrangles because Chevron labs in different districts used the same (and duplicate) numbering system. Note also that all sub-lot numbers have been eliminated in order to reduce the size and increase the usefulness of the database.

Database #4 was changed to show the number of localities in a quadrangle if no slides were prepared. Several errors were corrected and a few quadrangles were added to bring the total to 616.

Database #5 now provides mainly data for the porosity, permeability, density, and magnetic susceptibility of 750 samples. A few potassium-argon dates are also included.

EXPLANATION FOR CHEVRON DATABASE FILE #1 REVISED

This Excel file contains information for 27,135 Chevron surface localities in California that contain paleontologic information suitable for the assignment of an age. The database is arranged numerically by locality number. Most of the samples in this file have a slide with foraminifers that has the same number as the number on a locality map. When the collection has been curated by the California Academy of Sciences, the slides can be quickly located from Chevron's locality map, the age assignment checked in this database, and the slide retrieved and examined for accuracy if required.

Column A - The name of the current USGS 7.5' quadrangle where the locality occurs. The original locality map is probably obsolete and may have a different name or a different scale or both.

Column B - Chevron surface locality or lot number. Numbers less than 1100 are generally shown as Roman Numerals on the slides, in the paleo reports, and on the locality maps. Those numerals were converted into Arabic numbers for this report. Many of the numbers are used for lots in a general area, with as many as 600 sub-lot numbers or several letters. Column C - Sub-lot number or letter or both.

Column D - General geographic location within a quadrangle.

Column E - Number on back of each slide indicating original Chevron cabinet and drawer number.

Columns F and G - Miscellaneous information. May indicate which obsolete USGS map was used by Chevron paleontologists to plot the locality, the name of the geologic unit from which the sample was obtained, fossils that might be of interest to paleo specialists, or whether the paleo file contains a stratigraphic column.

Column H - Zone, stage, series, or age of the foraminifers in the slide. Information may have come from the slide, a separate paleo report, a stratigraphic column, the locality map, or may have been inferred from a list of species on an index card.

EXPLANATION FOR CHEVRON DATA FILE #2 REVISED

This Excel file is the same as for Data File #1, except that it is sorted by USGS 7.5' quadrangle. This file will be useful to anyone wanting to get information about localities in any particular quadrangle.

Column A - The name of the current USGS 7.5' quadrangle where the locality occurs. The original locality map is probably obsolete and may have a different name or a different scale or both.

Column B - Chevron surface locality or lot number. Numbers less than 1100 are generally shown as Roman Numerals on the slides, in the paleo reports, and on the locality maps. Those numerals were converted into Arabic numbers for this report. Many of the numbers are used for lots in a general area, with as many as 600 sub-lot numbers or several letters.

Column C - Sub-lot number or letter or both.

Column D - General geographic location within a quadrangle.

Column E - Number on back of each slide indicating original Chevron cabinet and drawer number.

Columns F and G - Miscellaneous information. May indicate which obsolete USGS map was used by Chevron paleontologists to plot the locality, the name of the geologic unit from which the sample was obtained, fossils that might be of interest to paleo specialists, or whether the paleo file contains a stratigraphic column.

Column H - Zone, stage, series, or age of the foraminifers in the slide. Information may have come from the slide, a separate paleo report, a stratigraphic column, the locality map, or may have been inferred from a list of species on an index card.

EXPLANATION FOR CHEVRON DATABASE FILE #3 REVISED

This Excel file was made from all of the numbers shown on more than 600 Chevron locality maps primarily to determine which numbers are duplicated

Column A - The California county in which the samples were collected.

Column B - The name of the current USGS 7.5' quadrangle where the locality occurs. The original locality map is probably obsolete and may have a different name or a different scale or both.

Column C - Chevron surface locality and/or lot number.

Column D - Sub-lot number or letter or both within a lot. Only the maximum number of sub-lot samples is provided in order to reduce the size of the database. Blank spaces indicate that only a primary locality number was used.

Column E - General geographic location within a quadrangle.

Column F – A number with a hyphen and a letter is from the back of each slide and indicates the original Chevron cabinet and drawer number. If no slides were prepared for any samples in a quadrangle, the term “no slide” is provided.

Column G – Indicates the status of paleontologic information for each locality. If the sample is barren or not diagnostic, or if no paleontologic information is available, the sample is not listed in databases #1 and #2. If the sample can be dated, the date is provided in databases #1 and #2.

Columns H and I – Provide miscellaneous notes on the availability of a stratigraphic column or check list, samples with abundant planktic foraminifers, nannoplankton, and diatoms, the presence of fossils of particular stratigraphic interest, such as Discocyclina, Globotruncana, and Turritella, the availability of physical or chemical information (see database #5 for specific information), a cross-reference with a locality number where data can be found if the number is quite different, area designations used by Chevron (E-2, K-1 etc.), and notes relevant to how the sample was collected, such as in a trench or by auger.

EXPLANATION FOR CHEVRON DATA FILE #4

This Excel file is greatly abbreviated from database #2 and is intended to show which USGS quadrangles have locality numbers, which ones have foraminifer slides, the number of samples in a quadrangle if no slide has been prepared, and the name of obsolete USGS quadrangles on which the localities may have originally been plotted.

Column A - The county in which the samples were collected.

Column B - The name of the current USGS quadrangle where the locality occurs. The original locality map may have a different name or a different scale or both.

Column C - Number on back of each slide indicates original Chevron cabinet and drawer number. A number with a hyphen and letter in this column indicates that at least one foraminifer slide was received from Chevron. A number without a letter and hyphen indicates the total number of localities in the quadrangle

Column D - Name of at least one of the obsolete maps on which localities were originally plotted. If no name is provided, the localities were plotted on USGS 7.5' quadrangles.

EXPLANATION FOR CHEVRON DATABASE FILE #5

This Excel file indicates which localities have information on the porosity, permeability and density of the rocks at that locality, plus other chemical and physical information stored among the notes on paleo provided to the California Academy of Sciences.

Column A - The California county in which the sample was collected.

Column B - The name of the current USGS 7.5' quadrangle where the locality occurs. The original Chevron locality map may have a different name or a different scale or both.

Column C - Chevron surface locality or lot number.

Column D - Sub-lot number or letter.

Column E - General location of the locality within the quadrangle.

Column F - Notes indicating the physical or chemical information available in the paleo file provided to the California Academy of Sciences.

Column G - Miscellaneous information, including the lithology of the sample, if provided by Chevron, and where the information about a locality is stored if the number is significantly different.