How to Read Survey Maps

Understanding and use of survey and township maps in genealogy

(Thanks to the ‘Special Collections and University Archives’, Wichita State University Libraries for providing the deck this document was based upon)
Much can be gained from study of survey maps. Such land maps have been produced since land in the US was first settled and continue to be produced periodically at the county level. These maps can contain the ownership of each piece of property at the time the map was published. Therefore, study of such maps can provide information to help the genealogist understand ownership of land from the time of government transfer forward. Sometimes even more important is the ability to see who owned surrounding land, to determine location of other relatives or possible close family friends during a given period of time.

Before an understanding of how to read these maps is achieved, one must understand some fundamentals behind the maps. First, there are two types of townships, political and survey. Political/civil townships are created by local governments to sub-divide county areas into smaller portions identified and used mostly for voting and census purposes. Township used in the survey of land plots is totally different and the two are easily confused.

Looking at the map on slide 1 shows both types of townships. The red lined area is Camden County. The different colored portions of the county are the political townships and are each named. In this case those names are: Adar, Jasper, Russell, Osage, Jackson, Warren, and Auglaize. Many different counties have the same or similarly named political townships. Political townships have nothing to do with survey townships. The two are separate and distinct.

The next slide will start the explanation of survey maps and how the “Public Lands Survey System,” uses the name ‘township’ in a totally different manner.
The Township and Range system, sometimes called the “Public Lands Survey System”, was developed to help parcel out western lands as the country expanded. The system takes many western states and divides them using a base line and a principal meridian. Note that Missouri has the 5th Principal Meridian running north & south through it. The Base Line used by Missouri runs east and west in Arkansas.
The below map is from the 1930 Camden County Plat Book. Note Mack’s Creek in the lower left near the center of Russell “Political” township. Also notice the small squares with numbers inside each evenly placed throughout the map. Each on of those small squares are sections. 36 are in each “survey” township.
This is a portion of the larger Camden County map depicting the area surrounding Mack’s Creek. This portion of map contains four “Townships” as indicated by the red lines dividing this area into four even portions, each one a township. The lower left township is Township 37 North (T.37N) & Range 19 West (R.19W) and contains 36 sections. The township directly above is Township 38 West & Range 19 North. So the upper right township is 18 townships left or west of the principal meridian and 38 ranges above or north of the base line.

Notice that each Township has 36 individual squares numbered 1 to 36. Each of these 36 are “Sections”. Number 1 is always the upper right. 36 is always the lower right of each section.
The drawing at right shows a principal meridian (Red north/south line) and the base line (Red east/west line).

The map shows how range (East/West) number increases the farther away each range is from the meridian in either direction.

Also, how each township (North/South) number becomes larger the farther away each township is from the meridian in either direction.

The zoom in portions show a complete township with 36 sections, and a section (Green) in turn subdivided into quarters and quarters of a quarter. The upper right of the green section has a small NE in that small square. That piece would be written as: Northeast quarter, of the Northeast quarter, of section 13, Township 2 South, Range 2 West.

Note that each section is 1 mile square. That makes a township 6 miles by 6 miles or 36 square miles in size.

As an example, Township 37 North is 222 miles north (37x6) of the base line and Range 19 West is 114 miles (19x6) west of the principle meridian.
This image of T.37N / R.18W shows property owned in 1930 by John Lawrence Varner in sections 23 & 26. It also shows property owned by L.V. Varner in section 22. This is the same area noted on slide 5 in the image depicting the four townships. See the reddish spots on that image as a reference of location.
Here is a close-up of those same sections. Notice the other neighbor land owners.
This is an image of T.37N / R.19W which is the township immediately west of that just shown above. It shows property owned in 1930 by W.O. Varner in sections 13 & 24. This area is also noted on slide 5 in the image depicting the four townships. See the reddish spots on that image as a reference of this location.
Here is the close-up of the portions of sections owned by William Owen Varner. Again see the list of neighboring land owners that might help in genealogy research.
CONCLUSION

Now you can put to use what you have learned. Whether it be an old land warrant issued to an ancestor or a more recently owned piece of property, you can find the exact location through use of Public Lands Survey System maps.

Below are links to some additional tools that can help with the search:


- [https://www.youtube.com/channel/UCK1MLVA7M5LXwPMQ95jPu3g](https://www.youtube.com/channel/UCK1MLVA7M5LXwPMQ95jPu3g) (A YouTube video that helps explain surveys on contemporary partials of land)


- [http://cdm16795.contentdm.oclc.org/cdm/landingpage/collection/moplatbooks](http://cdm16795.contentdm.oclc.org/cdm/landingpage/collection/moplatbooks) (Missouri Digital Heritage is a site where you can find 1930 County Platt books for all Missouri counties)