

CRAWFORD STEWARDSHIP PROJECT
Karst Geology: Citizen Science in Action
with Legion GIS, LLC

Day 1 — Aug. 8th, 2016
Well Construction Reports Assessment

What is Karst?

Karst is a type of landscape characterized by formations of soluble carbonate bedrock (generally limestone or dolostone) that have undergone dissolution by rain or surface water which is naturally acidic. The gradual percolation of this water through fractures and crevices in the bedrock can create geologic features like caves, sinkholes and underground streams.

Overview :

The goal is to assess pre-1989 well construction report (WCR) documents, to record certain relevant pieces of information regarding each well, and to search for information recorded in the WCR which suggests the presence of karstic bedrock at the well site. Volunteers will be using a web interface set up by Legion GIS, LLC to facilitate the process of extracting information from these documents.

The WCR documents should all contain (more or less) the same information, but you will encounter a handful of different form layouts. For each unique format, you may have to look in a slightly different place to find a particular piece of information. During the introduction, we will show examples of different WCR formats with relevant areas highlighted to help you find your way.

Criteria for WCR Assessment :

1) **Who drilled the well?** We will be limiting our assessment of WCR documents to well logs by Corpian Well Drilling.

2) **Are there carbonates listed in the stratigraphy report?** Look in the bedrock stratigraphy record (section 9, titled “Geology” or “Formations”) for evidence of carbonate bedrock, including the following terms:

- “Limestone”, “lime rock” or “limerock”
- “Dolomite” or “dolostone” (*this will usually be listed as “lime rock”*)

3) **Is there evidence of karstic activity?** Generally, we are looking for evidence of fractured layers, caves, or voids. Look in the bedrock stratigraphy record (section 9). In all cases you can disregard the topmost layer (soil, clay, gravel and other non-bedrock formations). Look for the following terms:

- "Limestone & crevice(s)", "lime rock & crevice(s)"
- "Broken limestone", "fractured limestone"
- "Cave", "void"
- "Sand pocket", "mud pocket", "mudhole"
- "Mud & clay" (*if found between rock layers*)

If things are not clear one way or another, just select UNSURE and click “next”. If you are sure there is evidence of karstic activity, you will be sent to the final part of the form.

4) **Record the bedrock strata.** If you have found evidence of karst activity, you will be prompted to record the bedrock intervals and rock formations. Follow the instructions provided. Include the topmost layer.