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Item Number: 33

Addendum StartPage: 0

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PROJECT: SILVERADO ON THE BRAZOS HOOD WATER, LLC DOCKET NO. 47835	Texas Registered Engineering Firm F-10998	
Job No. : 216-9168	DATE: 26 Jul 2018	
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Cynthia,

I have attached a document that may help, with some explanation below. But first some general information regarding the groundwater resources in southern Parker County. The primary source of groundwater within the county is from the Trinity Aquifer which identified by the state of Texas as a major aquifer. The Trinity Aquifer is actually made up of several formations, in southern Parker county those formations are (from top to bottom, youngest to oldest): Paluxy, Glen Rose and the Twin Mountains. The Twin Mountains is the lowest portion of the Trinity Aquifer and is what most folks refer to as the "Trinity". Below the Twin Mountains is an older (Paleozoic in age) formation known as the Strawn. You are likely aware of some of the recent publications discussing the quality of water in the Strawn in Silverado.

In the first graphic in the attached document, I have included a cross section of the subsurface from Silverado on the Brazos to Cresson. As you can see the Trinity Aquifer gets deeper and thicker as you move to the southeast. The cross section shows that in the Silverado subdivision, both the Glen Rose and the Paluxy have pinched out and are no longer available, with the Twin Mountains ("Trinity") outcropping and occurring from just below the surface down to around approximately 300 ft. below surface (varies depending on surface elevation). In the Cresson area, the same formation exists downdip (subcrop) from about 500 ft. below surface down to around 775 ft. And, both the Paluxy and Glen Rose are also available in that area. Although the Glen Rose primarily exists as a confining unit separating the Paluxy and Twin Mountains, there is also water available in portions of that formation. So, in Silverado there is one formation from the Trinity Group available whereas in Cresson there are 3 formations available. (the formations don't come to an abrupt end as indicated in the cross section, in reality they "pinch out")

The second graphic is a very simplified explanation of how an dipping aquifer like the Trinity functions. The outcrop is an area where no confining (impermeable) layer separates the aquifer from the surface. Whereas the downdip is separated (or confined) from the surface. Generally speaking, water levels in the outcrop are equal to water levels in the formation, and water levels in the subcrop are actually above the top of the formation due to the pressure on the formation. In this graphic, Silverado would be on the left half of the outcrop and Cresson would likely be located somewhere just to the right of the middle tree.

Hope this helps, and give me a call if there is anything else we can help you with.

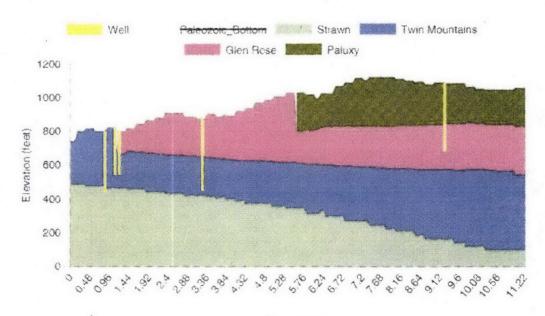
Doug Shaw

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Cross Section



Distance (mi)

