



**Barton Springs
Edwards Aquifer**
CONSERVATION DISTRICT

MEMORANDUM

TO: TRAVIS CO. GROUNDWATER STUDY PARTNERS, STAKEHOLDERS, AND INTERESTED PARTIES

FROM: AQUIFER SCIENCE & PUBLIC INFO/EDUCATION TEAMS, BSEACD

SUBJECT: PRELIMINARY SUMMARY OF TRAVIS CO. NEIGHBORHOOD SITE VISITS

DATE: 12/6/2018

The scheduled 2018 Travis County Neighborhood Site Visits are complete. The District provided well owners a free well visit, a water level measurement (if possible), and screening for nitrates, pH (acidity), and total dissolved solids (TDS, “saltiness”).

Throughout the five weeks of site visits (Oct. 30-Nov. 28) , staff had two days of field visits and three days of research/prep and recap/data entry each week. Staff visited 45 individual well owners and about 50 wells. We were able to measure water levels at 41 of the 50 wells and water quality at 39 of the 50 wells (see summary table and attached map). The water levels in the summary table are not corrected for elevation change; they’re meant to provide ranges measured in each area.

High levels of nitrates can indicate contamination by wastewater sources. Some of the samples contained low levels of nitrate, but all were well below the maximum concentration of 10 parts per million (ppm) deemed acceptable for drinking water by the Environmental Protection Agency (EPA).

Conductivity is a measure of how easily electricity can pass through water; the more dissolved particles in the water, the higher its (electrical) conductivity. Dissolved components in groundwater are naturally occurring compounds coming from the surrounding rocks--usually bicarbonate, boron, calcium, chloride, magnesium, potassium, sodium, and sulfate. Conductivity can be used to estimate Total Dissolved Solids (TDS, “saltiness”). The EPA sets Secondary Standards for contaminants that affect the aesthetic quality (taste, odor, clarity) of drinking water. The EPA Secondary Standard for drinking water is 500 ppm or less—we find Trinity wells frequently exceed this secondary standard. While EPA’s Secondary Standards are generally not related to health concerns, those on

low-sodium diets may need to be aware if they are drinking water with high TDS and may choose to discuss results with their doctor.

Using the driller's logs (if available), geologic maps, and other information, staff estimated the primary aquifer for each well. Those aquifers generally include the Middle Trinity and the Lower Trinity aquifers. The Upper Trinity Aquifer is generally not a target for groundwater production in southwest Travis County. Generally, the Middle Trinity aquifer, when present, has shallower water levels and fresher water quality than the underlying Lower Trinity. However, in many areas the Lower Trinity appears to be the primary aquifer. The variety of water levels and water quality reveal the complexity of the aquifers and well completions in the area.

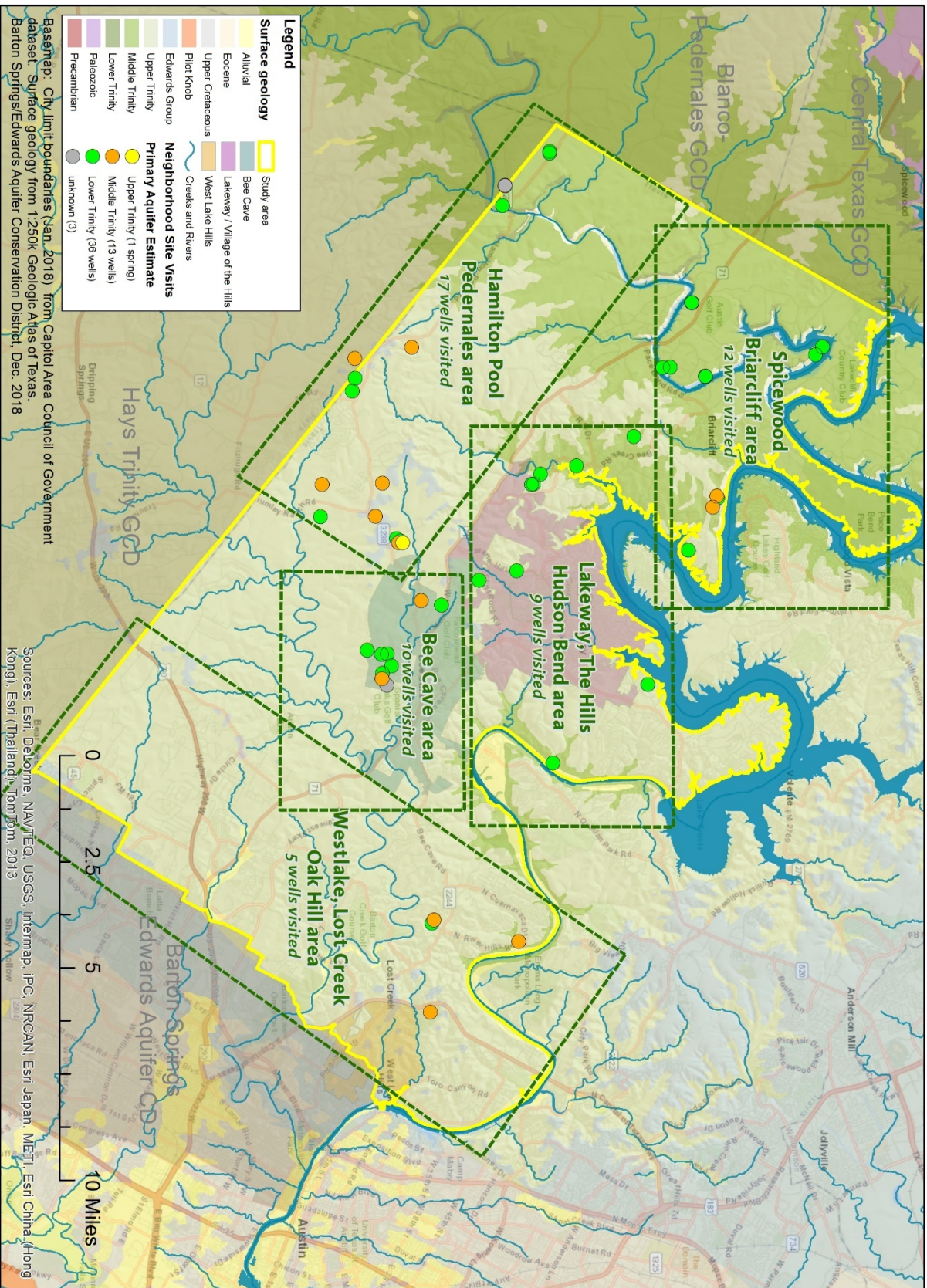
During visits, common concerns voiced by well owners included high Total Dissolve Solids, sediment and iron problems, as well as yield problems. For fact sheets and information on these topics and more, visit Texas A&M Agrilife's Texas Well Owner Network online: twon.tamu.edu/fact-sheets/. Please note: many of these fact sheets report ranges in milligrams per liter (mg/L); mg/L is equivalent to parts per million (ppm) referenced in this memo.

The District, along with other groundwater agencies, recommends that private wells be tested annually to ensure the water remains safe for consumption. Well owners were advised that if they ever notice a change in color, taste, or smell, they should have the well water analyzed by an accredited lab. As a private water system owner, they are the only person making sure their water is safe for consumption.

This data is the start of a year-long project that will include additional sampling, water level measurements, and geologic evaluations to better understand and document aquifer dynamics in southwestern Travis County.

Additional resources and links including the Shield Ranch real-time weather station link can be found on our Travis County GW Project Page: www.bseacd.org/TravisCo

Travis County Groundwater Study - Neighborhood Site Visit Summary Wells by estimated primary aquifer



2018 Neighborhood Site Visit Summary

Area	Estimated primary aquifer (Number of measured wells*)	Total Well depth (feet)	Water level range (Depth to water, feet)	Conductivity range (microSiemens/cm)	Estimated Total Dissolved Solids range (TDS, ppm)
Hamilton Pool, Pedernales	Middle Trinity Aquifer wells (6)	Generally shallower than 550'	41' – 464'	1,010 – 2,910	645 – 1,860
Hamilton Pool, Pedernales	Lower Trinity Aquifer wells (8)	Generally deeper than 550'	164' – 323'	751 – 3,720	480 – 2,380
Spicewood, Briarcliff	Middle Trinity Aquifer wells (2)	Generally shallower than 300'	174' – 232'	609 - 913	390 - 584
Spicewood, Briarcliff	Lower Trinity Aquifer wells (10)	Generally deeper than 300'	36' – 247'	645 – 3,280	419 – 2,100
Lakeway, The Hills, Hudson Bend	Lower Trinity Aquifer wells (9)	Generally deeper than 400'	111' – 643'	1,470 – 3,200	938 – 2,050
Bee Cave	Lower Trinity Aquifer wells (6)	Generally deeper than 750'	602' – 708'	1,490 – 1,620	962 – 1,040
Westlake, Lost Creek, Oak Hill	Middle Trinity Aquifer wells (3)	Highly variable	24' – 451'	1,330 – 2,070	851 – 1,320
Westlake, Lost Creek, Oak Hill	Lower Trinity Aquifer wells (2)	Generally deeper than 750'	521' – 548'	1,480 – 1,610	948 – 1,030

*Wells with available well construction records