

## Case Study

# Formation Springs Well Site

Soda Springs, Idaho, USA

**Willowstick provides guidance to help protect a pristine spring from surface contamination**

## **An important water source becomes vulnerable to contamination**

Formation Springs is a natural spring that produces thousands of gallons per minute of high quality drinking water for the City of Soda Springs, Idaho.

Recently, the spring was deemed vulnerable to potential surface contamination (i.e., plant and animal life and/or other potential near-surface contaminants that could impact water quality).

## **Building upon existing USGS data**

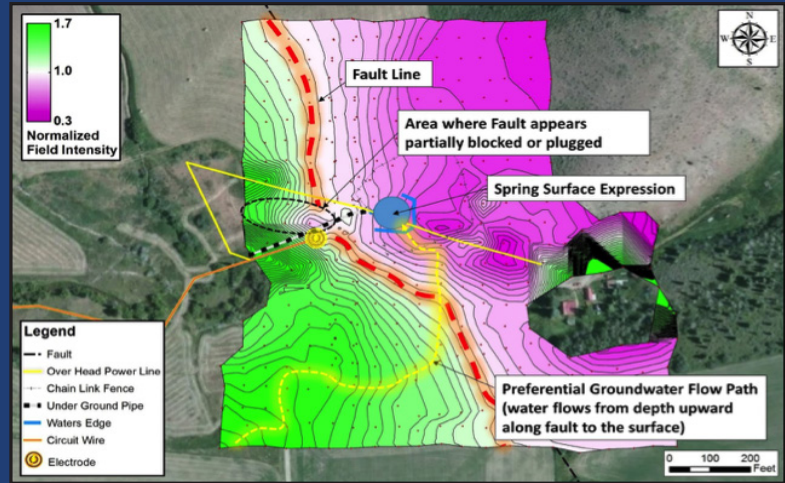
Willowstick conducted a survey that correlated the flowpath of groundwater with USGS map data describing a range-front normal fault. This fault appears to be a primary structural control for groundwater movement and surface manifestation. Published information indicates that the fault dips to the west. This was confirmed by the Willowstick magnetic field data.

Water preferentially collects, concentrates, and flows along the faulted zone. It backs up underneath the east mountain range. As water backs up beneath the mountains—and because groundwater cannot flow laterally along the fault due to a blockage—groundwater is forced up out of the ground at the spring.



## Mapping the intersection of the flow path with the fault

Willowstick was able to make clear recommendations for the location of the proposed well to ensure that Soda Springs could access the highest possible quality and quantity of groundwater. The study indicated the coordinates where the well should intersect with the fault to prevent contamination from the surface ground.



## Other well sites ruled out

Willowstick was also able to rule out any other anomalous zones in the geophysical data that would suggest a better or alternative well site for water production and development.

