

# Proposition 1 Integrated Regional Water Management (IRWM) Allensworth Case Study

## IRWM Project Overview

**Name of the Project:** Allensworth Well 2 Modification Study

**Location:** Allensworth Community Services District

**IRWM Region:** Poso Creek IRWM Group (since Allensworth was in a “White Area”, an area without an IRWM Group)

**Start Date:** July 19, 2013

**Completion Date:** April 24, 2014

**Project Budget:** \$50,000

## Statement of the Problem

Allensworth CSD has two wells, Well 1 (east well) and Well 2 (west well). Both wells produced water that exceeded the arsenic maximum contaminant level (MCL) of 10 ppb; Well 2 was close to the MCL, producing water with arsenic concentrations ranging from 7 ppb to 14 ppb. Well 2 went online in 1999 when the Environmental Protection Agency (EPA) and California Department of Public Health (CDPH) were in the process of adjusting the arsenic MCL below the 50 ppb MCL in place at the time, however, it was not known what the new MCL would become. Once the new MCL of 10 ppb went into effect, both wells became out of compliance for arsenic.

## Project Goals

To determine if the arsenic concentration could be lowered sufficiently without compromising well production by modifying Well 2.

## Project Implementation

This project made modifications to Well 2 by sealing off levels of groundwater with higher arsenic concentrations. This included data collection and analysis of water quality results of Well 2, removing and later resetting the existing well pump, a video survey of the well, installing a fill and a semi-permanent seal at the depth of the interval identified and preparing a final report.

## Benefits

The project was successful, lowering arsenic concentrations in Well 2 to below the MCL without diminishing well production. Four initial sampling results conducted after the well modification each indicated an arsenic concentration of 7 ppb from Well 2. Arsenic levels from the well from 2014 through 2019 have ranged from 4.3 ppb to 12 ppb, with the average consistently being below the MCL of 10 ppb.

## Next Steps & Recommendations

Allensworth CSD will continue to monitor its arsenic levels from both wells. Two additional recommendations resulted from the project that could further improve system operations. First, system pressure challenges were noted; evaluating the current booster pump capacity and configuration is an appropriate next step. Second, concerns about water pumped from Well 1 flowing into Well 2 were expressed; investigating this and installing a check valve on the discharge pipe of Well 2 could resolve this issue.

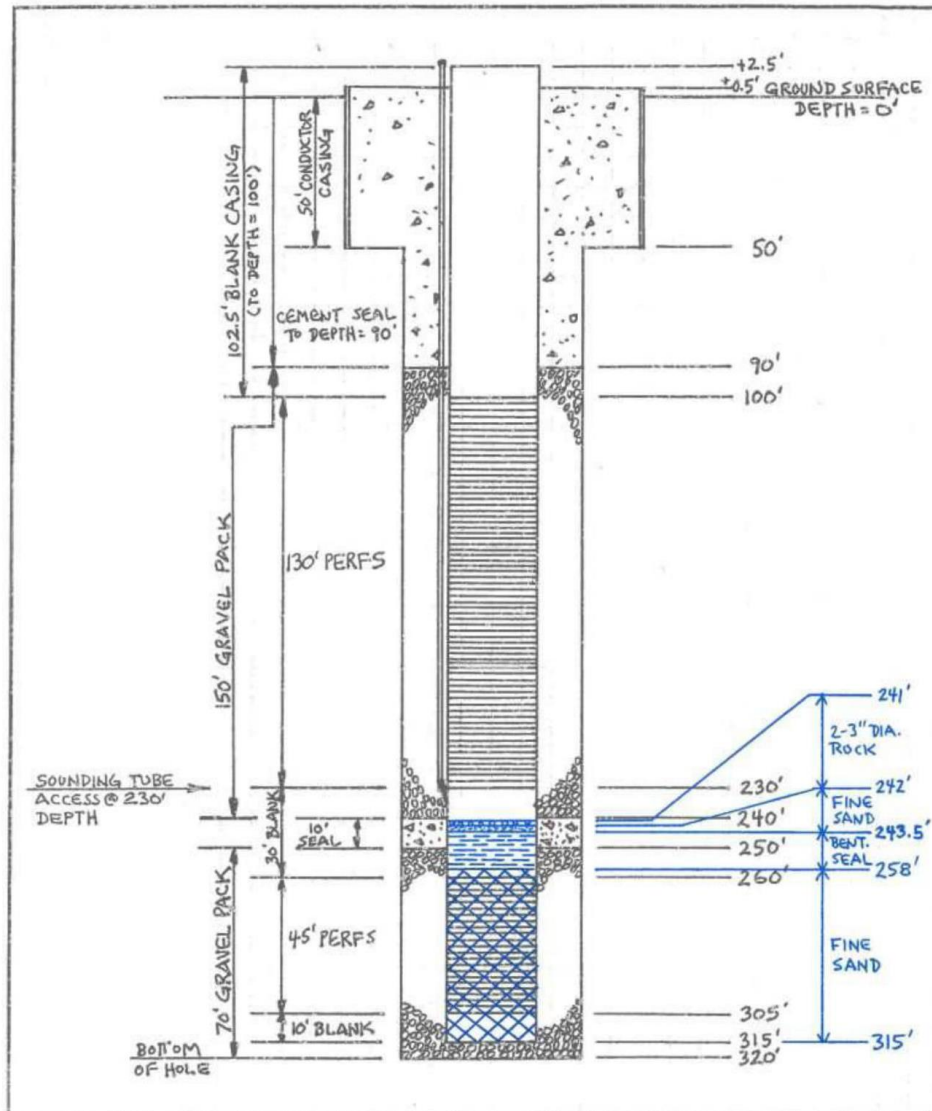
Since 2018, ACSD has measured arsenic levels after water from both of ACSD's well is blended along the transmission line and in the storage tank. The compliance order has been lifted since ACSD is able to maintain arsenic levels below 8 ppb. ACSD is completing planning activities and will soon seek construction funding to drill a third well to further reduce its arsenic levels.

ALLENSWORTH COMMUNITY SERVICES DISTRICT

### SECTION FIVE

WELL MODIFICATION STUDY

Figure 5-1: As-Built Well Modifications



Source: Provost & Pritchard