Well No. 16 (Kishi Well)
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- The Arsenic Removal Treatment Facility was completed in 2008.
- The arsenic removal pressure adsorption system consists of three pressure tanks manufactured by the Loprest Water Treatment Co. of Rodeo, CA.
- The arsenic removal treatment system was designed to treat up to 1200 gallons per minute; it was designed to remove the arsenic in the source water to below MCL concentrations of 10 ppb.
The arsenic removal and pressure adsorption system consists of three pressure vessels containing the adsorptive media – Granulated Titanium Oxide (GTO) manufactured by Dow Chemical. (Dow Adsorbsia GTO)

Well No. 16 operated from 2008 to late 2010. The well was shut down in 2010 due to media exhaustion (arsenic breakthrough).
Well No. 16 (Kishi Well)

- In 2011, the existing adsorptive material required replacement. Because the Dow Adsorbsia media was no longer available and proved to be uneconomical, staff began evaluation of other media alternatives.

- The pilot study was conducted at UC Davis in early 2012. The pilot study utilized a Rapid Small Scale Column Test (RSSCT) to test four candidate adsorptive media.
Based on testing results of the RSSCT, the City was able to eliminate two of the candidate media from further consideration due to predicted performance results.

Two of the remaining candidates – Severn Trent’s E33 Iron Oxide product and EP Minerals’ NXT2 Nanocrystalline - were found to be viable, and the City contacted the vendors of these two products to solicit proposals from each vendor for the media changeout.

In May of 2012, the results of the pilot study was presented to the Stakeholder’s Committee.

In June of 2012, and also in August 2012, the two proposals were presented to the Stakeholder’s Committee.

In September 2012, Staff made a recommendation to award the contract for media changeout to Filtronics/EP Minerals for the NXT-2 adsorption media.
Well No. 16 (Kishi Well)

- In October 2012, recommendation to City Council to award contract to Filtronics/EP Minerals.

- April 29 2013, May 20 2013, and June 2013:
  Well 16 Status Updates presented to Stakeholder’s Committee.

- **Filtronics Guarantee:**
  44,000 Bed Volumes
  \[ 44,000 \times 4,196 \text{ gal/BV} = 184 \text{ Million Gallons} \]

- Assuming an average production of 900 gpm for 8 hrs/day for 365 days/year, Media is expected to last for approximately **14 months**.
Well No. 16 (Kishi Well)

Current Status

- Chemical Tanks installed and Chemicals delivered for pH adjustment.
- pH Adjustment equipment installation complete.
- Flow mixers, and automated valves installed.
- PLC controllers installed
- Media changeout completed
- Draft update to Operations Plan completed.
Wellhead Manifold (Before)

Wellhead Manifold (After)
Well No. 16 (Kishi Well)

Remaining steps to return Well 16 to service

- Final calibration/adjustment process fine tuning:
  - System Disinfection
  - CDPH field inspection
  - CDPH approval of Operation Plan and Final Permit to Operate

Installation of control valves & plc controllers