



# Frontier Fertilizer Superfund Site



U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • November 2016

## Cleanup Action Bulletin Number 7

### Upcoming Work: EPA to Connect Six Extraction Wells to Groundwater Extraction and Treatment System — November 2016 – January 2017

Starting November 2016, the U.S. Environmental Protection Agency (EPA) will connect six existing extraction wells, including two within the Mace Ranch neighborhood, to EPA's 2nd Street groundwater treatment plant using an underground pipe network. Adding these wells will improve capture of groundwater contamination and streamline EPA's cleanup at the Frontier Fertilizer Superfund Site (Site) in Davis, CA (see Figure 1).

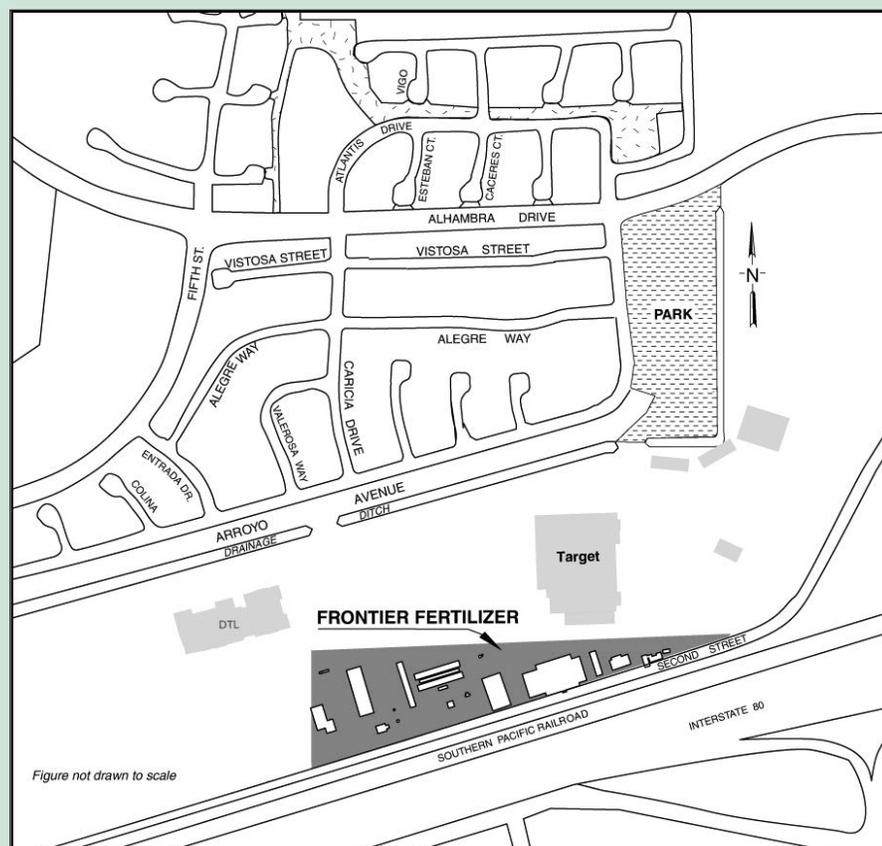


Figure 1: Frontier Fertilizer Superfund Site Location

This bulletin summarizes the groundwater cleanup, recent sampling results and upcoming work at the Frontier Fertilizer Superfund Site.

### Background

The 2nd Street groundwater extraction and treatment system has operated since 1995. EPA currently pumps and treats groundwater from depths of 25-90 feet below ground surface (bgs) from 16 extraction wells located in the field south of the Mace Ranch neighborhood. EPA's final cleanup optimization effort involves connecting six new wells to the current system (described in the "Upcoming Field Activities" section). After the contaminated groundwater is extracted, it travels through underground pipes and the contaminants are removed in large carbon filter vessels located at the 2nd Street plant. The treated water is tested to ensure it meets federal and state primary drinking water standards and is piped to the City of Davis Wastewater Treatment Plant. One hundred and twenty monitoring wells, including 40 in the Mace Ranch neighborhood, are sampled either biannually or annually to confirm that the contamination is not migrating and to verify there are no added risks to residents. Groundwater contamination from the Site does not affect any of the City of Davis drinking water wells.

## Summary of May-July 2016 Mace Ranch Neighborhood Sampling Activities

Between May and July 2016, EPA collected groundwater samples in the Mace Ranch neighborhood from four deep borings (between 188 to 250 feet bgs) and one new extraction well (65.5 to 75.5 feet bgs). Groundwater samples from three of the four deep borings did not contain Site contaminants of concern (COCs), and groundwater from one deep boring contained COCs at levels below the groundwater cleanup standards established in EPA's 2006 Record of Decision. Samples from the new extraction well, X-13 B, contain COCs at levels above the groundwater cleanup standards. X-13 B and one existing well, X-7C, which both exceed cleanup standards, will be connected to the treatment plant. EPA is taking this action to protect future uses of groundwater as required by state and federal law. The table below shows recent sample results for the two neighborhood extraction wells, X-13B and X-7C.

COC	ROD Cleanup Standard*	X-7C	X-13B
Carbon Tetrachloride	0.5 ug/l (ppb)	0.7 ug/l (ppb)	Not detected
1,2-Dichloropropane	5 ug/l (ppb)	47 ug/l (ppb)	18 ug/l (ppb)
1,2-Dibromoethane	0.05 ug/l (ppb)	0.67 ug/l (ppb)	0.0096 ug/l (ppb)
1,2,3-Trichloropropane	0.5 ug/l (ppb)	0.51 ug/l (ppb)	0.610 ug/l (ppb)

\*Record of Decision, 2006

EPA's review and risk analysis of the data indicate that contamination from the groundwater zones under the neighborhood north of Frontier Fertilizer, including the deeper groundwater zones described above, does not present any added health risk to residents. As discussed in past bulletins EPA regularly collects and reviews groundwater and soil vapor data from shallow and deep groundwater zones, to verify that vapors from the groundwater contamination are not migrating through the soil and into buildings. COCs were only found in soil at the 2nd Street Superfund Site and the in-place heating completed in 2012 cleaned up over 95% of the soil contamination from the source area.

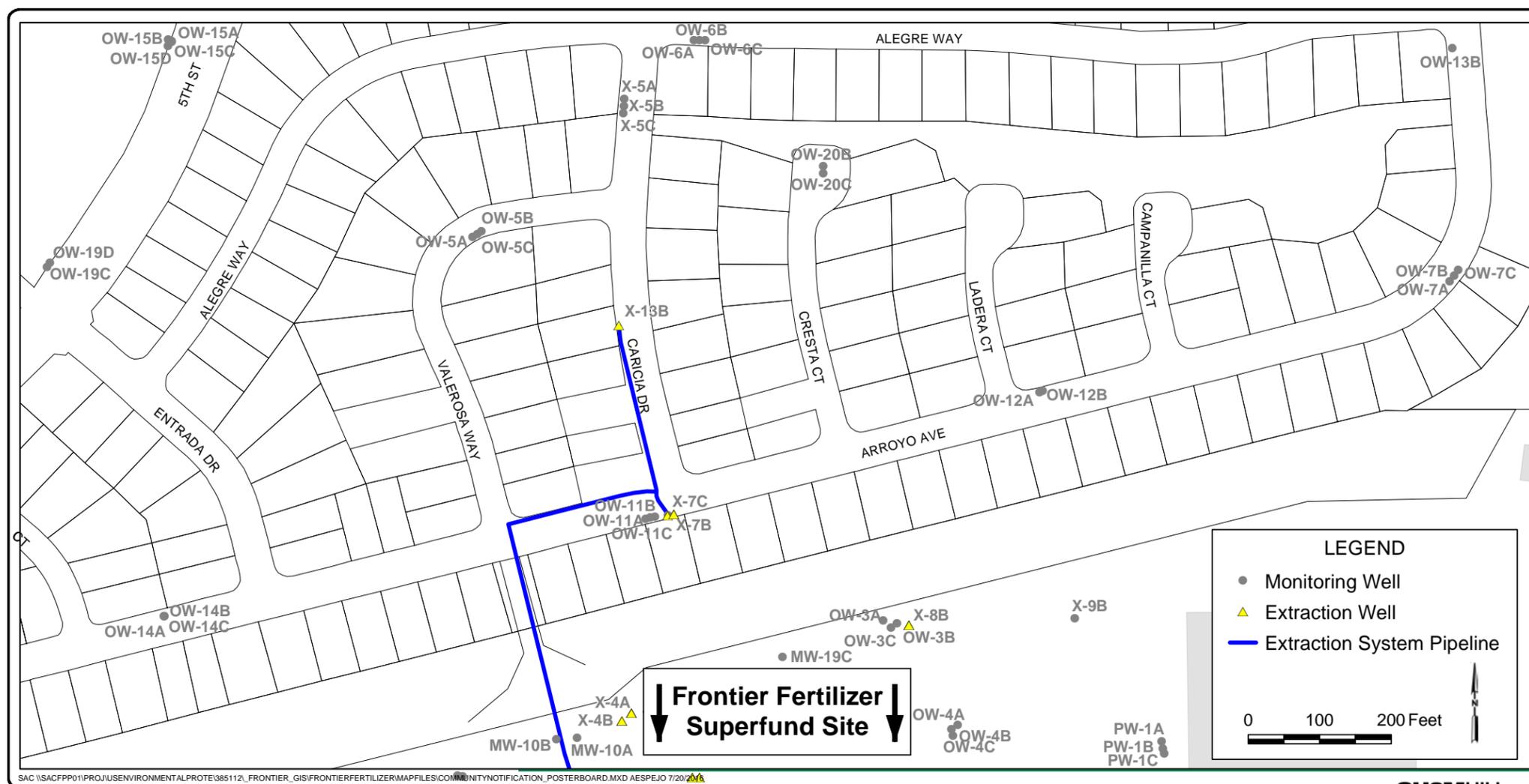
## Upcoming Field Activities

In late-November EPA will start digging trenches and installing pipeline in the vacant 2nd Street field to connect four extraction wells to EPA's groundwater treatment plant. In January, EPA plans to connect two neighborhood extraction wells to the treatment plant. The pipelines will be installed in the neighborhood using an excavator to remove the sidewalk and dig trenches to a maximum depth of two feet. Sidewalks will be replaced when the pipe is secured and leak tested. To ensure safe operating conditions, vehicle,

bicycle, and pedestrian traffic will be rerouted temporarily. EPA's contractors are required to follow city traffic regulations and traffic plans are coordinated with City of Davis staff. EPA will distribute flyers door-to-door in advance of the four-week neighborhood work. EPA also will complete connections and upgrades at the treatment plant in January/February 2017.

## Change in Project Oversight

In winter 2017, after EPA connects and tests the new extraction wells and associated piping, the State of California, Department of Toxic Substances Control (DTSC) will take over long-term operation and maintenance of the groundwater treatment plant. DTSC also will complete the next round of groundwater sampling of monitoring wells by January 2017. Because Frontier Fertilizer is a Superfund site with no responsible party, Superfund law requires the transfer of responsibility from EPA to the State when all cleanup action, or treatment plant optimization, has been undertaken. EPA and the State will work closely together to ensure that this transfer does not disrupt the on-going groundwater cleanup.



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# Frontier Fertilizer Superfund Site

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### EPA Contact Information

**Jackie Lane**

Community Involvement Coordinator  
U.S. EPA, Region 9 (SFD-6-3)  
75 Hawthorne Street  
San Francisco, CA 94105  
Direct: (415) 972-3236  
*lane.jackie@epa.gov*

**Bonnie Arthur**

Remedial Project Manager  
U.S. EPA, Region 9 (SFD-7-1)  
75 Hawthorne Street  
San Francisco, CA 94105  
Direct: (415) 972-3030  
*arthur.bonnie@epa.gov*

You can also leave a toll-free message for Jackie Lane or Bonnie Arthur by calling the Community Involvement toll-free number:  
**(800) 231-3075**

### State of California Contact Information

**Deena Stanley**

Project Manager  
Department of Toxic Substances Control,  
N. California Cleanup Operations Branch,  
8800 Cal Center Drive,  
Sacramento, CA 95826-3200,  
(916) 255-6583  
*deena.stanley@dtsc.ca.gov*

### Site Information Repositories and On-Line Web Page

The information repositories below house Site documents available for public review. EPA also has a Site Overview web page at <http://www.epa.gov/superfund/frontierfertilizer>

**Mary L. Stephens Davis Branch**

315 East 14th Street  
Davis, CA 95616  
(530) 757-5593  
(Press 3 Reference Desk)

**Shields Library Government Documents Departments,**

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United States Environmental Protection Agency, Region 9  
75 Hawthorne Street (SFD-6-3)  
San Francisco, CA 94105  
Attn: Jackie Lane (Frontier 11/16)

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