Frontier Fertilizer Superfund Site

Community Meeting

August 2, 2016

Frontier Fertilizer Superfund Site

Agenda

Introductions and Meeting Process–Jackie Lane, EPA

Brief History/Summary of Past Cleanup Bonnie Arthur, EPA

Summary of Recent Investigations–Matt Marlatt, CH2M

Q & A

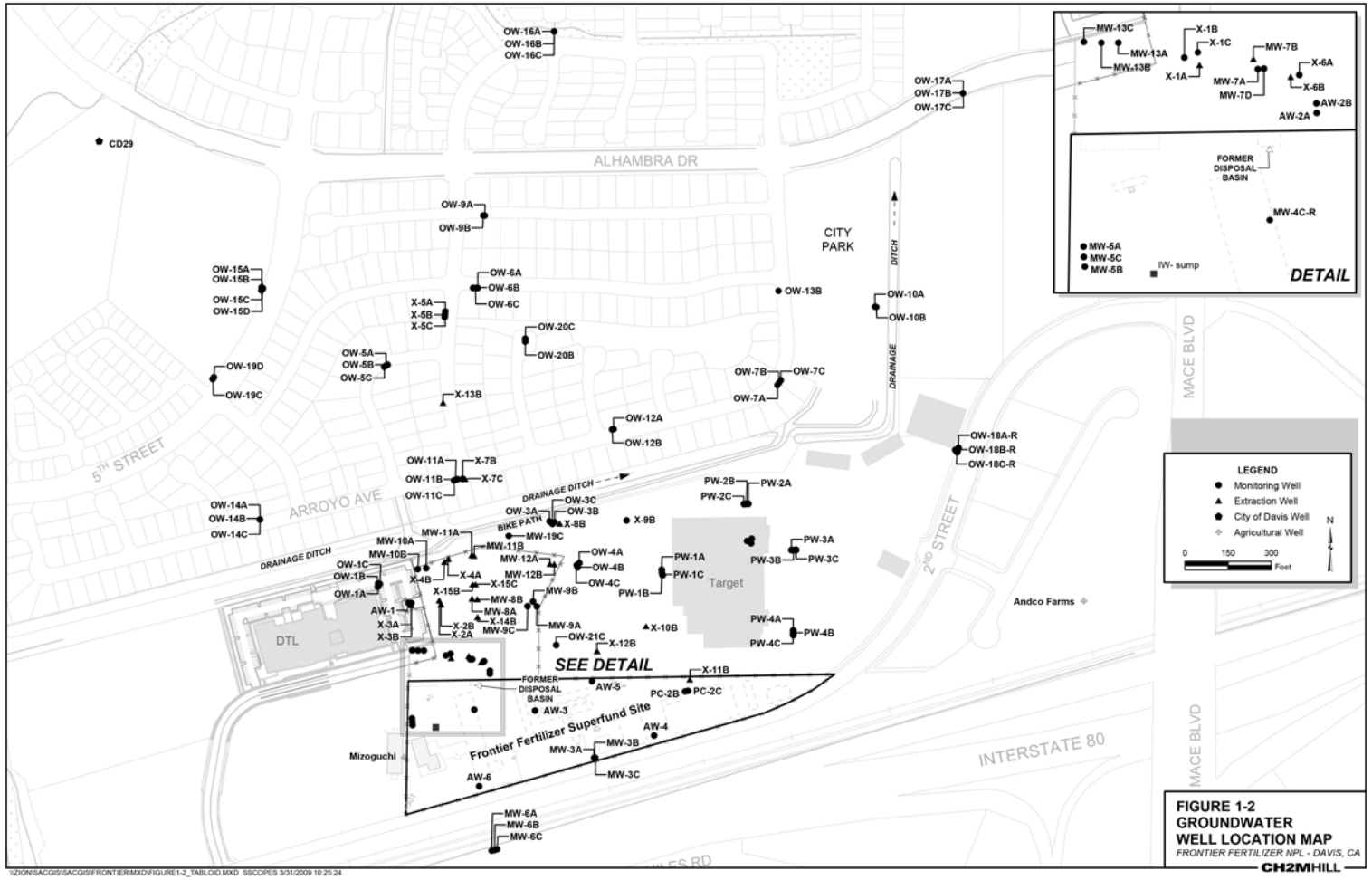
Frontier Fertilizer Site History

> 1972 - 1987: Pesticides and fertilizer formulated, stored and distributed.

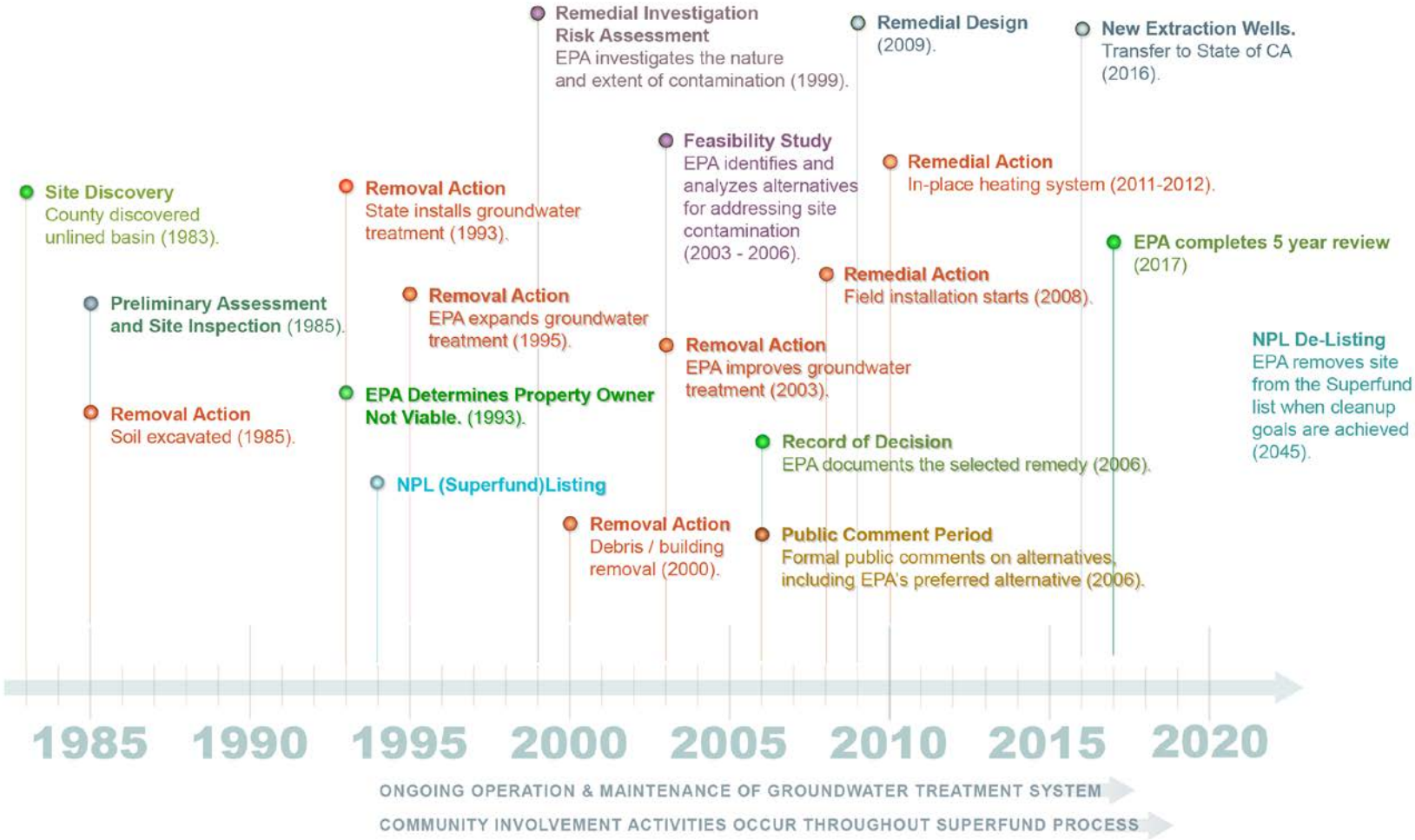
> 1972 - 1983: Unused chemicals disposed into unlined ponds near the northwest corner of the Site.

> Chemicals of concern (COC): 1,2-dibromo-3-chloropropane (DBCP), 1,2-dibromoethane (EDB), 1,2-dichloropropane (1,2-DCP), 1,2,3-trichloropropane (TCP), carbon tetrachloride

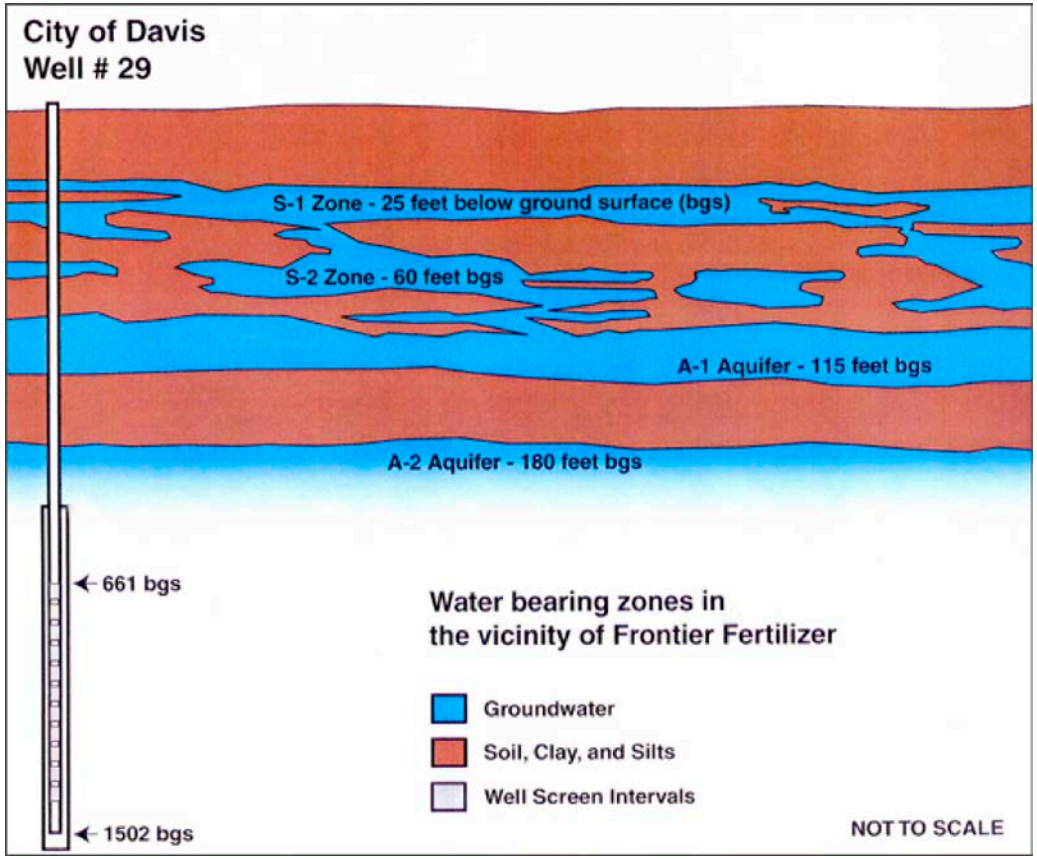
Site Map


ALHAMBRA DR
CITY PARK
DITCH
DRAINAGE
MACE BLVD
5TH STREET
ARROYO AVE
DRAINAGE DITCH
BIKE PATH
2ND STREET
Target
DTL
Andco Farms
Mizoguchi
INTERSTATE 80
SEE DETAIL
Frontier Fertilizer Superfund Site
FORMER DISPOSAL BASIN
DETAIL
IW- sump
LEGEND
Monitoring Well
Extraction Well
City of Davis Well
Agricultural Well
0 150 300 Feet
N
FIGURE 1-2
GROUNDWATER WELL LOCATION MAP
FRONTIER FERTILIZER NPL - DAVIS, CA
CH2MHILL

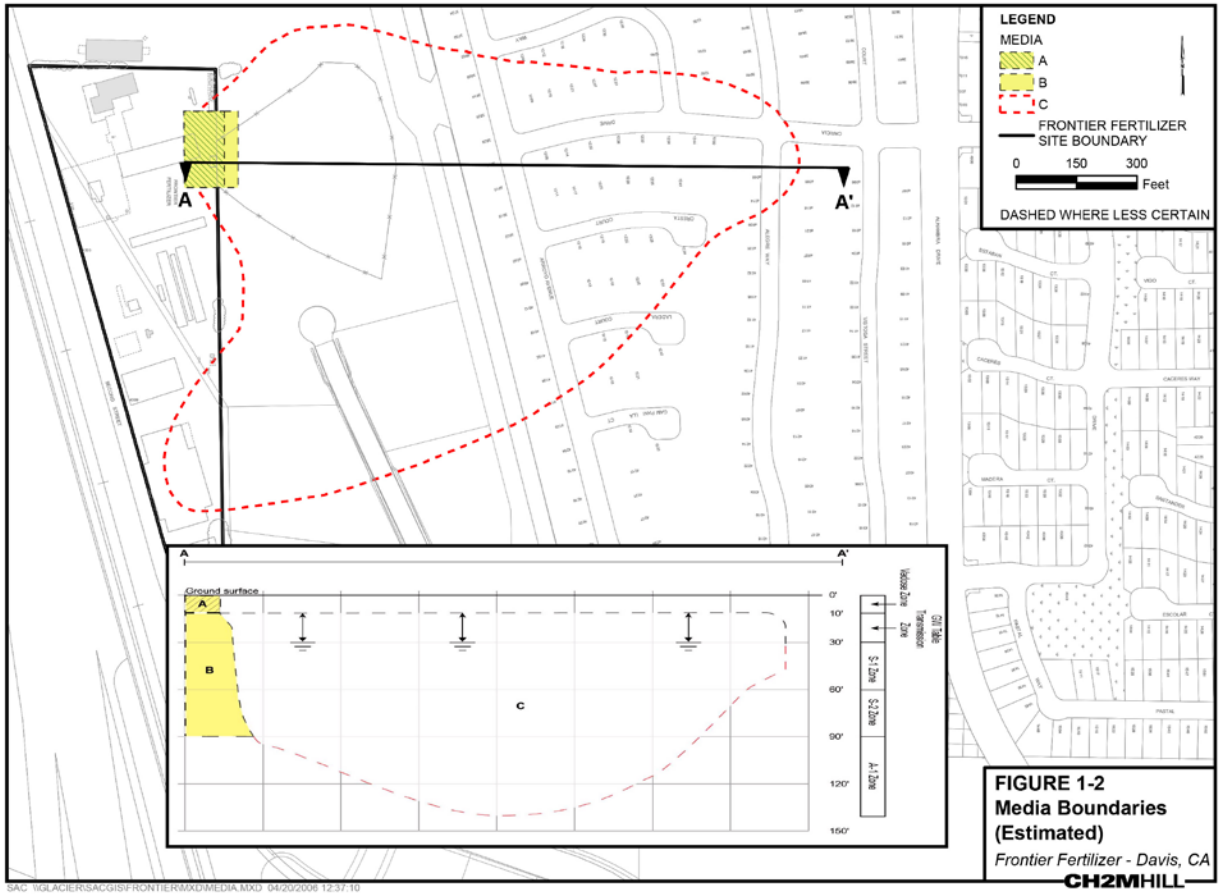
Superfund Process at Frontier Fertilizer Site



Frontier Fertilizer Site Subsurface



Where is Contamination?



Highlights…Risk Evaluation

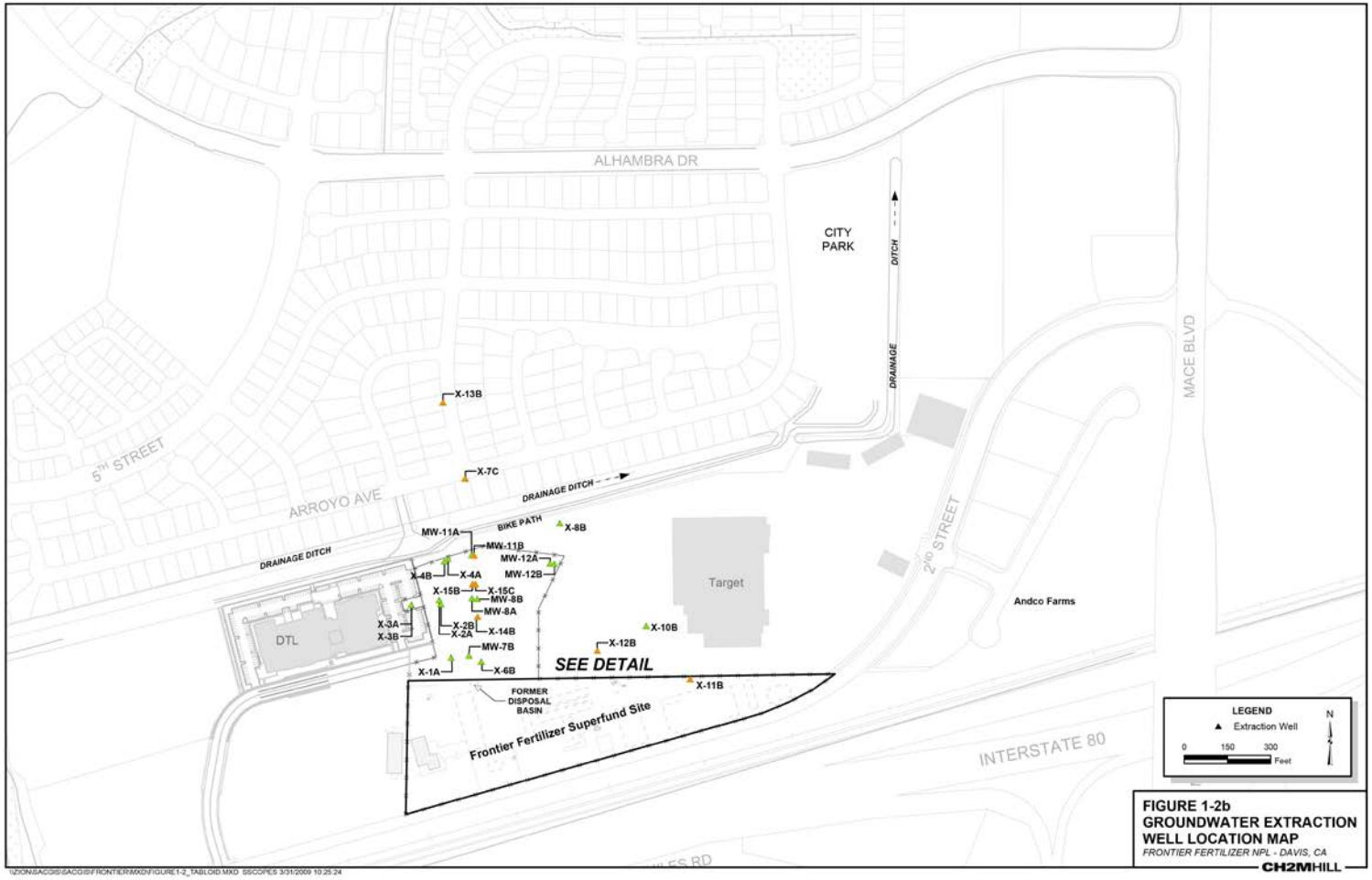
--Risk assessment evaluated potential exposure to Frontier Fertilizer contaminants for current residents in Mace Ranch, exposure for workers and potential exposure for future users of 2nd Street property (1999)

--Use quarterly groundwater monitoring and four (2009-2015) different vapor sampling events to confirm no risk to current residents

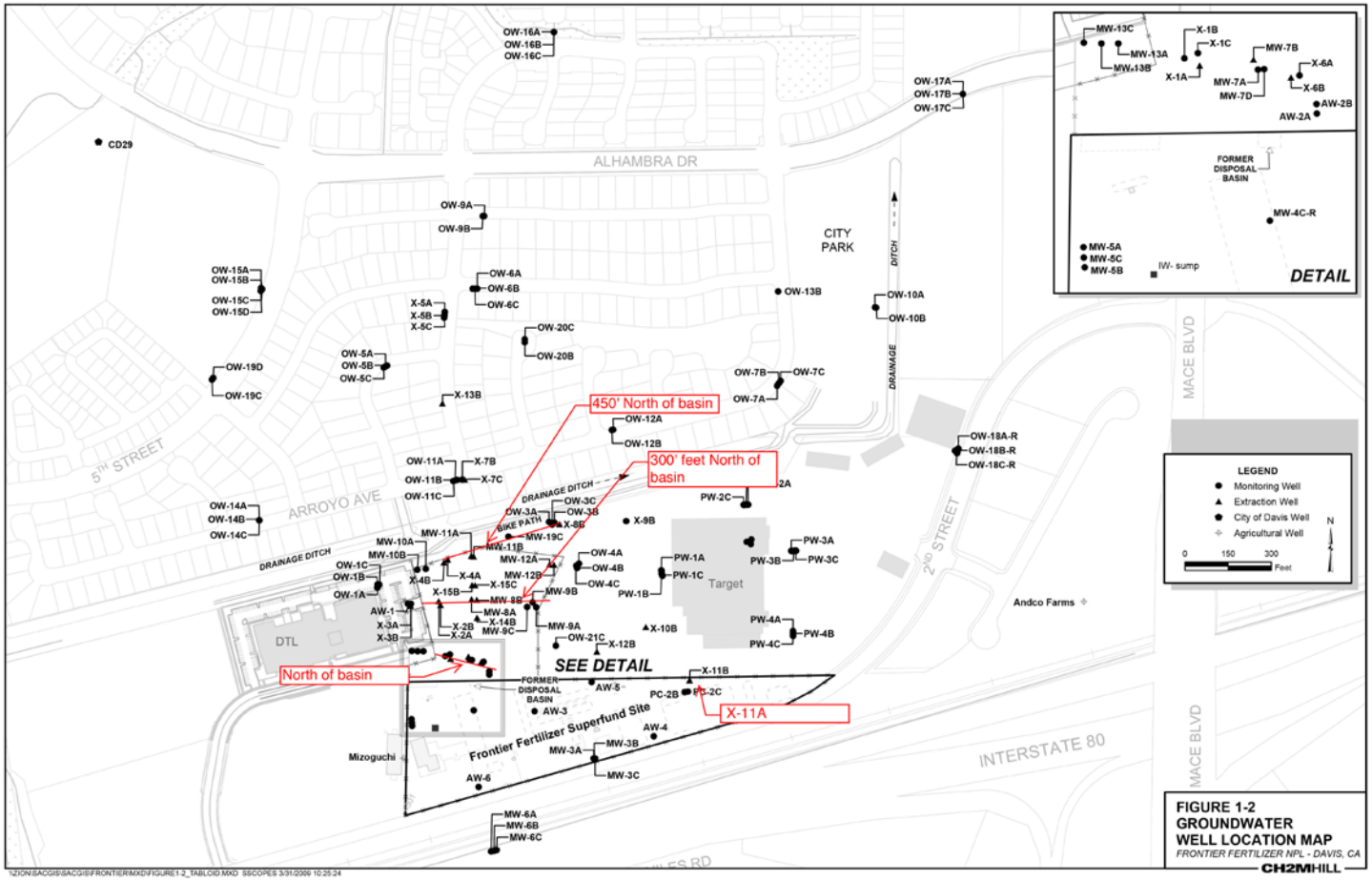
--2016: Risk Assessment Update; after the heating portion of the remedy to evaluate risk for future users of the property

--EPA and State use a Five Year Review to confirm no major changes in risk, chemicals, etc.

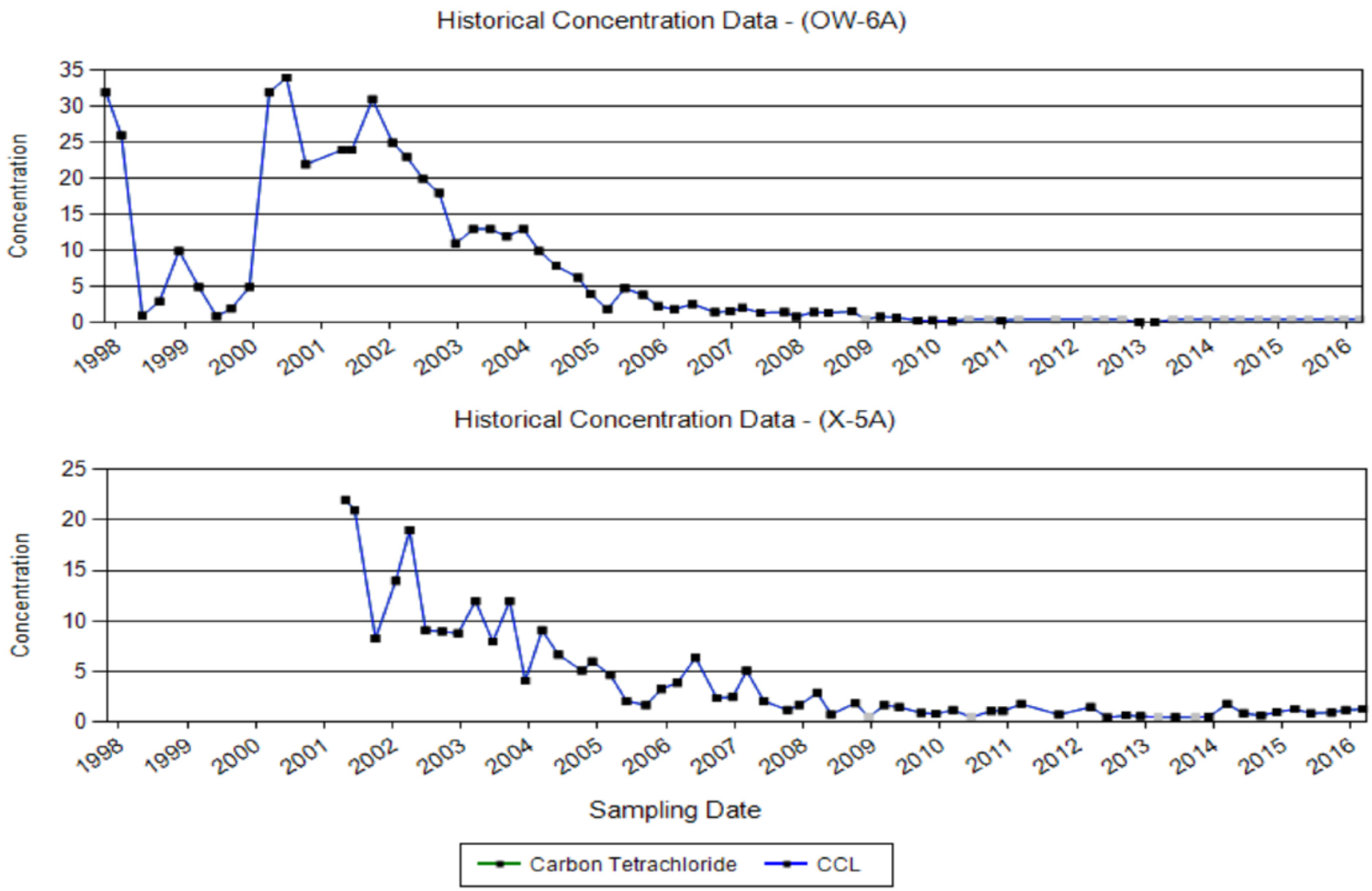
Pump and Treat—since 1995



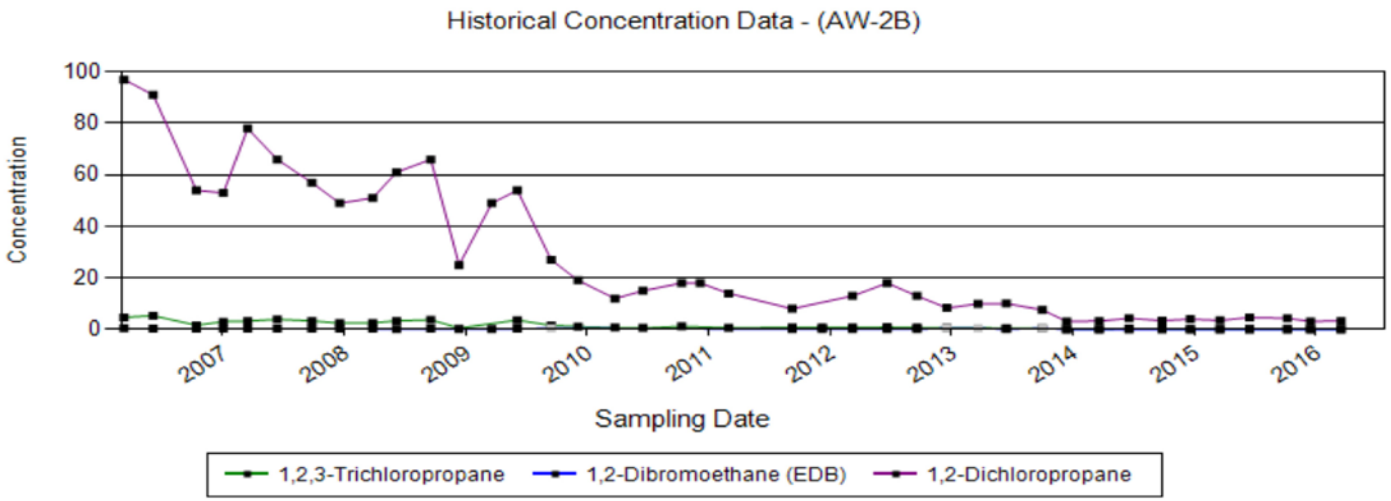
Groundwater Data Review

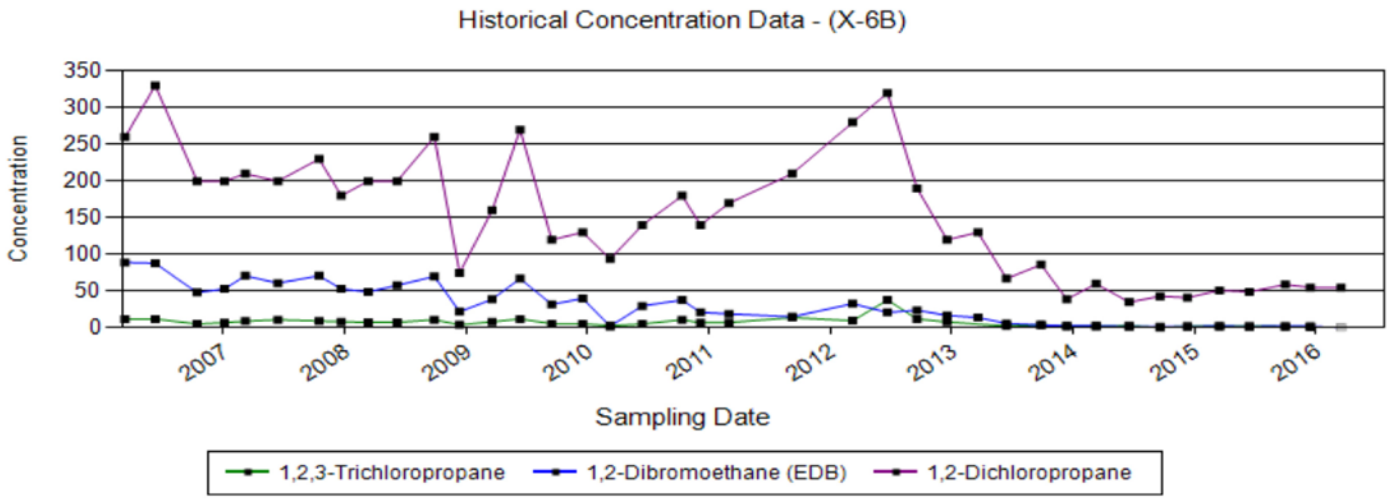


Groundwater Data Review—Mace Ranch

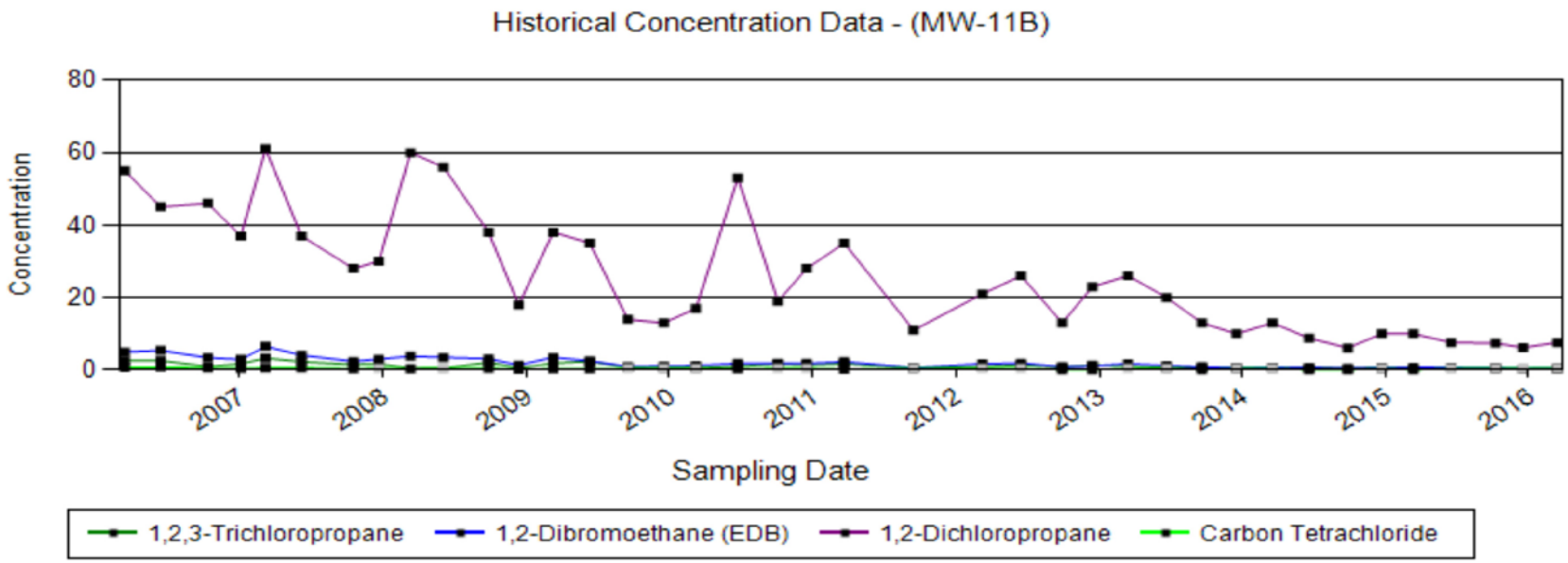


Groundwater Data Review-south of Mace Ranch

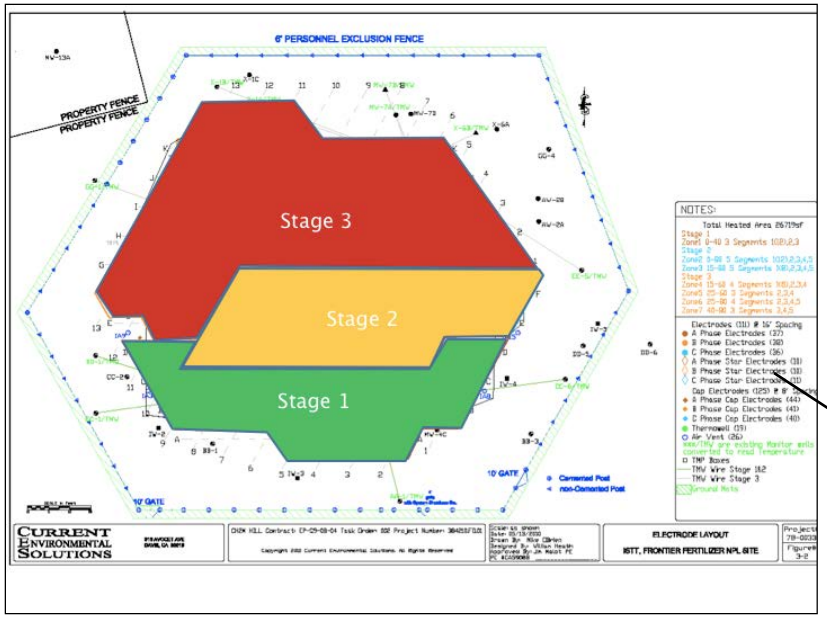


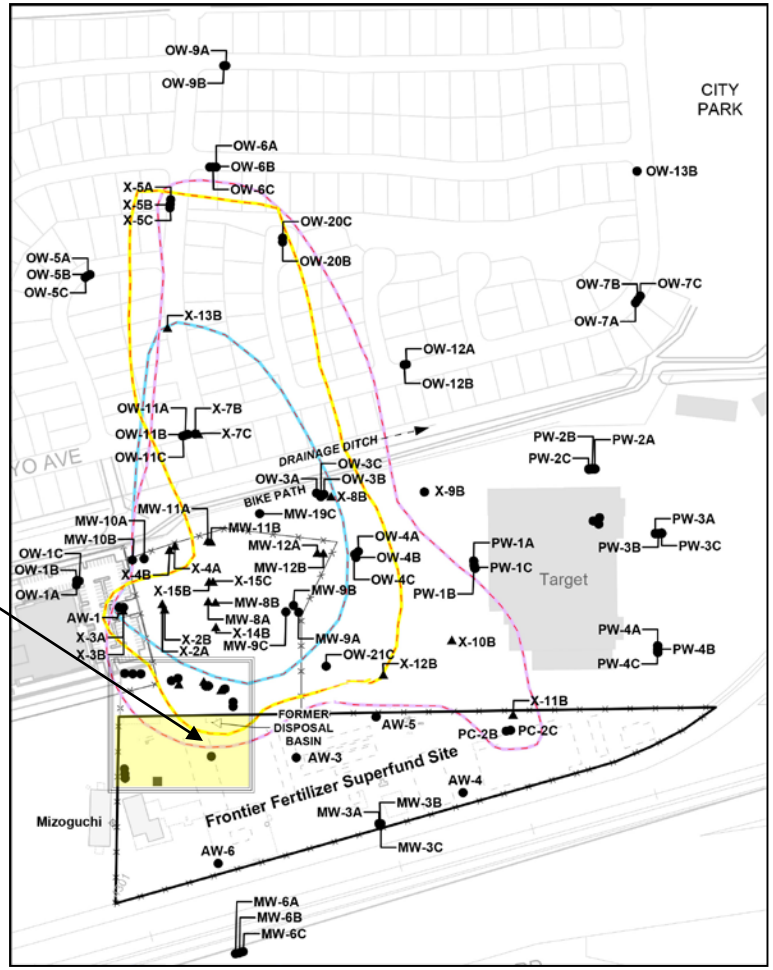


Groundwater Data Review—south of Mace Ranch



Heating Treatment—2011-2012





Heating Remedy Operated 2011-October 2012

Treatment Components

Recent Work: Frontier Fertilizer

- Capture Plan
  - Groundwater Modeling
  - New Wells
  - Deep Samples
  - Treatment Plant Expansion
- Groundwater Monitoring Optimization

Capture Plan

> Goals

Target Volume; All Contaminants Above Clean Up Levels

Capture With Extraction

Accelerate Cleanup Where Feasible

> Model

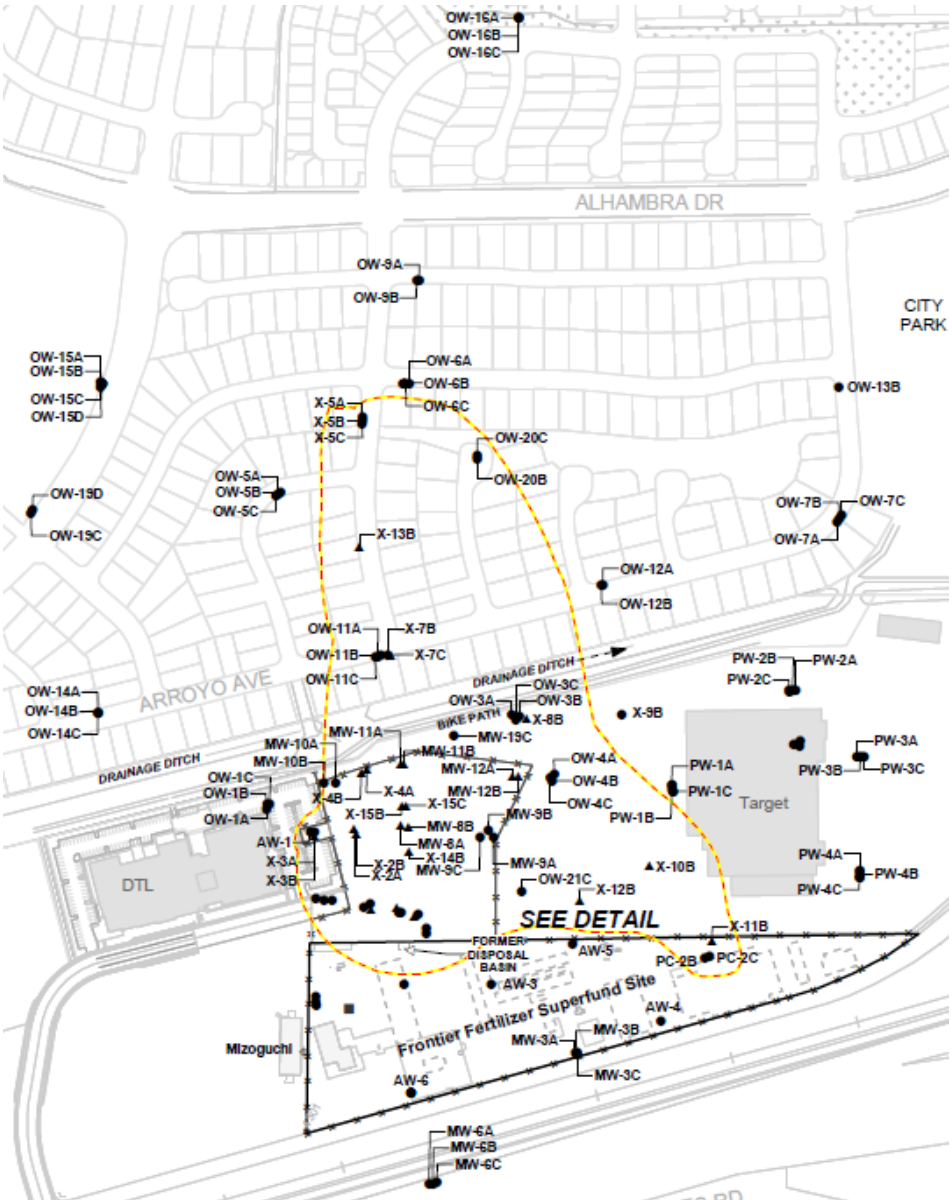
Simulated Groundwater Flow Using Site Data

> Field Work And Data Collection

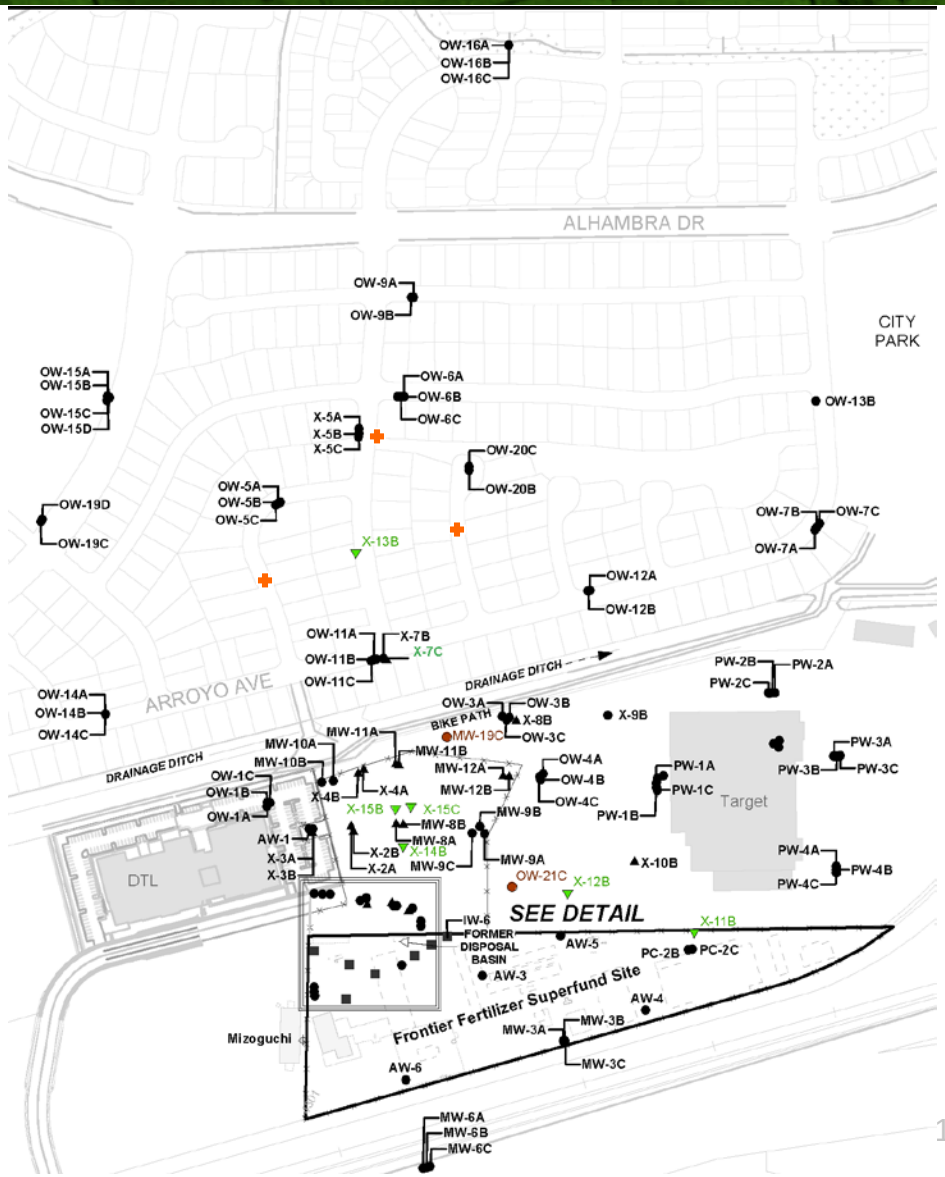
Seven New Wells

Deep Samples From A-2

Verify Model, Anticipated Capture, Effectively Use New Wells



Capture Plan Well Installation



- May - July 2016
- Air Rotary Casing Hammer

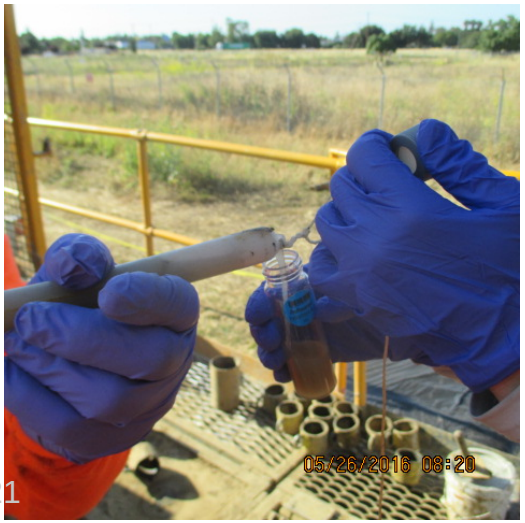
  Extraction Well Installation
  (6; up to 131 feet)
- Sonic Drill Rig

  Discrete Groundwater Samples
  (5; up to 259 feet)

  Monitoring Well Installation
  (3; up to 131 feet)

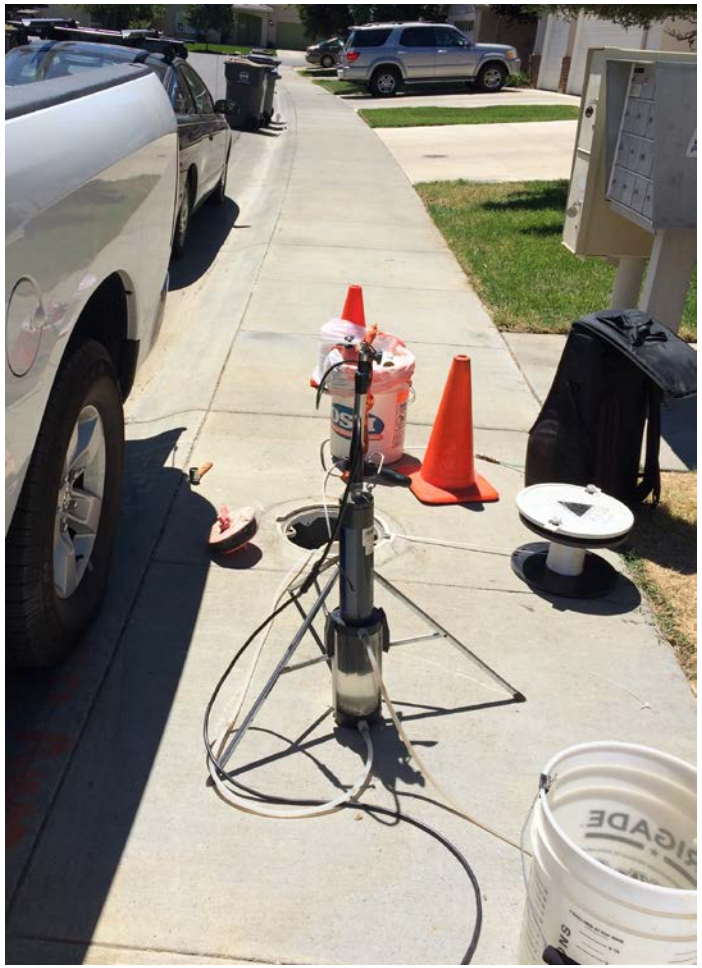
Sonic Drilling

Groundwater Samples, Monitoring Well Installation



Air Rotary Casing Hammer and Well Installation

Well Development and Sampling



Treatment Plant Expansion

- Current System
  - 16 Extraction Wells; 80 gallons per minute
  - Treatment by Activated Carbon
  - Removed 1545 pounds of COCs (as of June 2016)
- Expanded System
  - Up to 23 Extraction Wells; up to 182 gallons per minute
  - Treatment by Activated Carbon (more or larger vessels)

Expansion Pipeline

- Primarily Routed Along Sidewalk Path
- Traffic Control
  - Sidewalk Closures
  - Traffic Flagger
  - Parking Restrictions
- Will Schedule Work To Shorten The Neighborhood Impact
- Well Vaults And Pipeline On Poster

Groundwater Monitoring Optimization

- 5,762 Groundwater Samples 1993 to 2015
- 337 Groundwater Samples in 2015
- Monitoring and Remediation Optimization System (MAROS)
  - Data Evaluation Tool To Improve Long-term Groundwater Monitoring Programs
- 113 Wells, 115 Fewer Yearly Samples
- Poster Contains Detailed View, Will Be Staffed At End Of Presentation

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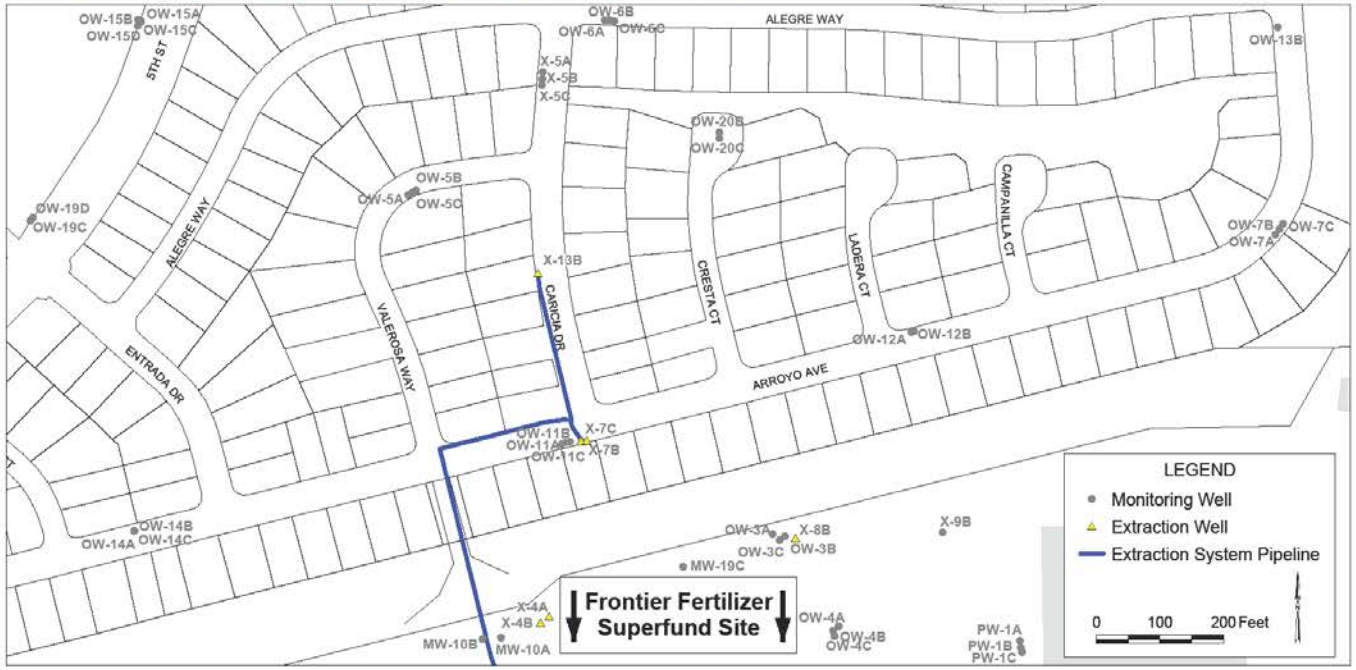
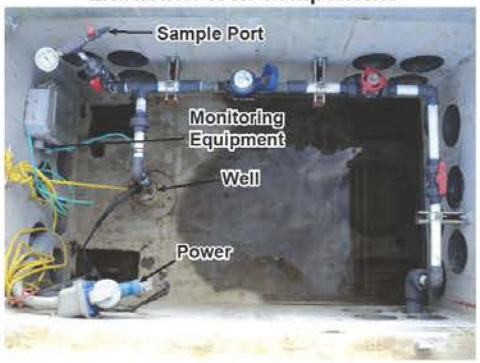
Frontier Fertilizer Extraction Expansion Groundwater Conveyance Pipeline



Extraction Well Vault Lid

Extraction Well Components