

Chromium Contamination in Groundwater Update

Hinkley Groundwater Cleanup Project



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Chromium Plume Extent

Current chromium plume facts (Upper Aquifer):

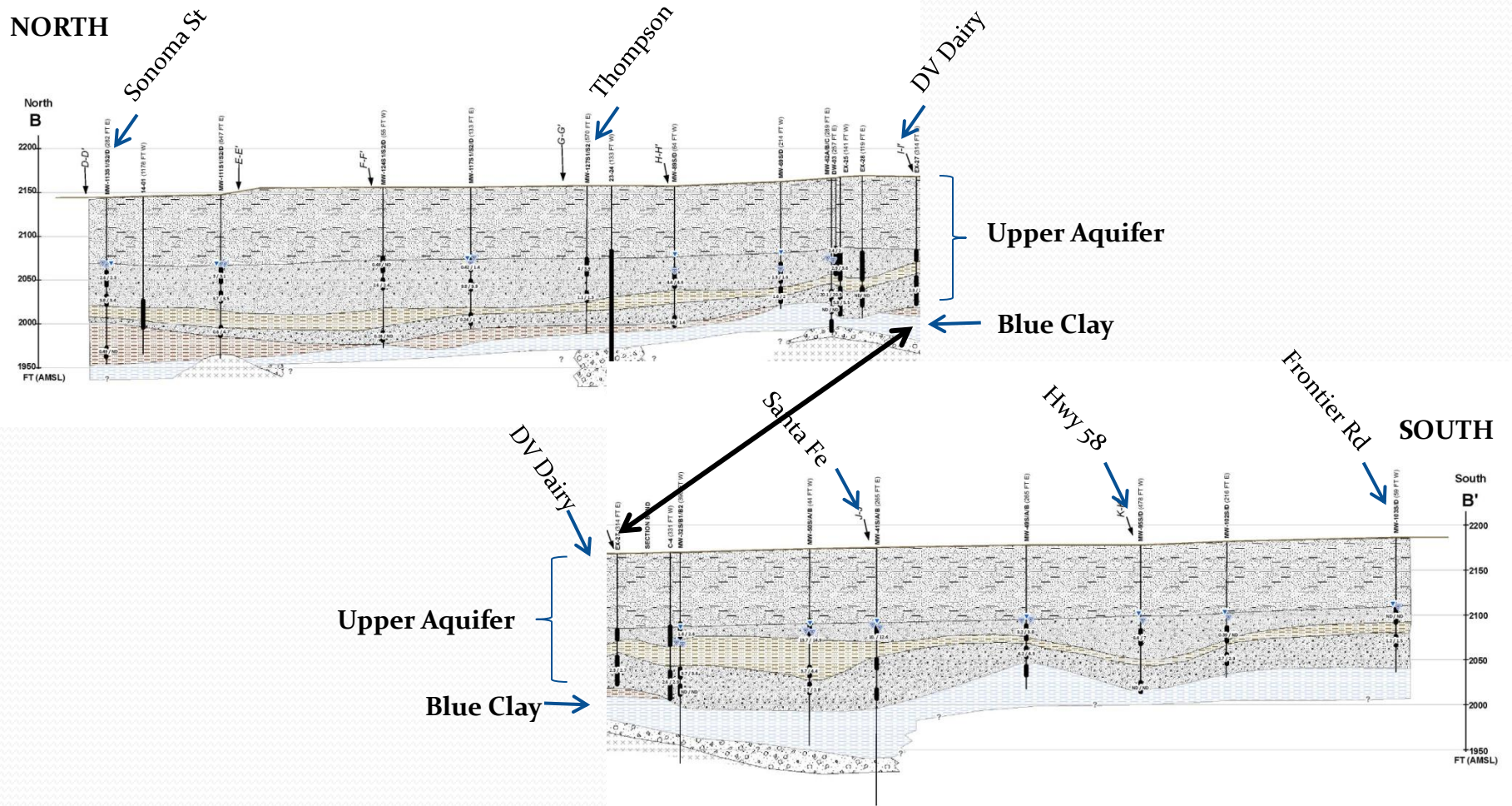
- 4+ miles long
- ~2 miles wide
- Undefined boundaries:
 - North
 - East
 - West bulge
 - South
- Number of domestic/ag wells above max. Cr6/Cr(T) background levels
 - **10**



Plume Extent for Third Quarter 2011

? = plume not defined

Geologic Cross Section through Chromium Plume in Upper Aquifer

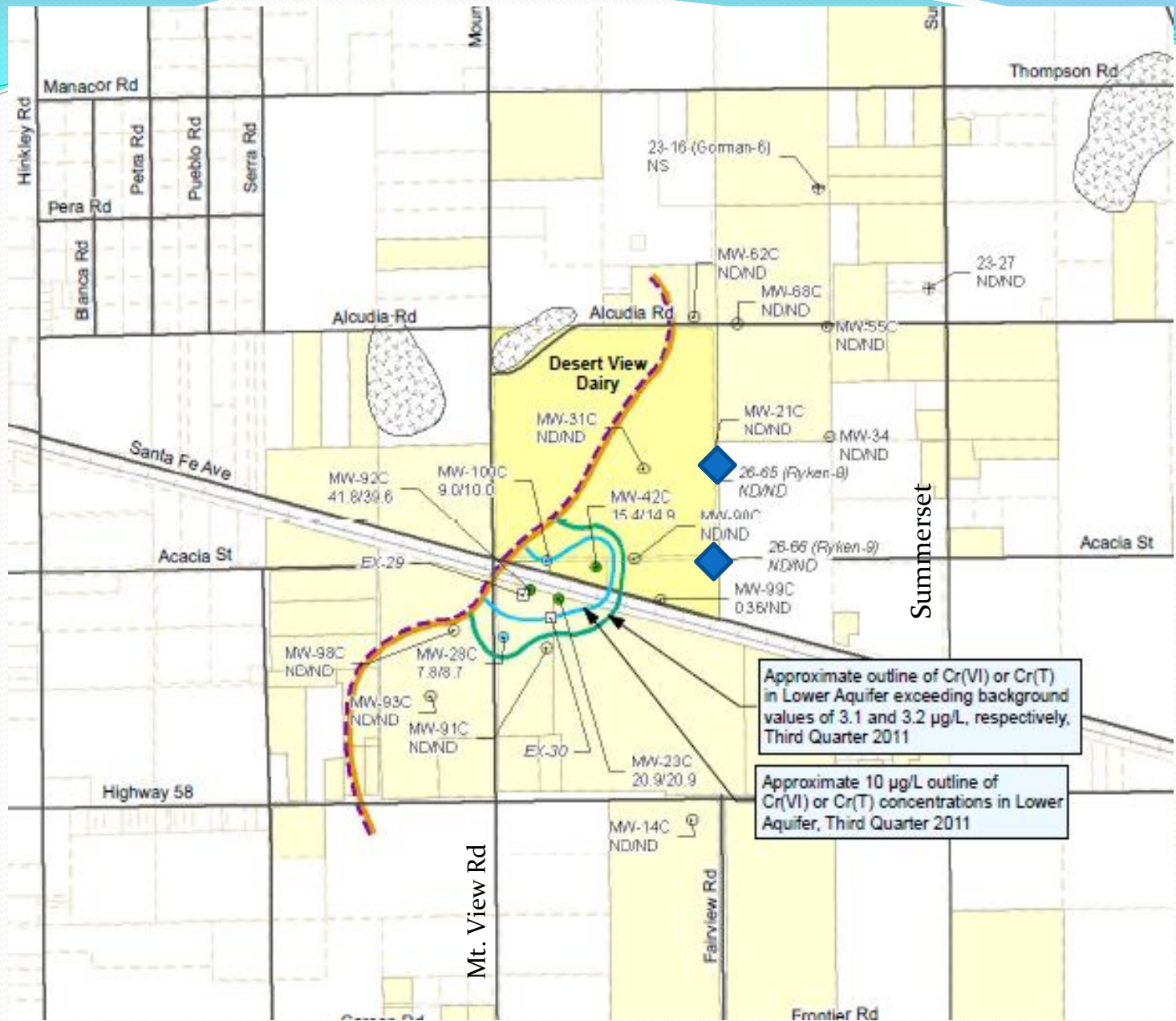


Chromium Plume Extent

Current chromium plume facts--

Lower Aquifer:

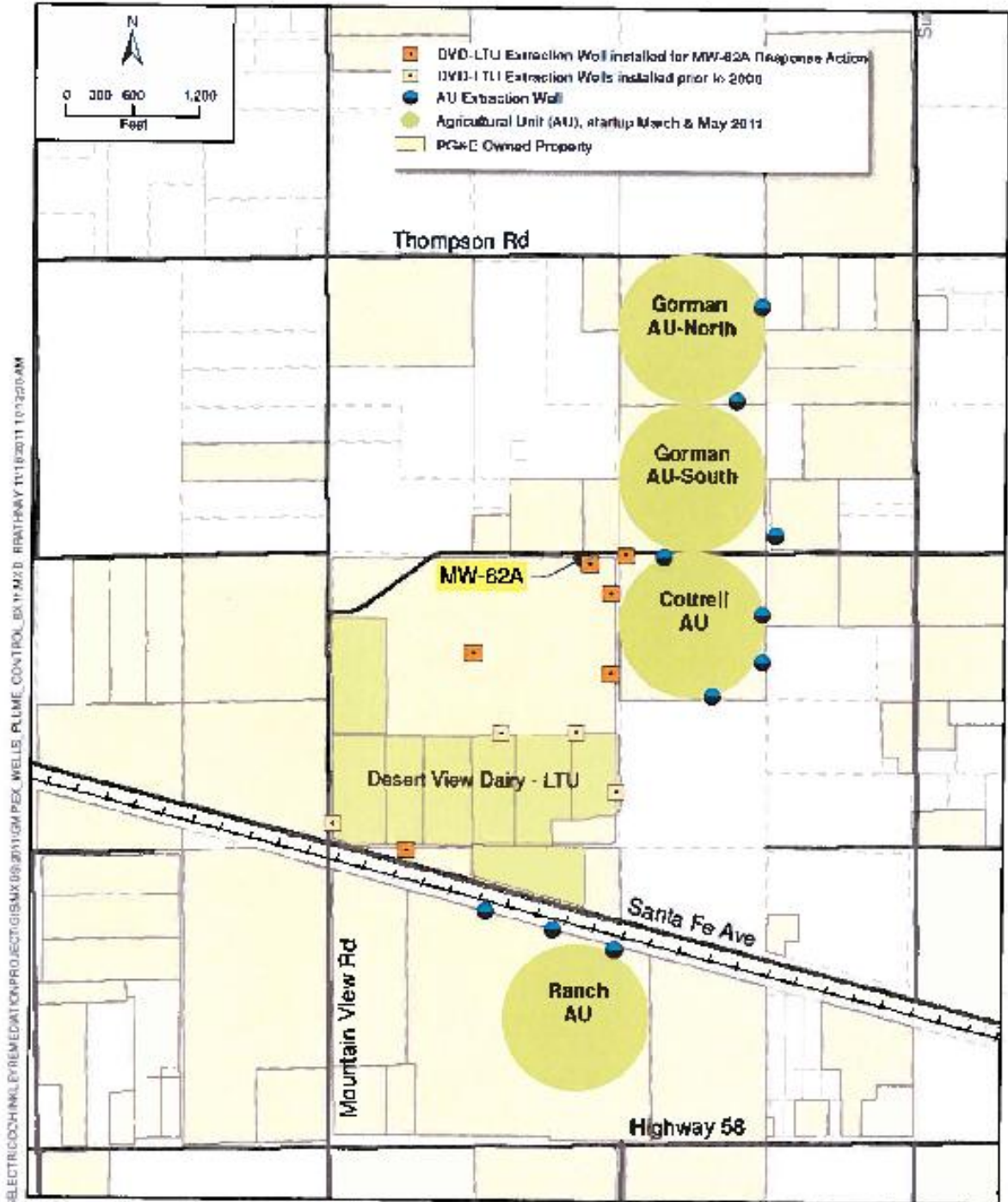
- 2,000 feet long
- 1,400 feet wide
- Boundaries are defined
- Concentrations increased up to 41.8 ppb Cr6
- No domestic/ag wells affected



Lower Aquifer Plume Extent

Approximate outline of Cr(VI) or Cr(T) in Lower Aquifer exceeding background values of 3.1 and 3.2 µg/L, respectively, Third Quarter 2011

Approximate 10 µg/L outline of Cr(VI) or Cr(T) concentrations in Lower Aquifer, Third Quarter 2011



Location of PG&E's Agricultural Units and Extraction Wells

S:\ELECTRICOCHINA\REMEDATION\PROJECT\GIS\DATA\09\0911\GWP\EX_WELLS_PLUME_CONTROL_BY_HAZID_RR11984\Y111020111012020.DAM

CAO R6V-2011-0005

- Issued **Jan. 7, 2011**
- Requires:
 1. Conduct domestic well sampling:
 - **Every 3 months north of Hwy 58**
 - **Every 6 month south of Hwy 58**
 2. Provide bottle water to residents of wells with chromium above maximum background levels 3.1 ppb Cr6 or 3.2 ppb Cr(T).

CAO R6V-2011-0005

3. Since April 2011, submit quarterly reports with domestic well sampling results.
4. In Third Quarter 2011 Monitoring Report:
 - **125 domestic wells sampled,**
 - **216 residences given bottled water within 1 mile of plume,**
 - **Plume maps now drawn with just domestic/ag wells (Figure 3-9).**

Next Actions

1. Prepare order requiring PG&E further define plume boundaries in upper aquifer.
2. Provide comments to PG&E on lower aquifer cleanup using extraction wells.

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CAO R6V-2011-0005A1

- Issued **Oct. 11, 2011**
- Requires whole-house replacement water for wells above maximum background levels (3.1 ppb Cr6/ 3.2 ppb CrT) and impacted wells.
- PG&E petitioned CAO; under review by the State Water Resources Control Board
- During this review, PG&E is required to comply with orders and deadlines.

CAO R6V-2011-0005A1

1. Provide bottled water to residents of wells w/ Cr6 or Cr(T) above maximum background levels within one mile of plume.
 - Action completed.
 - Bottled water must meet certain Cr levels.
2. Propose method to evaluate if chromium from PG&E has affected domestic wells at levels less than maximum background.
 - PG&E's submittal Nov 23, 2011.

CAO R6V-2011-0005A1

3. Within 60 days (Dec. 10, 2011), reach agreement with community to fund an independent consultant.
 - MOU between PG&E & CAC has been signed.
4. Within 180 days (Apr. 9, 2012), submit feasibility study of treatment options.
 - Workplan was submitted & includes pilot testing
5. Determine public acceptance of proposed option(s).
6. Within 90 days after approval, implement whole-house replacement water.
 - (Earliest date is August 2012)

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